

# Disease Staging: Coded Criteria v. 5.24

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## **Preface**

Since its initial development in the late sixties, Disease Staging has undergone extensive review. The inclusion of criteria for additional diseases and periodic adjustments of laboratory data and diagnostic code assignments have ensured the timeliness, accuracy, and clinical relevance of Disease Staging.

Much of the initial development of Disease Staging was sponsored by the Office of Planning, Evaluation, and Legislation, the evaluation component of the Health Services Administration with the (then) Department of Health, Education and Welfare. The Staging concept was used to develop medically meaningful clusters of patients in terms of disease severity. Staging was also designed as a quality assurance tool for evaluating ambulatory care by comparing levels of severity at the time of hospitalization for patients receiving their health benefits from different government and private insurers.

Later development of Disease Staging was sponsored by the National Center for Health Services Research (NCHSR), a branch of the Public Health Service. Under contract to NCHSR, Systemetrics (which is now part of The MEDSTAT Group) assembled a panel of physicians to develop Disease Staging criteria for 400 high-incidence diseases. Computer software was developed to apply Disease Staging criteria to automated hospital discharge abstract data. This software was validated in re-abstracting studies that compared manual and computer staging on a large sample of records. Results showed a high level of agreement between stages assigned manually using the full medical record and stages assigned by computer software operating on automated discharge abstract data.

Since the completion of the NCHSR work in 1983, improvements include the clinical modification of Staging criteria to reflect current clinical practice and the annual updating of coded Staging criteria to reflect current coding conventions. The result is a more complete and more precise system for defining disease severity. The Disease Staging definitions thus reflect the severity of a disease at any given time and the clusters have clinical significance in terms of prognosis and choice of therapy. Policy makers, health care administrators, and researchers, both in the United States and other countries, have applied Disease Staging in risk adjustment evaluations of health care efficiency and effectiveness.

Three decades of work developing Disease Staging have allowed the writer to appreciate the dedicated work of many, both in medicine and in other professions. The contributions of colleagues in the development of the first four editions, as well as the

present edition, are documented in the Contributors section. Others have made unique contributions which should be recognized: Cathleen A. Barnes, RRA, MEDSTAT, Santa Barbara, CA, who has supervised the assignment of the codes, a complex and monumental task; Clara A. Callahan, MD, the newest member of the team, who provided a clinical perspective, especially for the diseases of children; Marvin E. Gozum, MD, who has lent his research and computer skills to the project for a good part of ten years; and Daniel Z. Louis, who has been a collaborator on many studies for the past twenty-five years.

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# Introduction

A disease can be effectively treated only when I as a doctor understand its causes in that particular patient, its site of origin, the internal havoc it creates, and the course which the process is likely to take whether treated or not. With that knowledge, I can make a diagnosis, prescribe a program of treatment, and predict an outcome.<sup>1</sup>

Where? Why? How serious? These are the basic questions that a clinician must attempt to answer when a patient presents with a medical problem. The same questions must be answered to make appropriate comparisons in studies of outcomes, quality, or costs of care. The "where" is the specific organ or system of the body; the "why" is the etiology of the problem; and the "how serious" is the pathophysiologic changes that have occurred and ranking of the disease's complications.

Physicians use information from a patient's history, physical examination, laboratory findings, and other diagnostic tests to answer these questions in order to diagnose a disease, to estimate the patient's prognosis, and to prescribe appropriate treatment. Ideally, answers should be available before therapeutic intervention. Even in those cases when definitive answers may not be available and treatment must be given, it should be based on the presumptive answers to these questions.

Disease Staging is a classification system that uses diagnostic findings to produce clusters of patients who require similar treatment and have similar expected outcomes. It can serve as the basis for clustering of clinically homogeneous patients for assessment of quality of care, analysis of clinical outcomes, review of utilization of resources, assessment of efficacy of alternative treatments, and assignment of credentials for hospital privileges.

Ideally, a diagnostic label should have explicit data about the location of the health problem, cause of the problem, and severity of the problem. The majority of diagnostic labels identify the site of the disease (e.g., appendicitis, cholecystitis, diverticulitis, and peptic ulcer). Some provide information about the system involved and cause of the problem (e.g., Pneumococcal pneumonia and urinary tract infection caused by *E. coli*). Other diagnostic labels are manifestations of problems (e.g., hypertension and anemia). A few, because of the body system involved, also convey a degree of severity (e.g., myocardial infarction or

bacterial meningitis). And some may even be distinguished by the time of the disease's onset (e.g. congenital toxoplasmosis).

Only in the area of cancer has the medical profession developed a diagnostic classification that includes severity based on the understanding of the need to measure the efficacy of various forms of treatment for similar clusters of patients. Now that society is challenging the medical profession to document quality of care in a more objective manner, similar measurement instruments are needed for all medical problems.

### **Disease Staging Criteria**

The Disease Staging criteria define levels of biological severity for specific medical diseases, where severity is defined as the risk of organ failure or death. The classification is based on the severity of the pathophysiologic manifestations of the disease:

|                |  |
|----------------|--|
| <b>Stage 1</b> | A disease with no complications;                                     |
| <b>Stage 2</b> | -the disease has local complications;                                |
| <b>Stage 3</b> | -the disease involves multiple sites, or has systemic complications; |
| <b>Stage 4</b> | -death.  |

Subdivisions of these stage levels have been defined to allow more precise classification. The challenge is to include enough detail to allow for a rich description of each disease and yet not be so overwhelmingly complete that the staging is cumbersome.

In the definition of the Staging criteria, most of the diseases begin at Stage 1 and continue through Stage 4. There are several exceptions to this rule. Some self-limiting diseases, such as cataracts, do not include a Stage 3 or 4. Other criteria begin at either Stage 2 or 3 since they are often complications of other diseases; e.g., bacterial meningitis, which can be a complication of sinusitis, otitis media, or bacterial pneumonia. Stage 0 has also been included in the classification of diseases for patients with a history of a significant predisposing risk factor for the disease, but for whom there is currently no pathology, e.g. history of carcinoma or a newborn baby born to a mother suspected of having an infection at the time of delivery.

The Stage levels are ordinal in nature for each medical problem. Stage 1 of one disease may have different implications for resource use, treatment, and prognosis than a similar stage of another disease. For example, hyperglycemia (Stage 1 diabetes mellitus) is different than positive serological evidence of AIDS (Stage 1). Even when major pathophysiologic damage exists such as coma, which in all diseases is a Stage 3 complication, the prognosis may be different for each disease since for some there is treatment which may reverse the complication. Treatment, whether medical or surgical, has not, however, been introduced into the staging classification; staging is driven by the natural history of the disease. Nor has quality of life been taken into consideration in Disease Staging. Controlling for other factors, such as choice of treatment, age, and presence of co-morbid disease, risk of death is a function of etiology and stage of disease and, while generally increasing by Stage level, may vary dramatically by Stage from one disease to another.

It is important to distinguish the etiology of a disease whenever possible. For example, "pneumonia" does not specify etiology. Designating that the pneumonia was bacterial in origin would be an improvement, (e.g., "bacterial pneumonia"), but optimally a physician should document the specific bacteria causing the pneumonia (e.g., "Pneumococcal pneumonia").

Health problems, such as congestive heart failure, and laboratory findings, such as anemia, that may result from a variety of causes, are not diagnoses. When this is all that is recorded as the patient's "diagnosis," the implication is that the physician did not know, or did not document, the disease process that produced the problem. Unfortunately, many users of medical information fail to distinguish between non-specific health problems (e.g., symptoms and laboratory findings) and diagnoses of specific diseases. As a result, patients may be inappropriately classified for the purposes of reimbursement, for the analysis of resource utilization, and for the assessment of quality of care.

For each Staging criteria set included in this volume the most likely etiology is specified. Some of the diseases may have multiple etiologies (e.g. bacterial pneumonia). While the classification of Pneumococcal pneumonia is essentially the same as for Staphylococcal or *Pseudomonas* pneumonia, each type of bacterial pneumonia should be analyzed separately when evaluating quality of care, clinical trials, and utilization of resources because of the varying prognosis associated with each.

There are a number of complications (for example, sepsis and congestive heart failure) that may result from many diseases. Generally, these complications have been assigned the same integer stage level across the different diseases, although not necessarily the same

substage level. Different integer stage levels have been used when the complication may indicate different levels of severity depending upon the underlying disease. For example, pneumonia is classified as a Stage 2 complication when it occurs secondary to other problems. There are a few diseases, such as botulism, where aspiration pneumonia or bacterial pneumonia is a reflection of the systemic nature of the problem rather than just the involvement of the respiratory system. For these diseases, pneumonia is classified as a Stage 3 complication.

## **Diagnostic Findings**

In addition to the stages of the disease, each criteria set includes a specification of “diagnostic findings” that can be used to validate the presence of the disease and stage level. The diagnostic findings include physical findings, radiological and laboratory results, and pathological and operative reports.<sup>2</sup>

The present edition has addressed the validation issue more comprehensively than previous editions. Only the information that specifically documents a complication is included, with the understanding that physicians should first gather data from the history and physical examination to state an hypothesis (presumptive diagnosis) and use the laboratory judiciously to validate the diagnosis. Which laboratory data are collected will depend on available facilities and cost-benefits for the patients. For some diagnoses, both the patient and physician can accept uncertainty. However, if major treatment decisions are to be made, validation using objective data is essential. For instance, patients should not be treated for cancer on a presumptive diagnosis.

For some diagnostic testing (e.g. the use of the glucose tolerance test or fasting blood sugar for the diagnosis of diabetes mellitus), criteria have been recommended that are accepted by the medical community. Many laboratory tests, however, do not have nationally accepted values to delineate normal and abnormal results. In these situations, laboratory results have been defined to be abnormal when they exceed three standard deviations from the mean value.<sup>3,4</sup>

In summary, the physician’s clinical judgment based on the history and physical examination should be used along with laboratory data to confirm or rule out the presence of a particular problem. In addition, laboratory values may need to be adjusted based on the calibration of the laboratory performing the test.

## **Applications of Disease Staging**

Disease Staging is a valuable tool in many clinical, research, management, and educational studies. Examples of how Disease Staging has been used to classify patients for a number of applications are highlighted below.

### ***Timing of Hospitalization***<sup>5-8</sup>

Disease Staging may be used to document potential quality of care problems in ambulatory settings by providing data relating to the level of severity of illness of patients at time of hospitalization. Patients admitted to the hospital with advanced stages of illness represent possible failures of outpatient care. For example, an admission for cellulitis secondary to diabetes mellitus might have been preventable if the disease progression could have been averted with appropriate outpatient care.

For some diseases, such as appendicitis, hospitalization is clearly appropriate at the earliest stage of the disease. Other diseases, such as essential hypertension, rarely require hospitalization at the early stages; hospitalization is only required if the disease progresses to more advanced stages.

Because admitting patients to an acute care hospital involves incurring significant cost and potential risk, patients should be admitted to the hospital only if the expected benefits outweigh the costs and risks of the admission, such as: when they require inpatient diagnostic testing; when their symptoms suggest a serious illness which, if confirmed, may require immediate treatment; when they require treatment that is most appropriately provided as an inpatient; and, when they require the types of monitoring and nursing care which are available only in an acute care hospital.

Classification of severity of illness at the time of hospitalization is important for analysis of both inpatient and outpatient care. Comparison of outcomes of inpatient care can be accomplished only if one adjusts for patient risk at time of admission.

For patients admitted at earlier stages of illness, one may question whether an acceptable level of care could have been provided in an outpatient setting. A number of factors could make such an earlier stage admission appropriate. For example, a patient with acute symptoms (e.g. chest pain), but without a confirmed diagnosis, may be appropriately admitted to the hospital until a diagnosis and a decision can be made as to whether further inpatient care is necessary. A patient may have other co-morbid conditions (for example, poorly controlled diabetes mellitus) that make the admission advisable, or a patient may

choose to undergo an elective surgical procedure that must be performed as an inpatient. A patient with osteoarthritis of the hip who decides to have a total hip replacement would clearly require hospitalization.

For patients hospitalized at more advanced stages, the issue is whether the patient has complications that could have been preventable with earlier inpatient care. For example, a patient admitted with acute cholecystitis and gangrene of the gallbladder has a serious complication that may have been prevented with earlier hospitalization and treatment.

Timeliness of admission is, in part, a function of whether hospitalization is the first or subsequent admission for a particular complication of episode of care. For example, a first admission at advanced-stage cancer should raise questions about whether earlier detection was feasible. Subsequent scheduled admissions for the same patient to undergo chemotherapy would not, or course, raise the same question.

It is important to differentiate the concept of a timely admission from a preventable admission. For example, an admission at Stage 1 appendicitis is timely and, given current medical knowledge, not preventable. Such an admission does not raise issues of appropriateness of care. On the other hand, while an admission for Stage 2.5 diabetes mellitus and cellulitis is also timely, it may have been a preventable admission if the disease progression could have been averted with appropriate outpatient care.

### ***Case-Mix Classification for Analysis of Resource Utilization and Reimbursement***<sup>9-19</sup>

Disease Staging should be an integral part of systems designed to analyze resource utilization. Differences in length of stay and cost may result from differences in patient populations treated, as well as from differences in efficiency. Etiology and stage of disease are directly related to the use of resources and must be considered in these types of analyses whether the focus is at the level of an individual physician, a hospital product line, or an entire institution.

In addition to the stage of the principal disease, other variables to be included in analysis of utilization include: presence of co-morbid, or co-existing, medical problems (e.g., presence of diabetes mellitus in a patient hospitalized for appendicitis - both the diabetes mellitus and appendicitis should be staged); reason for admission (e.g., for diagnostic purposes, therapeutic purposes, both diagnosis and therapy, chemotherapy, or observation); and the

use of surgical procedures or special units (e.g., ICU, CCU) if such use is justified by the needs of the patient.

The use of resources depends on the clinical status of the patient, on the reason for admission, and whether the latter is the first or one of many re-admissions. For instance, a woman with Stage 3 cancer of the breast will consume more resources during the first hospitalization, when more diagnostic and therapeutic interventions will be used, than on her third hospitalization, when for the same problem she may likely receive only chemotherapy or radiation therapy. In addition, the social support needs of the patient should be considered, although this variable would have a greater impact on timing of hospitalization and length of stay than on the diagnostic or therapeutic intervention.

By using Disease Staging, the variation in resource use resulting from patient differences can be controlled so that the manager or researcher can appropriately focus on the analysis of differences resulting from variation in physician and institutional practices. For similar reasons, reimbursement systems should be modified to account for differences in severity of illness.

### ***Quality of Care Assessment***<sup>5, 20-30</sup>

Whether the goal is assessment and improvement of the process of care or evaluation of clinical outcomes, there is a need for clinical specificity. The Health Care Financing Administration, for Medicare patients, and several statewide data organizations publish institution specific, and in some cases physician specific, information on outcome measures such as mortality. Without appropriate ways to account for differences in the severity of the patient mix treated, the meaningfulness of these types of analyses is questionable. For example, analysis of data from the National Hospital Discharge Survey demonstrated a 5.6% mortality rate for patients hospitalized with Stage 1 bacterial pneumonia, 9.5% for those with Stage 2, and a 33.1% mortality rate for Stage 3.<sup>29</sup> These estimates were further refined by considering the specific etiology (organism) of the pneumonia.

As a part of a quality improvement program, these types of advanced stage admissions should be reviewed to evaluate whether they resulted from physician related problems (e.g., delayed or incorrect diagnosis or treatment), patient related problems (e.g., failure to seek timely care or comply with prescribed treatment), system problems (e.g., lack of access to care), or were not preventable (e.g., resulting from rapid disease progression in a particular patient).

Disease Staging can also be used as a direct measure of patient outcomes by studying changes in disease stage over time. For instance, severity at hospital admission can be compared with severity at discharge. Patient based longitudinal data can be used in conjunction with Disease Staging to assess changes in severity of illness for defined populations and specific episodes of care.

Disease Staging is useful in evaluating processes as well as outcomes of medical care. A great deal of activity is currently being devoted to the development of clinical guidelines designed to reduce uncertainty and help guide the process of care. One of the difficulties faced in guidelines development is that the appropriateness of a specific diagnostic test or prescribed treatment varies by stage of disease. By defining stage-specific criteria it is possible to improve the specificity of clinical guidelines and process review criteria and make them more useful and acceptable to clinicians.

### ***Clinical Trials***<sup>29</sup>

The primary objective of clinical trials is to test the efficacy of therapeutic interventions under highly controlled conditions. By using Disease Staging to help specify the study population, comparability of the treatment and control groups can be assessed. Staging allows the investigator to stratify patients more accurately both for their principal diagnoses or problems and for any co-morbid conditions that they may have. Depending on the goals of the trial, it can be restricted to samples defined using specific stages of disease or designed to allow the assessment of efficacy across different levels of severity.

### ***Professional Staffing and Facility Planning in Health Care Institutions***<sup>9-11, 31</sup>

Severity of illness as documented by Disease Staging may be used to evaluate the appropriateness of current or planned staffing levels within hospitals or managed care institutions in relationship to patients' health care needs. Staging can provide data concerning the level of severity of specific patient groups that may warrant establishing or expanding special care units or securing special diagnostic equipment or other facilities.

### ***Specialty Board Certification and Clinical Privileges***<sup>32-34</sup>

A major responsibility of medical specialty boards is the development and administration of procedures and examinations for board certification and recertification. Disease Staging has

been used to classify the content of test items from the board certification/recertification examinations administered by the American Board of Family Practice<sup>32</sup> and to analyze medical licensing examinations in Japan.<sup>33</sup> Each item on the examination is classified by organ system, etiology, and stage of illness, along with other dimensions such as age group affected and whether the item focuses on diagnosis or management.

Use of this type of classification enables the specialty board to assess the current mix of items and begin to develop a "blueprint" to guide development of future examinations. For example, by using Disease Staging, one can refine the assessment of the physician's knowledge of the management of diabetes mellitus to assure that there is an appropriate mixture of items concerning management of the disease at its early stages along with prevention and management of specific advanced stage complications.

Disease Staging can be used in the assignment of hospital clinical privileges.<sup>34</sup> Currently, the delineation of clinical privileges is primarily procedure oriented, even in the medically oriented specialties. For example, a general internist may be credentialed to perform procedures such as arterial puncture, thoracentesis, and lumbar puncture. However, the skills necessary to successfully perform an arterial puncture say very little about the physician's ability to diagnose or manage the complex patient with advanced stage medical problems.

Disease Staging can be used to delineate disease specific privileges that more appropriately reflect the clinical challenges of patient management. For example, a board certified general internist may have the appropriate education and experience to manage early stage diabetes mellitus, but not for the management of a patient admitted for hyperosmolar coma. Potentially, the volume and outcomes of stage specific experience could also be monitored, as is increasingly done for surgical volume and outcomes, to reassess the privileges assignment.

### ***Medical Education***<sup>35, 36</sup>

A significant part of both undergraduate and graduate medical education involves increasing levels of patient care responsibility as the experience of the student/physician increases. Disease Staging can be used as a part of systems designed to document these clinical experiences. For example, what is the mix of severity of illness of patients with diabetes mellitus seen by medical students? Does the student have adequate experience managing a patient with this disease to avoid complications as well as in treating complications, which

may occur? Does this vary depending on the site where the students perform their clerkship? Is there significant variation from student to student?

Similarly, Disease Staging concepts can be used to evaluate the content of the curriculum. To what extent does the medical curriculum address Stage 1 illness and to what extent does it address Stage 3 illness? To what extent is attention devoted to problems associated with particular body organ systems or to problems of a particular etiological nature?

Use of Disease Staging can also help the student and resident become more effective diagnosticians. By understanding the evolution of a disease, the physician will use the laboratory more effectively and avoid delay in arriving at an accurate diagnosis.

### **Staged Diseases**

The following pages include a detailed listing of all staged diseases.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS01

DXCat Label: Aneurysm, Abdominal

Etiology: Degenerative

MultiStage: No

Specificity: A

| Stage | Description                    | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--------------------------------|--|--|
| 1.01  | Abdominal aneurysm ≤ 5 cm.     | Abdominal aortic aneurysm ≤ 5 cm. in diameter [CT scan or sonogram or aortogram or operative/pathology report] | DX 4414;   |
| 1.02  | Abdominal aneurysm > 5 cm.     | Abdominal aortic aneurysm > 5 cm. in diameter [CT scan or sonogram or aortogram or operative/pathology report] | NO;  |
| 2.01  | Symptomatic abdominal aneurysm | Stage 1.01-1.02<br>AND tender pulsatile abdominal mass<br>OR diffuse dull abdominal pain                       | STAGE 1.01 + (DX 78900-78909, 78930-78939);        |
| 2.02  | with dissection                | Stage 1.01-2.01<br>AND dissecting abdominal aneurysm [operative/pathology report]                              | DX 44102;  |
| 3.01  | with rupture                   | Stage 1.01-2.02<br>AND rupture of abdominal aneurysm [operative/pathology report]                              | DX 4413;   |
| 3.02  | with shock                     | Stage 2.02-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                     | Stage 2.01-3.02<br>AND death   | NO;  |

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS02

DXCat Label: Aneurysm, Thoracic

Etiology: Degenerative; Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.01  | Asymptomatic thoracic aneurysm                            | Fusiform thoracic aneurysm [chest x-ray or aortography or MRI or CT scan report]<br>OR<br>saccular thoracic aneurysm [chest x-ray or aortography or MRI or CT scan report] | DX 4412, 4417, 4419;                               |
| 2.01  | with bronchial obstruction or laryngeal nerve involvement | Stage 1.01<br>AND<br>history of persistent cough<br>OR<br>deviation of trachea [chest x-ray or MRI or CT scan report]<br>OR<br>hoarseness                                  | STAGE 1.01 + (DX 5191-51919, 78449, 7862);         |
| 2.02  | with superior vena cava obstruction                       | Stage 1.01-2.01<br>AND<br>edema of face<br>OR<br>edema of head<br>OR<br>edema of neck  | STAGE 1.01-2.01 + (DX 4532, 4592);                 |
| 2.03  | with dissection   | Stage 1.01-2.02<br>AND<br>dissecting thoracic aneurysm [CT scan or MRI report or operative/pathology report]   | DX 44100-44101, 44103;                             |
| 3.01  | with rupture  | Stage 1.01-2.03<br>AND<br>rupture of thoracic aneurysm [operative/pathology report]  | DX 4411, 4415, 4416;                               |
| 3.02  | with shock  | Stage 2.02-3.01<br>AND<br><b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.02-3.02<br>AND<br>death  | NO;  |

### References:

Clouse WD, Hallett JW Jr., Schaff HV, Gayari MM, Ilstrup DM, Melton LJ 3rd. Improved prognosis of thoracic aortic aneurysms: a population-based study. JAMA. 1998;280(22):1926-9.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS03

MultiStage: No

DXCat Label: Anomaly: Patent Ductus Arteriosus

Specificity: A

Etiology: Congenital

| Stage | Description                           | Diagnostic findings  | ICD-9-CM Codes                           |
|-------|---------------------------------------|--|--|
| 1.01  | Asymptomatic patent ductus arteriosus | Patent ductus arteriosus [cardiac catheterization report]<br>OR 'machinery' murmur<br>AND diastolic pressure $\leq$ 50 mmHg<br>AND left atrial enlargement [EKG report or echocardiogram report]<br>AND left ventricular hypertrophy [EKG report or echocardiogram report] | DX 7470;                                 |
| 2.01  | with hypoxemia                        | Stage 1.01<br>AND <b>hypoxemia:</b>  | STAGE 1.01 + GROUP HYPOXEMIA;            |
| 3.01  | with pulmonary hypertension           | Stage 1.01-2.01<br>AND <b>pulmonary hypertension:</b>  | STAGE 1.01-2.01 + (DX 4150, 4160, 4168); |
| 3.02  | with infective endocarditis           | Stage 1.01-3.01<br>AND <b>infective endocarditis:</b>  | STAGE 1.01-3.01 + (DX 4210-4219, 42491); |
| 3.03  | with congestive heart failure         | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;     |
| 3.04  | with sepsis                           | Stage 1.01-3.03<br>AND <b>sepsis:</b>  | STAGE 1.01-3.03 + GROUP SEPSIS;          |
| 3.05  | with respiratory failure              | Stage 1.01-3.04<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.04 + GROUP RESP_FAIL;       |
| 3.06  | with shock                            | Stage 1.01-3.05<br>AND <b>shock:</b>   | STAGE 1.01-3.05 + GROUP SHOCKN;          |
| 4.00  | with death                            | Stage 1.01-3.06<br>AND death   | NO;                                      |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS03

MultiStage: No

DXCat Label: Anomaly: Patent Ductus Arteriosus

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- Bernstein D. Acyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1288-1296.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS04

MultiStage: No

DXCat Label: Aortic Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Mild chronic aortic regurgitation                              | <b>Chronic:</b><br>AND mild aortic regurgitation [echocardiogram report or cardiac catheterization report]   | DX 7464;   |
| 2.01  | Moderate chronic aortic regurgitation                          | <b>Chronic:</b><br>AND moderate aortic regurgitation [echocardiogram report or cardiac catheterization report]   | NO;  |
| 2.02  | Mild chronic aortic regurgitation with atrial fibrillation     | Stage 1.01<br>AND atrial fibrillation [EKG report]   | STAGE 1.01 + (DX 42731, 42732);                    |
| 2.03  | Moderate chronic aortic regurgitation with atrial fibrillation | Stage 2.01<br>AND atrial fibrillation [EKG report]   | NO;  |
| 3.01  | Mild chronic aortic regurgitation with CHF                     | Stage 1.01<br>OR Stage 2.02<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-2.02 + GROUP CHF_NON_HTN;               |
| 3.02  | Moderate chronic aortic regurgitation with CHF                 | Stage 2.01<br>OR Stage 2.03<br>AND <b>congestive heart failure:</b>  | NO;  |
| 3.03  | Severe asymptomatic chronic aortic regurgitation               | Stage 1.01-3.02<br>AND end-systolic left ventricular diameter $\leq$ 55 mm [echocardiogram report]<br>OR end-systolic volume index $\leq$ 90 mL/M <sup>2</sup> [radionuclide angiography]<br>OR left ventricular ejection fraction < 55% [echocardiogram report or radionuclear ventriculogram report] | NO;  |
| 3.04  | Acute severe aortic regurgitation                              | <b>Acute:</b><br>AND severe aortic regurgitation [echocardiogram report or radionuclear ventriculogram report]   | NO;  |
| 3.05  | Severe aortic regurgitation with ventricular dilatation        | Stage 3.03-3.04<br>AND end systolic left ventricular diameter > 55 mm [echocardiogram report]<br>OR end-systolic volume index > 90 mL/M <sup>2</sup> [radionuclide angiography]<br>OR left ventricular ejection fraction > 55% [echocardiogram report or radionuclear ventriculogram report]           | STAGE 1.01-3.01 + DX 4293;                         |
| 3.06  | Severe aortic regurgitation with CHF                           | Stage 3.03-3.05<br>AND <b>congestive heart failure:</b>  | NO;  |
| 3.07  | Severe aortic regurgitation with sepsis                        | Stage 3.03-3.06<br>AND <b>sepsis:</b>  | STAGE 1.01-3.05 + GROUP SEPSIS;                    |
| 3.08  | Severe aortic regurgitation with respiratory failure           | Stage 3.03-3.07<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.07 + GROUP RESP_FAIL;                 |
| 3.09  | Severe aortic regurgitation with shock                         | Stage 3.03-3.08<br>with <b>shock:</b>  | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS04

MultiStage: No

DXCat Label: Aortic Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

| Stage | Description                            | Diagnostic findings          | ICD-9-CM Codes |
|-------|--|------------------------------|----------------|
| 4.00  | Severe aortic regurgitation with death | Stage 3.03-3.09<br>AND death | NO;            |

### References:

Bernstein D. Acyanotic congenital heart disease: the obstructive lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1297-1305.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS05

MultiStage: No

DXCat Label: Aortic Stenosis

Specificity: A

Etiology: Congenital; Degenerative

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Mild aortic valve stenosis                              | Mean aortic valve gradient $\leq$ 25mm Hg [echocardiogram report or Doppler report or cardiac catheterization report]<br>OR<br>aortic valve area $>$ 1.5cm <sup>2</sup> [echocardiogram report or Doppler report or cardiac catheterization report]   | DX 4241, 7463, 74681;   |
| 2.01  | Moderate aortic valve stenosis                          | Mean aortic valve gradient $>$ 25 mmHg [echocardiogram report or Doppler report or cardiac catheterization report]<br>AND<br>mean aortic valve gradient $\leq$ 50 mmHg [echocardiogram report or Doppler report or cardiac catheterization report]<br>OR<br>aortic valve area $<$ 1.5 cm <sup>2</sup> [echocardiogram report or Doppler report or cardiac catheterization report] | NO;   |
| 3.01  | Severe aortic valve stenosis                            | Mean aortic valve gradient $>$ 50 mmHg [echocardiogram report or Doppler report or cardiac catheterization report]<br>OR<br>aortic valve area $<$ 1.0 cm <sup>2</sup> [echocardiogram report or Doppler report or cardiac catheterization report]   | NO;   |
| 3.02  | Severe aortic valve stenosis with angina                | Stage 3.01<br>AND<br><b>angina pectoris:</b>  | STAGE 1.01 + (DX 4111, 4130-4139);                                |
| 3.03  | Severe aortic valve stenosis with low ejection fraction | Stage 3.01-3.02<br>AND<br>left ventricular ejection fraction $<$ 50% [echocardiogram report or doppler report or cardiac catheterization report or radionuclide ventriculogram report]  | NO;   |
| 3.04  | Severe aortic valve stenosis with syncope               | Stage 3.01-3.03<br>AND<br>syncope   | STAGE 1.01-3.02 + DX 7802;  |
| 3.05  | Severe aortic valve stenosis with atrial fibrillation   | Stage 3.01-3.04<br>AND<br><b>atrial fibrillation:</b>   | STAGE 1.01-3.04 + (DX 42731-42732);                               |
| 3.06  | Severe aortic valve stenosis with CHF                   | Stage 3.01-3.05<br>AND<br><b>congestive heart failure:</b>  | STAGE 1.01-3.05 + GROUP CHF_NON_HTN;                              |
| 3.07  | Severe aortic valve stenosis with respiratory failure   | Stage 3.01-3.06<br>AND<br><b>respiratory failure:</b>   | STAGE 1.01-3.06 + GROUP RESP_FAIL;                                |
| 3.08  | Severe aortic valve stenosis with shock                 | Stage 3.01-3.07<br>AND<br><b>shock:</b>   | STAGE 1.01-3.07 + (GROUP SHOCKA OR GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | Severe aortic valve stenosis with death                 | Stage 3.01-3.08<br>AND<br>death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS05

MultiStage: No

DXCat Label: Aortic Stenosis

Specificity: A

Etiology: Congenital; Degenerative

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
|---|
| Bernstein D. Acyanotic congenital heart disease: the obstructive lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1297-1305.                               |
| Braunwald E. Valvular heart disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York: McGraw-Hill; 1998:1311-1324.               |
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS06

MultiStage: No

DXCat Label: Arrhythmias

Specificity: B

Etiology: Congenital; Degenerative; Idiopathic; Toxicologic

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Atrial premature contractions or sinus arrhythmia or junctional rhythm | Atrial premature contractions [EKG report]<br>OR atrial bigeminy [EKG report]<br>OR atrial trigeminy [EKG report]<br>OR sinus arrhythmia [EKG report]<br>OR ectopic atrial rhythm [EKG report]<br>OR junctional rhythm [EKG report] | DX 42760-42761, 42789-4279, 42682;   |
| 1.02  | Asymptomatic unifocal ventricular premature contractions               | No history of dizziness<br>OR no history of being lightheaded<br>AND unifocal ventricular contractions [EKG report]<br>OR ventricular bigeminy [EKG report]<br>OR ventricular trigeminy [EKG report]                                | DX 42769;  |
| 1.03  | Wolff-Parkinson-White syndrome or Lown-Ganong-Levine syndrome          | WPW syndrome [EKG report]<br>OR LGL syndrome [EKG report]<br>OR Short PR Syndrome [EKG report]  | DX 4267, 42681;  |
| 1.04  | Asymptomatic multifocal ventricular premature contractions             | No history of dizziness<br>OR no history of being lightheaded<br>AND multifocal ventricular contractions [EKG report]   | NO;  |
| 2.01  | Paroxysmal atrial fibrillation or flutter                              | Paroxysmal atrial fibrillation [EKG report]<br>OR paroxysmal atrial flutter [EKG report]<br>OR paroxysmal atrial flutter-fibrillation [EKG report]  | DX 42731-42732;  |
| 2.02  | Atrial fibrillation or flutter   | Atrial fibrillation [EKG report]<br>OR atrial flutter [EKG report]  | NO;  |
| 2.03  | Sick sinus syndrome  | Sick sinus syndrome [EKG report]  | DX 42781;  |
| 2.04  | Supraventricular tachycardia   | Supraventricular tachycardia [EKG report]   | DX 4270, 4272;   |
| 2.05  | Symptomatic ventricular ectopy   | History of dizziness<br>OR history of being lightheaded<br>AND multifocal ventricular contractions [EKG report]<br>OR unifocal ventricular contractions [EKG report]  | NO;  |
| 3.01  | Arrhythmias with ventricular fibrillation or flutter or shock          | Stage 1.01-2.05<br>AND ventricular fibrillation [EKG or rhythm strip report]<br>OR ventricular flutter [EKG or rhythm strip report]<br>OR <b>shock:</b>   | DX 4271, 42741, 42742, 4275;<br>STAGE 1.01-2.04 + (GROUP SHOCKA OR GROUP SHOCKC OR GROUP SHOCKN OR DX 7802); |
| 4.00  | Arrhythmias with death   | Stage 2.01-3.01<br>AND death  | DX 7981;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS06

MultiStage: No

DXCat Label: Arrhythmias

Specificity: B

Etiology: Congenital; Degenerative; Idiopathic; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. *Mayo Clinic Proceedings*. 1996;71(2):184-196.

Josephson ME, Zimetbaum P, Marchlinski FE, Buxton AE. The bradyarrhythmias: disorders of sinus node function and AV conduction disturbances. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1253-1261.

Josephson ME, Zimetbaum P, Marchlinski FE, Buxton AE. The tachyarrhythmias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1261-1278.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS07

MultiStage: No

DXCat Label: Cardiomyopathies

Specificity: A

Etiology: Congenital; Genetic (or hereditary); Immune; Infection; Toxicologic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Transient hypertrophic cardiomyopathy of infancy                             | Transient hypertrophic cardiomyopathy of infancy [echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report]   | NO;   |
| 2.01  | Cardiomyopathies   | Restrictive cardiomyopathy [biopsy report or echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report]<br>OR Dilated cardiomyopathy [biopsy report or echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report]<br>OR hypertrophic cardiomyopathy [biopsy report or echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report] | DX 4250-4254, 4257-4259, 42983;   |
| 2.02  | with first degree heart block or Mobitz I heart block or bundle branch block | Stage 1.01-2.01<br>AND bundle branch block [EKG report]<br>OR 1st degree heart block [EKG report]<br>OR Mobitz I heart block [EKG report]  | STAGE 2.01 + (DX 42611, 4262, 42613, 4263, 4264, 42650-42654, 4269);                      |
| 2.03  | with Mobitz II heart block   | Stage 1.01-2.02<br>AND second degree heart block [EKG report]  | STAGE 2.01-2.02 + DX 42612;   |
| 2.04  | with supraventricular tachycardia or atrial fibrillation or atrial flutter   | Stage 1.01-2.03<br>AND atrial fibrillation [EKG report]<br>OR atrial flutter [EKG report]<br>OR superventricular tachycardia [EKG report]  | STAGE 2.01-2.03 + (DX 4270, 42731, 42732);  |
| 3.01  | with complete heart block  | Stage 1.01-2.04<br>AND complete heart block [EKG report]   | STAGE 2.01-2.04 + (DX 4260, 42689);   |
| 3.02  | with pulmonary embolism  | Stage 1.01-3.01<br>AND <b>pulmonary embolism:</b>  | STAGE 2.01-3.01 + GROUP PULMEMB;  |
| 3.03  | with congestive heart failure  | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>  | STAGE 2.01-3.02 + GROUP CHF_NON_HTN;  |
| 3.04  | with non-sustained ventricular tachycardia                                   | Stage 1.01-3.03<br>AND non-sustained ventricular tachycardia [rhythm report or EKG report]   | STAGE 2.01-3.03 + DX 4271;  |
| 3.05  | with respiratory failure   | Stage 1.01-3.04<br>AND <b>respiratory failure:</b>   | STAGE 2.01-3.04 + GROUP RESP_FAIL;  |
| 3.06  | with sustained ventricular tachycardia                                       | Stage 1.01-3.05<br>AND sustained ventricular tachycardia [rhythm report or EKG report]   | NO;   |
| 3.07  | with ventricular fibrillation or ventricular flutter or shock                | Stage 1.01-3.06<br>AND ventricular fibrillation [EKG report]<br>OR ventricular flutter [EKG report]<br>OR <b>shock:</b>  | STAGE 2.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;<br>STAGE 2.01-3.05 + (DX 42741-42742); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS07

MultiStage: No

DXCat Label: Cardiomyopathies

Specificity: A

Etiology: Congenital; Genetic (or hereditary); Immune; Infection; Toxicologic

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.07<br>AND death | NO;            |

### References:

- Bernstein D. The Primary cardiomyopathies. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1354-1355.
- Dec GW, Fuster V. Idiopathic dilated cardiomyopathy. N Engl J Med. 1994;331(23):1564-1575.
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- Massie BM, Amidon TM. Myocarditis and the cardiomyopathies. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:413-417.
- Pisani B, Taylor DO, Mason JW. Inflammatory myocardial diseases and cardiomyopathies. American Journal of Medicine. 1997;102(5):459-469.
- Richardson P et al. Report of the 1995 World Health Organization/International Society and Federation of Cardiology Task Force on the Definition and Classification of Cardiomyopathies. Circ. 1996; 93:841-842.
- Wynne J, Braunwald E. The cardiomyopathies and myocarditides. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1328-1334.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS08

MultiStage: No

DXCat Label: Conduction Disorders

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description                                      | Diagnostic findings  | ICD-9-CM Codes                  |
|-------|--|--|---------------------------------|
| 1.01  | First degree heart block                         | First degree heart block [EKG report]  | DX 42610-42611;                 |
| 1.02  | Hemiblocks                                       | Left anterior hemiblock [EKG report]<br>OR left posterior hemiblock [EKG report]                                   | DX 4262;                        |
| 1.03  | Right bundle branch block                        | Right bundle branch block [EKG report]   | DX 4264;                        |
| 1.04  | Left bundle branch block                         | Left bundle branch block [EKG report]  | DX 4263, 42650-42654;           |
| 2.01  | Mobitz type I heart block                        | Mobitz type I heart block or Wenckebach block [EKG report]<br>Mobitz type II heart block or 2:1 block [EKG report] | DX 42613, 4266;                 |
| 2.02  | Mobitz type II heart block                       |  | DX 42612;                       |
| 2.03  | Third degree heart block or complete heart block | Third degree heart block [EKG report]<br>OR complete heart block [EKG report]                                      | DX 4260, 42689, 4269;           |
| 3.01  | Conduction disorders with shock                  | Stage 1.01-2.03<br>AND <b>shock:</b>   | STAGE 1.01-2.03 + GROUP SHOCKA; |
| 4.00  | Conduction disorders with death                  | Stage 2.01-3.01<br>AND death   | NO;                             |

### References:

- Perloff JK. Isolated congenital complete heart block. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:53-66.
- Bernstein D. Cardiac arrhythmias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1335-1344.
- Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. Mayo Clinic Proceedings. 1996;71(2):184-196.
- Josephson ME, Zimetbaum P, Marchlinski FE, Buxton AE. "The bradyarrhythmias: disorders of sinus node function and AV conduction disturbances. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York: McGraw-Hill; 1998:1253-1261.
- Massie BM, Amidon TM. Heart: conduction disturbances. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:399-401.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS09

DXCat Label: Congestive Heart Failure

Etiology: Idiopathic

MultiStage: No

Specificity: B

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|-------------------------------|--|--|
| 3.01  | Congestive heart failure      | <b>Congestive heart failure:</b>   | DX 4280-42843;                                     |
| 3.02  | with azotemia or hyponatremia | Stage 3.01<br>AND <b>azotemia:</b><br>OR <b>hyponatremia:</b>  | STAGE 3.01 + (DX 2761, 7906);                      |
| 3.03  | with low ejection fraction    | Stage 3.01<br>AND ejection fraction $\leq$ 20% [echocardiogram report or nuclear ejection fraction report] | NO;  |
| 3.04  | with respiratory failure      | Stage 3.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 3.01-3.02 + GROUP RESP_FAIL;                 |
| 3.05  | with shock                    | Stage 3.01-3.04<br>AND <b>shock:</b>   | STAGE 3.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 3.01-3.05<br>AND death   | NO;  |

### References:

Braunwald E. Heart failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1287-1298.

Eichhorn EJ, Bristow MR. Medical therapy can improve the biological properties of the chronically failing heart. A new era in the treatment of heart failure. Circulation. 1996;94(9):2285-2296.

Massie BM, Amidon TM. Heart: cardiac failure. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998: 403-413.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS10

MultiStage: Yes

DXCat Label: Coronary Artery Disease with Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Coronary atherosclerosis or asymptomatic chronic ischemic heart disease or old myocardial infarction                                  | Coronary atherosclerosis<br>OR asymptomatic chronic ischemic heart disease<br>OR old myocardial infarction<br>OR history of myocardial infarction ≥ 30 days old<br>AND ejection fraction ≥ 50% [echocardiogram report or nuclear ejection fraction report]   | DX V4581, 99603, 41402-41407; (DX 41181, 412, 41400-41401, 4292) + (DX V4581, 41402-41407, 99603);                      |
| 1.02  | Chronic stable exertional angina or chronic ischemic heart disease  | Chronic stable exertional angina<br>OR chronic ischemic heart disease  | (DX 4139, 4148-4149) + (DX V4581, 41402-41407, 99603);  |
| 2.01  | Progressing angina pectoris or exertional myocardial ischemic at low workload or old myocardial infarction with low ejection fraction | Progressing angina pectoris<br>OR exercise induced myocardial ischemia at < 6 METS [stress test report]<br>OR history of prior myocardial infarction ≥ 30 days<br>AND left ventricular ejection fraction < 50% [echocardiogram report or nuclear ejection fraction report]<br>AND left ventricular ejection fraction ≥ 30% [echocardiogram report or nuclear ejection fraction report] | (DX 4110, 41189) + (DX V4581, 41402-41407, 99603);  |
| 2.02  | Prinzmetal's variant angina   | Anginal pain<br>AND ST-T elevations at time of pain [EKG report]   | DX 4131 + (DX V4581, 41402-41407, 99603);   |
| 2.03  | Angina with hypertrophy or akinesia or dyskinesia or S3 gallop or S4 gallop   | Stage 1.01-2.02<br>AND hypertrophy [nuclear ejection fraction report or echocardiogram report]<br>OR akinesia [nuclear ejection fraction report or echocardiogram report]<br>OR hypokinesia [nuclear ejection fraction report or echocardiogram report]<br>OR dyskinesia [nuclear ejection fraction report or echocardiogram report]<br>OR S4 gallop<br>OR S3 gallop                   | STAGE 1.01-2.02 + (DX 4293, 42789 OR GROUP CHF_NON_HTN);  |
| 2.04  | Unstable angina pectoris  | Stage 1.01-2.03<br>AND change in nature of onset of symptoms and severity of known anginal pain<br>AND past history of angina<br>OR angina occurring at rest   | (DX 4111, 4130) + (DX V4581, 41402-41407, 99603); (DX 4111, 4130) + (DX V4581, 41402-41407, 99603) + GROUP CHF_NON_HTN; |
| 3.01  | Acute inferior or posterior wall myocardial infarction  | Acute inferior or posterior wall myocardial infarction [EKG report or cardiac catheterization report]<br>AND CPK-MB ≥ normal [CPK isoenzyme report]  | DX 41020-41092 + (DX V4581, 41402-41407, 99603); STAGE 1.01-2.04 + (DX 4260-4269, 4270, 42760-42769);                   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS10

MultiStage: Yes

DXCat Label: Coronary Artery Disease with Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 3.02  | Acute inferior or posterior wall myocardial infarction with heart block or pericarditis | Stage 3.01<br>AND heart block [EKG report]<br>OR pericarditis [EKG report]   | STAGE 3.01 + (DX 42090-42099, 4260-4269);                       |
| 3.03  | Acute inferior or posterior wall myocardial infarction with left ventricular thrombus   | Stage 3.01-3.02<br>AND left ventricular thrombus [cardiac catheterization report or echocardiogram report]                             | NO;   |
| 3.04  | Acute inferior or posterior wall myocardial infarction with left ventricular aneurysm   | Stage 3.01-3.03<br>AND left ventricular aneurysm [cardiac catheterization report or echocardiogram report]                             | STAGE 3.01-3.03 + DX 41410;                                     |
| 3.05  | Acute inferior or posterior wall myocardial infarction with CHF                         | Stage 3.01-3.04<br>AND <b>congestive heart failure:</b>  | STAGE 3.01-3.04 + (GROUP CHF_NON_HTN OR DX 5184 );              |
| 3.06  | Acute anterior wall myocardial infarction   | Acute anterior myocardial infarction [EKG report or cardiac catheterization report]<br>AND CPK-MB $\geq$ normal [CPK isoenzyme report] | (DX 41000-41002, 41010-41012) + (DX V4581, 41402-41407, 99603); |
| 3.07  | Acute anterior wall or all other myocardial infarction with low ejection fraction       | Stage 3.01-3.06<br>AND ejection fraction < 30% [echocardiogram report or radionuclide ventriculogram]                                  | NO;   |
| 3.08  | Acute anterior wall myocardial infarction with heart block or pericarditis              | Stage 3.06<br>AND heart block<br>OR pericarditis   | STAGE 3.06 + (DX 42090-42099, 4260-4269);                       |
| 3.09  | Acute anterior wall myocardial infarction with ventricular thrombus formation           | Stage 3.06<br>OR Stage 3.08<br>AND ventricular thrombus formation [echocardiogram report or catheterization report]                    | NO;   |
| 3.10  | Acute anterior wall myocardial infarction with ventricular aneurysm                     | Stage 3.06<br>OR Stage 3.08-3.10<br>AND ventricular aneurysm [echocardiogram report]   | STAGE 3.06-3.08 + DX 41410;                                     |
| 3.11  | Acute anterior wall myocardial infarction with CHF                                      | Stage 3.06<br>OR Stage 3.08-3.10<br>AND <b>congestive heart failure:</b>   | STAGE 3.06-3.10 + (GROUP CHF_NON_HTN OR DX 5184 );              |
| 3.12  | Acute myocardial infarction with pulmonary embolism                                     | Stage 3.06<br>OR Stage 3.08-3.11<br>AND <b>pulmonary embolism:</b>   | STAGE 3.01-3.11 + DX 41519;                                     |
| 3.13  | Acute myocardial infarction with cerebrovascular accident                               | Stage 3.06<br>OR Stage 3.08-3.12<br>AND cerebrovascular accident [CT scan report or MRI report]  | STAGE 3.01-3.12 + (DX 430-4329, 43401, 43411, 43491, 436);      |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS10

MultiStage: Yes

DXCat Label: Coronary Artery Disease with Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 3.14  | Acute anterior myocardial infarction with papillary muscle rupture or ventricular septal rupture | Stage 3.06<br>OR Stage 3.08-3.13<br>AND papillary muscle rupture [cardiac catheterization report or echocardiogram report]<br>OR ventricular septal rupture [cardiac catheterization report or echocardiogram report] | STAGE 3.06-3.13 + DX 4296;  |
| 3.15  | Coronary artery disease with ventricular fibrillation or shock                                   | Stage 1.01-3.14<br>AND ventricular fibrillation [rhythm strip report or EKG report]<br>OR <b>shock:</b>   | STAGE 1.01-3.14 + (DX 4271, 42741-42742 OR GROUP SHOCKC OR GROUP SHOCKN); |
| 3.16  | Coronary artery disease with cardiac arrest  | Stage 1.01-3.15<br>AND cardiac arrest [rhythm strip report or EKG report]   | STAGE 1.01-3.15 + DX 4275;  |
| 4.00  | Coronary artery disease with death   | Stage 1.01-3.16 with death  | NO;   |

### References:

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Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. *Mayo Clinic Proceedings.* 1996;71(2):184-196.

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Selwyn AP, Braunwald E. Ischemic heart disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill, 1998:1365-1375.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS11

MultiStage: Yes

DXCat Label: Coronary Artery Disease without Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Old myocardial infarction or coronary atherosclerosis or chronic ischemic heart disease   | Coronary atherosclerosis<br>OR chronic ischemic heart disease<br>OR history of myocardial infarction ≥ 30 days old<br>AND ejection fraction ≥ 50% [echocardiogram report or nuclear ejection fraction report]  | (DX 41181, 412, 41400-41401, 4292) + NOT (DX V4581, 41402-41407, 99603);   |
| 1.02  | Chronic stable exertional angina  | Chronic stable exertional angina   | (DX 4139, 4148-4149) + NOT (DX V4581, 41402-41407, 99603);   |
| 2.01  | Progressing angina pectoris or exertional myocardial ischemia at low workload or old myocardial infarction with low ejection fraction | Progressing angina pectoris<br>OR exercise induced myocardial ischemia at < 6 METS [stress test report]<br>OR history of prior myocardial infarction ≥ 30 days<br>AND left ventricular ejection fraction < 50% [echocardiogram report or nuclear ejection fraction report]<br>AND left ventricular ejection fraction ≥ 30% [echocardiogram report or nuclear ejection fraction report] | (DX 4110, 41189) + NOT (DX V4581, 41402-41407, 99603);   |
| 2.02  | Prinzmetal's variant angina   | Anginal pain<br>AND ST-T elevations at time of pain [EKG report]   | DX 4131 + NOT (DX V4581, 41402-41407, 99603);  |
| 2.03  | Angina with hypertrophy or akinesia or dyskinesia or S3 gallop or S4 gallop   | Stage 1.01-2.02<br>AND hypertrophy [nuclear ejection fraction report or echocardiogram report]<br>OR akinesia [nuclear ejection fraction report or echocardiogram report]<br>OR hypokinesia [nuclear ejection fraction report or echocardiogram report]<br>OR dyskinesia [nuclear ejection fraction report or echocardiogram report]<br>OR S4 gallop<br>OR S3 gallop                   | STAGE 1.01-2.02 + (DX 4293, 42789 OR GROUP CHF_NON_HTN);   |
| 2.04  | Unstable angina pectoris  | Stage 1.01-2.03<br>AND change in nature of onset of symptoms and severity of known anginal pain<br>AND past history of angina<br>OR angina occurring at rest   | (DX 4111, 4130) + NOT (DX V4581, 41402-41407, 99603);<br>((DX 4111, 4130) + GROUP CHF_NON_HTN) + NOT (DX V4581, 41402-41407, 99603); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS11

MultiStage: Yes

DXCat Label: Coronary Artery Disease without Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 3.01  | Acute inferior or posterior wall myocardial infarction                                  | Acute inferior or posterior wall myocardial infarction [EKG report or cardiac catheterization report]<br>AND CPK-MB $\geq$ normal [CPK isoenzyme report] | (DX 41020-41022, 41030-41032, 41040-41042, 41050-41052, 41060-41062, 41070-41072, 41080-41082, 41090-41092) + NOT (DX V4581, 41402-41407, 99603);<br>STAGE 1.01-2.04 + (DX 4260-4269, 4270, 42760-42769); |
| 3.02  | Acute inferior or posterior wall myocardial infarction with heart block or pericarditis | Stage 3.01<br>AND heart block [EKG report]<br>OR pericarditis [EKG report]   | STAGE 3.01 + (DX 42090-42099, 4260-4269);   |
| 3.03  | Acute inferior or posterior wall myocardial infarction with left ventricular thrombus   | Stage 3.01-3.02<br>AND left ventricular thrombus [cardiac catheterization report or echocardiogram report]   | NO;   |
| 3.04  | Acute inferior or posterior wall myocardial infarction with left ventricular aneurysm   | Stage 3.01-3.03<br>AND left ventricular aneurysm [cardiac catheterization report or echocardiogram report]   | STAGE 3.01-3.03 + DX 41410;   |
| 3.05  | Acute inferior or posterior wall myocardial infarction with CHF                         | Stage 3.01-3.04<br>AND <b>congestive heart failure:</b>  | STAGE 3.01-3.04 + (GROUP CHF_NON_HTN OR DX 5184 );  |
| 3.06  | Acute anterior wall myocardial infarction   | Acute anterior myocardial infarction [EKG report or cardiac catheterization report]<br>AND CPK-MB $\geq$ normal [CPK isoenzyme report]                   | (DX 41000-41002, 41010-41012) + NOT (DX V4581, 41402-41407, 99603);   |
| 3.07  | Acute myocardial infarction with low ejection fraction                                  | Stage 3.01-3.06<br>AND ejection fraction < 30% [echocardiogram report or radionuclide ventriculogram]  | NO;   |
| 3.08  | Acute anterior wall myocardial infarction with heart block pericarditis                 | Stage 3.06<br>AND heart block<br>OR pericarditis   | STAGE 3.06 + (DX 42090-42099, 4260-4269);   |
| 3.09  | Acute anterior wall myocardial infarction with ventricular thrombus formation           | Stage 3.06<br>OR Stage 3.08<br>AND ventricular thrombus formation [echocardiogram report or catheterization report]                                      | NO;   |
| 3.10  | Acute anterior wall myocardial infarction with ventricular aneurysm                     | Stage 3.06<br>OR Stage 3.08-3.09<br>AND ventricular aneurysm [echocardiogram report]   | STAGE 3.06-3.08 + DX 41410;   |
| 3.11  | Acute anterior wall myocardial infarction with CHF                                      | Stage 3.06<br>OR Stage 3.08-3.10<br>AND <b>congestive heart failure:</b>   | STAGE 3.06-3.10 + (GROUP CHF_NON_HTN OR DX 5184 );  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS11

MultiStage: Yes

DXCat Label: Coronary Artery Disease without Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 3.12  | Acute myocardial infarction with pulmonary embolism  | Stage 3.06<br>OR Stage 3.08-3.11<br>AND <b>pulmonary embolism:</b>   | STAGE 3.01-3.11 + DX 41519;   |
| 3.13  | Acute myocardial infarction with cerebrovascular accident  | Stage 3.06<br>OR Stage 3.08-3.12<br>AND cerebrovascular accident [CT scan report or MRI report]                            | STAGE 3.01-3.12 + (DX 430, 431, 4320-4329, 43401 , 43411, 43491, 436);    |
| 3.14  | Acute anterior myocardial infarction with papillary muscle rupture or ventricular septal rupture | Stage 3.06<br>OR Stage 3.08-3.13<br>AND papillary muscle rupture [cardiac catheterization report or echocardiogram report] | STAGE 3.06-3.13 + DX 4296;  |
| 3.15  | Coronary artery disease with ventricular fibrillation or shock                                   | Stage 1.01-3.14<br>AND ventricular fibrillation [rhythm strip report or EKG report]<br>OR <b>shock:</b>                    | STAGE 1.01-3.14 + (DX 4271, 42741-42742 OR GROUP SHOCKC OR GROUP SHOCKN); |
| 3.16  | Coronary artery disease with cardiac arrest  | Stage 1.01-3.15<br>AND cardiac arrest [rhythm strip report or EKG report]  | STAGE 1.01-3.15 + DX 4275;  |
| 4.00  | Coronary artery disease with death   | Stage 1.01-3.16<br>with death  | NO;   |

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS12

DXCat Label: Digoxin Toxicity

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description                                       | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Digoxin toxicity                                  | Digoxin level $\geq$ 3.0 ng/ml [chemistry report]   | DX 9721, E8583, E9421;<br>(DX 2752, 2765-2766, 2768-2769, 29281, 36815, 36859, 37734, 7804, 7830, 7840, 78701-78703, 78900-78909, 9952-99529) + ( DX E8583, E9421); |
| 2.01  | with unifocal PVCs                                | Stage 1.01<br>AND unifocal premature ventricular contractions [EKG report]  | STAGE 1.01 + DX 42769;  |
| 2.02  | with Mobitz type I heart block                    | Stage 1.01-2.01<br>AND Mobitz type I heart block [EKG report]   | STAGE 1.01-2.01 + (DX 42613, 4266);   |
| 2.03  | with multifocal PVCs                              | Stage 1.01-2.02<br>AND multifocal premature ventricular contractions [EKG report]   | NO;   |
| 3.01  | with Mobitz II or third degree heart block        | Stage 1.01-2.03<br>AND Mobitz type II heart block or 2:1 heart block [EKG report or Holter report]<br>OR third degree heart block [EKG report or Holter report]                                       | STAGE 1.01-2.03 + (DX 4260, 42612, 42689, 4269);  |
| 3.02  | with ventricular tachycardia                      | Stage 1.01-3.01<br>AND ventricular tachycardia [EKG report or Holter report or CRT monitor report]  | STAGE 1.01-3.01 + DX 4271;  |
| 3.03  | with ventricular fibrillation or flutter or shock | Stage 1.01-3.02<br>AND ventricular fibrillation [EKG report or Holter report or CRT monitor report]<br>OR ventricular flutter [EKG report or Holter report or CRT monitor report]<br>OR <b>shock:</b> | STAGE 1.01-3.02 + (DX 42741-42742);<br>STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN);  |
| 4.00  | with death  | Stage 1.01-3.03<br>AND death  | NO;   |

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS13

MultiStage: Yes

DXCat Label: Essential Hypertension

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Idiopathic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                      |
|-------|--|--|-------------------------------------|
| 1.01  | Hypertension, minimal  | History of minimal hypertension<br>OR Diastolic pressure $\geq$ 90 mmHg on three separate readings within one month<br>AND diastolic pressure < 100 mmHg on three separate readings within one month<br>OR history of diastolic pressure $\geq$ 90 mmHg on three separate readings<br>AND history of diastolic pressure < 100 mmHg on three separate readings<br>OR systolic pressure $\geq$ 140 mmHg on three separate readings within one month<br>AND systolic pressure < 160 mmHg on three separate readings within one month    | DX 4011, 4019;                      |
| 1.02  | Hypertension, moderate   | History of moderate hypertension<br>OR diastolic pressure $\geq$ 100 mmHg on three separate readings within one month<br>AND diastolic pressure < 110 mmHg on three separate readings within one month<br>OR history of diastolic pressure $\geq$ 100 mmHg on three separate readings<br>AND history of diastolic pressure < 110 mmHg on three separate readings<br>OR systolic pressure $\geq$ 160 mmHg on three separate readings within one month<br>AND systolic pressure < 180 mmHg on three separate readings within one month | DX 40300, 40310, 40390;             |
| 1.03  | Hypertension, severe   | History of severe hypertension<br>OR Diastolic pressure $\geq$ 110 mmHg on three separate readings within one month<br>AND diastolic pressure < 120 mmHg on three separate readings within one month<br>OR history of diastolic pressure $\geq$ 110 mmHg on three separate readings<br>AND history of diastolic pressure < 120 mmHg on three separate readings<br>OR systolic pressure $\geq$ 180 mmHg on three separate readings within one month<br>AND systolic pressure < 210 mmHg on three separate readings within one month   | NO;                                 |
| 2.01  | Hypertension, very severe                                      | Diastolic pressure $\geq$ 120 mmHg<br>OR systolic pressure $\geq$ 210 mmHg   | DX 4010;                            |
| 2.02  | Hypertensive retinopathy, Grade I or II of Keith and Wagener   | Stage 1.02-2.01<br>AND A-V nicking [fundoscopy report]<br>OR copper wire' vessels [fundoscopy report]<br>OR narrowing of arterioles [fundoscopy report]<br>OR Grade I Keith and Wagener retinopathy [fundoscopy report]<br>OR Grade II Keith and Wagener retinopathy [fundoscopy report]   | DX 36211;                           |
| 2.03  | Hypertensive retinopathy, Grade III or IV of Keith and Wagener | Stage 1.02-2.02<br>AND retinal hemorrhage [fundoscopy report]<br>OR retinal exudates [fundoscopy report]<br>OR Grade III Keith and Wagener retinopathy [fundoscopy report]<br>OR Grade IV Keith and Wagener retinopathy [fundoscopy report]  | STAGE 1.01-2.02 + (DX 36281-36282); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS13

MultiStage: Yes

DXCat Label: Essential Hypertension

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Idiopathic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 2.04  | Hypertensive cardiomegaly, arrhythmias, or wall motion abnormalities | Stage 1.01-2.03<br>AND cardiomegaly [nuclear ejection fraction, cardiac catheterization, echocardiogram or chest x-ray report]<br>OR ventricular hypertrophy [echocardiogram report]<br>OR arrhythmias [EKG report]<br>OR heart blocks [EKG or nuclear ejection fraction phase study report]<br>OR dyskinesia [nuclear ejection fraction or cardiac catheterization report]<br>OR hypokinesia [nuclear ejection fraction, cardiac catheterization or echocardiogram report]<br>OR akinesia [nuclear ejection fraction, cardiac catheterization or echocardiogram report] | DX 40200, 40210, 40290;  |
| 3.01  | Hypertensive renal failure   | Stage 1.02-2.04<br>AND <b>renal failure:</b>   | DX 40301, 40311, 40391, 40400, 40402, 40410, 40412, 40490, 40492;  |
| 3.02  | Hypertensive congestive heart failure                                | Stage 1.02-3.01<br>AND <b>congestive heart failure:</b>  | (DX 4010, 4011, 4019) + DX 4280;<br>DX 40201, 40211, 40291, 40401, 40403, 40411, 40413, 40491, 40493;<br>STAGE 1.01-3.01 + DX 4280-4289; |
| 3.03  | Hypertensive CVA or Hypertensive encephalopathy                      | Stage 1.02-3.02<br>AND intracranial hemorrhage [CT scan report]<br>OR papilledema [fundoscopy report]<br>AND <b>disorientation:</b>  | DX 4372;<br>STAGE 1.01-3.02 + (DX 430, 431, 4320-4329, 436);<br>STAGE 1.01-3.02 + (GROUP DISORIENT) + (DX 37000-37701);                  |
| 3.04  | Hypertensive CVA with cranial nerve involvement                      | Stage 3.03<br>AND <b>cranial nerve palsy:</b>  | STAGE 3.03 + GROUP CRAN_NRV_PAL;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS13

MultiStage: Yes

DXCat Label: Essential Hypertension

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Idiopathic

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 3.05  | Hypertensive CVA with cerebellar or pyramidal tract dysfunction | Stage 3.03-3.04<br>AND sudden onset of one of the following which does not resolve within 24 hours:<br>loss of coordination, [heel to shin test report]<br>OR finger to nose test report<br>OR Romberg's test report<br>OR within 24 hours, onset of nystagmus<br>OR within 24 hours, onset of dizziness<br>OR within 24 hours, onset of vertigo | STAGE 3.03-3.04 + DX 3483;   |
| 3.06  | Hypertensive CVA with hemiparesis or hemiplegia                 | Stage 3.03-3.05<br>AND onset of hemiparesis unresolved within 24 hours<br>OR onset of hemiplegia unresolved within 24 hours  | STAGE 3.03-3.05 + (DX 34200-34202, 34210-34212, 34280-34281, 34290-34292); |
| 3.07  | Hypertensive CVA with amblyopia and contralateral hemiplegia    | Stage 3.03-3.06<br>AND onset of amblyopia unresolved within 24 hours<br>OR onset of dimness of vision unresolved within 24 hours<br>AND onset of contralateral hemiplegia unresolved within 24 hours   | STAGE 3.03-3.06 + (DX 36800, 36855 OR GROUP BLINDNESS);                    |
| 3.08  | Hypertensive CVA with quadriplegia                              | Stage 3.03-3.07<br>AND onset of quadriplegia unresolved within 24 hours  | STAGE 3.03-3.07 + (DX 34400-34409);  |
| 3.09  | with coma   | Stage 1.02-3.08<br>AND <b>coma:</b>  | STAGE 1.01-3.08 + GROUP COMA;  |
| 4.00  | with death  | Stage 1.02-3.09<br>AND death   | NO;  |

### References:

- Massie BM. Systemic hypertension. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:429-448.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS14

DXCat Label: Infective Endocarditis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 3.01  | Infective endocarditis   | <b>Infective endocarditis:</b>  | DX 4210, 4219;  |
| 3.02  | with glomerulonephritis  | Stage 3.01<br>AND <b>hematuria:</b><br>AND <b>proteinuria:</b><br>AND <b>azotemia:</b>  | STAGE 3.01 + DX 58081;  |
| 3.03  | with renal failure   | Stage 3.01-3.02<br>AND <b>renal failure:</b>  | STAGE 3.01-3.02 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);               |
| 3.04  | with pulmonary embolism  | Stage 3.01-3.03<br>AND <b>pulmonary embolism:</b>   | STAGE 3.01-3.03 + GROUP PULMEMB;  |
| 3.05  | with transient cerebral ischemic attacks   | Stage 3.01-3.04<br>AND transient ischemic attack [no new infarct or normal per CT scan report]<br>AND sudden onset of one of the following, with resolution within 24 hours:<br><b>cranial nerve palsy:</b>   | STAGE 3.01-3.04 + (DX 4350-4359 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);  |
| 3.06  | with myocarditis or myocardial abscess or valve obstruction or prosthetic valve dehiscence or acute mitral valve regurgitation or acute aortic valve regurgitation | Stage 3.01-3.05<br>AND <b>myocarditis:</b><br>OR myocardial abscess [ myocardial biopsy report]<br>OR valve obstruction [sonogram report or operative/pathology report]<br>OR prosthetic valve dehiscence [sonogram report or operative/pathology report]<br>OR acute mitral valve regurgitation<br>OR acute aortic valve regurgitation | STAGE 3.01-3.05 + (DX 4220, 42290, 42292, 42299, 4240, 4241, 99602, 99661); |
| 3.07  | with meningitis or intracranial abscess or intracranial infarction or intracranial hemorrhage  | Stage 3.01-3.06<br>AND intracranial infarction [CT scan or MRI report]<br>OR intracranial hemorrhage [CT scan or MRI report]<br>OR intracranial abscess [CT scan or MRI report]<br>OR <b>meningitis:</b>  | STAGE 3.01-3.06 + (DX 3240, 430-4329, 43411, 43491 OR GROUP MENGIT__BACT);  |
| 3.08  | with congestive heart failure  | Stage 3.01-3.07<br>AND <b>congestive heart failure:</b>   | STAGE 3.01-3.07 + GROUP CHF__NON_HTN;                                       |
| 3.09  | with sepsis  | Stage 3.01-3.08<br>AND <b>sepsis:</b>   | STAGE 3.01-3.08 + GROUP SEPSIS;   |
| 3.10  | with respiratory failure   | Stage 3.01-3.09<br>AND <b>respiratory failure:</b>  | STAGE 3.01-3.09 + GROUP RESP_FAIL;  |
| 3.11  | with shock   | Stage 3.01-3.10<br>AND <b>shock:</b>  | STAGE 3.01-3.10 + GROUP SHOCKN;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS14

MultiStage: No

DXCat Label: Infective Endocarditis

Specificity: A

Etiology: Infection

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 3.01-3.11<br>AND death | NO;            |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS15

DXCat Label: Mitral Regurgitation

Etiology: Congenital; Degenerative

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                       |
|-------|---|---|--------------------------------------|
| 1.01  | Mitral valve prolapse without regurgitation                         | Mitral valve prolapse without regurgitation [echocardiogram report or cardiac catheterization report]   | NO;                                  |
| 1.02  | Mild chronic mitral regurgitation                                   | <b>Chronic:</b><br>AND mild mitral regurgitation [echocardiogram report or cardiac catheterization report]  | DX 7466;                             |
| 2.01  | Mild chronic mitral regurgitation with left atrial enlargement      | Stage 1.02<br>AND <b>chronic:</b><br>AND left atrial enlargement [echocardiogram report or cardiac catheterization report]                                      | STAGE 1.01-1.02 + DX 4293;           |
| 2.02  | Moderate chronic mitral regurgitation                               | <b>Chronic:</b><br>Moderate mitral regurgitation [echocardiogram report or cardiac catheterization report]  | NO;                                  |
| 2.03  | Mild chronic mitral regurgitation with atrial fibrillation          | <b>Chronic:</b><br>Mild mitral regurgitation [echocardiogram report or cardiac catheterization report]<br>AND atrial fibrillation [EKG report]                  | STAGE 1.01-2.01 + (DX 42731-42732);  |
| 2.04  | Moderate chronic mitral regurgitation with atrial fibrillation      | <b>Chronic:</b><br>Mild mitral regurgitation [echocardiogram report or cardiac catheterization report]<br>AND atrial fibrillation [EKG report]                  | NO;                                  |
| 2.05  | Severe chronic mitral regurgitation                                 | <b>Chronic:</b><br>AND severe mitral regurgitation [echocardiogram report or cardiac catheterization report]  | NO;                                  |
| 3.01  | Severe acute mitral regurgitation                                   | <b>Acute:</b><br>AND severe mitral regurgitation [echocardiogram report or cardiac catheterization report]  | NO;                                  |
| 3.02  | Mild chronic mitral regurgitation with congestive heart failure     | <b>Chronic:</b><br>AND mild mitral regurgitation [echocardiogram report or cardiac catheterization report]<br>AND <b>congestive heart failure:</b>              | STAGE 1.01-2.03 + GROUP CHF_NON_HTN; |
| 3.03  | Moderate chronic mitral regurgitation with congestive heart failure | <b>Chronic:</b><br>AND moderate mitral regurgitation [echocardiogram report or cardiac catheterization report]<br>AND <b>congestive heart failure:</b>          | NO;                                  |
| 3.04  | Mitral regurgitation with low ejection fraction                     | Stage 3.01-3.03<br>AND left ventricular ejection fraction < 60% [echocardiogram report or cardiac catheterization report or radionuclide ventriculogram report] | NO;                                  |
| 3.05  | Severe mitral regurgitation with congestive heart failure           | Stage 3.01<br>AND <b>congestive heart failure:</b>  | NO;                                  |
| 3.06  | Mitral regurgitation with sepsis                                    | Stage 3.01-3.05<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + GROUP SEPSIS;      |
| 3.07  | Mitral regurgitation with respiratory failure                       | Stage 3.01-3.06<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.06 + GROUP RESP_FAIL;   |
| 3.08  | Mitral regurgitation with shock                                     | Stage 3.01-3.07<br>AND <b>shock:</b>  | STAGE 1.01-3.07 + GROUP SHOCKN;      |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS15

MultiStage: No

DXCat Label: Mitral Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

| Stage | Description                     | Diagnostic findings                 | ICD-9-CM Codes |
|-------|---------------------------------|-------------------------------------|----------------|
| 4.00  | Mitral regurgitation with death | Stage 3.01-3.08<br>AND <b>death</b> | NO;            |

### References:

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Massie BM, Amidon TM. Heart: valvular heart disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:344-353.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS16

DXCat Label: Mitral Stenosis

Etiology: Congenital; Degenerative

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Mild mitral stenosis or mitral atresia                 | Mitral valve area $\geq 1.5$ cm <sup>2</sup> [echocardiogram report or cardiac catheterization report]<br>AND mitral valve area $< 2.0$ cm <sup>2</sup> [echocardiogram report or cardiac catheterization report]<br>OR Mitral atresia [echocardiogram report or cardiac catheterization report] | DX 4240, 7465;   |
| 2.01  | Moderate mitral stenosis                               | Mitral valve area $\geq 1.0$ cm <sup>2</sup> [echocardiogram report or cardiac catheterization report]<br>AND mitral valve area $< 1.5$ cm <sup>2</sup> [echocardiogram report or cardiac catheterization report]  | NO;  |
| 2.02  | Moderate mitral stenosis with left atrial enlargement  | Stage 2.01<br>AND left atrial enlargement [echocardiogram report or cardiac catheterization report]  | STAGE 1.01 + DX 4293;  |
| 2.03  | Moderate mitral stenosis with atrial fibrillation      | Stage 2.01-2.02<br>AND atrial fibrillation [EKG report]  | STAGE 1.01-2.02 + (DX 42731-42732);                                  |
| 2.04  | Severe mitral stenosis                                 | Mitral valve area $< 1.0$ cm <sup>2</sup> [echocardiogram report or cardiac catheterization report]  | NO;  |
| 2.05  | Severe mitral stenosis with atrial fibrillation        | Stage 2.04<br>AND atrial fibrillation [EKG report]   | NO;  |
| 3.01  | Severe mitral stenosis with congestive heart failure   | Stage 2.04-2.05<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-2.03 + GROUP CHF_NON_HTN;                                 |
| 3.02  | Severe mitral stenosis with pulmonary hypertension     | Stage 2.04-3.01<br>AND <b>pulmonary hypertension:</b>  | STAGE 1.01-3.01 + (DX 4150, 4160, 4168);                             |
| 3.03  | Severe mitral stenosis with systemic embolic phenomena | Stage 2.04-3.02<br>AND systemic embolic phenomena<br>OR <b>pulmonary embolism:</b>   | STAGE 1.01-3.02 + (DX 41511, 41519, 43410-43491, 4530, 4533, 59381); |
| 3.04  | Severe mitral stenosis with respiratory failure        | Stage 2.04-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.03 + GROUP RESP_FAIL;                                   |
| 3.05  | Severe mitral stenosis with shock                      | Stage 2.04-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + GROUP SHOCKN;                                      |
| 4.00  | Severe mitral stenosis with death                      | Stage 2.04-3.05<br>AND death   | NO;  |

## References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS17

DXCat Label: Periarteritis Nodosa

Etiology: Immune

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Periarteritis nodosa or polyarteritis nodosa | Any three of the following:<br>Weight loss of > 4 kg<br>OR livedo reticularis<br>OR testicular tenderness or pain<br>OR diffuse mylagias or weakness<br>OR neuropathies<br>OR diastolic BP . 90 mmHg<br>OR <b>azotemia:</b><br>OR creatinine > 1.5 mg/dl [chemistry report]<br>OR hepatitis B infection [serology report]<br>OR arteriographic abnormalities [arteriogram report]<br>OR segmental necrotizing inflammation of the media and adventitia layers of arteries [operative/pathology report] | DX 4460;   |
| 1.02  | with hypertension                            | Stage 1.01<br>AND <b>hypertension:</b>   | STAGE 1.01 + GROUP HYPERTENSION;   |
| 2.01  | with mononeuritis complex                    | Stage 1.01-1.02<br>AND neuralgia   | STAGE 1.01-1.02 + (DX 3540-3556, 35571-3559);  |
| 2.02  | with hepatitis                               | Stage 1.01-2.01<br>AND <b>hepatitis:</b>   | STAGE 1.01-2.01 + DXCAT HEP10;   |
| 2.03  | with nephritis                               | Stage 1.01-2.02<br>AND <b>proteinuria:</b><br>OR <b>hematuria:</b>   | STAGE 1.01-2.02 + (DX 5800, 5804, 58081-5810, 5812-5839, 59381, 7910 OR GROUP HEMATURIA) ; |
| 2.04  | with peritonitis                             | Stage 1.01-2.03<br>AND peritonitis [operative/pathology report]  | STAGE 1.01-2.03 + (DX 5672-5679, 56983);   |
| 3.01  | with myocardial infarction                   | Stage 1.01-2.04<br>AND <b>acute myocardial infarction:</b>   | STAGE 1.01-2.04 + GROUP AMI;   |
| 3.02  | with congestive heart failure                | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;   |
| 3.03  | with renal failure                           | Stage 1.01-3.02<br>AND <b>renal failure:</b>   | STAGE 1.01-3.02 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);                              |
| 3.04  | with bleeding or ruptured aneurysm           | Stage 1.01-3.03<br>AND <b>bleeding:</b>  | STAGE 1.01-3.03 + (DX 4421, 44284);  |
| 3.05  | with coma                                    | Stage 1.01-3.04<br>AND <b>coma:</b>  | STAGE 1.01-3.04 + GROUP COMA;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS17

MultiStage: No

DXCat Label: Periarteritis Nodosa

Specificity: A

Etiology: Immune

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.06  | with shock  | Stage 1.01-3.05<br>AND <b>shock:</b> | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.01-3.06<br>AND death         | NO;  |

### References:

Anonymous. Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents. *Annals of Internal Medicine*. 1998;128(12):1079-1100.

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Katz MH, Hollander H. HIV infection. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1204-1231.

Mellors J, Rinaldo C, Gupta P, White RM, Todd JA, Kingsley LA. Prognosis in HIV infection predicted by the quantity of virus in plasma. *Science*. 1996;373;123-126.

Montaner JS, Hogg R, Raboud J, Harrigan R, O'Shaughnessy M. Antiretroviral treatment in 1998. *Lancet*. 1998;352(9144):1919-22.

O'Brien W, Pomerantz RJ. AIDS and other diseases due to HIV infection. In: Neal Nathanson, ed. *Viral Pathogenesis*. New York, NY: Raven Press; 1997;813-837.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS18

DXCat Label: Pericarditis: Chronic

Etiology: Infection; Idiopathic; Metabolic

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|-------------------------------|--|---|
| 2.01  | Chronic pericarditis          | Chronic pericarditis [pericardial biopsy or operative/pathology report or CT Scan report or MRI report or echocardiogram report]   | DX 4238;  |
| 2.02  | Constrictive pericarditis     | Constrictive pericarditis [pericardial biopsy or operative/pathology report or CT Scan report or MRI report or echocardiogram report or pulmonary catheter reports elevation and equalization of diastolic pressure in atria and ventricles, elevated end diastolic pressures, and early diastolic dip in ventricular pressure contours or 'square root' sign] | DX 4231-4232;                                       |
| 2.03  | with effusion                 | Stage 2.01-2.02<br>AND pericardial effusion [echocardiogram report]  | DX 4230, 4239;                                      |
| 2.04  | with mediastinitis            | Stage 2.01-2.03<br>AND inflammation of mediastinum [operative/pathology report]  | STAGE 2.01-2.03 + DX 5192;                          |
| 3.01  | with myocarditis              | Stage 2.01-2.04<br>AND <b>myocarditis:</b>   | STAGE 2.01-2.04 + GROUP MYOCARDITIS;                |
| 3.02  | with congestive heart failure | Stage 2.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 2.01-3.01 + GROUP CHF_NON_HTN;                |
| 3.03  | with anasarca                 | Stage 2.01-3.02<br>AND ascites<br>OR hepatomegaly<br>OR pleural effusion [chest x-ray report]  | STAGE 2.01-3.02 + (DX 5119, 514, 7823, 7891, 7895); |
| 3.04  | with respiratory failure      | Stage 2.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 2.01-3.03 + GROUP RESP_FAIL;                  |
| 4.00  | with death                    | Stage 2.01-3.04<br>AND death   | NO;   |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS19

MultiStage: No

DXCat Label: Pericarditis: Viral or Traumatic

Specificity: A

Etiology: Idiopathic; Infection, Viral; Trauma

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                                   |
|-------|--|---|--|
| 2.01  | Acute pericarditis from viral infection or trauma or idiopathic pericarditis | Idiopathic pericarditis<br>OR history of viral infection<br>OR viral infection<br>OR trauma to chest wall<br>AND <b>pericarditis:</b>   | DX 42090-42099;                                  |
| 2.02  | with pericardial effusion  | Stage 2.01<br>AND pericardial effusion [echocardiogram report]  | STAGE 2.01 + DX 4239;                            |
| 3.01  | with myocarditis   | Stage 2.01-2.02<br>AND <b>myocarditis:</b>  | STAGE 2.01-2.02 + (DX 4220, 42290, 42292-42299); |
| 3.02  | with pericardial tamponade   | Stage 2.01-3.01<br>AND pericardial tamponade [pulmonary artery catheter report reveals 'equalization' of filling pressures or pulmonary catheter report equal diastolic pressure of right atrium, right ventricle and pulmonary capillary wedge pressure or echocardiogram reports pericardial effusion with diastolic collapse of the right atrium, right ventricle or both] | NO;  |
| 3.03  | with congestive heart failure  | Stage 2.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 2.01-3.01 + GROUP CHF_NON_HTN;             |
| 3.04  | with respiratory failure   | Stage 2.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 2.01-3.03 + GROUP RESP_FAIL;               |
| 3.05  | with shock   | Stage 2.01-3.04<br>AND <b>shock:</b>  | STAGE 2.01-3.04 + GROUP SHOCKA;                  |
| 4.00  | with death   | Stage 2.01-3.05<br>AND death  | NO;  |

### References:

Bernstein D. Diseases of the pericardium. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1355-1358.

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Farraj RS, McCully RB, Oh JK, Smith TF. Mycoplasma-associated pericarditis. Mayo Clinic Proceedings. 1997;72(1):33-36.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS20

DXCat Label: Raynaud's Disease

Etiology: Idiopathic; Immune; Trauma

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings   | ICD-9-CM Codes                  |
|-------|---------------------------------|---|---------------------------------|
| 1.01  | Raynaud's disease or phenomenon | History of vasospasm of arteries or arterioles of the hands in response to cold<br>OR history of vasospasm of arteries or arterioles of the hands in response to stress<br>OR trophic ulcers on the hands<br>OR sclerodactyly cyanosis during vasospasm attacks | DX 4430;                        |
| 2.01  | Gangrene of the digits          | Stage 1.01<br>AND gangrene of the fingers [operative/pathology report or physical examination]  | STAGE 1.01 + DX 7854;           |
| 3.01  | with sepsis                     | Stage 1.01-2.01<br>AND <b>sepsis:</b>   | STAGE 1.01-2.01 + GROUP SEPSIS; |
| 3.02  | with shock                      | Stage 3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA; |
| 4.00  | with death                      | Stage 2.01-3.02<br>AND death  | NO;                             |

### References:

- Fraenkel L, Zhang Y, Chaisson CE, et al. Different factors influencing the expression of Raynaud's phenomenon in men and women. *Arthritis & Rheumatism*. 1999;42(2):306-10.
- Herrick AL, Clark S. Quantifying digital vascular disease in patients with primary Raynaud's phenomenon and systemic sclerosis. *Annals of the Rheumatic Diseases*. 1998;57(2):70-8.
- Kahaleh B, Matucci-Cerinic M. Raynaud's phenomenon and scleroderma. Dysregulated neuroendothelial control of vascular tone. *Arthritis & Rheumatism*. 1995;38(1):1-4.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS21

MultiStage: No

DXCat Label: Thromboangiitis Obliterans

Specificity: A

Etiology: Idiopathic

| Stage | Description                | Diagnostic findings  | ICD-9-CM Codes                  |
|-------|----------------------------|--|---------------------------------|
| 1.01  | Thromboangiitis obliterans | History of tobacco smoking<br>AND nonsuppurative panarteritis of small and medium arteries [operative/pathology report]<br>OR Raynaud's phenomenon<br>AND intermittent claudication<br>OR history of migratory thrombophlebitis<br>OR arterial occlusion in affected upper limbs [arteriogram report]<br>AND arterial occlusion in affected lower limbs [arteriogram report] | DX 4431;                        |
| 2.01  | with stasis ulcerations    | Stage 1.01<br>AND stasis ulceration  | STAGE 1.01 + (DX 70710-70719);  |
| 2.02  | with gangrene              | Stage 1.01-2.01<br>AND gangrene of involved extremity [operative/pathology report]   | STAGE 1.01-2.01 + DX 7854;      |
| 3.01  | with sepsis                | Stage 1.01-2.02<br>AND <b>sepsis:</b>  | STAGE 1.01-2.02 + GROUP SEPSIS; |
| 3.02  | with shock                 | Stage 2.02-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA; |
| 4.00  | with death                 | Stage 2.02-3.02<br>AND death   | NO;                             |

### References:

Aqel MB, Olin JW. Thromboangiitis obliterans (Buerger's disease). *Vascular Medicine*. 1997;2(1):61-6.

Szuba A, Cooke JP. Thromboangiitis obliterans. An update on Buerger's disease. *Western Journal of Medicine*. 1998;168(4):255-60.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS22

DXCat Label: Thrombophlebitis

Etiology: Idiopathic; Infection; Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Superficial thrombophlebitis or vein compression, postphlebitic syndrome, venous hypertension or insufficiency, or varices without bleed, | Superficial thrombophlebitis [venogram report or Doppler report or nuclear venogram report]   | DX 4510, 4512, 45182, 45184, 45189, 4519, 4531, 4538-4539, 4561, 4563-4568, 4591-45910, 45912, 45930, 45932, 45939, 45981; |
| 2.01  | Deep vein thrombosis  | <b>DVT</b>  | DX 45111, 45119, 45181, 45183, 45340-45342;  |
| 2.02  | with stasis ulceration or cellulitis  | Stage 1.01-2.01<br>AND stasis ulcerations<br>OR <b>cellulitis:</b>  | STAGE 1.01-2.01 + (DX 68100, 68102, 68110, 68111 , 6820-6829);   |
| 2.03  | Portal vein thrombosis or vena cava thrombosis or of renal vein thrombosis  | Portal vein thrombosis [ultrasound or portal venography or MRI report]<br>OR vena cava thrombosis [ultrasound or portal venography or MRI report]<br>OR renal vein thrombosis [ultrasound or portal venography or MRI report] | DX 452, 4532, 4533;  |
| 3.01  | with pulmonary embolism   | Stage 2.01-2.03<br>AND pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]  | STAGE 1.01-2.03 + GROUP PULMEMB;   |
| 3.02  | with sepsis   | Stage 2.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;  |
| 3.03  | with respiratory failure  | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;   |
| 3.04  | with shock  | Stage 2.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + GROUP SHOCKN;  |
| 4.00  | with death  | Stage 2.01-3.04<br>AND death  | NO;  |

### References:

Kearon C, Julian JA, Newman TE, Ginsberg JS. Noninvasive diagnosis of deep venous thrombosis. McMaster diagnostic imaging practice guidelines initiative. *Annals of Internal Medicine*. 1998;128(8):663-77.

Koopman MM, Buller HR. Low-molecular-weight heparins in the treatment of venous thromboembolism. *Annals of Internal Medicine*. 1998;128(12 Pt 1):1037-9.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS23

MultiStage: No

DXCat Label: Tibial, Iliac, Femoral, or Popliteal Artery Disease

Specificity: A

Etiology: Degenerative

| Stage | Description               | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---------------------------|---|---|
| 1.01  | Intermittent claudication | History of lower extremity pain or aching or fatigue with walking subsiding with rest<br>OR venous filling time $\geq$ 15 seconds<br>AND pallor of extremity with elevation for $\geq$ 1 minute<br>AND rubor on dependency<br>OR dorsalis pedis systolic pressure $\leq$ 90% of brachial systolic pressure [Doppler ultrasonography report]<br>AND dorsalis pedis systolic pressure $>$ 70%<br>OR $\leq$ 50% occlusion of tibial, iliac, femoral or popliteal artery [arteriogram report] | DX 44020, 44021, 4439, 44502;                           |
| 1.02  | Persistent claudication   | History of lower extremity pain or aching or fatigue with walking subsiding with rest<br>AND dorsalis pedis systolic pressure $\leq$ 70% of brachial systolic pressure [Doppler ultrasonography report]<br>OR $\geq$ 50% occlusion of tibial, iliac, femoral or popliteal artery [arteriogram report]   | DX 44022, 4422, 4423, 44422, 44481;                     |
| 2.01  | with ischemic ulceration  | Stage 1.01-1.02<br>AND ulcerations  | DX 44023, 44322;<br>STAGE 1.01-1.02 + (DX 70710-70719); |
| 2.02  | with gangrene             | Stage 1.01-2.01<br>AND gangrene of the extremity [physical examination or operative/pathology report]   | DX 44024;<br>STAGE 1.01-2.01 + DX 7854;                 |
| 3.01  | with sepsis               | Stage 2.01-2.02<br>AND <b>sepsis:</b>   | STAGE 1.01-2.02 + GROUP SEPSIS;                         |
| 3.02  | with shock                | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + GROUP SHOCKA;                         |
| 4.00  | with death                | Stage 2.01-3.02<br>AND death  | NO;   |

### References:

Anonymous. Thrombolysis in the management of lower limb peripheral arterial occlusion--a consensus document. Working Party on Thrombolysis in the Management of Limb Ischemia. American Journal of Cardiology. 1998;81(2):207-18.

Cantwell-Gab K. Identifying chronic peripheral arterial disease. American Journal of Nursing. 1996;96(7):40-6; quiz 47.

Golledge J. Lower-limb arterial disease. Lancet. 1997;350(9089):1459-65.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS24

MultiStage: No

DXCat Label: Varicose Veins of Lower Extremities

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description                       | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-----------------------------------|--|--|
| 1.01  | Varicose veins                    | Varicose veins   | DX 4548-4549;  |
| 1.02  | with superficial thrombophlebitis | Stage 1.01<br>AND superficial thrombophlebitis [nuclear venogram report or Doppler ultrasonography report or physical examination] | STAGE 1.01 + (DX 4510, 4519);                                  |
| 2.01  | with chronic venous insufficiency | Stage 1.01-1.02<br>AND dermal pigmentation<br>OR stasis dermatitis<br>OR induration of the skin                                    | STAGE 1.01-1.02 + (DX 45981, 70900, 70909, 7828) ;<br>DX 4541; |
| 2.02  | with stasis ulcers                | Stage 1.01-2.01<br>AND stasis ulcers   | DX 4540, 4542;   |
| 2.03  | with cellulitis                   | Stage 1.01-2.02<br>AND <b>cellulitis:</b><br>OR area of redness, induration, tenderness and heat with indistinct borders           | STAGE 1.01-2.02 + (DX 68110-68111, 6826, 6827);                |
| 2.04  | with deep vein thrombosis         | Stage 1.01-2.03<br>AND <b>DVT:</b>   | STAGE 1.01-2.03 + (DX 45111, 45119);                           |
| 3.01  | with pulmonary embolism           | Stage 2.04<br>AND pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]                            | STAGE 2.04 + DX 41519;   |
| 3.02  | with sepsis                       | Stage 2.03-3.01<br>AND <b>sepsis:</b>  | STAGE 2.03-3.01 + GROUP SEPSIS;                                |
| 3.03  | with respiratory failure          | Stage 2.03-3.02<br>AND <b>respiratory failure:</b>   | STAGE 2.03-3.02 + GROUP RESP_FAIL;                             |
| 3.04  | with shock                        | Stage 2.03-3.03<br>AND <b>shock:</b>   | STAGE 2.03-3.03 + GROUP SHOCKN;                                |
| 4.00  | with death                        | Stage 2.03-3.04<br>AND death   | NO;  |

### References:

Angle N, Bergan JJ. Chronic venous ulcer. BMJ. 1997;314(7086):1019-23.

Bradbury A, Evans C, Allan P, et al. What are the symptoms of varicose veins? Edinburgh vein study cross sectional population survey. BMJ. 1999;318(7180):353-6.

Chant AD. Venous insufficiency and perforating veins. British Journal of Surgery. 1998;85(12):1721.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS80

MultiStage: No

DXCat Label: Neoplasm, Benign, Cardiovascular System

Specificity: A

Etiology:

| Stage | Description                              | Diagnostic findings | ICD-9-CM Codes |
|-------|--|---------------------|----------------|
| 1.01  | Benign neoplasm of cardiovascular system |                     | DX 2127;       |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS81

DXCat Label: Neoplasm, Malignant, Cardiovascular

MultiStage: No

Specificity: A

Etiology:

| Stage | Description                         | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|-------------------------------------|---------------------|--|
| 1.01  | Primary malignant neoplasm of heart |                     | DX 1641;   |
| 2.01  | with lymph node involvement         |                     | STAGE 1.01 + DX 1960-1963;                         |
| 2.02  | with anemia of neoplastic disease   |                     | STAGE 1.01-2.01 + DX 28522;                        |
| 3.01  | with distant metastases             |                     | STAGE 1.01-2.02 + DX 1965-1991;                    |
| 3.02  | with shock                          |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS82

MultiStage: No

DXCat Label: Other Atherosclerosis

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                               |
|-------|--|---------------------|--|
| 1.01  | Other atherosclerosis of peripheral or renal arteries or of bypass grafts of extremities |                     | DX 4400-4401, 44029-4409;                    |
| 2.01  | Atheroembolisms of kidney and other sites; hypersensitivity angiitis                     |                     | DX 44501, 44581-44589, 4461-4475, 4478-4489; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS83

MultiStage: No

DXCat Label: Other Cardiac Conditions

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Kyphoscoliotic heart disease or chronic pulmonary heart disease; nonrheumatic valve disorder, heart or other coronary transplant or implanted device status |                     | DX 4160-4169, 4242-4243, V421-V422, V432-V433, V4500-V4509;            |
| 2.01  | Aneurysm of heart wall or coronary vessel, cardiomegaly, ill-defined heart disease  |                     | DX 41410-41411, 41419, 4220-42299, 4293, 42981-42982, 42989-4299;      |
| 3.01  | Acute cor pulmonale, dissection of coronary artery, myocarditis or endocarditis not specified as infective, heart failure, septal defect, sequelae of AMI   |                     | DX 4150, 41412, 42490, 42499, 4290-4291, 4289, 4294-4296, 42971-42979; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS84

MultiStage: No

DXCat Label: Other Cardiovascular Symptoms

Specificity: C

Etiology:

| Stage | Description                                      | Diagnostic findings   | ICD-9-CM Codes                   |
|-------|--|-----------------------|----------------------------------|
| 0.00  | Observation for suspected cardiovascular disease | Added stage 5/8/06 cb | DX 79430-79439, V717;            |
| 1.01  | Tachycardia, palpitations, murmurs               |                       | DX 7850-7853, 78659, 7859, 7932; |
| 3.01  | Shock  |                       | DX 78550-78559;                  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS85

MultiStage: No

DXCat Label: Hypotension

Specificity: C

Etiology:

| Stage | Description | Diagnostic findings | ICD-9-CM Codes |
|-------|-------------|---------------------|----------------|
| 1.01  | Hypotension |                     | DX 4580-4589;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS86

MultiStage: No

DXCat Label: Other Diseases of Arteries

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                  |
|-------|--|---------------------|---|
| 1.01  | Peripheral aneurysms, embolisms, and arterial strictures             |                     | DX 4420, 4429, 44382, 44389, 44421, 44489-4449; |
| 1.02  | Thoracic and abdominal aneurysms, embolisms, and arterial strictures |                     | DX 4421, 44282-44289, 4440-4441;                |
| 1.03  | Cerebral aneurysms, embolisms, and arterial strictures               |                     | DX 44281;                                       |
| 3.01  | Arterial dissections   |                     | DX 44323-44329;                                 |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS87

MultiStage: No

DXCat Label: Other Diseases of Veins

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                   |
|-------|--|---------------------|--|
| 1.01  | Hemorrhage or other circulatory diseases                   |                     | DX 4590, 45989-4599;                             |
| 2.01  | Chronic venous hypertension with ulcer, varices with bleed |                     | DX 4560, 45911, 45913-45919, 4592, 45931, 45933; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS88

MultiStage: No

DXCat Label: Other Disorders of Pulmonary Circulation

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes |
|-------|--|---------------------|----------------|
| 1.01  | Disorder of pulmonary circulation                                      |                     | DX 4178-4179;  |
| 2.01  | Pulmonary artery aneurysm or arteriovenous fistula of pulmonary vessel |                     | DX 4170-4171;  |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS89

DXCat Label: Secondary Hypertension

Etiology:

MultiStage: No

Specificity: B

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Secondary hypertension, minimal                                      |                     | DX 40511-40599;   |
| 1.02  | Secondary hypertension, moderate                                     |                     | NO;   |
| 1.03  | Secondary hypertension, severe                                       |                     | NO;   |
| 2.01  | Secondary hypertension, very severe                                  |                     | DX 40501-40509;   |
| 2.02  | Hypertensive retinopathy, Grade I or II of Keith and Wagener         |                     | STAGE 1.01-2.01 + DX 36211;   |
| 2.03  | Hypertensive retinopathy, Grade III or IV of Keith and Wagener       |                     | STAGE 1.01-2.02 + DX 36281-36282;   |
| 2.04  | Hypertensive cardiomegaly, arrhythmias, or wall motion abnormalities |                     | STAGE 1.01-2.03 + (GROUP ARHTHYM_AFIB OR GROUP ARHTHYM_AFLU OR GROUP ARHTHYM_ATPC OR GROUP ARHTHYM_CARD OR GROUP ARHTHYM_JNPC OR GROUP ARHTHYM_VFIB OR GROUP ARHTHYM_VTPC); |
| 3.01  | with renal failure   |                     | STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | with CHF   |                     | STAGE 1.01-3.01 + GROUP CHF_HTNIVE;   |
| 3.03  | with CVA or encephalopathy   |                     | STAGE 1.01-3.02 + DX 430-4329;<br>STAGE 1.01-3.02 + GROUP DISORIENT + DX 37000-37701;   |
| 3.04  | with CVA and cranial nerve involvement                               |                     | STAGE 3.03 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);   |
| 3.05  | with CVA and cerebellar or pyramidal tract dysfunction               |                     | STAGE 3.03-3.04 + DX 3483;  |
| 3.06  | with CVA and hemiparesis or hemiplegia                               |                     | STAGE 3.03-3.05 + (DX 34200-34202, 34210-34212, 34280-34281, 34290-34292);  |
| 3.07  | with CVA and amblyopia and contralateral hemiplegia                  |                     | STAGE 3.03 + STAGE 3.06 + (DX 36800, 36855);  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS89

MultiStage: No

DXCat Label: Secondary Hypertension

Specificity: B

Etiology:

| Stage | Description               | Diagnostic findings | ICD-9-CM Codes                    |
|-------|---------------------------|---------------------|-----------------------------------|
| 3.08  | with CVA and quadriplegia |                     | STAGE 3.03-3.07 + DX 34400-34409; |
| 3.09  | with coma                 |                     | STAGE 1.01-3.08 + GROUP COMA;     |
| 4.00  | with death                |                     | NO;                               |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN01

DXCat Label: Anomaly: Cleft Lip or Palate

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Cleft lip  | Cleft lip, unilateral or bilateral  | DX 74910-74914;   |
| 1.02  | Cleft palate   | Unilateral or bilateral cleft palate not extending beyond the incisive foramen  | DX 74900-74904;   |
| 1.03  | Cleft lip and palate   | Stage 1.01<br>AND Stage 1.02  | DX 74920-74925;   |
| 2.01  | with recurrent otitis media and hearing loss                 | Stage 1.01-1.03<br>AND history of recurrent otitis media<br>AND threshold for conductive sound $\geq$ 30 dB [audiometry report  | STAGE 1.01-1.03 + (DXCAT ENT18 OR DX 3821, 3822, 3823, 3824) + (DX 38900, 38901, 38902, 38903, 38904, 38908, 3892, 3898, 3899); |
| 2.02  | with other deformities of the maxilla or mandible or pharynx | Stage 1.01-2.01<br>AND maxillary retrusion or protrusion<br>OR mandible retrusion or protrusion<br>OR small mandible or Pierre Robin or Treacher Collins syndromes<br>OR hypertelorism<br>OR poor feeding<br>OR dysphagia | STAGE 1.01-1.03 + (DX 52400-52406, 52409-52412, 52419, 5242-52429, 5244, 7560, 7793, 7833, 78701-78703, 7872, 7961);            |
| 2.03  | with aspiration pneumonia                                    | Stage 1.01-2.02<br>AND aspiration<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.02 + DX 5070;  |
| 3.01  | with sepsis  | Stage 3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-2.03 + GROUP SEPSIS;   |
| 3.02  | with respiratory failure                                     | Stage 2.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;  |
| 3.03  | with shock   | Stage 2.03-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | Cleft lip or palate and death                                | Stage 2.03-3.03<br>AND death  | NO;   |

### References:

Milerad J, Larson O, Hagberg C, Ideberg M. Associated malformations in infants with cleft lip and palate: a prospective, population-based study. *Pediatrics*. 1997;100(2 Pt 1):180-6

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN02

DXCat Label: Dental Disease

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes                   |
|-------|------------------------------|--|----------------------------------|
| 1.01  | Dental caries or tooth decay | Radiolucent areas on dentin of teeth [dental x-ray report]<br>AND softened enamel or dentin by dental probing<br>OR thermal sensitivity<br>OR cold sensitivity<br>OR sugar sensitivity | DX 5210-52109;                   |
| 1.02  | Pulpitis                     | Sharp, throbbing intermittent pain from tooth worsened by cold and relieved by heat  | DX 5220, 5221, 5222, 5223, 5224; |
| 1.03  | Dental-alveolar abscess      | Stage 1.01-1.02<br>AND dull continuous pain<br>AND perforation of apical dental periosteum<br>AND pain on percussion of tooth<br>AND abscess formation [dental x-ray report]           | DX 5225, 5226, 5227, 5228, 5229; |

### References:

Greenspan JS. Oral manifestations of disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:185-190.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN03

MultiStage: No

DXCat Label: Diseases of the Salivary Gland or Parotitis Including Benign Tumors

Specificity: A

Etiology: Genetic (or hereditary); Idiopathic; Infection

| Stage | Description                        | Diagnostic findings   | ICD-9-CM Codes                 |
|-------|------------------------------------|---|--------------------------------|
| 1.01  | Sialolithiasis                     | Pain from salivary gland<br>AND stone in salivary gland duct [x-ray report]   | DX 5275, 5270-5271, 5277-5279; |
| 1.02  | Viral parotitis                    | Viral parotitis   | DX 0729;                       |
| 1.03  | Recurrent sialoadenitis            | Tender swelling of gland with eating  | DX 5272;                       |
| 2.01  | Suppurative parotitis              | Swelling of parotid gland<br>AND tenderness of parotid gland<br>AND abscess formation<br>AND parotitis [culture reports growth of pathologic organism(s)]   | DX 5273-5274, 5276;            |
| 2.02  | Mixed salivary gland benign tumors | Swelling of parotid gland<br>AND pleomorphic adenoma [operative/pathology report]<br>OR Warthin's tumor [operative/pathology report]<br>OR oncocytomas [operative/pathology report]<br>OR benign lymphoepithelial lesion [operative/pathology report]<br>OR monomorphic adenomas [operative/pathology report] | DX 2102;                       |

### References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:244-245.

McEwen DR, Sanchez MM. A guide to salivary gland disorders. AORN Journal. 1997;65(3):554-6, 559-67; quiz 568-9, 571-2.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN04

MultiStage: No

DXCat Label: Gingival and Periodontal Disease

Specificity: A

Etiology: Infection

| Stage | Description                          | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--------------------------------------|--|--|
| 1.01  | Gingivitis                           | Gingivitis<br>OR band or erythematous, inflamed gum tissue surrounding neck of teeth<br>AND edematous swelling of interdental papillae<br>AND bleeding on minimal injury   | DX 5230-52325;                                     |
| 1.02  | Herpetic gingivostomatitis           | Herpetic gingivostomatitis   | DX 0542;   |
| 1.03  | Periodontitis                        | Stage 1.01<br>AND destruction of the supporting osseous tissue of teeth [dental x-ray report]  | DX 5233-52333, 5234-52342, 5235, 5236, 5238, 5239; |
| 1.04  | Periodontitis with abscess formation | Stage 1.01-1.03<br>AND abscess formation on gums   | NO;  |
| 1.05  | Vincent's angina or trench mouth     | Acutely painful and bleeding gums<br>AND fetid breath<br>AND ulcerations limited to marginal gingivae and interdental papillae<br>AND gums bleed on slight pressure<br>AND interdental grayish membrane<br>AND fusospirochete bacillus [gram stain report] | DX 101;  |

### References:

Greenspan JS. Oral manifestations of disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:185-190.

Sheiham A. The future of preventive dentistry. BMJ. 1994;309(6949):214-5.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN05

DXCat Label: Neoplasm, Malignant: Hypopharynx

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                          | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--------------------------------------|---|--|
| 0.00  | History of cancer of the hypopharynx |   | NO;  |
| 1.01  | Confined to one site                 | TNM Classification Stage 1<br>OR American Joint Committee on Cancer Stage I<br>OR Cancer of the hypopharynx ≤ 2 cm. in diameter [operative/pathology report]<br>OR Cancer of the hypopharynx localized to one anatomic site [operative/pathology report]  | DX 1480, 1481, 1482, 1483, 1488, 1489;   |
| 2.01  | Involving two sites                  | TNM Classification Stage 2<br>OR American Joint Committee on Cancer Stage II<br>OR Cancer of the hypopharynx ≤ 4 cm. in diameter [operative/pathology report]<br>OR Cancer of the hypopharynx localized to two adjacent anatomic sites [operative/pathology report]   | NO;  |
| 2.02  | with extension                       | TNM Classification Stage 3<br>OR American Joint Committee on Cancer Stage III<br>OR Cancer of the hypopharynx ≥ 4 cm. in diameter [operative/pathology report]<br>OR Cancer of the hypopharynx involves three or more adjacent anatomic sites [operative/pathology report]<br>OR isolated neck node ≤ 3 cm. in diameter [operative/pathology report]  | STAGE 0.00-1.01 + DX 3383;   |
| 3.01  | with distant metastasis              | TNM Classification Stage 4<br>OR American Joint Committee on Cancer Stage IV<br>OR cancer of the hypopharynx involves any structure beyond the neck [operative/pathology report]<br>OR extends beyond the confines of the nasopharynx [operative/pathology report]<br>OR isolated neck node ≥ 3 cm. in diameter [operative/pathology report]<br>OR neck metastasis involving > 1 lymph node [operative/pathology report]<br>OR neck metastasis has fixation to surrounding soft tissue [operative/pathology report] | STAGE 1.01 + (DX 1960, 1961, 1962, 1963, 1965, 1966, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 19881, 19882, 19889, 1990, 1991); |
| 3.02  | with shock                           | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | and death                            | Stage 2.01-3.02<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN05

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hypopharynx

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Oral Cavity

Specificity: A

Etiology: Neoplasm

| Stage | Description                                     | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 0.00  | History of cancer of the oral cavity            |   | DX V1002;   |
| 1.01  | Cancer of the oral cavity < 2 cm in diameter    | TNM Classification Stage 1<br>OR American Joint Committee on Cancer Stage I<br>OR Cancer of the oral cavity ≤ 2 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]   | DX 1403-1405, 1410, 1411-1419, 1430-1459, 1490, 1491, 1498, 1499;   |
| 2.01  | Tumor ≥ 2 cm in diameter and < 4 cm in diameter | TNM Classification Stage 2<br>OR American Joint Committee on Cancer Stage II<br>OR Cancer of the oral cavity ≤ 4 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]  | NO;   |
| 3.01  | Tumor ≥ 4 cm in diameter                        | TNM Classification Stage 3<br>OR American Joint Committee on Cancer Stage III<br>OR Cancer of the oral cavity ≥ 4 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]<br>OR isolated neck node ≤ 3 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]  | NO;   |
| 3.02  | with invasion of adjacent tissues or beyond     | TNM Classification Stage 4<br>OR American Joint Committee on Cancer Stage IV<br>OR cancer of the oral cavity involves any structure beyond the neck [operative/pathology report or CT scan report or MRI scan report]<br>OR isolated neck node ≥ 3 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]<br>OR neck metastasis involving > 1 lymph node [operative/pathology report or CT scan report or MRI scan report]<br>OR neck metastasis has fixation to surrounding soft tissue [operative/pathology report or CT scan report or MRI scan report]<br>OR multiple contralateral or ipsilateral nodes [operative/pathology report or CT scan report or MRI scan report] | STAGE 0.00-1.01 + (DX 1960, 1961, 1962, 1963, 1965, 1966, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 19881, 19882, 19889, 1990, 1991, 3383); |
| 3.03  | with shock                                      | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | and death                                       | Stage 2.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Oral Cavity

Specificity: A

Etiology: Neoplasm

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Oropharynx

Specificity: A

Etiology: Neoplasm

| Stage | Description                         | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-------------------------------------|--|--|
| 0.00  | History of cancer of the oropharynx |  | NO;  |
| 1.01  | Confined to one site                | TNM Classification Stage 1<br>OR American Joint Committee on Cancer Stage I<br>OR Cancer of the oropharynx ≤ 2 cm. in diameter [operative/pathology report]<br>OR Cancer of the oropharynx localized to one anatomic site [operative/pathology report]   | DX 1460-1469;  |
| 2.01  | Involving two sites                 | TNM Classification Stage 2<br>OR American Joint Committee on Cancer Stage II<br>OR Cancer of the oropharynx ≤ 4 cm. in diameter [operative/pathology report]<br>OR Cancer of the oropharynx localized to two adjacent anatomic sites [operative/pathology report]  | NO;  |
| 2.02  | with extension                      | TNM Classification Stage 3<br>OR American Joint Committee on Cancer Stage III<br>OR Cancer of the oropharynx ≥ 4 cm. in diameter [operative/pathology report]<br>OR Cancer of the oropharynx involves three or more adjacent anatomic sites [operative/pathology report]<br>OR isolated neck node ≤ 3 cm. in diameter [operative/pathology report]   | STAGE 0.00-1.01 + DX 3383;                                     |
| 3.01  | with distant metastasis             | TNM Classification Stage 4<br>OR American Joint Committee on Cancer Stage IV<br>OR cancer of the oropharynx involves any structure beyond the neck [operative/pathology report]<br>OR extends beyond the confines of the nasopharynx [operative/pathology report]<br>OR isolated neck node ≥ 3 cm. in diameter [operative/pathology report]<br>OR neck metastasis involving > 1 lymph node [operative/pathology report]<br>OR neck metastasis has fixation to surrounding soft tissue [operative/pathology report] | STAGE 1.01 + (DX 1960-1969, 1970-1978, 1980-19889, 1990-1991); |
| 3.02  | with shock                          | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;             |
| 4.00  | and death                           | Stage 2.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Oropharynx

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Salivary Glands and Mandible

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes        |
|-------|--|---|-----------------------|
| 0.00  | History of cancer of the salivary gland  |   | NO;                   |
| 1.01  | Solitary salivary gland cancers < 4 cm in diameter without invasion  | American Joint Committee on Cancer Stage I<br>OR Salivary gland carcinoma [operative/pathology report or CT scan report or MRI report]<br>OR low grade mucoepidermoid carcinoma [operative/pathology report]<br>OR Acinic cell carcinoma [operative/pathology report]   | DX 1420-1429;         |
| 2.01  | Tumor ≥ 4 cm in diameter and < 6 cm in diameter without local invasion or < 4 cm in diameter with local invasion | American Joint Committee on Cancer Stage II<br>OR salivary gland carcinoma [operative/pathology report]<br>OR Malignant mixed tumor [operative/pathology report]<br>OR Mucoepidermoid carcinoma [operative/pathology report]<br>OR Adenocarcinoma [operative/pathology report]<br>OR Acinic cell carcinoma [operative/pathology report]<br>OR fixation to the skin<br>OR tumor ≥ 4cm in diameter and < 6 cm in diameter without local invasion [operative/pathology report]<br>OR tumor < 4cm in diameter with local invasion [operative/pathology report]              | NO;                   |
| 2.02  | with < 4 cm in diameter and one metastatic node or > 6 cm in diameter with local invasion                        | American Joint Committee on Cancer Stage III<br>Stage 2.01<br>AND salivary gland carcinoma [operative/pathology report]<br>OR Malignant mixed tumor [operative/pathology report]<br>OR Mucoepidermoid carcinoma [operative/pathology report]<br>OR Adenocarcinoma [operative/pathology report]<br>OR Acinic cell carcinoma [operative/pathology report]<br>OR Squamous cell carcinoma [operative/pathology report]<br>AND lesion > 6 cm. in diameter<br>AND local invasion<br>OR lesion < 4cm in diameter<br>AND one metastatic lymph node [operative/pathology report] | STAGE 1.01 + DX 1960; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Salivary Glands and Mandible

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 2.03  | Tumor ≥ 6 cm in diameter with local invasion and one lymph node or > 1 lymph node involvement or with facial paralysis or distant metastasis | American Joint Committee on Cancer Stage IV<br>Salivary gland carcinoma [operative/pathology report]<br>OR Adenocystic carcinoma [operative/pathology report]<br>AND tumor ≥ 6cm in diameter with local invasion and one lymph node [operative/pathology report]<br>OR tumor > 2 cervical lymph node involvement [operative/pathology report or CT scan or MRI report]<br>OR paresis of one side of the face<br>OR paralysis of one side of the face<br>OR facial nerve palsy<br>OR with distant metastases [operative/pathology report or CT scan or MRI report] | STAGE 1.01-2.02 + (DX 3510, 3383);                                  |
| 3.01  | with distant metastasis  | Stage 1.01-2.03<br>AND distant metastases   | STAGE 1.01-2.03 + (DX 1961-1969, 1970-1978, 1980-19889, 1990-1991); |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                  |
| 4.00  | and death  | Stage 2.01-3.02<br>AND death  | NO;   |

### References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:244-245.

McEwen DR, Sanchez MM. A guide to salivary gland disorders. AORN Journal. 1997;65(3):554-6, 559-67; quiz 568-9, 571-2.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN80

MultiStage: No

DXCat Label: Anomaly: Other Dentofacial

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes |
|-------|--|---------------------|----------------|
| 1.01  | Dentofacial anomalies other than cleft lip or palate |                     | DX 52400-5249; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN81

MultiStage: No

DXCat Label: Other Disorders of Oral Cavity

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                 |
|-------|---|---------------------|--|
| 1.01  | Disorders of tooth eruption and dentition, other oral cavity conditions |                     | DX 5200-5209, 5211-5219, 5250-5269, 5284-5299; |
| 2.01  | Stomatitis, cellulitis or abscess or mouth                              |                     | DX 5280-52800, 52809-5283;                     |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END01

DXCat Label: Adrenal Insufficiency

Etiology: Metabolic

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Primary adrenal insufficiency or Addison's disease | Hyperpigmentation<br>OR serum ACTH $\geq$ 120 pg/ml at 9 a.m. [chemistry report]<br>OR serum ACTH $\geq$ 35 pg/ml at midnight [chemistry report]<br>OR serum a.m. cortisol $\leq$ 4 mg/dl [chemistry report]<br>AND positive cosyntropin stimulation test:<br>at $\geq$ 60 minute post infusion, serum cortisol is $\leq$ 2 times baseline serum cortisol level [chemistry report]<br>OR positive ACTH stimulation test: at $\geq$ 60 minute post infusion, serum cortisol $\leq$ 18 mg/dl [chemistry report] | DX 2554, 2555;   |
| 1.02  | Secondary adrenal insufficiency                    | Serum ACTH $<$ 35 pg/ml [chemistry report]<br>AND serum a.m. cortisol $\leq$ 4 mg/dl [chemistry report]<br>AND positive cosyntropin stimulation test: at $\geq$ 60 minute post infusion, serum cortisol is $\leq$ 2 times baseline serum cortisol level [chemistry report]  | NO;  |
| 2.01  | with hyponatremia or hyperkalemia or hypochloremia | Stage 1.01<br>AND <b>hyponatremia:</b><br>OR <b>hyperkalemia:</b><br>OR <b>hypochloremia:</b>   | STAGE 1.01 + (GROUP HYPONATREMIA OR GROUP HYPER_KALEM OR GROUP HYPOCHLOREM); |
| 3.01  | Addisonian crisis                                  | Stage 1.01-2.01<br>AND <b>hypotension:</b><br>AND generalized weakness  | STAGE 1.01-2.01 + DX 78079 + GROUP HYPOTENSION;                              |
| 3.02  | with renal failure                                 | Stage 2.01-3.01<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;  |
| 4.00  | with death   | Stage 2.1-3.3<br>AND death  | NO;  |

## References:

Fitzgerald PA. Adrenocortical hypofunction. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1072-1075.

White PC. Disorders of aldosterone biosynthesis and action. N Engl J Med. 1994;331(4):250-258.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END02

DXCat Label: Cushing's Syndrome

Etiology: Metabolic; Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Cushing's Syndrome                                    | Cushing's Syndrome [dexamethasone suppression test report]<br><br>Presumptive Diagnostic Findings:<br>urinary free cortisol $\geq$ 110ug/24hrs [chemistry report]  | DX 2550;  |
| 1.02  | Cushing's Disease                                     | Stage 1.1<br>AND 9 pm ACTH $\geq$ 35 pg/ml [chemistry report]<br>OR Basophilic pituitary adenoma [operative/pathology report ]<br>OR Chromophobe pituitary adenoma [operative/pathology report or immunohistochemical stain for ACTH report] | STAGE 1.01 + DX 2273;   |
| 2.01  | with growth retardation                               | Stage 1.01-1.02<br>AND age < 16 years<br>AND height < 3rd percentile<br>OR growth velocity < 4 cm/yr<br>OR bone age < 2 yrs. behind chronological age  | STAGE 1.01-1.02 + AGE 0-15 + (DX 73391, 78340, 78343);                          |
| 2.02  | with osteoporosis                                     | Stage 1.01-2.01<br>AND <b>osteoporosis:</b>  | STAGE 1.01-2.01 + DXCAT MUS38;  |
| 2.03  | with diabetes mellitus or hypertension or hypokalemia | Stage 1.01-2.02<br>AND <b>Diabetes mellitus:</b><br>OR <b>hypertension:</b><br>OR <b>hypokalemia:</b><br>OR centripetal obesity<br>OR proximal muscle wasting<br>OR proximal muscle weakness   | STAGE 1.01-2.02 + (DXCAT END04 OR DXCAT END05 OR DXCAT CVS13 OR DX 2768, 7282); |
| 2.04  | with vertebral fractures                              | Stage 1.01-2.03<br>AND vertebral fracture [vertebrae x-ray report]   | STAGE 1.01-2.03 + (DX 3383, 73313, 80500-8069);                                 |
| 2.05  | with visual field defects                             | Stage 1.01-2.04<br>AND visual field defects  | STAGE 1.01-2.04 + DX 36840-36847;   |
| 3.01  | with Nelson's syndrome                                | Stage 1.01-2.05<br>AND Nelson's syndrome<br>OR history of bilateral adrenalectomy<br>AND hyperpigmentation<br>AND history of glucocorticoid replacement therapy<br>AND pituitary tumor [CT scan or MRI report]                               | NO;   |
| 3.02  | with coma   | Stage 1.01-3.01<br>AND <b>coma:</b>  | STAGE 1.01-2.05 + GROUP COMA;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END02

MultiStage: No

DXCat Label: Cushing's Syndrome

Specificity: A

Etiology: Metabolic; Neoplasm

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.03  | with shock  | Stage 1.01-3.02<br>AND <b>shock:</b> | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death         | NO;  |

### References:

- Fitzgerald PA. Cushing's syndrome. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1075-1076
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- Williams GH, Dluhy RG. Disorders of adrenal cortex. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2035-2057.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END03

DXCat Label: Diabetes insipidus

Etiology: Metabolic

MultiStage: No

Specificity: A

| Stage | Description                               | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Primary diabetes insipidus                | Diabetes insipidus<br>OR fluid restriction to >1kg weight loss ≤ 24 hrs<br>AND vasopressin challenge test shows rise in urinary osmolality ≥ 9 %<br>AND plasma osmolality ≥ 288 mmol/kg [chemistry report]<br>OR Wolfram Syndrome | DX 2535;  |
| 1.02  | Secondary diabetes insipidus              | Stage 1.01<br>AND pituitary or hypothalamic tumors [MRI report]   | STAGE 1.01 + (DX 2250, 2273, 2370, 2375, 2397);         |
| 1.03  | Vasopressinase induced diabetes insipidus | Stage 1.01<br>AND pregnancy<br>OR vasopressinase positive [chemistry report]  | STAGE 1.01-1.02 + (DX 64000-677, V270-V279, V220-V242); |
| 1.04  | Nephrogenic diabetes insipidus            | Fluid restriction to > 1kg weight loss ≤ 24 hrs<br>Elevated serum vasopressin [chemistry report]  | DX 5881;  |
| 2.01  | with hyponatremia                         | Stage 1.01-1.04<br>AND <b>hyponatremia:</b>   | STAGE 1.01-1.03 + GROUP HYPONATREMIA;                   |
| 2.02  | with hypernatremia                        | Stage 1.01-2.01<br>AND <b>hypernatremia:</b>  | STAGE 1.01-1.03 + GROUP HYPR_NATREM;                    |
| 2.03  | with azotemia or dehydration              | Stage 1.01-2.02<br>AND <b>azotemia:</b><br>OR <b>dehydration:</b>   | STAGE 1.01-2.02 + (DX 7906 OR GROUP DEHYDRATION) ;      |
| 3.01  | with renal failure                        | Stage 1.01-2.03<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU);                 |
| 3.02  | with shock                                | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;      |
| 4.00  | with death                                | Stage 1.01-3.02<br>AND death  | NO;   |

### References:

Fitzgerald PA. Diabetes insipidus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1037-1039.

Fitzgerald PA. Diabetes insipidus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1037-1039.

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Singer I, Oster JR, Fishman LM. The management of diabetes insipidus in adults. Archives of Internal Medicine. 1997;157(12):1293-1301.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 1

Specificity: A

Etiology: Metabolic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Type 1 diabetes mellitus   | Fasting plasma glucose $\geq$ 126 mg/dl drawn $\geq$ 8 hours after a meal<br>AND $\geq$ 24 hours later confirmation by repeat testing<br>OR<br>Casual plasma glucose $\geq$ 200 mg/dl<br>AND $\geq$ 24 hours later confirmation by repeat testing<br>OR<br>2 hour postprandial glucose $\geq$ 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water<br>AND $\geq$ 24 hours later confirmation by repeat testing<br>OR<br>History of Type 1 Diabetes mellitus | DX 25001, 7751;   |
| 1.02  | Symptomatic diabetes mellitus                                    | Stage 1.01<br>AND polyuria<br>OR polydypsia<br>OR polyphagia   | DX 25003, 25081, 25083, 25091, 25093;   |
| 1.03  | with history of ketoacidosis or pancreatic islet cell antibodies | Stage 1.01-1.02<br>AND history of ketoacidosis<br>OR pancreatic islet cell antibodies [chemistry report]   | NO;   |
| 2.01  | with retinopathy   | Stage 1.01-1.03<br>AND microaneurysms of retinal vessels [ophthalmoscopy report]<br>OR retinal exudates [ophthalmoscopy report]<br>OR retinal hemorrhages [ophthalmoscopy report]<br>OR neovascularization of the retina [ophthalmoscopy report]<br>OR neovascularization of the iris [ophthalmoscopy report]<br>OR rhegmatogenous detachments [ophthalmoscopy report]<br>OR nonrhegmatogenous detachments [ophthalmoscopy report]   | DX 25051, 25053;<br>(DX 25051, 25053) + (DX 36100-36107, 3612-3619, 36201-36207, 36214, 36216, 36281-36282, 36442); |
| 2.02  | with neuropathy  | Stage 1.01-2.01<br>AND gastroparesis [nuclear or radiology contrast gastric emptying time]<br>OR neuropathy [EMG report or physical examination]   | DX 25061, 25063;<br>(DX 25061, 25063) + (DX 3371, 3501-3569, 3572, 3581, 5363);                                     |
| 2.03  | with glomerulosclerosis  | Stage 1.01-2.02<br>AND glomerulosclerosis [operative/pathology report]<br>OR Kimmelstiel-Wilson syndrome [operative/pathology report]<br>OR <b>proteinuria:</b>  | DX 25041, 25043;<br>(DX 25041, 25043) + (DX 5811, 58181, 5821, 587, 7910);  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

DXCat Label: Diabetes Mellitus Type 1

Etiology: Metabolic

MultiStage: Yes

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 2.04  | with vascular disease (peripheral, cardiovascular, or cerebral) | Stage 1.01-2.03<br>AND diminished arterial circulation [Doppler report or angiography report]<br>OR foot ulcers<br>OR <b>hypertension:</b><br>OR <b>angina pectoris:</b><br>OR cerebrovascular disease [angiography report or LT report or MRI report]   | DX 25071, 25073;<br>STAGE 1.02-2.03 + (DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13) ;<br>(DX 25071, 25073) + (DX 43300, 43320, 43330, 43380, 43390, 43400, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13); |
| 2.05  | with cellulitis   | Stage 1.01-2.04<br>AND <b>cellulitis:</b> area of redness, induration, tenderness and heat with indistinct borders<br>OR purulent skin effusion [skin culture reports showing growth of pathologic organisms]  | STAGE 1.02-2.04 + (DX 37313, 37531, 38010-38016, 37601, 4572, 4781, 52800, 52809, 5283, 5285, 566, 6040, 6072, 6084, 6110, 6163-6164, 68100-683, 69589);  |
| 2.06  | with pyelonephritis   | Stage 1.01-2.05<br>AND <b>pyelonephritis:</b>  | STAGE 1.02-2.05 + DX 59000-5909;  |
| 2.07  | with gangrenous infection                                       | Stage 1.01-2.06<br>AND gangrene [operative/pathology report]   | (DX 25061, 25063, 25071, 25073, 25081, 25083) + DX 7854;  |
| 2.08  | with osteomyelitis  | Stage 1.01-2.07<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.07 + GROUP OSTEOMYELIT;  |
| 3.01  | with renal failure  | Stage 1.01-2.08<br>AND <b>renal failure:</b>   | STAGE 1.02-2.08 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | with hyperosmolar state   | Stage 1.01-3.01<br>AND serum osmolality $\geq$ 305 mOsm/kg [chemistry report]  | DX 25021, 25023;  |
| 3.03  | with ketoacidosis   | Stage 1.01-3.02<br>AND <b>anion gap acidosis:</b><br>OR <b>acidosis:</b><br>AND serum acetone $\geq$ 1 mg/dl [chemistry report]<br>OR b-hydroxybutyrate > 1.0 mg/dl [chemistry report]<br>OR acetoacetate > 1 mg/dl [chemistry report]<br>OR serum acetest positive at > 1:2 dilution [chemistry report] | DX 25011, 25013;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

DXCat Label: Diabetes Mellitus Type 1

Etiology: Metabolic

MultiStage: Yes

Specificity: A

| Stage | Description                           | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---------------------------------------|--|---|
| 3.04  | with acute myocardial infarction      | Stage 2.04-3.03<br>AND acute myocardial infarction [EKG report]<br>OR CPK-MB > normal [CPK isoenzyme report]<br>OR LDH1/LDH2 ratio $\geq$ 1.0 [LDH isoenzyme report] | STAGE 2.04 + GROUP AMI;   |
| 3.05  | with acute cerebral vascular accident | Stage 2.04-3.04<br>AND <b>acute cerebral vascular accident:</b>  | (STAGE 2.04, 3.04) + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);                        |
| 3.06  | with sepsis                           | Stage 2.05-3.05<br>AND <b>sepsis:</b>  | STAGE 2.05-3.05 + GROUP SEPSIS;<br>DX 25081 + GROUP SEPSIS;<br>DX 25083 + GROUP SEPSIS;   |
| 3.07  | with coma                             | Stage 2.01-3.06<br>AND <b>coma:</b>  | DX 25031, 25033;  |
| 3.08  | with hyperosmolar coma                | Stage 2.01-3.07<br>AND <b>coma:</b><br>AND unresponsive to tactile stimuli   | STAGE 3.02 + GROUP COMA;  |
| 3.09  | with shock                            | Stage 2.01-3.08<br>AND <b>shock:</b>   | STAGE 3.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;<br>DX 25081 + (GROUP SHOCKC OR GROUP SHOCKN) ;<br>DX 25083 + (GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death                            | Stage 2.01-3.09<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 1

Specificity: A

Etiology: Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Anonymous. Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. *Diabetes Care*. 2003;26[1]Suppl 1]:S5-20.

Foster DW. Diabetes mellitus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:2060-81. Foster DW. Diabetes mellitus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:2060-81.

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Karam J. Diabetes mellitus and hypoglycemia. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1095-1138.

Unger RH, Foster DW. Diabetes mellitus. In: Wilson JD, Foster DW, eds. *Williams Textbook of Endocrinology*. 8th ed. Philadelphia, PA: WB Saunders; 1992:1255.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2 and Hyperglycemic States

Specificity: A

Etiology: Metabolic

| Stage | Description                    | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--------------------------------|--|---|
| 1.01  | Impaired fasting glucose       | Glucose > 110 mg/dl and < 126 mg/dl drawn ≥ 8 hours after a meal   | DX 79021, 79029;  |
| 1.02  | Impaired glucose tolerance     | 2 hour post prandial glucose > 140 and < 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water   | DX 7902, 79022;   |
| 1.03  | Asymptomatic diabetes mellitus | Fasting plasma glucose ≥ 126 mg/dl drawn ≥ 8 hours after a meal<br>AND ≥ 24 hours later confirmation by repeat testing<br>OR Casual plasma glucose ≥ 200 mg/dl<br>AND ≥ 24 hours later confirmation by repeat testing<br>OR 2 hour postprandial glucose ≥ 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water<br>AND ≥ 24 hours later confirmation by repeat testing<br>OR History of Type 2 Diabetes mellitus | DX 25000;   |
| 1.04  | Symptomatic diabetes mellitus  | Stage 1.03<br>AND polyuria<br>OR polydypsia<br>OR polyphagia   | DX 25002, 25080, 25082, 25090, 25092;   |
| 2.01  | with retinopathy               | Stage 1.03-1.04<br>AND microaneurysms of retinal vessels [ophthalmoscopy report]<br>OR retinal exudates [ophthalmoscopy report]<br>OR retinal hemorrhages [ophthalmoscopy report]<br>OR neovascularization of the retina [ophthalmoscopy report]<br>OR neovascularization of the iris [ophthalmoscopy report]<br>OR rhegmatogenous detachments [ophthalmoscopy report]<br>OR nonrhegmatogenous detachments [ophthalmoscopy report]   | DX 25050, 25052;<br>(DX 25050, 25052) + (DX 36100-36107, 3612-3619, 36201-36207, 36214, 36216, 36281-36282, 36242); |
| 2.02  | with neuropathy                | Stage 1.03-2.01<br>AND gastroparesis [nuclear or radiology contrast gastric emptying time]<br>OR neuropathy [EMG report or physical examination]   | DX 25060, 25062;<br>(DX 25060, 25062) + (DX 3371, 3501-3569, 3572, 3581, 5363);                                     |
| 2.03  | with glomerulosclerosis        | Stage 1.03-2.02<br>Glomerulosclerosis [operative/pathology report]<br>OR Kimmelstiel-Wilson syndrome [operative/pathology report]<br>OR <b>proteinuria:</b>  | DX 25040, 25042;<br>(DX 25040, 25042) + (DX 5811, 58181, 5821, 587, 7910);  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

DXCat Label: Diabetes Mellitus Type 2 and Hyperglycemic States

Etiology: Metabolic

MultiStage: Yes

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 2.04  | with vascular disease (peripheral, cardiovascular, or cerebral) | Stage 1.03-2.03<br>OR diminished arterial circulation [Doppler report or angiography report]<br>OR foot ulcers<br>OR <b>hypertension:</b><br>OR <b>angina pectoris:</b><br>OR cerebrovascular disease [angiography report or CT report or MRI report]  | DX 25070, 25072;<br>STAGE 1.04-2.03 + (DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13) ;<br>(DX 25070, 25072) + (DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13); |
| 2.05  | with cellulitis   | Stage 1.03-2.04<br>AND <b>cellulitis:</b> area of redness, induration, tenderness and heat with indistinct borders<br>OR purulent skin effusion [skin culture reports showing growth of pathologic organisms]  | STAGE 1.04-2.04 + (DX 37313, 37531, 38010-38016, 37601, 4572, 4781, 52800, 52809, 5283, 5285, 566, 6040, 6072, 6084, 6110, 6163-6164, 68100-6829, 683, 69589);  |
| 2.06  | with pyelonephritis   | Stage 1.03-2.05<br>AND pyelonephritis  | STAGE 1.04-2.05 + DX 59000-5909;  |
| 2.07  | with gangrenous infection                                       | Stage 1.03-2.06<br>AND gangrene [operative/pathology report]   | (DX 25060, 25062, 25070, 25072, 25080, 25082) + DX 7854;  |
| 2.08  | with osteomyelitis  | Stage 1.03-2.07<br>AND <b>osteomyelitis:</b>   | STAGE 1.04-2.07 + GROUP OSTEOMYELIT;  |
| 3.01  | with renal failure  | Stage 1.03-2.08<br>AND <b>renal failure:</b>   | STAGE 1.04-2.08 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | with hyperosmolar state   | Stage 1.03-3.01<br>AND serum osmolality $\geq$ 305 mOsm/kg [chemistry report]  | DX 25020, 25022;  |
| 3.03  | with ketoacidosis   | Stage 1.03-3.02<br>AND <b>anion gap acidosis:</b><br>OR <b>acidosis:</b><br>AND serum acetone $\geq$ 1 mg/dl [chemistry report]<br>OR b-hydroxybutyrate > 1.0 mg/dl [chemistry report]<br>OR acetoacetate > 1 mg/dl [chemistry report]<br>OR serum acetest positive at > 1:2 dilution [chemistry report] | DX 25010, 25012;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2 and Hyperglycemic States

Specificity: A

Etiology: Metabolic

| Stage | Description                           | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---------------------------------------|--|---|
| 3.04  | with acute myocardial infarction      | Stage 2.03-3.03<br>AND acute myocardial infarction [EKG report]<br>OR CPK-MB > normal [CPK isoenzyme report]<br>OR LDH1/LDH2 ratio $\geq$ 1.0 [LDH isoenzyme report] | STAGE 2.04 + GROUP AMI;   |
| 3.05  | with acute cerebral vascular accident | Stage 2.04-3.04<br>AND AND new intracranial infarction [CT scan or MRI report ]<br>OR new intracranial hemorrhage [CT scan or MRI report]                            | (STAGE 2.04, 3.04) + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);                        |
| 3.06  | with sepsis                           | Stage 2.05-3.05<br>AND <b>sepsis:</b>  | STAGE 2.05-3.05 + GROUP SEPSIS;<br>DX 25080 + GROUP SEPSIS;<br>DX 25082 + GROUP SEPSIS;   |
| 3.07  | with coma                             | Stage 2.01-3.06<br>AND <b>coma:</b>  | DX 25030, 25032;  |
| 3.08  | with hyperosmolar coma                | Stage 2.01-3.07<br>AND <b>coma:</b><br>AND unresponsive to tactile stimuli   | STAGE 3.02 + GROUP COMA;  |
| 3.09  | with shock                            | Stage 2.01-3.08<br>AND <b>shock:</b>   | STAGE 3.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;<br>DX 25080 + (GROUP SHOCKC OR GROUP SHOCKN) ;<br>DX 25082 + (GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death                            | Stage 2.01-3.09<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2 and Hyperglycemic States

Specificity: A

Etiology: Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Anonymous. Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. *Diabetes Care*. 2003;26[1]Suppl 1]:S5-20.

Foster DW. Diabetes mellitus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:2060-81.

Gallichan M. Self monitoring of glucose by people with diabetes: evidence based practice. *BMJ*. 1997;314(7085):964-947.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END06

MultiStage: No

DXCat Label: Goiter: Nontoxic or Euthyroid

Specificity: A

Etiology: Idiopathic

| Stage | Description                                  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Euthyroid goiter                             | Diffuse enlargement of the thyroid gland [thyroid scan report or physical examination]<br>AND free thyroxine index $\leq$ 456 [chemistry report]<br>OR serum t3, triiodothyronine, $\leq$ 256 ng/dl [chemistry report]<br>OR serum t4, thyroxine, $\leq$ 13 ug/dl [chemistry report]<br>AND serum t4 $\geq$ 4 ug/dl [chemistry report]<br>AND serum t3 $\geq$ 75 ng/dl [chemistry report]<br>AND TSH $\geq$ 0.4 uU/ml [chemistry report]      | DX 2400-2410, 2419;  |
| 1.02  | Multinodular goiter                          | Multinodular enlargement of the thyroid gland [thyroid scan report or physical examination]<br>AND free thyroxine index $\leq$ 456 [chemistry report]<br>OR serum t3, triiodothyronine, $\leq$ 256 ng/dl [chemistry report]<br>OR serum t4, thyroxine, $\leq$ 13 ug/dl [chemistry report]<br>AND serum t4 $\geq$ 4 ug/dl [chemistry report]<br>AND serum t3 $\geq$ 75 ng/dl [chemistry report]<br>AND TSH $\geq$ 0.4 uU/ml [chemistry report] | DX 2411;   |
| 2.01  | with compression of the trachea or esophagus | Stage 1.01-1.02<br>AND dysphagia<br>OR dysphonia<br>OR dyspnea<br>OR stridor  | STAGE 1.01-1.02 + (DX 5191-51919, 5303, 78449, 78609, 7861, 7872); |
| 3.01  | with respiratory failure                     | Stage 2.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.01 + GROUP RESP_FAIL;                                 |
| 3.02  | with shock                                   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                 |
| 4.00  | with death                                   | Stage 2.01-3.02<br>AND death  | NO;  |

### References:

Fitzgerald PA. The nodular thyroid. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1046-1047

Larsen PR and Ingbar SH. The thyroid gland. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992;357-488.

Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END07

DXCat Label: Hyperthyroidism

Etiology: Immune; Metabolic

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings  | ICD-9-CM Codes  |
|-------|-----------------------------------|--|---|
| 1.01  | Primary Hyperthyroidism           | <b>Hyperthyroidism, primary:</b>   | DX 24200, 24210, 24220, 24230, 24240, 24280, 24290, 7753;                                     |
| 1.02  | Secondary Hyperthyroidism         | Hyperthyroidism[nuclear thyroid scan]<br>AND free thyroxine index $\geq$ normal [chemistry report]<br>OR serum free T3 (triiodothyronine) $\geq$ normal [chemistry report]<br>OR serum total T4 (thyroxine) $\geq$ normal [chemistry report]<br>OR serum free T4 $\geq$ normal [chemistry report]<br>AND TSH $\geq$ normal [chemistry report]<br>AND pituitary tumor [CT scan or operative/pathology report] | NO;   |
| 2.01  | with infiltrating dermopathy      | Stage 1.01<br>AND diffuse thyromegaly<br>AND pretibial erythematous pruritic skin lesion<br>OR increased skin collagen and glycosaminoglycans [biopsy report]  | NO;   |
| 2.02  | with infiltrating ophthalmopathy  | Stage 1.01-2.01<br>AND exophthalmos<br>OR diplopia<br>OR lymphocytic infiltration of extraocular muscles [CT scan report or echography report]<br>OR increased retro-orbital tissue [CT scan or ultrasound report]<br>OR lid lag<br>OR gaze limitation<br>OR conjunctival edema<br>OR corneal exposure   | STAGE 1.01 + (DX 3682, 37122, 37273, 3739, 37441, 37863);<br>DX 37621;                        |
| 2.03  | with compressive optic neuropathy | Stage 1.01-2.02<br>AND vision $\leq$ 20/70<br>AND central scotomas<br>AND reduced color sensation<br>AND relative afferent pupillary defect  | STAGE 1.01-2.02 + (DX 36841, 36851-36855, 36859, 36900-36925, 3694, 36960-3699);<br>DX 37622; |
| 2.04  | with atrial fibrillation          | Stage 1.01-2.03<br>AND atrial fibrillation [EKG report]  | STAGE 1.01-2.03 + (GROUP ARHTHYM_AFIB OR GROUP ARHTHYM_AFLU);                                 |
| 3.01  | with thyroid storm                | Stage 1.01-2.04<br>AND temperature $\geq$ 102°F orally or 102.5°F rectally<br>AND <b>disorientation:</b>   | DX 24201, 24211, 24221, 24231, 24241, 24281, 24291;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END07

DXCat Label: Hyperthyroidism

Etiology: Immune; Metabolic

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings                                     | ICD-9-CM Codes                                     |
|-------|-------------------------------|---|--|
| 3.02  | with congestive heart failure | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b> | STAGE 1.01-3.02 + GROUP CHF__NON_HTN;              |
| 3.03  | with respiratory failure      | Stage 3.01-3.02<br>AND <b>respiratory failure:</b>      | STAGE 1.01-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with coma                     | Stage 3.01-3.03<br>AND <b>coma:</b>                     | STAGE 1.01-3.03 + GROUP COMA;                      |
| 3.05  | with shock                    | Stage 2.03-3.04<br>AND <b>shock:</b>                    | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 2.03-3.05<br>AND <b>death</b>                     | NO;  |

### References:

Fitzgerald PA. Hyperthyroidism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1051-1057.

Klein I, Becker DV, Levey GS. Treatment of hyperthyroid disease. Annals of Internal Medicine. 1994;121(4):281-288.

Lazarus JH. Hyperthyroidism. Lancet. 1997;349(9048):339-343.

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Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END08

MultiStage: No

DXCat Label: Hypoglycemia

Specificity: B

Etiology: Metabolic; Toxicologic; Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                |
|-------|---|---|---|
| 1.01  | Reactive or other hypoglycemia secondary to meals, abnormal nutrient metabolism, increased glucose utilization, chemicals or drugs, or deficient glucose production | Hypoglycemia<br>AND postgastrectomy history<br>OR idiopathic "functional" hypoglycemia<br>OR late hypoglycemia of maturity onset diabetes mellitus  | DX 2512, 7750;                                |
| 1.02  | Hypoglycemia secondary to increased glucose utilization   | Hypoglycemia<br>AND exercise induced hypoglycemia<br>OR fever induced hypoglycemia<br>OR pregnancy induced hypoglycemia   | DX 2511;                                      |
| 1.03  | Reactive hypoglycemia secondary to abnormal nutrient metabolism   | Hypoglycemia<br>AND hereditary fructose intolerance<br>OR fructose-1-phosphate aldolase deficiency<br>OR galactosemia<br>OR galactose-1-phosphate uridyl transferase deficiency<br>OR leucine hypersensitivity<br>OR branch chain ketonuria<br>OR maple syrup urine disease   | STAGE 1.01 + (DX 2703, 2711-2713, 2718-2719); |
| 1.04  | Reactive hypoglycemia secondary to chemicals or drugs   | Hypoglycemia<br>AND exogenous insulin administration<br>OR exogenous insulin administration<br>AND use of beta blocker drugs systemically<br>OR use of oxytetracycline systemically<br>OR use of ethylenediaminetetraacetic acid, systemically<br>OR use of mebanazine systemically<br>OR use of manganese systemically<br>OR use of sulfonylurea systemically<br>OR use of sulfonylurea systemically<br>AND use of sulfisoxazole systemically<br>OR use of dicumarol systemically<br>OR use of phenylbutazone systemically<br>OR use of ethyl alcohol systemically<br>OR use of phenformin systemically<br>OR use of pentamidine systemically<br>OR use of disopyramide systemically<br>OR use of quinine systemically | NO;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END08

MultiStage: No

DXCat Label: Hypoglycemia

Specificity: B

Etiology: Metabolic; Toxicologic; Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.05  | Reactive hypoglycemia secondary to deficient glucose production | Hypoglycemia<br>AND alcoholism<br>OR Jamaican vomiting sickness<br>OR use of salicylate systemically<br>OR use of aminobenzoic acid systemically<br>OR use of haloperidol systemically<br>OR use of propoxyphene systemically<br>OR use of chlorpromazine systemically  | NO;   |
| 1.06  | Hypoglycemia secondary to excessive glucose utilization         | Hypoglycemia<br>AND insulinoma (op/path report).<br>OR glucagon deficiency<br>OR cortisol deficiency<br>OR growth hormone deficiency<br>OR epinephrine deficiency<br>OR hypothyroidism.<br>OR neonatal hypoglycemia of diabetic mothers<br>OR erythroblastosis fetalis<br>OR renal glycosuria<br>OR sarcoma induced hypoglycemia (op/path report) | STAGE 1.02 + (DX 1574, 2117, 2533, 2714, 7732, 7750, 7756, 7915 OR DXCAT END09);  |
| 1.07  | Hypoglycemia secondary to deficient glucose production          | Hypoglycemia<br>AND hepatic necrosis (op/path report).<br>OR hepatoma (op/path report).<br>OR glycogen storage disease<br>OR glucose-6-phosphatase deficiency<br>OR fructose-1-6-diphosphatase deficiency<br>OR deficient gluconeogenetic substrate alanine<br>OR neoplasm induced hypoglycemia   | STAGE 1.02 + (DX 1550, 2115, 2710, 570);  |
| 2.01  | Symptomatic hypoglycemia  | Stage 1.01-1.07<br>AND feeling faint<br>OR weakness<br>OR tremulousness<br>OR palpitations<br>OR diaphoresis<br>OR nervousness  | STAGE 1.01-1.07 + (DX 7802, 78079-7808, 7810, 7851, 7992);<br>STAGE 1.01 + (DX 33372, 33385);<br>STAGE 1.04 + (DX 33372, 33385);<br>STAGE 1.07 + (DX 1550, 2115) + DX 3383; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END08

MultiStage: No

DXCat Label: Hypoglycemia

Specificity: B

Etiology: Metabolic; Toxicologic; Neoplasm

| Stage | Description                            | Diagnostic findings                             | ICD-9-CM Codes                            |
|-------|--|---|---|
| 3.01  | Hypoglycemia and loss of consciousness | Stage 2.01<br>AND <b>loss of consciousness:</b> | STAGE 1.01-2.01 + DX 78009;               |
| 3.02  | Hypoglycemia and coma                  | Stage 2.01-3.01<br>AND <b>coma:</b>             | DX 2510;<br>STAGE 1.01-3.01 + GROUP COMA; |
| 3.03  | Hypoglycemia with shock                | Stage 2.01-3.02<br>AND <b>shock:</b>            | STAGE 1.01-3.02 + GROUP SHOCKA;           |
| 4.00  | Hypoglycemia with death                | Stage 2.01-3.03<br>AND <b>death</b>             | NO;                                       |

### References:

Cryer PE. Diabetes mellitus and Hypoglycemia. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology, 8th Ed.

Foster DW, Rubenstein AH " Hypoglycemia." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th Ed. New York: McGraw-Hill, 1998:2081-87.

Karam J. Diabetes Mellitus and Hypoglycemia. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange,. 1998: 1095-1138.

Service FJ. Hypoglycemia. Medical Clinics of North America. 1995;79(1):1-8.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END09

DXCat Label: Hypothyroidism

Etiology: Congenital; Immune

MultiStage: No

Specificity: A

| Stage | Description                          | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--------------------------------------|--|--|
| 1.01  | Asymptomatic primary hypothyroidism  | <b>Hypothyroidism:</b>   | DX 243, 2449;  |
| 1.02  | Secondary hypothyroidism             | Stage 1.01<br>TSH ≤ 0.4uU/ml [chemistry report]<br>AND TRH stimulation test positive [TRH stimulation test reports no increase of serum TSH]   | DX 2440-2448;  |
| 2.01  | Symptomatic hypothyroidism           | Stage 1.01-1.02<br>AND macroglossia<br>OR cutaneous myxedema<br>OR carpal tunnel syndrome<br>OR <b>bradycardia:</b><br>OR periorbital edema<br>OR coarse and dry skin<br>OR personality changes<br>OR <b>hypothermia:</b><br>OR <b>anemia:</b> | STAGE 1.01-1.02 + (DX 3540, 37633, 7011, 7018 OR GROUP BRADYCARDIA OR GROUP HYPOTHERMIA OR GROUP ANEM_OTH_CHR OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN); |
| 2.02  | Cretinism                            | Stage 1.01-2.01<br>AND Goitrous cretinism  | DX 2461;   |
| 2.03  | with abdominal effusion              | Stage 1.01-2.02<br>AND abdominal effusion [sonogram or flat plate of abdomen report]   | STAGE 1.01-2.02 + DX 56882;  |
| 2.04  | with pericardial or pleural effusion | Stage 1.01-2.03<br>OR pleural effusion [sonogram or chest x-ray report]<br>OR pericardial effusion [echocardiogram report]   | STAGE 1.01-2.03 + (DX 42090, 4239, 5119);  |
| 3.01  | with congestive heart failure        | Stage 1.01-2.04<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-2.04 + GROUP CHF_NON_HTN;   |
| 3.02  | with respiratory failure             | Stage 3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;   |
| 3.03  | with myxedema madness                | Stage 1.01-3.02<br>AND myxedema madness  | STAGE 1.01-3.02 + (DX 2930, 2931, 2989);   |
| 3.04  | with myxedema coma                   | Stage 1.01-3.03<br>AND myxedema coma<br>OR <b>hypothermia:</b><br>AND seizures   | STAGE 1.01-3.03 + GROUP COMA;  |
| 3.05  | with shock                           | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                           | Stage 2.01-3.03<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END09

MultiStage: No

DXCat Label: Hypothyroidism

Specificity: A

Etiology: Congenital; Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Fitzgerald PA. Hypothyroidism and myxedema. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1049-1051.

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Weetman AP. Hypothyroidism: screening and subclinical disease. BMJ. 1997;314(7088):1175-1178.

Woeber KA. Subclinical thyroid dysfunction. Archives of Internal Medicine. 1997;157(10):1065-1068.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END10

MultiStage: No

DXCat Label: Monotropic Hormone Deficiency

Specificity: A

Etiology:

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Monotropic hormone deficiency              | FSH normal for sex and cycle[chemistry report]<br>AND LH normal for sex and cycle[chemistry report]<br>AND estrogen deficiency for sex [chemistry report]<br>OR testosterone deficiency for sex [chemistry report]<br>OR Serum ACTH < 35 pg/ml [chemistry report]<br>AND serum a.m. cortisol ≤ 4 mg/dl [chemistry report]<br>AND positive cosyntropin stimulation test: at ≥ 60 minute post infusion,<br>serum cortisol is ≤ 2 times baseline serum cortisol level<br>[chemistry report]<br>OR TSH < 7.4uU/ml [chemistry report]<br>AND free T4 ≤ 4 ug/dl [chemistry report]<br>OR growth hormone concentration of < 10 ug/L after insulin induced hypoglycemia of<br>40 mg/dL [chemistry report]      | DX 2537;   |
| 2.01  | Hypopituitarism with pituitary adenoma     | Stage 1.01<br>AND pituitary adenoma [ operative/pathology report or CT scan report]<br>OR Sheehan's syndrome<br>OR empty sella syndrome  | STAGE 1.01 + (DX 2273, 2538);                      |
| 2.02  | Hypopituitarism with bilateral hemianopsia | Stage 2.01<br>AND bilateral hemianopsia<br>OR loss of lateral visual fields on both eyes   | STAGE 2.01 + (DX 36846, 36847);                    |
| 3.01  | Panhypopituitarism                         | FSH normal for sex and cycle [chemistry report]<br>AND LH normal for sex and cycle [chemistry report]<br>AND estrogen deficiency for sex [chemistry report]<br>OR testosterone deficiency for sex [chemistry report]<br>AND Serum ACTH < 35 pg/ml [chemistry report]<br>AND serum a.m. cortisol ≤ 4 mg/dl [chemistry report]<br>AND positive cosyntropin stimulation test: at ≥ 60 minute post infusion,<br>serum cortisol is ≤ 2 times baseline serum cortisol level<br>[chemistry report]<br>AND TSH < 7.4uU/ml [chemistry report]<br>AND free T4 ≤ 4 ug/dl [chemistry report]<br>AND growth hormone concentration of < 10 ug/L after insulin induced hypoglycemia of 40 mg/dL<br>[chemistry report] | DX 2532-2533;                                      |
| 3.02  | with shock                                 | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END10

MultiStage: No

DXCat Label: Monotropic Hormone Deficiency

Specificity: A

Etiology:

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.02<br>AND death | NO;            |

### References:

Biller BM, Daniels GH. Neuroendocrine regulation and diseases of the anterior pituitary and hypothalamus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1972-1999.

Fitzgerald PA. Hypopituitarism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1035-1037.

Van den Berghe G, de Zegher F. Anterior pituitary function during critical illness and dopamine treatment. Critical Care Medicine. 1996;24(9):1580-1590.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END11

DXCat Label: Neoplasm, Benign: Acromegaly

Etiology: Congenital; Neoplasm; Metabolic

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Acromegaly                                    | Pituitary adenoma [CT scan, MRI or operative/pathology report]<br>AND gigantism<br>OR acromegaly<br>OR oral glucose suppression test of 100gms shows growth hormone excess > 10ug/L<br>OR serum insulin-like growth factor-1 level > normal for age [chemistry report]<br>OR serum somatomedin C > normal for age[chemistry report] | DX 2530;   |
| 1.02  | with osteoarthritis or carpal tunnel syndrome | Stage 1.01<br>AND osteoarthritis [joint x-ray report]<br>OR carpal tunnel syndrome  | STAGE 1.01 + (DXCAT MUS34 OR DX 3383, 3540);   |
| 2.01  | with hypertension                             | Stage 1.01-1.02<br>AND <b>hypertension:</b>   | STAGE 1.01-1.02 + DXCAT CVS13;   |
| 2.02  | with diabetes mellitus                        | Stage 1.01-2.01<br>AND <b>diabetes mellitus:</b>  | STAGE 1.01-2.01 + (DXCAT END04 OR DXCAT END05);  |
| 2.03  | with thyroid dysfunction                      | Stage 1.01-2.02<br>AND <b>hyperthyroidism:</b><br>OR <b>hypothyroidism:</b>   | STAGE 1.01-2.02 + (DXCAT END07 OR DXCAT END09);  |
| 3.01  | with myocardial infarction                    | Stage 1.01-2.03<br>AND <b>acute myocardial infarction:</b>  | STAGE 1.01-2.03 + GROUP AMI;   |
| 3.02  | with congestive heart failure                 | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.01 + (GROUP CHF__HTNIVE OR GROUP CHF__NON_HTN);   |
| 3.03  | with new cerebrovascular accident             | Stage 1.01-3.02<br>AND new intracranial infarction [CT scan or MRI report ]<br>OR new intracranial hemorrhage [CT scan or MRI report]   | STAGE 1.01-3.02 + (DX 430-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436); |
| 3.04  | with respiratory failure                      | Stage 3.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.03 + GROUP RESP_FAIL;   |
| 3.05  | with shock                                    | Stage 1.01-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                                    | Stage 2.1-3.5<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END11

MultiStage: No

DXCat Label: Neoplasm, Benign: Acromegaly

Specificity: A

Etiology: Congenital; Neoplasm; Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Anonymous. Consensus statement: benefits versus risks of medical therapy for acromegaly. Acromegaly Therapy Consensus Development Panel. American Journal of Medicine. 1994;97(5):468-473.

Biller BMK, Daniels GH. Neuroendocrine regulation and diseases of the anterior pituitary and hypothalamus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1972-1999.

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Lamberts SW, van der Lely AJ, de Herder WW, Hofland LJ. Octreotide. N Engl J Med. 1996;334(4):246-254.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END12

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenoma, Parathyroid, or Hyperparathyroidism

Specificity: A

Etiology: Neoplasm

| Stage | Description                                       | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Single parathyroid adenoma or hyperparathyroidism | <b>Hypercalcemia:</b><br>AND parathyroid hormone levels $\geq$ than normal [chemistry report]<br>OR parathyroid adenoma [thallium 201-technetium 99m subtraction scan or operative/pathology report]  | DX 2271, 2520-25208;   |
| 1.02  | Multiple parathyroid adenomas                     | More than one parathyroid adenoma [thallium 201-technetium 99m subtraction scan or operative/pathology report]  | NO;  |
| 2.01  | with clinical manifestations                      | Stage 1.01-1.02<br>AND hypertension:<br>OR fatigue<br>OR arthralgia<br>OR epigastric pain<br>OR constipation<br>OR nausea<br>OR polydypsia<br>OR polyuria<br>OR "clubbing" of fingers or toes<br>OR nephrolithiasis [IVP or sonogram report]<br>OR osteoporosis:<br>OR hypercalciuria | STAGE 1.01 + (DX 3383, 52462, 56400, 56409, 5920 , 71940-71949, 78079, 7815, 7835, 78701-78702, 78842, 78900-78907, 78909 OR GROUP HYPR_CALCUIR OR DXCAT MUS38); |
| 3.01  | with renal failure                                | Stage 1.01-2.01<br>AND <b>renal failure:</b>  | STAGE 1.01-2.01 + GROUP REN_FAIL_ACU;  |
| 3.02  | with coma   | Stage 1.01-3.01<br>AND <b>coma:</b>   | STAGE 1.01-3.01 + GROUP COMA;  |
| 3.03  | with shock  | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death  | Stage 2.01-3.03<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END12

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenoma, Parathyroid, or Hyperparathyroidism

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

al Zahrani A, Levine MA. Primary hyperparathyroidism. *Lancet*. 1997;349(9060):1233-1238.

Chan FK, Koberle LM, Thys-Jacobs S, Bilezikian JP. Differential diagnosis, causes, and management of hypercalcemia. *Current Problems in Surgery*. 1997;34(6):445-523.

Fitzgerald PA. Hyperparathyroidism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1064-1067.

Potts Jr JT. Diseases of the parathyroid gland and other hyper and hypocalcemic disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:2227-2247.

Shen W, Duren M, Morita E, Higgins C, Duh QY, Siperstein AE, Clark OH. Reoperation for persistent or recurrent primary hyperparathyroidism. *Archives of Surgery*. 1996;131(8):861-7.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END13

DXCat Label: Neoplasm, Benign: Primary Hyperaldosteronism

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Primary hyperaldosteronism or Conn's syndrome                    | <b>Hyperaldosteronism:</b><br>AND <b>hyporeninemia:</b><br>AND Adenoma of the adrenal cortex [iodocholesterol adrenal scan or operative/pathology report or CT scan of pelvis report or MRI of pelvis report]<br>OR multiple hyperplasia of the adrenal cortex [iodocholesterol adrenal scan or operative/pathology report or CT scan of pelvis report or MRI of pelvis report]<br>OR bilateral hyperplasia of the adrenal cortex [iodocholesterol adrenal scan or operative/pathology report or CT scan of pelvis report or MRI of pelvis report] | DX 2551-25512, 25514;  |
| 2.01  | with hypernatremia or hyperchloremia or hypokalemia or alkalosis | Stage 1.01<br>AND <b>hypernatremia:</b><br>OR <b>hyperchloremia:</b><br>OR <b>hypokalemia:</b><br>OR <b>alkalosis:</b>   | STAGE 1.01 + (GROUP HYPR_NATREM OR GROUP HYPR_CHLOREM OR GROUP HYPOKALEMIA OR GROUP ALKALOSIS);<br>DX 25513; |
| 2.02  | with paresthesia or weakness                                     | Stage 1.01-2.01<br>AND paresthesia<br>OR weakness  | STAGE 1.01-2.01 + (DX 3383, 78079, 7820);  |
| 2.03  | with tetany  | Stage 1.01-2.02<br>AND tetany  | STAGE 1.01-2.02 + DX 7817;   |
| 2.04  | with ventricular ectopy  | Stage 1.01-2.03<br>AND ventricular ectopy [EKG report]   | STAGE 1.01-2.03 + DX 42769;  |
| 3.01  | with renal failure   | Stage 2.01-2.04<br>AND <b>renal failure:</b>   | STAGE 1.01-2.04 + GROUP REN_FAIL_ACU;  |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death   | Stage 1.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END13

MultiStage: No

DXCat Label: Neoplasm, Benign: Primary Hyperaldosteronism

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Fitzgerald PA. Primary hyperaldosteronism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1079-1080.

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White PC. Disorders of aldosterone biosynthesis and action. N Engl J Med. 1994;331(4):250-258.

Williams GH, Dluhy RG. Diseases of the adrenal cortex. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2035-2057.

Zimmerman RS. Hormonal and humeral considerations in hypertensive disease. Medical Clinics of North America. 1997;81(5):1213-1230.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END14

DXCat Label: Neoplasm, Malignant: Thyroid

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                                       | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 0.00  | History of thyroid carcinoma                      |  | DX V1087;   |
| 1.01  | Thyroid adenoma                                   | Thyroid adenoma(s) [operative/pathology report]  | DX 193;   |
| 1.02  | Papillary thyroid carcinoma ≤ 1.05 cm in diameter | Papillary thyroid carcinoma ≤ 1.5 cm in diameter [operative/pathology report]                                | NO;   |
| 1.03  | Papillary thyroid carcinoma > 1.05 cm in diameter | Papillary thyroid carcinoma > 1.5 cm in diameter [per operative/pathology report]                            | NO;   |
| 2.01  | Follicular thyroid carcinoma                      | Follicular thyroid carcinoma [operative/pathology report]  | NO;   |
| 2.02  | Medullary carcinoma of the thyroid                | Medullary carcinoma of the thyroid [operative/pathology report]  | NO;   |
| 2.03  | Anaplastic carcinoma of the thyroid               | Anaplastic carcinoma of the thyroid [operative/pathology report]   | NO;   |
| 2.04  | with involvement of regional lymph nodes          | Stage 1.02-1.05<br>AND carcinoma of the thyroid in lymph nodes of the neck [operative/pathology report]      | STAGE 1.01 + DX 1960;   |
| 3.01  | with distant metastasis                           | Stage 1.02-2.01<br>AND carcinoma of the thyroid beyond the confines of the neck [operative/pathology report] | STAGE 1.01-2.04 + (DX 3383, 1961, 1962, 1963, 1965, 1966, 1968, 1969, 1970-1991); |
| 3.02  | with shock  | Stage 1.03-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                |
| 4.00  | with death  | Stage 1.02-3.02<br>AND death   | NO;   |

### References:

Fitzgerald PA. Thyroid cancer. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1057-1059.

Giuffrida D, Gharib H. Controversies in the management of cold, hot, and occult thyroid nodules. American Journal of Medicine. 1995;99(6):642-650.

Heshmati HM, Gharib H, van Heerden JA, Sizemore GW. Advances and controversies in the diagnosis and management of medullary thyroid carcinoma. American Journal of Medicine. 1997;103(1):60-69.

Schlumberger MJ. Medical progress: papillary and follicular thyroid carcinoma. New Engl J Med. 1998;338(5):297-306.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END15

DXCat Label: Neoplasm: Pheochromocytoma

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings   | ICD-9-CM Codes                        |
|-------|---------------------------------|---|---------------------------------------|
| 1.01  | Adrenal pheochromocytoma        | Adrenal pheochromocytoma [operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>total urinary metanephrines $\geq$ 2.2 ug/mg creatinine/24 hrs.<br>OR urinary VMA $\geq$ 5.5 ug/mg creatinine/24 hrs.<br>OR pheochromocytoma [metaiodobenzylguanidine scintiscan report]<br>AND paroxysmal headache<br>OR paroxysmal palpitations<br>OR paroxysmal profuse sweating   | DX 1940;                              |
| 1.02  | Extra-adrenal pheochromocytoma  | Celiac pheochromocytoma [operative/pathology report]<br>OR superior mesenteric pheochromocytoma [operative/pathology report]<br>OR inferior mesenteric pheochromocytoma [operative/pathology report]<br>OR urinary bladder pheochromocytoma [operative/pathology report]<br>OR sympathetic ganglia pheochromocytoma [operative/pathology report]<br>OR extracranial branches of IX or X cranial nerve pheochromocytoma [operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>total urinary metanephrines $\geq$ 2.2 ug/mg creatinine/24 hrs.<br>OR urinary VMA $\geq$ 5.5 ug/mg creatinine/24 hrs.<br>OR pheochromocytoma [metaiodobenzylguanidine scintiscan report]<br>AND paroxysmal headache<br>OR paroxysmal palpitations<br>OR paroxysmal profuse sweating | DX 1580-1588, 1710-1719;              |
| 1.03  | with hypertension               | Stage 1.01-1.02<br>AND <b>hypertension:</b>   | STAGE 1.01-1.02 + GROUP HYPERTENSION; |
| 2.01  | with impaired glucose tolerance | Stage 1.01-1.02<br>AND impaired glucose tolerance<br>OR 2 hour post prandial glucose > 140 and < 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water  | STAGE 1.01-1.03 + DX 7902-79029;      |
| 2.02  | with bundle branch block        | Stage 1.01-2.01<br>AND right bundle branch block [EKG report]<br>OR left bundle branch block [EKG report]<br>OR interventricular conduction defect [EKG report]   | STAGE 1.01-2.01 + GROUP COND_BBBS;    |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END15

DXCat Label: Neoplasm: Pheochromocytoma

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 2.03  | with supraventricular tachyarrhythmias or ventricular ectopy | Stage 1.01-2.02<br>AND supraventricular tachyarrhythmias [EKG report]<br>OR ventricular ectopy [EKG report] | STAGE 1.01-2.02 + (DX 4270-4272, 42741-42742, 42761, 42769); |
| 2.04  | with angina pectoris   | Stage 1.01-2.03<br>AND <b>angina pectoris:</b>  | STAGE 1.01-2.03 + (DX 3383, 4111, 4139);                     |
| 2.05  | with cardiomyopathy  | Stage 1.01-2.04<br>AND cardiomyopathy [EKG report]  | STAGE 1.01-2.04 + (DX 4250-4254, 4257-4259);                 |
| 3.01  | with myocardial infarction                                   | Stage 1.01-2.05<br>AND <b>acute myocardial infarction:</b>  | STAGE 1.01-2.05 + GROUP AMI;                                 |
| 3.02  | with congestive heart failure                                | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;                         |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death   | Stage 1.01-3.03<br>AND death  | NO;  |

### References:

Eng C. Seminars in medicine of the Beth Israel Hospital, Boston. The RET proto-oncogene in multiple endocrine neoplasia type 2 and Hirschsprung's disease. N Engl J Med. 1996;335(13):943-951.

Fitzgerald PA. Pheochromocytoma. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1080-1083

Landsberg L, Young JB. "Pheochromocytoma. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2057-2060.

Young WF Jr, Maddox DE. Spells: in search of a cause. Mayo Clinic Proceedings. 1995;70(8):757-765.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END16

DXCat Label: Primary Amyloidosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|-------------------------------|---|---|
| 1.01  | Amyloidosis                   | Primary amyloidosis [operative/pathology report]  | DX 2773-27739;  |
| 2.01  | with hepatosplenomegaly       | Stage 1.01<br>AND hepatomegaly [physical examination or liver/spleen scan or CT scan or MRI report]<br>OR splenomegaly [physical examination or liver/spleen scan or CT scan or MRI report] | STAGE 1.01 + (DX 5718, 7891-7892);  |
| 2.02  | with nephrotic syndrome       | Stage 1.01-2.01<br>AND <b>hypoalbuminemia:</b><br>AND urine protein > 3 gm/24 hrs [urine chemistry report]  | STAGE 1.01-2.01 + DX 58381;<br>STAGE 1.01-2.01 + GROUP HYPOALBUMIN + DX 7910; |
| 2.03  | with pulmonary involvement    | Stage 1.01-2.02<br>AND pulmonary amyloidosis [operative/pathology report or biopsy report]  | STAGE 1.01-2.02 + DX 5178;  |
| 2.04  | with intestinal obstruction   | Stage 1.01-2.03<br>AND large bowel obstruction [KUB x-ray report or operative/pathology report]<br>OR small bowel obstruction [KUB x-ray report or operative/pathology report]              | STAGE 1.01-2.03 + (DX 5373, 56089, 5609);                                     |
| 3.01  | Amyloidosis of the heart      | Stage 1.01-2.04<br>AND cardiac amyloidosis [echocardiogram report]  | STAGE 1.01-2.04 + DX 4257;  |
| 3.02  | with renal failure            | Stage 2.01-3.01<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;   |
| 3.03  | with congestive heart failure | Stage 3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;  |
| 3.04  | with respiratory failure      | Stage 2.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.03 + GROUP RESP_FAIL;  |
| 3.05  | with shock                    | Stage 2.01-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;                            |
| 4.00  | with death                    | Stage 2.01-3.05<br>AND death  | NO;   |

### References:

- Adelman DC, Terr A. Amyloidosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:750-751.
- Falk RH, Comenzo RL, Skinner M. The systemic amyloidoses. N Engl J Med. 1997;337(13):898-909.
- Kushwaha SS, Fallon JT, Fuster V. Restrictive cardiomyopathy. N Engl J Med. 1997;336(4):267-276.
- Sipe JD, Cohen AS. Amyloidosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1856-1860.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END17

DXCat Label: Thyroiditis

Etiology: Immune; Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                 |
|-------|--|--|--------------------------------|
| 1.01  | Silent thyroiditis   | Thyromegaly<br>AND elevated erythrocyte sedimentation rate, ESR [hematology report]<br>AND hyperthyroidism:<br>AND low thyroid uptake of radioiodine [nuclear medicine report]   | DX 2458-2459;                  |
| 1.02  | Subacute thyroiditis                                       | Acute onset of neck pain or sore throat<br>AND thyromegaly<br>AND elevated erythrocyte sedimentation rate, ESR [hematology report]<br>AND hyperthyroidism:<br>AND low thyroid uptake of radioiodine [nuclear medicine report]  | DX 2450-2451, 2454;            |
| 1.03  | Hashimoto's thyroiditis or chronic lymphocytic thyroiditis | Lymphocytic infiltration of the thyroid [operative/pathology report]<br>AND low thyroid uptake of radioiodine [nuclear medicine report]<br>AND thyromegaly<br>AND positive anti-thyroidglobin antibodies [serology report]<br>OR positive anti-thyroid peroxidase antibodies [serology report]<br>OR positive anti-thyroid microsomal antibodies [serology report] | DX 2452;                       |
| 1.04  | Thyroiditis with hypothyroidism                            | Stage 1.01-1.03<br>OR history of thyroiditis<br>AND hypothyroidism:  | STAGE 1.01-1.03 + DXCAT END15; |
| 1.05  | Riedel's thyroiditis                                       | Stony hard thyromegaly<br>AND dysphagia<br>OR dyspnea<br>OR hoarseness<br>OR chronic fibrous thyroiditis [operative/pathology report]  | DX 2453;                       |

### References:

Fitzgerald PA. Thyroiditis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:344-353.

Walfish PG. Thyroiditis. Current Therapy in Endocrinology & Metabolism. 1997;6:117-122.

Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END18

MultiStage: No

DXCat Label: Vitamin D Deficiency

Specificity: A

Etiology: Metabolic; Nutritional

| Stage | Description                                  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Vitamin D deficiency                         | 25-(OH)D <sub>3</sub> ≤ 21 ng/ml [chemistry report]<br>OR 1,25-(OH) <sub>2</sub> D <sub>3</sub> < 14 ng/ml [chemistry report] | DX 2689;   |
| 2.01  | with rickets or osteoporosis or osteomalacia | Stage 1.01<br>AND rickets [skeletal x-ray report]<br>OR osteoporosis:<br>OR osteomalacia [x -ray report]                      | DX 267, 2680, 2700;<br>(STAGE 1.01 OR DX 267, 2680,<br>2700, 2753 ) + (DX 2682, 5790,<br>5880, 73300, 73302, 73309, 7564); |
| 2.02  | with pathologic fractures                    | Stage 1.01-2.01<br>AND fracture of bones without history of trauma  | DX 2681;<br>STAGE 1.01-2.01 + (DX 73310-<br>73316, 73319);   |
| 2.03  | with hypocalcemia                            | Stage 1.01-2.02<br>AND hypocalcemia:  | STAGE 1.01-2.02 + GROUP<br>HYPOCALCEMIA;   |
| 2.04  | with rachitic tetany                         | Stage 1.01-2.03<br>AND tetany<br>OR Chvostek's sign<br>OR Trousseau's sign  | STAGE 1.01-2.03 + DX 7817;   |
| 3.01  | with respiratory failure                     | Stage 1.01-2.04<br>AND <b>respiratory failure:</b>  | STAGE 1.01-2.04 + GROUP<br>RESP_FAIL;  |
| 3.02  | with shock                                   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                                   | Stage 2.01-3.02<br>AND death  | NO;  |

### References:

Aurbach GD, Marx SJ, Spiegel AM. Parathyroid hormone, calcitonin and the calciferols. In: Williams Textbook of Endocrinology. Wilson JD, Foster DW, eds. 8th ed. Philadelphia, PA: WB Saunders; 1992:1397-1476.

Baron RB. Nutrition. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1150-1180.

Krane SM, Holick MF. Metabolic bone disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2247-2259.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END80

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Endocrine System

Specificity: A

Etiology:

| Stage | Description                         | Diagnostic findings | ICD-9-CM Codes                            |
|-------|-------------------------------------|---------------------|---|
| 1.01  | Benign neoplasm of endocrine system |                     | DX 226, 2270, 2273-2279, 2370-2374, 2397; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Endocrine System

Specificity: A

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 1.01  | Primary malignant neoplasm of parathyroid, pituitary, pineal gland and other endocrine structures |                     | DX 1941-1949;                                      |
| 2.01  | with lymph node involvement   |                     | STAGE 1.01 + DX 1960-1969;                         |
| 2.02  | with anemia of neoplastic disease   |                     | STAGE 1.01-2.01 + DX 28522;                        |
| 3.01  | with distant metastases   |                     | STAGE 1.01-2.02 + DX 1970-1991;                    |
| 3.02  | with shock  |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END82

MultiStage: No

DXCat Label: Other Endocrine Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Other disorders of thyroid, parathyroid, pituitary and other endocrine functions |                     | DX 2460, 2462-2469, 2513-2519, 2521-2529, 2531, 2534, 2536, 2538-2539, 2540-2549, 2553, 2556-2599, 7945-7946; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT01

DXCat Label: Cholesteatoma

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes                 |
|-------|---|--|--------------------------------|
| 1.01  | Cholesteatoma localized to middle ear space | Cholesteatoma localized to middle ear space [operative/pathology report] | DX 38332, 38530, 38532;        |
| 1.02  | Cholesteatoma lateral to ossicles           | Cholesteatoma Lateral to ossicles [operative/pathology report]           | NO;                            |
| 1.03  | Cholesteatoma medial to ossicles            | Cholesteatoma medial to ossicles [operative/pathology report]            | NO;                            |
| 1.04  | with erosion into attic                     | Cholesteatoma with erosion into the attic [operative/pathology report]   | DX 38531;                      |
| 1.05  | with erosion into mastoid                   | Cholesteatoma with erosion into the mastoid [operative/pathology report] | DX 38533, 38535;               |
| 2.01  | with facial nerve paralysis                 | Stage 1.01-1.05<br>AND paralysis of one or both sides of the face        | STAGE 1.01-1.05 + DX 3510;     |
| 2.02  | with labyrinthitis                          | Stage 1.01-2.01<br>AND spontaneous vertigo<br>OR spontaneous nystagmus   | STAGE 1.01-2.01 + DXCAT ENT08; |

### References:

Albino AP, Kimmelman CP, Parisier SC. Cholesteatoma: a molecular and cellular puzzle. American Journal of Otology. 1998;19(1):7-19.

Albino AP, Kimmelman CP, Parisier SC. Cholesteatoma: a molecular and cellular puzzle. American Journal of Otology. 1998;19(1):7-19.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT02

MultiStage: No

DXCat Label: Deviated Nasal Septum

Specificity: A

Etiology: Congenital; Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes            |
|-------|---|---|---------------------------|
| 1.01  | Deviated nasal septum with mild obstruction of one nasal cavity | Deviated nasal septum with mild obstruction of one nasal cavity                 | DX 470, 7540;             |
| 1.02  | with mild obstruction of both nasal cavities                    | with mild obstruction of both nasal cavities [nasal exam or CT scan report]     | NO;                       |
| 1.03  | with moderate obstruction of both nasal cavities                | with moderate obstruction of both nasal cavities [nasal exam or CT scan report] | NO;                       |
| 1.04  | severe obstruction of one nasal cavity                          | with severe obstruction of one nasal cavity [nasal exam or CT scan report]      | NO;                       |
| 1.05  | severe obstruction of both nasal cavities                       | with severe obstruction of both nasal cavities [nasal exam or CT scan report]   | NO;                       |
| 1.06  | with sinusitis*   | Stage 1.01-1.05<br>AND mucopurulent rhinitis<br>OR facial pressure              | STAGE 1.01 + DXCAT ENT21; |

### References:

Bomer KV, Naclerio RM. Embryology, Anatomy, and Physiology of the Upper Airway. In Middleton: Allergy: Principles and Practice, 5th ed., 1998, Mosby-Year Book, Inc. p. 544-560.

Seidman, MD, Simpson GT, Khan MJ. Otolaryngology. In Noble: Textbook of Primary Care Medicine, 3rd ed., 2001 Mosby, Inc. p.1744-1753.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT03

DXCat Label: Diphtheria

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 0.00  | Screening for diphtheria                                   |   | DX V743;  |
| 1.01  | Carrier or suspected carrier state                         | Carrier or suspected carrier state of diphtheria  | DX V024;  |
| 1.02  | Cutaneous or nasal diphtheria                              | Deep punched out skin ulcers with fibrinopurulent membrane growing <i>Corynebacterium diphtheriae</i> [skin culture report]<br>OR serosanguinous mucopurulent nasal discharge growing <i>Corynebacterium diphtheriae</i> [culture report]<br>OR diphtheria conjunctivitis [conjunctival culture report] | DX 0322, 03281, 03285-0329;   |
| 2.01  | of the pharynx or larynx or vagina or eye or bladder       | Culture reports growth of <i>Corynebacterium diphtheriae</i> from cultured lesions [culture report]<br>AND Tenacious gray membrane on tonsils and pharyngeal walls with narrow erythematous zone and wide edematous regions from pharynx or larynx<br>OR vaginitis<br>OR endophthalmitis                | DX 0320-0321, 0323, 03284;<br>STAGE 1.02 + (DX 36000-36001, 61610);   |
| 2.02  | with toxic neuritis  | Stage 1.02-2.01<br>AND ophthalmoplegia<br>OR dysphagia<br>OR diplopia<br>OR generalized weakness<br>OR dyspnea  | STAGE 1.02-2.01 + (DX 3573, 36815, 3682, 37822, 37852, 37855-37856, 37872, 37881, 37886, 3789, 78079, 78609, 7872); |
| 2.03  | with hypoxia and progressive laryngeal or pharyngeal edema | Stage 1.02-2.02<br>AND <b>hypoxemia:</b><br>OR laryngeal edema<br>OR pharyngeal edema   | STAGE 1.02-2.02 + (DX 47825, 4786 OR GROUP HYPOXEMIA);  |
| 2.04  | with peritonitis   | Stage 1.02-2.03<br>AND peritonitis  | DX 03283;   |
| 3.01  | with myocarditis   | Stage 1.02-2.03<br>AND <b>myocarditis:</b>  | DX 03282;   |
| 3.02  | with congestive heart failure                              | Stage 1.02-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.02-3.01 + GROUP CHF_NON_HTN;  |
| 3.03  | with respiratory failure                                   | Stage 1.02-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.02-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with shock   | Stage 1.02-3.03<br>AND <b>shock:</b>  | NO;   |
| 4.00  | with death   | Stage 2.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT03

MultiStage: No

DXCat Label: Diphtheria

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Begg N, Balraj V. Diphtheria: are we ready for it? Archives of Disease in Childhood. 1995;73(6):568-72.

Chambers, HF. Infectious diseases: bacterial and rickettsial/tetanus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1278-1279.

Hardy IR, Dittmann S, Sutter RW. Current situation and control strategies for resurgence of diphtheria in newly independent states of the former Soviet Union Lancet. 1996;347(9017):1739-44.

Holmes, RK. Diphtheria, other corynebacterial infections, and anthrax. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:892-899.

Long, SS. Diphtheria. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:775-779.

Ogle, JW. Infections: bacterial and spirochetal/diphtheria. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:1024-1025.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT04

DXCat Label: Foreign Body: Nasopharynx, Throat or Bronchus

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings  | ICD-9-CM Codes                         |
|-------|---|--|--|
| 1.01  | Foreign body in larynx or trachea or bronchus | Foreign body in larynx or trachea or bronchus [laryngoscopy report or bronchoscopy report] | DX 931-9349, 9350;                     |
| 1.02  | with hoarseness                               | Stage 1.01<br>AND hoarseness   | STAGE 1.01 + (DX 78449, 33811, 33821); |
| 1.03  | with wheezing                                 | Stage 1.01-1.02<br>AND wheezing  | STAGE 1.01-1.02 + DX 78607;            |
| 1.04  | with bronchitis                               | Stage 1.01-1.03<br>AND bronchitis  | STAGE 1.01-1.03 + (DX 4660, 490);      |
| 2.01  | with atelectasis                              | Stage 1.01-1.04<br>AND atelectasis [chest x-ray report]                                    | STAGE 1.01-1.04 + DX 5180;             |
| 2.02  | with pulmonary abscess                        | Stage 1.01-2.01<br>AND pulmonary abscess [chest x-ray report or CT scan report]            | STAGE 1.01-2.01 + DX 5130;             |
| 2.03  | with hypoxemia                                | Stage 1.01-2.02<br>AND <b>hypoxemia:</b>   | STAGE 1.01-2.02 + GROUP HYPOXEMIA;     |
| 2.04  | with mediastinitis                            | Stage 1.01-2.04<br>AND mediastinitis [CT scan report]                                      | STAGE 1.01-2.03 + DX 5192;             |
| 2.05  | with stridor                                  | Stage 1.01-2.04<br>AND stridor   | STAGE 1.01-2.04 + DX 7861;             |
| 3.01  | with respiratory failure                      | Stage 1.10-2.05<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.05 + GROUP RESP_FAIL;     |
| 3.02  | with sepsis                                   | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.02-3.01 + GROUP SEPSIS;        |
| 4.00  | with death                                    | Stage 1.01-3.02<br>AND death   | NO;                                    |

### References:

Seidman, MD, Simpson GT, Khan MJ. Otolaryngology. In Noble: Textbook of Primary Care Medicine, 3rd ed., 2001 Mosby, Inc. p.1750-1753.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT05

DXCat Label: Hearing Loss due to Acoustic Trauma

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes               |
|-------|--|---|------------------------------|
| 1.01  | Unilateral mild hearing loss secondary to acoustic trauma                  | Hearing threshold > 21dB [audiogram report]<br>AND hearing threshold ≤ 40 dB [audiogram report] | DX 38810-38812;              |
| 1.02  | Bilateral mild hearing loss secondary to acoustic trauma                   | Stage 1.01<br>AND involving both ears   | NO;                          |
| 1.03  | Mild hearing loss secondary to acoustic trauma with tinnitus               | Stage 1.01-1.02<br>AND tinnitus   | STAGE 1.01 + DX 38830-38832; |
| 1.04  | Moderate hearing loss secondary to acoustic trauma                         | Hearing threshold > 41dB [audiogram report]<br>AND hearing threshold ≤ 56 dB [audiogram report] | NO;                          |
| 1.05  | Bilateral moderate hearing loss secondary to acoustic trauma with tinnitus | Stage 1.04<br>AND involving both ears   | NO;                          |
| 1.06  | Moderate hearing loss secondary to acoustic trauma with tinnitus           | Stage 1.04-1.05<br>AND tinnitus   | NO;                          |
| 1.07  | Moderately severe hearing loss secondary to acoustic trauma                | Hearing threshold > 56dB [audiogram report]<br>AND hearing threshold ≤ 70 dB [audiogram report] | NO;                          |
| 1.08  | Bilateral moderately severe hearing loss secondary to acoustic trauma      | Stage 1.07<br>AND involving both ears   | NO;                          |
| 1.09  | Moderately severe hearing loss secondary to acoustic trauma with tinnitus  | Stage 1.07-1.08<br>AND tinnitus   | NO;                          |
| 1.10  | Severe hearing loss secondary to acoustic trauma                           | Hearing threshold > 71 [audiogram report]<br>AND hearing threshold ≤ 90 dB [audiogram report]   | NO;                          |
| 1.11  | Bilateral severe hearing loss secondary to acoustic trauma                 | Stage 1.10<br>AND involving both ears   | NO;                          |
| 1.12  | Severe hearing loss secondary to acoustic trauma with tinnitus             | Stage 1.10-1.11<br>AND tinnitus   | NO;                          |
| 1.13  | Profound hearing loss secondary to acoustic trauma                         | Hearing threshold > 91 dB [audiogram report]  | NO;                          |
| 1.14  | Bilateral profound hearing loss secondary to acoustic trauma               | Stage 1.13<br>AND involving both ears   | NO;                          |
| 1.15  | Profound hearing loss secondary to acoustic trauma with tinnitus           | Stage 1.14-1.15<br>AND tinnitus   | NO;                          |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT05

MultiStage: No

DXCat Label: Hearing Loss due to Acoustic Trauma

Specificity: A

Etiology: Trauma

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Callanan V, O'Connor AF. Otolaryngology. Making the deaf hear and the dumb speak. *Lancet*. 1996;348 Suppl 2:sII19.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1223:215-216.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:173-179.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT06

MultiStage: No

DXCat Label: Hearing Loss due to Aminoglycosides

Specificity: A

Etiology: Toxicologic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                   |
|-------|--|--|--|
| 1.01  | with minimum hearing loss                              | History of aminoglycoside use<br>AND sensorineural hearing loss at 4 kHz [audiometry report] | (DX 38910-38912, 38915-38916, 38918) + DX E9306; |
| 1.02  | with mild hearing loss                                 | Stage 1.01<br>AND sensorineural hearing loss at 2 kHz and 8 kHz [audiometry report]          | NO;  |
| 1.03  | with tinnitus  | Stage 1.01-1.02<br>AND tinnitus  | STAGE 1.01 + DX 38830-38832;                     |
| 2.01  | with high frequency deafness                           | History of aminoglycoside use<br>AND deaf at 4 kHz and 8 kHz [audiometry report]             | NO;  |
| 2.02  | with high and midrange frequency deafness              | Stage 2.01<br>AND deaf at 2 kHz [audiometry report]  | NO;  |
| 2.03  | with high and midrange frequency deafness and tinnitus | Stage 2.02<br>AND tinnitus   | NO;  |

### References:

Minor LB. Gentamicin-induced bilateral vestibular hypofunction. *JAMA*. 1998;279(7):541-4, 1998.

Richard A, Jacobs RA, Guglielmo BJ. Anti-infective chemotherapeutic & antibiotic agents. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1421-1424.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*, 14th ed. New York, NY: McGraw-Hill; 1998:173-179.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT07

DXCat Label: Hearing Loss due to Otosclerosis

Etiology: Degenerative

MultiStage: No

Specificity: A

| Stage | Description                                      | Diagnostic findings   | ICD-9-CM Codes                    |
|-------|--|---|-----------------------------------|
| 1.01  | Otosclerosis                                     | Ankylosis of the stapes by overgrowth of bone or otosclerosis [operative/pathology report]<br>OR history of hearing loss beginning in third decade of life<br>AND normal tympanic membrane<br>AND conductive hearing loss [physical examination via Rinne's or Weber's test]<br>OR threshold for conductive sound elevated $\geq$ 30 dB [audiometry report] | DX 3870-3879;                     |
| 1.02  | with unilateral mild hearing loss                | Hearing threshold > 21dB [audiogram report]<br>AND hearing threshold $\leq$ 40 dB [audiogram report]  | STAGE 1.01 + DX 38900-38912;      |
| 1.03  | with bilateral mild hearing loss                 | Stage 1.01-1.02<br>AND involving both ears  | NO;                               |
| 1.04  | with mild hearing loss and tinnitus              | Stage 1.01-1.03<br>AND tinnitus   | STAGE 1.01-1.02 + DX 38830-38832; |
| 1.05  | with moderate hearing loss                       | Stage 1.01<br>AND hearing threshold > 41dB [audiogram report]<br>AND hearing threshold $\leq$ 56 dB [audiogram report]  | NO;                               |
| 1.06  | with bilateral moderate hearing loss             | Stage 1.05<br>AND involving both ears   | NO;                               |
| 1.07  | with moderate hearing loss and tinnitus          | Stage 1.05-1.06<br>AND tinnitus   | NO;                               |
| 1.08  | with moderately severe hearing loss              | Stage 1.01<br>AND hearing threshold > 56dB [audiogram report]<br>AND hearing threshold $\leq$ 70 dB [audiogram report]  | NO;                               |
| 1.09  | with bilateral moderately severe hearing loss    | Stage 1.08<br>AND involving both ears   | NO;                               |
| 1.10  | with moderately severe hearing loss and tinnitus | Stage 1.08-1.09<br>AND tinnitus   | NO;                               |
| 1.11  | with severe hearing loss                         | Stage 1.01<br>AND hearing threshold > 71 [audiogram report]<br>AND hearing threshold $\leq$ 90 dB [audiogram report]  | NO;                               |
| 1.12  | with bilateral severe hearing loss               | Stage 1.11<br>AND involving both ears   | NO;                               |
| 1.13  | with severe hearing loss and tinnitus            | Stage 1.11-1.12<br>AND tinnitus   | NO;                               |
| 1.14  | with profound hearing loss                       | Stage 1.01<br>AND hearing threshold > 91 dB [audiogram report]  | NO;                               |
| 1.15  | with bilateral profound hearing loss             | Stage 1.14<br>AND involving both ears   | NO;                               |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT07

MultiStage: No

DXCat Label: Hearing Loss due to Otosclerosis

Specificity: A

Etiology: Degenerative

| Stage | Description                             | Diagnostic findings             | ICD-9-CM Codes |
|-------|---|---------------------------------|----------------|
| 1.16  | with profound hearing loss and tinnitus | Stage 1.14-1.15<br>AND tinnitus | NO;            |

### References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:222-223.

Sedwick JD, Loudon CL, Shelton C. Stapedectomy vs stapedotomy. Do you really need a laser? Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(2):177-80.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:173-179

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT08

MultiStage: No

DXCat Label: Labyrinthitis

Specificity: A

Etiology: Infection

| Stage | Description                        | Diagnostic findings   | ICD-9-CM Codes   |
|-------|------------------------------------|---|--|
| 1.01  | Labyrinthitis                      | History of Cholesteatoma or ear surgery<br>AND vertigo<br>AND <b>hearing loss:</b><br>AND positive caloric test   | DX 38630, 38632, 38634;                                      |
| 1.02  | Serous labyrinthitis               | History of otitis media<br>AND <b>hearing loss:</b><br>AND vertigo  | DX 38631;  |
| 1.03  | Purulent labyrinthitis             | History of otitis media<br>OR history of meningitis<br>AND <b>hearing loss:</b><br>AND vertigo<br>AND tinnitus  | DX 38633;  |
| 2.01  | with petrositis                    | Stage 1.03<br>AND cranial nerve V pain<br>OR cranial nerve VI paresthesia<br>OR facial weakness<br>OR diplopia  | STAGE 1.01-1.03 + DX 38320-38322;                            |
| 2.02  | with otic hydrocephalus            | Stage 1.02<br>AND headache<br>AND Cranial Nerve VI paralysis  | STAGE 1.01-2.01 + DX 3314;                                   |
| 2.03  | with lateral sinus thrombosis      | Stage 1.01-2.03<br>AND headache<br>AND <b>fever:</b><br>AND cranial Nerve IX deficit<br>AND cranial XI deficit<br>AND increase CSF pressure<br>AND tender mastoid process | STAGE 1.01-2.02 + (DX 325, 37854);                           |
| 3.01  | with meningitis                    | Stage 1.01-2.04<br>AND <b>meningitis:</b>   | STAGE 1.01-2.03 + (GROUP MENGIT__BACT OR GROUP MENING__VIR); |
| 3.02  | with brain abscess or encephalitis | Stage 2.04-3.01<br>AND brain abscess or encephalitis [MRI report or CT Scan report]<br>AND <b>disorientation:</b>   | STAGE 1.01-3.01 + (DX 3230-3240, 3249 OR GROUP ENCEPHALO);   |
| 3.03  | with sepsis                        | Stage 2.04-3.02<br>AND <b>sepsis:</b>   | STAGE 1.02-3.02 + GROUP SEPSIS;                              |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT08

MultiStage: No

DXCat Label: Labyrinthitis

Specificity: A

Etiology: Infection

| Stage | Description | Diagnostic findings                   | ICD-9-CM Codes                                     |
|-------|-------------|---------------------------------------|--|
| 3.04  | with shock  | Stage 2.04-3.03<br>AND <b>shock</b> : | STAGE 1.02-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.04-3.03<br>AND death          | NO;  |

### References:

Arenberg IK, Lemke C, Shambaugh GE Jr. Viral theory for Meniere's disease and endolymphatic hydrops: overview and new therapeutic options for viral labyrinthitis. *Annals of the New York Academy of Sciences*. 1997;830:306-13.

Daroff RB, Martin JB. Faintness, syncope, dizziness, and vertigo. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*, 14th ed. New York, NY: McGraw-Hill; 1998:100-107.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT, Appleton & Lange; 1998:225.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT09

DXCat Label: Meniere's Disease

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes               |
|-------|--|--|------------------------------|
| 1.01  | Recurrent fluctuating vertiginous attacks with hearing loss and tinnitus | Vertigo<br>AND horizontal or rotatory nystagmus<br>OR hearing loss at affected ear during attacks<br>AND history of recurrent vertigo with nystagmus or hearing loss<br>AND tinnitus | DX 38600-38604;              |
| 1.02  | with increasing frequency  | Stage 1.01<br>AND increasing frequency of attacks  | NO;                          |
| 1.03  | with bilateral involvement   | Stage 1.01-1.02<br>AND bilateral ear involvement   | NO;                          |
| 2.01  | with residual sensorineural hearing loss                                 | Stage 1.01-1.02<br>AND hearing threshold for sound $\geq$ 30 dB in affected ear [audiometry report]  | STAGE 1.01 + DX 38910-38918; |
| 2.02  | with residual sensorineural hearing loss in both ears                    | Stage 2.01<br>AND bilateral ear involvement  | NO;                          |

### References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:224-227.

Martin JB, Beal MF. Disorders of the cranial nerves. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.

Saeed SR. Fortnightly review. Diagnosis and treatment of Meniere's disease. BMJ. 1998;316(7128):368-72.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT10

MultiStage: No

DXCat Label: Neoplasm, Benign: Acoustic Neuroma

Specificity: A

Etiology: Neoplasm

| Stage | Description                              | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Acoustic neuroma with hearing loss       | Acoustic neuroma [operative/pathology report or CT scan report or MRI scan report]<br><br>Presumptive Diagnostic Findings:<br>Hearing threshold $\geq$ 30 dB [audiometry report]<br>AND impairment of speech discrimination<br>AND marked tone decay [audiometry report]<br>AND acoustic reflex decay [brainstem response audiometry report]<br>AND absence of wave forms [brainstem response audiometry report]<br>AND increased latency of 5th wave [brainstem response audiometry report]<br>AND absence of caloric response testing or canal paresis | DX 2251;   |
| 1.02  | with vertigo                             | Stage 1.01<br>AND <b>vertigo:</b>  | STAGE 1.01 + (DX 38610-38619, 3869, 7804);   |
| 1.03  | with ataxia                              | Stage 1.01-1.02<br>AND <b>ataxia:</b>  | STAGE 1.01-1.02 + DX 7812-7813;  |
| 2.01  | with facial nerve involvement            | Stage 1.01-1.03<br>AND <b>paralysis of one side of the face:</b>   | STAGE 1.01-1.03 + DX 3510;   |
| 2.02  | with involvement of other cranial nerves | Stage 1.01-2.01<br>AND <b>cranial nerve palsy:</b>   | STAGE 1.01-2.01 + (DX 3509, 3519-3520, 3520-3526, 36751, 37749, 37851-37855, 3885, 38911, 7675, 7811, 7820, 7872, 9982);<br>STAGE 1.01-2.01 + GROUP BLINDNESS; |
| 3.01  | with mental status changes               | Stage 1.01-2.02<br>AND papilledema<br>OR <b>encephalopathy:</b><br>OR persistent headache with nausea and vomiting   | STAGE 1.01-2.02 + (DX 3383, 37700 OR GROUP ENCEPHALO OR (DX 7840 + DX 78701));   |
| 3.02  | with respiratory failure                 | Stage 3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;   |
| 3.03  | with coma                                | Stage 3.01-3.02<br>AND <b>coma:</b>  | STAGE 1.01-3.02 + GROUP COMA;  |
| 3.04  | with shock                               | Stage 3.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                               | Stage 2.01-3.04<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT10

MultiStage: No

DXCat Label: Neoplasm, Benign: Acoustic Neuroma

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Friedman RA, Brackmann DE, van Loveren HR, Hitselberger WE. Management of the contracted mastoid in the translabyrinthine removal of acoustic neuroma. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(3):342-4.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:227.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:173-179.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT11

MultiStage: No

DXCat Label: Neoplasm, Benign: Larynx

Specificity: A

Etiology: Neoplasm

| Stage | Description                     | Diagnostic findings   | ICD-9-CM Codes                           |
|-------|---------------------------------|---|--|
| 1.01  | with mild hoarseness            | Hoarseness<br>AND papilloma [laryngoscopy or operative/pathology report]<br>OR papilloma [laryngoscopy or operative/pathology report]<br>OR chondroma[laryngoscopy or operative/pathology report] | DX 2121, 2356;                           |
| 1.02  | with severe hoarseness          | Stage 1.01<br>AND severe hoarseness   | STAGE 1.01 + DX 78449;                   |
| 2.01  | with partial airway obstruction | Stage 1.01-1.02<br>AND stridor  | STAGE 1.01-1.02 + (DX 3383, 5198, 7861); |
| 3.01  | with respiratory failure        | Stage 1.01-2.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-2.01 + GROUP RESP_FAIL;       |
| 4.00  | with death                      | Stage 2.01-3.01<br>AND death  | NO;                                      |

### References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT12

MultiStage: No

DXCat Label: Neoplasm, Benign: Sinuses

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.01  | Squamous papillomas                                   | Exophytic squamous papillomas of the sinuses [operative/pathology report]  | DX 2120;   |
| 1.02  | Retention cyst  | Retention cyst of the sinuses [operative/pathology report]   | DX 4710-4719;                                      |
| 1.03  | Mucocele  | Mucocele of the sinuses [operative/pathology report]   | NO;  |
| 1.04  | Osteoma   | Osteoma of the sinuses[operative/pathology report]   | DX 2130;   |
| 1.05  | Fibrous dysplasia                                     | Fibrous dysplasia of the sinuses [operative/pathology report]  | DX 73329;  |
| 1.06  | Inverting papilloma                                   | Inverting papillomas of the sinuses [operative/pathology report or CT Scan or MRI report]                        | NO;  |
| 2.01  | Benign neoplasms of the sinuses with bony involvement | Stage 1.01-1.06<br>AND involvement of the surrounding bone [operative/pathology report or CT Scan or MRI report] | STAGE 1.01-1.05 + DX 3383;                         |
| 3.01  | with sepsis   | Stage 1.01-2.01<br>AND <b>sepsis:</b>  | STAGE 1.01-1.05 + GROUP SEPSIS;                    |
| 3.02  | with shock  | Stage 1.01-2.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.02-3.01<br>AND death   | NO;  |

### References:

Franchi A, Gallo O, Santucci M. Pathologic quiz case 1. Necrotizing sialometaplasia obscuring recurrent well-differentiated squamous cell carcinoma of the maxillary sinus. Archives of Otolaryngology -- Head & Neck Surgery. 1995;121(5):584-86.

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Glottis

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 0.00  | History of glottic cancer   |   | DX V1021;  |
| 1.01  | tumor limited to vocal cords  | Cancer of the glottis limited to the vocal cords [laryngoscopy report or operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage I  | DX 1610, 1619, 2310;                               |
| 2.01  | with extension to the supraglottic or subglottic area with impaired vocal cord mobility | AND Stage 1.01<br>Glottic carcinoma extends to the supraglottic area [laryngoscopy report or operative/pathology report]<br>AND<br>Glottic carcinoma extends to the subglottic area [laryngoscopy report or operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage II  | DX 1618;   |
| 2.02  | with fixation of the vocal cords  | Stage 1.01-2.01<br>AND<br>Glottic carcinoma fixes to the vocal cords [laryngoscopy report or operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage III<br>OR<br>single metastatic node < 3cm in diameter [laryngoscopy report or operative/pathology report]  | STAGE 0.00-2.01 + DX 4785;                         |
| 2.03  | with extension beyond the larynx  | Stage 1.01-2.02<br>AND<br>Glottic carcinoma extends beyond the larynx [laryngoscopy report or CT Scan or MRI report]<br>OR<br>Glottic carcinoma extends to the soft tissues of the neck [laryngoscopy report or CT Scan or MRI report]<br>OR<br>Glottic carcinoma extends to the thyroid cartilage [laryngoscopy report or CT Scan or MRI report] | DX 1613;<br>STAGE 0.00-2.02 + (DX 3383, 1973);     |
| 2.04  | with lymph node metastasis  | Stage 1.01-2.03<br>AND<br>any two metastatic nodes [laryngoscopy report or CT Scan or MRI report]<br>OR<br>lymph node > 6cm in diameter [laryngoscopy report or CT Scan or MRI report]<br>OR<br>American Joint Committee on Cancer Stage IV   | STAGE 0.00-2.03 + DX 1960;                         |
| 3.01  | with distant metastasis   | Stage 1.01-2.04<br>AND<br>distant metastasis  | STAGE 0.00-2.04 + (DX 1961-1972, 1974-1991);       |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND<br><b>shock:</b>   | STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.05<br>AND<br>death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Glottis

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Subglottic

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                |
|-------|---|---|-------------------------------|
| 0.00  | History of subglottic carcinoma   |   | NO;                           |
| 1.01  | Subglottic carcinoma limited to one subsite without vocal cord fixation | Dysphonia<br>AND Subglottic carcinoma without fixation of the vocal cords [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage  | DX 1612;                      |
| 2.01  | more than one subsite with impaired mobility                            | Stage 1.01<br>AND more than one subsite with impaired mobility [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage II  | STAGE 1.01 + DX 3383;         |
| 3.01  | with fixation or one metastatic node or < 3cm in diameter               | Dysphonia<br>AND with fixation or one metastatic node of < 3 cm in diameter [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage III  | STAGE 1.01 + (DX 1960, 4785); |
| 3.02  | with extension beyond the larynx or multiple non-fixed metastatic node  | Stage 1.01-2.01<br>AND Subglottic carcinoma with extension beyond the larynx [laryngoscopy report or CT scan report]<br>OR Subglottic carcinoma with extension to the soft tissues of the neck [laryngoscopy report or CT scan report]<br>OR Subglottic carcinoma with extension to the thyroid cartilage [laryngoscopy report or CT scan report]<br>OR multiple non-fixed metastatic nodes [operative/pathology report or laryngoscopy report or CT scan report]<br>OR one fixed metastatic node [operative/pathology report or laryngoscopy report or CT scan report] | STAGE 1.01-3.01 + DX 1973;    |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT14

DXCat Label: Neoplasm, Malignant: Larynx, Subglottic

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 3.03  | with one cervical node > 3cm in diameter or one ipsilateral node < 6 cm in diameter or multiple ipsilateral nodes or contralateral nodes or any node > 6cm | Stage 1.01-3.02<br>AND cervical node > 3 cm. in diameter [operative/pathology report or laryngoscopy report or CT scan report]<br>OR 1 ipsilateral node < 6 cm. in diameter [operative/pathology report or laryngoscopy report or CT scan report]<br>OR multiple ipsilateral nodes [operative/pathology report or laryngoscopy report or CT scan report]<br>OR contralateral nodes [operative/pathology report or laryngoscopy report or CT scanreport]<br>OR any node > 6cm in diameter [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage IV | NO;  |
| 3.04  | with distant metastasis  | Stage 1.01-3.03<br>AND with distant metastasis [operative/pathology report or laryngoscopy report or CT scan report]   | STAGE 1.01-3.02 + (DX 1961-1972, 1974-1991);       |
| 3.05  | with shock   | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 2.01-3.05<br>AND death   | NO;  |

### References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT15

DXCat Label: Neoplasm, Malignant: Larynx, Supraglottic

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                |
|-------|--|---|-------------------------------|
| 0.00  | History of supraglottic or laryngeal carcinoma   |   | NO;                           |
| 1.01  | Supraglottic carcinoma limited to one subsite without vocal cord fixation                            | Dysphonia<br>AND supraglottic carcinoma without fixation of the vocal cords [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage I  | DX 1611;                      |
| 2.01  | More than one subsite with impaired mobility   | Stage 1.01<br>AND more than one subsite with impaired mobility [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage II  | STAGE 1.01 + DX 3383;         |
| 3.01  | with fixation or one metastatic node of < 3cm in diameter  | Dysphonia<br>AND with fixation or one metastatic node of < 3 cm in diameter [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage III  | STAGE 1.01 + (DX 1960, 4785); |
| 3.02  | with extension beyond the larynx or multiple non-fixed metastatic nodes or one fixed metastatic node | Stage 1.01-2.01<br>AND supraglottic carcinoma with extension beyond the larynx [laryngoscopy report or CT scan report]<br>OR supraglottic carcinoma with extension to the soft tissues of the neck [laryngoscopy report or CT scan report]<br>OR supraglottic carcinoma with extension to the thyroid cartilage [laryngoscopy report or CT scan report]<br>OR multiple non-fixed metastatic nodes [operative/pathology report or laryngoscopy report or CT scan report]<br>OR one fixed metastatic node [operative/pathology report or laryngoscopy report or CT scan report] | STAGE 1.01-3.01 + DX 1973;    |
| 3.03  | Multiple ipsilateral nodes or contralateral nodes or any node > 6cm with nodal involvement           | Stage 1.01-3.02<br>AND multiple ipsilateral nodes [operative/pathology report or laryngoscopy report or CT scan report]<br>OR contralateral nodes [operative/pathology report or laryngoscopy report or CT scan report]<br>OR any node > 6cm in diameter [operative/pathology report or laryngoscopy report or CT scan report]<br>OR American Joint Committee on Cancer Stage IV  | NO;                           |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Supraglottic

Specificity: A

Etiology: Neoplasm

| Stage | Description             | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|-------------------------|--|--|
| 3.04  | with distant metastasis | Stage 1.01-3.03<br>AND with distant metastasis [operative/pathology report or laryngoscopy report or CT scan report] | STAGE 1.01-3.02 + (DX 1961-1972, 1974-1991);       |
| 3.05  | with shock              | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death              | Stage 2.01-3.05<br>AND death   | NO;  |

### References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Nasopharyngeal

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 0.00  | History of nasopharyngeal carcinoma                      |   | NO;   |
| 1.01  | confined to one site                                     | TNM Classification Stage 1<br>OR primary neoplasm localized to one anatomic site [operative/pathology report]<br>OR American Joint Committee on Cancer Stage I  | DX 1470-1473, 1479;   |
| 2.01  | involving two sites                                      | TNM Classification Stage 2<br>OR primary neoplasm localized to two adjacent anatomic sites [operative/pathology report]<br>OR American Joint Committee on Cancer Stage II   | DX 1478;  |
| 2.02  | with extension into nasal cavity or oropharynx           | TNM Classification Stage 3<br>OR primary neoplasm involves nasal cavity or oropharynx [operative/pathology report]<br>OR isolated neck metastasis ≤ 3 cm. in diameter [operative/pathology report]<br>OR American Joint Committee on Cancer Stage III   | STAGE 1.01-2.01 + DX 1973;  |
| 2.03  | with invasion of skull base or cranial nerve involvement | Stage 1.01-2.02<br>TNM Classification Stage 4<br>OR invasion of the skull base [operative/pathology report or CT Scan or MRI report]<br>OR extends beyond the confines of the nasopharynx [operative/pathology report or CT Scan or MRI report]<br>OR isolated neck metastasis ≥ 3 cm. in diameter [operative/pathology report or CT Scan or MRI report]<br>OR neck metastasis involving > 1 lymph node [operative/pathology report or CT Scan or MRI report]<br>OR neck metastasis and fixated to surrounding soft tissue [operative/pathology report]<br>OR <b>cranial nerve palsy:</b><br>OR American Joint Committee on Cancer Stage IV | STAGE 1.01-2.02 + (DX 1960, 3383 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS); |
| 3.01  | with distant metastasis                                  | Stage 1.01-2.03<br>AND distant metastasis [operative/pathology report or CT Scan or MRI report]   | STAGE 1.01-2.03 + (DX 1961-1972, 1974-1991);                                |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                          |
| 4.00  | with death   | Stage 2.01-3.02<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Nasopharyngeal

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Niedobitek G, Young LS. Epstein-Barr virus persistence and virus-associated tumours. Lancet. 1994;343(8893):333-5.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT17

DXCat Label: Neoplasm, Malignant: Sinuses

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                |
|-------|--|--|---|
| 0.00  | History of neoplasm of the sinuses   |  | DX V1022;                                     |
| 1.01  | Malignant neoplasms of the sinuses without bony erosion                                    | Squamous cell carcinoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report]<br>OR lymphoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report]<br>OR adenoid cystic carcinoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report]<br>OR mucoepidermoid carcinoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report]<br>OR sarcomas of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report]<br>OR adenocarcinomas of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report]<br>OR Stage T1 for maxillary sinus carcinomas<br>OR tumor confined to the inferior antrum [operative/pathology report or CT Scan or MRI report]<br>OR tumor confined to the superior antrum [operative/pathology report or CT Scan or MRI report]<br>OR American Joint Committee on Cancer Stage I | DX 1600-1609;                                 |
| 2.01  | Malignant neoplasms of the sinuses with extension into hard palate and middle nasal meatus | Stage T2 for sinus carcinomas<br>OR American Joint Committee on Cancer Stage II<br>OR Stage T3 for sinus carcinomas<br>OR Stage T4 for sinus carcinomas<br>OR Stage 0.00-1.01<br>AND invasions of the surrounding bone or had palate   | STAGE 0.00-1.01 + (DX 3383, 1608, 1984-1985); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT17

DXCat Label: Neoplasm, Malignant: Sinuses

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.02  | Malignant neoplasms of the sinuses with extension to ethmoid sinuses or sphenoid sinuses or nasopharynx or pterygoid or cribriform plate or base of the skull | Stage 1.01-2.03<br>AND tumor with extension to anterior ethmoid sinus(es) [operative/pathology report or CT Scan or MRI report]<br>OR with extension to pterygoid muscle [operative/pathology report or CT Scan or MRI report]<br>OR with extension to cribriform plate [operative/pathology report or CT Scan or MRI report]<br>OR with extension to posterior ethmoid sinus(es) [operative/pathology report or CT Scan or MRI report]<br>OR with extension to sphenoid sinus(es) [operative/pathology report or CT Scan or MRI report]<br>OR with extension to nasopharynx [operative/pathology report or CT Scan or MRI report]<br>OR with extension to pterygoid plates [operative/pathology report or CT Scan or MRI report]<br>OR with extension to base of the skull [operative/pathology report or CT Scan or MRI report] | STAGE 0.00-2.01 + DX 1973;                              |
| 2.03  | Malignant neoplasms of the sinuses with lymph node involvement  | Stage 2.02-2.04<br>AND lymph node metastasis [operative/pathology report or CT Scan or MRI report]<br>OR American Joint Committee on Cancer Stage III   | STAGE 0.00-2.02 + DX 1960;                              |
| 3.01  | Malignant neoplasms of the sinuses with distant metastasis  | Stage 1.01-2.05<br>AND extension of tumor beyond the confines of the skull [operative/pathology report or CT Scan or MRI report]<br>OR American Joint Committee on Cancer Stage IV  | STAGE 0.00-2.03 + (DX 1961-1972, 1974-1983, 1986-1991); |
| 4.00  | Malignant neoplasms of the sinuses with death   | Stage 1.01-3.01<br>AND death  | NO;   |

## References:

- Franchi A, Gallo O, Santucci M. Pathologic quiz case 1. Necrotizing sialometaplasia obscuring recurrent well-differentiated squamous cell carcinoma of the maxillary sinus. Archives of Otolaryngology -- Head & Neck Surgery. 1995;121(5):584-86
- Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235.
- Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT18

DXCat Label: Otitis Media

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-----------------------------------|--|--|
| 1.01  | Otitis media with serous effusion | History of upper respiratory tract infection<br>AND <b>hearing loss:</b><br>AND air/fluid level in ear drum<br>OR serous effusion from middle ear                                | DX 38110-3814, 3829;   |
| 1.02  | Acute otitis media                | Stage 1.01<br>AND earache<br>AND erythema of tympanic membrane<br>AND decrease mobility of tympanic membrane   | DX 38100-38106, 38200, 38202;                                |
| 1.03  | with persistent effusion          | Stage 1.01-1.02<br>AND effusion persists > 12 weeks  | NO;  |
| 1.04  | Recurrent acute otitis media      | Stage 1.01-1.02<br>AND acute otitis media episodes ≤ 6 months<br>OR more than 4 acute otitis media episodes yearly   | NO;  |
| 2.01  | with spontaneous perforation      | Stage 1.01-1.03<br>AND spontaneous perforation   | DX 38201;<br>STAGE 1.01-1.02 + DX 38420-38425;               |
| 2.02  | Chronic suppurative otitis media  | Stage 1.01-2.01<br>AND drainage or otorrhea from ear ≥ 6 week period   | DX 3821-3824;  |
| 2.03  | with cholesteatoma                | Stage 1.01-2.02<br>AND cholesteatoma   | STAGE 1.01-2.02 + DXCAT ENT01;                               |
| 2.04  | with labyrinthitis                | Stage 1.01-2.03<br>AND nystagmus<br>OR dizziness<br>OR vertigo   | STAGE 1.01-2.03 + DXCAT ENT08;                               |
| 2.05  | with mastoiditis                  | Stage 1.01-2.04<br>AND mastoiditis [operative/pathology report or mastoid air cells culture reports growth of pathologic organism(s) or CT scan or mastoid x-ray report]         | STAGE 1.01-2.04 + DX 38300-3831;                             |
| 2.06  | with facial nerve paralysis       | Stage 1.01-2.05<br>AND paralysis of one side of the face   | STAGE 1.01-2.05 + DX 3510;                                   |
| 2.07  | with petrositis                   | Stage 1.01-2.06<br>AND petrositis [operative/pathology report]<br>OR growth of pathologic organism(s) [bone culture report]<br>OR osteomyelitis [bone scan or MRI x-ray report ] | STAGE 1.01-2.06 + DX 38320-38322;                            |
| 3.01  | with meningitis                   | Stage 1.01-2.07<br>AND <b>meningitis:</b>  | STAGE 1.01-2.07 + (GROUP MENGIT__BACT OR GROUP MENING__VIR); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT18

DXCat Label: Otitis Media

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---------------------------------------|---|--|
| 3.02  | with cavernous sinus thrombosis       | Stage 1.01-3.01<br>AND thrombus in cranial sinus [operative/pathology report or MRI or CT scan of head or MRI report] | STAGE 1.01-3.01 + DX 325;                          |
| 3.03  | with subdural or intracranial abscess | Stage 1.01-3.02<br>AND intracranial abscess [operative/pathology report or MRI or CT scan report]                     | STAGE 1.01-3.02 + (DX 3240, 3249);                 |
| 3.04  | with sepsis                           | Stage 1.01-3.03<br>AND <b>sepsis:</b>   | STAGE 1.01-3.03 + GROUP SEPSIS;                    |
| 3.05  | with shock                            | Stage 2.02-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                            | Stage 2.02-3.05<br>AND death  | NO;  |

### References:

- Arnold JE. Otitis media and its complications. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1814-1824.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT19

DXCat Label: Pharyngitis: Non-Streptococcal

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Pharyngitis or tonsillitis                    | Streptococcal infection of the pharynx [culture reports growth of pathologic organism(s)] | DX 462-463, 4650, 4721, 47400, 47402, 47410-47411;      |
| 2.01  | with cervical suppurative adenitis            | Stage 1.01<br>AND cervical suppurative adenitis   | DX 47401, 47412;<br>STAGE 1.01 + (DX 2891, 2893, 683);  |
| 2.02  | with peritonsillar or retropharyngeal abscess | Stage 1.01-2.01<br>AND peritonsillar or retropharyngeal abscess                           | DX 475, 47821-47822, 47824, 47829;                      |
| 2.03  | with bronchopneumonia                         | Stage 1.01-2.02<br>AND bronchopneumonia [chest x-ray report]                              | STAGE 1.01-2.02 + (DX 4800-4809, 4820-4822, 4824-4870); |
| 2.04  | with pharyngeal edema                         | Stage 1.01-2.03<br>AND pharyngeal edema   | STAGE 1.01-2.03 + DX 47825;                             |
| 3.01  | with meningitis                               | Stage 1.01-2.04<br>AND <b>meningitis:</b>   | STAGE 1.01-2.04 + (DX 3201-3209 OR DXCAT NEU13);        |
| 3.02  | with sepsis                                   | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + (DX 03810, 03819-0389);               |
| 3.03  | with respiratory failure                      | Stage 2.04-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;                      |
| 3.04  | with shock                                    | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;      |
| 4.00  | with death                                    | Stage 2.02-3.04<br>AND death  | NO;   |

### References:

Bisno AL. Acute pharyngitis: etiology and diagnosis. *Pediatrics*. 1996;97(6 Pt 2):949-54.

Chambers HF. Infectious diseases: bacterial and chlamydial. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1267-1268.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:238-240.

Little PS, Williamson I. Are antibiotics appropriate for sore throats? Costs outweigh the benefits. *BMJ*. 1994;309(6960):1010-1.

Wessels MR. Streptococcal and enterococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York. NY: McGraw-Hill; 1998:1197-1202.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT20

DXCat Label: Pharyngitis: Streptococcal

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings  | ICD-9-CM Codes                                  |
|-------|---|--|---|
| 1.01  | Streptococcal pharyngitis or tonsillitis      | Streptococcal infection of the pharynx [culture reports growth of pathologic organism(s)]  | DX 0340;  |
| 2.01  | with cervical suppurative adenitis            | Stage 1.01<br>AND cervical suppurative adenitis  | STAGE 1.01 + (DX 2891, 2893, 683);              |
| 2.02  | with peritonsillar or retropharyngeal abscess | Stage 1.01-2.01<br>AND peritonsillar or retropharyngeal abscess  | STAGE 1.01-2.01 + (DX 475, 47821-47824, 47829); |
| 2.03  | with bronchopneumonia                         | Stage 1.01-2.02<br>AND bronchopneumonia [chest x-ray report]   | STAGE 1.01-2.02 + GROUP PNEUMONIA;              |
| 2.04  | with pharyngeal edema                         | Stage 1.01-2.03<br>AND pharyngeal edema  | STAGE 1.01-2.03 + DX 47825;                     |
| 2.05  | Streptococcal pharyngitis and scarlet fever   | Stage 1.01-2.04<br>AND pink-red cutaneous flush that blanches on pressure; distributed on body, particularly abdomen, lateral chest, and skin folds  | DX 0341;  |
| 3.01  | Acute post-streptococcal glomerulonephritis   | Stage 1.01-2.04<br>AND Acute poststreptococcal glomerulonephritis [operative/pathology report]   | STAGE 1.01-2.04 + DX 5800;                      |
| 3.02  | with acute renal failure                      | Stage 3.01<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;           |
| 3.03  | with meningitis                               | Stage 1.01-3.02<br>AND <b>meningitis:</b>  | STAGE 1.01-3.02 + DX 3200;                      |
| 3.04  | with acute rheumatic fever                    | Stage 1.01-3.03<br>AND<br>rheumatic fever [Aschoff lesions in myocardium or subcutaneous nodules in operative/pathology report] (any one of the following):<br>OR carditis<br>OR Sydenham's chorea<br>OR subcutaneous nodules<br>OR erythema marginatum<br>OR polyarthritis<br>OR (any one above and two of the following):<br><b>fever:</b><br>OR polyarthralgia<br>OR EKG PR segment $\geq$ .21 seconds [EKG report]<br>OR antistreptolysin O titer $\geq$ 250 units [chemistry report]<br>AND antihyaluronidase titer $\geq$ 1000 units [chemistry report]<br>OR positive anti-DNAse B titer [chemistry report] | STAGE 1.01-3.03 + DX 390-3929;                  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT20

DXCat Label: Pharyngitis: Streptococcal

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings                                | ICD-9-CM Codes                                     |
|-------|-------------------------------|--|--|
| 3.05  | with congestive heart failure | Stage 3.04<br>AND <b>congestive heart failure:</b> | STAGE 1.01-3.04 + GROUP CHF__NON_HTN;              |
| 3.06  | with sepsis                   | Stage 1.01-3.05<br>AND <b>sepsis:</b>              | STAGE 1.01-3.05 + DX 0380;                         |
| 3.07  | with respiratory failure      | Stage 2.04-3.06<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.06 + GROUP RESP_FAIL;                 |
| 3.08  | with shock                    | Stage 1.01-3.07<br>AND <b>shock:</b>               | STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 2.02-3.08<br>AND death                       | NO;  |

### References:

Anonymous. Prevention of invasive group A streptococcal disease among household contacts of case-patients: is prophylaxis warranted? The Working Group on Prevention of Invasive Group A Streptococcal Infections. JAMA. 1998;279(15):1206-10.

Bergstein JM. Acute poststreptococcal glomerulonephritis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1487-1488.

Chambers, HF. Infectious diseases: bacterial and rickettsial/tetanus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1267-1268.

Dajani AS. Adherence to physicians' instructions as a factor in managing streptococcal pharyngitis. Pediatrics. 1996;97(6 Pt 2):976-80.

Kaplan EL. Recent epidemiology of group A streptococcal infections in North America and abroad: an overview. Pediatrics. 1996;97(6 Pt 2):945-8.

Ogle JW. "Infections: Bacterial and Spirochetal/Group A Streptococcus." In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment, 13th ed. Stamford, CT: Appleton & Lange; 1997:1003-1007.

Todd J. Streptococcal infections/acute rheumatic fever. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:750-760.

Wessels MR. Streptococcal and enterococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:885-892.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT21

DXCat Label: Sinusitis

Etiology: Immune; Infection

MultiStage: No

Specificity: A

| Stage | Description                             | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Acute sinusitis with one sinus involved | Tenderness over sinus area<br>OR swelling over sinus area<br>OR pain over sinus area<br>AND rhinorrhea<br>OR air/fluid levels or radiopaque densities or sclerotic bone in sinus<br>[sinus x-ray report or CT scan or MRI report]   | DX 4610-4613, 4619;  |
| 1.02  | Multiple sinus involvement              | Stage 1.01<br>AND involvement of > 1 sinus  | DX 4618;   |
| 1.03  | Chronic sinusitis                       | Chronic sinusitis<br>OR history of recurrent episodes of acute sinusitis<br>AND nasal congestion<br>AND chronic discharge<br>AND nasal injection<br>AND facial pressure   | DX 4730-4739;<br>STAGE 1.01-1.02 + DX 78491;<br>DX 4730-4739 + DX 78491; |
| 2.01  | with preseptal cellulitis or osteitis   | Stage 1.01-1.03<br>AND preseptal cellulitis<br>OR osteitis [operative/pathology report]   | STAGE 1.01-1.03 + (DX 4781,<br>6820);                                    |
| 2.02  | with osteomyelitis of surrounding bone  | Stage 1.01-2.01<br>AND <b>fever:</b><br>AND edema of surrounding tissue<br>OR <b>osteomyelitis:</b>   | STAGE 1.01-2.01 + (DX 73300,<br>73302, 73309);                           |
| 2.03  | with extension into the orbit           | Stage 1.01-2.02<br>AND orbital abscess [operative/pathology report or MRI or CT scan report]<br>OR orbital cellulitis<br>OR subperiosteal abscess [operative/pathology report or MRI or CT scan report]<br>OR optic neuritis [ophthalmology report]<br>OR superior orbital fissure [MRI or CT scan report]<br>OR cavernous sinus thrombosis [operative/pathology report or MRI or CT scan report] | STAGE 1.01-2.02 + (DX 37601,<br>37603, 37610, 37630 );                   |
| 2.04  | with mucocele or pyocele                | Stage 1.01-2.03<br>AND mucocele or pyocele  | STAGE 1.01-2.03 + DX 37681;  |
| 3.01  | with meningitis                         | Stage 1.01-2.04<br>AND <b>meningitis:</b>   | STAGE 1.01-2.04 + (GROUP<br>MENGIT__BACT OR GROUP<br>MENING__VIR);       |
| 3.02  | with intracranial abscess               | Stage 1.01-3.01<br>AND brain abscess [CT scan report or MRI report]<br>OR epidural abscess [CT scan report or MRI report]<br>OR subdural abscess [CT scan report or MRI report]   | STAGE 1.01-3.01 + (DX 3240,<br>3249);                                    |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT21

DXCat Label: Sinusitis

Etiology: Immune; Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 3.03  | with venous or cavernous sinus thrombosis or cranial nerve palsy | Stage 1.01-3.02<br>AND <b>cranial nerve palsy:</b><br>OR venous or cavernous sinus thrombosis | STAGE 1.01-3.02 + (DX 325 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS); |
| 3.04  | with sepsis  | Stage 1.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-3.03 + GROUP SEPSIS;                                      |
| 3.05  | with shock   | Stage 2.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;                   |
| 4.00  | with death   | Stage 2.01-3.04<br>AND death  | NO;  |

### References:

deShazo RD, Chapin K, Swain RE. Fungal sinusitis. N Engl J Med. 1997;337(4):254-9.

Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:179-85.

Guarderas JC. Rhinitis and sinusitis: office management. Mayo Clinic Proceedings. 1996;71(9):882-8.

Low DE, Desrosiers M, McSherry J, et al. A practical guide for the diagnosis and treatment of acute sinusitis. CMAJ. 1997;156 Suppl 6:S1-14.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT80

MultiStage: No

DXCat Label: Neoplasm, Benign: Oral Cavity and Pharyngeal Structures

Specificity: A

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                            |
|-------|---|---------------------|---|
| 1.01  | Benign neoplasm oral cavity and pharyngeal structures |                     | DX 2100-2101, 2103-2109, 2300, 2350-2351; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT81

MultiStage: No

DXCat Label: Other Ear, Nose and Throat Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 1.01  | Other disorders of ear and mastoid, nose, and throat, chronic rhinitis, vocal cord polyps, congenital anomalies of ear, nose throat, pharynx, or sinuses |                     | DX 38000-3809, 38050-3809, 38150-3819, 38300-38302, 3831-38331, 38333-38524, 38582-3859, 38610-3862, 38635-3869, 38800-38802, 3882-3899, 4720, 4722, 4742-4749, 4760-47819, 47820, 47825-47826, 47830-47879, 74400-7449, 7480-7483, 7500-75019, 75021-75029, 7841, 7847-78499, 79415-79416, V412-V413, V416; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT82

MultiStage: No

DXCat Label: Other Ear, Nose, and Throat Infections

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Laryngitis, tracheitis, epiglottitis, supraglottitis, upper respiratory infections without obstruction |                     | (DX 4640-46400, 46410, 46430, 46450, 4658-4659) ;<br>(AGE 11-124 + DX 46420); |
| 2.01  | with obstruction   |                     | (DX 46401, 46411, 46431, 46451);<br>(AGE 11-124 + DX 46421);                  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE01

DXCat Label: Cataract

Etiology: Degenerative; Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Lens opacities, nonsenile or traumatic cataract or congenital lens anomalies or after-cataract | Cortical spokes [slit lamp ophthalmoscopy report]<br>OR<br>nuclear sclerosis [slit lamp ophthalmoscopy report]<br>OR<br>posterior or anterior subscapular opacities [slit lamp ophthalmoscopy report] | DX 36600-36611, 36613-36616, 36619-36634, 36642-36645, 36650-36659, 74330-74339;                  |
| 1.02  | Senile immature cataract   | Stage 1.01<br>AND fundus poorly visualized [indirect ophthalmoscopy report]<br>AND visual acuity $\leq$ 20/50   | DX 36612;   |
| 1.03  | Senile mature cataract   | Stage 1.01-1.02<br>AND visual acuity $\leq$ 20/400, Snellen notation, in either one or both eyes with cataract<br>AND fundus not visualized   | DX 36617-36618;   |
| 2.01  | Cataract with intumescent lens and secondary glaucoma  | Stage 1.01-1.03<br>AND swollen opaque lens [slit lamp ophthalmoscopy]<br>AND chamber angle closed [slit lamp ophthalmoscopy]<br>AND intraocular pressure $\geq$ 21 mmHg [tonometer report]            | STAGE 1.01-1.03 + DXCAT EYE13;<br>STAGE 1.01-1.03 + (DX 36520-36524, 36551, 36560, 36589, 36599); |
| 2.02  | Hypermature lens with phacolytic uveitis   | Stage 1.01-2.01<br>AND nucleus floats within lens [ophthalmoscopy report]<br>AND lens capsule is wrinkled [ophthalmoscopy report]<br>AND flare in anterior chamber [ophthalmoscopy report]            | STAGE 1.01-2.01 + (DX 36404, 36423, 3643);  |

### References:

Datiles III MB, Magno BV. Cataract: clinical types. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998.

Datiles III MB. Clinical evaluation of cataracts. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998.

Duke-Elder S. Diseases of the lens. System of Ophthalmology. Vol IX. Henry Kimpton. 1969.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE02

MultiStage: No

DXCat Label: Conjunctivitis: Bacterial

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                               |
|-------|--|--|--|
| 0.00  | Screening for bacterial conjunctivitis             |  | DX V744;                                     |
| 1.01  | Bacterial conjunctivitis                           | Bacterial conjunctivitis [conjunctival discharge culture reports growth of pathologic organism(s) or Gram stain shows organism(s)] | DX 37200-37204, 37210-37212, 37230, 37239;   |
| 1.02  | Bacterial conjunctivitis with keratitis            | Stage 1.01<br>AND corneal infiltrate [slit lamp report]  | STAGE 1.01 + (DX 37044, 37055, 3709, 37120); |
| 2.01  | Bacterial conjunctivitis with preseptal cellulitis | Stage 1.01-1.02<br>AND preseptal cellulitis  | STAGE 1.01-1.02 + DX 37313;                  |

### References:

Abbott RL, Abrams MA. Bacterial corneal ulcers. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1986:(4)18.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE03

MultiStage: No

DXCat Label: Conjunctivitis: Chemical

Specificity: A

Etiology: Toxicologic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Chemical keratoconjunctivitis                        | History of chemical exposure to eyes<br>AND conjunctival injection<br>AND corneal staining [slit lamp report]  | DX 37034, 37040;   |
| 2.01  | Chemical keratoconjunctivitis with diminished vision | Stage 1.01<br>AND conjunctival chemosis<br>OR diffuse corneal staining [fluorescein dye staining report]<br>OR anterior chamber cell, flare [slit lamp exam report]<br>AND vision ≤ 20/40 after exposure | STAGE 1.01 + (DX 36920, 36923-3693, 36970-36976) ;                               |
| 2.02  | Chemical keratoconjunctivitis with vision ≤20/200    | Stage 1.01-2.01<br>AND vision ≤ 20/200 after exposure  | STAGE 1.01-2.01 + (DX 36900-36914, 36916-36918, 36921-36922, 3694, 36960-36969); |

### References:

Ralph RA. Chemical burns of the eye. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1978:(4)28.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE04

MultiStage: No

DXCat Label: Conjunctivitis: Chlamydial Inclusion

Specificity: A

Etiology: Infection

| Stage | Description                      | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|----------------------------------|---|--|
| 1.01  | Adult inclusion conjunctivitis   | History of sexual transmission<br>AND upper tarsal follicles<br>AND chlamydia trachomatis conjunctivitis [culture report serotype D,E,F,G,H,I,J,K]<br>OR follicular conjunctivitis without scarring<br>OR corneal micro vascularization | DX 0770;   |
| 1.02  | Newborn inclusion conjunctivitis | Chlamydia trachomatis conjunctivitis [culture report serotype D,E,F,G,H,I,J,K]<br>OR lid swelling<br>OR infiltration of conjunctiva<br>OR purulent discharge  | NO;  |
| 2.01  | Chronic inclusion conjunctivitis | Stage 1.01<br>AND tarsal conjunctival scarring<br>OR corneal vascularization  | STAGE 1.01-1.02 + (DX 37060-37064, 37212, 37264) ; |

### References:

Dawson CR, Schachter J. Ocular chlamydia infections. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raving; 1998.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE05

MultiStage: No

DXCat Label: Contusion or Ruptured Globe

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Contusion of the globe  | Ocular contusion<br>OR subconjunctival hemorrhage<br>AND history of trauma to the eye<br>AND vision unchanged from baseline<br>AND pupillary reactions unchanged from baseline   | DX 9213;   |
| 2.01  | with hyphema  | Stage 1.01<br>AND vision changed from baseline<br>OR pupillary reactions changed from baseline<br>AND blood in anterior chamber [slit lamp examination]<br>AND ocular pressure $\geq$ 21 mmHg [tonometer report]<br>AND corneal staining   | NO;  |
| 2.02  | with subluxation of the crystalline lens or retinal detachment or choroidal rupture or iridodialysis or angle recession | Stage 1.01-Stage 2.01<br>AND subluxation of the crystalline lens [ophthalmoscopy report]<br>OR retinal detachment [ophthalmoscopy report]<br>OR choroidal rupture [ophthalmoscopy report]<br>OR iridodialysis [ophthalmoscopy report]<br>OR angle recession [ophthalmoscopy report]  | STAGE 1.01 + DXCAT EYE07;<br>STAGE 1.01 + (DX 33811, 33821, 36363, 36476, 36477, 37932-37934);   |
| 2.03  | Ruptured globe or injury to optic nerve   | Stage 1.01-2.02<br>AND ruptured globe [operative/pathology report]<br>OR loss of lens [operative/pathology report]<br>OR loss of uvea [operative/pathology report]<br>OR loss of vitreous [operative/pathology report]<br>OR loss of retina [operative/pathology report]<br>OR optic nerve injury [operative/pathology report] | DX 8711-8713, 9405, 9500;  |
| 2.04  | with degenerated globe  | No light perception<br>AND shrunken globe<br>OR opacified cornea<br>OR opacified lens [ophthalmoscopy report]<br>OR retinal detachment [ophthalmoscopy report]   | STAGE 1.01-2.03 + DXCAT EYE01;<br>STAGE 1.01-2.03 + (DX 36902-36904, 36906-36907, 36912-36913, 36916-36917, 3694, 36961-36966, 37100-37103); |

### References:

Berman W, Jeffers J. Blunt trauma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998, Vol 3.

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE06

MultiStage: No

DXCat Label: Dacryostenosis or Dacryocystitis

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description                            | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Dacryostenosis                         | Dacryostenosis [operative/pathology report]<br>OR chronic overflow of tears, epiphora<br>AND history of chronic conjunctivitis<br>OR history of chronic nasal infections<br>OR history of nasal trauma or surgery<br>AND reflux of material from lacrimal puncta | DX 37556, 74365;                                   |
| 1.02  | Acute dacryocystitis                   | Infection of lacrimal sac [Gram stain report or culture reports growth of pathologic organism(s)]<br>OR redness around lacrimal sac<br>AND edema around lacrimal sac<br>AND pain or tenderness around sac<br>AND reflux of material from lacrimal puncta         | DX 37530, 37532-37533;                             |
| 1.03  | Chronic or recurrent dacryocystitis    | History of previous dacryocystitis<br>AND redness around lacrimal sac<br>AND edema around lacrimal sac<br>AND reflux of material from lacrimal puncta  | DX 37542-37543;                                    |
| 1.04  | Canaliculitis                          | Infection of canalicular system [Gram stain report]<br>OR redness of canaliculus<br>AND pain/tenderness around canaliculus<br>AND reflux of material from lacrimal puncta  | DX 37531, 37541;                                   |
| 2.01  | with cellulitis of the face            | Stage 1.02-1.03<br>AND cellulitis of the face<br>OR area of redness, induration, tenderness and heat with indistinct borders   | STAGE 1.01-1.04 + (DX 37313, 6820);                |
| 3.01  | with cellulitis of the face and sepsis | Stage 2.01<br>AND <b>sepsis:</b>   | STAGE 1.01-2.01 + GROUP SEPSIS;                    |
| 3.02  | with shock                             | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                             | Stage 2.1-3.2<br>AND death   | NO;  |

## References:

McCord Jr CD. The lacrimal drainage system. In: Duane TD, ed. Clinical Ophthalmology. Revised ed., Philadelphia, PA: JB Lippincott Co.; 1988:(4)13:6,14-15.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE07

MultiStage: No

DXCat Label: Detachment of the Retina

Specificity: A

Etiology: Degenerative; Trauma

| Stage | Description                                       | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Posterior vitreous detachment (PVD)               | Posterior vitreous detachment [indirect ophthalmoscopy report]  | DX 36106, 36189-3619, 37921;   |
| 1.02  | Posterior vitreous detachment and breaks          | Stage 1.01<br>AND retinal breaks [indirect ophthalmoscopy report]<br>OR retinal tears [indirect ophthalmoscopy report]<br>OR round holes [indirect ophthalmoscopy report]<br>OR senile retinoschisis [indirect ophthalmoscopy report]<br>OR dialysis [indirect ophthalmoscopy report]<br>OR vitreous hemorrhage [indirect ophthalmoscopy report]<br>AND pigmentation cells in vitreous [indirect ophthalmoscopy report] | DX 36100-36105, 36107, 36110-36112, 3612, 36130-36133;   |
| 1.03  | Retinal detachment with subretinal fluid          | Stage 1.01-1.02<br>AND subretinal fluid [ophthalmoscopy report]   | NO;  |
| 2.01  | Retinal detachment with proliferative retinopathy | Stage 1.01-1.03<br>AND preretinal fibrous scar tissue [indirect ophthalmoscopy report]<br>OR subretinal fibrous scar tissue [indirect ophthalmoscopy report]report]   | STAGE 1.01-1.02 + DX 36229;  |
| 2.02  | Retinal detachment with phthisis bulbi            | Stage 1.01-2.01<br>AND no light perception<br>AND globe shrunken  | STAGE 1.01-2.01 + (DX 33811, 33821, 36040, 36041, 36901, 36903, 36906, 36907, 36912, 36916, 3694, 36962, 36963); |
| 2.03  | PVD and macular hole                              | Stage 1.01<br>AND macular hole [ophthalmoscopy report]report]   | STAGE 1.01-2.02 + DX 36254;  |

### References:

Benson, W. Retinal detachment: diagnosis and management. Hagerstown, MD: Harper and Row; 1988.

The Retina Society Terminology Committee. The classification of retinal detachment with proliferative vitreoretinopathy. Ophthalmology. 1983;(90)121-125.

Vander, JF. In: Clinical Decisions in Medical Retinal Disease. Tasman, W, ed. St. Louis: Mosby, 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE08

MultiStage: No

DXCat Label: Ectropion or Entropion (Abnormal Lower Lid Position)

Specificity: A

Etiology: Degenerative; Trauma

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Looseness of lower lid with tearing or foreign body sensation, or entropion or ectropion           | Intermittent or constant ectropion of lower lid<br>AND lid laxity<br>OR tearing (epiphora)<br>OR cicatricial changes of skin<br>OR cranial nerve VII palsy<br>OR Intermittent or constant entropion of lower lid<br>AND lid laxity<br>AND over-riding preseptal orbicularis<br>AND superficial punctate keratitis (with fluorescein staining of cornea) | DX 37400, 37410-37414;   |
| 2.01  | with corneal vascularization, ulcer, ocular pemphigoid, or keratinization of palpebral conjunctiva | Ectropion<br>AND corneal vascularization<br>OR corneal ulcer<br>OR keratinization of palpebral conjunctiva<br>OR Entropion<br>AND corneal ulcer<br>OR corneal vascularization<br>OR severe cicatricial conjunctival changes consistent with ocular pemphigoid or pseudopemphigoid   | STAGE 1.01 + (DX 33811, 33821, 37000-37007, 37060-37064, 69461, 7011, 7028); |

### References:

Dortzback RK, McGetrick JJ. Industrial entropion of the lower eyelid. Adv. Ophthal. Plastic Reconstructive Surgery. 1983;2:257.

Doxanas MT. Eyelid abnormalities: ectropion, entropion. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raving; 1998:Vol. 5(73).

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE09

DXCat Label: Endophthalmitis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 2.01  | Endophthalmitis  | Conjunctival injection<br>AND anterior chamber reaction [slit lamp or ophthalmoscopy report]<br>AND vitreous reaction [slit lamp or ophthalmoscopy report]<br>AND vitreous infection [culture reports growth of pathologic organism(s)] | DX 36000-36019;  |
| 2.02  | with vision loss   | Stage 2.01<br>AND visual acuity $\leq$ 20/70<br>AND hazy retinal details  | STAGE 2.01 + (DX 36920, 36923-3693, 36970-3699);                                 |
| 2.03  | with marked vision loss  | Stage 2.01-2.02<br>AND vision $\leq$ 20/400<br>AND dense vitreous opacifications<br>OR diffuse conjunctival injection<br>AND corneal edema<br>AND hypopyon  | STAGE 2.01-2.02 + (DX 36900-36914, 36916-36918, 36921-36922, 3694, 36960-36969); |
| 2.04  | with retinal detachment or retinal infarction or optic nerve atrophy | Stage 2.01-2.03<br>AND retinal detachment [ophthalmoscopy report]<br>OR retinal infarction [ophthalmoscopy report]<br>OR optic nerve atrophy [ophthalmoscopy report]  | STAGE 2.01-2.03 + (DX 36100-36107, 36181-3619, 36284, 37710-37712, 37715);       |
| 2.05  | with shrunken globe  | Stage 2.01<br>AND shrunken globe  | STAGE 2.01-2.04 + (DX 36040, 36041);   |

### References:

Forster RK. Endophthalmitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1987:(4)24.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE10

MultiStage: No

DXCat Label: Foreign Body: Orbit

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                             |
|-------|--|--|--|
| 1.01  | Corneal or conjunctival or lacrimal punctum foreign body | Corneal foreign body<br>OR conjunctival foreign body<br>OR lacrimal punctum foreign body   | DX 9300-9302;                              |
| 2.01  | Foreign body in the anterior segment                     | Corneal penetration by foreign body<br>OR foreign body in anterior segment [ophthalmoscopy report]<br>OR foreign body in crystalline lens [ophthalmoscopy report]                                  | DX 8715-8716;                              |
| 2.02  | Foreign body in the posterior segment                    | Stage 1.01-2.01<br>AND foreign body in posterior segment [ophthalmoscopy report]   | NO;  |
| 2.03  | Orbital foreign body without ocular injury               | Orbital foreign body [physical examination or CT scan of head]<br>AND vision unchanged from baseline<br>AND pupillary reactions unchanged from baseline  | DX 8704;                                   |
| 2.04  | Orbital foreign body with injury to the optic nerve      | Orbital foreign body [physical examination or CT scan of head]<br>AND motility changed from baseline<br>AND pupillary reactions changed from baseline<br>AND vision markedly reduced from baseline | STAGE 1.01-2.03 + (DX 33811, 33821, 9500); |

### References:

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

Iwamoto MA, Iliff NT. Management of orbital trauma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998, Vol 3.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE11

MultiStage: No

DXCat Label: Fracture: Orbit, Blow-Out

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Blow-out fracture of the orbit with normal ocular alignment and normal motility and normal position | Blow-out fracture of the orbit [skull x-ray report or CT scan of head report]<br>AND with normal ocular alignment<br>AND normal motility<br>AND normal position  | DX 8026-8027;  |
| 2.01  | with enophthalmos   | Blow-out fracture of the orbit [skull x-ray report or CT scan of head report]<br>AND ≥ 2 mm enophthalmos [exophthalmometer report]                               | STAGE 1.01 + (DX 37650, 37652);                          |
| 2.02  | with diplopia in primary gaze or down gaze or heterotropia or gaze restriction                      | Blow-out fracture of the orbit [skull x-ray report or CT scan of head]<br>AND diplopia in primary gaze<br>OR down gaze<br>OR heterotropia<br>OR gaze restriction | STAGE 1.01-2.01 + (DX 36815, 3682, 37820, 37830, 37831); |
| 2.03  | with traumatic optic neuropathy   | Blow-out fracture [CT scan report]<br>AND decreased vision<br>AND afferent pupillary defect (APD)  | STAGE 1.01-2.02 + (DX 33811, 33821, 37732, 37739 );      |
| 2.04  | with retrobulbar hemorrhage   | Blow-out fracture [CT scan report]<br>AND retrobulbar hemorrhage   | STAGE 1.01-2.03 + DXCAT EYE33;                           |

### References:

Dortzbach RK, Elnor VM. Which orbital blowout fractures need surgery? Ophthalmology Plastic Reconstructive Surgery. 1987;(6)287.

Wilkins RB, Havins WE. Current treatment of blow-out fractures. Ophthalmology. 1982;(89)464-466.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE12

DXCat Label: Fungal Infection of the Eye

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Peripheral fungal keratitis                           | Peripheral corneal ulcer<br>AND fungal infection [corneal culture reports growth of fungi(us)]  | DX 37005;  |
| 2.01  | Central fungal keratitis                              | Central corneal ulcer<br>OR hypopyon<br>OR satellite lesions<br>OR immune ring<br>AND fungal infection [corneal culture reports growth of fungi(us)]  | STAGE 1.01 + (DX 37003, 37004, 37114);   |
| 2.02  | Fungal keratitis with glaucoma or corneal perforation | Stage 1.01-2.01<br>AND corneal perforation<br>OR intraocular pressure $\geq$ 21 mmHg tonometry report]  | STAGE 1.01-2.01 + DXCAT EYE13;   |
| 2.03  | End-stage fungal keratitis                            | Stage 1.01-2.02<br>AND vision limited to light perception<br>OR corneal scar<br>OR cataract<br>AND shrunken globe   | STAGE 1.01-2.02 + DXCAT EYE01;<br>STAGE 1.01-2.02 + (DX 36040-36041, 37100);                         |
| 2.04  | Fungal endophthalmitis                                | White retinal infiltrates<br>AND vitreous fungal infection [vitreous culture reports growth of fungi(us)]<br>OR <b>fungemia:</b>  | STAGE 1.01-2.03 + GROUP FUNGEMIA;<br>STAGE 1.01-2.03 + (DX 36000-36001, 36003, 36011, 36013, 36019); |
| 2.05  | Fungal endophthalmitis with retinitis or vitreitis    | Stage 2.04<br>AND corrected vision $\leq$ 20/70<br>OR retinitis [ophthalmoscopy report]<br>OR vitreitis [ophthalmoscopy report]   | STAGE 1.01-2.04 + DX 36320;  |
| 2.06  | Fungal endophthalmitis with vision loss               | Stage 2.04-2.05<br>AND vision < 20/400<br>OR retinal detachment [ophthalmoscopy report]<br>OR retinal infarction [ophthalmoscopy report]<br>OR optic nerve atrophy [ophthalmoscopy report]<br>OR cataract formation [ophthalmoscopy report] | STAGE 1.01-2.05 + DXCAT EYE07;<br>STAGE 1.01-2.05 + (DX 36284, 37710, 37712, 37715, 36901-36999);    |

## References:

Clarkson JG, Green WR. Endogenous fungal endophthalmitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979:(3)11.

Jones DB. Fungal infections. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1976:(4)21.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE13

DXCat Label: Glaucoma

Etiology: Congenital; Genetic (or hereditary); Idiopathic

MultiStage: No

Specificity: A

| Stage | Description            | Diagnostic findings  | ICD-9-CM Codes   |
|-------|------------------------|--|--|
| 1.01  | Ocular hypertension    | Intraocular pressure $\geq$ 21 mmHg [tonometer report]<br>AND visual acuity $\geq$ 20/20   | DX 36500-36504;  |
| 1.02  | Early glaucoma         | Stage 1.01<br>AND cup/disk ratio $\geq$ 0.3<br>OR asymmetric cupping<br>AND arcuate or paracentral scotoma<br>AND visual acuity $\leq$ 20/40   | DX 74320-74322;  |
| 1.03  | Narrow angle glaucoma  | Normal ocular pressure<br>AND narrow angle [gonioscopy report]   | DX 36510-36515, 36531-3659;                            |
| 2.01  | Moderate glaucoma      | Stage 1.01<br>AND cup/disk ratio $\geq$ 0.5<br>AND visual field shows nasal step<br>AND visual acuity $\leq$ 20/40   | STAGE 1.01-1.03 + (DX 36920-36925, 3693, 36960-3699);  |
| 2.02  | Severe glaucoma        | Stage 1.01<br>AND cup/disk ratio $\geq$ 0.8<br>AND visual field limited to central vision<br>AND pale optic nerve head   | NO;  |
| 2.03  | Advanced glaucoma      | Stage 1.01<br>AND cup/disk ratio $\geq$ 0.8 [ophthalmoscopy report]<br>OR central field $\leq$ 20 degrees<br>AND pale optic nerve head [ophthalmoscopy report]<br>AND visual acuity $\leq$ 20/200 in either one or both eyes | STAGE 1.01-2.02 + (DX 36900-36908, 36910-36918, 3694); |
| 2.04  | Angle closure glaucoma | Stage 1.03<br>AND closed angle<br>AND increased IOP $>$ 21 mmHg [tonometer report]<br>AND ocular pain<br>OR nausea<br>OR headache<br>OR visual changes (halos)   | DX 36520-36524;  |

## References:

Hoskins HD, Hetherington J. Developmental glaucomas. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979, Vol. 3.

Migdel C. Primary open angle glaucoma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

Simons RB, Montenegro MH, Simons RJ, Migdel C. Primary angle closure glaucoma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE14

MultiStage: No

DXCat Label: Herpes Virus Ocular Infection

Specificity: A

Etiology: Infection, Viral

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Herpes keratitis or dendritic keratitis                 | Herpes keratitis or dendritic keratitis [corneal culture reports growth of pathologic organism(s) or dendrites by fluorescein stain]  | DX 05449;  |
| 1.02  | with vision loss  | Stage 1.01<br>AND visual acuity $\leq$ 20/70<br>OR ciliary flush [ophthalmoscopy report]  | STAGE 1.01 + (DX 3693, 3698, 3699);  |
| 2.01  | with trophic ulcer                                      | Stage 1.01-1.02<br>AND visual acuity $\leq$ 20/100<br>AND epithelial ulceration<br>OR stromal ulceration<br>OR stromal infiltrate   | STAGE 1.01-1.02 + (DX 36901-36918, 36921-36925, 3694, 36960-36976, 37301);   |
| 2.02  | with stromal keratitis                                  | Stage 1.01-2.01<br>AND corneal necrosis with thinning<br>OR corneal perforation   | STAGE 1.01-2.01 + (DX 37000, 37006, 37140);  |
| 2.03  | with stromal scarring                                   | Stage 1.01-2.02<br>AND stromal scarring [ophthalmoscopy report]   | STAGE 1.01-2.02 + DX 37100;  |
| 2.04  | Acute retinal necrosis syndrome                         | Stage 1.01 - 2.03<br>AND anterior retinal necrosis<br>OR blurred vision<br>AND anterior chamber reaction [ophthalmoscopy report]<br>AND photophobia   | STAGE 1.01-2.03 + (DX 3643, 3688) + DX 36813 + (DX 36403, 36405);  |
| 2.05  | Acute retinal necrosis syndrome with vision loss        | Stage 2.04<br>AND visual acuity $\leq$ 20/70<br>OR vitritis [ophthalmoscopy report]<br>AND patchy white retinal infiltrates [ophthalmoscopy report]<br>OR retinal hemorrhages [ophthalmoscopy report]<br>AND macular edema [ophthalmoscopy report]<br>OR optic disk edema [ophthalmoscopy report] | STAGE 2.04 + DX 36901-36999;<br>STAGE 2.04 + (DX 36229 + (DX 36260-36263, 36265-36266, 36281)) + (DX 36283, 37700, 37703); |
| 2.06  | Acute retinal necrosis syndrome with retinal detachment | Stage 2.04-2.05<br>AND retinal detachment [ophthalmoscopy report]   | STAGE 2.04-2.05 + DXCAT EYE07;   |

### References:

Fisher JP, Lewis ML, Blumenkrantz M, et al. The acute retinal necrosis syndrome. part I: clinical manifestations. *Ophthalmology*. 1982;(89)1309-1316.

O'Day DM, Jones BR. Herpes simplex keratitis. In: Duane TD, Jaeger EA, eds. *Clinical Ophthalmology*. Philadelphia, PA: Harper & Row; 1987:(4)19.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE15

DXCat Label: Hypovitaminosis A

Etiology: Nutritional

MultiStage: No

Specificity: A

| Stage | Description          | Diagnostic findings   | ICD-9-CM Codes                 |
|-------|----------------------|---|--------------------------------|
| 1.01  | Conjunctival xerosis | Conjunctival xerosis<br>OR Bitot's spots on conjunctiva [slit lamp exam report]<br>OR night blindness<br>AND vitamin A level ≤ 10 ug/dl [chemistry report]  | DX 2640-2641, 2645, 2647-2649; |
| 1.02  | Corneal xerosis      | Haziness of inferior cornea<br>OR keratinized corneal plaques [slit lamp exam report]<br>OR white opacities in peripheral retina [ophthalmoscopy report]<br>AND vitamin A level ≤ 10 ug/dl [chemistry report] | DX 2642, 2644, 2646;           |
| 2.01  | Corneal ulceration   | Stage 1.01-1.02<br>AND thinning of cornea [slit lamp examination report]  | DX 2643;                       |

### References:

Bloch RS. Gastrointestinal and nutritional diseases. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1982:(3)30.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE16

MultiStage: No

DXCat Label: Injury or Laceration: Eyelids, Periocular Area, Cornea, or Conjunctiva

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Laceration or superficial injury of the eyelids, periocular area, cornea or conjunctiva | Laceration of the eyelids with separation of the skin [operative/pathology report]<br>OR laceration of the eyelids with separation of the orbicularis oculi muscle [operative/pathology report]<br>OR superficial injury of periocular area, cornea or conjunctiva | DX 8700, 8703, 8708-8709, 9180-9189, 9210-9212, 9219; |
| 1.02  | Full thickness laceration of the eyelids  | Stage 1.01<br>AND laceration of the tarsus [operative/pathology report]<br>AND laceration of the conjunctiva [operative/pathology report]  | DX 8701;  |
| 2.01  | Laceration of the eyelids with involvement of lacrimal canaliculi                       | Stage 1.01-1.02<br>AND laceration of the lacrimal canaliculi [operative/pathology report]  | DX 8702;  |
| 2.02  | Laceration of the eyelids with loss of tissue   | Stage 1.01-2.01<br>AND loss of lacerated tissue [operative/pathology report]   | NO;   |

### References:

Wilkins RB, Havins WE. Current treatment of blow-out fractures. *Ophthalmology*. 1982;(89)464-466.

Wulc AE, Arterberry, JF. The pathogenesis of canalicular lacerations. *Ophthalmology*. 1991;98;1243.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE17

MultiStage: No

DXCat Label: Injury: Eyes, Nonionizing Radiation

Specificity: A

Etiology: Trauma

| Stage | Description                      | Diagnostic findings   | ICD-9-CM Codes |
|-------|----------------------------------|---|----------------|
| 1.01  | Ultraviolet keratoconjunctivitis | History of sun exposure<br>OR history of ultraviolet light exposure<br>AND conjunctival injection<br>OR reduced vision from baseline develops $\leq$ 1 day<br>AND corneal punctate keratitis  | DX 37024;      |
| 1.02  | Solar retinopathy                | History of sun exposure<br>OR history of ultraviolet light exposure<br>OR history of exposure to intense welder's arc light<br>AND reduced vision from baseline develops $\leq$ 1 month<br>AND yellow discoloration in center of fovea [direct ophthalmoscopy report] | DX 36331;      |

### References:

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE18

DXCat Label: Injury: Eyes, Radiation

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                | Diagnostic findings  | ICD-9-CM Codes  |
|-------|----------------------------|--|---|
| 1.01  | Radiation keratitis        | History of ocular radiation exposure<br>AND reduced tear film<br>OR rose-bengal staining [slit lamp report]  | (DX 37020-37024, 37050-37059, 3708-3709) + (DX E9260-E9261, E9263-E9269); |
| 2.01  | Radiation cataracts        | History of radiation exposure<br>AND posterior subcapsular cataract develops $\geq$ 1 month post-exposure [slit lamp or direct ophthalmoscopy report]  | DX 36646;   |
| 2.02  | Radiation retinopathy      | History of radiation exposure<br>AND retinal hemorrhages develop $\geq$ 1 month post-exposure [direct ophthalmoscopy report]<br>OR cotton wool spots develop $\geq$ 1 month post-exposure [direct ophthalmoscopy report]<br>OR microaneurysms develop $\geq$ 1 month post-exposure [direct ophthalmoscopy report]<br>OR exudates develop $\geq$ 1 month post-exposure [direct ophthalmoscopy report]<br>OR retinal neovascularization [direct ophthalmoscopy report] | STAGE 1.01-2.01 + (DX 36210-36218, 36229);                                |
| 2.03  | Radiation optic neuropathy | History of radiation exposure<br>AND optic disk edema develops $\geq$ 1 month post-exposure [direct ophthalmoscopy report]<br>OR optic disk pallor develops $\geq$ 1 month post-exposure [direct ophthalmoscopy report]  | STAGE 1.01-2.02 + (DX 33811, 33821, 37700-37703, 37715, 37734, 37739);    |

### References:

Augsburger JJ. Radiation neuropathy. In: Clinical Decisions in Medical Retinal Disease. Tasman, W, ed. St. Louis, MO: Mosby; 1994.

Brown GC, Shields JA, Sanborn G, et al. Radiation optic neuropathy. Ophthalmology. 1982;(89)1489-1493.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE19

MultiStage: No

DXCat Label: Keratitis, Acanthamoeba

Specificity: A

Etiology: Infection

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Acanthamoeba keratitis                                      | History of ocular trauma<br>OR history of contact lens wear<br>AND dendriform epithelial lesions [slit lamp report]<br>OR Acanthamoeba keratitis [calcufluor white stain or culture report] | DX 3708 + NOT (DX E9260-E9261, E9263-E9269);                                      |
| 2.01  | with reduced vision   | Stage 1.01<br>AND corrected vision $\leq$ 20/70<br>OR central infiltrate [ophthalmoscopy report]<br>OR ring infiltrate [ophthalmoscopy report]<br>AND conjunctival chemosis                 | STAGE 1.01 + (DX 36920, 36923-36925, 3693, 36970-3699, 37120, 37173);             |
| 2.02  | with corneal thinning or corneal perforation or visual loss | Stage 1.01-2.01<br>AND vision $\leq$ 20/200<br>OR corneal thinning<br>OR corneal perforation  | STAGE 1.01-2.01 + (DX 36901-36918, 36921-36922, 3694, 36960-36969, 37000, 37006); |

### References:

Moore MD, McCulley JP. Acanthamoeba keratitis: a growing problem in soft and hard contact lens wearers. Ophthalmology. 1987;(94)1654-1661.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE20

DXCat Label: Keratitis, Adenovirus

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                    | Diagnostic findings   | ICD-9-CM Codes                              |
|-------|--------------------------------|---|---|
| 1.01  | Adenovirus keratitis           | Epidemic keratoconjunctivitis<br>OR adenovirus keratitis [corneal culture reports growth of pathologic organism(s)] | DX 0771;                                    |
| 1.02  | with vision loss               | Stage 1.01<br>AND visual acuity $\leq$ 20/70<br>OR conjunctival edema<br>OR eyelid edema                            | STAGE 1.01 + (DX 36901-36918, 36921-36999); |
| 2.01  | with subepithelial infiltrates | Stage 1.02<br>AND subepithelial infiltrates [slit lamp exam report]   | STAGE 1.01-1.02 + DX 37120;                 |

### References:

Dawson CR. Follicular conjunctivitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1986:(4)7.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE21

DXCat Label: Keratitis, Bacterial

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                                       | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Bacterial keratitis                               | Bacterial keratitis [corneal culture reports growth of pathologic organism(s) or Gram stain shows organism(s)]<br>OR conjunctival injection [slit lamp report]<br>AND epithelial infiltrate<br>OR corneal ulcer | (DX 37020, 3709) + NOT (DX E9260-E9261, E9263-E9269);   |
| 2.01  | Bacterial keratitis with intraocular inflammation | Stage 1.01<br>AND visual acuity $\leq$ 20/70<br>OR corneal stroma involvement<br>OR corneal thinning [slit lamp report]<br>OR hypopyon  | DX 37050-37059 + NOT (DX E9260-E9261, E9263-E9269);<br>STAGE 1.01 + (DX 36920, 36923, 36925, 3693-3694, 36970, 36974-3699, 37004-37005) ; |
| 2.02  | Bacterial keratitis with vision loss              | Stage 1.01-2.01<br>AND visual acuity $\leq$ 20/400<br>OR corneal perforation [slit lamp report]<br>OR scleritis [slit lamp report]<br>OR corneal scar [slit lamp report]  | STAGE 1.01-2.01 + (DX 36911, 36921, 36924, 36971-36973, 37000-37003, 37006, 37900-37904, 37906-37909);                                    |
| 2.03  | Bacterial keratitis with endophthalmitis          | Stage 1.01-2.02<br>AND visual acuity $\leq$ 5/200<br>OR corneal opacification<br>OR vitritis [slit lamp or echography report]<br>OR hypopyon  | STAGE 1.01-2.02 + (DX 36000-36001, 36019, 36900-36908, 36912-36918, 3694, 36960-36969);   |
| 2.04  | Phthisis bulbi or degenerate globe                | Stage 1.01-2.03<br>AND no light perception<br>AND shrunken globe  | STAGE 1.01-2.03 + (DX 36040-36041);   |

### References:

Krohel GB, Krauss HR, Winnick J. Orbital abscess, presentation, diagnosis, therapy, and equalae. Ophthalmology. 1982;(89)492-498.

Watters EC, Wallar PH, Hiles DA, Michaels RH. Acute orbital cellulitis. Arch Ophthalmology. 1976;(94)785-788.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE22

MultiStage: No

DXCat Label: Laceration: Cornea

Specificity: A

Etiology: Trauma

| Stage | Description                                       | Diagnostic findings   | ICD-9-CM Codes             |
|-------|---|---|----------------------------|
| 1.01  | Superficial laceration of cornea or conjunctiva   | History of trauma<br>AND laceration of cornea or conjunctiva without globe penetration            | DX 8710, 8714, 8717, 8719; |
| 2.01  | Full thickness corneal, and/or scleral laceration | Stage 1.01<br>AND penetrating injury history<br>AND shallow anterior chamber<br>OR uveal prolapse | NO;                        |

### References:

Brackup AB, Carter KD, et al. Long term follow-up of severely injured eyes following globe rupture. Ophthalmology Plastic and Reconstructive Surgery. 1991;(7)194.

Cullom Jr RD, Chang B. The Wills Eye Manual. Philadelphia, PA: J.B. Lippincott Co.; 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE23

MultiStage: No

DXCat Label: Macular Degeneration

Specificity: A

Etiology: Degenerative

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Macular degeneration with drusen                     | Visual acuity $\geq$ 20/50<br>AND drusen [ophthalmoscopy report]   | DX 36250, 36255-36257;  |
| 1.02  | with pigment epithelial atrophy                      | Visual acuity $\geq$ 20/50<br>AND pigment epithelial atrophy [ophthalmoscopy report]   | NO;   |
| 2.01  | with serous detachment of retinal pigment epithelium | Visual acuity $\leq$ 20/50<br>AND subretinal fluid or hemorrhage or exudate [ophthalmoscopy report]<br>AND neovascularization [fluorescein angiography report] | STAGE 1.01 + (DX 3612, 36216, 36281, 36282);<br>DX 36251-36254; |
| 2.02  | with fibrotic subretinal or disciform scar           | Visual acuity $\leq$ 10/200<br>AND white subretinal scar [ophthalmoscopy report]   | STAGE 1.01-2.01 + (DX 36330-36335);                             |
| 2.03  | with vitreous or suprachoroidal hemorrhage           | Visual acuity $\leq$ 5/200<br>AND diffuse hemorrhage obscuring fundus [ophthalmoscopy report]  | STAGE 1.01-2.02 + DX 37923;                                     |

### References:

Maguire JI, Annesly, Jr WH. Age related macular degeneration. In: Clinical Decisions in Medical Retinal Disease. Tasman, W, ed. St. Louis, MO: Mosby; 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE24

MultiStage: No

DXCat Label: Neoplasm, Benign: Pterygium

Specificity: A

Etiology: Neoplasm

| Stage | Description        | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--------------------|--|-----------------|
| 1.01  | Limbal mass        | Flat mass in the horizontal meridian<br>AND with no active borders<br>AND no staining of the cornea  | DX 37992;       |
| 1.02  | Inactive pterygium | Flat mass in the horizontal meridian with borders on the corneal limbus onto the superficial cornea<br>AND with no active borders<br>AND no staining of the cornea | DX 37240-37241; |
| 1.03  | Active pterygium   | Flat mass in the horizontal meridian with borders on the corneal limbus onto the superficial cornea<br>AND active borders<br>AND staining of the cornea            | DX 37242;       |
| 1.04  | Advanced pterygium | Flat mass in the horizontal meridian with borders grown past the apex of the cornea<br>AND active borders<br>AND staining of the cornea                            | DX 37243-37245; |

### References:

Grayson M. Degenerations, dystrophies and edema of the cornea. In: Duane TD, ed. Clinical Ophthalmology. Hagerstown, MD: Harper & Row, 1979.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE25

DXCat Label: Neoplasm, Malignant: Ocular Melanoma

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                                     | Diagnostic findings  | ICD-9-CM Codes                            |
|-------|---|--|---|
| 0.00  | History of ocular melanoma                      |  | DX V1084;                                 |
| 1.01  | Choroidal nevus                                 | Choroidal nevus [ophthalmoscopy report]<br>OR ciliary body nevus [ophthalmoscopy report]<br>AND minimal elevation of mass [ophthalmoscopy report]  | DX 2240;                                  |
| 2.01  | Ocular melanoma confined to uvea                | Elevated choroid mass with growth over $\geq 1$ month [ophthalmoscopy report]<br>OR elevated ciliary body mass with growth over $\geq 1$ month [ophthalmoscopy report]<br>OR serous retinal detachment<br>AND low internal reflectivity [A-scan echography report] | DX 1900;                                  |
| 2.02  | Choroidal melanoma penetrating Bruch's membrane | Choroidal melanoma penetrating Bruch's membrane [ophthalmoscopy report or echography report]   | DX 1906;                                  |
| 2.03  | with periocular extension                       | Stage 2.01-2.02<br>AND extrascleral spread confined to orbit [echography or operative/pathology report or CT scan report]<br>OR proptosis  | STAGE 0.00-2.02 + (DX 1901, 3383);        |
| 3.01  | with metastasis                                 | Stage 2.01-2.03<br>OR history of ocular melanoma<br>AND liver metastasis [CT scan report] or biopsy report<br>OR brain metastasis [CT scan report] or MRI report<br>OR lung metastasis [CT scan report] or MRI report]   | (STAGE 0.00, 2.01-2.03) + (DX 1960-1991); |
| 3.02  | with shock                                      | Stage 3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + GROUP SHOCKN;           |
| 4.00  | with death                                      | Stage 3.01-3.02<br>AND death   | NO;                                       |

### References:

Shields JA. Tumors of the uveal tract. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1981:(4)67.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Retinoblastoma

Specificity: A

Etiology: Neoplasm

| Stage | Description                                      | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | History of retinoblastoma                        |  | NO;   |
| 1.01  | Retinoblastoma                                   | Retinal tumor with telangiectatic vessels [ophthalmoscopy report]<br>AND retinal calcifications [CT scan of orbit report]<br>OR retinoblastoma [operative/pathology report]  | DX 1905;  |
| 2.01  | Retinoblastoma with reduced vision               | Stage 1.01<br>AND vision $\leq$ 20/70<br>OR vitreous seeding [ophthalmoscopy report]<br>OR vitreous hemorrhage [ophthalmoscopy report]<br>OR intraocular pressure $\geq$ 21 mmHg [tonometer report]<br>OR retinal detachment [ophthalmoscopy report] | STAGE 1.01 + DXCAT EYE07;<br>STAGE 1.01 + (DX 36901-36918,<br>36921-3699, 37923); |
| 2.02  | Retinoblastoma with extension to the optic nerve | Stage 1.01-2.01<br>AND retinoblastoma of the optic nerve [operative/pathology report]  | STAGE 1.01-2.01 + DX 3383;  |
| 3.01  | Retinoblastoma with metastasis                   | Stage 1.01-2.02<br>AND meningeal tumor [CT scan report or operative/pathology report]<br>OR brain metastasis [CT scan report]<br>OR lymph node retinoblastoma [operative/pathology report]   | STAGE 1.01-2.01 + (DX 1960-1991);   |
| 3.02  | with shock                                       | Stage 3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                |
| 4.00  | with death                                       | Stage 3.01-3.02<br>AND death   | NO;   |

### References:

Ellsworth RM. Retinoblastoma. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979:(3)35.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE27

MultiStage: No

DXCat Label: Neoplasm: Eyelid

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                               |
|-------|---|---|--|
| 0.00  | History of Basal Cell Carcinoma or Squamous Cell Carcinoma of lids                          |   | NO;  |
| 1.01  | In-situ Basal Cell Carcinoma or Sebaceous Adenocarcinoma or Squamous Cell Carcinoma of lids | Basal cell carcinoma or squamous cell carcinoma limited to skin of lids [operative/pathology report]<br>OR<br>sebaceous adenocarcinoma limited to conjunctiva of lids or globe without spread as found on map biopsy [operative/pathology report] | DX 1731, 2321;                               |
| 2.01  | with involvement of lacrimal system   | Stage 1.01<br>AND involvement of the lacrimal system [operative/pathology report]   | DX 1902;                                     |
| 2.02  | with involvement of orbit   | Stage 2.01<br>AND extension into orbital fat [operative/pathology report]<br>OR extension into extraocular muscles [operative/pathology report]<br>OR diplopia  | DX 1901;                                     |
| 2.03  | with blepharoconjunctivitis   | Stage 2.01-2.02<br>AND widespread involvement of lid and globe conjunctiva [operative/pathology report]   | STAGE 1.01-2.02 + (DX 3383, 37220-37222);    |
| 3.01  | with brain invasion or sinus invasion   | Stage 2.01-2.03<br>AND Extension into brain or sinus [CT or MRI report]   | STAGE 1.01-2.03 + DX 1983;                   |
| 3.02  | Malignant tumor with distant metastasis   | Stage 2.01-3.01<br>AND metastasis to lymph nodes [operative/pathology report]<br>OR metastasis to distant site  | STAGE 1.01-3.01 + (DX 1960-1982, 1984-1991); |
| 4.00  | Death   | Stage 3.01-3.02<br>AND death  | NO;  |

### References:

Crawford JB. Neoplastic and inflammatory tumors of the eyelids. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raving; 1998:Vol 5(73).

Kersten RC, Ewing-Chow D. Accuracy of clinical diagnosis of cutaneous eyelid tumors. Ophthalmology. 1997;104:479.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE28

DXCat Label: Ocular Onchocerciasis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings   | ICD-9-CM Codes                             |
|-------|--|---|--|
| 1.01  | Ocular onchocerciasis                        | Microfilariae in anterior chamber [slit lamp report]<br>AND skin-snip test shows onchocerciasis [operative/pathology report]                                      | DX 1253 + DX 36013;                        |
| 1.02  | with punctate keratitis                      | Stage 1.01<br>AND punctate white corneal opacities [slit lamp report]   | DX 1253 + DX 37021;                        |
| 2.01  | with keratitis or uveitis or chorioretinitis | Stage 1.01-1.02<br>AND sclerosing keratitis [ ophthalmoscopy report]<br>OR anterior uveitis [ophthalmoscopy report]<br>OR chorioretinitis [ophthalmoscopy report] | DX 1253 + (DX 36320, 36403, 37054);        |
| 2.02  | with retinal epithelial pigment atrophy      | Stage 1.01-2.01<br>AND retinal pigment epithelial atrophy [ophthalmoscopy report]<br>OR optic nerve atrophy [ophthalmoscopy report]                               | DX 1253 + (DX 36260, 37710, 37712, 37713); |

### References:

Taylor HR. Onchocerciasis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1984:(5)62.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE29

DXCat Label: Orbital Infection

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.01  | Preseptal cellulitis or chalazion or blepharitis or hordeolum | Lid area of cellulitis<br>OR chalazion<br>OR blepharitis<br>OR hordeolum   | DX 37300-3732, 37610-37613, 37630-37631, 37633;    |
| 1.02  | Advanced preseptal cellulitis                                 | Stage 1.01<br>AND <b>fever:</b><br>OR <b>leukocytosis:</b>   | STAGE 1.01 + (GROUP FEVER OR GROUP LEUKOCYTOSIS) ; |
| 2.01  | Orbital cellulitis  | Orbital cellulitis<br>AND proptosis<br>AND reduced ocular motility<br>AND sinusitis  | DX 37600-37601, 37604;                             |
| 2.02  | Orbital cellulitis with subperiosteal abscess                 | Stage 2.01<br>AND subperiosteal abscess [CT scan of head report]<br>OR abscess [culture reports growth of pathologic organism(s)]<br>AND sinusitis | DX 37602;<br>STAGE 2.01 + (DX 4739, 73008);        |
| 2.03  | Orbital cellulitis with orbital abscess                       | Stage 2.01-2.02<br>AND orbital abscess [CT scan of head report or ultrasound of orbit report or MRI of head report]                                | DX 37603;  |
| 3.01  | Orbital cellulitis with meningitis                            | Stage 2.01-2.03<br>AND <b>meningitis:</b>  | STAGE 1.01-2.02 + DXCAT NEU13;                     |
| 3.02  | Orbital cellulitis with sepsis                                | Stage 1.02-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | Orbital cellulitis with coma                                  | Stage 1.02-3.02<br>AND <b>coma:</b>  | STAGE 1.01-3.02 + (GROUP COMA);                    |
| 3.04  | Orbital cellulitis with shock                                 | Stage 2.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Orbital cellulitis with death                                 | Stage 2.01-3.04<br>AND death   | NO;  |

## References:

Krohle GB, Krauss HR, Winnick J. Orbital abscess, presentation, diagnosis, therapy, and equalae. Ophthalmology. 1982;(89)492-498.

Watters EC, Wallar PH, Hiles DA, Michaels RH. Acute orbital cellulitis. Arch Ophthalmology. 1976;(94)785-788.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE30

DXCat Label: Orbital Mucormycosis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                | Diagnostic findings  | ICD-9-CM Codes |
|-------|----------------------------|--|----------------|
| 1.01  | Orbital mucormycosis       | Orbital mucormycosis [biopsy report]<br>AND change in vision ≤ 24 hrs.<br>AND facial pain<br>OR ocular pain<br>OR lid edema<br>AND corneal hypesthesia<br>OR proptosis<br>OR internal ophthalmoplegia<br>OR external ophthalmoplegia<br>AND sinus opacification [orbital x-ray report] | NO;            |
| 2.01  | with loss of vision        | Stage 1.01<br>AND visual acuity ≤ 20/70  | NO;            |
| 2.02  | with apex syndrome         | Stage 2.01<br>AND proptosis<br>AND sinus opacification [orbital x-ray report]  | NO;            |
| 3.01  | with cerebral mucormycosis | Stage 2.02<br>AND cerebral mucormycosis [MRI or CT scan brain ]<br>OR <b>disorientation:</b>   | NO;            |
| 3.02  | with coma                  | Stage 3.01<br>AND <b>coma:</b>   | NO;            |
| 3.03  | with shock                 | Stage 3.01-3.02<br>AND <b>shock:</b>   | NO;            |
| 4.00  | with death                 | Stage 3.01<br>AND death  | NO;            |

### References:

Fisher JP, Lewis ML, Blumenkrantz M, et al. The acute retinal necrosis syndrome. part I: clinical manifestations. *Ophthalmology*. 1982;(89)1309-1316.

O'Day DM, Jones BR. Herpes simplex keratitis. In: Duane TD, Jaeger EA, eds. *Clinical Ophthalmology*. Philadelphia, PA: Harper & Row; 1987:(4)19.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE31

DXCat Label: Prematurity: Retinopathy

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                  |
|-------|---|--|---|
| 1.01  | Demarcation line separating vascular from avascular retina              | Demarcation line separating vascular from avascular retina [indirect ophthalmoscopy report]<br>OR<br>Stage I retinopathy of prematurity  | DX 36221, 36274;                                |
| 1.02  | Elevated retinal ridge  | Elevated retinal ridge [indirect ophthalmoscopy report]<br>OR<br>Stage II retinopathy of prematurity   | NO;   |
| 2.01  | Retinal ridge with extraretinal fibrovascular proliferation             | Stage 1.02<br>AND<br>retinal ridge with extraretinal fibrovascular proliferation [indirect ophthalmoscopy report]  | NO;   |
| 2.02  | Subtotal traction detachment of retinopathy of prematurity              | Stage 1.01-2.01<br>AND<br>subtotal traction retinal detachment [indirect ophthalmoscopy report]  | DX 36181;                                       |
| 2.03  | Total traction detachment of retinopathy of prematurity                 | Stage 1.01-2.01<br>AND<br>total traction retinal detachment [indirect ophthalmoscopy report]   | NO;   |
| 2.04  | Retinopathy of prematurity with total blindness or cataract or glaucoma | Stage 1.01-2.02<br>AND<br>vision limited to light perception<br>OR<br>cataract [slit lamp report or operative/pathology report]<br>OR<br>intraocular pressure $\geq$ 21 mmHg tonometer report] | STAGE 1.01-2.02 + (DXCAT EYE01 OR DXCAT EYE13); |

### References:

Committee for the Classification of Retinopathy of Prematurity. An international classification of retinopathy of prematurity, Arch Ophthalmology. 1984; 102:1130-1134.

International Committee for the Classification of the Late Stages of Retinopathy of Prematurity, II. The classification of retinal detachment. Arch Ophthalmology. 1987;105:906-912.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE32

MultiStage: No

DXCat Label: Ptosis of Upper Lid

Specificity: A

Etiology: Congenital; Degenerative; Trauma

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Ptosis of upper lid, acquired  | Unilateral or bilateral drooping of upper lid   | DX 37430-37433;  |
| 1.02  | Ptosis of upper lid, congenital  | Stage 1.01<br>AND decreased function of levator palpebrae muscle<br>AND congenital  | DX 74361;  |
| 1.03  | Ptosis of upper lid, acquired with systemic disease                      | Stage 1.01<br>AND history of Myasthenia gravis<br>OR muscular dystrophy   | STAGE 1.01 + (DXCAT MUS32 OR DXCAT NEU17);                 |
| 2.01  | Ptosis of upper lid with visual field defect                             | Stages 1.01-1.03<br>AND decreased superior visual field to less than 30 degrees vertically [automated visual field testing] | STAGE 1.01-1.03 + (DX 36840, 36843, 36844, 36846 , 36847); |
| 2.02  | Ptosis of upper lid, congenital with amblyopia or abnormal head position | Stage 1.02<br>AND decreased visual function due to occlusion<br>OR elevated chin position                                   | STAGE 1.02 + DX 36800;                                     |

### References:

Cliff WJ, Pacheco EM. Ptosis sSurgery. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

McCulloch DL, Wright KW. Unilateral congenital ptosis: compensatory head posturing and amblyopia. Ophthalm Plast and Reconstr Surg. 1996;9:196.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE33

DXCat Label: Retrobulbar Orbital Hemorrhage

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                                     | Diagnostic findings  | ICD-9-CM Codes                              |
|-------|---|--|---|
| 1.01  | Orbital hemorrhage                              | Orbital hemorrhage<br>AND normal motility<br>AND normal pupillary reactions<br>AND intraocular pressure unchanged from baseline<br>OR intraocular pressure $\leq$ 21 mmHg [tonometer report]<br>AND $\leq$ 2 mm proptosis [exophthalmometer report]  | DX 37632;                                   |
| 2.01  | with proptosis                                  | Stage 1.01<br>AND $\geq$ 2 mm proptosis [exophthalmometer report]  | STAGE 1.01 + DX 37630;                      |
| 2.02  | Orbital hemorrhage with optic nerve compression | Orbital hemorrhage<br>AND vision changed from baseline<br>OR limitation of ocular motility<br>OR intraocular pressure changed from baseline<br>OR intraocular pressure $\geq$ 21 mmHg [per tonometer report]report<br>OR $\geq$ 2 mm proptosis [per exophthalmometer report]report<br>OR afferent pupillary defect | STAGE 1.01-2.01 + (DX 33811, 33821, 37749); |
| 2.03  | Blindness                                       | <b>Blindness:</b>  | STAGE 1.01-2.03 + GROUP BLINDNESS;          |

### References:

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE34  
 DXCat Label: Strabismus  
 Etiology: Congenital

MultiStage: No  
 Specificity: A

| Stage | Description                 | Diagnostic findings  | ICD-9-CM Codes                              |
|-------|-----------------------------|--|---|
| 1.01  | Phoria or latent strabismus | Absence of double vision<br>AND convergent deviation from orthotropia of both eyes, esophoria<br>OR divergent deviation from orthotropia of both eyes, exophoria<br>OR high vertical divergence deviation from orthotropia of both eyes, hyperphoria<br>OR low vertical divergence deviation from orthotropia of both eyes, hypophoria | DX 37840-37845;                             |
| 1.02  | Periodic strabismus         | Periodic double vision<br>AND intermittent horizontal or vertical deviation from orthotropia   | DX 37820-37824;                             |
| 1.03  | Strabismus                  | Convergent deviation from orthotropia of both eyes, esotropia<br>OR divergent deviation from orthotropia of both eyes, exotropia<br>OR high vertical divergence deviation from orthotropia of both eyes, hypertropia<br>OR low vertical divergence deviation from orthotropia of both eyes, hypotropia                                 | DX 37800-37818, 37830-37835,<br>37850-3789; |
| 2.01  | Amblyopia                   | Stage 1.03<br>AND dimness of vision<br>OR amblyopia  | DX 36800-36803;                             |

### References:

Parks MM. Eye movements and positions. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE35

DXCat Label: Trachoma

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 0.00  | Screening exam for trachoma                                     |  | DX V736;  |
| 1.01  | Trachoma with immature tarsal conjunctiva follicles             | Immature follicles on upper tarsal conjunctiva without scarring<br>OR diffuse punctate keratitis<br>OR corneal neovascularization<br>AND Chlamydia trachomatis conjunctivitis [conjunctiva culture reports serotype A,B,Ba or C]<br>OR granular cytoplasmic inclusion bodies [Giemsa stain epithelial conjunctival scraping report]<br>OR MacCallan Stage I trachoma | DX 0760, 0769;  |
| 1.02  | with mature tarsal conjunctiva follicles                        | Mature follicles on upper tarsal conjunctiva without scarring<br>AND Chlamydia trachomatis conjunctivitis [conjunctiva culture report]<br>OR granular cytoplasmic inclusion bodies [Giemsa stain epithelial conjunctival scraping report]<br>OR MacCallan Stage IIa trachoma   | DX 0761;  |
| 1.03  | with papillary hypertrophy                                      | Stage 1.01-1.02<br>AND papillary hypertrophy<br>OR MacCallan Stage IIb trachoma  | STAGE 1.01-1.02 + DX 37430;   |
| 2.01  | with tarsal conjunctival scarring                               | Stage 1.01-1.03<br>AND tarsal conjunctival scarring<br>OR Herbert's pits<br>OR MacCallan Stage III trachoma with follicles - superior scarring<br>OR MacCallan Stage IV trachoma without follicles - extensive scarring  | STAGE 1.01-1.03 + DX 37264;   |
| 2.02  | with reduced vision or corneal scars or trichiasis or entropion | Stage 1.01-2.01<br>AND vision $\leq$ 20/200<br>OR corneal scars<br>OR trichiasis<br>OR entropion   | STAGE 1.01-2.01 + (DX 36900-36918, 36921-36922, 3693-36969, 36970-36973, 37100-37104, 37400-37405);<br>DX 1391; |

### References:

Dawson CR. Follicular conjunctivitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979:(4)9.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE80

MultiStage: No

DXCat Label: Neoplasm, Benign: Eye

Specificity: A

Etiology: Neoplasm

| Stage | Description                       | Diagnostic findings | ICD-9-CM Codes       |
|-------|-----------------------------------|---------------------|----------------------|
| 1.01  | Benign neoplasm of eye structures |                     | DX 2241-2249, 22803; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Eye and Periocular

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|--|---------------------|--|
| 1.01  | Primary malignant neoplasm of conjunctiva, cornea, lacrimal duct and other eye areas |                     | DX 1903-1904, 1907-1909, 2340;                     |
| 2.01  | with lymph node involvement  |                     | STAGE 1.01 + DX 1960;                              |
| 2.02  | with anemia of neoplastic disease  |                     | STAGE 1.01-2.01 + (DX 28522, 3383);                |
| 3.01  | with distant metastases  |                     | STAGE 1.01-2.02 + DX 1961-1991;                    |
| 3.02  | with shock   |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE82

MultiStage: No

DXCat Label: Other Eye Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|-----------------------|--|
| 0.00  | Eye exam or screening for eye conditions                                   | Added stage 5/8/06 cb | DX V720, V802;   |
| 1.01  | Minor disorder of globe, cysts, foreign body in eye, other visual problems |                       | DX 36050-36069, 36089-3609, 36461-36464, 3649, 3670-3679, 36810-36845, 36851-3689, 3698-37004, 37006-37007, 37021-37023, 37031-37033, 37035, 37044-37049, 37060-37064, 37100-3719, 37205, 37213-37215, 37222, 37231-37233, 37250-3729, 37331-3739, 37401-37405, 37420-37423, 37434-37522, 37551-37555, 37557-3759, 37634-3769, 37721-37724, 37743, 3779, 37940-37991, 37993-37999, 74300-74312, 74341-74359, 74362-74364, 74366-7439, 79411-79414, 9308-9309, V410-V411; |
| 2.01  | Degenerative globe, hypotony, retinal cysts, retinopathy, blindness        |                       | DX 36020-36044, 36081, 36113-36119, 36210, 36212-36218, 36229-36243, 36260-36273, 36275-36330, 36332-36460, 36470-3648, 36846-36847, 36900-36976, 37220-37221, 37700-37716, 37730-37775, 37900-37919, 37922-37939;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN01

MultiStage: No

DXCat Label: Down's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|-------------------------------|--|---|
| 1.01  | Mosaic Down's syndrome        | Genotype: 46/47 with trisomy 21 [cytogenetics report]  | DX 7580;  |
| 1.02  | Down's syndrome               | Trisomy 21 [cytogenetics report]<br>OR<br>mongolism  | NO;   |
| 2.01  | with mental retardation       | Stage 1.01-1.02<br>AND <b>mental retardation:</b>  | STAGE 1.01 + DXCAT NEU15;   |
| 2.02  | with atlantoaxial instability | Stage 1.01-2.01<br>AND with atlantoaxial instability [x-ray report]  | STAGE 1.01-2.01 + DX 7249;  |
| 2.03  | with duodenal atresia         | Stage 1.01-2.02<br>AND duodenal atresia [UGI report]   | STAGE 1.01-2.02 + DX 7511;  |
| 2.04  | with cardiac malformation     | Stage 1.01-2.03<br>AND ventricular septal defect [cardiac catheterization report]<br>OR atrial septal defect [cardiac catheterization report]<br>OR atrioventricular defect [cardiac catheterization report] | STAGE 1.01-2.03 + DX 7453-7459;   |
| 2.05  | with leukemia                 | Stage 1.01-2.04<br>AND leukemia [peripheral smear, or bone marrow aspiration report or bone marrow biopsy]   | STAGE 1.01-2.04 + (DXCAT HEM18 OR DXCAT HEM19 OR DXCAT HEM20 OR DXCAT HEM21); |
| 3.01  | with endocarditis             | Stage 1.01-2.05<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.05 + GROUP ENDOCARDITIS;   |
| 3.02  | with congestive heart failure | Stage 1.01-3.03<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;  |
| 3.03  | with sepsis                   | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;   |
| 3.04  | with shock                    | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                            |
| 4.00  | with death                    | Stage 1.01-3.04<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN01

MultiStage: No

DXCat Label: Down's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN02

MultiStage: No

DXCat Label: Klinefelter's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description                                     | Diagnostic findings  | ICD-9-CM Codes                                  |
|-------|---|--|---|
| 1.01  | Mosaic Klinefelter's syndrome                   | Genotype: 46 XY, 47 XXY [cytogenetics report]<br>OR genotype: 46 XX, 47 XXY [cytogenetics report]<br>OR genotype: 46 XXY, 48 XXYY [cytogenetics report]<br>OR genotype: 46 XY/47 XXY, 48 XXYY [cytogenetics report]  | DX 7587;  |
| 1.02  | Klinefelter's syndrome                          | Genotype: 47 XXY [cytogenetics report]<br>OR leukocyte RNA X-inactive specific transcriptase, XIST [PCR chemistry report]<br>OR small firm testis<br>AND gynecomastia<br>AND < 20 million sperm/ml [semen analysis report]<br>AND <b>mental retardation:</b> | STAGE 1.01 + (DX 6111 OR GROUP MENT_RETARD);    |
| 1.03  | Klinefelter's syndrome with three X chromosomes | Genotype: 47 XXXY [cytogenetics report]  | NO;   |
| 1.04  | Klinefelter's syndrome with four X chromosomes  | Genotype: 47 XXXXY [cytogenetics report]   | NO;   |
| 1.05  | Klinefelter's syndrome with five X chromosomes  | Genotype: 47 XXXXXY [cytogenetics report]  | NO;   |
| 2.01  | with obesity                                    | Stage 1.01-1.05<br>AND <b>obesity:</b>   | STAGE 1.01-1.02 + DXCAT NUT02;                  |
| 2.02  | with hypothyroidism or hyperthyroidism          | Stage 1.01-2.01<br>AND <b>hypothyroidism:</b><br>OR <b>hyperthyroidism:</b>  | STAGE 1.01-2.01 + (DXCAT END07 OR DXCAT END09); |
| 2.03  | with diabetes mellitus                          | Stage 1.01-2.02<br>AND <b>diabetes mellitus:</b>   | STAGE 1.01-2.02 + (DXCAT END04 OR DXCAT END05); |
| 2.04  | with breast carcinoma                           | Stage 1.01-2.03<br>AND carcinoma of the breast [operative/pathology report]  | STAGE 1.01-2.03 + (DXCAT GYN19 OR DXCAT MGS04); |

### References:

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- Orth DN, Kovacs WJ, DeBold CR. The adrenal cortex. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:489-620.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN03

MultiStage: No

DXCat Label: Turner's or Noonan's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                     |
|-------|--------------------------|--|------------------------------------|
| 1.01  | Mosaic Turner's syndrome | Genotype: 45 X/46 XX [cytogenetics report]<br>OR genotype: 45 X/46 XY [cytogenetics report]<br>OR genotype: 45 X/46 X, fragment plus [cytogenetics report]   | DX 7586;                           |
| 1.02  | Noonan's syndrome        | Genotype 46 XX [ cytogenetics report]<br>OR genotype 46 XY [cytogenetics report]<br>AND height < 3rd percentile<br>OR growth velocity < 4 cm/yr.<br>OR bone age > 2 yrs. behind chronological age<br>AND webbed neck<br>AND ptosis<br>AND low hairline on the back of neck<br>AND wide chest with broadly spaced nipples<br>AND multiple pigmented nevi<br>AND short 4th metacarpal<br>AND hypoplasia of nails<br>AND amenorrhea<br>AND failure of breast development<br>AND juvenile external genitalia | NO;                                |
| 1.03  | Turner's syndrome        | Genotype 45 X [cytogenetics report]<br>AND height < 3rd percentile<br>OR growth velocity < 4 cm/yr<br>OR bone age > 2 yrs. behind chronological age<br>AND webbed neck<br>AND ptosis<br>AND low hairline on the back of the neck<br>AND wide chest with broadly spaced nipples<br>AND multiple pigmented nevi<br>AND short 4th metacarpal<br>AND hypoplasia of nails<br>AND amenorrhea<br>AND failure of breast development<br>AND juvenile external genitalia   | NO;                                |
| 1.04  | with mental retardation  | Stage 1.01-1.03<br>AND <b>mental retardation:</b>  | STAGE 1.01 + GROUP<br>MENT_RETARD; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN03

DXCat Label: Turner's or Noonan's Syndrome

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---------------------------------------|---|---|
| 2.01  | with gastrointestinal telangiectasias | Stage 1.01-1.04<br>AND guaiac positive stools [hemocult test]<br>OR gastrointestinal telangiectasias [operative/pathology or endoscopy report]  | STAGE 1.01-1.04 + DX 4489;                                    |
| 2.02  | with gonadoblastoma                   | Stage 1.01-2.01<br>AND gonadoblastoma [operative/pathology report]  | STAGE 1.01-2.01 + (DX 2362, 2364);                            |
| 2.03  | with renal tumor                      | Stage 1.01-2.01<br>AND renal tumor [sonogram or CT scan report]   | STAGE 1.01-2.02 + (DX 1890-1892, 2230-2232, 23691);           |
| 2.04  | with acute gastrointestinal bleeding  | Stage 2.01<br>AND <b>bleeding:</b>  | STAGE 1.01-2.03 + (DX 5780, 5781, 5789);                      |
| 2.05  | with cardiovascular malformations     | Stage 1.01-2.04<br>AND coarctation of the aorta [cardiac catheterization report]<br>OR pulmonic stenosis [cardiac catheterization report]<br>OR atrial septal defect [cardiac catheterization report] | STAGE 1.01-2.04 + (DX 7453-7459, 74710, 74711, 7473);         |
| 3.01  | with renal failure                    | Stage 2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with congestive heart failure         | Stage 2.05<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;                          |
| 3.03  | with respiratory failure              | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;                            |
| 3.04  | with shock                            | Stage 2.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death                            | Stage 2.01-3.03<br>AND death  | NO;   |

### References:

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Chu CE, Connor JM. Molecular biology of Turner's syndrome. Archives of Disease in Childhood. 1995;72(4):285-286.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN80

MultiStage: No

DXCat Label: Other Chromosomal Anomalies

Specificity: C

Etiology: Genetic (or hereditary)

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                  |
|-------|---|---------------------|---|
| 0.00  | Other genetic carrier state   |                     | DX 7952, V8389;                                 |
| 1.01  | Anomalies of spleen, endocrine system, or hamartoses, Patau's, Edward's, Marfan's Fragile X, or Prader-Willi syndrome, situs inversus, conjoined twins, and other chromosomal anomalies |                     | DX 7581-7585, 75881-7589, 7590-7594, 7596-7599; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS01

MultiStage: No

DXCat Label: Alpha 1-Antitrypsin Deficiency

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description                                      | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Heterozygous alpha-1-antitrypsin deficiency      | Serum alpha-1-antitrypsin < 50 mg/dl [chemistry report]<br>AND serum alpha-1-antitrypsin ≤ 250 mg/dl [chemistry report] | DX 2734, 2776;  |
| 1.02  | Homozygous alpha-1-antitrypsin deficiency        | Serum alpha-1-antitrypsin < 50 mg/dl [chemistry report]   | NO;   |
| 1.03  | Alpha-1-antitrypsin deficiency with panniculitis | Stage 1.01-1.02<br>AND panniculitis or fat necrosis [operative/pathology report]  | STAGE 1.01 + (DX 72930, 7236);                                |
| 2.01  | with hepatitis                                   | Stage 1.01-1.03<br>AND <b>hepatitis:</b>  | STAGE 1.01-1.03 + DXCAT HEP10;                                |
| 2.02  | with COPD  | Stage 1.01-2.01<br>AND <b>COPD:</b>   | STAGE 1.01-2.01 + DXCAT RES05;                                |
| 2.03  | with cirrhosis                                   | Stage 1.01-2.02<br>AND cirrhosis [biopsy report or sonogram report or liver/spleen scan report]                         | STAGE 1.01-2.02 + (DX 5715-5716, 5761);                       |
| 2.04  | with coagulation defects                         | Stage 1.01-2.03<br>AND <b>coagulation defect:</b>   | STAGE 1.01-2.03 + GROUP COAG_DEFECT;                          |
| 3.01  | with renal failure                               | Stage 1.01-2.04<br>AND <b>renal failure:</b>  | STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with respiratory failure                         | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                            |
| 3.03  | with coma  | Stage 1.01-3.02<br>AND <b>coma:</b>   | STAGE 1.01-3.02 + GROUP COMA;                                 |
| 3.04  | with shock                                       | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death                                       | Stage 1.01-3.04<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS01

MultiStage: No

DXCat Label: Alpha 1-Antitrypsin Deficiency

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Beaudet AL. Genetics and disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:365-395.

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Stoller JK. Clinical features and natural history of severe alpha 1-antitrypsin deficiency. Roger S. Mitchell Lecture. Chest. 1997;111(6 Suppl):123S-128S.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS02

DXCat Label: Amebiasis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Asymptomatic Entamoeba histolytica carrier | Entamoeba histolytica cysts in stool [stool examination report]  | DX V022;   |
| 2.01  | Entamoeba histolytica colitis              | Diarrhea with blood<br>OR guaiac positive stools<br>AND Entamoeba histolytica cysts or trophozoites in stool [stool examination report]<br>OR amebiasis [serology test report]   | DX 0060-0062, 0068-0069;                           |
| 2.02  | Entamoeba histolytica dermatitis           | Stage 2.01<br>AND Entamoeba histolytica cysts or trophozoites in skin lesions [slide examination report]   | DX 0066;   |
| 2.03  | Entamoeba histolytica hepatic abscess      | Stage 2.01-2.02<br>AND <b>jaundice:</b><br>AND liver abscess [operative/pathology report or sonogram or MRI report or CT scan report or liver/spleen scan report]<br>OR amoebic liver abscess [operative/pathology report] | DX 0063;   |
| 2.04  | Entamoeba histolytica lung abscess         | Stage 2.01-2.03<br>AND lung abscess [operative/pathology report or sonogram or CT scan report or chest x-ray report or bronchoscopy report]<br>OR amoebic lung abscess [operative/pathology report]                        | DX 0064;   |
| 2.05  | with bowel obstruction                     | Stage 2.01-2.04<br>AND large bowel obstruction [plain abdomen x-ray report or operative/pathology report]<br>OR amoeboma [operative/pathology report or barium enema report]   | STAGE 2.01-2.04 + DX 56089-5609;                   |
| 2.06  | with perforation or peritonitis            | Stage 2.01-2.05<br>AND intestinal perforation [plain abdomen x-ray or operative/pathology report]<br>OR peritonitis per operative/pathology report   | STAGE 2.01-2.05 + (DX 5672-5679, 56983);           |
| 3.01  | with meningitis or brain abscess           | Stage 2.01-3.01<br>AND <b>meningitis:</b><br>OR brain abscess [CT scan report or MRI report or operative/pathology report]   | DX 0065;   |
| 3.02  | with sepsis                                | Stage 2.01-2.06<br>AND <b>sepsis:</b>  | STAGE 2.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with shock                                 | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                 | Stage 2.01-3.03<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS02

MultiStage: No

DXCat Label: Amebiasis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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- Butterton JR, Calderwood SB. Acute infectious diarrheal diseases and bacterial food poisoning. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS03

MultiStage: No

DXCat Label: Anal Fissure

Specificity: A

Etiology: Trauma

| Stage | Description          | Diagnostic findings   | ICD-9-CM Codes  |
|-------|----------------------|---|-----------------|
| 1.01  | Chronic anal fissure | Anal ulcer<br>AND hypertrophic papillae [proctoscopy report]<br>AND sentinel pile         | DX 5650;        |
| 1.02  | Acute anal fissure   | Anal ulcer per proctoscopy report<br>AND history of rectal bleeding related to defecation | DX 5693, 56941; |

### References:

Dozois R. Disorders of the anal canal. In: Sabiston Jr DC. Textbook of Surgery. 1st ed. Philadelphia, PA: WB Saunders; 1997:1032-1044.

Isselbacher KJ, Epstein A. "Diverticular, vascular, and other disorders of the intestine and peritoneum. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1648-1656.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS04

MultiStage: No

DXCat Label: Anorectal Suppuration

Specificity: A

Etiology: Infection

| Stage | Description                                    | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--|---|--|
| 1.01  | Proctitis                                      | Proctitis [proctoscopy report or sigmoidoscopy report]  | DX 56949;  |
| 2.01  | Fistula in ano                                 | Fistula in ano [anoscopy report or sigmoidoscopy report]  | DX 5651, 5961, 6191;                               |
| 2.02  | Anorectal abscess                              | Anorectal abscess [operative/pathology report]<br>OR perianal abscess [operative/pathology report]<br>OR pararectal abscess [operative/pathology report]<br>OR intermuscular abscess [operative/pathology report] | DX 566;  |
| 2.03  | Ischiorectal abscess or supralelevator abscess | Ischiorectal abscess [operative/pathology report]<br>OR supralelevator abscess [operative/pathology report]   | NO;  |
| 2.04  | Pelvirectal abscess                            | Pelvirectal abscess [operative/pathology report]  | STAGE 1.01-2.03 + (DX 5670-5679, 56983);           |
| 3.01  | Anorectal suppuration with sepsis              | Stage 1.01-2.04<br>AND <b>sepsis:</b>   | STAGE 1.01-2.04 + GROUP SEPSIS;                    |
| 3.02  | Anorectal suppuration with shock               | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Anorectal suppuration with death               | Stage 2.01-3.02<br>AND death  | NO;  |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS05

DXCat Label: Appendicitis

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--|---|--|
| 1.01  | Appendicitis                                 | Appendicitis [operative/pathology report]   | DX 5409-542;                                       |
| 2.01  | with localized peritonitis or abscess        | Stage 1.01<br>AND localized peritonitis [operative/pathology report]<br>OR abscess [operative/pathology report]   | DX 5401;   |
| 2.02  | and intestinal obstruction                   | Stage 1.01-2.01<br>AND small bowel obstruction or large bowel obstruction [operative/pathology report or KUB x-ray report]  | STAGE 1.01-2.01 + (DX 5373, 5609);                 |
| 2.03  | with perforation and generalized peritonitis | Stage 1.01-2.02<br>AND perforation and generalized peritonitis [operative/pathology report]<br>OR peritonitis (peritoneal fluid culture reports growth of pathologic organisms) | DX 5400;<br>STAGE 1.01-2.02 + DX 56983;            |
| 2.04  | with pylephlebitis or liver abscess          | Stage 1.01-2.03<br>AND pylephlebitis or liver abscess [operative/pathology report]  | STAGE 1.01-2.03 + DX 5720;                         |
| 3.01  | with sepsis                                  | Stage 1.01-2.04<br>AND <b>sepsis:</b>   | STAGE 1.01-2.04 + GROUP SEPSIS;                    |
| 3.02  | with shock                                   | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                   | Stage 1.01-3.02<br>AND death  | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS06

DXCat Label: Celiac Disease

Etiology: Metabolic

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Celiac disease or gluten enteropathy         | History of diet containing gluten<br>AND absence of jejunal villi [operative/pathology report or biopsy report]<br>AND jejunal crypt hyperplasia                     | DX 5790;  |
| 1.02  | with malnutrition                            | Stage 1.01<br>AND body weight $\leq$ 85% of ideal body weight<br>OR <b>hypoalbuminemia:</b>  | STAGE 1.01 + DX 260-2639;   |
| 2.01  | with anemia                                  | Stage 1.01-1.02<br>AND <b>anemia:</b>  | STAGE 1.01-1.02 + (GROUP ANEM_CON_HEM OR GROUP ANEM_APLAST OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_ESRD OR GROUP ANEM_HEM_ACQ OR GROUP ANEM_NEOPL OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN); |
| 2.02  | with non-Hodgkin's lymphoma or esophageal Ca | Stage 1.01-2.01<br>AND non-Hodgkin's lymphoma [operative/pathology report or biopsy report]<br>OR esophageal carcinoma [operative/pathology report or biopsy report] | STAGE 1.01-2.01 + (DXCAT GIS28 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27 OR DXCAT HEM29 OR DXCAT HEM31 OR DXCAT HEM22);  |
| 2.03  | with intestinal obstruction                  | Stage 1.01-2.02<br>AND small bowel obstruction [KUB x-ray report]  | STAGE 1.01-2.02 + (DX 5373, 5609);  |
| 3.01  | with CHF                                     | Stage 1.01-2.03<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-2.03 + GROUP CHF_NON_HTN;  |
| 3.02  | with shock                                   | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                                   | Stage 1.01-3.02<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS06

MultiStage: No

DXCat Label: Celiac Disease

Specificity: A

Etiology: Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS07

DXCat Label: Cholera

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                         | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|-------------------------------------|--|--|
| 0.00  | Contact with or exposure to cholera | Added stage 5/8/06 cb  | DX V010, V740;                                     |
| 1.01  | Cholera carrier state               | Vibrio cholerae in stools [stool culture report]   | DX 0010-0019, V020;                                |
| 1.02  | with mild dehydration               | Stage 1.01<br>AND estimated loss of $\geq$ 5% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 3% of ideal body weight in adults/adolescents in 24 hours  | STAGE 1.01 + GROUP DEHYDRATION;                    |
| 2.01  | with moderate dehydration           | Stage 1.01<br>AND estimated loss of $\geq$ 10% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 5% of ideal body weight in adults/adolescents in 24 hours | NO;  |
| 3.01  | with severe dehydration             | Stage 1.01<br>AND estimated loss of $\geq$ 15% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 7% of ideal body weight in adults/adolescents in 24 hours | NO;  |
| 3.02  | with renal failure                  | Stage 2.01-3.01<br>AND <b>renal failure:</b>   | STAGE 1.01-1.02 + GROUP REN_FAIL_ACU;              |
| 3.03  | with shock                          | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                          | Stage 2.01-3.04<br>AND death   | NO;  |

### References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. JAMA. 1997;277(17):1344-1345.

Benenson A. Cholera. In: Evans A, Brachman P, eds. Bacterial Infections of Humans. 2nd ed. New York, NY: Plenum Media; 1991:207-225.

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Stephenson J. New approaches for detecting and curtailing foodborne microbial infections. JAMA. 1997;277(17):1337, 1339-1340.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS08

DXCat Label: Clostridium difficile Colitis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 1.01  | Asymptomatic Clostridium difficile          | Clostridium difficile toxin [stool examination report]  | DX 00845;  |
| 2.01  | Clostridium difficile colitis with bleeding | Stage 1.01<br>AND diarrhea with blood<br>OR guaiac positive stools  | STAGE 1.01 + (DX 5693, 5781-5789);                 |
| 2.02  | with bowel obstruction                      | Stage 2.01<br>AND large bowel obstruction [plain abdomen x-ray report or operative/pathology report]<br>OR amoeboma [operative/pathology report or barium enema report] | STAGE 1.01-2.01 + (DX 5373, 56089-5609);           |
| 2.03  | with perforation or peritonitis             | Stage 2.01-2.02<br>AND intestinal perforation [plain abdomen x-ray or operative/pathology report]<br>OR peritonitis per operative/pathology report                      | STAGE 1.01-2.02 + (DX 5672-5679, 56983);           |
| 3.01  | with sepsis                                 | Stage 2.01-2.03<br>AND <b>sepsis:</b>   | STAGE 1.01-2.03 + (DX 0383, 0388-0389);            |
| 3.02  | with shock                                  | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                  | Stage 2.01-3.03<br>AND death  | NO;  |

### References:

Fekety R, et al. Diagnosis and treatment of Clostridium difficile colitis. JAMA. 1993;269-271.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS09

DXCat Label: Crohn's Disease

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Crohn's disease   | <p>Crohn's Disease [operative/pathology report]<br/>                     OR patchy mucosal 'aphthoid' ulcerations with underlying nodules of lymphoid tissue or granulomas later developing submucosal edema and further lymphoid infiltration which eventually involve the entire bowel wall. There is lymphedema and thickening of the surrounding mesentery and hypertrophy of local lymph nodes. Inevitably, involved areas fibrose and are sharply demarcated from normal areas [operative/pathology report]</p> <p><u>Presumptive Diagnostic Findings:</u><br/>                     Irregularity, thickening, nodularity and narrowing lumen of the bowel wall [barium enema report or colonoscopy report or UGI series report]</p>  | DX 5550-5559;   |
| 2.01  | with arthritis or involvement of the eyes or involvement of the mouth or erythema nodosum or pyoderma gangrenosum or anemia or hypoproteinemia or growth retardation or hypertrophic osteoarthropathy | <p>Stage 1.01<br/>                     AND stomatitis</p> <p>OR <b>arthritis:</b><br/>                     OR ankylosing spondylitis [chest x-ray report]<br/>                     OR uveitis [ophthalmologist's report]<br/>                     OR episcleritis [ophthalmologist's report]<br/>                     OR erythema nodosum<br/>                     OR red, tender nodules on the anterior tibial surface<br/>                     OR pyoderma gangrenosum (rapidly evolving cutaneous ulcer(s) with markedly undermined borders)</p> <p>OR hypertrophic osteoarthropathy<br/>                     OR <b>anemia:</b><br/>                     OR growth retardation<br/>                     OR <b>hypoproteinemia:</b></p> | STAGE 1.01 + (DX 2632, 36400-36404, 36410-36411, 3643, 37900, 37909, 68601, 6952, 70712-70719, 7078-7079, 7200, 7312, 7822, 78343 OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN OR GROUP ARTHR_OTH OR GROUP HYPOPROTEIN); |
| 2.02  | with obstructive uropathy or biliary tract stones   | <p>Stage 1.01-2.01<br/>                     AND obstructive uropathy [IVP report or nuclear renogram report or sonogram reports dilated ureters or hydronephrosis]<br/>                     OR cholelithiasis or choledocholithiasis [oral cholecystogram report or HIDA scan report or sonogram report or endoscopic retrograde cholangiopancreatography report or CT scan report]</p>  | STAGE 1.01-2.01 + (DX 57400-57491, 591, 5934-5935, 5996-59969);   |
| 2.03  | with enteroenteric or enterovesical or enterovaginal or enterocutaneous fistula   | <p>Stage 1.01-2.02<br/>                     AND enteroenteric fistula [barium enema report or UGI series report]<br/>                     OR enterovesical fistula [barium enema report or urinalysis reports fecaluria]<br/>                     OR enterovaginal fistula [barium enema report or feces and flatus per vagina]<br/>                     OR enterocutaneous fistula [barium enema report or feces and flatus per sinus tract]</p>  | STAGE 1.01-2.02 + (DX 56981, 5961, 6191);   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS09

DXCat Label: Crohn's Disease

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 2.04  | with acute gastrointestinal bleed                     | Stage 1.01-2.03<br>AND hematochezia<br>AND <b>bleeding:</b>  | STAGE 1.01-2.03 + (DX 5693, 5781-5789);                                    |
| 2.05  | with intestinal obstruction                           | Stage 1.01-2.04<br>AND intestinal obstruction [KUB x-ray reports small bowel or large bowel obstruction]   | STAGE 1.01-2.04 + (DX 5373, 56089-5609);                                   |
| 2.06  | with intra-abdominal abscess                          | Stage 1.01-2.05<br>AND intra-abdominal abscess [sonogram report or CT scan report or gallium scan report or operative/pathology report]  | STAGE 1.01-2.05 + DX 5672-5679;  |
| 2.07  | with perforation of bowel or peritonitis              | Stage 1.01-2.06<br>AND free air within peritoneal cavity [KUB x-ray report or chest x-ray report]<br>OR perforation of the bowel [barium enema report or UGI series reports spilling of barium into the peritoneal cavity]<br>OR peritonitis [operative/pathology report]  | STAGE 1.01-2.06 + DX 56983;  |
| 2.08  | with renal or hepatic amyloidosis                     | Stage 1.01-2.07<br>AND renal amyloidosis [operative/pathology report]<br>OR hepatic amyloidosis [operative/pathology report]   | STAGE 1.01-2.07 + DX 2773;<br>STAGE 1.01-2.07 + DX 2773-27739 + DX 58381 ; |
| 2.09  | with sclerosing cholangitis or cirrhosis of the liver | Stage 1.01-2.08<br>AND <b>sclerosing cholangitis:</b> fibrosing inflammation of the intrahepatic or extrahepatic bile ducts [liver biopsy operative/pathology reports sclerosing cholangitis]<br>OR <b>primary biliary cirrhosis:</b> inflammation of the medium sized bile ducts or portal triad progressing to periportal fibrosis [liver biopsy operative/pathology reports primary biliary cirrhosis]<br>OR <b>micronodular cirrhosis:</b> thin bands of connective tissue within the hepatic parenchyma with no delineation of hepatic veins or portal spaces [liver biopsy operative/pathology reports micronodular cirrhosis]<br>OR <b>macronodular cirrhosis:</b> bands of connective tissue within the hepatic parenchyma which contain hepatic veins or portal spaces [liver biopsy operative/pathology reports macronodular cirrhosis]<br>OR <b>mixed cirrhosis:</b> bands of connective tissue within the hepatic parenchyma with areas with and without hepatic veins or portal spaces [liver biopsy operative/pathology reports mixed cirrhosis]<br>OR <b>cirrhosis:</b> [sonogram report or liver/spleen scan report] | STAGE 1.01-2.08 + (DX 5715-5716, 5761);                                    |
| 3.01  | with sepsis   | Stage 1.01-2.09<br>AND <b>sepsis:</b>  | STAGE 1.01-2.09 + GROUP SEPSIS;  |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                         |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS09

MultiStage: No

DXCat Label: Crohn's Disease

Specificity: A

Etiology: Idiopathic

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.02<br>AND death | NO;            |

### References:

Borley NR, Mortensen NJ, Jewell DP. Preventing postoperative recurrence of crohn's disease. *British Journal of Surgery*. 1997;84(11):1493-1502.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS10

DXCat Label: Diverticular Disease

Etiology: Degenerative

MultiStage: No

Specificity: A

| Stage | Description                                       | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Diverticulosis                                    | Diverticulosis [operative/pathology report or barium enema report or colonoscopy report or CT scan report]   | DX 56200, 56210;  |
| 1.02  | Diverticulitis                                    | Stage 1.01<br>AND diverticulitis [operative/pathology report or barium enema report or colonoscopy report]   | DX 56201, 56211;  |
| 2.01  | with lower gastrointestinal bleeding              | Stage 1.01-1.02<br>AND bleeding diverticulum [colonoscopy report or bleeding scan or angiography report or operative/pathology report]<br>OR <b>bleeding:</b>            | DX 56202-56203, 56212-56213;<br>STAGE 1.01-1.02 + (DX 5693, 5781-5789); |
| 2.02  | with fistula                                      | Stage 1.01-2.01<br>AND fistula from diverticulum [colonoscopy report or barium enema report]   | STAGE 1.01-2.01 + DX 56981;   |
| 2.03  | with obstruction                                  | Stage 1.01-2.02<br>AND large bowel obstruction [operative/pathology report or KUB x-ray report]  | STAGE 1.01-2.02 + (DX 5373, 56089-5609);                                |
| 2.04  | with intra-abdominal abscess                      | Stage 1.01-2.03<br>AND diverticular disease and intra-abdominal abscess operative/pathology report or CT scan report ]   | STAGE 1.01-2.03 + DX 5672-5679;   |
| 2.05  | with generalized peritonitis or gross perforation | Stage 1.01-2.04<br>AND generalized peritonitis or gross perforation [operative/pathology report or peritoneal effusion culture reports growth of pathologic organism(s)] | STAGE 1.01-2.04 + DX 56983;   |
| 3.01  | with sepsis                                       | Stage 1.01-2.05<br>AND <b>sepsis:</b>  | STAGE 1.01-2.05 + GROUP SEPSIS;   |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                      |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death   | NO;   |

## References:

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- Imbembo AL. Diverticular disease of the colon. In: Sabiston, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1997:982-993.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS11

DXCat Label: Food Poisoning: C. perfringens

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|---|--|---|
| 1.01  | Food poisoning due to C. perfringens          | Clostridium perfringens isolated from contaminated food [food culture reports]   | DX 0052-0053;                                       |
| 1.02  | with mild dehydration                         | Stage 1.01<br>AND estimated loss of $\geq$ 5% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 3% of ideal body weight in adults/adolescents in 24 hours                    | STAGE 1.01 + GROUP DEHYDRATION;                     |
| 2.01  | with moderate dehydration                     | Stage 1.01<br>AND estimated loss of $\geq$ 10% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 5% of ideal body weight in adults/adolescents in 24 hours                   | NO;   |
| 3.01  | with severe dehydration                       | Stage 1.01<br>AND estimated loss of $\geq$ 15% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 7% of ideal body weight in adults/adolescents in 24 hours                   | NO;   |
| 3.02  | with enteritis necroticans or bloody diarrhea | Stage 1.01-3.01<br>AND gross blood in diarrhea fluid<br>OR Clostridium perfringens type C isolated from contaminated food [food culture reports]<br>OR enteritis necroticans [operative/pathology report or biopsy report] | STAGE 1.01-1.02 + (DX 5693, 5781-5789);             |
| 3.03  | with renal failure                            | Stage 2.01-3.02<br>AND <b>renal failure:</b>   | STAGE 1.01-3.02 + GROUP REN_FAIL_ACU;               |
| 3.04  | with central nervous system involvement       | Stage 2.01-3.03<br>AND <b>disorientation:</b><br>OR <b>coma:</b>   | STAGE 1.01-3.03 + (GROUP COMA OR GROUP DISORIENT ); |
| 3.05  | with shock                                    | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                                    | Stage 2.01-3.05<br>AND death   | NO;   |

### References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. JAMA. 1997;277(17):1344-1345.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS12

MultiStage: No

DXCat Label: Food Poisoning: Other Organisms

Specificity: A

Etiology:

| Stage | Description                             | Diagnostic findings   | ICD-9-CM Codes                                      |
|-------|---|---|---|
| 1.01  | Food poisoning                          | Bacillus cereus isolated from contaminated food [food culture reports]<br>OR Clostridium perfringens isolated from contaminated food [food culture reports]<br>OR Campylobacter fetus isolated from contaminated food [food culture reports]<br>OR E. coli isolated from contaminated food [food culture reports]<br>OR Staphylococcus aureus isolated from contaminated food [food culture reports]<br>OR Vibrio cholerae isolated from contaminated food [food culture reports]<br>OR Vibrio parahaemolyticus isolated from contaminated food [food culture reports]<br>OR Yersinia enterocolitica isolated from contaminated food [food culture reports] | DX 0054-0059, 00800-0083, 00842-00844, 00846-0085;  |
| 1.02  | with mild dehydration                   | Stage 1.01<br>AND estimated loss of $\geq$ 5% of ideal body weight in children $\leq$ 12 years old in 24 hours.<br>OR estimated loss of $\geq$ 3% of ideal body weight in adults/adolescents in 24 hours  | STAGE 1.01 + GROUP DEHYDRATION;                     |
| 2.01  | with moderate dehydration               | Stage 1.01<br>AND estimated loss of $\geq$ 10% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 5% of ideal body weight in adults/adolescents in 24 hours  | NO;   |
| 2.02  | with bloody diarrhea                    | Stage 1.01-3.01<br>AND gross blood in diarrhea fluid<br>OR enteritis necroticans [operative/pathology report or biopsy report]  | STAGE 1.01-1.02 + (DX 5693, 5781-5789);             |
| 3.01  | with severe dehydration                 | Stage 1.01<br>AND estimated loss of $\geq$ 15% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 7% of ideal body weight in adults/adolescents in 24 hours  | NO;   |
| 3.02  | with renal failure                      | Stage 2.01-3.02<br>AND <b>renal failure:</b>  | STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;               |
| 3.03  | with central nervous system involvement | Stage 2.01-3.03<br>AND <b>disorientation:</b><br>OR <b>coma:</b>  | STAGE 1.01-3.02 + (GROUP COMA OR GROUP DISORIENT ); |
| 3.04  | with shock                              | Stage 2.01-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                              | Stage 2.01-3.05<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS12

MultiStage: No

DXCat Label: Food Poisoning: Other Organisms

Specificity: A

Etiology:

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS13

MultiStage: No

DXCat Label: Food Poisoning: S. aureus

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|---|--|---|
| 1.01  | Food poisoning due to Staphylococcus aureus enterotoxin | Staphylococcus aureus isolated from contaminated food [food culture reports]   | DX 0050, 00841;                                     |
| 1.02  | with mild dehydration                                   | Stage 1.01<br>AND estimated loss of $\geq$ 5% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 3% of ideal body weight in adults/adolescents in 24 hours  | STAGE 1.01 + GROUP DEHYDRATION;                     |
| 2.01  | with moderate dehydration                               | Stage 1.01<br>AND estimated loss of $\geq$ 10% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 5% of ideal body weight in adults/adolescents in 24 hours | NO;   |
| 3.01  | with severe dehydration                                 | Stage 1.01<br>AND estimated loss of $\geq$ 15% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 7% of ideal body weight in adults/adolescents in 24 hours | NO;   |
| 3.02  | with renal failure                                      | Stage 2.01-3.01<br>AND <b>renal failure:</b>   | STAGE 1.01-1.02 + GROUP REN_FAIL_ACU;               |
| 3.03  | with disorientation or coma                             | Stage 2.01-3.02<br>AND <b>disorientation:</b><br>OR <b>coma:</b>   | STAGE 1.01-3.02 + (GROUP COMA OR GROUP DISORIENT ); |
| 3.04  | with shock  | Stage 2.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN );  |
| 4.00  | with death  | Stage 2.01-3.04<br>AND death   | NO;   |

## References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. JAMA. 1997;277(17):1344-1345.

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Gould D, Chamberlaine A. Staphylococcus aureus: a review of the literature. Journal of Clinical Nursing. 1995;4(1):5-12.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS14

MultiStage: No

DXCat Label: Foreign Body: Digestive Tract

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes |
|-------|---|--|----------------|
| 1.01  | Foreign body in stomach or intestine or anus or rectum and digestive system unspecified | Foreign body in esophagus<br>OR foreign body in stomach<br>OR foreign body in intestine<br>OR foreign body in anus<br>OR foreign body in rectum<br>OR foreign body in unspecified digestive system | DX 9352-938;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS15

MultiStage: No

DXCat Label: Foreign Body: Esophagus

Specificity: A

Etiology: Trauma

| Stage | Description                 | Diagnostic findings   | ICD-9-CM Codes                              |
|-------|-----------------------------|---|---|
| 1.01  | Foreign body in esophagus   | Foreign body in esophagus [laryngoscopy report or upper endoscopy report]           | DX 9351;                                    |
| 1.02  | with mild dysphagia         | Stage 1.01<br>AND mild dysphagia  | STAGE 1.01 + (DX 33811, 33821, 5305, 7872); |
| 2.01  | with severe dysphagia       | Stage 1.01-1.02<br>AND severe dysphagia   | NO;   |
| 2.02  | with esophagitis            | Stage 1.01-2.01<br>AND esophagitis [barium swallow report or CT scan report]        | STAGE 1.01-1.02 + (DX 53010, 53012-53019);  |
| 2.03  | with esophageal perforation | Stage 1.01-2.02<br>AND esophageal perforation [CT scan with Hypaque swallow report] | STAGE 1.01-2.02 + DX 5304;                  |
| 2.04  | with mediastinitis          | Stage 1.01-2.03<br>AND mediastinitis [CT scan report]                               | STAGE 1.01-2.03 + DX 5192;                  |
| 3.01  | with sepsis                 | Stage 1.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-2.04 + GROUP SEPSIS;             |
| 3.02  | with shock                  | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + GROUP SHOCKA;             |
| 4.00  | with death                  | Stage 1.01-3.03<br>AND death  | NO;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS16

MultiStage: No

DXCat Label: Functional Digestive Disorders

Specificity: A

Etiology: Idiopathic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Constipation or impaction of the large intestine or functional diarrhea or pylorospasm or achalasia or diffuse esophageal spasm or dysphagia | Constipation<br>OR impaction of the large intestine [barium enema report or endoscopy report]<br>OR functional diarrhea<br>OR pylorospasm [UGI series report or endoscopy report]<br>OR achalasia [esophageal manometry report or UGI series report or endoscopy report]<br>OR diffuse esophageal spasm [esophageal manometry report or UGI series report or endoscopy report]<br>OR dysphagia | DX 5300, 5305, 53781, 56030, 56039, 5640-56409, 5642-5649, 7505, 7518, 7872; |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS17

MultiStage: No

DXCat Label: Gastritis

Specificity: A

Etiology: Idiopathic; Infection; Toxicologic

| Stage | Description               | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---------------------------|--|--|
| 1.01  | Chronic erosive gastritis | Numerous punctate or aphthous gastric erosions [operative/pathology report or gastroscopy report]  | DX 53540, 53550;   |
| 1.02  | Nonerosive gastritis      | <b>Superficial gastritis:</b> patchy mucosal inflammation with round cell and plasma cell infiltration [operative/pathology report]<br>OR <b>deep gastritis:</b> patchy mucosal inflammation with round cell and plasma cell infiltration extending to the muscularis layer [operative/pathology report]<br>OR <b>atrophic gastritis:</b> diminished gastric glands in size and number [operative/pathology report]<br>OR Helicobacter pylori gastritis [H. pylori stain report or rapid urease positivity by gastric biopsy report] | DX 53510;  |
| 1.03  | Gastric hyperplasia       | <b>Ménétrier's Disease:</b> enlargement of the gastric mucosal folds with thickened mucosa and hyperplasia of the mucous cells with loss of parietal and chief cells and infiltration of the lamina propria with lymphocytes [operative/pathology report]  | DX 53520;  |
| 2.01  | Acute erosive gastritis   | Petechiae or ecchymoses on the mucosal surface progressing to irregular erosions [operative/pathology report]<br>AND history of alcoholic beverage abuse within 5 days of event<br>OR history of severe trauma or stress within 5 days of event.   | DX 53500;  |
| 2.02  | with hemorrhage           | Stage 1.01-2.01<br>AND <b>bleeding:</b>  | DX 53501, 53511, 53521, 53541, 53551;<br>STAGE 1.01-2.01 + DX 5780-5789; |
| 3.01  | with hypotension          | Stage 2.02<br>AND <b>hypotension:</b>  | STAGE 1.01-2.02 + GROUP HYPOTENSION;                                     |
| 3.02  | with shock                | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                       |
| 4.00  | with death                | Stage 2.01-3.03<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS17

MultiStage: No

DXCat Label: Gastritis

Specificity: A

Etiology: Idiopathic; Infection; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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Pappas TN. The stomach and duodenum. In: Textbook of Surgery, 15th ed. Philadelphia, PA: WB Saunders; 1997:847-868.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS18

DXCat Label: Hemorrhoids

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Internal hemorrhoids                         | Hemorrhoidal tissue [proctoscopy report]<br>OR<br>Stage 1 Hemorrhoids  | DX 4550, 4556, 4559;  |
| 1.02  | Spontaneously reducible external hemorrhoids | Spontaneously reducible hemorrhoidal tissue in rectum with defecation or tenesmus<br>OR<br>Stage 2 Hemorrhoids | DX 4553;  |
| 1.03  | Prolapsed external hemorrhoids               | Manually reducible hemorrhoidal tissue in rectum with defecation or tenesmus<br>OR<br>Stage 3 Hemorrhoids      | DX 4552, 4555, 4558;  |
| 1.04  | Non-reducible external hemorrhoids           | Non-reducible Hemorrhoidal tissue in rectum with defecation or tenesmus  | NO;   |
| 2.01  | Thrombosed hemorrhoids                       | Stage 1.01-1.04<br>AND tenderness of hemorrhoids<br>AND erythema of hemorrhoids                                | DX 4551, 4554, 4557;  |
| 2.02  | Ulcerated hemorrhoids                        | Stage 1.01-2.01<br>AND ulceration of hemorrhoids   | NO;   |
| 2.03  | Hemorrhoids with hemorrhage or anemia        | Stage 1.01-2.02<br>AND <b>anemia:</b><br>OR <b>bleeding:</b>   | STAGE 1.01-2.01 + (DX 5693, 5781-5789 OR GROUP ANEM_DEF_FE OR GROUP ANEM_OTH_UN); |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS19

MultiStage: No

DXCat Label: Hernia, External

Specificity: A

Etiology: Congenital; Degenerative

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Spontaneously reducible external hernia                 | Spontaneously reducible external hernia<br>AND inguinal hernia<br>OR femoral hernia<br>OR epigastric hernia<br>OR umbilical hernia<br>OR spigelian hernia<br>OR lumbar hernia<br>OR pelvic hernia   | DX 55090-55093, 55300-55303,<br>5531-55329, 5538-5539; |
| 1.02  | External hernia reducible only by pressure              | Spontaneously reducible external hernia<br>AND inguinal hernia<br>OR femoral hernia<br>OR epigastric hernia<br>OR umbilical hernia<br>OR spigelian hernia<br>OR lumbar hernia<br>OR pelvic hernia   | NO;  |
| 1.03  | Irreducible external hernia                             | External hernia not reducible by pressure<br>AND inguinal hernia<br>OR femoral hernia<br>OR epigastric hernia<br>OR umbilical hernia<br>OR spigelian hernia<br>OR lumbar hernia<br>OR pelvic hernia | DX 55010-55013, 55200-55203,<br>5521-55229, 5528-5529; |
| 2.01  | Irreducible external hernia with intestinal obstruction | Stage 1.03<br>AND small bowel obstruction or large bowel obstruction [operative/pathology report or KUB x-ray report]   | NO;  |
| 2.02  | Strangulated external hernia                            | Stage 1.03-2.01<br>AND strangulated herniated segment [operative/pathology report]  | NO;  |
| 2.03  | Strangulated hernia with gangrene                       | Stage 1.03-2.02<br>AND gangrene of herniated segment [operative/pathology report]   | DX 55000-55003, 55100-55103,<br>5511-55129, 5518-5519; |
| 2.04  | Strangulated hernia with perforation                    | Stage 1.03-2.03<br>AND strangulated hernia with perforation [operative/pathology report]  | STAGE 1.01-2.03 + DX 56983;                            |
| 2.05  | Strangulated hernia with peritonitis                    | Stage 1.03-2.04<br>AND strangulated hernia with peritonitis [operative/pathology report or peritoneal effusion culture reports growth of pathologic organisms]                                      | STAGE 1.01-2.04 + DX 5672-5679;                        |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS19

DXCat Label: Hernia, External

Etiology: Congenital; Degenerative

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings                   | ICD-9-CM Codes                                     |
|-------|---------------------------------|---------------------------------------|--|
| 3.01  | Strangulated hernia with sepsis | Stage 1.03-2.05<br>AND <b>sepsis:</b> | STAGE 1.01-2.05 + GROUP SEPSIS;                    |
| 3.02  | Strangulated hernia with shock  | Stage 1.03-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Strangulated hernia with death  | Stage 2.01-3.02<br>AND death          | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS20

MultiStage: No

DXCat Label: Hernia, Hiatal or Reflux Esophagitis

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Hiatal hernia   | Hiatal hernia [chest x-ray or barium swallow report]  | DX 5533, 7506, 7566;                                      |
| 1.02  | Reflux esophagitis  | Reflux esophagitis [Bernstein's acid perfusion test or biopsy or esophagoscopy report or esophageal pH monitoring]                                      | DX 53011, 53081;  |
| 1.03  | Reflux esophagitis with chronic hoarseness or asthma or bronchospasm or chronic cough | Stage 1.03<br>AND chronic hoarseness<br>OR <b>asthma:</b><br>OR bronchospasm<br>OR chronic cough  | STAGE 1.02 + (DX 5191-51919, 78449, 7862 OR DXCAT RES02); |
| 2.01  | with iron deficiency anemia   | Stage 1.02<br>AND <b>iron deficiency anemia:</b>  | STAGE 1.01-1.03 + GROUP ANEM_DEF_FE;                      |
| 2.02  | with Barrett's metaplasia   | Stage 1.02-2.01<br>AND Barrett's metaplasia [biopsy report]   | DX 5302-53020, 53085;                                     |
| 2.03  | with stricture  | Stage 1.02-2.02<br>AND esophageal stricture [esophagoscopy report]  | DX 5303;  |
| 2.04  | Hiatal hernia with incarceration  | Incarcerated hiatal hernia [operative/pathology report]   | DX 5523;  |
| 2.05  | with acute hemorrhage   | Stage 1.02-2.04<br>AND <b>bleeding:</b>   | DX 53021, 53082;<br>STAGE 1.01-2.04 + (DX 5780, 5790);    |
| 2.06  | with aspiration pneumonia   | Stage 1.02-2.05<br>AND aspiration pneumonia   | STAGE 1.01-2.05 + DX 5070;                                |
| 2.07  | with perforation  | Stage 1.2-2.6<br>AND perforation of the esophagus [chest-x-ray reports free air in the mediastium or abdominal x-ray reports free air in the diaphragm] | DX 5513;<br>STAGE 1.01-2.06 + DX 5304;                    |
| 3.01  | with sepsis   | Stage 2.06-2.08<br>AND <b>sepsis:</b>   | STAGE 1.01-2.07 + GROUP SEPSIS;                           |
| 3.02  | with respiratory failure  | Stage 2.06-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                        |
| 3.03  | with shock  | Stage 2.03-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + GROUP SHOCKA;                           |
| 4.00  | with death  | Stage 2.04-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS20

MultiStage: No

DXCat Label: Hernia, Hiatal or Reflux Esophagitis

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

|   |
|---|
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS21

DXCat Label: Hookworm Disease

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings                                     | ICD-9-CM Codes   |
|-------|-----------------------------------|---|--|
| 1.01  | Hookworm disease                  | Hookworm eggs in stool [stool exam report]              | DX 1260-1269;  |
| 2.01  | with skin invasion or ground itch | Stage 1.01<br>AND pruritic maculopapular rash           | STAGE 1.01 + (DX 7098, 7821);                                  |
| 2.02  | with anemia                       | Stage 2.01<br>AND <b>anemia:</b>                        | STAGE 1.01-2.01 + GROUP ANEM_DEF_FE;                           |
| 2.03  | with hypoalbuminemia              | Stage 2.01-2.02<br>AND <b>hypoalbuminemia:</b>          | STAGE 1.01-2.02 + GROUP HYPOALBUMIN;                           |
| 2.04  | with anasarca                     | Stage 2.01-2.03<br>AND <b>anasarca:</b>                 | STAGE 1.01-2.03 + (DX 260, 262, 7823);                         |
| 2.05  | with growth retardation           | Stage 2.01-2.04<br>AND height ≤ 3rd percentile for age  | STAGE 1.01-2.05 + (DX 2632, 78343);                            |
| 2.06  | with pneumonia                    | Stage 2.01-2.05<br>AND <b>pneumonia:</b>                | STAGE 1.01-2.05 + (DXCAT RES15 OR DXCAT RES17 OR DXCAT RES19); |
| 3.01  | with congestive heart failure     | Stage 2.01-2.06<br>AND <b>congestive heart failure:</b> | STAGE 1.01-2.06 + GROUP CHF_NON_HTN;                           |
| 3.02  | with shock                        | Stage 2.01-3.01<br>AND <b>shock:</b>                    | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;             |
| 4.00  | with death                        | Stage 2.01-3.02<br>AND death                            | NO;  |

## References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS22

DXCat Label: Intussusception

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---------------------------------|--|--|
| 1.01  | Intussusception                 | Intussusception [ultrasound report or barium enema report or operative/pathology report]<br><u>Presumptive Diagnostic Findings:</u><br>currant jelly stools<br>AND soft abdominal mass<br>AND vomiting | DX 5600;   |
| 2.01  | with dehydration                | Stage 1.01<br>AND loss of $\geq$ 3% of body weight   | STAGE 1.01 + GROUP DEHYDRATION;                    |
| 2.02  | with bowel obstruction          | Stage 1.01-2.01<br>AND large bowel obstruction [KUB x-ray report or operative/pathology report]  | STAGE 1.01-2.01 + DX 5609;                         |
| 2.03  | with gangrene of the bowel      | Stage 1.01-2.02<br>AND gangrene of the bowel [operative/pathology report]  | STAGE 1.01-2.02 + DX 5570;                         |
| 2.04  | with peritonitis or perforation | Stage 1.01-2.03<br>AND peritonitis [operative/pathology report]<br>OR perforation [KUB x-ray reports air under the diaphragm or perforation]   | STAGE 1.01-2.03 + (DX 5672-5679, 56983);           |
| 3.01  | with sepsis                     | Stage 1.01-2.04<br>AND <b>sepsis:</b>  | STAGE 1.01-2.04 + GROUP SEPSIS;                    |
| 3.02  | with shock                      | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                      | Stage 1.01-3.02<br>AND death   | NO;  |

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS23

MultiStage: No

DXCat Label: Irritable Bowel Syndrome

Specificity: A

Etiology: Idiopathic

| Stage | Description              | Diagnostic findings   | ICD-9-CM Codes |
|-------|--------------------------|---|----------------|
| 1.01  | Irritable bowel syndrome | Stage 1.01<br>AND irritable bowel syndrome<br>OR abdominal pain relieved by defecation<br>AND stool frequency > 3 day<br>OR stool frequency < 3 per week<br>AND changed in stool form from baseline<br>AND altered stool passage<br>AND bloating<br>AND abdominal distention<br>OR spastic colitis<br>OR mucous colitis | DX 5641;       |

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS24

MultiStage: No

DXCat Label: Malabsorption from Blind Loop Syndrome

Specificity: A

Etiology: Mechanical

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Blind loop syndrome   | Bacterial overgrowth [quantitative intestinal aspirates which have $\geq 10^6$ cfu/ml]<br>AND positive breath test report<br>OR carbohydrate absorption deficiency [D-xylose tolerance test report] | DX 5792;   |
| 2.01  | with anemia   | Stage 1.01<br>AND <b>anemia:</b>  | STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FOL);                                   |
| 2.02  | with malnutrition   | Stage 1.01-2.01<br>AND body weight $\geq$ 85% of ideal weight   | STAGE 1.01-2.01 + (DX 2630-2631, 2638-2639);   |
| 2.03  | with hypoalbuminemia  | Stage 1.01-2.02<br>AND <b>hypoalbuminemia:</b>  | STAGE 1.01-2.02 + GROUP HYPOALBUMIN;   |
| 2.04  | with peripheral neuropathy or tetany or night blindness or hypocalcemia or dermatitis | Stage 1.01-2.03<br>AND peripheral neuropathy<br>OR tetanus<br>OR <b>hypocalcemia:</b><br>OR night blindness<br>OR dermatitis  | STAGE 1.01-2.03 + (DX 2645, 3568-3569, 3574, 3578-3579, 6908, 7817 OR GROUP HYPOCALCEMIA); |
| 2.05  | with hepatitis  | Stage 1.01-2.04<br>AND <b>hepatitis:</b>  | STAGE 1.01-2.04 + DXCAT HEP10;   |
| 3.01  | with renal failure  | Stage 1.01-2.05<br>AND <b>renal failure:</b>  | STAGE 1.01-2.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);                              |
| 3.02  | with wasting  | Stage 1.01-2.03<br>AND body weight $\leq$ 75% of ideal weight   | STAGE 1.01-3.01 + DX 260-262;  |
| 3.03  | with congestive heart failure   | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;   |
| 3.04  | with shock  | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death  | Stage 1.01-3.03<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS24

MultiStage: No

DXCat Label: Malabsorption from Blind Loop Syndrome

Specificity: A

Etiology: Mechanical

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS25

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenomatous Polyps, Colon

Specificity: A

Etiology: Neoplasm

| Stage | Description                            | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Hyperplastic polyps                    | Hyperplastic polyps [operative/pathology report]   | DX 2113-2114;                                      |
| 1.02  | Small tubular adenoma                  | Adenomatous polyp ≤ 15 mm. in diameter [operative/pathology report]  | NO;  |
| 1.03  | Tubular adenoma                        | Tubular adenomas > 15 mm. in diameter [operative/pathology report]   | NO;  |
| 1.04  | Tubulovillous adenoma                  | Stage 1.03   | NO;  |
| 1.05  | Villous adenoma                        | AND > 20% villous glands in polyp [operative/pathology report]<br>Stage 1.01-1.03<br>AND villous adenoma [operative/pathology report]<br>OR > 50% villous glands in polyp [operative/pathology report] | DX 2352;   |
| 2.01  | with rectal bleeding                   | Stage 1.01-1.05<br>AND guaiac positive stools<br>OR <b>bleeding:</b>   | STAGE 1.01-1.05 + (DX 5693, 5781-5789);            |
| 2.02  | Villous adenomas with hypokalemia      | Stage 1.05<br>AND <b>hypokalemia:</b>  | STAGE 1.01-2.01 + GROUP HYPOKALEMIA;               |
| 2.03  | Familial polyposis                     | History of polyps among members of the family<br>AND > 100 colonic polyps [operative/pathology report]<br>OR Peutz-Jeghers syndrome<br>OR Turcot's syndrome  | NO;  |
| 2.04  | with carcinoma or Gardener's syndrome  | Stage 1.01-2.03<br>AND adenocarcinoma [operative/pathology report]<br>OR Gardner's syndrome  | STAGE 1.01-2.02 + DXCAT GIS27;                     |
| 2.05  | with intestinal or colonic obstruction | Stage 1.01-2.04<br>AND large bowel obstruction [KUB x-ray report or operative/pathology report]  | STAGE 1.01-2.05 + (DX 56089-5609, 3383);           |
| 2.06  | with peritonitis                       | Stage 1.01-2.05<br>AND peritonitis [operative/pathology report]  | STAGE 1.01-2.05 + (DX 5672-5679, 56983);           |
| 3.01  | with sepsis                            | Stage 1.01-2.06<br>AND <b>sepsis:</b>  | STAGE 1.01-2.06 + GROUP SEPSIS;                    |
| 3.02  | with shock                             | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                             | Stage 2.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS25

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenomatous Polyps, Colon

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS26

MultiStage: No

DXCat Label: Neoplasm, Benign: Small Bowel

Specificity: A

Etiology: Neoplasm

| Stage | Description                 | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|-----------------------------|---|--|
| 1.01  | Benign tumors small bowel   | Adenomatous polyps [operative/pathology report]<br>AND leiomyomas [operative/pathology report]<br>OR fibromas [operative/pathology report]<br>OR fibromyomas [operative/pathology report]<br>OR neurofibromas [operative/pathology report]<br>OR lipomas [operative/pathology report]<br>OR hemangiomas [operative/pathology report]<br>OR arteriovenous malformations [operative/pathology report] | DX 2112;   |
| 2.01  | with bleeding               | Stage 1.01<br>AND guaiac positive stools<br>OR <b>bleeding:</b>   | STAGE 1.01 + DX 5781-5789;                         |
| 2.02  | with intestinal obstruction | Stage 1.01-2.01<br>AND small bowel obstruction [KUB x-ray report or operative/pathology report]   | STAGE 1.01-2.01 + (DX 3383, 5373, 5609);           |
| 2.03  | with peritonitis            | Stage 1.01-2.02<br>AND peritonitis [operative/pathology report]   | STAGE 1.01-2.02 + (DX 5672-5679, 56983);           |
| 3.01  | with sepsis                 | Stage 1.01-2.03<br>AND <b>sepsis:</b>   | STAGE 1.01-2.03 + GROUP SEPSIS;                    |
| 3.02  | with shock                  | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                  | Stage 2.01-3.02<br>AND death  | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS27

DXCat Label: Neoplasm, Malignant: Colon and Rectum

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 0.00  | History of colon or rectal carcinoma  |  | DX V1005-V1006;  |
| 1.01  | Colon or rectal carcinoma in situ or limited to the mucosa and submucosa                                    | Colorectal carcinoma limited to mucosa and submucosa<br>AND carcinoma in situ<br>OR American Joint Committee on Cancer Stage 0<br>OR Duke's classification for colorectal cancer Stage A [operative/pathology report]  | DX 2303-2306;  |
| 2.01  | Colon or rectal carcinoma extending to muscularis or serosa   | Colorectal carcinoma limited to muscularis or serosa<br>AND Duke's classification for colorectal cancer Stage B1 [operative/pathology report]<br>OR American Joint Committee on Cancer Stage 1   | DX 1530-1548;<br>DX 1530-1548 + DX 28522;<br>STAGE 0.00-1.01 + DX 28522; |
| 2.02  | with localized peritonitis or intra-abdominal abscess or extending to the subserosa or nonperitoneal tissue | Stage 1.01-2.01<br>AND localized peritonitis [operative/pathology report]<br>OR intra-abdominal abscess [operative/pathology report or sonogram report or CT scan report]<br>OR Duke's classification for colorectal cancer Stage B2 [operative/pathology report]<br>OR American Joint Committee on Cancer Stage 2                                 | STAGE 1.01-2.01 + (DX 5672-5679, 3383);                                  |
| 2.03  | with acute bleeding   | Stage 1.01-3.01<br>AND <b>bleeding:</b>  | STAGE 1.01-2.02 + DX 5780-5789;  |
| 2.04  | with intestinal obstruction   | Stage 1.01-2.03<br>AND intestinal obstruction [KUB x-ray reports small or large bowel obstruction]   | STAGE 1.01-2.03 + (DX 5373, 5609);                                       |
| 2.05  | with intususception or volvulus   | Stage 1.01-2.04<br>AND intususception or volvulus [operative/pathology report]   | STAGE 1.01-2.04 + (DX 5602 OR DXCAT GIS22);                              |
| 2.06  | with fistula formation  | Stage 1.01-2.05<br>AND enteroenteric fistula [barium enema report or UGI series report]<br>OR enterovesical fistula [barium enema report or urinalysis reports fecaluria]<br>OR enterovaginal fistula [barium enema report or feces and flatus per vagina]<br>OR enterocutaneous fistula [barium enema report or feces and flatus per sinus tract] | STAGE 1.01-2.05 + (DX 5651, 56981, 5961, 6191);                          |
| 2.07  | with gross perforation and peritonitis  | Stage 1.01-2.06<br>AND free air within peritoneal cavity [KUB x-ray report or chest x-ray report]<br>OR perforation of bowel [barium enema or chest x-ray report]<br>OR peritonitis [operative/pathology report or peritoneal fluid culture reports growth of pathologic organism(s)]  | STAGE 1.01-2.06 + DX 56983;  |
| 3.01  | extending to regional lymph nodes   | Colorectal carcinoma limited to lymph nodes draining the colon and rectum<br>AND Duke's classification for colorectal cancer Stage C [operative/pathology report]<br>OR American Joint Committee on Cancer Stage 3   | STAGE 0.00-2.07 + (DX 1962, 1966);                                       |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS27

DXCat Label: Neoplasm, Malignant: Colon and Rectum

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---------------------------------------|---|---|
| 3.02  | with metastasis to extracolonic sites | Stage 1.01-3.01<br>AND mass lesion(s) in liver [CT scan report or MRI report or liver/spleen scan report]<br>OR same carcinoma type present in liver [operative/pathology report]<br>OR mass lesion(s) in bones [CT scan or bone scan report]<br>OR same carcinoma type present in bones [operative/pathology report]<br>OR mass lesion(s) in lungs [CT scan or MRI report or chest x-ray report]<br>OR same carcinoma type present in lungs [operative/pathology report]<br>OR mass lesion(s) in sites other than the colon or rectum [operative/pathology report or CT scan report]<br>OR Duke's classification for colorectal cancer Stage D [operative/pathology report]<br>OR American Joint Committee on Cancer Stage 4 | STAGE 0.00-3.01 + (DX 1960-1961, 1963-1965, 1968-1991); |
| 3.03  | with shock                            | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;      |
| 4.00  | with death                            | Stage 1.01-3.03<br>AND death  | NO;   |

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Esophagus

Specificity: A

Etiology: Neoplasm

| Stage | Description                     | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---------------------------------|---|--|
| 0.00  | History of esophageal carcinoma |   | DX V1003;  |
| 1.01  | Esophageal carcinoma in situ    | Esophageal carcinoma in situ [operative/pathology report]<br>AND Stage TIS N0 M0<br>OR American Joint Committee on Cancer Stage 0   | DX 2301;   |
| 1.02  | Localized esophageal carcinoma  | Esophageal carcinoma involves < 5 cm. of esophageal length [operative/pathology report]<br>AND Stage T1 N0 M0<br>OR American Joint Committee on Cancer Stage 1  | DX 1500-1509;<br>DX 1500-1509 + DX 28522;<br>STAGE 0.00-1.01 + DX 28522; |
| 2.01  | Extensive esophageal carcinoma  | Esophageal carcinoma involves ≥ 5 cm. of esophageal length [operative/pathology report]<br>AND esophageal carcinoma produces obstruction [operative/pathology report]<br>OR circumferential involvement [operative/pathology report]  | NO;  |
| 2.02  | with nodal involvement          | Stage 1.02-2.01<br>AND movable unilateral nodes [operative/pathology report]<br>OR movable bilateral nodes [operative/pathology report]<br>OR Stage T1 N1/N2 M0<br>OR America Joint Committee on Cancer Stage 2   | STAGE 0.00-1.02 + DX 1961-1963;  |
| 3.01  | with regional metastasis        | Esophageal carcinoma involves nonesophageal tissues [operative/pathology report]<br>AND involvement of recurrent laryngeal nerve [operative/pathology report]<br>OR involvement of phrenic nerve [operative/pathology report]<br>OR fixed lymph nodes [operative/pathology report]<br>OR tracheal invasion [operative/pathology report]<br>OR vena caval invasion [operative/pathology report]<br>OR azygos vein invasion [operative/pathology report]<br>OR Stage T3<br>OR Stage N3<br>OR American Joint Committee on Cancer Stage 3 | STAGE 0.00-2.02 + (DX 3383, 1970-1973, 1984);                            |
| 3.02  | with distant metastasis         | Esophageal carcinoma tissue involves organs/tissue beyond the confines of the thoracic cavity [operative/pathology report]<br>AND Stage M1<br>OR American Joint Committee on Cancer Stage 4   | STAGE 0.00-3.01 + (DX 1960, 1965-1969, 1974-1983 , 1985-1991);           |
| 3.03  | with shock                      | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 1.02-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                       |
| 4.00  | with death                      | Stage 2.01-3.03<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Esophagus

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Small Bowel

Specificity: A

Etiology: Neoplasm

| Stage | Description                                    | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--|---|--|
| 0.00  | History of malignant tumor of the small bowel. |   | NO;  |
| 1.01  | Malignant small bowel tumors                   | Adenocarcinoma [operative/pathology report]<br>AND carcinoid tumors [operative/pathology report]<br>OR sarcomas [operative/pathology report]  | DX 1520-1529, 1590, 2307;                          |
| 2.01  | with bleeding                                  | Stage 1.01<br>AND guaiac positive stools<br>OR <b>bleeding:</b>   | STAGE 1.01 + DX 5781-5789;                         |
| 2.02  | with intestinal obstruction                    | Stage 1.01-2.01<br>AND small bowel obstruction [x-ray report or operative/pathology report]   | STAGE 1.01-2.01 + (DX 3383, 5609, 5373);           |
| 2.03  | with peritonitis                               | Stage 1.01-2.02<br>AND peritonitis [operative/pathology report]   | STAGE 1.01-2.02 + (DX 5672-5679, 56983);           |
| 3.01  | with sepsis                                    | Stage 1.01-2.03<br>AND <b>sepsis:</b>   | STAGE 1.01-2.03 + GROUP SEPSIS;                    |
| 3.02  | with distant mets                              | Stage 1.01-3.01<br>AND adenocarcinoma of the small intestine [operative/pathology report]<br>OR carcinoid tumor beyond the small intestine [operative/pathology report]<br>OR sarcomas [operative/pathology report] | STAGE 1.01-3.01 + DX 1960-1991;                    |
| 3.03  | with shock                                     | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                     | Stage 2.01-3.03<br>AND death  | NO;  |

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Stomach

Specificity: A

Etiology: Neoplasm

| Stage | Description                                      | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 0.00  | History of gastric carcinoma                     |  | DX V1004;  |
| 1.01  | Limited gastric carcinoma                        | Gastric carcinoma limited to the mucosa without penetration of the lamina propria [operative/pathology report]<br>OR Stage T1S N0 M0<br>OR American Joint Committee on Cancer Stage 0  | DX 2302;   |
| 1.02  | Mucosal gastric carcinoma                        | Gastric carcinoma limited to the mucosa and submucosa [operative/pathology report]<br>OR Stage T1 N0 M0<br>OR Stage T1 N1 M0<br>OR Stage T2 N0 M0<br>OR American Joint Committee on Cancer Stage 1   | DX 1510-1519;<br>DX 1510-1519 + DX 28522;<br>STAGE 0.00-1.01 + DX 28522; |
| 2.01  | Extensive gastric carcinoma                      | Gastric carcinoma involving the muscularis mucosa [operative/pathology report]<br>OR Stage T1 N2 M0<br>OR Stage T2 N1 M0<br>OR American Joint Committee on Cancer Stage 2  | NO;  |
| 2.02  | invading beyond the serosa                       | Gastric carcinoma penetrates the serosa [operative/pathology report]<br>OR Stage T3 N0 M0  | NO;  |
| 3.01  | with nodal involvement < 3 cm from primary tumor | Gastric carcinoma of the perigastric lymph node < 3 cm of the primary tumor along the greater or lesser curvature of the stomach [operative/pathology report]<br>OR Stage T2 N2 M0<br>OR Stage T3 N1 M0<br>OR Stage T4 N0 M0<br>OR Stage T3 N2 M0<br>OR Stage T4 N1 M0<br>OR American Joint Committee on Cancer Stage 3  | STAGE 0.00-2.01 + (DX 1962, 1966);                                       |
| 3.02  | with nodal involvement ≥3 cm from primary tumor  | Gastric carcinoma of the perigastric lymph node ≥ 3 cm from primary tumor along the greater or lesser curvature of the stomach [operative/pathology report]  | NO;  |
| 3.03  | involves adjacent tissue structures              | Gastric carcinoma involving the lesser omentum [operative/pathology report]<br>OR gastric carcinoma involving the perigastric fat [operative/pathology report]<br>OR gastric carcinoma involving the regional ligaments [operative/pathology report]<br>OR gastric carcinoma involving the greater omentum [operative/pathology report]<br>OR gastric carcinoma involving the transverse colon [operative/pathology report]<br>OR gastric carcinoma involving the spleen [operative/pathology report]<br>OR gastric carcinoma involving the esophagus [operative/pathology report]<br>OR gastric carcinoma involving the duodenum [operative/pathology report] | STAGE 0.00-3.01 + (DX 3383, 1974-1975, 1978);                            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS30

DXCat Label: Neoplasm, Malignant: Stomach

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                               | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 3.04  | with involvement of distant lymph nodes   | Gastric carcinoma involving the para-aortic lymph nodes [operative/pathology report]<br>OR gastric carcinoma involving the hepatoduodenal lymph nodes [operative/pathology report]<br>OR gastric carcinoma involving the retropancreatic lymph nodes [operative/pathology report]<br>OR gastric carcinoma involving the mesenteric lymph nodes [operative/pathology report]  | STAGE 0.00-3.03 + (DX 1960-1961, 1963-1965, 1968-1969); |
| 3.05  | with extensive peritoneal tissue invasion | Gastric carcinoma involving the liver [operative/pathology report]<br>OR gastric carcinoma involving the diaphragm [operative/pathology report]<br>OR gastric carcinoma involving the pancreas [operative/pathology report]<br>OR gastric carcinoma involving the abdominal wall [operative/pathology report]<br>OR gastric carcinoma involving the adrenal glands [operative/pathology report]<br>OR gastric carcinoma involving the kidneys [operative/pathology report]<br>OR gastric carcinoma involving the retroperitoneum [operative/pathology report]<br>OR gastric carcinoma involving the small intestine [operative/pathology report] | STAGE 0.00-3.04 + DX 1976;                              |
| 3.06  | with distant metastasis                   | Gastric carcinoma involving tissues beyond confines of the abdominal cavity [operative/pathology report or CT scan or MRI report]<br>OR Stage M1<br>OR Stage T4 N2 M0<br>OR American Joint Committee on Cancer Stage 4   | STAGE 0.00-3.05 + (DX 1970-1973, 1977, 1980-1991 );     |
| 3.07  | with shock                                | Stage 2.01-3.06<br>AND <b>shock:</b>   | STAGE 1.02-3.06 + (GROUP SHOCKC OR GROUP SHOCKN) ;      |
| 4.00  | with death                                | Stage 2.01-3.07<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Stomach

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS31

DXCat Label: Peptic Ulcer Disease

Etiology: Idiopathic; Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                               | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Peptic ulcer without complications        | Peptic ulcer [endoscopy report or UGI series report]<br>OR<br>Helicobacter pylori infection [breath test report or pathology report]   | DX 04186, 53130, 53170, 53190, 53230, 53270, 53290, 53330, 53370, 53390, 53430, 53470, 53490, 5356, 56982;  |
| 2.01  | with chronic bleeding                     | Stage 1.01<br>AND <b>anemia:</b><br>AND guaiac positive stools   | DX 53140, 53240, 53340, 53440;<br>STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN);  |
| 2.02  | with obstruction                          | Stage 1.01-2.01<br>AND gastric outlet obstruction [endoscopy report or UGI series report]<br>OR peptic ulcer with obstruction [operative/pathology report]   | DX 53131, 53141, 53171, 53191, 53231, 53241, 53271, 53291, 53331, 53341, 53371, 53391, 53431, 53441, 53471, 53491;  |
| 2.03  | with fistula formation                    | Stage 1.01-2.02<br>AND peptic ulcers with fistula formation [operative/pathology report or EGD report]   | STAGE 1.01-2.02 + (DX 5374, 56981);   |
| 2.04  | with free perforation or acute hemorrhage | Stage 1.01-2.03<br>AND peptic ulcers with perforation [operative/pathology report or UGI series report or KUB reports free air under diaphragm]<br>OR acute hemorrhage [endoscopy report or angiography report]<br>OR <b>bleeding:</b> | DX 53100-53101, 53110-53111, 53120-53121, 53150-53151, 53160-53161, 53200-53201, 53210-53211, 53220-53221, 53250-53251, 53260-53261, 53300-53301, 53310-53311, 53320-53321, 53350-53351, 53360-53361, 53400-53401, 53410-53411, 53420-53421, 53450-53451, 53460-53461;<br>STAGE 1.01-2.03 + DX 5780-5789; |
| 2.05  | with generalized peritonitis              | Stage 1.01-2.04<br>AND generalized peritonitis [operative or pathology report]   | STAGE 1.01-2.04 + (DX 5672-5679, 56983);  |
| 3.01  | with hypotension                          | Stage 1.01-2.05<br>AND <b>hypotension:</b>   | STAGE 1.01-2.05 + GROUP HYPOTENSION;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS31

MultiStage: No

DXCat Label: Peptic Ulcer Disease

Specificity: A

Etiology: Idiopathic; Infection, Bacterial

| Stage | Description | Diagnostic findings                   | ICD-9-CM Codes                                     |
|-------|-------------|---------------------------------------|--|
| 3.02  | with sepsis | Stage 1.01-2.05<br>AND <b>sepsis:</b> | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with shock  | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.02-3.03<br>AND death          | NO;  |

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS32

DXCat Label: Salmonellosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                              | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Salmonellosis                            | Salmonella spp. isolated from stools [stool culture reports]   | DX 0030, 00320, 00323, 00329-0039;                              |
| 2.01  | Salmonellosis of the liver or bile ducts | Stage 1.01<br>AND <b>jaundice:</b><br>OR acute cholecystitis [operative/pathology report or sonogram report or HIDA scan report or oral cholecystogram report]<br>OR liver abscess [operative/pathology report or sonogram report or liver/spleen scan report] | STAGE 1.01 + (DX 5720, 7824 OR DXCAT HEP01);                    |
| 2.02  | with intestinal complications            | Stage 1.01-2.01<br>AND small bowel or large bowel abscess [operative/pathology report]<br>OR small bowel or large bowel hemorrhage [bleeding scan report or operative/pathology report]  | STAGE 1.01-2.01 + (DX 5693, 5695, 5781-5789);                   |
| 2.03  | with peritonitis                         | Stage 1.01-2.02<br>AND peritonitis [operative/pathology report]  | STAGE 1.01-2.02 + (DX 5672-5679, 56983);                        |
| 2.04  | with pneumonia                           | Stage 1.01-2.03<br>AND <b>pneumonia:</b>   | DX 00322;   |
| 3.01  | with sepsis                              | Stage 1.01-2.04<br>AND <b>sepsis:</b>  | DX 0031;  |
| 3.02  | Salmonellosis of genitourinary tract     | Stage 1.01-3.01<br>AND Salmonella pelvic abscess [operative/pathology report or sonogram or CT scan report]<br>OR Salmonella <b>UTI:</b><br>OR Salmonella renal abscess [operative/pathology report or sonogram or CT scan report]                             | STAGE 1.01-3.01 + (DX 5902, 5990, 6143-6144);                   |
| 3.03  | Salmonella endocarditis or pericarditis  | Stage 1.01-3.02<br>AND <b>endocarditis:</b><br>OR <b>pericarditis:</b>   | STAGE 1.01-3.02 + (DX 4200-42090, 42099 OR GROUP ENDOCARDITIS); |
| 3.04  | Salmonella meningitis                    | Stage 1.01-3.04<br>AND <b>meningitis:</b>  | DX 00321, 00324;  |
| 3.05  | with shock                               | Stage 2.01-3.05<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;              |
| 4.00  | Salmonellosis with death                 | Stage 2.01-3.06<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS32

MultiStage: No

DXCat Label: Salmonellosis

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS33

DXCat Label: Shigellosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                 | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|-----------------------------|--|---|
| 1.01  | Shigella gastroenteritis    | Shigella spp. isolated from stools [stool culture report or serology report]   | DX 0040-0049;                                       |
| 1.02  | with mild dehydration       | Stage 1.01<br>AND estimated loss of $\geq$ 5% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 3% of ideal body weight in adults/adolescents in 24 hours  | STAGE 1.01 + GROUP DEHYDRATION;                     |
| 2.01  | with moderate dehydration   | Stage 1.01<br>AND estimated loss of $\geq$ 10% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 5% of ideal body weight in adults/adolescents in 24 hours | NO;   |
| 3.01  | with severe dehydration     | Stage 1.01<br>AND estimated loss of $\geq$ 15% of ideal body weight in children $\leq$ 12 years old in 24 hours<br>OR estimated loss of $\geq$ 7% of ideal body weight in adults/adolescents in 24 hours | NO;   |
| 3.02  | with renal failure          | Stage 2.01-3.01<br>AND <b>renal failure:</b>   | STAGE 1.01-1.02 + GROUP REN_FAIL_ACU;               |
| 3.03  | with intestinal perforation | Stage 2.01-3.01<br>AND free air in the abdomen [flat plate x-ray report or CT scan report]   | STAGE 1.01-3.02 + (DX 5672-5679, 56983);            |
| 3.04  | with sepsis                 | Stage 2.01-3.03<br>AND <b>sepsis:</b>  | STAGE 1.01-3.03 + (DX 03840, 03849-0389);           |
| 3.05  | with disorientation or coma | Stage 2.01-3.04<br>AND <b>disorientation:</b><br>OR <b>coma:</b>   | STAGE 1.01-3.04 + (GROUP DISORIENT OR GROUP COMA ); |
| 3.06  | with shock                  | Stage 2.01-3.05<br>AND <b>shock:</b>   | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                  | Stage 2.01-3.06<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS33

MultiStage: No

DXCat Label: Shigellosis

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
|---|
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS34

DXCat Label: Trichinosis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---------------------------------|--|--|
| 1.01  | Trichinosis                     | Trichinella spp. myositis [muscle biopsy reports cysts or larvae]<br>OR trichinosis [ELISA serologic test or complement fixation or fluorescent antibody or bentonite flocculation test show acute/convalescent titers $\geq$ fourfold increase]<br><br><u>Presumptive Diagnostic Findings:</u><br>history of ingestion of inadequately cooked pork products or bear or walrus meat within 48 hours<br>AND bowel movements $\geq$ 5 times a day<br>AND edema of eyelids<br>OR generalized muscle pain<br>AND <b>eosinophilia:</b><br>AND CK > 300 iu/l<br>AND LDH > 250 iu/l<br>AND SGOT (AST) > 60 iu/l | DX 124;  |
| 2.01  | with retinal hemorrhages        | Stage 1.01<br>AND retinal hemorrhages  | STAGE 1.01 + DX 36281;                             |
| 2.02  | with pneumonia                  | Stage 1.01-2.01<br>AND <b>pneumonia:</b>   | STAGE 1.01-2.01 + DXCAT RES15;                     |
| 3.01  | with myocarditis                | Stage 1.01-2.02<br>AND <b>myocarditis:</b>   | STAGE 1.01-2.02 + GROUP MYOCARDITIS;               |
| 3.02  | with meningitis or encephalitis | Stage 1.01-3.01<br>AND <b>meningitis:</b>  | STAGE 1.01-3.01 + (DX 3234 OR DXCAT NEU13);        |
| 3.03  | with congestive heart failure   | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;               |
| 3.04  | with respiratory failure        | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.03 + GROUP RESP_FAIL;                 |
| 3.05  | with shock                      | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                      | Stage 1.01-3.05<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS34

MultiStage: No

DXCat Label: Trichinosis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

|   |
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS35

DXCat Label: Tropical Sprue

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-------------------------------|--|--|
| 1.01  | Tropical sprue                | History of residence in tropics<br>AND tropical sprue [jejunal biopsy reports absence of villi and lymphocytic infiltrate in lamina propria]<br>AND <b>pancreatic insufficiency:</b><br><br><u>Presumptive Diagnostic Findings:</u><br>History of residence in tropics<br>AND sore tongue<br>AND history of ≥ 5 bowel movements a day<br>AND ≥ 5 lbs. weight loss per week for > 4 weeks | DX 5791;   |
| 1.02  | with macrocytic anemia        | Stage 1.01<br>AND <b>macrocytosis:</b><br>AND <b>anemia:</b><br>AND serum folate ≤ 2 ng/ml [chemistry report]<br>OR serum B <sub>12</sub> ≤ 200 pg/ml [chemistry report]   | STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FOL OR GROUP ANEM_OTH_UN OR GROUP ANEM_OTH_CHR OR GROUP MACROCYT_EY); |
| 2.01  | with moderate malnutrition    | Stage 1.01-1.02<br>AND body weight < 85% of ideal weight   | STAGE 1.01-1.02 + (DX 260, 2630-2631, 2638-2639) ;   |
| 2.02  | with severe malnutrition      | Stage 1.01-2.01<br>AND body weight ≥ 75% of ideal weight<br>OR anasarca  | STAGE 1.01-2.01 + DX 261-262;  |
| 3.01  | with congestive heart failure | Stage 1.01-2.02<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-2.02 + GROUP CHF_NON_HTN;   |
| 3.02  | with shock                    | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                    | Stage 1.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS35

MultiStage: No

DXCat Label: Tropical Sprue

Specificity: A

Etiology: Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

|   |
|---|
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS36

MultiStage: No

DXCat Label: Typhoid Fever

Specificity: A

Etiology: Infection

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Typhoid carrier state  | History of gastroenteritis within 14 days<br>AND Salmonella typhi in stools [stool culture report]   | DX V021;   |
| 1.02  | Typhoid gastroenteritis  | Salmonella typhi in stools [stool culture report]<br>AND generalized abdominal pain<br>AND bowel movements ≥ 5 times a day   | DX 0020-0029;  |
| 2.01  | Typhoid fever  | Temperature ≥ 103 degrees orally or 103.5 degrees rectally<br>AND 'rose spots' rash<br>OR typhoid bacteremia [blood culture reports growth of Salmonella typhi]<br>OR Salmonella typhi infection [Widal agglutination reaction or O/H antibody titers 2 weeks apart show ≥ fourfold increase in titers]  | NO;  |
| 2.02  | Typhoid hepatitis or leukopenia or anemia                        | Stage 2.01<br>AND <b>jaundice:</b><br>OR <b>leukopenia:</b><br>OR <b>anemia:</b>   | STAGE 1.02 + (DX 5732, 2880-28809, 7824 OR GROUP HEPATITIS OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN OR GROUP ANEM_HEM_ACQ OR GROUP ANEM_DEF_FE OR GROUP LEUKOPENIA); |
| 2.03  | with gastrointestinal bleeding                                   | Stage 2.01-2.02<br>AND <b>bleeding:</b>  | STAGE 1.02-2.02 + (DX 5693, 5780-5789);  |
| 2.04  | Typhoid fever with hepatomegaly or splenomegaly or cholecystitis | Stage 2.01-2.03<br>AND splenomegaly [physical examination or liver/spleen scan report or sonogram report or CT scan report or MRI report]<br>OR hepatomegaly [physical examination or liver/spleen scan report or sonogram report or CT scan report or MRI report]<br>OR acute cholecystitis [operative/pathology report or sonogram report or HIDA scan report]<br>AND Salmonella typhi cholecystitis [biopsy culture reports growth of Salmonella typhi] | STAGE 1.02-2.03 + (DX 57400-57401, 57430-57431, 57460-57461, 57480-57481, 5750, 57512, 7891-7892);   |
| 2.05  | with peritonitis   | Stage 2.01-2.04<br>AND air under diaphragm [KUB x-ray report]<br>OR peritonitis [operative/pathology report]   | STAGE 1.02-2.04 + (DX 5672-5679, 56983);   |
| 2.06  | Typhoid arthritis  | Stage 2.01-2.05<br>AND Salmonella spp. arthritis [culture reports growth of pathologic organism(s)]  | STAGE 1.02-2.05 + (DX 71100-71199, 73080-73089);   |
| 2.07  | Typhoid osteomyelitis  | Stage 2.01-2.06<br>AND <b>osteomyelitis:</b>   | STAGE 1.02-2.06 + DXCAT MUS25;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS36

DXCat Label: Typhoid Fever

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 2.08  | Typhoid urinary pyelonephritis or renal abscess or nephritis | Stage 2.01-2.07<br>AND pyelonephritis<br>OR renal abscess [ultrasonography report or CT scan report or MRI report]<br>OR nephritis | STAGE 1.02-2.07 + (DX 58381-5839, 59010-5902, 59080-5909); |
| 2.09  | Typhoid pneumonitis  | Stage 2.01-2.08<br>AND <b>pneumonia:</b>   | STAGE 1.02-2.08 + DXCAT RES15;                             |
| 3.01  | Typhoid endocarditis   | Stage 2.01-2.09<br>AND <b>endocarditis:</b>  | STAGE 1.02-2.09 + GROUP ENDOCARDITIS;                      |
| 3.02  | Typhoid meningitis   | Stage 2.01-3.01<br>AND <b>meningitis:</b>  | STAGE 1.02-3.01 + GROUP MENGIT__BACT;                      |
| 3.03  | with sepsis  | Stage 2.01-3.02<br>AND <b>sepsis:</b>  | STAGE 1.02-3.02 + GROUP SEPSIS;                            |
| 3.04  | with shock   | Stage 2.1-3.3<br>AND <b>shock:</b>   | STAGE 1.02-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;         |
| 4.00  | Typhoid with death   | Stage 2.01-3.04<br>AND death   | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS37

DXCat Label: Ulcerative Colitis

Etiology:

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Ulcerative colitis without complications   | <p>Ulcerative colitis [operative/pathology report]<br/>                     OR Ulcerative colitis: A spectrum of colonic mucosal changes from finely granular and friable mucosa with scattered hemorrhagic areas to zones of spongy red blood and pus filled ulcerations; areas may extend into muscular layer; there are infiltrates of polymorphonuclear and lymphoid inflammatory cells around affected regions [operative/pathology report]</p> <p><u>Presumptive Diagnostic Findings:</u><br/>                     Ulcerations, loss of haustrations and marginal spiculations with or without colonic pseudopolyposis [barium enema report or colonoscopy report]</p>               | DX 5560-5569;  |
| 2.01  | with arthritis or uveitis or stomatitis or erythema nodosum or pyoderma gangrenosum or anemia or hypoproteinemia | <p>Stage 1.01<br/>                     AND <b>arthritis:</b><br/>                     OR ankylosing spondylitis [chest x-ray report]<br/>                     OR sacroiliitis [pelvic x-ray report]<br/>                     OR erythema nodosum<br/>                     OR red, tender nodules on the anterior tibial surface<br/>                     OR uveitis [ophthalmologist's report]<br/>                     OR stomatitis<br/>                     OR pyoderma gangrenosum<br/>                     OR rapidly evolving cutaneous ulcer(s) with markedly undermined borders<br/>                     OR <b>anemia:</b><br/>                     OR <b>hypoproteinemia:</b></p> | STAGE 1.01 + (DX 36400, 36402-36404, 36410-36411 , 3643, 5280-5283, 68601, 6952, 70712-70715, 7078-7079, 7200, 7202, 7822 OR GROUP ARTHR_OTH OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP HYPOPROTEIN); |
| 2.02  | with hepatitis   | <p>Stage 1.01-2.01<br/>                     AND <b>hepatitis:</b></p>  | STAGE 1.01-2.01 + DXCAT HEP10;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS37

DXCat Label: Ulcerative Colitis

Etiology:

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 2.03  | with cirrhosis of the liver or sclerosing cholangitis | Stage 1.01-2.02<br>AND <b>sclerosing cholangitis:</b> fibrosing inflammation of the intrahepatic or extrahepatic bile ducts [liver biopsy operative/pathology reports sclerosing cholangitis]<br>OR <b>primary biliary cirrhosis:</b> inflammation of the medium sized bile ducts or portal triad progressing to periportal fibrosis [liver biopsy operative/pathology reports primary biliary cirrhosis]<br>OR <b>micronodular cirrhosis:</b> thin bands of connective tissue within the hepatic parenchyma with no delineation of hepatic veins or portal spaces [liver biopsy operative/pathology reports micronodular cirrhosis]<br>OR <b>macronodular cirrhosis:</b> bands of connective tissue within the hepatic parenchyma which contain hepatic veins or portal spaces [liver biopsy operative/pathology reports macronodular cirrhosis]<br>OR <b>mixed cirrhosis:</b> bands of connective tissue within the hepatic parenchyma with areas with and without hepatic veins or portal spaces [liver biopsy operative/pathology reports mixed cirrhosis]<br>OR <b>cirrhosis</b> [sonogram report or liver/spleen scan report] | STAGE 1.01-2.02 + (DX 5715-5716, 5761);            |
| 2.04  | with acute bleeding                                   | Stage 1.01-2.03<br>AND hematochezia<br>AND <b>bleeding:</b>   | STAGE 1.01-2.03 + DX 5781-5789;                    |
| 2.05  | with toxic megacolon                                  | Stage 1.01-2.04<br>AND diameter of colon $\geq$ 6cm. [KUB x-ray report or barium enema report]  | STAGE 1.01-2.03 + (DX 5600-56030, 56039-5609);     |
| 2.06  | with colonic perforation                              | Stage 1.01-2.05<br>AND free air under diaphragm [chest x-ray report or KUB report<br>OR contrast within peritoneal cavity [barium enema report]   | STAGE 1.01-2.04 + DX 56983;                        |
| 2.07  | with peritonitis                                      | Stage 1.01-2.06<br>AND peritonitis [operative/pathology report or peritoneal effusion culture reports growth of pathologic organism(s)]   | STAGE 1.01-2.06 + DX 5672-5679;                    |
| 2.08  | with deep vein thrombosis                             | Stage 1.01-2.07<br>AND <b>DVT:</b>  | STAGE 1.01-2.07 + GROUP DVT;                       |
| 3.01  | with sepsis   | Stage 1.01-2.08<br>AND <b>sepsis:</b>   | STAGE 1.01-2.08 + GROUP SEPSIS;                    |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS37

MultiStage: No

DXCat Label: Ulcerative Colitis

Specificity: A

Etiology:

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |  |
|--|
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS38

MultiStage: No

DXCat Label: Vascular Insufficiency of the Bowels

Specificity: A

Etiology:

| Stage | Description                                   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 1.01  | Intestinal angina or claudication             | Celiac artery stenosis [angiography report]<br>OR<br>mesenteric artery stenosis [angiography report]  | DX 5571-5579;                                      |
| 2.01  | Intestinal infarction                         | Superior mesenteric artery occlusion [angiography report]<br>AND superior mesenteric vein thromboembolism [angiography report]<br>OR celiac artery occlusion [angiography report]<br><br><u>Presumptive Diagnostic Findings:</u><br>mesenteric artery occlusion [doppler ultrasonography report]<br>OR celiac artery occlusion [doppler ultrasonography report]<br>OR pneumatosis intestinalis [KUB x-ray report]<br>AND ileus pattern of small and large intestine [KUB x-ray report]<br>OR thumb printing of the intestine [KUB or Barium enema report] | DX 5570;   |
| 2.02  | with gangrene of the bowels                   | Stage 2.01<br>AND gangrene of the bowels [operative/pathology report]   | NO;  |
| 2.03  | with perforation of the bowels or peritonitis | Stage 2.01-2.02<br>AND air under the diaphragm [KUB x-ray report]<br>OR peritonitis [operative/pathology report]  | STAGE 1.01-2.01 + (DX 5670-5679, 56983);           |
| 3.01  | with sepsis                                   | Stage 1.01-2.03<br>AND <b>sepsis:</b>   | STAGE 1.01-2.03 + GROUP SEPSIS;                    |
| 3.02  | with shock                                    | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                    | Stage 2.01-3.02<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS38

MultiStage: No

DXCat Label: Vascular Insufficiency of the Bowels

Specificity: A

Etiology:

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS80

MultiStage: No

DXCat Label: Complications of Gastrointestinal Treatment

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                   |
|-------|--|---------------------|--|
| 1.01  | Mechanical complications of gastrostomy, colostomy; post GI surgery syndrome, postop malabsorption, vomiting, or functional disorder |                     | DX 53640, 53642-53649, 56960, 56962-56969, 5793; |
| 2.01  | Infection of gastrostomy, colostomy, radiation gastroenteritis   |                     | DX 53641, 56961, 5581;                           |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS81

MultiStage: No

DXCat Label: Gastroenteritis

Specificity: B

Etiology:

| Stage | Description                                      | Diagnostic findings | ICD-9-CM Codes                                  |
|-------|--|---------------------|---|
| 1.01  | Gastroenteritis with or without mild dehydration |                     | DX 0070-0079, 0086-0093, 0402, 538, 5582, 5589; |
| 2.01  | with moderate dehydration                        |                     | STAGE 1.01 + GROUP DEHYDRATION;                 |
| 3.01  | with severe dehydration                          |                     | NO;   |
| 3.02  | with severe dehydration and renal failure        |                     | STAGE 1.01-2.01 + (DX 5845-5849, 586, 78791);   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS82

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Gastrointestinal System

Specificity: A

Etiology: Neoplasm

| Stage | Description                             | Diagnostic findings | ICD-9-CM Codes                            |
|-------|---|---------------------|---|
| 1.01  | Benign neoplasm gastrointestinal system |                     | DX 2110-2111, 2118-2119, 2354-2355, 2390; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS83

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Gastrointestinal System

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 0.00  | History of other gastrointestinal malignancy   |                     | DX V1000-V1001, V1009;                                  |
| 1.01  | Primary malignant neoplasm of peritoneum or other gastrointestinal or intra-abdominal site |                     | DX 1589, 1598-1599, 1763, 2309;                         |
| 2.01  | with abdominal or peritoneal lymph node involvement  |                     | STAGE 0.00-1.01 + (DX 3383, 1962, 1966);                |
| 2.02  | with anemia of neoplastic disease  |                     | STAGE 0.00-2.01 + DX 28522;                             |
| 3.01  | with distant metastases  |                     | STAGE 0.00-2.01 + (DX 1960-1961, 1963-1965, 1968-1991); |
| 3.02  | with shock   |                     | STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;      |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS84

MultiStage: No

DXCat Label: Other Diseases of Esophagus, Stomach, and Duodenum

Specificity: C

Etiology:

| Stage | Description                                  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Esophagitis, duodenitis, dilation of stomach |                     | DX 53010, 53012-53019, 5306, 53083-53084, 5309, 53560, 5360-5363, 5368-5369, 5371-5372, 5375, 53782, 53789-5379, 5430-5439, V473; |
| 2.01  | with hemorrhage, obstruction or fistula      |                     | DX 53561, 5370, 5373-5374, 5376, 53783-53784;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS85

MultiStage: No

DXCat Label: Other Gastrointestinal Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 1.01  | Peritoneal adhesions, rectal prolapse, angiodysplasia, malabsorption   |                     | DX 5680, 56889-5692, 56942, 56984, 56989-5699, 5794, 5798-5799;  |
| 2.01  | Paralytic ileus, volvulus, or other intestinal obstruction, hemoperitoneum, effusion, fistula, GI hemorrhage with or without blood loss anemia |                     | DX 5601-5602, 56081-5609, 56881-56882, 56981, 56985-56986;<br>DX 5780-5789 + NOT (DX 2800, 2851);<br>DX 5780-5789 + (DX 2800, 2851); |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS86

MultiStage: No

DXCat Label: Other Gastrointestinal Infections

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes             |
|-------|---|---------------------|----------------------------|
| 2.01  | Pneumococcal or other peritonitis, intestinal abscess |                     | DX 5671-5679, 5695, 56983; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS87

MultiStage: No

DXCat Label: Other Gastrointestinal or Abdominal Symptoms

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                               |
|-------|--|---------------------|--|
| 1.01  | Nausea, vomiting, heartburn, abnormal bowel sounds, diarrhea |                     | DX 78701-7871, 7873-78799, 78900-7899, 7934; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS01

MultiStage: No

DXCat Label: Bladder Disorders

Specificity: C

Etiology: Degenerative; Trauma; Metabolic

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Irradiation cystitis or chronic cystitis or calcified bladder or contracted bladder or hypertonic bladder or atonic bladder or diverticulum of bladder | Irradiation cystitis [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]<br>OR<br>calcified bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]<br>OR<br>contracted bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or scan report]<br>OR<br>hypertonic bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]<br>OR<br>atonic bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]<br>OR<br>diverticulum of bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report] | DX 5951, 5952, 59581, 59582, 5959, 5963, 5964, 59651, 5968; |
| 1.02  | Bladder neck obstruction   | Bladder neck obstruction [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]  | DX 5960;  |
| 2.01  | Bladder fistula  | Bladder fistula [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]   | DX 5962;  |
| 2.02  | Enterovesical fistula  | Enterovesical fistula [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]   | NO;   |
| 2.03  | Hemorrhage into bladder wall   | Hemorrhage into bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]   | DX 5967;  |
| 2.04  | Rupture of the bladder   | Rupture of the bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]  | DX 5966;  |
| 2.05  | with chronic renal failure   | Stage 1.01-2.04<br>AND <b>chronic renal failure:</b>  | STAGE 1.01-2.04 + GROUP REN_FAIL_CHR;                       |
| 3.01  | with acute renal failure   | Stage 1.01-2.05<br>AND <b>acute renal failure:</b>  | STAGE 1.01-2.05 + GROUP REN_FAIL_ACU;                       |
| 3.02  | with sepsis  | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;                             |
| 3.03  | with shock   | Stage 3.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;          |
| 4.00  | with death   | Stage 3.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS01

MultiStage: No

DXCat Label: Bladder Disorders

Specificity: C

Etiology: Degenerative; Trauma; Metabolic

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Dawson C, Whitfield H. ABC of urology. Urological trauma and bladder reconstruction. BMJ. 1996;312(7042):1352-4.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS02

DXCat Label: Calculus of the Urinary Tract

Etiology: Metabolic

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|------------------------------|---|--|
| 1.01  | Nephrolithiasis              | Nephrolithiasis [KUB x-ray report or sonogram report or intravenous pyelogram report]                                 | DX 5920-5929, 5940-5949;                           |
| 2.01  | with urinary tract infection | Stage 1.01<br>AND <b>UTI:</b>   | STAGE 1.01 + DXCAT GUS10;                          |
| 2.02  | with hydronephrosis          | Stage 1.01-2.01<br>AND hydronephrosis [operative/pathology report or sonogram report or intravenous pyelogram report] | STAGE 1.01-2.01 + DX 591;                          |
| 2.03  | with azotemia                | Stage 1.01-2.02<br>AND <b>azotemia:</b>   | STAGE 1.01-2.02 + DX 7906;                         |
| 2.04  | with chronic renal failure   | Stage 1.01-2.03<br>AND <b>chronic renal failure:</b>  | STAGE 1.01-2.03 + GROUP REN_FAIL_CHR;              |
| 3.01  | with acute renal failure     | Stage 1.01-2.04<br>AND <b>acute renal failure:</b>  | STAGE 1.01-2.04 + GROUP REN_FAIL_ACU;              |
| 3.02  | with sepsis                  | Stage 2.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with shock                   | Stage 2.02-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                   | Stage 2.01-3.03<br>AND death  | NO;  |

### References:

Asplin JR, Coe FL. Hereditary tubular disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1562-1569.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

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Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Wickham JE. Treatment of urinary tract stones. BMJ. 1993;307(6916):1414-7.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS03

MultiStage: No

DXCat Label: Glomerulonephritis, Acute

Specificity: B

Etiology: Infection; Metabolic; Toxicologic

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|-------------------------------|--|---|
| 1.01  | Focal Glomerulonephritis      | Glomerular hematuria<br>AND Berger's disease [renal biopsy report]<br>OR IgA mesangial nephropathy [renal biopsy report]<br>OR idiopathic focal glomerulonephritis [renal biopsy report]   | DX 5804, 5824, 5839;  |
| 2.01  | Glomerulonephritis            | Red blood cell casts [urinalysis report]<br>OR anti-glomerular basement membrane disease [renal biopsy report]<br>OR Goodpasture's syndrome [renal biopsy report]<br>OR membranoproliferative glomerulonephritis [renal biopsy report]<br>OR immune complex glomerulonephritis [renal biopsy report]<br>OR idiopathic glomerulonephritis [renal biopsy report]<br>OR rapidly progressive glomerulonephritis [renal biopsy report]<br>AND positive p-ANCA [chemistry report]<br>OR positive c-ANCA [chemistry report]<br>OR history of rheumatic fever ≤ 6 weeks<br>AND <b>hematuria:</b><br>AND <b>oliguria:</b><br>OR ASO titer ≥ 250 u/l [chemistry report]<br>OR antihyaluronidase titer ≥ 1000 u/l [chemistry report]<br>AND serum complement C3 ≤ 48 mg/dl [chemistry report] | STAGE 1.01 + DXCAT INF23;<br>DX 5800, 58081-5809, 5820-5822,<br>58281-5829, 5832-5834, 58381,<br>5830-5831, 5836-5837, 58389; |
| 2.02  | with hypertension             | Stage 1.01-2.01<br>AND <b>hypertension:</b>  | STAGE 1.01-2.01 + (DX 40501,<br>40511, 40591);  |
| 2.03  | with nephrotic syndrome       | Stage 1.01-2.02<br>AND urine protein excretion > 3.5 g/1.73 m <sup>2</sup> per 24 hours [urine chemistry report]<br>AND serum albumin ≤ 3.0 g/dl [chemistry report]  | STAGE 1.01-2.02 + DX 5810-5819;   |
| 3.01  | with renal failure            | Stage 1.01-2.03<br>AND <b>acute renal failure:</b>   | STAGE 1.01-2.03 + (GROUP<br>REN_FAIL_ACU OR GROUP<br>REN_FAIL_CHR);   |
| 3.02  | with congestive heart failure | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + (GROUP<br>CHF_HTNIVE OR GROUP<br>CHF_NON_HTN);  |
| 3.03  | with respiratory failure      | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP<br>RESP_FAIL;   |
| 3.04  | with coma                     | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;   |
| 3.05  | with shock                    | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS03

MultiStage: No

DXCat Label: Glomerulonephritis, Acute

Specificity: B

Etiology: Infection; Metabolic; Toxicologic

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 2.02-3.05<br>AND death | NO;            |

### References:

Brady HR, O'Meara YM, Brenner BM. The major glomerulopathies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1536-1545.

Hricik DE, Chung-Park M, Sedor JR. Glomerulonephritis. N Engl J Med. 1998;339(13):888-99.

Mason PD, Pusey CD. Glomerulonephritis: diagnosis and treatment. BMJ. 1994;309(6968):1557-63.

Morrison G. Kidney." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS04

DXCat Label: Injury: Urinary Tract

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--------------------------|--|--|
| 1.01  | Trauma of urethra        | History of trauma<br>AND trauma of the urethra [operative/pathology report or cystoscopy report or physical examination]   | DX 8670-8671;  |
| 1.02  | Trauma of the bladder    | History of trauma<br>AND trauma of the bladder [cystography report or operative/pathology report or cystoscopy report]     | NO;  |
| 1.03  | Trauma of the ureters    | History of trauma<br>AND trauma of the ureter [excretory or retrograde urogram, sonogram or operative or pathology report] | DX 8672-8673;  |
| 1.04  | Trauma of the kidney     | History of trauma<br>AND trauma of the kidney [CT scan report or KUB x-ray report]   | DX 86600-86603, 86610-86613;   |
| 2.01  | with hemorrhage          | Stage 1.01-1.04<br>AND <b>bleeding:</b>  | STAGE 1.01-1.04 + (DX 59381, 5997, 59984, 5968);                         |
| 2.02  | with obstruction         | Stage 1.01-2.01<br>AND urinary tract obstruction [excretory urogram report]  | STAGE 1.01-2.01 + (DX 33811, 33821, 591, 5934, 59389, 5960, 5996-59969); |
| 3.01  | with acute renal failure | Stage 1.01-2.03<br>AND <b>acute renal failure:</b>   | STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;                                    |
| 3.02  | with sepsis              | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;  |
| 3.03  | with shock               | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + GROUP SHOCKA;  |
| 4.00  | with death               | Stage 2.01-3.03<br>AND death   | NO;  |

### References:

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Dawson C, Whitfield H. ABC of urology. Urological trauma and bladder reconstruction. BMJ. 1996;312(7042):1352-4.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS05

MultiStage: No

DXCat Label: Neoplasm, Malignant: Bladder, Urinary

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 0.00  | History of carcinoma of the bladder   |  | DX V1051;  |
| 1.01  | Carcinoma of the bladder in situ or papillary noninvasive bladder carcinoma | Carcinoma of the bladder in situ [operative/pathology report]<br>OR<br>papillary bladder carcinoma [operative/pathology report]  | DX 1880-1889, 2337;  |
| 1.02  | within the mucosa   | Carcinoma of the bladder without microscopic invasion beyond the lamina propria [operative/pathology report]<br>OR<br>Stage 1 of the American Joint Committee of Cancer<br>OR<br>Stage T1  | NO;  |
| 2.01  | with invasion of the superficial muscle layer of the bladder                | Carcinoma of the bladder with microscopic invasion of the superficial muscle of the bladder [operative/pathology report]<br>OR<br>carcinoma of the bladder extending through muscle to both edges of the resected specimen [operative/pathology report]<br>OR<br>Stage 2 of the American Joint Committee of Cancer<br>OR<br>Stage T2<br>OR<br>Stage T3a  | NO;  |
| 3.01  | with invasion of deep muscles   | Carcinoma of the bladder with microscopic invasion of deep bladder muscle [operative/pathology report]<br>OR<br>carcinoma of the bladder invasion of perivesical fat [operative/pathology report]<br>OR<br>Stage 3 of the American Joint Committee of Cancer<br>OR<br>Stage T3b  | NO;  |
| 3.02  | with local invasion   | Carcinoma of the bladder invades neighboring organs [operative/pathology report]<br>OR<br>carcinoma of the bladder invades the prostate [operative/pathology report]<br>OR<br>carcinoma of the bladder invades the uterus [operative/pathology report]<br>OR<br>carcinoma of the bladder invades the vagina [operative/pathology report]<br>OR<br>carcinoma of the bladder fixed to the pelvic wall [operative/pathology report]<br>OR<br>carcinoma of the bladder infiltrates the abdominal wall [operative/pathology report]<br>OR<br>carcinoma of the bladder infiltrates the abdominal wall [operative/pathology report]<br>OR<br>Stage T4<br>OR<br>Stage T4a<br>OR<br>Stage T4b | STAGE 0.00-1.01 + (DX 3383, 1974-1976, 1980-1981 , 19882); |
| 3.03  | with nodal involvement  | Involvement of any homolateral regional node [operative/pathology report]<br>OR<br>involvement of bilateral regional nodes [operative/pathology report]<br>OR<br>involvement of contralateral regional nodes [operative/pathology report]<br>OR<br>Stage N1<br>OR<br>Stage N2<br>OR<br>Stage N3  | STAGE 0.00-3.02 + (DX 1962, 1966);                         |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS05

DXCat Label: Neoplasm, Malignant: Bladder, Urinary

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description             | Diagnostic findings  | ICD-9-CM Codes  |
|-------|-------------------------|--|---|
| 3.04  | with distant metastasis | Stage 1.01-3.03<br>AND carcinoma of the bladder beyond the confines of the pelvic cavity [operative/pathology report]<br>OR Stage 4 American Joint Committee on Cancer | STAGE 0.00-3.03 + (DX 1960-1961, 1963, 1965, 1968-1973, 1977-1978, 1982-19881, 19889-1991); |
| 3.05  | with shock              | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 0.00-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death              | Stage 2.01-3.05<br>AND death   | NO;   |

### References:

Cornella JL, Larson TR, Lee RA, Magrina JF, Kammerer-Doak D. Leiomyoma of the female urethra and bladder: report of twenty-three patients and review of the literature. American Journal of Obstetrics & Gynecology. 1997;176(6):1278-85.

Hall RR. Superficial bladder cancer. BMJ. 1994;308(6933):910-3.

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Scher HI, Motzer RJ. Bladder and renal cell cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:592-596.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS06

DXCat Label: Neoplasm, Malignant: Kidneys

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                      |
|-------|---|---|---|
| 0.00  | History of cancer of the kidneys  |   | DX V1052-V1053;                                     |
| 1.01  | Cancer confined to the kidney   | Cancer confined to the kidney [operative/pathology report]<br>OR<br>Robeson stage I   | DX 1890-1891;                                       |
| 2.01  | Cancer extends through the renal capsule but is confined by Gerota's fascia | Cancer extends through the renal capsule but is confined by Gerota's fascia [operative/pathology report]<br>OR<br>Robeson stage II                              | NO;   |
| 2.02  | Cancer invading renal vein or cancer extending into vena cava               | Cancer extending into renal vein [operative/pathology report]<br>OR<br>cancer extending into vena cava [operative/pathology report]<br>OR<br>Robeson Stage IIIA | NO;   |
| 3.01  | Cancer extending to hilar lymph nodes                                       | Cancer extending to hilar lymph nodes [operative/pathology report]<br>OR<br>Robeson Stage IIIB  | STAGE 0.00-1.01 + DX 1962;                          |
| 3.02  | Cancer of the kidneys with distant metastasis                               | Cancer of the kidneys beyond the confines of the abdominal cavity [operative/pathology report]<br>OR<br>Robeson Stage 4   | STAGE 0.00-3.01 + (DX 3383, 1960-1961, 1963-1991 ); |
| 4.00  | Cancer of the kidneys and death   | Stage 2.01-3.03<br>AND<br>death   | NO;   |

### References:

Motzer RJ, Bander NH, Nanus DM. Renal-cell carcinoma. N Engl J Med. 1996;335(12):865-75.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS07

MultiStage: No

DXCat Label: Nephrotic Syndrome

Specificity: B

Etiology: Genetic (or hereditary); Immune; Metabolic; Toxicologic

| Stage | Description                | Diagnostic findings  | ICD-9-CM Codes   |
|-------|----------------------------|--|--|
| 2.01  | Nephrotic syndrome         | Urine protein excretion > 3.5 g/1.73 m <sup>2</sup> per 24 hours [urine chemistry report]<br>AND serum albumin ≤ 3.0 g/dl [chemistry report] | DX 5810-5819;  |
| 2.02  | with hypercholesteremia    | Stage 2.01<br>AND total serum cholesterol ≥ 200 mg/dl [chemistry report]   | STAGE 2.01 + GROUP HYPR_CHOLEST;                           |
| 2.03  | with hypertension          | Stage 2.01-2.02<br>AND <b>hypertension:</b>  | STAGE 2.01-2.02 + (DX 40501, 40511, 40591);                |
| 2.04  | with deep vein thrombosis  | Stage 2.01-2.03<br>AND <b>DVT:</b>   | STAGE 2.01-2.03 + GROUP DVT;                               |
| 2.05  | with renal vein thrombosis | Stage 2.01-2.04<br>AND renal vein thrombosis [renal vein Doppler or MRA or Angiogram report]   | STAGE 2.01-2.04 + DX 4533;                                 |
| 2.06  | with peritonitis           | Stage 2.01-2.05<br>AND peritonitis [operative/pathology report]  | STAGE 2.01-2.05 + (DX 5672, 5678, 5679, 56983, 6143-6146); |
| 2.07  | with chronic renal failure | Stage 2.01-2.06<br>AND <b>chronic renal failure:</b>   | STAGE 2.01-2.06 + GROUP REN_FAIL_CHR;                      |
| 3.01  | with acute renal failure   | Stage 2.01-2.07<br>AND <b>acute renal failure:</b>   | STAGE 2.01-2.07 + GROUP REN_FAIL_ACU;                      |
| 3.02  | with sepsis                | Stage 2.04-3.01<br>AND <b>sepsis:</b>  | STAGE 2.01-3.01 + GROUP SEPSIS;                            |
| 3.03  | with shock                 | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;         |
| 4.00  | with death                 | Stage 2.01-3.03<br>AND death   | NO;  |

### References:

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Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Orth SR, Ritz E. The nephrotic syndrome. N Engl J Med. 1998;338(17):1202-11.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS08

DXCat Label: Renal Failure

Etiology: Idiopathic

MultiStage: No

Specificity: B

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.01  | Azotemia  | <b>Azotemia:</b>  | DX 5851-5852;   |
| 2.02  | Azotemia with hypertension                                    | Stage 2.01<br>AND <b>hypertension:</b>  | NO;   |
| 2.03  | Azotemia with oliguria  | Stage 2.01-2.02<br>AND <b>oliguria:</b>   | DX 7885, 5853;  |
| 2.04  | Chronic renal failure   | <b>Chronic renal failure:</b>   | DX 585, 28521, 5854-586;  |
| 3.01  | Acute renal failure   | <b>Acute renal failure:</b>   | DX 5845-5849;   |
| 3.02  | with pericarditis   | Stage 3.01<br>AND <b>pericarditis:</b>  | STAGE 3.01 + DX 4200-42099;   |
| 3.03  | with coagulation defect                                       | Stage 3.02<br>AND <b>coagulation defect:</b>  | STAGE 3.01-3.02 + GROUP COAG_DEFECT;                                    |
| 3.04  | with acute congestive heart failure                           | Stage 3.01-3.03<br>AND <b>congestive heart failure:</b>   | STAGE 3.01-3.03 + (GROUP CHF_HTNIVE OR GROUP CHF_NON HTN);              |
| 3.05  | with pulmonary edema  | Stage 3.01-3.04<br>AND pulmonary edema [chest x-ray report]   | STAGE 3.01-3.04 + (DX 514, 5184);                                       |
| 3.06  | with shock or ventricular fibrillation or ventricular flutter | Stage 3.01-3.05<br>AND <b>shock:</b><br>OR ventricular fibrillation [EKG report]<br>OR ventricular flutter [EKG report] | STAGE 3.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN OR GROUP ARHTHYM_VFIB); |
| 4.00  | with death  | Stage 3.01-3.06<br>AND death  | NO;   |

### References:

Abuelo JG. Diagnosing vascular causes of renal failure. *Annals of Internal Medicine*. 1995;123(8):601-14.

Brady HR, Brenner BM. Acute renal failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1504-1513.

Brady HR, Singer GG. Acute renal failure. *Lancet*. 1995;346(8989):1533-40.

Carpenter CB, Lazarus JM. Dialysis and transplantation in the treatment of renal failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1520-1529.

Lazarus JM, Brenner BM. Chronic renal failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1513-1520.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:850-878.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS09  
 DXCat Label: Urethritis  
 Etiology: Infection

MultiStage: No  
 Specificity: B

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---------------------------------------|---|---|
| 1.01  | Urethritis                            | Dysuria<br>AND <b>UTI:</b>  | DX 0993, 09940, 09949, 13102, 59780, 59789;                           |
| 1.02  | with cystitis                         | Stage 1.01<br>AND cystitis (cystoscopy report)  | DX 5990 + DX 5959;<br>STAGE 1.01 + (DX 5950, 5953-5954, 59589, 5997); |
| 1.03  | with chronic or recurrent prostatitis | Stage 1.01-1.02<br>AND <b>prostatitis:</b><br>AND history of prior prostatitis  | STAGE 1.01-1.02 + (DX 13103, 6011, 6013, 6014, 6018, 6019);           |
| 1.04  | with epididymitis                     | Stage 1.01-1.03<br>AND inguinal pain<br>OR spermatic cord pain<br>OR edema of scrotum<br>AND erythema of scrotum<br>AND tenderness of scrotum | STAGE 1.01-1.03 + DX 6040-60499;                                      |
| 1.05  | with acute prostatitis                | Stage 1.01-1.04<br>AND <b>prostatitis:</b>  | STAGE 1.01-1.04 + (DX 6010, 6012);                                    |
| 1.06  | Urethral abscess                      | Urethral abscess [by pelvic ultrasound or urologist report]   | DX 5970;  |
| 2.01  | with obstruction                      | Stage 1.01-1.05<br>AND urinary tract obstruction [excretory urogram report]   | STAGE 1.01-1.06 + (DX 591, 5934, 59389, 5960, 5996-59969);            |
| 3.01  | with renal failure                    | Stage 1.01-2.01<br>AND <b>renal failure:</b>  | STAGE 1.01-2.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);         |
| 3.02  | with sepsis                           | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;                                       |
| 3.03  | with shock                            | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                    |
| 4.00  | with death                            | Stage 2.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS09

MultiStage: No

DXCat Label: Urethritis

Specificity: B

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Schmid GP, Fontanarosa PB. Evolving strategies for management of the nongonococcal urethritis syndrome. JAMA. 1995;274(7):577-9.

Stamm WE, Hicks CB, Martin DH, et al. Azithromycin for empirical treatment of the nongonococcal urethritis syndrome in men. A randomized double-blind study. JAMA. 1995;274(7):545-9.

Stamm WE. Urinary tract infections and pyelonephritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:817-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS10

DXCat Label: Urinary Tract Infections

Etiology: Infection

MultiStage: No

Specificity: B

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---------------------------------------|---|---|
| 1.01  | Urinary tract infection               | <b>UTI:</b>   | DX 5990;  |
| 1.02  | Acute cystitis                        | Stage 1.01<br>AND <b>hematuria:</b>   | STAGE 1.01 + DX 5997;<br>DX 5950, 5953, 5954, 59589;          |
| 2.01  | Acute pyelonephritis                  | UTI:<br>AND flank pain<br>OR costovertebral tenderness<br>OR kidney punch positive                                    | DX 59010-59011, 59080-5909;                                   |
| 2.02  | with bacteremia                       | Stage 1.01-2.01<br>AND <b>bacteremia:</b>   | STAGE 1.01-2.01 + GROUP<br>BACTEREMIA;                        |
| 2.03  | Acute pyelonephritis with obstruction | Stage 2.01-2.02<br>AND hydronephrosis or dilated ureters [sonography report or CT scan report or<br>KUB x-ray report] | STAGE 1.01-2.02 + (DX 591, 5934,<br>59389, 5960, 5996-59969); |
| 2.04  | with perinephric abscess              | Stage 1.01-2.03<br>AND perinephric abscess [operative/pathology report or sonogram or CT scan report]                 | DX 5902;  |
| 2.05  | with necrotizing papillitis           | Stage 1.01-2.04<br>AND necrotizing papillitis [operative/pathology report]  | STAGE 1.01-2.04 + DX 5847;                                    |
| 3.01  | with renal failure                    | Stage 1.01-2.06<br>AND <b>chronic renal failure:</b>  | STAGE 1.01-2.05 + (DX 5845-5846,<br>5848-5849);               |
| 3.02  | with sepsis                           | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;                               |
| 3.03  | with shock                            | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;         |
| 4.00  | with death                            | Stage 2.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS10

MultiStage: No

DXCat Label: Urinary Tract Infections

Specificity: B

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Dawson C, Whitfield H. ABC of urology. Urinary incontinence and urinary infection. BMJ. 1996;312(7036):961-4.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Seifter JL, Brenner BM. Urinary tract obstruction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine, 14th 3d. New York, NY: McGraw-Hill; 1998:1574-1579.

Stamm WE, Hooton TM. Management of urinary tract infections in adults. N Engl J Med. 1993;329(18):1328-34.

Stamm WE. Urinary tract infections and pyelonephritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:817-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS80

MultiStage: No

DXCat Label: Neoplasm, Benign: Urinary Tract

Specificity: A

Etiology: Neoplasm

| Stage | Description                      | Diagnostic findings | ICD-9-CM Codes                  |
|-------|----------------------------------|---------------------|---------------------------------|
| 1.01  | Benign neoplasm of urinary tract |                     | DX 2230-2239, 2367-23699, 2394; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Genitourinary System

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                      |
|-------|--|---------------------|---|
| 0.00  | History of malignant neoplasm of other urinary sites                   |                     | DX V1050, V1059;                                    |
| 1.01  | Primary malignant neoplasm of ureter, urethra, and other urinary sites |                     | DX 1892-1899, 2339;                                 |
| 2.01  | with lymph node involvement  |                     | STAGE 0.00-1.01 + DX 1965-1966;                     |
| 2.02  | with anemia of neoplastic disease                                      |                     | STAGE 0.00-2.01 + DX 28522;                         |
| 3.01  | with distant metastases  |                     | STAGE 0.00-2.02 + (DX 3383, 1960-1963, 1968-1991 ); |
| 3.02  | with shock   |                     | STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS83

MultiStage: No

DXCat Label: Other Disorders of Kidney or Ureter

Specificity: B

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 1.01  | Impaired renal function, small kidney, hydronephrosis, nephroptosis, stricture or obstruction of ureter            |                     | DX 5888-5899, 591, 5930-59370, 59381-5939, 59652-59659, 5969, 59800-5989, 5991-5999; |
| 2.01  | Renal sclerosis, osteodystrophy, chronic pyelonephritis, vesicoureteral reflux with nephropathy, urethral syndrome |                     | DX 587, 5880, 59000-59001, 5903, 59371-59373, 59781;                                 |
| 3.01  | with acute renal failure   |                     | STAGE 1.01-2.01 + GROUP REN_FAIL_ACU;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS84

MultiStage: No

DXCat Label: Other Urinary Symptoms

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                              |
|-------|---|---------------------|---|
| 1.01  | Dysuria, urinary retention, incontinence, polyuria, discharge, extravasation of urine |                     | DX 7881-78843, 7886-7889, 7935, 7944, V474; |
| 1.02  | Renal colic   |                     | DX 7880;                                    |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN01

DXCat Label: Abortion: Elective

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Elective abortion  | Voluntary dilation and evacuation of uterus<br>AND pregnancy of < 12 weeks   | DX 63540-63542, 63570-63592,<br>63640-63642, 63670-63692, 63740-<br>63742, 63770-63792, 6384, 6387-<br>6389, 6394; |
| 1.02  | Elective abortion of uterus ≥ 12 weeks gestation           | Voluntary dilation and evacuation of uterus<br>OR Voluntary pharmaceutical evacuation of uterus<br>AND pregnancy of ≥ 12 weeks                         | NO;  |
| 2.01  | Perforation of uterus                                      | Stage 1.01-1.02<br>AND perforation of the uterus [operative/pathology report]  | DX 63520-63522, 63620-63622,<br>63720-63722, 6382 ;<br>STAGE 1.01 + DX 6392;                                       |
| 2.02  | with laceration of bladder                                 | Stage 1.01-2.01<br>AND laceration of bladder [operative/pathology report]  | NO;  |
| 2.03  | with perforation of the bowels                             | Stage 1.01-2.02<br>AND free air under the diaphragm [KUB upright x-ray report]<br>OR perforation of bowels [operative/pathology report]                | NO;  |
| 2.04  | with peritonitis   | Stage 1.01-2.03<br>AND peritonitis [operative/pathology report]  | DX 63500-63502, 63600-63602,<br>63700-63702, 6380 ;<br>STAGE 1.01-2.01 + DX 6390;                                  |
| 2.05  | with laceration of pelvic arteries and mesenteric arteries | Stage 1.01-2.04<br>AND laceration of pelvic arteries [operative/pathology report]<br>OR laceration of mesenteric arteries [operative/pathology report] | DX 63510-63512, 63610-63612,<br>63710-63712, 6381 ;<br>STAGE 1.01-2.04 + DX 6391;                                  |
| 3.01  | with pulmonary embolism                                    | Stage 1.01-2.05<br>AND <b>pulmonary embolism:</b>  | DX 63560-63562, 63660-63662,<br>63760-63762, 6386 ;<br>STAGE 1.01-2.05 + (DX 6396 OR<br>GROUP PULMEMB);            |
| 3.02  | with renal failure   | Stage 1.01-3.01<br>AND <b>renal failure:</b>   | DX 63530-63532, 63630-63632,<br>63730-63732, 6383 ;<br>STAGE 1.01-3.01 + (DX 6393 OR<br>GROUP REN_FAIL_ACU);       |
| 3.03  | with sepsis  | Stage 2.02-3.02<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN01

DXCat Label: Abortion: Elective

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes  |
|-------|-------------|--------------------------------------|---|
| 3.04  | with shock  | Stage 2.01-3.03<br>AND <b>shock:</b> | DX 63550-63552, 63650-63652,<br>63750-63752, 6385 ;<br>STAGE 1.01-3.03 + (DX 6395 OR<br>GROUP SHOCKC OR GROUP<br>SHOCKN); |
| 4.00  | with death  | Stage 2.01-3.04<br>AND death         | NO;   |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN02

DXCat Label: Abortion: Spontaneous

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Threatened abortion                         | Bleeding per cervix<br>AND dilation of the cervix < 1 cm.<br>AND pregnancy of ≤ 20 weeks   | DX 64000, 64003;   |
| 1.02  | Inevitable abortion                         | Cervix dilated ≥ 1 cm.<br>AND bleeding per cervix<br>AND pregnancy of ≤ 20 weeks   | NO;  |
| 1.03  | Incomplete abortion                         | Incomplete passage of products of conception<br>AND pregnancy of ≤ 20 weeks<br>AND cervix ≥ 1cm<br>OR products of conception within uterus on ultrasound   | DX 63441, 63471, 63481, 63491;   |
| 1.04  | Missed abortion                             | Pregnancy of ≤ 20 weeks<br>AND no yolk sac when gestational sac average diameter ≥ 5 mm [transvaginal ultrasound report]<br>AND no embryo when gestational sac average diameter ≥ 16mm [transvaginal ultrasound report]<br>AND no heart activity when gestational sac average diameter ≥ 18mm [transvaginal ultrasound report] | DX 632;  |
| 1.05  | Complete abortion                           | Products of conception<br>AND passage of membranes<br>AND passage of decidual lining<br>AND pregnancy of ≤ 20 weeks<br>AND dilatation of cervix < 1cm<br>OR no products of conception [ultrasound report]  | DX 63440, 63442, 63470, 63472, 63480, 63482, 63490, 63492, 6398, 6399; |
| 2.01  | with hemorrhage                             | Stage 1.01-1.05<br>AND <b>bleeding:</b>  | DX 63410-63412, 63420-63422, 6391-6392;                                |
| 2.02  | with chorioamnionitis or endometritis       | Stage 1.01-2.01<br>AND chorioamnionitis [culture reports growth of pathologic organism(s)]<br>OR antepartum fever and uterine tenderness<br>OR endometritis [culture reports growth of pathologic organism(s)]<br>OR postpartum fever and uterine tenderness   | DX 63400-63402, 6390;  |
| 3.01  | with disseminated intravascular coagulation | Stage 1.05-2.02<br>AND <b>DIC:</b>   | STAGE 1.01-2.02 + DX 2866;   |
| 3.02  | with pulmonary embolism                     | Stage 1.01-3.01<br>AND <b>pulmonary embolism:</b>  | DX 63460-63462, 6396;<br>STAGE 1.01-3.01 + GROUP PULMEMB;              |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN02

MultiStage: No

DXCat Label: Abortion: Spontaneous

Specificity: A

Etiology: Pregnancy

| Stage | Description        | Diagnostic findings                          | ICD-9-CM Codes  |
|-------|--------------------|--|---|
| 3.03  | with renal failure | Stage 1.01-3.02<br>AND <b>renal failure:</b> | DX 63430-63432, 6393;<br>STAGE 1.01-3.02 + GROUP<br>REN_FAIL_ACU;             |
| 3.04  | with sepsis        | Stage 1.01-3.03<br>AND <b>sepsis:</b>        | STAGE 1.01-3.03 + GROUP SEPSIS;   |
| 3.05  | with shock         | Stage 2.01-3.04<br>AND <b>shock:</b>         | DX 63450-63452, 6395;<br>STAGE 1.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death         | Stage 2.01-3.05<br>AND death                 | NO;   |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN03

DXCat Label: Abruptio Placentae

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Localized abruptio placentae, grade I       | Localized abruptio placentae [sonogram or physical/pathologic findings]<br>OR placenta post delivery Grade 1<br>OR mild bleeding<br>AND normal blood pressure<br>AND normal fetal heart rate<br>AND no <b>DIC</b> : | DX 64120-64123;   |
| 2.01  | Moderate abruptio placentae or grade II     | Stage 1.01<br>AND localized uterine pain<br>AND moderate vaginal bleeding<br>OR concealed bleeding [sonogram report]<br>OR fetal tachycardia/distress<br>OR fibrinogen < 250 mg/dl [chemistry report]               | STAGE 1.01 + DX 65630-65633;  |
| 2.02  | Severe abruptio placentae, grade III        | Stage 1.01-2.01<br>AND board-like rigidity of the uterus<br>AND diffuse abdominal pain<br>AND hypotension<br>AND fibrogen < 150 mg/dl [chemistry report]<br>OR fetal death  | STAGE 1.01-2.01 + (DX 65640-65643, 66920-66924);                    |
| 3.01  | with disseminated intravascular coagulation | Stage 1.01-2.03<br>AND <b>DIC</b> :   | STAGE 1.01-2.02 + (DX 2866, 64130-64133, 66630-66634);              |
| 3.02  | with renal failure                          | Stage 1.01-3.01<br>AND <b>renal failure</b> :   | STAGE 1.01-3.01 + (DX 66930-66934 OR GROUP REN_FAIL_ACU);           |
| 3.03  | with shock                                  | Stage 2.01-3.02<br>AND <b>shock</b> :   | STAGE 1.01-3.02 + (DX 66910-66914 OR GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death                                  | Stage 2.01-3.03<br>AND death  | NO;   |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN04

DXCat Label: Anomaly: External Female Genitalia

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes         |
|-------|---|--|------------------------|
| 1.01  | Agglutination of the labia or labial fusion             | Adherence of the labia at the midline  | DX 75240-75241, 75249; |
| 1.02  | Imperforate hymen                                       | Imperforate hymen  | DX 75242;              |
| 1.03  | Septate vagina or double vagina                         | Septum running longitudinally through the length of the entire vagina<br>OR septum running longitudinally through the length of part of the vagina | NO;                    |
| 1.04  | Transverse vaginal septum                               | Transverse vaginal septum  | NO;                    |
| 1.05  | Cloaca  | Common opening for the vaginal and urethra<br>OR urogenital sinus  | DX 7515;               |
| 2.01  | Congenital absence of the vagina                        | Absence of the upper third of the vagina   | NO;                    |
| 2.02  | Female pseudohermaphroditism or total absence of vagina | Masculinization of the external female genitalia<br>OR pseudohermaphroditism<br>OR obliteration of vagina in female genotype                       | DX 7527 + FEMALE;      |

### References:

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Congenital anomalies and intersexuality. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:140-188.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN05

DXCat Label: Anomaly: Uterus

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                | Diagnostic findings  | ICD-9-CM Codes |
|-------|----------------------------|--|----------------|
| 1.01  | Arcuate uterus             | Arcuate uterus [operative/pathology report]  | DX 7523;       |
| 1.02  | Septate uterus             | Septate uterus [hysteroscopy or hysterosalpingography or operative/pathology report]   | DX 7522;       |
| 1.03  | Uterus bicornuate          | One vagina<br>AND one cervix<br>AND two-horned uterus [hysteroscopy or hysterosalpingography or operative/pathology report]  | NO;            |
| 1.04  | Uterus bicornuate bicollis | Single vagina<br>OR double vagina<br>AND double cervix<br>AND two-horned noncommunicating uterus [hysteroscopy or hysterosalpingography or operative/pathology report] | NO;            |
| 1.05  | Uterus didelphys           | Double vagina<br>AND double cervix<br>AND two-horned noncommunicating uteri with a common wall [operative/pathology report]  | NO;            |
| 1.06  | Asymmetrical double uterus | Stage 1.01-1.04<br>AND asymmetry of the double uterus  | NO;            |
| 1.07  | Unicornuate uterus         | Unicornuate uterus [hysteroscopy or hysterosalpingography or operative/pathology report]   | NO;            |
| 1.08  | Rudimentary uterine horn   | Stage 1.01-1.06<br>AND rudimentary uterine horn [hysteroscopy or hysterosalpingography or operative/pathology report]  | NO;            |
| 1.09  | Blind uterine horn         | Stage 1.01-1.06<br>AND one horn does not communicate with either horn or vagina [hysteroscopy or hysterosalpingography or operative/pathology report]                  | NO;            |
| 1.10  | Absence of the uterus      | Absence of the uterus [hysteroscopy or hysterosalpingography or operative/pathology report]  | NO;            |

### References:

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Congenital anomalies and intersexuality. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:140-188.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN06

MultiStage: No

DXCat Label: Ante- and Postpartum Complications

Specificity: A

Etiology: Pregnancy

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Pregnancy with hyperemesis gravidarum                  | Pregnancy<br>AND hyperemesis gravidarum<br>OR vomiting<br>AND <b>dehydration:</b><br>AND ketosis [chemistry report]   | DX 64200-64224, 64290-64294, 64001, 64300-64393, 64700-64794, 64500-64523, 64600-64614, 64630-64644, 64670-64693, 64800-64894, 65100-65193, 65500-65593, 65600-65803, 65880-65893, 65920-65923, 65940-65993, 66400, 66404, 66440, 66444, 66480, 66484, 66490, 66494, 66820-66904, 66920-66924, 66940-66970, 66980-66994, 67100-67124, 67180-67194, 67200-67204, 67400-67404, 67420-67494, 67500-67694, 677, V220-V242, V7242, 62989, 64900-64964; |
| 1.02  | with malpresentation                                   | Pregnancy<br>AND breech presentation [sonogram or physical examination]<br>OR face presentation [sonogram or physical examination]<br>OR brow presentation [sonogram or physical examination]<br>OR transverse lie [sonogram or physical examination] | DX 65200, 65203-65210, 65213-65220, 65223-65230, 65233-65240, 65243-65250, 65253-65260, 65263-65270, 65273-65280, 65283-65290, 65293, 66300-66393;  |
| 1.03  | with bacteriuria or abnormal finding of amniotic fluid | Pregnancy<br>AND bacteriuria [microbiology report or urinalysis report]<br>OR abnormal amniotic fluid   | DX 64650-64654, 7923;   |
| 1.04  | with vaginal bleeding                                  | Pregnancy<br>AND vaginal bleeding   | DX 64080-64093, 64130-64133, 64180-64193, 66410, 66414, 66510-66594, 66610-66624, 66710-66714, 66630-66634;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN06

MultiStage: No

DXCat Label: Ante- and Postpartum Complications

Specificity: A

Etiology: Pregnancy

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-------------------------------|--|--|
| 2.01  | with preterm labor            | Pregnancy<br>AND Preterm labor<br>OR gestational age $\geq$ 20 weeks<br>AND gestational age < 36 weeks<br>AND documented uterine contractions > 8/hour<br>AND Rupture membrane<br>OR Intact membranes<br>AND documented cervical change<br>OR Cervical effacement $\geq$ 80%<br>OR Cervical dilatation $\geq$ 2 cm | DX 64400-64421, 65810-65833, 66420, 66424, 66500-66503;  |
| 2.02  | with chorioamnionitis         | Pregnancy<br>AND chorioamnionitis [amniotic fluid culture reports growth of pathologic organism(s)]<br>OR <b>fever:</b><br>AND uterine tenderness  | DX 64660, 64663-64664, 65840-65843, 66430, 66434, 66450, 66454;  |
| 2.03  | with deep vein thrombosis     | Pregnancy<br>AND <b>DVT:</b>   | DX 67130-67144, 67150, 67153-67154, 67410, 67414 ;<br>STAGE 1.01-2.02 + GROUP DVT;   |
| 3.01  | with pulmonary embolism       | Pregnancy<br>AND <b>pulmonary embolism:</b>  | (DX 66800, 66803-66804, 67300, 67303-67310, 67313-67320, 67323-67330, 67333-67380, 67383-67384);<br>STAGE 1.01-2.03 + GROUP PULMEMB; |
| 3.02  | with renal failure            | Pregnancy<br>AND <b>renal failure:</b>   | DX 64620, 64623-64624, 66930, 66934;<br>STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;  |
| 3.03  | with congestive heart failure | Pregnancy<br>AND <b>congestive heart failure:</b>  | DX 66810, 66813-66814;<br>STAGE 1.01-3.02 + GROUP CHF_NON_HTN;   |
| 3.04  | with sepsis                   | Stage 3.01-3.03<br>AND <b>sepsis:</b>  | DX 65930, 65933, 67000, 67004;<br>STAGE 1.01-3.02 + (GROUP SEPSIS OR DX 67000, 67004);   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN06

MultiStage: No

DXCat Label: Ante- and Postpartum Complications

Specificity: A

Etiology: Pregnancy

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes   |
|-------|-------------|--------------------------------------|--|
| 3.05  | with shock  | Stage 3.01-3.04<br>AND <b>shock:</b> | DX 66910, 66913-66914;<br>STAGE 1.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death  | Stage 3.01-3.04<br>AND death         | NO;  |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN07

MultiStage: No

DXCat Label: Bartholinitis

Specificity: A

Etiology: Infection

| Stage | Description            | Diagnostic findings  | ICD-9-CM Codes |
|-------|------------------------|--|----------------|
| 1.01  | Bartholin's gland cyst | Non-tender swelling of Bartholin's gland   | DX 6162;       |
| 1.02  | Bartholinitis          | Area of redness, induration, tenderness, and heat around Bartholin's gland<br>OR<br>bartholinitis [culture reports growth of pathologic organism(s)] | DX 6168;       |
| 1.03  | with abscess formation | Stage 1.02<br>AND abscess formation [operative/pathology report]<br>OR abscess   | DX 6163;       |

### References:

Holmes KK, Morse SA. Gonococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:915-922.

Jones III HW. Benign diseases of the vulva and vagina. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:589-590.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

MultiStage: No

DXCat Label: Delivery, Cesarean Section

Specificity: A

Etiology: Pregnancy

| Stage | Description                            | Diagnostic findings   | ICD-9-CM Codes            |
|-------|--|---|---------------------------|
| 1.01  | Cesarean section without complications | Delivery<br>AND Cesarean section [operative/pathology report] | GROUP C_SECT OR DX 66971; |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                                      | Diagnostic findings                     | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.02  | with wound hematoma or other minor complications | Stage 1.01<br>AND wound hematoma/seroma | (DX 64001, 64081, 64091, 64101, 64111, 64121, 64131, 64181, 64191, 64201-64202, 64211-64212, 64221-64222, 64231-64232, 64241-64242, 64251-64252, 64261-64262, 64271-64272, 64291-64292, 64301, 64311, 64321, 64381, 64391, 64421, 64651-64652, 64701-64702, 64711-64712, 64721-64722, 64731-64732, 64741-64742, 64751-64752, 64761-64762, 64781-64782, 64791-64792, 64801-64802, 64811-64812, 64821-64822, 64831-64832, 64841-64842, 64851-64852, 64861-64862, 64871-64872, 64881-64882, 64891-64892, 64901-64902, 64911-64912, 64921-64922, 64931-64932, 64941-64942, 64951, 64961-64962, 65101, 65111, 65121, 65131, 65141, 65151, 65161, 65171, 65181, 65191, 65201, 65211, 65221, 65231, 65241, 65251, 65261, 65271, 65281, 65291, 65301, 65311, 65321, 65331, 65341, 65351, 65361, 65371, 65381, 65391, 65401-65402, 65411-65412, 65421, 65431-65432, 65441-65442, 65451-65452, 65461-65462, 65471-65472, 65481-65482, 65491-65492, 65501, 65511, 65521, 65531, 65541, 65551, 65561, 65571, 65581, 65591, 65601, 65611, 65621, 65631, 65641, 65651, 65661, 65671, 65681, 65691, 65701, 65801, 65811, 65821, 65831, 65841, 65881, 65891, 65901, 65911, 65921, 65941, 65951, 65961, 65971, 65981, 65991, |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description | Diagnostic findings | ICD-9-CM Codes   |
|-------|-------------|---------------------|--|
|       |             |                     | 66001, 66011, 66021, 66031, 66041, 66051, 66061, 66071, 66081, 66091, 66101, 66111, 66121, 66131, 66141, 66191, 66201, 66211, 66221, 66231, 66301, 66311, 66321, 66331, 66341, 66351, 66361, 66381, 66391, 66401, 66411, 66421, 66441, 66451, 66481, 66491, 66632, 66702, 66712, 66821-66822, 66881-66882, 66891-66892, 66901-66902, 66921-66922, 66941-66942, 66951, 66961, 66981-66982, 66991-66992, 67101-67102, 67111-67112, 67121-67122, 67181-67182, 67191-67192, 67202, 67401-67402, 67422, 67432, 67442, 67451-67452, 64501, 64511, 64521, 64601, 64611-64612, 64631, 64641-64642, 64671, 64681-64682, 64691, 67482, 67492, 67501-67502, 67511-67512, 67521-67522, 67581-67582, 67591-67592, 67601-67602, 67611-67612, 67621-67622, 67631-67632, 67641-67642, 67651-67652, 67661-67662, 67681-67682, 67691-67692, V270-V279) + (GROUP C_SECT OR DX 66971); (DX 67420, 67424, 67430, 67434) + (GROUP C_SECT OR DX 66971); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.03  | with superficial abscess of incision area or cellulitis | Stage 1.02<br>AND superficial abscess formation of incision area<br>OR cellulitis of incision area[s]   | STAGE 1.01-1.02 + (DX 68100-6829, 99859);  |
| 1.04  | with endometritis                                       | Stage 1.01<br>AND <b>fever:</b><br>AND uterine tenderness   | DX 64661-64662 + (GROUP C_SECT OR DX 66971);   |
| 2.01  | with incision area dehiscence                           | Stage 1.02-1.03<br>AND dehiscence of incision area<br>AND serous drainage<br>OR sanguinous drainage   | (DX 67410-67414) + (GROUP C_SECT OR DX 66971);<br>DX 67412;  |
| 2.02  | with deep abscess or necrotizing fasciitis              | Stage 1.02-2.01<br>AND infection of incision area fat, muscle <u>and</u> fascia [operative/pathology report]<br>OR necrotizing fasciitis [operative/pathology report] | STAGE 1.01-2.01 + DX 72886;<br>DX 66431 + (GROUP C_SECT OR DX 66971, 67412);   |
| 2.03  | with peritonitis  | Stage 1.02-2.02<br>AND peritonitis [operative/pathology report]<br>OR purulent abdominal drainage [(effusion culture reports growth of pathologic organism(s)]        | STAGE 1.01-2.02 + (DX 67000, 67004);<br>DX 67002 + (GROUP C_SECT OR DX 66971, 67412);  |
| 2.04  | with rupture of the uterus                              | Stage 1.01-2.03<br>AND rupture of the uterus [operative/pathology report]   | (DX 66501, 66511, 66522, 66531, 66541, 66551, 66561, 66571-66572, 66581-66582, 66591-66592, 66602, 66612, 66622, 67131, 67142) + (GROUP C_SECT OR DX 66971, 67412) ; |
| 3.01  | with pulmonary embolism                                 | Stage 1.02-2.04<br>AND <b>pulmonary embolism:</b>   | (DX 67151-67152, 67301-67302, 67311-67312, 67321-67322, 67331-67332, 67381-67382, 66801-66802) + (GROUP C_SECT OR DX 66971, 67412);                                  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings                                     | ICD-9-CM Codes   |
|-------|-------------------------------|---|--|
| 3.02  | with renal failure            | Stage 1.01-3.01<br>AND <b>renal failure:</b>            | (DX 64621-64622, 66932) +<br>(GROUP C_SECT OR DX 66971,<br>67412);<br>STAGE 1.01-3.01 + GROUP<br>REN_FAIL_ACU;   |
| 3.03  | with congestive heart failure | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b> | STAGE 1.01-3.02 + GROUP<br>CHF_NON_HTN;<br>DX 66811-66812 + (GROUP<br>C_SECT OR DX 66971 , 67412);               |
| 3.04  | with sepsis                   | Stage 1.01-3.03<br>AND <b>sepsis:</b>                   | DX 65931 + (GROUP C_SECT OR<br>DX 66971, 67412);<br>STAGE 1.01-3.03 + (DX 65930,<br>65933 OR GROUP SEPSIS);      |
| 3.05  | with respiratory failure      | Stage 1.01-3.04<br>AND <b>respiratory failure:</b>      | STAGE 1.01-3.04 + GROUP<br>RESP_FAIL;  |
| 3.06  | with shock                    | Stage 1.02-3.05<br>AND <b>shock:</b>                    | STAGE 1.01-3.05 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;<br>DX 66911-66912 + (GROUP<br>C_SECT OR DX 66971 , 67412); |
| 4.00  | with death                    | Stage 1.02-3.06<br>AND death                            | NO;  |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Lareno K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10

DXCat Label: Delivery, Vaginal

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Vaginal delivery with no complications or minor complications or delivery with first degree laceration | Delivery<br>AND laceration of the vaginal mucosa<br>OR laceration of the vulvar skin<br>OR no complications<br>OR minor complications | (DX 64001, 64101, 64201-64202, 64211-64212, 64221-64222, 64231-64232, 64241-64242, 64251-64252, 64261-64262, 64271-64272, 64291-64292, 64301, 64311, 64321, 64381, 64391, 64501, 64511, 64521, 64601, 64611-64612, 64631, 64641-64642, 64651-64652, 64671, 64681-64682, 64691, 64701-64702, 64711-64712, 64721-64722, 64731-64732, 64741-64742, 64751-64752, 64761-64762, 64781-64782, 64791-64792, 64801-64802, 64811-64812, 64821-64822, 64831-64832, 64841-64842, 64851-64852, 64861-64862, 64871-64872, 64881-64882, 64891-64892, 64901-64902, 64911-64912, 64921-64922, 64931-64932, 64941-64942, 64951, 64961-64962, 650, 65101, 65111, 65121, 65131, 65141, 65151, 65161, 65171, 65181, 65191, 65201, 65211, 65221, 65231, 65241, 65251, 65261, 65271, 65281, 65291, 65301, 65311, 65321, 65331, 65341, 65351, 65361, 65371, 65381, 65391, 65401-65402, 65411-65412, 65421, 65431-65432, 65441-65442, 65451-65452, 65461-65462, 65471-65472, 65481-65482, 65491-65492, 65501, 65511, 65521, 65531, 65541, 65551, 65561, 65571, 65581, 65591, 65601, 65611, 65621, 65631, 65641, 65651, 65661, 65671, 65681, 65691, 65701, 65801, 65811, 65821, 65831, 65841, 65881, 65891, 65901, 65911, 65921, 65941, 65951, |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10  
 DXCat Label: Delivery, Vaginal  
 Etiology: Pregnancy

MultiStage: No  
 Specificity: A

| Stage | Description | Diagnostic findings | ICD-9-CM Codes  |
|-------|-------------|---------------------|---|
|       |             |                     | 65961, 65971, 65981, 65991, 66061, 66071, 66131, 66141, 66191, 66301, 66311, 66321, 66331, 66341, 66351, 66361, 66381, 66391, 66401, 66441, 66481, 66491, 66821-66822, 66881-66882, 66891-66892, 66901-66902, 66921-66922, 66941-66942, 66951, 66961, 66981-66982, 66991-66992, 67101-67102, 67111-67112, 67121-67122, 67181-67182, 67191-67192, 67202, 67401-67402, 67432, 67442, 67451-67452, 67482, 67492, 67501-67502, 67511-67512, 67521-67522, 67581-67582, 67591-67592, 67601-67602, 67611-67612, 67621-67622, 67631-67632, 67641-67642, 67651-67652, 67661-67662, 67681-67682, 67691-67692, V270-V279) + NOT (GROUP C_SECT OR DX 66971, 67412); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10

DXCat Label: Delivery, Vaginal

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.02  | with second degree laceration or uterine atony with bleeding or retained placental fragments | Delivery<br>AND laceration of the perineal musculature<br>OR laceration of deep perimucosal vaginal tissue<br>OR laceration of vaginal musculature<br>OR uterine atony with bleeding < 500cc<br>OR retained placental fragments | (DX 64131, 66001, 66011, 66021, 66031, 66041, 66051, 66081, 66091, 66101, 66111, 66121, 66201, 66211, 66221, 66231, 66411, 66451, 66632, 66702, 66712, 67422) + NOT (GROUP C_SECT OR DX 66971, 67412); |
| 2.01  | with third degree laceration   | Delivery<br>AND laceration of the anal sphincter<br>OR laceration of the pelvic floor musculature   | DX 66421 + NOT (DX 66971, 67412 OR GROUP C_SECT) ;   |
| 2.02  | with fourth degree laceration  | Delivery<br>AND laceration of the anal mucosa<br>OR laceration of the rectal mucosa   | DX 66431 + NOT (GROUP C_SECT OR DX 66971, 67412) ;   |
| 2.03  | with laceration of the cervix or vaginal sulcus  | Delivery<br>AND laceration of the cervix<br>OR laceration of the vaginal sulcus   | (DX 66531, 66541) + NOT (GROUP C_SECT OR DX 66971, 67412);   |
| 2.04  | with marked hemorrhage   | Delivery<br>AND > 500 cc. estimated total blood loss  | (DX 64081, 64091, 64111, 64121, 64181, 64191, 66602, 66612, 66622) + NOT (GROUP C_SECT OR DX 66971, 67412);  |
| 2.05  | with laceration of the bladder or urethra  | Delivery<br>AND laceration of the bladder [operative/pathology report or methylene blue test]<br>OR laceration of the urethra [operative/pathology report or methylene blue test]   | (DX 64661-64662, 66551) + NOT (GROUP C_SECT OR DX 66971, 67412);   |
| 2.06  | with deep vein thrombosis  | Stage 1.01-2.05<br>AND <b>DVT:</b>  | (DX 67131, 67142, 67151-67152) + NOT (GROUP C_SECT OR DX 66971, 67412);  |
| 2.07  | with inversion of the uterus   | Stage 1.01-2.06<br>AND inversion of the uterus  | DX 66522 + NOT (GROUP C_SECT OR DX 66971, 67412) ;   |
| 2.08  | with rupture of the uterus   | Stage 1.01-2.07<br>AND rupture of the uterus [operative/pathology report]   | (DX 66501, 66511, 66561, 66571-66572, 66581-66582, 66591-66592) + NOT (GROUP C_SECT OR DX 66971, 67412);   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10  
 DXCat Label: Delivery, Vaginal  
 Etiology: Pregnancy

MultiStage: No  
 Specificity: A

| Stage | Description                   | Diagnostic findings                                     | ICD-9-CM Codes  |
|-------|-------------------------------|---|---|
| 3.01  | with pulmonary embolism       | Stage 1.01-2.08<br>AND <b>pulmonary embolism:</b>       | (DX 67301-67302, 67311-67312, 67321-67322, 67331-67332, 67381-67382, 66801-66802) + NOT (GROUP C_SECT OR DX 66971, 67412);                        |
| 3.02  | with renal failure            | Stage 1.01-3.01<br>AND <b>renal failure:</b>            | (DX 64621-64622, 66932) + NOT (GROUP C_SECT OR DX 66971, 67412);<br>STAGE 1.01-3.01 + GROUP REN_FAIL_ACU + NOT (GROUP C_SECT OR DX 66971, 67412); |
| 3.03  | with congestive heart failure | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b> | DX 66811-66812 + NOT (GROUP C_SECT OR DX 66971, 67412);<br>STAGE 1.01-3.02 + GROUP CHF_NON_HTN + NOT (GROUP C_SECT OR DX 66971, 67412);           |
| 3.04  | with sepsis                   | Stage 1.01-3.03<br>AND <b>sepsis:</b>                   | (DX 65931, 67002) + NOT (GROUP C_SECT OR DX 66971, 67412);<br>STAGE 1.01-3.03 + (DX 65930, 65933, 67000, 67002, 67004 OR GROUP SEPSIS);           |
| 3.05  | with respiratory failure      | Stage 1.01-3.04<br>AND <b>respiratory failure:</b>      | STAGE 1.01-3.04 + GROUP RESP_FAIL;  |
| 3.06  | with shock                    | Stage 1.01-3.05<br>AND <b>shock:</b>                    | STAGE 1.01-3.05 + (DX 66910, 66913-66914 OR GROUP SHOCKC OR GROUP SHOCKN);<br>DX 66911-66912 + NOT (GROUP C_SECT OR DX 66971, 67412);             |
| 4.00  | with death                    | Stage 2.03-3.06<br>AND death                            | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10

MultiStage: No

DXCat Label: Delivery, Vaginal

Specificity: A

Etiology: Pregnancy

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Lareno K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN11

MultiStage: No

DXCat Label: Dysfunctional Uterine Bleeding

Specificity: A

Etiology: Metabolic

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Hypomenorrhea, puberty bleeding, ovulation bleeding or metrorrhagia | Hypomenorrhea<br>OR puberty bleeding<br>OR ovulation bleeding<br>OR metrorrhagia   | DX 6260-6261, 6263, 6265, 6266, 6268, 6269, 6270 ;   |
| 1.02  | Hypermenorrhea or polymenorrhea                                     | Increase in the frequency of menses<br>OR increase in the flow of menses<br>OR increase in the duration of menses<br>AND normal endometrium [operative/pathology report]                       | DX 6262;<br>STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN); |
| 2.01  | Dysfunctional uterine bleeding and anemia                           | Increase in the frequency of menses<br>OR increase in the flow of menses<br>OR increase in the duration of menses<br>AND normal endometrium [operative/pathology report]<br>AND <b>anemia:</b> | STAGE 1.01-1.02 + (GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN);  |
| 2.02  | Dysfunctional uterine bleeding and marked anemia                    | Stage 2.01<br>AND hemoglobin < 8 gm/dl   | NO;  |

### References:

Carr BR, Bradshaw KD. Disorders of the ovary and female reproductive tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2097-2115.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Abnormal uterine bleeding. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:378-396.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN12

DXCat Label: Ectopic Pregnancy

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|------------------------------|--|--|
| 1.01  | Tubal pregnancy              | Ectopic pregnancy [operative/pathology/sonogram report]                        | DX 6331-63311, 6332-63321, 6338-63381, 6339-63391; |
| 2.01  | Ruptured tubal pregnancy     | Stage 1.01<br>AND blood in peritoneal cavity [operative/pathology report]      | NO;  |
| 3.01  | Abdominal pregnancy          | Stage 1.01<br>AND Abdominal pregnancy [operative/pathology or sonogram report] | DX 6330-63301;                                     |
| 3.02  | with shock                   | Stage 1.01-2.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Ectopic pregnancy with death | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine, 4th Ed., Saunders, 1999.

Cunningham FG, MacDonald PC, Gant NF, Lareno K, Gilstrap LC, eds. Williams Obstetrics, 19th Ed. Norwalk: Appleton & Lange, 1994.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN13

MultiStage: No

DXCat Label: Endometriosis

Specificity: A

Etiology: Idiopathic

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|---|--|---|
| 1.01  | Endometriosis interna                       | Endometriosis interna [laparoscopy or operative/pathology report]<br>OR adenomyosis [laparoscopy or operative/pathology report]  | DX 6170, 6178-6179;                                 |
| 1.02  | Endometriosis externa, mild                 | Endometriosis externa [operative/pathology report]   | NO;   |
| 2.01  | Endometriosis externa                       | Stage 1.01<br>AND endometrial implants [laparoscopy or operative/pathology report]<br>OR endometrioma [operative/path report]<br>OR chocolate cysts [operative/pathology<br>OR endometriosis, distant site [operative/pathology report]<br>AND dense adhesions [laparoscopy or operative/pathology report]<br>OR ovarian enclosure [laparoscopy or operative/pathology report]<br>OR tubal enclosure [laparoscopy or operative/pathology report] | DX 6171-6176;                                       |
| 2.02  | with ureteral obstruction or hydronephrosis | Stage 1.01<br>AND endometrial implants [laparoscopy or operative/pathology report]<br>OR endometrioma [operative/path report]<br>OR chocolate cysts [operative/pathology<br>OR endometriosis, distant site [operative/pathology report]<br>AND dense adhesions [laparoscopy or operative/pathology report]<br>OR ovarian enclosure [laparoscopy or operative/pathology report]<br>OR tubal enclosure [laparoscopy or operative/pathology report] | STAGE 1.01-2.01 + (DX 591, 5934, 5935);             |
| 2.03  | with intestinal obstruction                 | Stage 1.01-2.02<br>AND large bowel obstruction [KUB x-ray or operative/pathology report]<br>OR small bowel obstruction [KUB x-ray or operative/pathology report]   | STAGE 1.01-2.02 + (DX 56081, 56089, 5609);          |
| 2.04  | with peritonitis                            | Stage 1.01-2.03<br>AND peritonitis [operative/pathology report]  | STAGE 1.01-2.03 + (DX 5670-5679, 6145, 6147-6149 ); |
| 3.01  | with renal failure                          | Stage 2.02-2.04<br>AND <b>renal failure:</b>   | STAGE 1.01-2.04 + GROUP REN_FAIL_ACU;               |
| 3.02  | with sepsis                                 | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                     |
| 3.03  | with shock                                  | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                                  | Stage 2.01-3.03<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN13

MultiStage: No

DXCat Label: Endometriosis

Specificity: A

Etiology: Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

American College of Obstetrics and Gynecology. Endometriosis. ACOG Technical Bulletin 184. Washington, DC: ACOG 1993.

Carr BR, Bradshaw KD. Disorders of the ovary and female reproductive tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2097-2115.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Endometriosis. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:303-327.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN14

DXCat Label: Gonorrhea: Female

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Carrier or suspected carrier of gonorrhea  |  | DX V027 + FEMALE;  |
| 1.02  | Gonococcal endocervicitis or gonococcal infection of Skene's glands or gonococcal infection of Bartholin's glands or gonococcal pharyngitis or gonococcal conjunctivitis or gonococcal vulvovaginitis or gonococcal urethritis or gonococcal proctitis | Gonococci in exudates [gram stain of exudates report gram negative diplococci]<br>OR gonococcal infection [culture reports growth of Neisseria gonorrhoeae]<br>OR gonococcal conjunctivitis [gram stain of exudates report gram negative diplococci]<br>OR gonococcal pharyngitis [gram stain of exudates report gram negative diplococci]<br>OR gonococcal proctitis [gram stain of exudates report gram negative diplococci] | (DX 0980, 09810, 09811, 09815, 09819, 0982, 09830, 09831, 09835, 09839, 09841-09849, 0986, 0987) + FEMALE;<br>DX 09840 + AGE 1-124 + FEMALE; |
| 2.01  | Gonococcal pelvic inflammatory disease   | Stage 1.02<br>AND pain on cervical motion<br>AND adnexal pain  | DX 09816, 09817, 09836 OR DX 09837 + FEMALE;   |
| 2.02  | with dermatitis  | Stage 1.02-2.01<br>AND gonococcal dermatitis [skin wound culture reports growth of Neisseria gonorrhoeae]  | DX 09881 + FEMALE;   |
| 2.03  | with peritonitis   | Stage 1.02-2.02<br>AND peritonitis [operative/pathology report]  | DX 09886 + FEMALE;   |
| 3.01  | with septic arthritis  | Stage 1.02-2.03<br>AND <b>infectious arthritis:</b><br>OR gonococcal arthritis [culture reports growth of Neisseria gonorrhoeae]   | DX 09850-09859 + FEMALE;   |
| 3.02  | Gonococcal endocarditis or gonococcal pericarditis   | Stage 1.02-3.01<br>AND <b>endocarditis:</b><br>OR <b>pericarditis:</b>   | DX 09883-09885 + FEMALE;   |
| 3.03  | Gonococcal meningitis  | Stage 1.02-3.02<br>AND <b>meningitis:</b>  | DX 09882 + FEMALE;   |
| 3.04  | with congestive heart failure  | Stage 3.01-3.03<br>AND <b>congestive heart failure:</b>  | STAGE 3.01-3.03 + GROUP CHF_NON_HTN;   |
| 3.05  | with sepsis  | Stage 1.02-3.04<br>AND <b>sepsis:</b>  | DX 09889 + FEMALE;<br>STAGE 1.02-3.04 + (DX 03840, 03849, 0388, 0389);   |
| 3.06  | with shock   | Stage 2.02-3.05<br>AND <b>shock:</b>   | STAGE 2.02-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death   | Stage 2.02-3.06<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN14

MultiStage: No

DXCat Label: Gonorrhea: Female

Specificity: A

Etiology: Infection, Bacterial

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Eschenbach DA. Pelvic infections and sexually transmitted diseases. In: Scott JR, Disaia PJ, Hammond CB, Spellacy WN, eds. Danforth's Obstetrics and Gynecology. 6th ed. Philadelphia, PA: JB Lippincott; 1990:944-947.

Feigin RD, Sugerman R. Gonococcal infections. In: Behrman RE, Kliegman RM, Vaughan III VC, Nelson WE, eds. Nelson Textbook of Pediatrics. 14th ed. Philadelphia, PA: WB Saunders; 1992:716-720.

Holmes KK, Morse SA. Gonococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:915-922.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN15  
 DXCat Label: Mastitis  
 Etiology: Infection

MultiStage: No  
 Specificity: A

| Stage | Description            | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|------------------------|--|--|
| 1.01  | Acute mastitis         | Infected nipple discharge [nipple discharge culture reports growth of pathologic organism(s)]<br>OR<br>pus from nipple<br>AND tenderness of breast<br>AND erythema of breast | DX 6110;   |
| 2.01  | with abscess formation | Stage 1.01<br>AND abscess formation [operative/pathology report]   | NO;  |
| 3.01  | with sepsis            | Stage 1.01-2.01<br>AND <b>sepsis:</b>  | STAGE 1.01 + GROUP SEPSIS;                         |
| 3.02  | with shock             | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death             | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

- Giuliano AE. Breast. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:666-689.
- O'Hara RJ, Dexter SP, Fox JN. Conservative management of infective mastitis and breast abscesses after ultrasonographic assessment. British Journal of Surgery 1996;83(10):1413-4.
- Schein M. Subareolar breast abscesses. Surgery 1996;120:902.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN16

MultiStage: No

DXCat Label: Neoplasm, Benign: Breast

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes      |
|-------|---|---|---------------------|
| 1.01  | Contusion of the breast   | Contusion of breast<br>OR<br>bruise of breast   | DX 9220;            |
| 1.02  | Hematoma of the breast  | Hematoma of the breast [operative/pathology report or physical examination]   | DX 6118;            |
| 1.03  | Fat necrosis of the breast  | Fat necrosis of the breast [operative/pathology report or physical examination]   | DX 6113, 6111;      |
| 1.04  | Fibroadenoma of the breast  | Fibroadenoma of the breast [operative/pathology report]   | DX 217, 2383, 2393; |
| 1.05  | Fibrocystic disease of the breast or chronic cystic mastitis or solitary cyst or benign mammary dysplasia | Fibrocystic disease of the breast [operative/pathology report]<br>OR<br>chronic cystic mastitis [operative/pathology report]<br>OR<br>solitary cyst [operative/pathology report]<br>OR<br>benign mammary dysplasia [operative/pathology report] | DX 6100-6109;       |
| 2.01  | Intraductal papilloma   | Intraductal papilloma [operative/pathology report]  | NO;                 |

### References:

Colditz GA et al: The use of estrogens and progestins and the risk of breast cancer in postmenopausal women. N Engl J Med 1995;332:1589.

Dixon JM, McDonald C, Elton RA, Miller WR. Breast cancer risk with cyst type in cystic disease of the breast. Larger study found no association between cyst type and breast cancer. BMJ 1997;315(7107):545-6.

Fiorica JV. Fibrocystic changes. Obstet Gynecol Clin North Am 1994;12:4

Giuliano AE. Breast. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:666-689.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN17

DXCat Label: Neoplasm, Benign: Ovary

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Follicle cysts or corpus luteum cysts  | Follicle cysts [operative/pathology report]<br>OR<br>corpus luteum cysts [operative/pathology report]            | DX 6200-6201;  |
| 1.02  | Dermoid cysts  | Dermoid cysts [operative/pathology report or pelvic x-ray report or pelvic sonogram report]                      | DX 220;  |
| 1.03  | Serous cystic tumors   | Serous tumors [operative/pathology report]   | NO;  |
| 1.04  | Endometrioid tumors or mucinous cystic tumors  | Endometrioid tumors [operative/pathology report]<br>OR<br>mucinous cystic tumors [operative/pathology report]    | DX 2362, 2395;   |
| 1.05  | Benign ovarian tumors and abdominal distention or symptoms of pressure on surrounding organs | Stage 1.01-1.04<br>AND<br>abdominal distention<br>OR<br>nausea<br>OR<br>vomiting<br>OR<br>diffuse abdominal pain | STAGE 1.01-1.04 + (DX 3383, 78701-78703, 7873, 78900-78909); |
| 1.06  | Benign ovarian tumors and torsion of the ovaries   | Stage 1.01-1.05<br>AND<br>abdominal distention<br>OR<br>nausea<br>OR<br>vomiting<br>OR<br>diffuse abdominal pain | STAGE 1.01-1.05 + DX 6205;                                   |
| 2.01  | Benign ovarian tumors with rupture   | Stage 1.01-1.06<br>AND<br>ruptured benign tumor [operative/pathology report or sonogram report]                  | STAGE 1.01-1.06 + DX 6208;                                   |
| 2.02  | Benign ovarian tumors with peritonitis   | Stage 1.01-2.01<br>AND<br>peritonitis [operative/pathology report]   | STAGE 1.01-2.01 + (DX 5670-5679, 6145, 6147-6149 );          |
| 3.01  | Benign ovarian tumors with sepsis  | Stage 2.01-2.02<br>AND<br><b>sepsis:</b>   | STAGE 1.01-2.02 + GROUP SEPSIS;                              |
| 3.02  | Benign ovarian tumors with shock   | Stage 2.01-3.01<br>AND<br><b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | Benign ovarian tumors with death   | Stage 2.01-3.02<br>AND<br>death  | NO;  |

### References:

- Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
- Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
- Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
- Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN18

MultiStage: No

DXCat Label: Neoplasm, Benign: Uterus (Leiomyomas)

Specificity: A

Etiology: Neoplasm

| Stage | Description                                  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Uterine leiomyomas                           | Uterine leiomyomas [operative/pathology report or sonogram report or CT scan or MRI report]   | DX 2180-2189;  |
| 2.01  | with anemia                                  | Stage 1.01<br>AND <b>anemia:</b>  | STAGE 1.01-1.02 + (GROUP ANEM_DEF_FE OR GROUP ANEM_NEOPL); |
| 2.02  | with pressure on bladder or rectum or bowels | Stage 1.01-2.01<br>AND frequency of urination<br>OR abdominal distention<br>OR lower abdominal distention<br>OR constipation                                      | STAGE 1.01-2.01 + (DX 3383, 56400, 56409, 7873, 78841);    |
| 2.03  | with urinary retention                       | Stage 1.01-2.02<br>AND post-voiding residual urine $\geq$ 100 cc  | STAGE 1.01-2.02 + (DX 78820-78829);                        |
| 2.04  | with hydronephrosis or hydroureter           | Stage 1.01-2.03<br>Hydronephrosis [IVP or sonogram report]<br>OR hydroureter [IVP report or sonogram report]  | STAGE 1.01-2.03 + (DX 591, 5935);                          |
| 2.05  | with intestinal obstruction                  | Stage 1.01-2.04<br>AND large bowel obstruction [KUB x-ray or operative/pathology report ]<br>OR small bowel obstruction [KUB x-ray or operative/pathology report] | STAGE 1.01-2.04 + (DX 5373, 56089, 5609);                  |
| 2.06  | with peritonitis                             | Stage 2.02-2.05<br>AND peritonitis [operative/pathology report]   | STAGE 1.01-2.05 + (DX 5670-5679, 6145, 6147-6149 );        |
| 3.01  | with renal failure                           | Stage 2.02-2.06<br>AND <b>renal failure:</b>  | STAGE 1.01-2.06 + GROUP REN_FAIL_ACU;                      |
| 3.02  | with sepsis                                  | Stage 2.02-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;                            |
| 3.03  | with shock                                   | Stage 2.02-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;         |
| 4.00  | with death                                   | Stage 2.02-3.03<br>AND death  | NO;  |

### References:

- Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
- Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
- Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724
- Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN19

DXCat Label: Neoplasm, Malignant: Breast, Female

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | History of carcinoma of the breast   |  | DX V103 + FEMALE;   |
| 1.01  | in situ  | Carcinoma of the breast in situ [operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage 0   | DX 2330 + FEMALE;   |
| 1.02  | Cystosarcoma phyllodes   | Cystosarcoma phyllodes [operative/pathology report]  | DX 1740-1749 + FEMALE;  |
| 1.03  | ≤ 2cm in diameter  | Carcinoma of the breast ≤ 2.0 cm in diameter [operative/pathology report]<br>AND no lymph node involved [operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage 1   | NO;   |
| 1.04  | > 2cm and ≤ 5cm in diameter or single ipsilateral node involved                          | Carcinoma of the breast > 2 and ≤ 5.0 cm in diameter [operative/pathology report]<br>OR<br>single ipsilateral lymph node involved [operative/pathology report]<br>OR<br>American Joint Committee Stage 2a  | STAGE 0.00-1.02 + DX 1963;  |
| 2.01  | > 5cm in diameter  | Carcinoma of the breast > 5.0 cm in diameter [operative/pathology report]<br>OR<br>American Joint Committee Stage 2b   | NO;   |
| 3.01  | Nodal involvement with fixation  | Cancer of the breast<br>AND more than 1 ipsilateral node with fixation [operative/pathology report]<br>OR<br>American Joint Committee Stage 3a   | NO;   |
| 3.02  | tumor extension to skin or tumor extension to chest or internal mammary node involvement | Tumor extension to skin [operative/pathology report]<br>OR<br>tumor extension to chest [operative/pathology report]<br>OR<br>internal mammary node involvement [operative/pathology report]<br>OR<br>American Joint Committee Stage 3b   | STAGE 0.00-1.04 + (DX 1961, 1970-1972, 1982);   |
| 3.03  | with metastasis  | Carcinoma of the breast involving the lungs [operative/pathology report or chest x-ray or CT scan]<br>OR<br>carcinoma of the breast involving the liver [operative/pathology report or CT scan or liver/spleen scan]<br>OR<br>carcinoma of the breast involving the skeletal system [operative/pathology report or bone scan or x-ray]<br>OR<br>American Joint Committee Stage 4 | STAGE 0.00-3.02 + (DX 3383, 1960, 1962, 1965-1966, 1968-1969, 1973-1981, 1983-1991 ); |
| 4.00  | with death   | Stage 1.02-3.03<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Breast, Female

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

American Joint Committee on Cancer. Manual for Staging of Cancer. Lippincott, 1992.

Berg JW, Hutter RVP. Breast cancer. Cancer 1995;75:257.

Giuliano AE. Breast. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:666-689.

Lippman ME. "Breast Cancer." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:562-568.

Piccirillo JF, Feinstein AR. Clinical symptoms and co-morbidity: significance for the prognostic classification of cancer. Cancer 1996;77:834.

Silverstein MJ. Recent advances. Diagnosis and treatment of early breast cancer. BMJ. 1997;314(7096):1736-9.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Cervix Uteri

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 0.00  | History of cervical carcinoma                               |  | DX V1041;   |
| 1.01  | Minimal cervical dysplasia                                  | Dysplastic cells involve lower one-third of the cervical epithelium [operative/pathology/cytology report]<br>OR Stage CIN I<br>OR Low grade squamous intraepithelial lesion  | DX 6221-62211, 79503;                                 |
| 1.02  | Severe cervical dysplasia                                   | Dysplastic cells involve lower two-thirds of the cervical epithelium [operative/pathology/cytology report]<br>OR Stage CIN II<br>OR Low grade squamous intraepithelial lesion  | DX 62212;   |
| 1.03  | Carcinoma in situ or intraepithelial carcinoma              | Dysplastic cells or carcinoma cells involve the full thickness of the cervical epithelium [operative/pathology/cytology report]<br>OR International Federation of Gynecology and Obstetrics Stage 0<br>OR CIN III<br>OR High risk squamous intraepithelial lesion        | DX 2331, 79504, 79506;                                |
| 1.04  | Microinvasive carcinoma or minimal stromal invasion         | Atypical cells or dysplastic cells or carcinoma cells involve the basement membrane and/or minimal stromal (< 7mm horizontally and < 5mm vertically) invasion [operative/pathology/cytology report]<br>OR International Federation of Gynecology and Obstetrics Stage IA | DX 1800-1809;   |
| 2.01  | Macroscopic cervical carcinoma < 4cm confined to the cervix | Stage 1.04<br>AND Macroscopic carcinoma confined to the cervix < 4cm in size [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IB1  | NO;   |
| 2.02  | Macroscopic cervical carcinoma ≥ 4cm confined to the cervix | Stage 1.04-2.01<br>AND Macroscopic carcinoma ≥ 4cm in size confined to the cervix [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IB2   | NO;   |
| 2.03  | with extension to upper third of vagina                     | Stage 1.04-2.02<br>AND Cervical carcinoma with extension to upper third of vagina [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IIA   | STAGE 0.00 + DX 19882;<br>STAGE 1.03-1.04 + DX 19882; |
| 2.04  | with parametrial involvement                                | Stage 1.04-2.03<br>AND Cervical carcinoma with parametrial involvement [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IIB  | STAGE 0.00 + DX 1986;<br>STAGE 1.03-2.03 + DX 1986;   |
| 3.01  | involves lower third of the vagina                          | Stage 1.04-2.04<br>AND Cervical carcinoma involves lower third of vagina [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IIIA   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN20

DXCat Label: Neoplasm, Malignant: Cervix Uteri

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 3.02  | with extension to the pelvic wall or renal involvement | Stage 1.04-2.04<br>AND Cervical carcinoma extending to the pelvic wall [operative/pathology report]<br>OR hydronephrosis [intravenous pyelography or CT scan or nuclear renogram or sonography]<br>OR nonfunctioning kidney [intravenous pyelography or nuclear renogram]<br>OR International Federation of Gynecology and Obstetrics Stage IIIB   | STAGE 0.00 + (DX 3383, 1976, 1980);<br>STAGE 1.03-2.04 + (DX 3383, 1976, 1980);   |
| 3.03  | with involvement of the bladder or rectum              | Cervical carcinoma with extension into the urinary bladder [operative/pathology report]<br>OR cervical carcinoma with extension into the rectum [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IVA   | STAGE 0.00 + (DX 1975, 1981);<br>STAGE 1.03-3.02 + (DX 1975, 1981);   |
| 3.04  | with distant organ involvement                         | Cervical carcinoma involves abdominal lymph nodes above the renal arteries [operative/pathology report]<br>OR cervical carcinoma involves the liver [operative/pathology report]<br>OR cervical carcinoma involves the large or small intestines [operative/pathology report]<br>OR cervical carcinoma with growth beyond the peritoneal cavity [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IVB | STAGE 0.00 + (DX 1960-1974, 1977-1978, 1982-1985, 1987, 19881, 19889-1991);<br>STAGE 1.03-3.03 + (DX 1960-1974, 1977-1978, 1982-1985, 1987, 19881, 19889-1991); |
| 4.00  | with death   | Stage 1.03-3.04<br>AND death   | NO;   |

### References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.

Elkas JC, Farias-Eisner R, Berek JS. Cervix, Vulva, and Vagina. In: Abeloff: Clinical Oncology, 2nd ed., Churchill Livingstone, Inc; 2000: 1946-1966

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Sheets EE. The Cervix. In: Ryan: Kistner's Gynecology & Women's Health, 7th ed., Mosby, Inc; 1999: 100-118.

Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN22

MultiStage: No

DXCat Label: Neoplasm, Malignant: Endometrium

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 0.00  | History of endometrial carcinoma                           |  | DX V1042;  |
| 1.01  | Endometrial carcinoma in situ                              | Endometrial carcinoma in situ [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage 0   | DX 2332;   |
| 1.02  | Confined to the corpus uteri mucosa                        | Endometrial carcinoma limited to the corpus uteri mucosa [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IA   | DX 1820-1828;  |
| 1.03  | Confined to <50% of corpus uteri myometrial invasion       | Stage 1.02<br>AND Endometrial carcinoma limited to <50% of corpus uteri myometrial invasion<br>OR International Federation of Gynecology and Obstetrics Stage IB   | NO;  |
| 1.04  | Confined to corpus uteri with >50% myometrial invasion     | Stage 1.01-1.03<br>AND Endometrial carcinoma with >50% myometrial invasion of corpus uteri<br>OR International Federation of Gynecology and Obstetrics Stage IC  | NO;  |
| 2.01  | Involving the inguinal nodes                               | Stage 1.01-1.04<br>AND Endometrial carcinoma involving the cervical glands [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage II A                               | STAGE 0.00-1.02 + DX 1965;   |
| 2.02  | Involving the cervical stroma                              | Stage 1.01-2.01<br>AND Endometrial carcinoma involving the cervical stroma [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage II B                               | STAGE 0.00-2.01 + DX 19882;  |
| 3.01  | Extending to uterine serosa, adnexa or peritoneal cytology | Stage 1.01-2.02<br>AND Endometrial carcinoma extending to uterine serosa, adnexa or peritoneal cytology [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage III A | STAGE 0.00-2.02 + DX 1976;   |
| 3.02  | Extending to vagina  | Stage 1.01-3.01<br>AND Endometrial carcinoma extending to vagina [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage III B  | NO;  |
| 3.03  | Extending to pelvic and paraaortic lymph nodes             | Stage 1.01-3.02<br>AND Endometrial carcinoma extending to pelvic and paraaortic lymph nodes [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage III C             | STAGE 0.00-3.01 + (DX 3383, 1962, 1966);   |
| 3.04  | Extending to bladder or rectal mucosa                      | Stage 1.01-3.03<br>AND Endometrial carcinoma extending to bladder or rectal mucosa [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IV A                       | STAGE 0.00-3.03 + (DX 1975, 1981);   |
| 3.05  | Extending to distant organs or inguinal lymph nodes        | Stage 1.01-3.04<br>AND Endometrial carcinoma extending to distant organs or inguinal lymph nodes [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IV B         | STAGE 0.00-3.04 + (DX 1960-1961, 1963, 1968-1974 , 1977-1980, 1982-19881, 19889-1991); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN22

MultiStage: No

DXCat Label: Neoplasm, Malignant: Endometrium

Specificity: A

Etiology: Neoplasm

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.06  | with shock  | Stage 1.01-3.05<br>AND <b>shock:</b> | STAGE 0.00-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.06<br>AND death         | NO;  |

### References:

- American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.
- Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
- Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
- Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Ovaries

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                           |
|-------|--|--|--|
| 0.00  | History of ovarian carcinoma   |  | DX V1043;                                |
| 1.01  | Ovarian carcinoma limited to one ovary with intact ovarian capsule   | Carcinoma limited to one ovary and intact capsule [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IA   | DX 1830;                                 |
| 1.02  | Limited to both ovaries with intact ovarian capsule  | Stage 1.01<br>AND<br>carcinoma limited to both ovaries and intact capsule [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IB   | NO;                                      |
| 1.03  | with ascites or malignant cells in peritoneal washings or rupture of ovarian capsule or spilling or external surface of ovary with carcinoma | Stage 1.01-1.02<br>AND<br>ovarian carcinoma with ascites or malignant cells in peritoneal washings or rupture of ovarian capsule or spilling or external surface of ovary with carcinoma [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IC[report]  | NO;                                      |
| 2.01  | with extension to the uterus or fallopian tubes  | Stage 1.01-1.03<br>AND<br>ovarian carcinoma growth or metastasis to the uterus or fallopian tubes [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IIA  | STAGE 0.00-1.01 + DX 19882;              |
| 2.02  | with extension to other pelvic structures  | Stage 1.01-2.01<br>AND<br>ovarian carcinoma involving the parametrium [operative/pathology report]<br>OR<br>ovarian carcinoma involving the rectum [operative/pathology report]<br>OR<br>ovarian carcinoma involving the urinary bladder [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IIB | STAGE 0.00-2.01 + (DX 3383, 1986, 1980); |
| 2.03  | with pelvic extension and ascites  | Stage 2.01-2.02<br>AND<br>ascites [operative/pathology report]<br>OR<br>ovarian carcinoma cells in pelvic washings [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IIC   | STAGE 0.00-2.02 + (DX 7895, 1976);       |
| 3.01  | with peritoneal micro-metastasis   | Stage 1.01-2.03<br>AND<br>ovarian carcinoma with peritoneal microscopic metastasis lymph nodes [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IIIA  | NO;                                      |
| 3.02  | with visible peritoneal/abdominal metastasis < 2cm in greatest dimension   | Stage 1.01-3.01<br>AND<br>ovarian carcinoma with a visible peritoneal/abdominal metastasis < 2cm in greatest dimension [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IIIB  | NO;                                      |
| 3.03  | with visible peritoneal/abdominal metastasis =2cm in dimension and/or pelvic/abdominal lymph nodes   | Stage 1.01-3.02<br>AND<br>ovarian carcinoma with visible peritoneal/abdominal metastasis > or = 2cm in dimension and/or pelvic/abdominal lymph nodes [operative/pathology report]<br>OR<br>International Federation of Gynecology and Obstetrics Stage IIC   | STAGE 0.00-2.03 + (DX 1962, 1966);       |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Ovaries

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 3.04  | with distant metastasis or liver parenchymal involvement or positive pleural cytology | Ovarian carcinoma with growth or metastasis beyond the peritoneal cavity [operative/pathology report]<br>OR ovarian carcinoma with metastasis to the liver parenchyma [operative/pathology report]<br>OR positive pleural cytology [cytology report]<br>OR International Federation of Gynecology and Obstetrics Stage V | STAGE 0.00-3.03 + (DX 1960-1961, 1963-1965, 1968-1975, 1977-1978, 1981-1985, 1987-19881, 19889-1991); |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death   | NO;   |

### References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.

Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN24

DXCat Label: Neoplasm, Malignant: Vagina

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                               | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|---|--|---|
| 0.00  | History of carcinoma of the vagina        |  | NO;   |
| 1.01  | Carcinoma of the vagina in situ           | Carcinoma of the vagina in situ [operative/pathology report]<br>OR intraepithelial carcinoma of the vagina [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage 0  | NO;   |
| 1.02  | limited to the vaginal mucosa             | Carcinoma of the vagina limited to the vaginal mucosa [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage I   | DX 1840;  |
| 2.01  | with involvement of the subvaginal tissue | Carcinoma of the vagina with involvement of the submucosa and/or parametrial [operative/pathology report]<br>AND carcinoma of the vagina does not extend to the pelvic wall [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage II  | STAGE 1.02 + DX 19882;                              |
| 3.01  | with extension to the pelvic side wall    | Carcinoma of the vagina with extension to the pelvic side wall [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage III  | STAGE 1.02-2.01 + DX 19889;                         |
| 3.02  | with extension beyond the true pelvis     | Carcinoma of the vagina with extension beyond the true pelvis [operative/pathology report]<br>OR carcinoma of the vagina with extension into the rectal mucosa [operative/pathology report]<br>OR carcinoma of the vagina with extension into the bladder mucosa [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage IV | STAGE 1.01-3.01 + (DX 3383, 1960-19881, 1990-1991); |
| 3.03  | with shock                                | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 1.02-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                                | Stage 2.01-3.03<br>AND death   | NO;   |

### References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.

Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Vulva

Specificity: A

Etiology: Neoplasm

| Stage | Description                                      | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | History of carcinoma of the vulva                |  | NO;   |
| 1.01  | Carcinoma in situ of the vulva                   | In situ cancer of the vulva [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage 0   | NO;   |
| 1.02  | Confined to the vulva and ≤ 2cm in diameter      | Cancer of the vulva confined to the vulva [operative/pathology report]<br>AND cancer of the vulva ≤ 2 cm in diameter [operative/pathology report]<br>AND nonpalpable lymph nodes in either groin<br>OR palpable but mobile lymph nodes in either groin<br>OR normal lymph nodes [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage I   | DX 1841-1844;   |
| 2.01  | Confined to the vulva but >2cm in diameter       | Cancer of the vulva confined to the vulva [operative/pathology report]<br>AND cancer of the vulva > 2 cm in diameter [operative/pathology report]<br>OR nonpalpable lymph nodes in either groin<br>OR normal lymph nodes [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage II   | NO;   |
| 3.01  | with spread to adjacent organs                   | Cancer of the vulva with extension into the urethra [operative/pathology report]<br>OR cancer of the vulva with extension into the anus [operative/pathology report]<br>OR cancer of the vulva with extension into the perineum [operative/pathology report]<br>OR cancer of the vulva with extension into the vagina [operative/pathology report]<br>OR palpable lymph nodes in either groin<br>OR enlarged and firm mobile lymph nodes in either groin<br>OR cancer of the vulva in lymph nodes [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage III | STAGE 1.02 + (DX 1965, 19882);                                  |
| 3.02  | Invading the bladder or rectum or distant organs | Cancer of the vulva with extension into the urethra [operative/pathology report]<br>OR cancer of the vulva with extension into the anus [operative/pathology report]<br>OR cancer of the vulva with extension into the perineum [operative/pathology report]<br>OR cancer of the vulva with extension into the vagina [operative/pathology report]<br>OR palpable lymph nodes in either groin<br>OR enlarged and firm mobile lymph nodes in either groin<br>OR cancer of the vulva in lymph nodes [operative/pathology report]<br>OR International Federation of Gynecology and Obstetrics Stage III | STAGE 1.02-3.01 + (DX 3383, 1960-1963, 1966-19881, 19889-1991); |
| 3.03  | with shock                                       | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 1.02-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;              |
| 4.00  | with death                                       | Stage 2.01-3.03<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Vulva

Specificity: A

Etiology: Neoplasm

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.

Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN26

DXCat Label: Neoplasm: Trophoblastic Disease

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Hydatidiform mole   | Hydatidiform mole [operative/pathology or biopsy or sonogram report]   | DX 630-631;   |
| 2.01  | Hydatidiform mole with pre-eclampsia                              | Stage 1.01<br>AND pre-eclampsia: blood pressure $\geq$ 140/90 mmHg on $\geq$ 2 occasions > 6 hrs apart<br>AND urinary protein > 300 mg/24 hours or 1 plus on dip stick             | STAGE 1.01 + DXCAT GYN30;   |
| 2.02  | Trophoblastic disease with hyperthyroidism                        | Stage 1.01-2.01<br>AND <b>hyperthyroidism:</b>   | STAGE 1.01-2.01 + DXCAT END07;  |
| 2.03  | Trophoblastic disease with endometritis or myometritis            | Stage 1.01-2.02<br>AND endometritis [endometrial culture reports growth of pathologic organism(s)]<br>OR myometritis [myometrial culture reports growth of pathologic organism(s)] | STAGE 1.01-2.02 + (DX 3383, 6390, 64660, 64663-64664);  |
| 2.04  | Persistent trophoblastic disease                                  | Stage 1.01-2.03<br>AND persistent or rising baseline beta-HCG levels after uterine evacuation  | NO;   |
| 2.05  | Trophoblastic disease with uterine hemorrhage                     | Stage 1.01<br>AND blood per vagina<br>AND <b>bleeding:</b>   | STAGE 1.01-2.03 + (DX 6391, 64130, 64133, 66630, 66634);  |
| 2.06  | Invasive mole   | Local invasion of the myometrium by the trophoblastic tissue [operative/pathology report]  | DX 2361;  |
| 2.07  | Trophoblastic disease with choriocarcinoma                        | Hydatidiform mole [operative/pathology report]<br>AND recent pregnancy<br>AND choriocarcinoma [operative/pathology report]   | DX 181;   |
| 2.08  | Trophoblastic disease with disseminated intravascular coagulation | Stage 1.01-2.07<br>AND <b>DIC:</b>   | STAGE 1.01-2.07 + GROUP DIC;  |
| 3.01  | Trophoblastic disease with metastasis                             | Stage 2.06-2.08<br>AND choriocarcinoma beyond the confines of the uterus [CT scan or operative/pathology report]   | STAGE 2.06-2.08 + (DX 1960-1991);   |
| 3.02  | Trophoblastic disease with pulmonary embolism                     | Stage 1.01-3.01<br>AND pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]   | STAGE 1.01-3.01 + (DX 6396, 67300, 67303-67310, 67313-67320, 67323-67330, 67333-67380, 67383-67384 OR GROUP PULMEMB); |
| 3.03  | Trophoblastic disease with sepsis                                 | Stage 2.03-3.02<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + (DX 6395, 65930, 65933, 67000, 67004 OR GROUP SEPSIS);  |
| 3.04  | Trophoblastic disease with respiratory failure                    | Stage 2.05-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.03 + GROUP RESP_FAIL;  |
| 3.05  | Trophoblastic disease with shock                                  | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (DX 66910, 66913-66914 OR GROUP SHOCKN OR GROUP SHOCKC);  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN26

MultiStage: No

DXCat Label: Neoplasm: Trophoblastic Disease

Specificity: A

Etiology: Neoplasm

| Stage | Description                      | Diagnostic findings          | ICD-9-CM Codes |
|-------|----------------------------------|------------------------------|----------------|
| 4.00  | Trophoblastic disease with death | Stage 2.01-3.05<br>AND death | NO;            |

### References:

- American College of Obstetrics and Gynecology. Management of gestational trophoblastic disease. Technical Bulletin 178. Washington, DC: ACOG 1993.
- Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
- MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
- Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN27

DXCat Label: Obstructed Labor

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|------------------------------|--|--|
| 1.01  | Failed induction             | Induction of labor<br>AND cervix < 4cm<br>AND adequate contractions<br>OR > 200 Montevideo units<br>AND no dilation > 4 hrs<br>OR no descent > 2 hrs | DX 65900-65913;  |
| 1.02  | Failure to dilate or descend | Cervix ≥ 4cm dilated and adequate contractions<br>AND No dilation > 2 hrs<br>OR No descent > 2 hrs   | DX 65400-65494, 66060-66093,<br>66100-66193, 66200-66233;                  |
| 2.01  | Malposition of the fetus     | Stage 1.01-1.02<br>AND malposition of the fetus  | DX 66000-66033, 66050-66053;   |
| 2.02  | Macrosomia of the fetus      | Delivery<br>AND large for gestational age fetus<br>OR infant >90th percentile for gestational age  | DX 65300-65393;  |
| 2.03  | Shoulder dystocia            | Delivery<br>AND impacted shoulder girdles of fetus   | DX 66040-66043;  |
| 3.01  | with sepsis                  | Stage 1.01-2.03<br>AND <b>sepsis:</b>  | STAGE 1.01-2.03 + (DX 65930-<br>65933, 67000-67004 OR GROUP<br>SEPSIS);    |
| 3.02  | with shock                   | Stage 3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (DX 66910-<br>66914 OR GROUP SHOCKC OR<br>GROUP SHOCKN); |
| 4.00  | with death                   | Stage 1.01-3.02<br>AND death   | NO;  |

### References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN28

MultiStage: No

DXCat Label: Pelvic Inflammatory Disease

Specificity: A

Etiology: Infection

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|------------------------------|--|--|
| 1.01  | Pelvic inflammatory disease  | Acute salpingitis [operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>Adnexal pain on examination<br>AND pain on cervical motion<br>AND <b>fever:</b> | DX 6140-6142;                                      |
| 2.01  | with pelvic abscess          | Stage 1.01<br>AND pelvic abscess [operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>Stage 1.01<br>AND adnexal mass [sonogram report]                 | DX 6143, 6144;                                     |
| 2.02  | with generalized peritonitis | Stage 1.01-2.02<br>AND peritonitis [operative/pathology report]  | DX 6145, 6147-6149;                                |
| 3.01  | with renal failure           | Stage 1.01-2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;              |
| 3.02  | with sepsis                  | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with shock                   | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                   | Stage 1.01-3.03<br>AND death   | NO;  |

### References:

Cartwright PS. Pelvic inflammatory disease. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:507-525.

Holmes KK. Pelvic inflammatory disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:812-817.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN29

DXCat Label: Placenta Previa

Etiology: Pregnancy

MultiStage: No

Specificity: A

| Stage | Description                           | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---------------------------------------|--|---|
| 1.01  | Marginal placenta previa              | Pregnancy $\geq$ second trimester<br>AND marginal placenta previa [sonogram report placenta encroaches on the cervical os]   | DX 64100-64103;   |
| 1.02  | Partial placenta previa               | Pregnancy $\geq$ second trimester<br>AND partial placenta previa [placenta incompletely covers cervical os per sonogram report]  | NO;   |
| 2.01  | Complete placenta previa              | Pregnancy $\geq$ second trimester<br>AND complete placenta previa [placenta completely covers cervical os per sonogram report]   | NO;   |
| 2.02  | with hemorrhage                       | Stage 1.01-2.01<br>AND <b>bleeding:</b>  | DX 64110-64113;   |
| 2.03  | with chorioamnionitis or endometritis | Stage 1.01-2.02<br>AND endometritis [culture reports growth of pathologic organism(s)]<br>OR postpartum fever<br>AND uterine tenderness<br>OR chorioamnionitis [culture reports growth of pathologic organism(s)]<br>OR antepartum fever<br>AND uterine tenderness | STAGE 1.01-2.02 + (DX 65840-65843, 64660-64664);                    |
| 2.04  | with placenta accreta                 | Stage 1.01-2.03<br>AND Invasion of trophoblast beyond Nitabuch's fibrinoid layer [pathology report]  | DX 66600, 66604, 66700, 66704;                                      |
| 2.05  | with placenta increta                 | Stage 1.01-2.04<br>AND Invasion of trophoblast into myometrium [pathology report]  | NO;   |
| 2.06  | with placental percreta               | Stage 1.01-2.05<br>AND Invasion of trophoblast beyond uterine serosa [pathology report]  | NO;   |
| 3.01  | with sepsis                           | Stage 2.03-2.06<br>AND <b>sepsis:</b>  | STAGE 1.01-2.06 + (DX 65930-65933, 67000-67004 OR GROUP SEPSIS);    |
| 3.02  | with shock                            | Stage 2.03-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (DX 66910-66914 OR GROUP SHOCKN OR GROUP SHOCKC); |
| 4.00  | with death                            | Stage 2.03-3.02<br>AND death   | NO;   |

## References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN30

MultiStage: No

DXCat Label: Pregnancy-Induced Hypertension

Specificity: A

Etiology: Pregnancy

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Pre-eclampsia                               | Pregnancy<br>AND blood pressure $\geq$ 140/90 mmHg on $\geq$ 2 occasions $\geq$ 6 hrs. apart<br>AND urinary protein $\geq$ 300 mg/24 hrs. or $>$ 1 plus on dip stick [urinalysis report]   | DX 64230-64244, 64270-64274;  |
| 2.01  | Severe pre-eclampsia                        | Stage 1.01<br>AND blood pressure $\geq$ 160/110 mmHg $\geq$ 2 occasions $\geq$ 6 hrs. apart<br>OR urinary protein $\geq$ 5 gms/24 hrs [urinalysis report]<br>OR urine output $\leq$ 500 cc/24 hrs.<br>OR CNS symptoms (headache, visual changes)<br>OR epigastric pain<br>OR HELLP syndrome (hemolysis, AST $>$ 70 iu/L, platelets $<$ 100,000/mm <sup>3</sup> )<br>OR eclampsia | DX 64250-64264;   |
| 2.02  | with abruptio placentae                     | Stage 1.02-2.01<br>AND infection of incision area fat, muscle and fascia [operative/pathology report]<br>OR necrotizing fasciitis [operative/pathology report]   | STAGE 1.01-2.01 + DXCAT GYN03;                                      |
| 2.03  | with disseminated intravascular coagulation | Stage 1.01-2.02<br>AND <b>DIC:</b>   | STAGE 1.01-2.02 + (DX 64130-64133, 66630-66634, 2866);              |
| 3.01  | with renal failure                          | Stage 1.01-2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.03 + (DX 66930-66934 OR GROUP REN_FAIL_ACU);           |
| 3.02  | with congestive heart failure               | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + (DX 66811-66812 OR GROUP CHF_NON_HTN);            |
| 3.03  | with intracerebral hemorrhage               | Stage 1.01-3.02<br>AND intracerebral hemorrhage [CT scan or MRI report]  | STAGE 1.01-3.02 + (DX 67400-67404);                                 |
| 3.04  | with shock                                  | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (DX 66910-66914 OR GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death                                  | Stage 1.01-3.04<br>AND death   | NO;   |

## References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN31

DXCat Label: Toxic Shock Syndrome

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--------------------------|--|--|
| 2.01  | Toxic shock syndrome     | <b>Fever:</b><br>AND diffuse erythroderma<br>AND Staphylococcus aureus bacteremia [blood culture reports growth of pathologic organism(s)]<br>OR conjunctivitis<br>OR pharyngitis [pharyngeal culture reports growth of pathologic organism(s)]<br>OR vaginitis [vaginal culture reports growth of pathologic organism(s)]<br>OR history of tampon use<br>AND diarrhea<br>AND lethargy | DX 04082;  |
| 2.02  | with hepatitis           | Stage 2.01<br>AND <b>hepatitis:</b>  | STAGE 2.01 + DXCAT HEP10;                          |
| 3.01  | with renal failure       | Stage 2.01-2.02<br>AND <b>renal failure:</b>   | STAGE 2.01-2.02 + GROUP REN_FAIL_ACU;              |
| 3.02  | with encephalopathy      | Stage 2.01-3.01<br>AND <b>disorientation:</b>  | STAGE 2.01-3.01 + GROUP DISORIENT;                 |
| 3.03  | with respiratory failure | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 2.01-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with shock               | Stage 2.01-3.03<br>AND <b>shock:</b>   | STAGE 2.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 3.05  | with coma                | Stage 2.01-3.04<br>AND <b>coma:</b>  | STAGE 2.01-3.04 + GROUP COMA;                      |
| 4.00  | with death               | Stage 2.01-3.05<br>AND death   | NO;  |

### References:

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wessels MR. Streptococcal and enterococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:885-892.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN32  
 DXCat Label: Uterine Infection  
 Etiology: Infection

MultiStage: No  
 Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|---|--|---|
| 1.01  | Endometritis or myometritis                 | Endometritis [endometrial culture reports growth of pathologic organism(s)]<br>OR<br>myometritis [myometrial culture reports growth of pathologic organism(s)] | DX 6150-6159;                                       |
| 2.01  | with perforation of the uterus              | Stage 1.01<br>AND perforation of the uterus [operative/pathology report]   | STAGE 1.01 + DX 6218;                               |
| 2.02  | with peritonitis                            | Stage 1.01-2.01<br>AND peritonitis [operative/pathology report]  | STAGE 1.01-2.01 + (DX 5670-5679, 6145, 6147-6149 ); |
| 3.01  | with disseminated intravascular coagulation | Stage 2.01-2.02<br>AND <b>DIC:</b>   | STAGE 1.01-2.02 + GROUP DIC;                        |
| 3.02  | with sepsis                                 | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                     |
| 3.03  | with shock                                  | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                                  | Stage 2.01-3.03<br>AND death   | NO;   |

### References:

Holmes KK. Pelvic inflammatory disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:812-817.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN33

MultiStage: No

DXCat Label: Uterovaginal Prolapse

Specificity: A

Etiology: Degenerative; Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Relaxation of the vagina                             | Urethrocele prolapse of the vagina   | DX 6180-61809, 6185, 6187-6189;   |
| 1.02  | First grade prolapse of the uterus                   | Cervix of the uterus is within the vagina<br>AND not in anatomical location<br>AND before the ischial spine<br>OR first grade prolapse of the uterus | DX 6181, 61884;   |
| 1.03  | Second grade prolapse of the uterus                  | Stage 1.02<br>AND cervix of the uterus is between the vaginal introitus and the ischial spine<br>OR second grade prolapse of the uterus              | NO;   |
| 2.01  | Prolapse of the uterus with rectocele or cystocele   | Stage 1.02-1.03<br>AND rectocele<br>OR cystocele   | DX 6182-6184;<br>STAGE 1.01-1.03 + (DX 33811,<br>33821, 6256, 78830-78839); |
| 2.02  | Prolapse of the uterus with enterocele               | Stage 1.02-1.03<br>AND herniation of the cul-de-sac of Douglas   | DX 6186;  |
| 2.03  | Third grade prolapse of the uterus                   | Stage 1.02-1.03<br>AND cervix is at the hymen<br>OR third grade prolapse of the uterus   | NO;   |
| 2.04  | Prolapse of the uterus with ulceration of the cervix | Stage 1.02-2.03<br>AND ulceration of the cervix  | STAGE 1.02-2.02 + (DX 6160,<br>6220);                                       |
| 2.05  | Prolapse of the uterus with procidentia              | Stage 1.02-2.04<br>AND cervix is through the hymen<br>OR fourth grade prolapse of the uterus   | STAGE 1.02-2.04 + DX 5691;  |

### References:

- American College of Obstetricians and Gynecologists. Pelvic organ prolapse. ACOG Technical Bulletin 214. Washington, DC: ACOG 1995.
- Burnett LS. Relaxations, malpositions, fistulas, and incontinence. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:456-458, 461.
- Kistner RW. Gynecology: Principles and Practice. 4th ed. Chicago, IL: Year Book Medical Publishers. 1986:184-188.
- MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
- Wentz AC. Abnormal uterine bleeding. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:378-396.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN34

DXCat Label: Vulvovaginitis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|------------------------------|--|--|
| 1.01  | Vulvovaginitis               | Vulvovaginitis [gram stain, wet mount, or culture report growth of pathologic organism(s) from vaginal smears or wet mount identification  | DX 13101, 61610-61611, 6169;                       |
| 1.02  | Symptomatic vulvovaginitis   | Stage 1.01<br>AND symptomatic vaginal itching<br>OR complains of vaginal discharge with foul odor<br>OR complains of vaginal burning<br>OR complains of vaginal pain<br>OR complains of vaginal ulceration | DX 6164, 61650, 61651;                             |
| 2.01  | with urinary retention       | Stage 1.01-1.02<br>AND residual bladder urine > 100 cc   | STAGE 1.01-1.02 + (DX 78820-78829, 78838);         |
| 2.02  | with urinary tract infection | Stage 1.01-2.01<br>AND <b>UTI:</b>   | STAGE 1.01-2.01 + DXCAT GUS10;                     |
| 2.03  | with pyelonephritis          | Stage 2.02<br>AND <b>pyelonephritis:</b>   | STAGE 1.01-2.02 + (DX 59010-59011);                |
| 3.01  | with sepsis                  | Stage 1.01-2.03<br>AND <b>sepsis:</b>  | STAGE 1.01-2.03 + GROUP SEPSIS;                    |
| 3.02  | with shock                   | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                   | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

Holmes KK, Handsfield HH. Sexually transmitted diseases: overview and clinical approach. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:801-812.

Jones III HW. Benign disease of the vulva and vagina. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:570-598.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN80

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Female Reproductive System

Specificity: A

Etiology: Neoplasm

| Stage | Description                                  | Diagnostic findings | ICD-9-CM Codes                       |
|-------|--|---------------------|--------------------------------------|
| 1.01  | Benign neoplasm of female reproductive sites |                     | DX 2190-2199, 2210-2219, 2360, 2363; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Female Genitalia

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                      |
|-------|--|---------------------|---|
| 0.00  | History of other malignant neoplasm of female genitalia    |                     | DX V1040, V1044;                                    |
| 1.01  | Primary malignant neoplasm of other uterine site or adnexa |                     | DX 179, 1832-1839, 2333;                            |
| 2.01  | with lymph node involvement                                |                     | STAGE 0.00-1.01 + (DX 1961-1962, 1965-1966);        |
| 2.02  | with anemia of neoplastic disease                          |                     | STAGE 0.00-2.01 + DX 28522;                         |
| 3.01  | with distant metastases                                    |                     | STAGE 0.00-2.02 + (DX 3383, 1960, 1963, 1968-1991); |
| 3.02  | with shock   |                     | STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN82

MultiStage: No

DXCat Label: Other Breast Disorders

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                          |
|-------|---|---------------------|---|
| 1.01  | Galactocele, mastodynia, lump or mass in breast or abnormal mammogram |                     | DX 6112, 6114-61179, 6119, 79380-79389; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN83

MultiStage: No

DXCat Label: Other Disorders of Female Genital System

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 0.00  | Encounter for postmenopausal hormone replacement therapy or abnormal Pap smear   |                     | DX 7950-79502, 79505, 79508-79509, V074;  |
| 1.01  | Cervicitis, ovarian cyst, uterine malposition, polyp, menstrual irregularities, infertility, condyloma acuminatum  |                     | (DX 6160, 61681-61689, 6202-6203, 6207-6220, 6222-6259, 6264, 6267, 6271-62981);<br>DX 6299 OR (DX 07811 + FEMALE); |
| 2.01  | Female genital fistula, broad ligament laceration syndrome, pelvic peritoneal adhesions, prolapse or torsion of ovary, anomalies of ovaries, Fallopian tubes, broad ligament or adnexa |                     | DX 6146, 6190, 6192-6199, 6204-6206, 7520-75219;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM01

MultiStage: No

DXCat Label: Agranulocytosis

Specificity: A

Etiology: Idiopathic; Toxicologic

| Stage | Description                     | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---------------------------------|--|--|
| 1.01  | Neutropenia                     | <b>Neutropenia:</b>  | DX 2880-28809;   |
| 1.02  | Moderate neutropenia            | Absolute neutrophil count $\leq$ 1,000 cells/mm <sup>3</sup> [hematology report] | NO;  |
| 2.01  | Severe neutropenia              | Absolute neutrophil count $\leq$ 500 cells/mm <sup>3</sup> [hematology report]   | NO;  |
| 2.02  | with oral or anal ulcerations   | Stage 1.01-2.01<br>AND oral ulcers<br>OR anal ulcers                             | STAGE 1.01 + (DX 52802, 5289, 56941);                        |
| 2.03  | with thrombocytopenia           | Stage 1.01-2.02<br>AND <b>thrombocytopenia:</b>                                  | STAGE 1.02-2.02 + GROUP THRMBCYPEN;                          |
| 3.01  | with meningitis or endocarditis | Stage 1.01-2.03<br>AND <b>meningitis:</b><br>OR <b>endocarditis:</b>             | STAGE 1.01-2.03 + (GROUP MENGIT_BACT OR GROUP ENDOCARDITIS); |
| 3.02  | with sepsis                     | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                              |
| 3.03  | with shock                      | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death                      | Stage 1.01-3.03<br>AND death   | NO;  |

### References:

- Baehner RL. Neutropenia. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:587-591.
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- Viscoli C, Castagnola E. Planned progressive antimicrobial therapy in neutropenic patients. British Journal of Haematology. 1998;102(4):879-88.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM02

MultiStage: No

DXCat Label: Anemia: Aplastic, Acquired

Specificity: A

Etiology: Idiopathic; Toxicologic

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|------------------------------|---|--|
| 2.01  | Early aplastic anemia        | <b>Leukopenia:</b><br>AND <b>thrombocytopenia:</b><br>AND <b>anemia:</b><br>AND bone marrow cellularity < 20%[bone marrow biopsy report]<br>AND reticulocytes < 1% [CBC report]   | DX 2840-2842, 2848, 2849;  |
| 2.02  | Advanced aplastic anemia     | Bone marrow cellularity < 20%[bone marrow biopsy report]<br>AND total WBC count < 1,000 cells/mm <sup>3</sup> [complete blood count report]<br>AND platelet count < 50,000 cells/mm <sup>3</sup> [hematology report]<br>AND hemoglobin < 8 gm/dl [hematology report]<br>AND reticulocytes < 1% [CBC report] | NO;  |
| 3.01  | Severe aplastic anemia       | Bone marrow cellularity < 20%[bone marrow biopsy report]<br>AND total WBC count ≤ 500 cells/mm <sup>3</sup> [complete blood count report]<br>AND platelet count < 20,000 cells/mm <sup>3</sup> [hematology report]<br>AND hemoglobin ≤ 6 gm/dl [hematology report]<br>AND reticulocytes < 1% [CBC report]   | NO;  |
| 3.02  | with intracranial hemorrhage | Stage 2.01-3.01<br>AND intracranial hemorrhage [CT scan or MRI scan report]   | STAGE 2.01 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436); |
| 3.03  | with sepsis                  | Stage 2.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + GROUP SEPSIS;  |
| 4.00  | with death                   | Stage 2.01-3.03<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM02

MultiStage: No

DXCat Label: Anemia: Aplastic, Acquired

Specificity: A

Etiology: Idiopathic; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Alter BP, Young NS. The bone marrow failure syndromes. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:237-335.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM03

MultiStage: No

DXCat Label: Anemia: Folic Acid Deficiency

Specificity: A

Etiology: Nutritional

| Stage | Description                               | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.01  | Anemia secondary to folic acid deficiency | <b>Anemia:</b><br>AND <b>macrocytosis:</b><br>AND A red blood cell folate < 150 ng/mL [hematology report]<br>OR serum folic acid levels ≤ 6 ng/ml [chemistry report] | DX 2812;   |
| 2.01  | with moderate anemia                      | Stage 1.01<br>AND hemoglobin ≤ 8 gm/dl [hematology report]   | NO;  |
| 3.01  | with congestive heart failure             | Stage 1.01-2.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01 + GROUP CHF_NON_HTN;                    |
| 3.02  | with shock                                | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

- Hillman RS. Anemia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:334-339.
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- Schwartz, E. Megaloblastic anemias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1384-1387.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM04

DXCat Label: Anemia: Hemolytic

Etiology: Genetic (or hereditary); Toxicologic; Trauma

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|-------------------------------|---|---|
| 2.01  | Hemolytic anemia              | <b>Hemolysis:</b><br>AND <b>anemia:</b>   | DX 2820, 2821, 2823, 2827, 2828, 2829, 2830, 28310, 28311, 28319, 2832, 2839; |
| 2.02  | Moderate anemia               | Stage 2.01<br>AND hemoglobin ≤ 8 gm/dl [hematology report]  | NO;   |
| 2.03  | with gallstones               | Stage 2.01-2.02<br>AND Stones in gallbladder [ultrasound report]  | STAGE 2.01 + DXCAT HEP01;   |
| 2.04  | Hemolytic crisis              | Stage 2.01-2.03<br>AND <b>bleeding:</b><br>AND hemoglobinuria [urinalysis report]<br>OR <b>jaundice:</b>  | STAGE 2.01-2.03 + (DX 4590 + GROUP HYPERBILI);                                |
| 3.01  | with aplastic crisis          | Stage 2.01-2.04<br>AND rapidly falling hemoglobin<br>AND reticulocytopenia [hematology report]<br>OR euthyroid bone marrow failure [pathology report] | STAGE 2.01-2.04 + GROUP ANEM_APLAST;  |
| 3.02  | with pulmonary embolism       | Stage 2.01-3.01<br>AND <b>pulmonary embolism:</b>   | STAGE 2.01-3.01 + GROUP PULMEMB;  |
| 3.03  | with congestive heart failure | Stage 2.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 2.01-3.02 + GROUP CHF_NON_HTN;  |
| 3.04  | with respiratory failure      | Stage 2.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 2.01-3.03 + GROUP RESP_FAIL;  |
| 3.05  | with shock                    | Stage 2.01-3.04<br>AND <b>shock:</b>  | STAGE 2.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;                            |
| 4.00  | with death                    | Stage 2.01-3.05<br>AND death  | NO;   |

## References:

Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780.

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Rosse W, Bunn HF. Hemolytic anemias and acute blood loss. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:659-672.

Segal GB. Hemolytic anemias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1390-1410.

Wonke B. Bone disease in beta-thalassaemia major. British Journal of Haematology. 1998;103(4):897-901.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM05

DXCat Label: Anemia: Iron Deficiency

Etiology: Nutritional

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes                     |
|-------|-------------------------------|---|------------------------------------|
| 1.01  | Iron-deficiency anemia        | <b>Iron-deficiency anemia:</b>  | DX 2800, 2801, 2808, 2809;         |
| 2.01  | with moderate anemia          | Stage 1.01<br>AND hemoglobin > 5 g [CBC report]<br>AND ≤ 8 gm/dl [CBC report] | NO;                                |
| 2.02  | with severe anemia            | Stage 1.01<br>AND hemoglobin ≤ 5 gm/dl [CBC report]                           | NO;                                |
| 3.01  | with congestive heart failure | Stage 2.01-2.02<br>AND <b>congestive heart failure:</b>                       | STAGE 1.01 + GROUP<br>CHF_NON_HTN; |
| 4.00  | with death                    | Stage 2.01-3.01<br>AND death  | NO;                                |

### References:

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Schwartz, E. Iron deficiency anemia. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1387-1389.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM06

MultiStage: No

DXCat Label: Anemia: Sickle Cell

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Sickle cell trait                                       | Hemoglobin S 32-45% [hemoglobin electrophoresis report]<br>AND hemoglobin A 52-65% [hemoglobin electrophoresis report]   | DX 2825;  |
| 1.02  | Sickle cell trait with hematuria or hyposthenuria       | Stage 1.01<br>AND urine red blood cells > 2/hpf [urinalysis report]<br>OR specific gravity < 1.0005 [urinalysis report]  | STAGE 1.01 + (DX 59389, 5997);                                    |
| 2.01  | Sickle beta+ thalassemia                                | <b>Anemia:</b><br>AND Hemoglobin S 5-85%, hemoglobin A 10-30% [hemoglobin electrophoresis report]<br>AND Hemoglobin F 5-10% [hemoglobin electrophoresis report]  | DX 28241, 28268;<br>STAGE 1.01-1.02 + DX 2824;                    |
| 2.02  | Hemoglobin SC disease                                   | <b>Anemia:</b><br>AND Hemoglobin S 45-50%, Hemoglobin C 45-50% [hemoglobin electrophoresis report]   | DX 28263;   |
| 2.03  | Sickle cell anemia or sickle beta0 thalassemia          | <b>Anemia:</b><br>AND Hemoglobin S 80-95% [ hemoglobin electrophoresis report]<br>AND Hemoglobin F 2-20% [hemoglobin electrophoresis report]<br>OR Hemoglobin S 75-90% [hemoglobin electrophoresis report]<br>AND Hemoglobin F 5-25% [hemoglobin electrophoresis report] | DX 28260, 28261, 28269;   |
| 2.04  | with skin ulcers or vitreous hemorrhage                 | Stage 2.01-2.03<br>AND skin ulcerations<br>OR vitreous hemorrhage [fundoscopy report]  | STAGE 1.01-2.03 + (DX 37923, 70710-70715, 70719, 7078, 7079);     |
| 2.05  | with priapism   | Stage 2.01-2.04<br>AND priapism  | STAGE 1.01-2.04 + DX 6073;  |
| 2.06  | with retinal detachment                                 | Stage 2.01-2.05<br>AND retinal detachment [ophthalmologist report]   | STAGE 1.01-2.05 + DXCAT EYE07;                                    |
| 2.07  | with hepatitis or choledocholithiasis or cholelithiasis | Stage 2.01-2.06<br>AND <b>hepatitis:</b><br>OR hepatomegaly<br>OR choledocholithiasis [sonogram or endoscopic retrograde cholangiopancreatography report]<br>OR cholelithiasis [sonogram or KUB x-ray report]  | STAGE 1.01-2.06 + DXCAT HEP01;                                    |
| 2.08  | with painful crisis                                     | Stage 2.01-2.07<br>AND diffuse abdominal pain<br>AND generalized bone pain   | DX 28242, 28262, 28264;<br>STAGE 2.01-2.07 + DX 28952;            |
| 2.09  | with papillary necrosis                                 | Stage 2.01-2.08<br>AND papillary necrosis of the kidney [operative/pathology report]   | STAGE 1.01-2.08 + (DX 59000, 59001, 59010, 59011 , 59080, 59081); |
| 2.10  | with bacteremia   | Stage 2.01-2.09<br>AND <b>bacteremia:</b>  | STAGE 1.01-2.09 + GROUP BACTEREMIA;                               |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM06

DXCat Label: Anemia: Sickle Cell

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description                    | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--------------------------------|--|---|
| 2.11  | with bacterial pneumonia       | Stage 2.01-2.10<br>AND <b>pneumonia:</b>   | STAGE 1.01-2.10 + DXCAT RES15;  |
| 2.12  | with osteomyelitis             | Stage 2.01-2.11<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.11 + GROUP OSTEOMYELIT;  |
| 3.01  | with aplastic crisis           | Stage 2.01-2.12<br>AND acellular bone marrow [operative/pathology report]<br>OR <b>leukopenia:</b><br>AND <b>thrombocytopenia:</b>                           | STAGE 1.01-2.12 + (GROUP LEUKOPENIA) + (GROUP THRMBCYTPEN);   |
| 3.02  | acute chest syndrome           | Stage 2.01-3.01<br>OR pulmonary infarctions [chest x-ray report]<br>OR pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report] | STAGE 1.01-3.01 + (DX 5173 OR GROUP PULMEMB);   |
| 3.03  | with renal failure             | Stage 2.01-3.02<br>AND <b>renal failure:</b>   | STAGE 1.01-3.02 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.04  | with congestive heart failure  | Stage 2.01-3.03<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.03 + GROUP CHF_NON_HTN;  |
| 3.05  | with cerebrovascular accidents | Stage 2.01-3.04<br>AND cerebrovascular infarction or hemorrhage [CT scan or MRI scan report]   | STAGE 1.01-3.04 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436); |
| 3.06  | with sepsis                    | Stage 2.01-3.05<br>AND <b>sepsis:</b>  | STAGE 1.01-3.05 + GROUP SEPSIS;   |
| 3.07  | with respiratory failure       | Stage 2.01-3.06<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.06 + GROUP RESP_FAIL;  |
| 3.08  | with shock                     | Stage 2.01-3.07<br>AND <b>shock:</b>   | STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                     | Stage 2.01-3.08<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM06

MultiStage: No

DXCat Label: Anemia: Sickle Cell

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
|---|
| Beutler E. Disorders of hemoglobin. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:645-653. |
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM07

MultiStage: No

DXCat Label: Anemia: Thalassemia

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                  |
|-------|---|--|---------------------------------|
| 1.01  | Alpha thalassemia trait                             | <b>Microcytosis:</b><br>AND <b>anemia:</b><br>AND serum iron > 55 ug/dl in males or > 35 ug/dl in females [chemistry report]<br>AND total iron binding capacity < 513 ug/dl [chemistry report]<br>OR serum ferritin > 12 ng/ml [chemistry report]<br>OR normal iron stores [bone marrow biopsy report]<br>OR hemoglobin Barts 5-10% in newborn [hemoglobin electrophoresis report]   | DX 2824, 28249;                 |
| 1.02  | Beta thalassemia trait or thalassemia minor         | <b>Microcytosis:</b><br>AND <b>anemia:</b><br>AND hemoglobin A <sub>2</sub> > 3% [hemoglobin electrophoresis report]   | NO;                             |
| 2.01  | Hemoglobin H disease (alpha thalassemia intermedia) | <b>Microcytosis:</b><br>AND <b>anemia:</b><br>AND hemoglobin H 4-20% in child or adult [hemoglobin electrophoresis report]<br>OR hemoglobin Barts 5-10% in newborn [hemoglobin electrophoresis report]   | NO;                             |
| 2.02  | Beta thalassemia intermedia                         | <b>Microcytosis:</b><br>AND hemoglobin 6-8 g/dl [hematology report]<br>AND hemoglobin A 20-40% [hemoglobin electrophoresis report]<br>AND hemoglobin F 60-80% [hemoglobin electrophoresis report]  | NO;                             |
| 3.01  | Beta thalassemia major or Cooley's anemia           | Hemoglobin F > 90% [hemoglobin electrophoresis report]<br>AND hemoglobin ≤ 6 gm/dl [complete blood count report]<br>AND erythroid hyperplasia of the bone marrow [bone marrow report]<br>AND <b>microcytosis:</b><br>AND serum iron > 209 ug/dl [chemistry report]<br>OR serum ferritin ≥ 370 ng/ml [chemistry report]<br>OR normal iron stores [bone marrow biopsy report]<br>AND reticulocyte count ≥ 1.5% of total erythrocytes [complete blood count report]<br>AND total bilirubin ≥ 3.0 mg/dl [chemistry report] | NO;                             |
| 3.02  | with congestive heart failure                       | Stage 2.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01 + GROUP CHF_NON_HTN; |
| 3.03  | Homozygous alpha thalassemia with hydrops fetalis   | Hemoglobin Barts 80-90%; no Hemoglobin A or F in newborn [Hemoglobin electrophoresis report]<br>AND hydrops fetalis  | STAGE 1.01-3.02 + DX 7780;      |
| 4.00  | with death  | Stage 2.01-3.03<br>AND death   | NO;                             |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM07

MultiStage: No

DXCat Label: Anemia: Thalassemia

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Beutler E. Disorders of hemoglobin. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:645-653.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM08

MultiStage: No

DXCat Label: Anemia: Vitamin B-12 Deficiency

Specificity: A

Etiology: Nutritional

| Stage | Description                                | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Anemia secondary to vitamin B12 deficiency | <b>Anemia:</b><br>AND <b>macrocytosis:</b><br>AND serum vitamin B <sub>12</sub> < 100 pg/ml [chemistry report]  | DX 2810, 2811;  |
| 2.01  | with neuropathy                            | Stage 1.01<br>AND paresthesia of extremities<br>OR ataxia or loss of balance<br>OR loss of vibratory sensation in lower extremities<br>OR Babinski's sign | STAGE 1.01 + (DX 34489, 3559, 3569, 3574, 7813, 7820);                    |
| 2.02  | with cardiomegaly                          | Stage 1.01-2.01<br>AND cardiomegaly [chest x-ray or echocardiogram report]  | STAGE 1.01-2.01 + DX 4293;  |
| 3.01  | with megaloblastic madness (dementia)      | Stage 1.01-2.02<br>AND delusions of grandeur and persecution<br>OR disoriented to time or place or person   | STAGE 1.01-2.02 + (DX 29410, 29411, 2970, 2971, 2979 OR GROUP DISORIENT); |
| 3.02  | with congestive heart failure              | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;                                      |
| 3.03  | with shock                                 | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                        |
| 4.00  | with death                                 | Stage 2.01-3.03<br>AND death  | NO;   |

### References:

- Hillman RS. Anemia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:334-339.
- Hoffbrand V, Provan D. ABC of clinical haematology. Macrocytic anaemias BMJ. 1997;314(7078):430-3.
- Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780.
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- Toh BH, van Driel IR, Gleeson PA. Pernicious anemia. N Engl J Med. 1997;337(20):1441-8.
- Whitehead VM, Rosenblatt DS, Cooper BA. Megaloblastic anemia. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:385-422.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM09

MultiStage: No

DXCat Label: Glucose 6-Phosphate Dehydrogenase Deficiency

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                               |
|-------|---|---|--|
| 1.01  | Glucose 6-phosphate dehydrogenase deficiency asymptomatic carrier or homozygotic female | Glucose 6-phosphate dehydrogenase activity $\geq$ 20% of normal [hematology report]<br>AND glucose 6-phosphate dehydrogenase activity $\leq$ 100% of normal [hematology report] | NO;  |
| 1.02  | with hemolytic anemia   | Stage 1.01<br>AND <b>hemolysis:</b>   | DX 2822;                                     |
| 2.01  | with moderate anemia  | Stage 1.02<br>AND glucose 6-phosphate dehydrogenase deficiency $\geq$ 20% of normal [hematology report]<br>OR hemoglobin $\leq$ 8 gm/dl [CBC report]                            | NO;  |
| 3.01  | with severe anemia  | Stage 1.02-2.01<br>AND hemoglobin $\leq$ 5 gm/dl [CBC report]   | NO;  |
| 3.02  | with congestive heart failure   | Stage 1.02-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.02 + GROUP CHF__NON_HTN;             |
| 3.03  | with shock  | Stage 1.02-3.02<br>AND <b>shock:</b>  | STAGE 1.02 + (GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death  | Stage 1.02-3.03<br>AND death  | NO;  |

### References:

Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM10

DXCat Label: Graft versus Host reaction

Etiology: Immune

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes                              |
|-------|--|--|---|
| 0.00  | Graft vs. host reaction                      |  | DX 99685, 9995-9998;                        |
| 1.01  | Acute reaction Grade I-IV                    | Stage 0.00<br>AND skin eruptions of erythematous maculo papules, bullae and toxic epidermal necrolysis (dermatology report)  | STAGE 0.00 + DX 6951;                       |
| 1.02  | with hepatitis                               | Stage 0.00-1.01<br>AND <b>hepatitis:</b>   | STAGE 0.00-1.01 + GROUP HEPATITIS;          |
| 1.03  | with enteritis                               | Stage 0.00-1.02<br>AND bloody diarrhea   | STAGE 0.00-1.02 + (DX 5589, 5781, 78791);   |
| 2.01  | Lichen planus like or sclerodermoid reaction | Stage 0.00-1.03<br>AND Lichen planus like lesions on face, palms, soles and oral mucosa [operative/pathology report]<br>OR systemic sclerodermoid lesions with tightening of skin of face, hands and feet (dermatology report) | STAGE 0.00-1.03 + (DX 6970, 7010);          |
| 2.02  | with polymyositis                            | Stage 0.00-2.01<br>AND muscle weakness of proximal joints [EMG report]   | STAGE 0.00-2.01 + DX 7104;                  |
| 2.03  | with Sjogren's syndrome                      | Stage 0.00-2.02<br>AND Sjogren's syndrome [Rheumatology report]  | STAGE 0.00-2.02 + DX 7102;                  |
| 2.04  | with biliary cirrhosis                       | Stage 0.00-2.03<br>AND biliary cirrhosis [operative/pathology report]  | STAGE 0.00-2.03 + DX 5716;                  |
| 3.01  | with respiratory failure                     | Stage 0.00-2.04<br>AND <b>respiratory failure:</b>   | STAGE 0.00-2.04 + GROUP RESP_FAIL;          |
| 3.02  | with shock                                   | Stage 0.00-3.01<br>AND <b>shock:</b>   | DX 9994;<br>STAGE 0.00-3.01 + GROUP SHOCKA; |
| 4.00  | with death                                   | Stage 0.00-3.02<br>AND death   | NO;   |

## References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM11

MultiStage: No

DXCat Label: Hemolytic Disease of the Newborn

Specificity: A

Etiology: Congenital

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes           |
|-------|---|--|--------------------------|
| 1.01  | Hemolytic disease of the newborn secondary to rhesus isoimmunization or ABO incompatibility or minor blood group incompatibility        | Umbilical cord blood bilirubin $\leq$ 5 mg/dl [chemistry report]<br>AND direct Coombs' reaction [hematology report]  | DX 7730-7732, 7740-7746; |
| 2.01  | Severe hemolytic disease of the newborn secondary to rhesus isoimmunization or ABO incompatibility or minor blood group incompatibility | Umbilical cord blood bilirubin $\geq$ 5 mg/dl [chemistry report]<br>AND direct Coombs' reaction [hematology report]<br>AND cord blood hematocrit $\leq$ 40% [hematology report]<br>AND cord blood reticulocytes $\geq$ 15% [hematology report] | DX 7735;                 |
| 3.01  | with kernicterus  | Stage 1.01-2.01<br>AND kernicterus   | DX 7734, 7747;           |
| 3.02  | with hydrops fetalis  | Stage 1.01-3.01<br>AND hydrops fetalis   | DX 7733;                 |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death   | NO;                      |

### References:

- Bowman JM. Immune hemolytic disease. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:53-78.
- Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
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- Jones LJ. Hemolytic disease of the newborn. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:500-504.
- Liley HG. Rescue in inner space: management of Rh hemolytic disease. Journal of Pediatrics. 1997;131(3):340-2.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM12

MultiStage: No

DXCat Label: Hemophilia A or B

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Mild asymptomatic, hemophilia A or B  | Factor VIII:C 6-30% [hematology report]<br>OR Factor IX 6-30% [hematology report]  | DX 2860, 2861, V8301;  |
| 1.02  | Moderate hemophilia A or B  | Factor VIII:C ≤ 5 % and ≥ 1% [hematology report]<br>OR Factor IX ≤ 5 % and ≥ 1%[hematology report]   | DX V8302;  |
| 2.01  | Severe hemophilia A or B  | Factor VIII:C < 1% [hematology report]<br>OR Factor IX < 1% [hematology report]  | NO;  |
| 2.02  | with intramuscular hematoma   | Stage 1.01-2.01<br>AND intramuscular hematoma  | STAGE 1.01 + (DX 920, 9210-9213, 9220-9224, 9228-9229, 92300-92303, 92309, 92310-92311 , 92320-92321, 9233, 9238-9239, 92400-92401, 92410-92411, 92420-92421, 9243-9245, 9248-9249); |
| 2.03  | with hemarthrosis   | Stage 1.01-2.02<br>AND hemarthrosis  | DX 2864;<br>STAGE 1.01-2.02 + DX 71910-71919;  |
| 2.04  | with ankylosis of the elbow or knee joints  | Stage 1.01-2.03<br>AND ankylosis of the elbow [elbow x-ray report]<br>OR ankylosis of the knee [knee x-ray report]   | STAGE 1.01-2.03 + (DX 71852, 71856);   |
| 2.05  | with upper airway obstruction   | Stage 1.01-2.04<br>AND sublingual hematoma<br>OR laryngeal hematoma<br>OR retropharyngeal hematoma   | STAGE 1.01-2.04 + DX 5198;   |
| 3.01  | with hemorrhage into the central nervous system or the heart of pericardium or thorax | Stage 1.01-2.05<br>AND intracranial hemorrhage [CT scan or MRI report]<br>OR hemopericardium [echocardiogram report]<br>OR hemothorax [chest x-ray report] | STAGE 1.01-2.04 + (DX 4230, 42989, 430, 431, 4320-4321, 4329, 5118, 7863);   |
| 3.02  | with respiratory failure  | Stage 101-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;   |
| 3.03  | with shock  | Stage 101-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death  | Stage 101-3.03<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM12

MultiStage: No

DXCat Label: Hemophilia A or B

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- Bossi P, Cabane J, Ninet J, et al. Acquired hemophilia due to factor VIII inhibitors in 34 patients. *American Journal of Medicine*. 1998;105(5):400-8.
- Corrigan JJ. Phase I disorders: the hemophilias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:1424-1428.
- Giangrande PL. Hepatitis in haemophilia. *British Journal of Haematology*. 1998;103(1):1-9.
- Handin RI. Disorders of coagulation and thrombosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:736-744.
- Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780.
- Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:479-534.
- Montgomery RR, Gill JC, Scott JP. Hemophilia and von Willebrand disease. In: Nathan DG and Orkin SH, eds. *Nathan and Oski's Hematology of Infancy and Childhood*. 5th ed. Philadelphia, PA: WB Saunders; 1998:1631-1659.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Depletion

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 0.00  | History or remission of Hodgkin's disease with lymphocytic depletion  |  | NO;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic depletion [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20171, 20172, 20173, 20174, 20175, 20176;       |
| 1.02  | Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue  | Stage 1.01<br>AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1AE   | DX 20170;  |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% of baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ; |
| 1.04  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.03<br>AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;  |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic depletion involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2A | DX 20178;  |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2AE  | STAGE 1.02 + STAGE 2.01;                           |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B  | STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);        |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Depletion

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                   |
|-------|---|---|----------------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic depletion involving both sides of the diaphragm [operative/pathology report]<br>OR Hodgkin's disease with lymphocytic depletion involving the spleen [operative/pathology report]<br>OR celiac nodes [operative pathology report]<br>OR portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                                 | DX 20177;                        |
| 3.02  | On both sides of the diaphragm or spleen with extension to adjacent tissues                             | Stage 3.01<br>AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;                              |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01-3.02<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E<br>OR Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report] | NO;                              |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;                              |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | STAGE 3.01 + DX 3369;            |
| 3.06  | with Pneumocystis carinii pneumonia or Cryptococcus infection or opportunistic infections               | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report or gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>   | STAGE 1.01-3.05 + GROUP OPP_INF; |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Depletion

Specificity: A

Etiology: Neoplasm

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.08  | with respiratory failure | Stage 1.01-3.07<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.07 + GROUP<br>RESP_FAIL;                 |
| 3.09  | with shock               | Stage 1.01-3.08<br>AND <b>shock:</b>               | STAGE 1.01-3.08 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 1.01-3.09<br>AND death                       | NO;   |

### References:

Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

DeVita VT Jr. Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Predominance

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 0.00  | History or remission of Hodgkin's disease with lymphocytic depletion  |   | NO;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic predominance [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20141, 20142, 20143, 20144, 20145, 20146;       |
| 1.02  | Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue  | Stage 1.01<br>AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1AE   | DX 20140;  |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% of baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B  | STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ; |
| 1.04  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.03<br>AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;  |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic predominance involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2A | DX 20148;  |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2AE  | STAGE 2.01 + STAGE 1.02;                           |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);        |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Predominance

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic predominance involving both sides of the diaphragm [operative/pathology report]<br>OR Hodgkin's disease with lymphocytic predominance involving the spleen [operative/pathology report]<br>OR celiac nodes [operative pathology report]<br>OR portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                             | DX 20147;  |
| 3.02  | On both sides of the diaphragm or spleen with extension to adjacent tissues                             | Stage 3.01<br>AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;  |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01-3.02<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2<br>OR Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report] | NO;  |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;  |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | STAGE 3.01 + DX 3369;                              |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND <b>opportunistic infection:</b>  | STAGE 1.01-3.05 + GROUP OPP_INF;                   |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;                    |
| 3.08  | with respiratory failure  | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.07 + GROUP RESP_FAIL;                 |
| 3.09  | with shock  | Stage 1.01-3.08<br>AND <b>shock:</b>  | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Predominance

Specificity: A

Etiology: Neoplasm

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.09<br>AND death | NO;            |

### References:

Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

DeVita VT Jr. Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Mixed Cellularity

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 0.00  | History or remission of Hodgkin's disease with mixed cellularity  |  | NO;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with mixed cellularity [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20161, 20162, 20163, 20164, 20165, 20166;       |
| 1.02  | Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue  | Stage 1.01<br>AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1AE   | DX 20160;  |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% of baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ; |
| 1.04  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.03<br>AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;  |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with mixed cellularity involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2A | DX 20168;  |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2AE  | STAGE 2.01 + STAGE 1.02;                           |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B  | STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);        |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Mixed Cellularity

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                     |
|-------|---|---|------------------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with mixed cellularity involving both sides of the diaphragm [operative/pathology report]<br>OR Hodgkin's disease with mixed cellularity involving the spleen [operative/pathology report]<br>OR celiac nodes [operative pathology report]<br>OR portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                                     | DX 20167;                          |
| 3.02  | On both sides of the diaphragm or spleen with extension to adjacent tissues                             | Stage 3.01<br>AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;                                |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01-3.02<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E<br>OR Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report] | NO;                                |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;                                |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | STAGE 3.01 + DX 3369;              |
| 3.06  | with Pneumocystis carinii pneumonia or cryptococcus infection or opportunistic infections               | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report or gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>   | STAGE 1.01-3.05 + GROUP OPP_INF;   |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;    |
| 3.08  | with respiratory failure  | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.07 + GROUP RESP_FAIL; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Mixed Cellularity

Specificity: A

Etiology: Neoplasm

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.09  | with shock  | Stage 1.01-3.08<br>AND <b>shock:</b> | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.09<br>AND death         | NO;  |

### References:

- Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- DeVita VT Jr, Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Nodular Sclerosis

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 0.00  | History or remission of Hodgkin's disease with nodular sclerosis  |  | NO;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with nodular sclerosis [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20151-20156;                                    |
| 1.02  | Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue  | Stage 1.01<br>AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1AE   | DX 20150;  |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% of baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ; |
| 1.04  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.03<br>AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;  |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with nodular sclerosis involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2A | DX 20158;  |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2AE  | STAGE 2.01 + STAGE 1.02;                           |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B  | STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);        |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Nodular Sclerosis

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                     |
|-------|---|---|------------------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with nodular sclerosis involving both sides of the diaphragm [operative/pathology report]<br>OR Hodgkin's disease with nodular sclerosis involving the spleen [operative/pathology report]<br>OR celiac nodes [operative pathology report]<br>OR portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                                     | DX 20157;                          |
| 3.02  | On both sides of the diaphragm or spleen with extension to adjacent tissues                             | Stage 3.01<br>AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;                                |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01-3.02<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E<br>OR Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report] | NO;                                |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;                                |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | STAGE 3.01 + DX 3369;              |
| 3.06  | with Pneumocystis carinii pneumonia or cryptococcus infection or opportunistic infections               | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report or gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>   | STAGE 1.01-3.05 + GROUP OPP_INF;   |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;    |
| 3.08  | with respiratory failure  | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.07 + GROUP RESP_FAIL; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Nodular Sclerosis

Specificity: A

Etiology: Neoplasm

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.09  | with shock  | Stage 1.01-3.08<br>AND <b>shock:</b> | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.09<br>AND death         | NO;  |

### References:

- Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- DeVita VT Jr, Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Lymphoma

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 0.00  | History or remission of Hodgkin's disease   |   | DX V1072;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Hodgkin's Disease [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20101-20106, 20111-20116, 20121-20126, 20191-20196; |
| 1.02  | Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue  | Stage 1.01<br>AND Hodgkin's Disease involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1AE   | DX 20100, 20110, 20120, 20190;                         |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% of baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B                                  | STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ;     |
| 1.04  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.03<br>AND Hodgkin's Disease involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;  |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Hodgkin's Disease involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2A | DX 20108, 20118, 20128, 20198;                         |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System 2AE  | STAGE 2.01 + STAGE 1.02;                               |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B                                     | STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Lymphoma

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 3.01  | On both sides of the diaphragm or involving the spleen with or without constitutional symptoms   | Lymph node group or group of contiguous lymph nodes with Hodgkin's Disease involving both sides of the diaphragm [operative/pathology report]<br>OR Hodgkin's Disease involving the spleen [operative/pathology report]<br>OR celiac nodes [operative pathology report]<br>OR portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1  | DX 20107, 20117, 20127, 20197;                     |
| 3.02  | On both sides of the diaphragm or spleen with extension to adjacent tissues with or without constitutional symptoms  | Stage 3.01<br>AND Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;  |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity with or without constitutional symptoms or involvement of adjacent tissues | Stage 3.01-3.02<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E<br>OR Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report] | NO;  |
| 3.04  | with diffuse extranodal tissue involvement with or without constitutional symptoms   | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;  |
| 3.05  | with spinal cord compression   | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]  | STAGE 3.01 + DX 3369;                              |
| 3.06  | with opportunistic infections  | Stage 1.01-3.05<br>AND <b>opportunistic infection:</b>   | STAGE 1.01-3.05 + GROUP OPP_INF;                   |
| 3.07  | with sepsis  | Stage 1.01-3.06<br>AND <b>sepsis:</b>  | STAGE 1.01-3.06 + GROUP SEPSIS;                    |
| 3.08  | with respiratory failure   | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.07 + GROUP RESP_FAIL;                 |
| 3.09  | with shock   | Stage 1.01-3.08<br>AND <b>shock:</b>   | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Lymphoma

Specificity: A

Etiology: Neoplasm

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.09<br>AND death | NO;            |

### References:

DeVita VT Jr, Hubbard SM. Hodgkin's disease. *N Engl J Med.* 1993;328(8):560-5.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. *BMJ.* 1997;314(7087):1103-6.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM18

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Lymphocytic

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 0.00  | History or remission of acute lymphoblastic leukemia                   |   | DX 20401, 20421;  |
| 1.01  | Acute lymphoblastic leukemia   | Lymphoblastic leukemia [peripheral smear or bone marrow aspiration or bone marrow biopsy report]                                  | DX 20400, 20420;  |
| 1.02  | with hyperdiploid states   | Stage 1.01<br>AND hyperdiploid states [cytogenetics report]   | NO;   |
| 2.01  | with hyperuricemia or hypokalemia or hyperkalemia or hyperphosphatemia | Stage 1.01-1.02<br>AND <b>hyperuricemia:</b><br>OR <b>hyperkalemia:</b><br>OR <b>hyperphosphatemia:</b><br>OR <b>hypokalemia:</b> | STAGE 1.01 + (GROUP HYPER_URICEM OR GROUP HYPER_KALEM OR GROUP HYPOKALEMIA);                |
| 2.02  | with significant anemia  | Stage 1.01-2.01<br>AND hemoglobin $\leq$ 7 gm/dl [CBC report]   | STAGE 1.01-2.01 + GROUP ANEM_NEOPL;   |
| 2.03  | with significant thrombocytopenia                                      | Stage 1.01-2.02<br>AND platelets < 60,000 cells/mm <sup>3</sup> [CBC report]  | STAGE 1.01-2.02 + GROUP THRMBCYTPEN;  |
| 2.04  | with leukopenia  | Stage 1.01-2.03<br>AND <b>leukopenia:</b>   | STAGE 1.01-2.03 + GROUP LEUKOPENIA;   |
| 2.05  | with urinary tract infection or nephrolithiasis or pyoderma            | Stage 1.01-2.04<br>AND <b>UTI:</b><br>OR nephrolithiasis [sonogram report]<br>OR pyoderma   | STAGE 1.01-2.04 + (DXCAT GUS10 OR DX 3383, 5920-5929, 68600-68609);                         |
| 2.06  | with pneumonia   | Stage 1.01-2.05<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.05 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DX 485-486); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM18

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Lymphocytic

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 2.07  | with Pneumocystis pneumonia or opportunistic infections | Stage 1.01-2.06<br>AND Pneumocystitis carinii pneumonia [per operative/pathology report or gallium scan report]<br>OR opportunistic infection from:<br>Pneumocystis carinii<br>Cytomegalovirus spp.<br>Herpes virus spp.<br>Candida albicans<br>Cryptococcus spp.<br>Histoplasma spp.<br>Toxoplasma gondii<br>Mycobacterium intracellulare<br>Mycobacterium tuberculosis<br>Cryptosporidia spp.<br>Isospora belli | STAGE 1.01-2.06 + GROUP OPP_INF;                             |
| 2.08  | with severe thrombocytopenia                            | Stage 1.01-2.07<br>AND platelets < 20,000 cells/mm <sup>3</sup> [CBC report]  | NO;  |
| 2.09  | with acute bleeding                                     | Stage 1.01-2.08<br>AND <b>bleeding:</b>   | STAGE 1.01-2.07 + DX 4590;                                   |
| 2.10  | with severe neutropenia                                 | Stage 1.01-2.09<br>AND total neutrophil count ≤ 500 cells/mm <sup>3</sup> [CBC report]  | STAGE 2.05-2.09 + (DX 2880-28809, 2884-28859);               |
| 3.01  | with meningitis   | Stage 1.01-2.10<br>AND <b>meningitis:</b>   | STAGE 1.01-2.10 + (GROUP MENGIT__BACT OR GROUP MENING__VIR); |
| 3.02  | with disseminated intravascular coagulation             | Stage 1.01-3.01<br>AND <b>DIC:</b>  | STAGE 1.01-3.01 + GROUP DIC;                                 |
| 3.03  | with sepsis   | Stage 1.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + GROUP SEPSIS;                              |
| 3.04  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death  | Stage 1.01-3.04<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM18

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Albano EA, et al. Neoplastic disease. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:781-803.

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Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.

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Pui CH, Evans WE. Acute lymphoblastic leukemia. N Engl J Med. 1998;339(9):605-15.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Nonlymphocytic

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | History or remission of acute nonlymphocytic leukemia        |  | DX 20501, 20521, 20531, 20601, 20621, 20701, 20711, 20721, 20801, V1060, V1063, V1069;      |
| 1.01  | Acute or subacute nonlymphocytic leukemia or myeloid sarcoma | Nonlymphocytic leukemia [peripheral smear or bone marrow aspiration or bone marrow biopsy report]<br><br>Note: nonlymphocytic leukemias include acute undifferentiated leukemia (M0), acute myeloblastic leukemia (M1), acute myeloblastic leukemia with differentiation (M2), acute promyelocytic leukemia (M3), acute myelomonocytic leukemia (M4), acute monoblastic leukemia (M5), erythroleukemia (M6), and megakaryoblastic leukemia (M7). | DX 20500, 20520, 20530, 20600, 20620, 20700, 20710, 20720, 20800;                           |
| 1.02  | with monosomy 5 and 7 or abnormalities of 11q23              | Stage 1.01<br>AND monosomy 5 and 7 [cytogenetics report]<br>OR abnormalities of 11q23 [cytogenetics report]  | NO;   |
| 2.01  | with hyperuricemia or hyperkalemia or hyperphosphatemia      | Stage 1.01-1.02<br>AND <b>hyperuricemia:</b><br>OR <b>hyperkalemia:</b><br>OR <b>hyperphosphatemia:</b>  | STAGE 1.01 + (GROUP HYPER_URICEM OR GROUP HYPER_KALEM OR GROUP HYPOKALEMIA);                |
| 2.02  | with significant anemia                                      | Stage 1.01-2.01<br>AND hemoglobin ≤ 7 gm/dl [CBC report]   | STAGE 1.01-2.01 + GROUP ANEM_NEOPL;   |
| 2.03  | with significant thrombocytopenia                            | Stage 1.01-2.02<br>AND platelets < 60,000 cells/mm <sup>3</sup> [CBC report]   | STAGE 1.01-2.02 + GROUP THRMBCYTPEN;  |
| 2.04  | with leukopenia  | Stage 1.01-2.03<br>AND <b>leukopenia:</b>  | STAGE 1.01-2.03 + GROUP LEUKOPENIA;   |
| 2.05  | with urinary tract infection or nephrolithiasis or pyoderma  | Stage 1.01-2.04<br>AND <b>UTI:</b><br>OR nephrolithiasis<br>OR pyoderma  | STAGE 1.01-2.04 + (DX 3383 OR DXCAT GUS10 OR DX 5920-5929, 68600-68609);                    |
| 2.06  | with pneumonia   | Stage 1.01-2.05<br>AND <b>pneumonia:</b>   | STAGE 1.01-2.05 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DX 485-486); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM19

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Nonlymphocytic

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 2.07  | with Pneumocystis pneumonia or opportunistic infections | Stage 1.01-2.06<br>AND Pneumocystitis carinii pneumonia [operative/pathology report or gallium scan report]<br>OR opportunistic infection from:<br>Pneumocystis carinii<br>Cytomegalovirus spp.<br>Herpes virus spp.<br>Candida albicans<br>Cryptococcus spp.<br>Histoplasma spp.<br>Toxoplasma gondii<br>Mycobacterium intracellulare<br>Mycobacterium tuberculosis<br>Cryptosporidia spp.<br>Isospora belli | STAGE 1.01-2.06 + GROUP OPP_INF;                             |
| 2.08  | with severe thrombocytopenia                            | Stage 1.01-2.07<br>AND platelets < 20,000 cells/mm <sup>3</sup> [CBC report]  | NO;  |
| 2.09  | with acute bleeding                                     | Stage 1.01-2.08<br>AND <b>bleeding:</b>   | STAGE 1.01-2.07 + DX 4590;                                   |
| 2.10  | with severe neutropenia                                 | Stage 1.01-2.09<br>AND total neutrophil count ≤ 500 cells/mm <sup>3</sup> [CBC report]  | STAGE 2.05-2.09 + (DX 2880-28809, 2884-28859);               |
| 3.01  | with meningitis   | Stage 1.01-2.10<br>AND <b>meningitis:</b>   | STAGE 1.01-2.10 + (GROUP MENGIT__BACT OR GROUP MENING__VIR); |
| 3.02  | with disseminated intravascular coagulation             | Stage 1.01-3.01<br>AND <b>DIC:</b>  | STAGE 1.01-3.01 + GROUP DIC;                                 |
| 3.03  | with sepsis   | Stage 1.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + GROUP SEPSIS;                              |
| 3.04  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death  | Stage 1.01-3.04<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Nonlymphocytic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Burnett AK, Eden OB. The treatment of acute leukaemia. *Lancet*. 1997;349(9047):270-5.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:479-534.

Look AT. Oncogenic transcription factors in the human acute leukemias. *Science*. 1997;278(5340):1059-6.

Streubel B, Sauerland C, Heil G, et al. Correlation of cytogenetic, molecular cytogenetic, and clinical findings in 59 patients with ANLL or MDS and abnormalities of the short arm of chromosome 12. *British Journal of Haematology*. 1998;100(3):521-33.

Wetzler M, Bloomfield CD. Acute and chronic myeloid leukemias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Lymphocytic

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 0.00  | History or remission of chronic lymphocytic leukemia |  | DX 20411, 20481, 20491, 20611, V1061;  |
| 1.01  | Chronic lymphocytic leukemia                         | Chronic lymphocytic leukemia [peripheral smear or bone marrow aspiration or bone marrow biopsy report]<br>OR lymphocyte count > 5 x 10 <sup>9</sup> /l [hematology report]<br>AND immunophenotype co-expresses B lymphocyte lineage markers CD19 with the T lymphocyte marker CD5 [cytogenetics report]. | DX 20240-20248, 20290-20298, 20410, 20480, 20490 , 20610;  |
| 2.01  | with adenopathy                                      | Stage 1.01<br>AND lymphadenopathy  | STAGE 1.01 + DX 7856;  |
| 2.02  | with hypogammaglobulinemia                           | Stage 1.01-2.01<br>AND hypogammaglobulinemia [hematology report]   | STAGE 1.01-2.01 + DX 27900;  |
| 2.03  | with pneumonia                                       | Stage 1.01-2.02<br>AND <b>pneumonia</b>  | STAGE 1.01-2.02 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19 OR DX 485-486); |
| 2.04  | with hepatosplenomegaly                              | Stage 1.01-2.03<br>AND hepatosplenomegaly [physical examination or sonography report or CT scan report]  | STAGE 1.01-2.03 + (DX 5718, 7891, 7892);   |
| 2.05  | with anemia  | Stage 1.01-2.04<br>AND <b>anemia:</b>  | STAGE 1.01-2.04 + GROUP ANEM_NEOPL;  |
| 2.06  | with thrombocytopenia                                | Stage 1.01-2.05<br>AND <b>thrombocytopenia:</b>  | STAGE 1.01-2.05 + GROUP THRMBCYTPEN;   |
| 2.07  | with large cell lymphoma or Richter's syndrome       | Stage 2.01-2.06<br>AND large cell lymphoma or Richter's syndrome [operative/pathology report]  | STAGE 1.01-2.06 + DX 20000-20008;  |
| 3.01  | with meningitis                                      | Stage 1.01-2.07<br>AND <b>meningitis:</b>  | STAGE 1.01-2.07 + (DX 3383 OR GROUP MENGIT__BACT OR GROUP MENING__VIR);                                    |
| 3.02  | with sepsis  | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;  |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death   | Stage 1.01-3.03<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.

Mead GM. ABC of clinical haematology. Malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Rozman C, Montserrat E. Chronic lymphocytic leukemia. N Engl J Med. 1995;333(16):1052-7.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM21

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Myelogenous

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 0.00  | History or remission of chronic myelocytic leukemia |   | DX 20511, 20581, 20591, V1062;                        |
| 1.01  | Chronic myelogenous leukemia                        | Chronic myelogenous leukemia [peripheral smear report or bone marrow aspiration report or bone marrow biopsy report]<br>OR <b>neutrocytosis:</b><br>AND Philadelphia chromosome positive [chromosome analysis report]<br>OR splenomegaly<br>OR bcr-abl gene [cytogenetics report or Southern Blot report] | DX 20510, 20580, 20590;                               |
| 2.01  | with significant anemia                             | Stage 1.01<br>AND hemoglobin $\leq$ 7 gm/dl [CBC report]  | STAGE 1.01 + GROUP ANEM_NEOPL;                        |
| 2.02  | with significant thrombocytopenia                   | Stage 1.01-2.01<br>AND platelets $<$ 60,000 cells/mm <sup>3</sup> [CBC report]  | STAGE 1.01-2.01 + GROUP THRMBCYPEN;                   |
| 2.03  | with significant leukocytosis                       | Stage 1.01-2.02<br>AND total WBC count $>$ 50,000 cells/mm <sup>3</sup> [CBC report]  | STAGE 1.01-2.02 + GROUP LEUKOCYTOSIS;                 |
| 2.04  | with blast crisis                                   | Stage 1.01-2.03<br>AND blast cells $\geq$ 30% of bone marrow cell count [bone marrow report]  | NO;   |
| 2.05  | with chloromas or hepatosplenomegaly                | Stage 1.01-2.04<br>AND chloromas, myeloblast tumors in skin or lymph nodes or bone or liver or spleen [operative/pathology report]<br>OR hepatosplenomegaly [physical examination report or sonography report or CT scan report]  | STAGE 1.01-2.03 + (DX 3383, 20530, 5718, 7891, 7892); |
| 2.06  | with severe thrombocytopenia                        | Stage 1.01-2.05<br>AND platelets $<$ 20,000 cells/mm <sup>3</sup> [CBC report]  | NO;   |
| 2.07  | with acute bleeding                                 | Stage 1.01-2.06<br>AND <b>bleeding:</b>   | STAGE 1.01-2.05 + DX 4590;                            |
| 3.01  | with sepsis   | Stage 1.01-2.07<br>AND <b>sepsis:</b>   | STAGE 1.01-2.07 + GROUP SEPSIS;                       |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;    |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM21

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Myelogenous

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- Crist WM, Pui C. The leukemias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1452-1460.
- Dinulos JG, Hawkins DS, Clark BS, Francis JS. Spontaneous remission of congenital leukemia. Journal of Pediatrics. 1997;131(2):300-3.
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- Grier HE and Civin CI. "Myeloid Leukemias, Myelodysplasia, and Myeloproliferative Diseases in Children. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:1286-1321.
- Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.
- Tefferi A, Litzow MR, Noel P, Dewald GW. Chronic granulocytic leukemia: recent information on pathogenesis, diagnosis, and disease monitoring. Mayo Clinic Proceedings. 1997;72(5):445-52.
- Wetzler M, Bloomfield CD. Acute and chronic myeloid leukemias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:684-695.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM22

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Cutaneous T Cell (Mycosis Fungoides)

Specificity: A

Etiology: Neoplasm

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes                                 |
|-------|-------------------------------|--|--|
| 0.00  | History of mycosis fungoides  | History of mycosis fungoides   | NO;  |
| 1.01  | T1 skin involvement           | Papules, patches, or plaques involving <10% of skin (dermatology report)<br>AND epidermotropism and Pautrier's abscess formation with larger nucleated lymphocytes, and diffuse infiltrates of lymphocytes in the dermis [dermatology report]<br>AND immunophenotyping of T cells [operative/pathology report]<br>AND analysis of the genetic sequences for the T cell receptor (pathology report) | DX 20210;                                      |
| 1.02  | T2 skin involvement           | Stage 1.01<br>AND papules, patches, or plaques involving 10% or more of skin (dermatology report)  | NO;  |
| 1.03  | T3 skin involvement           | Stage 1.01-1.02<br>AND > 1 tumors (dermatology report)   | NO;  |
| 1.04  | T4 skin involvement           | Stage 1.01-1.03<br>AND generalized erythroderma (dermatology report)   | NO;  |
| 2.01  | N1 lymph node involvement     | Stage 1.01-1.04<br>AND abnormal peripheral lymph node<br>AND pathologically negative for MF [operative/pathology report]   | DX 20211-20216, 20218;                         |
| 2.02  | N2 lymph node involvement     | Stage 1.01-2.01<br>AND no abnormal peripheral lymph node<br>AND pathologically positive for MF [operative/pathology report]  | NO;  |
| 2.03  | N3 lymph node involvement     | Stage 1.01-2.02<br>AND clinically abnormal peripheral lymph node<br>AND pathologically positive for MF [operative/pathology report]  | NO;  |
| 3.01  | B1 blood involvement          | Stage 1.01-2.03<br>AND evidence of increased numbers of atypical circulating cells (Sezary cell)<br>AND bone marrow biopsy (pathology report)  | DX 20220-20226, 20228;                         |
| 3.02  | M1 visceral organ involvement | Stage 1.01-3.01<br>AND hepatosplenomegaly [sonography report or CT scan report or MRI report or liver/spleen scan report]  | DX 20217, 20227;<br>STAGE 1.01-3.01 + DX 3383; |
| 4.00  | with death                    | Stage 1.01-3.02<br>AND death   | NO;  |

## References:

Mackie RM. Cutaneous lymphomas and lymphocytic infiltrates. In: Champion Rh, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:2375-2382.

Zachheim HS, Amin S, Kashani-Sabt M, McMillan A. Prognosis in cutaneous T-cell lymphoma by skin stage: long-term survival in 489 patients. J Am Acad Dermatol. 1999;(40/3):418-425.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 0.00  | History or remission of diffuse large cell lymphoma   |   | NO;   |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A                      | DX 20281-20286;   |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B                         | STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;                          |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE                     | DX 20280;<br>STAGE 1.02 + DX 20280;<br>DX 20280 + (GROUP FEVER OR DX 7808); |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | DX 20288;   |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE                                    | NO;   |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B                         | NO;   |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE                                    | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Diffuse large cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR Diffuse large cell lymphoma involving the spleen [operative/pathology report]<br>OR Diffuse large cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR Diffuse large cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1 | DX 20287;  |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;  |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;  |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;  |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | STAGE 1.01 + DX 3369;                              |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>   | STAGE 1.01-3.05 + GROUP OPP_INF;                   |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;                    |
| 3.08  | with respiratory failure  | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.07 + GROUP RESP_FAIL;                 |
| 3.09  | with shock  | Stage 1.01-3.08<br>AND <b>shock:</b>  | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.09<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Large Cell

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

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Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

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Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM24

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Mixed Small and Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 0.00  | History or remission of diffuse mixed small and large cell lymphoma   |   | NO;   |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20081-20086;   |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;                          |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | DX 20080;<br>STAGE 1.02 + DX 20080;<br>DX 20080 + (GROUP FEVER OR DX 7808); |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | DX 20088;   |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;   |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;   |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM24

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Mixed Small and Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes             |
|-------|---|--|----------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR diffuse mixed small and large cell lymphoma involving the spleen [operative/pathology report]<br>OR diffuse mixed small and large cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR diffuse mixed small and large cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1  | DX 20087;                  |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;                        |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report] | NO;                        |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;                        |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]  | STAGE 1.01-3.01 + DX 3369; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM24

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Mixed Small and Large Cell

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|-------------------------------|---|--|
| 3.06  | with opportunistic infections | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b> | STAGE 1.01-3.05 + GROUP OPP_INF;                   |
| 3.07  | with sepsis                   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;                    |
| 3.08  | with respiratory failure      | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.07 + GROUP RESP_FAIL;                 |
| 3.09  | with shock                    | Stage 1.01-3.08<br>AND <b>shock:</b>  | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 1.01-3.09<br>AND death  | NO;  |

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 0.00  | History or remission of diffuse small cleaved cell lymphoma   |   | NO;            |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Diffuse small cleaved cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | NO;            |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | NO;            |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;            |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Diffuse small cleaved cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | NO;            |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;            |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Diffuse small cleaved cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR diffuse small cleaved cell lymphoma involving the spleen [operative/pathology report]<br>OR diffuse small cleaved cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR diffuse small cleaved cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                           | NO;            |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;            |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR Diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] | NO;            |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;            |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | NO;            |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>   | NO;            |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes |
|-------|--------------------------|--|----------------|
| 3.08  | with respiratory failure | Stage 1.01-3.07<br>AND <b>respiratory failure:</b> | NO;            |
| 3.09  | with shock               | Stage 1.01-3.08<br>AND <b>shock:</b>               | NO;            |
| 4.00  | with death               | Stage 1.01-3.09<br>AND death                       | NO;            |

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Liegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Mixed Small Cleaved and Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 0.00  | History or remission of follicular mixed small cleaved and large cell lymphoma  |   | NO;            |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with follicular mixed small cleaved and large cell lymphoma<br>[operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | NO;            |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | NO;            |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE  | NO;            |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with follicular mixed small cleaved and large cell lymphoma involving two anatomic regions on the same side of the diaphragm<br>[operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | NO;            |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;            |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Mixed Small Cleaved and Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with follicular mixed small cleaved and large cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR follicular mixed small cleaved and large cell lymphoma involving the spleen [operative/pathology report]<br>OR follicular mixed small cleaved and large cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR follicular mixed small cleaved and large cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1 | NO;            |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;            |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]                                | NO;            |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;            |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Mixed Small Cleaved and Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes |
|-------|-------------------------------|---|----------------|
| 3.06  | with opportunistic infections | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b> | NO;            |
| 3.07  | with sepsis                   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | NO;            |
| 3.08  | with respiratory failure      | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | NO;            |
| 3.09  | with shock                    | Stage 1.01-3.08<br>AND <b>shock:</b>  | NO;            |
| 4.00  | with death                    | Stage 1.01-3.09<br>AND death  | NO;            |

### References:

- Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.
- Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM27

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Predominantly Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 0.00  | History or remission of follicular predominantly large cell lymphoma  |  | NO;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with follicular predominantly large cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20201-20206;                                    |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B  | STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7820) ; |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND follicular predominantly large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | DX 20200;<br>DX 20200 + (GROUP FEVER OR DX 7800);  |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with follicular predominantly large cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | DX 20208;  |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND follicular predominantly large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;  |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B  | NO;  |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND follicular predominantly large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE   | NO;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM27

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Predominantly Large Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes             |
|-------|---|--|----------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with follicular predominantly large cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR follicular predominantly large cell lymphoma involving the spleen [operative/pathology report]<br>OR follicular predominantly large cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR follicular predominantly large cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1          | DX 20207;                  |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;                        |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] | NO;                        |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 1.01-3.03<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;                        |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]  | STAGE 1.01-3.01 + DX 3369; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM27

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Predominantly Large Cell

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|-------------------------------|---|--|
| 3.06  | with opportunistic infections | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b> | STAGE 1.01-3.05 + GROUP OPP_INF;                   |
| 3.07  | with sepsis                   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | STAGE 1.01-3.06 + GROUP SEPSIS;                    |
| 3.08  | with respiratory failure      | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.07 + GROUP RESP_FAIL;                 |
| 3.09  | with shock                    | Stage 1.01-3.08<br>AND <b>shock:</b>  | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 1.01-3.09<br>AND death  | NO;  |

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular, Predominantly Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes |
|-------|---|--|----------------|
| 0.00  | History or remission of follicular predominantly small cleaved cell lymphoma  |  | NO;            |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with follicular predominantly small cleaved cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | NO;            |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B  | NO;            |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;            |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with follicular predominantly small cleaved cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | NO;            |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;            |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B  | NO;            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular, Predominantly Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with follicular predominantly small cleaved cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR follicular predominantly small cleaved cell lymphoma involving the spleen [operative/pathology report]<br>OR follicular predominantly small cleaved cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR follicular predominantly small cleaved cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1 | NO;            |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;            |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]                          | NO;            |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 3.01<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;            |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular, Predominantly Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes |
|-------|-------------------------------|---|----------------|
| 3.06  | with opportunistic infections | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b> | NO;            |
| 3.07  | with sepsis                   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | NO;            |
| 3.08  | with respiratory failure      | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>  | NO;            |
| 3.09  | with shock                    | Stage 1.01-3.08<br>AND <b>shock:</b>  | NO;            |
| 4.00  | with death                    | Stage 1.01-3.09<br>AND death  | NO;            |

### References:

- Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.
- Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Histiocytic Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 0.00  | History or remission of histiocytic cell lymphoma   |   | NO;   |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with histiocytic cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20001-20006;   |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;                          |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND histiocytic cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | DX 20000;<br>STAGE 1.02 + DX 20000;<br>DX 20000 + (GROUP FEVER OR DX 7800); |
| 2.01  | Of two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with histiocytic cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | DX 20008;   |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND histiocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;   |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;   |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND histiocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Histiocytic Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                   |
|-------|---|--|----------------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with histiocytic cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR histiocytic cell lymphoma involving the spleen [operative/pathology report]<br>OR histiocytic cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR histiocytic cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1  | DX 20007;                        |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND histiocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E   | NO;                              |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR histiocytic cell lymphoma involving non-nodal surrounding tissues[operative/pathology report] | NO;                              |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 3.01<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;                              |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]  | STAGE 1.01-3.01 + DX 3369;       |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>  | STAGE 1.01-3.05 + GROUP OPP_INF; |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>  | STAGE 1.01-3.06 + GROUP SEPSIS;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Histiocytic Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.08  | with respiratory failure | Stage 1.01-3.07<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.07 + GROUP<br>RESP_FAIL;                 |
| 3.09  | with shock               | Stage 1.01-3.08<br>AND <b>shock:</b>               | STAGE 1.01-3.08 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 1.01-3.09<br>AND death                       | NO;   |

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Large Cell Immunoblastic

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 0.00  | History or remission of Large cell immunoblastic lymphoma   |   | NO;            |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Large cell immunoblastic lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | NO;            |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | NO;            |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;            |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Large cell immunoblastic lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | NO;            |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;            |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;            |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Large Cell Immunoblastic

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Large cell immunoblastic lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR Large cell immunoblastic lymphoma involving the spleen [operative/pathology report]<br>OR Large cell immunoblastic lymphoma involving the celiac nodes [operative/pathology report]<br>OR Large cell immunoblastic lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                                 | NO;            |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;            |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] | NO;            |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 3.01<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;            |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | NO;            |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan ]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>  | NO;            |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Large Cell Immunoblastic

Specificity: A

Etiology: Neoplasm

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes |
|-------|--------------------------|--|----------------|
| 3.08  | with respiratory failure | Stage 1.01-3.07<br>AND <b>respiratory failure:</b> | NO;            |
| 3.09  | with shock               | Stage 1.01-3.08<br>AND <b>shock</b>                | NO;            |
| 4.00  | with death               | Stage 1.01-3.09<br>AND <b>death</b>                | NO;            |

### References:

- Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.
- Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM31

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Lymphoblastic

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 0.00  | History or remission of Lymphoblastic lymphoma  |  | DX V1071;  |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with Lymphoblastic lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | DX 20011-20016, 20021-20026;   |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B  | STAGE 1.01 + (GROUP FEVER OR DX 3383, 7808);   |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND Lymphoblastic lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | DX 20010, 20020;<br>STAGE 1.02 + (DX 20010) OR DX 20020;<br>DX 20010 OR DX 20020 + (GROUP FEVER OR DX 7808); |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with Lymphoblastic lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | DX 20018, 20028;   |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;  |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B  | NO;  |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM31

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Lymphoblastic

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                   |
|-------|---|--|----------------------------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with Lymphoblastic lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR Lymphoblastic lymphoma involving the spleen [operative/pathology report]<br>OR Lymphoblastic lymphoma involving the celiac nodes [operative/pathology report]<br>OR Lymphoblastic lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1  | DX 20017, 20027;                 |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;                              |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] | NO;                              |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 3.01<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B  | NO;                              |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]  | STAGE 1.01-3.01 + DX 3369;       |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>  | STAGE 1.01-3.05 + GROUP OPP_INF; |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>  | STAGE 1.01-3.06 + GROUP SEPSIS;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM31

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Lymphoblastic

Specificity: A

Etiology: Neoplasm

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.08  | with respiratory failure | Stage 1.01-3.07<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.07 + GROUP<br>RESP_FAIL;                 |
| 3.09  | with shock               | Stage 1.01-3.08<br>AND <b>shock:</b>               | STAGE 1.01-3.08 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 1.01-3.09<br>AND death                       | NO;   |

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

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Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM32

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Lymphocytic Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 0.00  | History or remission of small lymphocytic cell lymphoma   |   | NO;            |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with small lymphocytic cell lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | NO;            |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | NO;            |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND small lymphocytic cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;            |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with small lymphocytic cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | NO;            |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;            |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>Fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM32

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Lymphocytic Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with small lymphocytic cell lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR small lymphocytic cell lymphoma involving the spleen [operative/pathology report]<br>OR small lymphocytic cell lymphoma involving the celiac nodes [operative/pathology report]<br>OR small lymphocytic cell lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1                                       | NO;            |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;            |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] | NO;            |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 3.01<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;            |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | NO;            |
| 3.06  | with opportunistic infections   | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b>   | NO;            |
| 3.07  | with sepsis   | Stage 1.01-3.06<br>AND <b>sepsis:</b>   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM32

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Lymphocytic Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes |
|-------|--------------------------|--|----------------|
| 3.08  | with respiratory failure | Stage 1.01-3.07<br>AND <b>respiratory failure:</b> | NO;            |
| 3.09  | with shock               | Stage 1.01-3.08<br>AND <b>shock:</b>               | NO;            |
| 4.00  | with death               | Stage 1.01-3.09<br>AND death                       | NO;            |

### References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Noncleaved Cell or Burkitt's

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 0.00  | History or remission of small noncleaved cell or Burkitt's lymphoma   |   | NO;            |
| 1.01  | Limited to one anatomic lymph node region   | Lymph node group or group of contiguous lymph nodes with small noncleaved cell or Burkitt's lymphoma [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1A  | NO;            |
| 1.02  | Limited to one anatomic lymph node region and constitutional symptoms   | Stage 1.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 1B   | NO;            |
| 1.03  | Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue               | Stage 1.02<br>AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissue [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 1BE   | NO;            |
| 2.01  | On two anatomic lymph node regions on the same side of the diaphragm  | Lymph node group or group of contiguous lymph nodes with small noncleaved cell or Burkitt's lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2A | NO;            |
| 2.02  | Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement                              | Stage 2.01<br>AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2AE  | NO;            |
| 2.03  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms                                 | Stage 2.01<br>AND <b>fever:</b><br>OR history of night sweats<br>OR weight loss of $\geq$ 10% baseline body weight in 6 months<br>OR Ann Arbor Clinical Staging System Stage 2B   | NO;            |
| 2.04  | Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement | Stage 2.03<br>AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 2BE  | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Noncleaved Cell or Burkitt's

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 3.01  | On both sides of the diaphragm or involving the spleen  | Lymph node group or group of contiguous lymph nodes with small noncleaved cell or Burkitt's lymphoma involving both sides of the diaphragm [operative/pathology report]<br>OR small noncleaved cell or Burkitt's lymphoma involving the spleen [operative/pathology report]<br>OR small noncleaved cell or Burkitt's lymphoma involving the celiac nodes [operative/pathology report]<br>OR small noncleaved cell or Burkitt's lymphoma involving the portal nodes [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1<br>OR Ann Arbor Clinical Staging System Stage 3B1   | NO;            |
| 3.02  | On both sides of the diaphragm or involving the spleen with extension to adjacent tissues               | Stage 3.01<br>AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A1E<br>OR Ann Arbor Clinical Staging System Stage 3B1E  | NO;            |
| 3.03  | On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity | Stage 3.01<br>AND mesenteric nodal involvement [operative/pathology report]<br>OR para-aortic nodal involvement [operative/pathology report]<br>OR iliac nodal involvement [operative/pathology report]<br>OR femoral nodal involvement [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 3A2<br>OR Ann Arbor Clinical Staging System Stage 3B2<br>OR Ann Arbor Clinical Staging System Stage 3A2E<br>OR Ann Arbor Clinical Staging System Stage 3B2E<br>OR small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report] | NO;            |
| 3.04  | with diffuse extranodal tissue involvement  | Stage 3.01<br>AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report]<br>OR Ann Arbor Clinical Staging System Stage 4A<br>OR Ann Arbor Clinical Staging System Stage 4B   | NO;            |
| 3.05  | with spinal cord compression  | Stage 1.01-3.04<br>AND spinal cord compression [CT scan or MRI or operative/pathology report]   | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Noncleaved Cell or Burkitt's

Specificity: A

Etiology: Neoplasm

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes |
|-------|-------------------------------|--|----------------|
| 3.06  | with opportunistic infections | Stage 1.01-3.05<br>AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan ]<br>OR cryptococcal pneumonia [operative/pathology report]<br>OR cryptococcal meningitis [CSF report]<br>OR <b>opportunistic infection:</b> | NO;            |
| 3.07  | with sepsis                   | Stage 1.01-3.06<br>AND <b>sepsis:</b>  | NO;            |
| 3.08  | with respiratory failure      | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>   | NO;            |
| 3.09  | with shock                    | Stage 1.01-3.08<br>AND <b>shock:</b>   | NO;            |
| 4.00  | with death                    | Stage 1.01-3.09<br>AND death   | NO;            |

### References:

- Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.
- Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM34

MultiStage: No

DXCat Label: Neoplasm, Malignant: Multiple Myeloma

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 0.00  | History or remission of multiple myeloma                               |   | DX 20301, 20311, V1079;   |
| 1.01  | Multiple myeloma   | Multiple myeloma in bone marrow [bone marrow biopsy report]<br>OR<br>monoclonal immunoglobulin, M component, paraprotein spike in serum [serum protein electrophoresis report]                        | DX 20300, 20310;  |
| 2.01  | with osteolytic lesions or anemia or pathologic fracture               | Stage 1.01<br>AND <b>osteoporosis:</b><br>OR osteolytic bone lesions [KUB x-ray or chest x-ray or skull x-ray or spine series x-ray]<br>OR <b>anemia:</b><br>OR pathologic fracture [x-ray report]    | STAGE 1.01 + (DXCAT MUS38 OR GROUP ANEM_NEOPL OR DX 3383, 73310-73319); |
| 2.02  | with hyperuricemia or hypercalcemia                                    | Stage 1.01-2.01<br>AND <b>hyperuricemia:</b><br>OR <b>hypercalcemia:</b>  | STAGE 1.01-2.01 + (GROUP HYPER_URICEM OR GROUP HYPR_CALCEM);            |
| 2.03  | with amyloidosis of the lungs or liver or spleen                       | Stage 1.01-2.02<br>AND amyloidosis of the lungs [operative/pathology report]<br>OR amyloidosis of the liver [operative/pathology report]<br>OR amyloidosis of the spleen [operative/pathology report] | STAGE 1.01-2.02 + DX 2273;  |
| 2.04  | with nephrotic syndrome or renal amyloidosis or renal tubular acidosis | Stage 1.01-2.03<br>AND renal amyloidosis [operative/pathology report]<br>OR 24 hour urine protein $\geq$ 3.0 g/dl<br>AND total serum protein $\leq$ 3.0 g/dl<br>OR renal tubular acidosis             | STAGE 2.03 + DX 58381;  |
| 3.01  | with amyloidosis of the heart  | Stage 1.01-2.04<br>AND amyloidosis of the heart [operative/pathology report or echocardiogram report]   | STAGE 2.03-2.04 + DX 4257;  |
| 3.02  | with congestive heart failure  | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;                                    |
| 3.03  | with spinal cord compression   | Stage 1.01-3.02<br>AND collapsed vertebrae [operative/pathology report or CT scan or MRI scan report]<br>OR spinal cord compression [operative/pathology report or CT scan or MRI scan report]        | STAGE 1.01-3.02 + DX 3369;  |
| 3.04  | with renal failure   | Stage 1.01-3.04<br>AND <b>renal failure:</b>  | STAGE 1.01-3.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);           |
| 3.05  | with shock   | Stage 1.01-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;                      |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM34

MultiStage: No

DXCat Label: Neoplasm, Malignant: Multiple Myeloma

Specificity: A

Etiology: Neoplasm

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.05<br>AND death | NO;            |

### References:

Bataille R, Harousseau JL. Multiple myeloma. N Engl J Med. 1997;336(23):1657-64.

Croucher PI, Apperley JF. Bone disease in multiple myeloma. British Journal of Haematology. 1998;103(4):902-10.

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Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.

Longo DL. Plasma cell disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:712-718.

Singer CR. ABC of clinical haematology. Multiple myeloma and related conditions. BMJ. 1997;314(7085):960-3.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM35

MultiStage: No

DXCat Label: Neoplasm, Malignant: Waldenstrom's Macroglobulinemia

Specificity: A

Etiology: Neoplasm

| Stage | Description                    | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--------------------------------|---|--|
| 1.01  | Macroglobulinemia              | Infiltration of bone marrow by plasmacytic lymphocyte [bone marrow report]<br>AND IgM spike in the beta or gamma globulin region [immunoelectrophoresis report] | DX 2733;   |
| 2.01  | with anemia                    | Stage 1.01<br>AND <b>anemia:</b>  | STAGE 1.01 + GROUP ANEM_OTH_UN;  |
| 2.02  | with coagulopathies            | Stage 1.01-2.01<br>AND <b>coagulation defect:</b>   | STAGE 1.01-2.01 + GROUP COAG_DEFECT;   |
| 2.03  | with severe anemia             | Stage 1.01-2.02<br>AND hemoglobin < 6 gm/dl [hematology report]   | NO;  |
| 2.04  | with hyperviscosity syndrome   | Stage 1.01-2.03<br>AND serum viscosity > 2.0 [hematology report]  | NO;  |
| 2.05  | with coronary artery disease   | Stage 1.01-2.04<br>AND <b>angina:</b>   | STAGE 1.01-2.02 + (DX 3383 OR DXCAT CVS10 OR DXCAT CVS11);   |
| 3.01  | with congestive heart failure  | Stage 1.01-2.05<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-2.05 + GROUP CHF_NON_HTN;   |
| 3.02  | with cerebrovascular accidents | Stage 1.1-3.1<br>AND new intracerebral infarction or hemorrhage [CT scan or MRI scan report]  | STAGE 1.01-3.01 + (DX 430, 431, 4320, 4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436); |
| 3.03  | with shock                     | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                     | Stage 2.01-3.03<br>AND death  | NO;  |

### References:

Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.

Longo DL. Plasma cell disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:712-718.

Patel TC, Moore SB, Pineda AA, Witzig TE. Role of plasmapheresis in thrombocytopenic purpura associated with Waldenstrom's macroglobulinemia. Mayo Clinic Proceedings. 1996;71(6):597-600.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM36

DXCat Label: Polycythemia Vera

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---------------------------------|---|--|
| 1.01  | Polycythemia vera               | Red blood cell mass $\geq$ 26 ml/kg in males or $\geq$ 21 ml/kg in females [hematology report]<br>AND arterial oxygen saturation $\geq$ 92% [arterial blood gas report]<br>AND splenomegaly [physical examination or liver-spleen scan or CT scan]<br>OR <b>thrombocytosis:</b><br>OR <b>leukocytosis:</b><br>OR plasma erythropoetin level = 4mU/ml [chemistry report] | DX 2384;   |
| 2.01  | with peptic ulcer disease       | Stage 1.01<br>AND peptic ulcer(s) [gastroscopy or UGI series report]  | STAGE 1.01 + DXCAT GIS31;  |
| 2.02  | with hyperuricemia              | Stage 1.01-2.01<br>AND <b>hyperuricemia:</b>  | STAGE 1.01-2.01 + GROUP HYPER_URICEM;  |
| 2.03  | with gouty arthritis            | Stage 1.01-2.02<br>AND gouty arthritis [Needle shaped negatively birefringent crystals in fluid or in phagocytes per synovial fluid report]   | STAGE 1.01-2.02 + DXCAT MUS23;   |
| 2.04  | with renal calculi              | Stage 1.01-2.03<br>AND renal calculi [KUB x-ray or sonogram or CT scan report]  | STAGE 1.01-2.03 + DXCAT GUS06;   |
| 2.05  | with myelofibrosis              | Stage 1.01-2.04<br>AND myelofibrosis [operative/pathology report]   | STAGE 1.01-2.04 + (DX 2898, 28989);  |
| 2.06  | with gastrointestinal bleeding  | Stage 1.01-2.05<br>AND gastrointestinal bleeding [endoscopy or bleeding scan or angiogram report]<br>OR <b>bleeding:</b>  | STAGE 1.01-2.05 + (DX 5780, 5781, 5789, 53082);  |
| 2.07  | with deep vein thrombosis       | Stage 1.01-.2.06<br>AND <b>DVT:</b>   | STAGE 1.01-2.06 + (DX 4510-452, 4531-4539);  |
| 2.08  | with Budd-Chiari syndrome       | Stage 1.01-2.07<br>AND thrombosis of the hepatic veins [hepatic venography or liver/spleen scan report]   | STAGE 1.01-2.07 + DX 4530;   |
| 3.01  | with pulmonary embolism         | Stage 1.01-.2.07<br>AND <b>pulmonary embolism:</b>  | STAGE 1.01-2.08 + GROUP PULMEMB;   |
| 3.02  | with myocardial infarction      | Stage 1.01-3.01<br>AND <b>acute myocardial infarction:</b>  | STAGE 1.01-3.01 + GROUP AMI;   |
| 3.03  | with congestive heart failure   | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;   |
| 3.04  | with cerebral vascular accident | Stage 1.01-3.03<br>AND cerebral accident [CT scan or MRI report]  | STAGE 1.01-3.03 + (DX 430, 431, 4320, 4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM36

MultiStage: No

DXCat Label: Polycythemia Vera

Specificity: A

Etiology: Idiopathic

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.05  | with shock  | Stage 1.01-3.04<br>AND <b>shock:</b> | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.05<br>AND death         | NO;  |

### References:

Best PJ, Daoud MS, Pittelkow MR, Petitt RM. Hydroxyurea-induced leg ulceration in 14 patients. *Annals of Internal Medicine*. 1998;128(1):29-32.

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Spivak JL. Polycythemia vera and other myeloproliferative diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*, 14th ed. New York, NY: McGraw-Hill; 1998:679-684.

Taylor PC, Dolan G, Ng JP, Paul B, Collin R, Reilly JT. Efficacy of recombinant interferon-alpha (rIFN-alpha) in polycythaemia vera: a study of 17 patients and an analysis of published data. *British Journal of Haematology*. 1996;92(1):55-9.

Tefferi A. The Philadelphia chromosome negative chronic myeloproliferative disorders: a practical overview. *Mayo Clinic Proceedings*. 1998;73(12):1177-84.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM80

MultiStage: No

DXCat Label: Anemia: Other

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 1.01  | Other nutritional, hemorrhagic, sideroblastic anemias |                     | DX 2813-2819, 2850-2851, 28529-2859;               |
| 2.01  | Moderate anemia                                       | Hemoglobin <8       | NO;  |
| 3.01  | with CHF  |                     | STAGE 1.01 + GROUP CHF_NON_HTN;                    |
| 3.02  | with shock  |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM81

MultiStage: No

DXCat Label: Neoplasm, Benign: Lymphatic or Hematopoietic

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                   |
|-------|--|---------------------|----------------------------------|
| 1.01  | Benign neoplasm of lymphatic or hematopoietic system |                     | DX 2126, 2281, 2290, 2385-23879; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM82

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Other Types

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 0.00  | History or remission of malignant histiocytosis, Letterer-Siwe Disease, monocytic and other types of leukemia or immunoproliferative malignancies |                     | DX 20381, 20681, 20691, 20781, 20811, 20821, 20881, 20891;                            |
| 1.01  | Malignant histiocytosis, Letterer-Siwe Disease, monocytic and other types of leukemia or immunoproliferative malignancies                         |                     | DX 20230-20238, 20250-20258, 20380, 20680, 20690 , 20780, 20810, 20820, 20880, 20890; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM83

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphatic and Hematopoietic, Other Types

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 1.01  | Malignant neoplasm of spleen or thymus or other lymph node malignancy |                     | DX 1591, 1640, 1765;                               |
| 2.01  | with lymph node metastases  |                     | STAGE 1.01 + (DX 1960-1969, 3383);                 |
| 2.02  | with anemia of neoplastic disease                                     |                     | STAGE 1.01-2.01 + DX 28522;                        |
| 3.01  | with distant metastases   |                     | STAGE 2.02-2.03 + DX 1970-1991;                    |
| 3.02  | with shock  |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM84

MultiStage: No

DXCat Label: Neoplasm, Malignant: Mastocytosis

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                    |
|-------|--|---------------------|---|
| 0.00  | History or remission of malignant mastocytosis                             |                     | NO;   |
| 1.01  | Malignant mastocytosis limited to one anatomic lymph node region           |                     | DX 20261-20266;                                   |
| 1.02  | with constitutional symptoms   |                     | STAGE 1.01 + (DX 7820, 3383 OR GROUP FEVER);      |
| 1.03  | with constitutional symptoms and involvement of adjacent extranodal tissue |                     | DX 20260;<br>DX 20260 + (DX 7800 OR GROUP FEVER); |
| 2.01  | of two anatomic lymph node regions   |                     | DX 20268;   |
| 3.01  | on both sides of the diaphragm or involving the spleen                     |                     | DX 20267;   |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM85

MultiStage: No

DXCat Label: Other Disorders of Blood and Blood-Forming Organs

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                 |
|-------|--|---------------------|--|
| 1.01  | Coagulation disorders, purpuras, thrombocytopenias, and other hemorrhagic conditions |                     | DX 2862-2863, 2865-2879, 2881-2890, 2894-2899; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM86

MultiStage: No

DXCat Label: Other Lymphatic Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                      |
|-------|--|---------------------|-------------------------------------|
| 1.01  | Lymphadenitis, lymphangitis, lymphedema, noninfectious lymphatic disorders, enlarged lymph nodes |                     | DX 2891-2893, 4570-4579, 683, 7856; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP01

MultiStage: Yes

DXCat Label: Cholecystitis and Cholelithiasis

Specificity: A

Etiology: Idiopathic; Metabolic

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Chronic cholecystitis or cholelithiasis   | Chronic cholecystitis [operative/pathology report or sonography report or HIDA scan report or oral cholecystogram report]  | DX 57410-57421, 57510-57511;                           |
| 2.01  | Chronic cholecystitis with choledocholithiasis  | Stage 1.01<br>AND chronic cholecystitis with choledocholithiasis [endoscopic retrograde cholangiopancreatography report or intraoperative cholangiogram report or HIDA scan report or sonogram report or oral cholecystogram report or CT scan report or operative/pathology report] | DX 57440-57441, 57450, 57470-57471, 57490-57491, 5752; |
| 2.02  | Acute cholecystitis   | Acute cholecystitis [operative/pathology report or sonogram report or HIDA scan report or oral cholecystogram report]  | DX 57400-57401, 5750, 57512;                           |
| 2.03  | Acute cholecystitis with choledocholithiasis  | Stage 2.02<br>AND choledocholithiasis [operative/pathology report or endoscopic retrograde cholangiopancreatography report or intraoperative cholangiogram report or HIDA scan report or sonogram report or CT scan report]  | DX 57430-57431, 57460-57461, 57480-57481;              |
| 2.04  | Empyema of gallbladder  | Stage 1.01-2.03<br>AND empyema of gallbladder [operative/pathology report or plain abdomen x-ray report or sonogram report]  | NO;  |
| 2.05  | Cholecystitis with gangrene of gallbladder  | Stage 1.01-2.04<br>AND gangrene of gallbladder [operative/pathology report]  | NO;  |
| 2.06  | Cholecystitis with localized perforation of gallbladder   | Stage 1.01-2.05<br>AND localized perforation of the gallbladder [operative/pathology report]   | DX 5754, 5763;   |
| 2.07  | Cholecystitis with gallstone ileus or with cholecystoduodenal or cholecystoenteric fistula or gallbladder obstruction | Stage 1.01-2.06<br>AND gallstone ileus [operative/pathology report or KUB x-ray report]<br>OR fistula between gallbladder and intestines [operative/pathology report or UGI series report]   | DX 56031, 57451, 5753, 5755, 5762, 5764;               |
| 2.08  | with ascending cholangitis  | Stage 1.01-2.07<br>AND cholangitis [operative/pathology report]<br>OR infected biliary tree [biliary tree culture reports growth of pathologic organism(s)]  | DX 5761;   |
| 2.09  | with bile peritonitis   | Stage 1.01-2.08<br>AND bile peritonitis [operative/pathology report]   | STAGE 1.01-2.08 + (DX 5672, 5678-56781, 5679, 56983);  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP01

DXCat Label: Cholecystitis and Cholelithiasis

Etiology: Idiopathic; Metabolic

MultiStage: Yes

Specificity: A

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---------------------------------------|---|--|
| 3.01  | Cholecystitis with acute Pancreatitis | Stage 1.01-2.09<br>AND acute pancreatitis [operative/pathology report or CT scan report or sonogram report or KUB x-ray report]<br>OR serum amylase $\geq$ 163 u/l [chemistry report]<br>OR serum p-type isoamylasemia [chemistry report]<br>AND serum lipase $\geq$ 200 u/l per chemistry report<br>OR sentinel loop [plain abdomen x-ray report]<br>OR edema of the pancreas [sonogram or CT scan report] | DX 57510-57511 + DX 5770;                          |
| 3.02  | with sepsis                           | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with shock                            | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Cholecystitis with death              | Stage 1.01-3.03<br>AND death  | NO;  |

### References:

Fenster LF, Lonborg R, Thirlby RC, Traverso LW. What symptoms does cholecystectomy cure? Insights from an outcomes measurement project and review of the literature. *American Journal of Surgery*. 1995;169(5):533-8.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:628-666.

Greenberger NJ, Toskes PP, Isselbacher KJ. Acute and chronic pancreatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1741-1753.

Russell RC. General surgery: biliary surgery. *BMJ*. 1993;307(6914):1266-9.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP02

DXCat Label: Cirrhosis of the Liver

Etiology: Idiopathic; Toxicologic

MultiStage: Yes

Specificity: A

| Stage | Description                       | Diagnostic findings  | ICD-9-CM Codes  |
|-------|-----------------------------------|--|---|
| 2.01  | Cirrhosis of liver                | Cirrhosis of the liver [liver biopsy report]   | DX 5715-5719;   |
| 2.02  | with coagulopathies               | Stage 2.01<br>AND <b>coagulation defect:</b>   | STAGE 2.01 + GROUP<br>COAG_DEFECT;                    |
| 2.03  | with ascites or hypoproteinemia   | Stage 2.01-2.02<br>AND ascites<br>OR <b>hypoproteinemia:</b>   | STAGE 2.01-2.02 + (GROUP<br>HYPOPROTEIN OR DX 7895) ; |
| 2.04  | with esophageal variceal bleeding | Stage 2.01-2.03<br>AND bleeding esophageal varices [endoscopy report]  | STAGE 2.01-2.03 + DX 45620;                           |
| 2.05  | with bacterial peritonitis        | Stage 2.01-2.04<br>AND peritonitis [operative/pathology report or peritoneal fluid culture reports growth of pathologic organism(s)] | STAGE 2.01-2.04 + (DX 5672-5679,<br>56983);           |
| 3.01  | with renal failure                | Stage 2.01-2.05<br>AND <b>renal failure:</b>   | STAGE 2.01-2.05 + GROUP<br>REN_FAIL_ACU;              |
| 3.02  | with sepsis                       | Stage 2.01-3.01<br>AND <b>sepsis:</b>  | STAGE 2.01-3.01 + GROUP SEPSIS;                       |
| 3.03  | with respiratory failure          | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 2.01-3.02 + GROUP<br>RESP_FAIL;                 |
| 3.04  | with hepatic encephalopathy       | Stage 2.01-3.03<br>AND <b>hepatic coma:</b>  | STAGE 2.01-3.03 + GROUP<br>COMA_HEP;                  |
| 3.05  | with shock                        | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 2.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                        | Stage 2.01-3.05<br>AND death   | NO;   |

### References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Friedman SL. Seminars in medicine of the Beth Israel Hospital, Boston. The cellular basis of hepatic fibrosis. Mechanisms and treatment strategies. N Engl J Med. 1993;328(25):1828-35.

Podolsky DK, Isselbacher KJ. Cirrhosis and alcoholic liver disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1704-1710.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP03

MultiStage: No

DXCat Label: Disorders of Bilirubin Excretion

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Familial recurrent cholestasis or cholestasis of pregnancy | Cholestasis [liver biopsy report]<br>AND family history of cholestasis<br>OR pregnant<br>AND alkaline phosphatase $\geq$ 143 u/l [chemistry report]   | DX 75161;  |
| 1.02  | Gilbert's syndrome   | Unconjugated serum bilirubin $\geq$ 2 mg/dl [chemistry report]<br>AND unconjugated serum bilirubin $\leq$ 5 mg/dl [chemistry report]<br>AND SGOT $\leq$ 60 iu/l [chemistry report]<br>AND SGPT $\leq$ 60 iu/l [chemistry report]<br>OR GGT $\leq$ 38 u/l [chemistry report]<br>AND serum haptoglobin $\geq$ 50 mg/dl [chemistry report] | DX 2774;   |
| 1.03  | Dubin-Johnson  | Conjugated serum bilirubin $\geq$ 2 mg/dl [chemistry report]<br>AND deeply pigmented liver [biopsy report]<br>AND urine coproporphyrin $\geq$ 200 ug/24 hours [urine chemistry report]  | NO;  |
| 1.04  | Rotor's  | Conjugated serum bilirubin $\geq$ 2 mg/dl [chemistry report]<br>AND normal liver [biopsy report]<br>AND urine coproporphyrin $\geq$ 200 ug/24 hours [urine chemistry report]  | NO;  |
| 2.01  | Type II Crigler-Najjar                                     | Glucuronyl transferase deficiency [biopsy report or chemistry report]<br>AND total serum bilirubin $\leq$ 20 mg/dl [chemistry report]<br>AND total serum bilirubin $\geq$ 1.225 mg/dl [chemistry report]<br>OR bile bilirubin $\geq$ 10 mg/dl [chemistry report]  | NO;  |
| 2.02  | Type I Crigler-Najjar                                      | Glucuronyl transferase deficiency [biopsy report or chemistry report]<br>OR colorless bile<br>AND total serum bilirubin $\geq$ 20 mg/dl [chemistry report]<br>OR bile bilirubin $\leq$ 10 mg/dl [chemistry report]  | NO;  |
| 3.01  | with kernicterus   | Stage 1.01-2.02<br>AND lethargy<br>OR poor feeding<br>OR opisthotonos<br>OR oculogyric crisis<br>OR seizures<br>AND total serum bilirubin $\geq$ 10 mg/dl [chemistry report]  | STAGE 1.01-1.02 + (DX 37887, 7747, 7790, 78032, 78039, 78079, 7810, 7961); |
| 3.02  | with hepatic coma  | Stage 1.01-3.01<br>AND <b>hepatic coma:</b><br>OR acute hepatic necrosis [operative or pathology report]  | STAGE 1.01-3.01 + (GROUP COMA__HEP OR DX 570);                             |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                         |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP03

MultiStage: No

DXCat Label: Disorders of Bilirubin Excretion

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

| Stage | Description                               | Diagnostic findings          | ICD-9-CM Codes |
|-------|---|------------------------------|----------------|
| 4.00  | Disorders of biliary excretion with death | Stage 1.01-3.03<br>AND death | NO;            |

### References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Isselbacher KJ. Bilirubin metabolism and hyperbilirubinemia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1672-1677.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP04

DXCat Label: Hepatitis A

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|------------------------------|---|---|
| 1.01  | Acute viral hepatitis A      | Acute hepatitis A [serology report]<br>AND anti-HAV IgG [serology report]   | DX 0701;  |
| 1.02  | Chronic persistent hepatitis | Stage 1.01<br>AND chronic persistent hepatitis [operative/pathology report] | STAGE 1.01 + DX 57141;  |
| 2.01  | with dehydration             | Stage 1.01-1.02<br>AND <b>dehydration:</b>                                  | STAGE 1.01-1.02 + GROUP DEHYDRATION;                          |
| 3.01  | with hypotension             | Stage 1.01<br>AND <b>hypotension:</b>                                       | STAGE 1.01-2.01 + GROUP HYPOTENSION;                          |
| 3.02  | with shock                   | Stage 1.01-3.01<br>AND <b>shock:</b>  | DX 0700;<br>STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death                   | Stage 1.01-3.02<br>AND death  | NO;   |

### References:

Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.

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Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP05

DXCat Label: Hepatitis B

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|------------------------------|--|---|
| 1.01  | Carrier of viral hepatitis B | Hepatitis B surface antigen [serology report]<br>AND hepatitis B core antibody IgG [serology report] | DX V0261;   |
| 1.02  | Acute viral hepatitis B      | Acute hepatitis B [serology report]<br>OR hepatitis B surface antigen [serology report]              | DX 07030-07033;   |
| 1.03  | Chronic persistent hepatitis | Stage 1.02<br>AND chronic persistent hepatitis [operative/pathology report]                          | STAGE 1.02 + DX 57141;  |
| 1.04  | Chronic active hepatitis     | Stage 1.02-1.03<br>AND chronic active hepatitis [operative/pathology report]                         | STAGE 1.02-1.03 + DX 57149;                                   |
| 2.01  | with cirrhosis               | Stage 1.02-1-04<br>AND cirrhosis [operative/pathology report or liver scan or CT scan report]        | STAGE 1.02-1.04 + DX 5715;                                    |
| 2.02  | with bleeding                | Stage 1.02-2.01<br>AND <b>bleeding:</b>  | STAGE 1.02-2.01 + (DX 2867-2869, 4590);                       |
| 2.03  | with hepatoma                | Stage 1.02-2.02<br>AND hepatoma [operative/pathology report]   | STAGE 1.02-2.02 + DX 1550;                                    |
| 3.01  | with renal failure           | Stage 1.02-2.03<br>AND <b>renal failure:</b>   | STAGE 1.02-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with hepatic coma            | Stage 1.02-3.01<br>AND <b>hepatic coma:</b>  | DX 07020-07023;   |
| 4.00  | with death                   | Stage 1.02-3.02<br>AND death   | NO;   |

### References:

Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.

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Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.

Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP06

DXCat Label: Hepatitis C

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes                          |
|-------|------------------------------|---|---|
| 1.01  | Acute viral hepatitis C      | Acute hepatitis C [recombinant immunoblot assay or serology report]<br>AND antibody hepatitis C [recombinant immunoblot assay or serology report] | DX 07051, 07070;                        |
| 1.02  | Chronic persistent hepatitis | Stage 1.01<br>AND chronic persistent hepatitis [operative/pathology report]   | DX 07054;                               |
| 1.03  | Chronic active hepatitis     | Stage 1.01-1.02<br>AND chronic active hepatitis [operative/pathology report]  | STAGE 1.01-1.02 + DX 57149;             |
| 2.01  | with cirrhosis               | Stage 1.01-1.03<br>AND cirrhosis [operative/pathology report or liver scan or CT scan report]   | STAGE 1.01-1.03 + DX 5715;              |
| 2.02  | with bleeding                | Stage 1.01-2.01<br>AND <b>bleeding:</b>   | STAGE 1.02-2.01 + (DX 2867-2869, 4590); |
| 2.03  | with hepatoma                | Stage 1.01-2.02<br>AND hepatoma [operative/pathology report]  | STAGE 1.01-2.02 + DX 1550;              |
| 3.01  | with renal failure           | Stage 1.01-2.03<br>AND <b>renal failure:</b>  | STAGE 1.01-2.03 + GROUP REN_FAIL_ACU;   |
| 3.02  | with hepatic coma            | Stage 1.01-3.01<br>AND <b>hepatic coma:</b>   | DX 07041, 07044, 07071;                 |
| 4.00  | with death                   | Stage 1.01-3.02<br>AND death  | NO;                                     |

### References:

Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.

Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP07

MultiStage: No

DXCat Label: Hepatitis D

Specificity: A

Etiology: Infection, Viral

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|------------------------------|--|---|
| 1.01  | Acute viral hepatitis D      | Hepatitis B surface antigen [serology report]<br>OR hepatitis B core antibody IgM [serology report]<br>AND Acute Delta hepatitis [IgM serology report] | DX 07052;   |
| 1.02  | Chronic persistent hepatitis | Stage 1.01<br>AND chronic persistent hepatitis [operative/pathology report]  | STAGE 1.01 + DX 57141;  |
| 1.03  | Chronic active hepatitis     | Stage 1.01-1.02<br>AND chronic active hepatitis [operative/pathology report]   | STAGE 1.01-1.02 + DX 57149;                                   |
| 2.01  | with cirrhosis               | Stage 1.01-1.03<br>AND cirrhosis [operative/pathology report or liver scan or CT scan report]  | STAGE 1.01-1.03 + DX 5715;                                    |
| 2.02  | with bleeding                | Stage 1.01-2.01<br>AND <b>bleeding:</b>  | STAGE 1.02-2.01 + (DX 2867-2869, 4590);                       |
| 2.03  | with hepatoma                | Stage 1.01-2.02<br>AND hepatoma [operative/pathology report]   | STAGE 1.01-2.02 + DX 1550;                                    |
| 3.01  | with renal failure           | Stage 1.01-2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with hepatic coma            | Stage 1.01-3.01<br>AND <b>hepatic coma:</b>  | DX 07042;   |
| 4.00  | with death                   | Stage 1.01-3.02<br>AND death   | NO;   |

## References:

- Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.
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- Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.
- Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP08

MultiStage: No

DXCat Label: Hepatitis E

Specificity: A

Etiology: Infection, Viral

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|------------------------------|---|--|
| 1.01  | Acute viral hepatitis E      | Hepatitis E [27-34 nm virus-like particles by immune electron microscopy in feces of acutely ill patients or hepatitis E serology report or hepatitis E PCR report]<br>AND negative hepatitis A serology [serology report]<br>AND negative anti-HAV IgM serology [serology report]<br>AND negative acute hepatitis B serology [serology report]<br>AND hepatitis B surface antigen [serology report]<br>AND negative hepatitis B core antibody IgM [serology report]<br>AND negative acute hepatitis C serology [recombinant immunoblot assay or serology report]<br>AND negative antibody hepatitis C serology [recombinant immunoblot assay or serology report] | DX 07053;  |
| 1.02  | Chronic persistent hepatitis | Stage 1.01<br>AND chronic persistent hepatitis [operative/pathology report]   | STAGE 1.01 + DX 57141;   |
| 1.03  | Chronic active hepatitis     | Stage 1.01-1.02<br>AND chronic active hepatitis [operative/pathology report]  | STAGE 1.01-1.02 + DX 57149;                                    |
| 2.01  | with dehydration             | Stage 1.01-1.03<br>AND <b>dehydration:</b>  | STAGE 1.01-1.03 + GROUP DEHYDRATION;                           |
| 3.01  | with hypotension             | Stage 1.02-2.01<br>AND <b>hypotension:</b>  | STAGE 1.01-2.01 + GROUP HYPOTENSION;                           |
| 3.02  | with shock                   | Stage 1.01-3.01<br>AND <b>shock:</b>  | DX 07043;<br>STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death                   | Stage 1.01-3.02<br>AND death  | NO;  |

## References:

Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.

Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP09

MultiStage: No

DXCat Label: Hepatitis G

Specificity: A

Etiology: Infection, Viral

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|-----------------|
| 1.01  | Acute viral hepatitis G and other or unspecified hepatitis | Acute hepatitis G [reverse-transcriptase PCR report or serology report]     | DX 07059, 0709; |
| 1.02  | Chronic persistent hepatitis                               | Stage 1.01<br>AND chronic persistent hepatitis [operative/pathology report] | NO;             |
| 3.01  | with hepatic coma  | Stage 1.01-1.02<br>AND <b>hepatic coma:</b>                                 | DX 0706, 07049; |

### References:

Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.

Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP10

DXCat Label: Hepatitis, Chemical

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|------------------------------|---|---|
| 1.01  | Toxic chemical hepatitis     | History of exposure or ingestion of chemicals or drugs<br>AND <b>jaundice:</b>  | DX 5733;  |
| 2.01  | with peliosis hepatitis      | History of anabolic steroid use<br>AND bloody cysts of the liver [operative/pathology report or CT scan or sonogram report] | NO;   |
| 2.02  | with hepatic adenoma         | History of oral contraceptive use<br>AND hepatic adenoma [CT scan or biopsy report]   | STAGE 1.01 + DX 2115;                                 |
| 2.03  | with hepatic vein thrombosis | History of oral contraceptive use<br>AND hepatic vein thrombosis [liver/spleen scan report or hepatic venography report]    | STAGE 1.01-2.02 + DX 4530;                            |
| 3.01  | with coagulation defects     | Stage 1.01-2.03<br>AND <b>coagulation defect:</b>   | STAGE 1.01 + GROUP<br>COAG_DEFECT;                    |
| 3.02  | with renal failure           | Stage 1.01-3.01<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + GROUP<br>REN_FAIL_ACU;              |
| 3.03  | with hepatic coma            | Stage 1.01-3.02<br>AND <b>hepatic coma:</b>   | STAGE 1.01-3.02 + GROUP<br>COMA_HEP;                  |
| 3.04  | with shock                   | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                   | Stage 1.01-3.04<br>AND death  | NO;   |

### References:

Dienstag JL, Isselbacher KJ. Toxic and Drug-Induced Hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1692-1696.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Kenna JG, Jones RM. The organ toxicity of inhaled anesthetics. Anesthesia & Analgesia. 1995;81(6 Suppl):S51-66.

McNair AN, Tibbs CJ, Williams R. Hepatology. BMJ. 1995;311(7016):1351-5.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP11

DXCat Label: Neoplasm, Malignant: Pancreas

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 0.00  | Hx, Ca Pancreas  | History of carcinoma of the pancreas  | NO;  |
| 1.01  | Localized  | No direct extension of primary pancreatic carcinoma beyond the pancreas [operative/pathology report]<br>OR pancreatic carcinoma with extension to the duodenum, bile ducts or stomach with no regional lymph node extension and removal by en bloc excision with the pancreas [operative/pathology report]<br>OR Stage I American Joint Committee on Cancer<br>OR Stage T1<br>OR Stage T2 | DX 1570-1579;<br>DX 1570-1579 + DX 1974;                                 |
| 2.01  | with extension beyond duodenum or bile ducts or stomach, no regional lymph nodes | Pancreatic carcinoma with extension beyond the duodenum or bile ducts or stomach and no regional lymph node extension [operative/pathology report]<br>OR Stage II American Joint Committee on Cancer<br>OR Stage T3   | STAGE 1.01 + (DX 1975, 1976, 1978, 3383);                                |
| 3.01  | with regional lymph nodes  | Regional node involvement with pancreatic carcinoma [operative/pathology report]<br>OR Stage III American Joint Committee on Cancer   | STAGE 1.01-2.01 + (DX 1962, 1966);                                       |
| 3.02  | with distant or liver mets   | Liver involvement with pancreatic carcinoma [operative/pathology report]<br>OR pancreatic carcinoma involves tissue beyond the confines of the abdominal cavity [operative/pathology report]<br>OR Stage IV American Joint Committee on Cancer  | STAGE 1.01-3.01 + (DX 1960-1961, 1963-1965, 1968-1973, 1977, 1980-1991); |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                       |
| 4.00  | with death   | Stage 1.01-3.03<br>AND death  | NO;  |

### References:

- Flanders TY, Foulkes WD. Pancreatic adenocarcinoma: epidemiology and genetics. *Journal of Medical Genetics*. 1996;33(11):889-98.
- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:628-666.
- Mayer RJ. Pancreatic Cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:581-584.
- Rosewicz S, Wiedenmann B. Pancreatic carcinoma. *Lancet*. 1997;349(9050):485-9.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP12

DXCat Label: Pancreatitis

Etiology: Toxicologic

MultiStage: Yes

Specificity: A

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Pancreatitis with pancreatic insufficiency | History of $\geq 1$ previous episode of acute pancreatitis<br>OR<br>calcification in pancreas [plain abdomen x-ray report or CT scan report]<br>AND <b>pancreatic insufficiency:</b>   | DX 5771, 5778;  |
| 1.02  | with pancreatic pseudocyst                 | Stage 1.01<br>AND pancreatic pseudocyst [sonogram report or operative/pathology report]  | STAGE 1.01 + DX 5772;   |
| 1.03  | Acute pancreatitis                         | Pancreatitis [operative/pathology report or CT scan report or sonogram report or KUB x-ray report]<br>OR<br>serum amylase $\geq 163$ u/l [chemistry report]<br>OR<br>serum p-type isoamylasemia [chemistry report]<br>AND<br>serum lipase $\geq 200$ u/l [chemistry report]<br>OR<br>sentinel loop [plain abdomen x-ray report]<br>OR<br>edema of the pancreas [sonogram or CT scan report]  | DX 5770;  |
| 1.04  | Acute and Chronic pancreatitis             | Stage 1.01-1.03<br>AND history of $\geq 1$ episode of acute pancreatitis   | DX 5770 + DX 5771;  |
| 2.01  | with ascites                               | Stage 1.01-1.04<br>AND ascites [sonogram report]<br>OR<br>shifting dullness  | STAGE 1.01-1.04 + DX 7895;  |
| 2.02  | Fulminant pancreatitis                     | Stage 1.01-1.04<br>AND<br>age $\geq 55$ years old<br>OR<br>serum glucose $\geq 200$ mg/dl [chemistry report]<br>OR<br>serum LDH $\geq 350$ mg/dl [chemistry report]<br>OR<br>SGOT $\geq 250$ u/l [chemistry report]<br>OR<br>WBC $\geq 16,000/\text{mm}^3$ [complete blood count report]<br>OR<br>hematocrit decrease $\geq 10\%$ within 48 hours [hematology report]<br>OR<br>BUN increase $\geq 5$ mg/dl within 48 hours [chemistry report]<br>OR<br>serum calcium $\leq 8$ mg/dl within 48 hours [chemistry report]<br>OR<br><b>hypoxemia:</b> within 48 hours<br>OR<br>base deficit $\geq 4$ mEq/L within 48 hours [ABG report]<br>OR<br>estimated fluid sequestration $\geq 6$ liters within 48 hours | STAGE 1.03-2.01 + AGE 55-124 +<br>(GROUP HYPOXEMIA OR GROUP<br>HYPOCALCEMIA); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP12

DXCat Label: Pancreatitis

Etiology: Toxicologic

MultiStage: Yes

Specificity: A

| Stage | Description                        | Diagnostic findings  | ICD-9-CM Codes  |
|-------|------------------------------------|--|---|
| 2.03  | Hemorrhagic or severe pancreatitis | Stage 1.01-2.02<br>AND hemorrhagic pancreatitis [ operative/pathology report]<br>OR Grey Turner's sign<br>OR Cullen's sign<br>OR Ranson's criteria for very high risk pancreatitis<br>(any finding $\geq$ 3 of the following:)<br>age $\geq$ 55 years old<br>OR serum glucose $\geq$ 200 mg/dl [ chemistry report]<br>OR serum LDH $\geq$ 350 mg/dl [ chemistry report]<br>OR SGOT $\geq$ 250 u/l [ chemistry report]<br>OR WBC $\geq$ 16,000/mm <sup>3</sup> [ complete blood count report]<br>OR hematocrit decrease $\geq$ 10% within 48 hours [ hematology report]<br>OR BUN increase $\geq$ 5 mg/dl within 48 hours [ chemistry report]<br>OR serum calcium $\leq$ 8 mg/dl within 48 hours [ chemistry report]<br>OR <b>hypoxemia</b> : within 48 hours<br>OR base deficit $\geq$ 4 mEq/L within 48 hours [ ABG report]<br>OR estimated fluid sequestration $\geq$ 6 liters within 48 hours | NO;   |
| 3.01  | with renal failure                 | Stage 1.01-2.03<br>AND <b>renal failure</b> :  | STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with CHF                           | Stage 1.01-3.01<br>AND <b>congestive heart failure</b> :   | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;                          |
| 3.03  | with sepsis                        | Stage 1.01-3.02<br>AND <b>sepsis</b> :   | STAGE 1.01-3.02 + GROUP SEPSIS;                               |
| 3.04  | with respiratory failure           | Stage 1.01-3.03<br>AND <b>respiratory failure</b> :  | STAGE 1.01-3.03 + GROUP RESP_FAIL;                            |
| 3.05  | with shock                         | Stage 1.01-3.04<br>AND <b>shock</b> :  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death                         | Stage 1.01-3.05<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP12

MultiStage: Yes

DXCat Label: Pancreatitis

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Greenberger NJ, Toskes PP, Isselbacher KJ. Acute and chronic pancreatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1741-1753.

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Mergener K, Baillie J. Chronic pancreatitis. Lancet. 1997;350(9088):1379-85.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP13

DXCat Label: Wilson's Disease

Etiology: Metabolic

MultiStage: No

Specificity: A

| Stage | Description                                       | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Wilson's disease or hepatolenticular degeneration | urinary copper excretion $\geq$ 100mg/24 hrs [urine chemistry report]<br>OR serum ceruloplasmin $\leq$ 200 mg/l [chemistry report]<br>AND Kayser-Fleischer ring [slit lamp ophthalmoscopy report]<br>OR hepatic copper $\geq$ 250ug/g dry liver weight [biopsy report]<br>OR defect chromosome 13 ATP7B gene [genetics report] | DX 2751;   |
| 2.01  | with hepatitis or splenomegaly                    | Stage 1.01<br>AND splenomegaly<br>OR <b>hepatitis:</b>   | STAGE 1.01 + (DXCAT HEP10 OR DX 7824, 7894);   |
| 2.02  | with CNS disorders                                | Stage 1.01-2.01<br>AND fine tremors of upper extremities<br>OR choreoathetosis<br>OR muscular rigidity<br>OR dysarthria  | STAGE 1.01-2.01 + (DX 3331-3333, 3335-3336, 33371, 33379, 33381-33382, 33394, 7845); |
| 2.03  | with hemolytic anemia                             | Stage 1.01-2.02<br>AND <b>hemolysis:</b>   | STAGE 1.01-2.01 + (DX 28310, 28319, 2839);   |
| 2.04  | Chronic active hepatitis                          | Stage 1.01-2.03<br>AND chronic active hepatitis [operative/pathology report]   | STAGE 1.01-2.03 + DX 57149;  |
| 2.05  | with coagulation defects                          | Stage 1.01-2.04<br>AND <b>coagulation defects:</b>   | STAGE 1.01-2.04 + GROUP COAG_DEFECT;   |
| 3.01  | with renal failure                                | Stage 1.01-2.05<br>AND <b>renal failure:</b>   | STAGE 1.01-2.05 + GROUP REN_FAIL_ACU;  |
| 3.02  | with hepatic coma                                 | Stage 1.01-3.01<br>AND <b>hepatic coma:</b><br>OR acute hepatic necrosis [operative/ pathology report]   | STAGE 1.01-3.01 + (DX 07041, 07044, 07071, 5722) ;                                   |
| 3.03  | with shock  | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                   |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP13

MultiStage: No

DXCat Label: Wilson's Disease

Specificity: A

Etiology: Metabolic

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Jones EA, Weissenborn K. Neurology and the liver. Journal of Neurology, Neurosurgery & Psychiatry. 1997;63(3):279-93.

Scheinberg IH. Wilson's disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2166-2169.

Walshe JM. Treatment of Wilson's disease: the historical background. QJM. 1996;89(7):553-5.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP80

MultiStage: No

DXCat Label: Budd Chiari Syndrome

Specificity: C

Etiology:

| Stage | Description          | Diagnostic findings | ICD-9-CM Codes |
|-------|----------------------|---------------------|----------------|
| 2.01  | Budd-Chiari syndrome |                     | DX 4530;       |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP81

MultiStage: No

DXCat Label: Neoplasm, Benign: Hepatobiliary System

Specificity: A

Etiology: Neoplasm

| Stage | Description                          | Diagnostic findings | ICD-9-CM Codes      |
|-------|--------------------------------------|---------------------|---------------------|
| 1.01  | Benign neoplasm hepatobiliary system |                     | DX 2115-2117, 2353; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP82

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Hepatobiliary Tract

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 0.00  | History of liver malignancy  |                     | DX V1007;   |
| 1.01  | Primary malignant neoplasm of liver, gallbladder, hepatic or biliary ducts |                     | DX 1550-1569, 2308;                                     |
| 2.01  | with abdominal or peritoneal lymph node involvement                        |                     | STAGE 0.00-1.01 + (DX 1962, 1966, 3383);                |
| 2.02  | with anemia of neoplastic disease  |                     | STAGE 0.00-2.01 + DX 28522;                             |
| 3.01  | with distant metastases  |                     | STAGE 0.00-2.01 + (DX 1960-1961, 1963-1965, 1968-1991); |
| 3.02  | with shock   |                     | STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;      |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP83

MultiStage: No

DXCat Label: Other Liver Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                 |
|-------|--|---------------------|--------------------------------|
| 1.01  | Sequelae of chronic liver disease or other liver conditions                              |                     | DX 5728, 5738-5739, 7948;      |
| 1.02  | Chronic hepatitis or chronic passive liver congestion                                    |                     | DX 57140-57149, 5728, 5730;    |
| 2.01  | Hepatic infarction, liver abscess, acute necrosis, portal pyemia, or portal hypertension |                     | DX 570, 5720-5721, 5723, 5734; |
| 3.01  | Hepatic coma, hepatorenal syndrome   |                     | DX 5722, 5724;                 |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP84

MultiStage: No

DXCat Label: Other Biliary Disorders

Specificity: C

Etiology:

| Stage | Description               | Diagnostic findings | ICD-9-CM Codes                       |
|-------|---------------------------|---------------------|--------------------------------------|
| 1.01  | Other gallbladder disease |                     | DX 5756-5759, 5760, 5765-5769, 7933; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP85

MultiStage: No

DXCat Label: Other Pancreatic Disorders

Specificity: C

Etiology:

| Stage | Description                                  | Diagnostic findings | ICD-9-CM Codes |
|-------|--|---------------------|----------------|
| 1.01  | Pancreatic cyst and other pancreatic disease |                     | DX 5772, 5779; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM01

MultiStage: No

DXCat Label: Human Immunodeficiency Virus Type I (HIV) Infection

Specificity: A

Etiology: Infection, Viral

| Stage | Description                                     | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 1.01  | Human immunodeficiency virus infection, Type I  | Human immunodeficiency virus infection [Western blot assay report and ELISA report]   | DX V08;        |
| 1.02  | with significant immunosuppression              | Stage 1.01<br>AND CD4 count < 500/mm <sup>3</sup> [hematology report]<br>AND CD4 count > 200 /mm <sup>3</sup> [hematology report]<br>OR bDNA < 20,000 copies/mL [hematology report]<br>OR HIV RNA levels or viral load tests <10,000 copies/mL [hematology report]<br>AND HIV RNA levels or viral load tests > 5000 copies/mL [hematology report]   | NO;            |
| 2.01  | Presumptive Acquired Immune Deficiency Syndrome | Stage 1.01-1.02<br>AND recent onset of retrosternal pain on swallowing<br>AND oral candidiasis [culture report]<br>OR Cytomegalovirus retinitis [ophthalmoscopic report]<br>OR Mycobacteriosis [acid-fast bacilli not identified as reported by culture report]<br>OR Erythematous or violaceous plaque-like lesion on skin or mucous membrane<br>OR a history of dyspnea on exertion or nonproductive cough of recent onset ≤ 3 months<br>AND diffuse bilateral interstitial infiltrates [chest x-ray report]<br>OR diffuse bilateral pulmonary disease [gallium scan report]<br>AND arterial oxygen partial pressure of < 70 mm Hg [blood gas report]<br>OR respiratory diffusing capacity of < 80% of predicted values [PFT report]<br>AND no evidence of bacterial pneumonia<br>OR recent onset of a focal neurologic abnormality or a reduced level of consciousness<br>AND brain lesion having a mass effect [CT scan or MRI report]<br>OR radiographic appearance enhanced by injection of contrast medium [CT scan or MRI report]<br>AND serum antibody to toxoplasmosis [serology report]<br>OR apical or miliary infiltrates [chest x-ray report] | DX 042;        |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM01

DXCat Label: Human Immunodeficiency Virus Type I (HIV) Infection

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|------------------------------|--|---|
| 2.02  | AIDS with low CD4 cell count | <p>CD4 lymphocyte count &lt;200 cells/mm<sup>3</sup> [hematology report]</p> <p>OR CD4 lymphocyte percentage &lt;14% [hematology report]</p> <p>AND coccidioidomycosis, disseminated</p> <p>OR HIV encephalopathy</p> <p>OR histoplasmosis, disseminated</p> <p>OR isosporiasis [culture report]</p> <p>AND diarrhea persisting &gt; 1 month</p> <p>OR Kaposi's sarcoma [operative/pathology report]</p> <p>OR primary lymphoma of the brain [operative/pathology report]</p> <p>OR non-Hodgkin's lymphoma of B cell origin [hematology report]</p> <p>OR non-Hodgkin's lymphoma unknown immunologic phenotype [hematology report]</p> <p>OR mycobacterial disease other than mycobacterium tuberculosis, disseminated</p> <p>OR tuberculosis [culture or molecular medicine report]</p> <p>OR history of recurrent salmonella sepsis</p> <p>OR HIV wasting syndrome</p> <p>OR pneumonia episodes ≥ 1/year</p> <p>OR invasive cervical cancer [operative/pathology report]</p>   | <p>STAGE 2.01 + (DX 0072, 01000-01896, 0310-0312, 0318-0319, 1140-1145, 1149, 11500-11505, 11509, 11510-11514, 11519, 11590-11595, 11599, 1800-1801, 1808-1809, 3483, 7994) ;</p> <p>STAGE 2.01 + DX 0031 + DX V1209;</p> <p>STAGE 2.01 + (DX 1760-1765, 1768-1769 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27 OR DXCAT HEM29 OR DXCAT HEM31);</p> |
| 2.03  | AIDS defining diagnosis      | <p>Candidiasis of the esophagus [endoscopy report]</p> <p>OR candidiasis of the trachea [bronchoscopy report]</p> <p>OR candidiasis of the bronchi [bronchoscopy report]</p> <p>OR candidiasis of the lungs [bronchoscopy report]</p> <p>OR cryptococcosis, extrapulmonary</p> <p>OR cryptosporidiosis [culture report]</p> <p>AND diarrhea persisting &gt; 1 month</p> <p>OR cytomegalovirus disease of an organ other than liver, spleen, or lymph nodes</p> <p>OR herpes simplex virus infection with mucocutaneous ulcer persists &gt; 1 month</p> <p>OR herpes simplex virus bronchitis [bronchoscopy report]</p> <p>OR herpes simplex virus esophagitis [endoscopy report]</p> <p>OR herpes simplex pneumonitis [bronchoscopy report]</p> <p>OR Kaposi's sarcoma in a patient &lt; 60 years of age [operative/pathology report]</p> <p>OR primary lymphoma of the brain in a patient &lt; 60 years of age [operative/pathology report]</p> <p>OR mycobacterium avium complex [culture report]</p> <p>OR mycobacterium kansasii disease, disseminated [culture report]</p> <p>OR Pneumocystis carinii pneumonia [bronchoscopy report]</p> <p>OR progressive multifocal leukoencephalopathy [operative/pathology report]</p> <p>OR toxoplasmosis of the brain [operative/pathology report]</p> | <p>STAGE 2.01 + (DX 0074, 0463, 0785, 1124, 11284, 1175, 1300, 1308, 1363);</p> <p>STAGE 2.01 + (DX 1760-1765, 1768-1769 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27 OR DXCAT HEM29 OR DXCAT HEM31) + (AGE 0-59) ;</p>   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM01

MultiStage: No

DXCat Label: Human Immunodeficiency Virus Type I (HIV) Infection

Specificity: A

Etiology: Infection, Viral

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.01  | with renal failure       | Stage 2.01-2.03<br>AND <b>renal failure:</b>       | STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with sepsis              | Stage 2.01-3.01<br>AND <b>sepsis:</b>              | STAGE 1.01-3.01 + GROUP SEPSIS;                               |
| 3.03  | with respiratory failure | Stage 2.01-3.02<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.02 + GROUP RESP_FAIL;                            |
| 3.04  | with coma                | Stage 2.01-3.03<br>AND <b>coma:</b>                | STAGE 1.01-3.03 + GROUP COMA;                                 |
| 3.05  | with shock               | Stage 2.01-3.04<br>AND <b>shock:</b>               | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death               | Stage 2.01-3.05<br>AND <b>death</b>                | NO;   |

### References:

Anonymous. Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents. *Annals of Internal Medicine*. 1998;128(12):1079-1100.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM02

DXCat Label: Urticaria

Etiology: Idiopathic; Immune

MultiStage: No

Specificity: C

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes                                  |
|-------|-------------------------------|---|---|
| 1.01  | Localized acute urticaria     | Urticaria ≤ 6 weeks<br>AND Localized urticaria [dermatology report or operative/pathology report or laboratory test and skin test]    | DX 7080-7085, 7089, 9990;                       |
| 1.02  | Localized chronic urticaria   | Urticaria > 6 weeks<br>AND Localized urticaria [dermatology report or operative/pathology report or laboratory test and skin test]    | DX 7088;  |
| 2.01  | Generalized chronic urticaria | Urticaria > 6 weeks<br>AND Generalized urticaria [dermatologist report or operative/pathology report or laboratory test or skin test] | NO;   |
| 2.02  | Generalized acute urticaria   | Urticaria ≤ 6 weeks<br>AND Generalized urticaria [dermatologist report or operative/pathology report or laboratory test or skin test] | NO;   |
| 3.01  | with anaphylactic shock       | Stage 1.01-2.01<br>AND <b>shock:</b>  | STAGE 1.01-1.02 + (DX 9950, 99560-99569, 9994); |
| 4.00  | with death                    | Stage 1.01-3.01<br>AND death  | NO;   |

### References:

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Davis MDP, Daoud MS, Kirby B, Gibson LE, Rogers RS. Clinicopathologic correlation of hypocomplementemic and normocomplementemic urticarial vasculitis. J Am Acad Dermatol. 1998, 38(6): 899-905.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM80

MultiStage: No

DXCat Label: Other Immunodeficient Disorders

Specificity: C

Etiology:

| Stage | Description                     | Diagnostic findings | ICD-9-CM Codes  |
|-------|---------------------------------|---------------------|-----------------|
| 1.01  | Other immunodeficient disorders |                     | DX 27900-27999; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF01

DXCat Label: Aspergillosis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                               | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.01  | Primary localized cutaneous aspergillosis | Cutaneous Aspergillosis [culture reports]<br>OR<br>biopsy confirms cutaneous Aspergillus invasion  | DX 1173;   |
| 2.01  | with keratitis                            | Infection of the cornea by Aspergillus spp. [culture report of growth of pathologic organism(s)]   | STAGE 1.01 + (DX 37044, 37049, 3708-3709);         |
| 2.02  | with endophthalmitis                      | Infection of the entire eye by Aspergillus spp. [culture reports growth of pathologic organism(s)]   | STAGE 1.01-2.01 + DX 36000-36019;                  |
| 2.03  | with orbital cellulitis                   | Orbital cellulitis:<br>AND aspergillosis [culture reports growth of pathologic organism(s)]  | STAGE 1.01-2.02 + DX 37601;                        |
| 2.04  | Aspergilloma or 'fungus ball'             | Stage 1.01-2.03<br>AND new as a dense round ball infiltrate [chest x-ray report]<br>AND Aspergillous spp. in sputum [gram stain documents presence of many WBC AND sputum culture reports growth of Aspergillus]<br>OR Aspergillus antibody positive [serology report] | NO;  |
| 2.05  | Allergic bronchial aspergillosis          | History of asthma<br>AND <b>eosinophilia:</b><br>AND positive skin test to Aspergillus spp.<br>OR IgE levels $\geq$ 506 units/ml. [serology report]  | STAGE 1.01-2.04 + (DX 4846, 5186);                 |
| 3.01  | with endocarditis                         | Stage 1.01-2.05<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.05 + DX 4211;                         |
| 3.02  | with meningitis                           | Stage 1.01-3.01<br>AND <b>meningitis:</b>  | STAGE 1.01-3.01 + DX 3211;                         |
| 3.03  | with sepsis                               | Stage 1.01-3.02<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;                    |
| 3.04  | with shock                                | Stage 2.02-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                | Stage 2.02-3.04<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF01

MultiStage: No

DXCat Label: Aspergillosis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bennett JE. Aspergillosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1156-1158.

Clancy CJ, Nguyen MH. Acute community-acquired pneumonia due to Aspergillus in presumably immunocompetent hosts: clues for recognition of a rare but fatal disease. Chest. 1998;114(2):629-34.

Hamill RJ. Infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1388-1400.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF02

DXCat Label: Botulism

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                              | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Botulism                                 | Clostridium botulism toxin in serum [serology report]<br>OR Clostridium botulism toxin in food [food analysis report]<br>AND diplopia<br>OR ptosis<br>OR blurred vision<br>OR fixed dilated pupils<br>OR dry mouth<br>OR dysphagia<br>OR dysphonia<br>OR nausea<br>OR vomiting<br>OR <b>cranial nerve palsy:</b> | DX 0051;   |
| 2.01  | with generalized muscle weakness         | Stage 1.01<br>AND generalized muscle weakness  | STAGE 1.01 + DX 3581;                              |
| 2.02  | with bladder involvement                 | Stage 1.01-2.01<br>AND distended bladder<br>AND unable to void<br>OR post-voiding urine catheterization shows >50 cc of residual urine   | STAGE 1.01-2.01 + (DX 5968, 78820-78829);          |
| 2.03  | with respiratory musculature involvement | Stage 1.01-2.02<br>AND dyspnea   | STAGE 1.01-2.02 + DX 78609;                        |
| 2.04  | with aspiration pneumonia                | Stage 1.01-2.03<br>AND aspiration pneumonia  | STAGE 1.01-2.03 + DX 5070;                         |
| 3.01  | with respiratory failure                 | Stage 1.01-2.04<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.04 + GROUP RESP_FAIL;                 |
| 3.02  | with shock                               | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Botulism and death                       | Stage 1.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF02

MultiStage: No

DXCat Label: Botulism

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Abrutyn E. Botulism. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:904-906.

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Shapiro RL, Hatheway C, Becher J, Swerdlow DL. Botulism surveillance and emergency response. A public health strategy for a global challenge. JAMA. 1997;278(5):433-5.

Simpson LL. Botulinum toxin: a deadly poison sheds its negative image. Annals of Internal Medicine. 1996;125(7):616-7.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF03

DXCat Label: Candida (Monilial) Infections

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Cutaneous or oral or vaginal candidiasis                                    | Cutaneous or oral cavity candidiasis [culture reports growth of Candida or Candida identified in potassium hydroxide wet mounts from scraping]<br><br><u>Presumptive Diagnostic Findings:</u><br>Oral thrush<br>OR candida paronychia<br>OR cheesy, curd-like discharge of Candida vaginitis  | DX 1120-1123, 11282, 11289, 1129;  |
| 2.01  | Candidiasis of gastrointestinal or lower urinary or upper respiratory tract | Candidiasis of gastrointestinal tract [culture reports growth of Candida or Candida identified in potassium hydroxide wet mounts from scraping]<br>OR dysuria<br>AND candidiasis of urinary tract [culture reports growth of Candida]<br>OR cough<br>AND candidiasis of upper respiratory tract [culture reports growth of Candida] | DX 11284-11285, 1124;  |
| 2.02  | Chronic candidiasis   | Stage 1.01-2.01<br>AND history of recurrent Candida infections  | NO;  |
| 2.03  | Candida endophthalmitis or pyelonephritis or arthritis or osteomyelitis     | Candida endophthalmitis [operative or pathology report]<br>OR pyelonephritis:<br>OR candida arthritis [culture report of joint effusion]<br>OR candida osteomyelitis [bone culture report]  | STAGE 1.01-2.01 + (DX 36000-36019, 59000-5909 OR GROUP ARTHR_SEPTIC OR GROUP OSTEOMYELIT); |
| 2.04  | Candida fungemia  | Candida fungemia [blood culture reports growth of candida]  | DX 1125;   |
| 3.01  | with renal failure  | Stage 2.01-2.04<br>AND <b>renal failure:</b>  | STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);                              |
| 3.02  | with endocarditis   | Stage 2.01-3.01<br>AND <b>endocarditis:</b>   | DX 11281;  |
| 3.03  | with meningitis   | Stage 2.01-3.02<br>AND <b>meningitis:</b>   | DX 11283;  |
| 3.04  | with sepsis   | Stage 2.01-3.02<br>AND <b>sepsis</b>  | STAGE 1.01-3.03 + GROUP SEPSIS;  |
| 3.05  | with shock  | Stage 2.01-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death  | Stage 2.01-3.05<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF03

MultiStage: No

DXCat Label: Candida (Monilial) Infections

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bennett JE. Candidiasis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1154-1156.

Hamill RJ. Infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1388-1400.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF04

MultiStage: No

DXCat Label: Chlamydial Infection Except Trachoma or Pneumonia

Specificity: A

Etiology: Infection

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 0.00  | Screening exam for chlamydia                          |   | DX V7388, V7398;  |
| 1.01  | Chlamydial conjunctivitis                             | Mucopurulent conjunctival discharge<br>OR conjunctival injection<br>OR conjunctival edema<br>AND chlamydial trachomatis [exudate culture report]<br>OR chlamydial trachomatis<br>[immunofluorescence antibody report or ELISA report or DNA-PCR report] | DX 07798, 07888, 07988, 07998, 09950, 09959;  |
| 1.02  | Chlamydial proctitis                                  | Proctitis<br>AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]  | DX 09952;   |
| 1.03  | Chlamydial urethritis                                 | Urethritis<br>AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]   | DX 09941, 09951, 09953, 09955;  |
| 1.04  | Chlamydial cervicitis                                 | Cervicitis<br>AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]   | STAGE 1.01-1.03 + DX 6160;  |
| 2.01  | with lymphogranuloma venereum                         | Stage 1.01-1.04<br>AND suppurative inguinal lymphadenitis   | STAGE 1.01-1.04 + (DX 2891-2893, 683, 7856 OR DXCAT INF17);   |
| 2.02  | Chlamydial infection with pelvic inflammatory disease | Stage 1.01-2.01<br>OR pelvic inflammatory disease<br>AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]  | DX 09954, 09956;<br>DX 09954 + DX 6140-6149;<br>DX 09956 + DX 6140-6149;<br>STAGE 1.01-2.01 + DX 6140-6149; |
| 2.03  | Chlamydial interstitial pneumonia                     | Stage 1.01-2.02<br>AND new infiltrate [chest x-ray report]  | STAGE 1.01-2.02 + (DX 4808-4809, 485-486, 5168);  |
| 3.01  | with respiratory failure                              | Stage 1.01-2.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-2.03 + GROUP RESP_FAIL;  |
| 3.02  | with shock  | Stage 1.02-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death  | Stage 1.02-3.02<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF04

MultiStage: No

DXCat Label: Chlamydial Infection Except Trachoma or Pneumonia

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange, 1998:1267-1304.

Hammerschlag MR. Chlamydia. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:827-831.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF05

MultiStage: No

DXCat Label: Clostridial Wound Infection

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description                      | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|----------------------------------|--|--|
| 1.01  | Clostridium wound infection      | Clostridial sp. grown from abscess or wound [wound culture report]   | NO;  |
| 2.01  | with cellulitis                  | Stage 1.01<br>AND <b>cellulitis:</b>   | NO;  |
| 2.02  | with hemolysis                   | Stage 1.01-2.01<br>AND <b>hemolysis:</b>   | NO;  |
| 2.03  | with myonecrosis or gas gangrene | Stage 1.01-2.01<br>AND gas in tissues [ x-ray report]<br>OR gas palpable in tissues<br>OR myonecrosis [muscle biopsy operative/pathology report] | DX 0400;   |
| 3.01  | with sepsis                      | Stage 1.01-2.02<br>AND <b>sepsis:</b>  | STAGE 2.03 + GROUP SEPSIS;                         |
| 3.02  | with shock                       | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.03-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                       | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1267-1304.

Kasper DL, Zaleznik DF. Gas gangrene, antibiotic-associated colitis, and other clostridial infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL etc. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:906-910.

Thalhammer F, Hollenstein U, Janata K. A coincidence of disastrous accidents: crohn's disease, agranulocytosis, and clostridium septicum infection. Journal of Trauma. 1997;43(3):556-7.

Valentine EG. Nontraumatic gas gangrene. Annals of Emergency Medicine. 1997;30(1):109-11.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF06

MultiStage: No

DXCat Label: Coccidioidomycosis

Specificity: A

Etiology: Infection

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Coccidioidomycosis of the respiratory tract                             | Infected sputum [gram stain demonstrates Coccidioides spp. or sputum culture reports growth of Coccidioides spp.]<br>OR Coccidioides titer $\geq$ 1:16 [serology report]<br>OR coccidioidomycosis [IgM or IgG serology report shows $\geq$ 4 fold increase in titer from baseline]                 | DX 1140, 1143-1145, 1149;  |
| 2.01  | Cutaneous coccidioidomycosis or coccidioidomycosis with lymphadenopathy | Stage 1.01<br>AND skin ulcerations of coccidioidomycosis [operative/pathology report]<br>OR axillary and inguinal adenopathy   | DX 1141;   |
| 2.02  | with pleural effusion   | Stage 1.01-2.01<br>AND pleural fluid [chest x-ray report]  | STAGE 1.01-2.01 + DX 5119;                                       |
| 2.03  | with pulmonary cavitation   | Stage 1.01-2.02<br>AND pulmonary granuloma or cavitation [chest x-ray report]  | STAGE 1.01-2.02 + DX 51889;                                      |
| 2.04  | with osteomyelitis or arthritis   | Stage 1.01-2.03<br>AND <b>osteomyelitis:</b><br>OR coccidioidomycosis arthritis (synovial fluid reports Coccidioides spp.)<br>OR <b>arthritis:</b>   | STAGE 1.01-2.03 + (GROUP ARTHR_SEPTIC OR GROUP OSTEOMYELIT);     |
| 2.05  | with hepatitis or splenic involvement                                   | Stage 1.01-2.04<br>AND liver mass [CT scan report or liver-spleen scan report]<br>OR splenomegaly [CT scan report or liver-spleen scan report]<br>OR hepatic granuloma of Coccidioides spp. [operative/pathology report]<br>OR splenic granuloma of Coccidioides spp. [operative/pathology report] | STAGE 1.01-2.04 + (DX 5718, 5728, 7891-7892 OR GROUP HEPATITIS); |
| 2.06  | Renal coccidioidomycosis  | Stage 1.01-2.05<br>AND renal mass [CT scan or sonogram report]<br>OR renal coccidioidomycosis [operative/pathology report]   | STAGE 1.01-2.05 + DX 5909;                                       |
| 3.01  | with meningitis   | Coccidioides titer > 1:16 in CSF [CSF serology report]<br>OR coccidioidomycosis [IgM or IgG CSF serology report shows $\geq$ 4 fold increase in titer from baseline]<br>AND <b>meningitis:</b>   | DX 1142;   |
| 3.02  | with sepsis   | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                                  |
| 3.03  | with respiratory failure  | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;                               |
| 3.04  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;               |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF06

MultiStage: No

DXCat Label: Coccidioidomycosis

Specificity: A

Etiology: Infection

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.03<br>AND death | NO;            |

### References:

Anonymous. From the Centers for Disease Control and Prevention. Coccidioidomycosis--Arizona, 1990-1995. JAMA. 1997;277(2):104-5.

Bennett JE. Coccidioidomycosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1151-1152.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF07

DXCat Label: Coxsackie and ECHO Infections

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes              |
|-------|---|--|-----------------------------|
| 1.01  | Exanthems caused by Coxsackie or ECHO viruses           | Nonpruritic or nondesquamative or discrete rubelliform rash confined to face or neck and chest<br>AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show $\geq 4$ increase]<br>OR ECHO virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show $\geq 4$ increase] | DX 0791-0792;               |
| 1.02  | Herpangina caused by Coxsackie viruses                  | Herpangina<br>OR <b>fever:</b><br>AND sore throat<br>AND grayish papulovesicular lesions with erythematous areola on tonsillar pillars or soft palate or tonsils or uvula and tongue which may ulcerate<br>AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]  | DX 0740;                    |
| 1.03  | Lymphonodular pharyngitis caused by Coxsackie viruses   | Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]<br>AND <b>fever:</b><br>AND sore throat<br>AND raised white to yellowish pharyngeal nodules   | DX 0748;                    |
| 1.04  | Hand-Foot-and-Mouth disease caused by Coxsackie viruses | Stage 1.01-1.03<br>AND vesicular exanthem over buccal mucosa or palate and over hands and feet<br>AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]   | DX 0743;                    |
| 1.05  | Epidemic pleurodynia or Bornholm disease                | Severe intermittent epigastric pain or lower anterior chest pain<br>AND <b>fever:</b><br>AND sore throat<br>AND malaise<br>AND myalgia of trunk and extremities<br>AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]  | DX 0741;                    |
| 1.06  | ECHO virus gastroenteritis                              | Diffuse abdominal pain<br>AND bowel movements > 3 times a day<br>AND diarrhea<br>AND ECHO virus infection of stool [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]  | DX 0791 + (DX 00869, 0088); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF07

DXCat Label: Coxsackie and ECHO Infections

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 2.01  | Coxsackie or ECHO virus pneumonia                                   | Stage 1.01-1.06<br>AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]<br>OR ECHO virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]<br>AND new infiltrate [chest x-ray report] | STAGE 1.01-1.06 + DX 4808-4809;                    |
| 2.02  | Coxsackie or ECHO virus paralysis                                   | Stage 1.01-2.01<br>AND weakness of extremities unresolved after 1 month<br>OR paralysis of extremities unresolved after 1 month  | STAGE 1.01-2.01 + (DX 34200-34292, 34400-3449);    |
| 2.03  | Pericarditis  | Stage 1.01-2.02<br>AND <b>pericarditis:</b>  | DX 07420-07422;                                    |
| 3.01  | Myocarditis caused by Coxsackie or ECHO viruses                     | Stage 1.01-2.03<br>AND <b>myocarditis:</b><br>AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]<br>OR ECHO virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]                 | DX 07423;  |
| 3.02  | Aseptic meningitis caused by Coxsackie or ECHO viruses              | Stage 1.01-3.01<br>AND <b>aseptic meningitis:</b>  | STAGE 1.01-3.01 + DXCAT NEU13;                     |
| 3.03  | Coxsackie or ECHO viruses myocarditis with congestive heart failure | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>  | STAGE 3.01 + GROUP CHF_NON_HTN;                    |
| 3.04  | Respiratory failure caused by Coxsackie or ECHO viruses             | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.03 + GROUP RESP_FAIL;                 |
| 3.05  | Shock caused by Coxsackie or ECHO viruses                           | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | ECHO or Coxsackie virus infections with death                       | Stage 1.01-3.05<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF07

MultiStage: No

DXCat Label: Coxsackie and ECHO Infections

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
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| Wessely R, Henke A, Zell R, Kandolf R, Knowlton KU. Low-level expression of a mutant coxsackieviral cDNA induces a myocytopathic effect in culture: an approach to the study of enteroviral persistence in cardiac myocytes. Circulation. 1998;98(5):450-7. |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF08

DXCat Label: Cryptococcosis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Cryptococcal infection   | Cryptococcal antigen $\geq$ 1:8 [serology report]<br>OR<br>Cryptococcal fungemia [blood culture report]  | DX 1175;  |
| 1.02  | Cryptococcal dermatitides  | Stage 1.01<br>AND skin pustules or skin ulcers of cryptococcosis [skin culture reports growth of Cryptococcus neoformans]  | NO;   |
| 2.01  | Cryptococcal pneumonia   | S1.01-1.02<br>AND new infiltrate [chest x-ray report]<br>AND sputum culture reports growth of Cryptococcus neoformans [sputum culture report]  | STAGE 1.01 + DX 4847;   |
| 2.02  | Cryptococcal urinary tract infection   | Urine infected with > 100,000 cfu/ml of Cryptococcus neoformans growth [culture from freshly voided 'clean catch' urine]<br>AND <b>pyuria:</b>   | STAGE 1.01-2.01 + DXCAT GUS10;  |
| 2.03  | Cryptococcal osteomyelitis or endophthalmitis or hepatitis or endocarditis or pericarditis or pyelonephritis | Stage 1.01-2.02<br>AND Cryptococcal osteomyelitis [bone culture report]<br>OR Cryptococcal endophthalmitis [eye culture report]<br>OR Cryptococcal hepatitis [liver biopsy report]<br>OR <b>endocarditis:</b><br>OR pericarditis:<br>OR urine infected with >100,000 cfu/ml of Cryptococcus neoformans growth [culture from freshly voided 'clean catch' urine]<br>AND <b>pyuria:</b><br>AND costovertebral tenderness<br>OR kidney punch positive | STAGE 1.01-2.02 + (DX 4200, 42090, 42099, 36000-36002, 59000-5909 OR GROUP ENDOCARDITIS OR DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR DXCAT MUS25 OR GROUP HEPATITIS); |
| 3.01  | Cryptococcal meningitis  | Cryptococcal meningitis [India ink stain of CSF or latex agglutination test of CSF]  | STAGE 1.01-2.03 + (DX 3210, 3218);  |
| 3.02  | Cryptococcal encephalitis  | Stage 1.01-3.01<br>AND involvement of the cerebral hemispheres with infarction or granulomas [CT scan report or MRI report]  | STAGE 1.01-3.01 + (DX 3234, 3236-3239);   |
| 3.03  | with sepsis  | Stage 1.01-3.02<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;   |
| 3.04  | with coma  | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;   |
| 3.05  | with shock   | Stage 1.01-3.05<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death   | Stage 1.01-3.05<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF08

MultiStage: No

DXCat Label: Cryptococcosis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bennett JE. Cryptococcosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1153-1154.

Ely EW, Peacock JE Jr, Haponik EF, Washburn RG. Cryptococcal pneumonia complicating pregnancy. *Medicine*. 1998;77(3):153-67.

Hamill RJ. Infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange, 1998:1388-1400.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF09

DXCat Label: Cytomegalovirus Disease, (Acquired)

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Cytomegalovirus disease of the salivary glands                                  | Cytomegalovirus isolated from saliva [tissue culture reports isolation of cytomegalovirus]  | DX 0785;   |
| 1.02  | Cytomegalovirus retinitis   | Cytomegalovirus infection [isolation of cytomegalovirus from serum or body fluids or urine from tissue cultures or convalescent/acute cytomegalovirus serum antibody titers $\geq$ 4 increase]<br>AND retinitis [ophthalmoscopy report]<br>OR cotton wool spots [ophthalmoscopy report]                           | STAGE 1.01 + DX 36300-36320;   |
| 1.03  | Cytomegalovirus retinitis with retinal hemorrhages or infiltrates or disk edema | Stage 1.01-1.02<br>AND retinal hemorrhages [ophthalmoscopy report]<br>OR sectoral infiltrates [ophthalmoscopy report]<br>OR optic disk edema [ophthalmoscopy report]  | STAGE 1.02 + DX 36281-36283;   |
| 1.04  | Cytomegalovirus retinitis with retinal detachment                               | Stage 1.01-1.03<br>AND rhegmatogenous retinal detachment [ophthalmoscopy report]<br>OR iris neovascularization [ophthalmoscopy report]  | STAGE 1.02-1.03 + (DX 36100-36107, 36181-3619);  |
| 2.01  | with hepatitis  | Cytomegalovirus infection [isolation of cytomegalovirus from serum or body fluids or urine from tissue cultures or convalescent/acute cytomegalovirus serum antibody titers > 4 fold increase]<br>AND hepatosplenomegaly [liver/spleen scan report or CT scan report or sonogram report]<br>AND <b>hepatitis:</b> | STAGE 1.01-1.04 + GROUP HEPATITIS;   |
| 2.02  | Cytomegalovirus mononucleosis   | Stage 2.01<br>AND <b>lymphocytosis:</b><br>AND atypical lymphocytes [hematology report]<br>AND heterophil antibody test negative [hematology report]  | STAGE 1.01-2.01 + DX 075;  |
| 2.03  | with ulcers of the gastrointestinal tract                                       | Duodenal ulcers [endoscopy report]<br>OR gastric ulcers [endoscopy report]<br>OR esophageal ulcers [endoscopy report]<br>OR small intestinal ulcers [endoscopy report]<br>OR colonic ulcers [endoscopy report]<br>AND cytomegalovirus tissue infection [biopsy or operative/pathology tissue culture report]      | STAGE 1.01-2.02 + DX 53100-53491;  |
| 2.04  | with pneumonitis  | Stage 1.02-2.03<br>AND new interstitial infiltrate [chest x-ray report]<br>OR cytomegalovirus pneumonitis [biopsy or operative/pathology tissue culture report]   | STAGE 1.01 + DX 4841;<br>DX 4841;  |
| 3.01  | with glomerulopathy or renal failure  | Stage 1.02-2.04<br>AND <b>renal failure:</b>  | STAGE 1.01-2.04 + (DX 58081, 58181, 58281, 58381 OR GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF09

MultiStage: No

DXCat Label: Cytomegalovirus Disease, (Acquired)

Specificity: A

Etiology: Infection, Viral

| Stage | Description              | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--------------------------|---|--|
| 3.02  | with meningoencephalitis | Stage 1.02-3.01<br>AND <b>disorientation:</b><br>AND <b>aseptic meningitis:</b> | STAGE 1.01-3.01 + (DX 048, 0498-0499, 3239 OR GROUP DISORIENT OR DXCAT NEU13); |
| 3.03  | with respiratory failure | Stage 1.02-3.02<br>AND <b>respiratory failure:</b>                              | STAGE 1.01-3.02 + GROUP RESP_FAIL;   |
| 3.04  | with coma                | Stage 1.02-3.03<br>AND <b>coma:</b>   | STAGE 1.01-3.03 + GROUP COMA;  |
| 3.05  | with shock               | Stage 1.02-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                             |
| 4.00  | with death               | Stage 2.01-3.04<br>AND death  | NO;  |

### References:

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- Hirsch MS. Cytomegalovirus and human herpesvirus Types 6, 7, and 8. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1092-1095.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF10

DXCat Label: Herpes Simplex Infections

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Oral herpes simplex or cutaneous infections or primary herpes simplex or recurrent herpes simplex | Grouped papulovesiculopustular lesions on erythematous base of mucocutaneous areas<br>AND Tzanck smear test (dermatology report)<br>OR herpes simplex [Virus isolation tissue culture or immunofluorescent test or complement fixation test or PCR detection of HSV DNA] | DX 05440-05441, 0546, 05473, 05479-0549;                                |
| 1.02  | Genital herpes simplex infections   | Herpes simplex genitalis [Virus isolation tissue culture or immunofluorescent test or complement fixation test or PCR detection of HSV DNA]  | DX 05410-05419;   |
| 1.03  | Herpetic keratitis  | Herpetic keratitis<br>OR green dendritic ulcers [fluorescein staining of eye]  | DX 05442-05443;   |
| 1.04  | with erythema multiforme  | Stage 1.01-1.03<br>AND symmetrical erythematous pruritic dermatitis<br>AND macules<br>OR papules<br>OR bullae<br>OR purpura<br>OR target-like or annular lesions   | STAGE 1.01-1.03 + DX 6951;  |
| 2.01  | Exzema herpeticum   | Stage 1.01-1.04<br>AND multiple centrally umblicated erythematous papules vesicles and pustules with crusting<br>AND atopic dermatitis<br>OR seborrheic dermatitis<br>OR Darier's disease  | DX 0540;  |
| 2.02  | with Bell's Palsy or paresthesia or hypesthesia   | Stage 1.01-2.01<br>AND Bell's Palsy<br>OR paresthesia<br>OR hypesthesia  | STAGE 1.01-2.01 + (DX 3510, 7820);                                      |
| 2.03  | with iridocyclitis or urethral strictures or labial fusion or prostatitis or cystitis             | Stage 1.01-2.02<br>AND urethral strictures<br>OR labial fusion<br>OR prostate tenderness<br>OR <b>pyuria:</b><br>OR dysuria<br>AND clear discharge<br>OR iridocyclitis [ophthalmology report]  | DX 05444;<br>STAGE 1.01-2.02 + (DX 5954, 59800, 5988-5989, 6014, 6232); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF10

MultiStage: No

DXCat Label: Herpes Simplex Infections

Specificity: A

Etiology: Infection, Viral

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 2.04  | Visceral herpetic infection or pneumonitis | Stage 1.01-2.03<br>AND herpetic gastrointestinal tract lesion [biopsy tissue culture results]<br>OR Herpes sp. pneumonia [biopsy tissue culture results]<br><br><u>Presumptive Diagnostic Findings:</u><br><b>hepatitis:</b><br>OR dysphagia | DX 05471;<br>STAGE 1.01-2.03 + (DX 4808-4809<br>OR DXCAT HEP04 OR DXCAT<br>HEP05 OR DXCAT HEP06 OR<br>DXCAT HEP07 OR DXCAT HEP08<br>OR DXCAT HEP09 OR GROUP<br>HEPATITIS); |
| 3.01  | with aseptic meningitis                    | Stage 1.01-2.04<br>AND <b>aseptic meningitis:</b>  | DX 05472;<br>STAGE 1.01-2.04 + DXCAT NEU13;  |
| 3.02  | Herpes simplex meningoencephalitis         | Stage 1.01-3.01<br>AND herpes meningoencephalitis [brain biopsy virus isolation report or operative/pathology report<br>or HSV DNA polymerase chain reaction (PCR) report or MRI report]   | DX 0543, 0545, 05474;  |
| 3.03  | with respiratory failure                   | Stage 2.02-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP<br>RESP_FAIL;  |
| 4.00  | with death                                 | Stage 3.01-3.03<br>AND death   | NO;  |

### References:

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Weston et al. Target lesions on the lips: childhood herpes simplex associated with erythema multiforme mimics Steven-Johnson syndrome. J Am Acad Dermatol. 1997;(37): 848-50.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF11

DXCat Label: Herpes zoster

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes               |
|-------|---|--|------------------------------|
| 1.01  | Herpes zoster   | History of previous varicella infection<br>AND Herpes zoster rash<br>OR unilateral pain with a maculopapular rash along a nerve distribution followed by a vesicular rash with a red base within 72 hours<br>AND isolation of virus from lesions [virus tissue culture report or antibody rise acute/convalescent serum $\geq$ 4.0 from serology report]<br>OR multinucleated giant cells from lesions [Tzanck smear]  | DX 05371-0539;               |
| 1.02  | with postherpetic neuralgia                                       | Stage 1.01<br>AND pain on the affected side persisting after lesions have healed<br>OR pain on the affected side persisting after 4 weeks  | DX 05310-05311, 05313-05319; |
| 1.03  | with involvement of the ophthalmic branch of the trigeminal nerve | History of previous varicella infection<br>AND Herpes zoster rash along ophthalmic branch of the trigeminal nerve  | DX 05312;                    |
| 1.04  | with keratitis  | Stage 1.01-1.03<br>AND epithelial pseudodendrites [fluorescein stain report]<br>OR Herpes zoster keratitis [growth of pathologic organism(s) corneal virus culture reports]<br>OR isolation of virus from corneal lesions [virus tissue culture report]  | DX 05321;                    |
| 2.01  | with keratouveitis  | Stage 1.01-1.04<br>AND corneal hypesthesia<br>AND stromal infiltrate [ophthalmoscopy report]<br>OR keratic precipitates [ophthalmoscopy report]<br>OR ciliary flush [ophthalmoscopy report]  | DX 05329;                    |
| 2.02  | with retinitis or optic neuritis or iridocyclitis                 | Stage 1.01-2.01<br>AND retinitis [ophthalmoscopy report]<br>OR optic neuritis [ophthalmoscopy report]<br>OR iridocyclitis [ophthalmoscopy report]  | DX 05322;                    |
| 2.03  | with facial nerve involvement                                     | History of previous varicella infection<br>AND Herpes zoster rash along 7 <sup>th</sup> nerve<br>OR unilateral pain with a maculopapular rash along 7 <sup>th</sup> nerve distribution followed by a vesicular rash with a red base within 72hours<br>AND isolation of virus from lesions [virus tissue culture report or antibody rise acute/convalescent serum $\geq$ 4.0 from serology report]<br>OR multinucleated giant cells from lesions [Tzanck smear] | STAGE 1.01-2.02 + DX 7821;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF11

DXCat Label: Herpes zoster

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes |
|-------|---|--|----------------|
| 2.04  | with cutaneous dissemination  | History of previous varicella infection<br>AND diffuse Herpes zoster rash<br>OR diffuse vesicular rash with a red base<br>AND isolation of virus from lesions [virus tissue culture report or antibody rise acute/convalescent serum $\geq$ 4.0 from serology report]<br>OR multinucleated giant cells from lesions [Tzanck smear] | DX 05320;      |
| 3.01  | Involving the gastrointestinal or genitourinary or respiratory tracts | Stage 1.01-2.04<br>AND H. zoster lesions in the gastrointestinal tract [tissue culture report or Tzanck smear report]<br>OR H. zoster lesions in the genitourinary tract [tissue culture report or Tzanck smear report]<br>OR H. zoster lesions in the respiratory tracts [tissue culture report or Tzanck smear report]           | NO;            |
| 3.02  | with aseptic meningitis and disorientation                            | Stage 1.01-3.01<br>AND <b>disorientation:</b><br>AND <b>aseptic meningitis:</b>  | DX 0530;       |
| 4.00  | with death  | Stage 3.01-3.02<br>AND death   | NO;            |

### References:

- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:111-180.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF12

MultiStage: No

DXCat Label: Histoplasmosis

Specificity: A

Etiology: Infection

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                   |
|-------|---|--|--|
| 1.01  | Acute histoplasmosis  | New infiltrate [chest x-ray report]<br>AND Histoplasma infected sputum (gram stain documents presence of many WBC and Histoplasma spp. by special stain or sputum culture reports growth of Histoplasma spp.)]<br>OR histoplasmin titer $\geq$ 1:32 [RIA or ELISA serology report]<br>OR histoplasmosis [compliment fixation serology report shows > 4 fold increase in baseline titer]<br>OR histoplasmin urine antigen [serology report] | DX 11500, 11509-11510, 11519-11590, 11599;       |
| 1.02  | Histoplasma choroiditis   | History of residence in endemic area<br>OR history of systemic histoplasmosis<br>AND yellow-white spot in macular region [ophthalmoscopy report]   | DX 11502, 11512, 11592;                          |
| 1.03  | Histoplasma choroiditis with reduced vision                         | Stage 1.01-1.02<br>AND vision $\leq$ 20/70<br>OR choroidal atrophic scars in macular region [ophthalmoscopy report]<br>OR choroidal atrophic scars in peripapillary region [ophthalmoscopy report]<br>OR choroidal atrophic scars in mid-peripheral region [ophthalmoscopy report]   | STAGE 1.02 + GROUP BLINDNESS;                    |
| 1.04  | Histoplasma choroiditis with active subretinal neovascularization   | Stage 1.03<br>AND subretinal fluid [ophthalmoscopy report]<br>OR retinal hemorrhage [ophthalmoscopy report]<br>OR retinal exudates adjacent to choroidal scar [ophthalmoscopy report]  | STAGE 1.02-1.03 + (DX 36216, 36281-36282);       |
| 1.05  | Histoplasma choroiditis with inactive subretinal neovascularization | Stage 1.04<br>AND atrophic chorioretinal scar [ophthalmoscopy report]<br>OR fibrotic subretinal scar [ophthalmoscopy report]   | STAGE 1.02-1.04 + (DX 36330, 36332-36335);       |
| 2.01  | Mucocutaneous histoplasmosis  | Stage 1.01-1.05<br>AND skin ulcerations<br>OR oropharyngeal lesions<br>OR laryngeal lesions  | STAGE 1.01-1.05 + (DX 47829, 47879, 70710-7079); |
| 2.02  | with cavitary pneumonia   | Stage 1.01-2.01<br>AND cavitation or granuloma [chest x-ray report]  | DX 11505, 11515, 11595;                          |
| 2.03  | with hepatosplenomegaly   | Stage 1.01-2.02<br>AND hepatomegaly [physical examination or liver-spleen scan report or CT scan report or sonogram report]<br>OR splenomegaly [physical examination or liver-spleen scan report or CT scan report or sonogram report]   | STAGE 1.01-2.02 + (DX 5718, 7891-7892);          |
| 2.04  | with adrenal insufficiency  | Stage 1.01-2.03<br>AND <b>adrenal insufficiency:</b>   | STAGE 1.01-2.03 + DXCAT END01;                   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF12

DXCat Label: Histoplasmosis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes   |
|-------|--------------------------|--|--|
| 3.01  | with endocarditis        | Stage 1.01-2.04<br>AND <b>endocarditis:</b>        | STAGE 1.01-2.04 + GROUP ENDOCARDITIS;<br>DX 11503-11504, 11513-11514, 11593-11594; |
| 3.02  | with meningitis          | Stage 1.0-3.01<br>AND <b>meningitis:</b>           | DX 11501, 11511, 11591;  |
| 3.03  | with sepsis              | Stage 1.01-3.02<br>AND <b>sepsis:</b>              | STAGE 1.01-3.02 + GROUP SEPSIS;  |
| 3.04  | with respiratory failure | Stage 1.01-3.03<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.03 + GROUP RESP_FAIL;   |
| 3.05  | with shock               | Stage 1.01-3.04<br>AND <b>shock:</b>               | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                 |
| 4.00  | with death               | Stage 2.01-3.05<br>AND death                       | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF13

DXCat Label: Infectious Mononucleosis

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                            | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | Past infection with Epstein-Barr virus | Negative IgM antibodies to Epstein-Barr VCA [serology report]<br>AND negative antibodies to Epstein-Barr early antigen diffuse staining (EA-D) [serology report]<br>AND antibody to Epstein-Barr virus nuclear antigen (EBNA) at a dilution of 1:10-1:40 [serology report]<br>OR IgG antibodies to Epstein-Barr viral capsid antigen (VCA) at a dilution of 1:40-1:160 [serology report]   | NO;   |
| 1.01  | Acute infectious mononucleosis         | Pharyngitis<br>AND <b>fever:</b><br>AND lymphadenopathy<br>AND <b>leukocytosis:</b><br>AND an atypical lymphocytosis $\geq 10\%$<br>AND a positive heterophile antibody test in patients $\geq 4$ years old [serology report]<br>OR IgG antibodies to Epstein-Barr viral capsid antigen (VCA) at a dilution of 1:160-1:640 [serology report]<br>OR IgM antibodies to Epstein-Barr VCA at a dilution of 1:32-1:256 [serology report]<br>AND negative antibodies to Epstein-Barr early diffuse staining (EA-D) [serology report]<br>AND negative antibody to Epstein-Barr virus nuclear antigen (EBNA) [serology report] | DX 075;   |
| 1.02  | with hepatosplenomegaly                | Stage 1.01<br>AND hepatomegaly<br>OR splenomegaly  | STAGE 1.01 + (DX 5718, 7891-7892);  |
| 2.01  | with hepatitis                         | Stage 1.01-1.02<br>AND <b>hepatitis:</b>   | STAGE 1.01-1.02 + (DX 5731 OR DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR GROUP HEPATITIS); |
| 2.02  | with upper airway obstruction          | Stage 1.01-1.02<br>AND upper airway obstruction  | STAGE 1.01-2.01 + DX 5198;  |
| 2.03  | with hemolytic anemia                  | Stage 1.01-2.02<br>AND <b>hemolysis:</b><br>AND cold agglutinins against red blood cell antigen i [hematology report]  | STAGE 1.01-2.02 + GROUP ANEM_HEM_ACQ;   |
| 2.04  | with interstitial pneumonia            | Stage 1.01-2.03<br>AND interstitial pneumonia [chest x-ray report]   | STAGE 1.01-2.03 + DX 5168;  |
| 2.05  | with pericarditis                      | Stage 1.01-2.04<br>AND <b>pericarditis:</b>  | STAGE 1.01-2.04 + (DX 4200, 42090-42099);   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF13

MultiStage: No

DXCat Label: Infectious Mononucleosis

Specificity: A

Etiology: Infection, Viral

| Stage | Description              | Diagnostic findings   | ICD-9-CM Codes                       |
|-------|--------------------------|---|--------------------------------------|
| 2.06  | with splenic rupture     | Stage 1.01-2.05<br>AND splenic rupture [operative/pathology report]   | STAGE 1.01-2.05 + DX 28959;          |
| 3.01  | with myocarditis         | Stage 1.01-2.06<br>AND <b>myocarditis:</b>  | STAGE 1.01-2.06 + GROUP MYOCARDITIS; |
| 3.02  | with meningoencephalitis | Stage 1.01-3.01<br>AND no cerebral infarction [CT or MRI scan report]<br>AND Guillain-Barre syndrome<br>OR <b>aseptic meningitis:</b><br>OR "Alice in Wonderland" syndrome<br>OR metamorphopsia<br>OR seizures<br>OR acute hemiplegia<br>OR brachial plexus neuropathy<br>OR cerebellar ataxia<br>OR transverse myelitis with progressive paralysis of legs<br>OR <b>cranial nerve palsy:</b> | STAGE 1.01-3.01 + GROUP MENING__VIR; |
| 3.03  | with respiratory failure | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;   |
| 3.04  | with coma                | Stage 1.01-3.03<br>AND <b>coma:</b>   | STAGE 1.01-3.03 + GROUP COMA;        |
| 4.00  | with death               | Stage 1.01-3.04<br>AND death  | NO;                                  |

### References:

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- Straus SE, Cohen JL, Tosato G, Meier J. Epstein-barr virus infections: biology, pathogenesis and management. Annals of Internal Medicine. 1993;118:45-58.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF14

MultiStage: No

DXCat Label: Leprosy (Hansen's disease)

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                           |
|-------|---|---|--|
| 0.00  | Screening for Hansen's disease  |   | DX V742;                                 |
| 1.01  | Indeterminate leprosy   | Hypopigmented and/or erythematous macule with or without paresthesia or anesthesia [dermatology report]<br>AND non-specific findings of skin biopsy [pathology report]<br>AND bacteriological findings, AFB negative [laboratory report]<br>AND Mitsuda reaction negative   | DX 0302, 0308-0309;                      |
| 1.02  | Tuberculoid type  | Stage 1.01<br>AND a few asymmetrical anesthetic annular skin lesions [dermatology report]<br>AND tuberculoid granulomas [pathology report]<br>AND bacteriological findings, AFB stain negative [laboratory report]  | DX 0301;                                 |
| 1.03  | Borderline group (borderline tuberculoid, borderline borderline, borderline lepromatous)      | Stage 1.01-1.02<br>AND multiple symmetrical and/or asymmetrical anesthetic to infiltrated lesions [dermatology report]<br>AND predominance of tuberculoid granulomas or foamy macrophages infiltration [pathology report]<br>AND bacteriological findings, AFB stain weakly to moderately positive [laboratory report]  | DX 0303;                                 |
| 1.04  | Lepromatous type  | Stage 1.01-1.03<br>AND multiple symmetrical skin lesions<br>AND leonine facies (dermatology report)<br>AND diffuse foamy macrophages infiltration [pathology report]<br>AND bacteriological findings, AFB stain strongly positive [laboratory report]   | DX 0300;                                 |
| 2.01  | Type I reaction (Downgrading or upgrading)<br>OR Type II reaction (erythema nodosum leprosum) | Type I reaction:<br>Stage 1.03<br>AND acute neuritis and/or acutely inflamed skin lesions [dermatology report]<br>Type II reaction:<br>Stage 1.03 (borderline lepromatous)<br>AND Stage 1.04<br>AND multiple painful erythematous nodules on the face and extensor surfaces with ulceration and suppuration (dermatology report)<br>AND fever<br>AND arthralgias<br>AND lymphadenopathy<br>AND uveitis<br>AND neutrophil skin infiltration with vasculitis (pathology report) | STAGE 1.01-1.04 + (DX 6952, 69589-6959); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF14

MultiStage: No

DXCat Label: Leprosy (Hansen's disease)

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description                 | Diagnostic findings  | ICD-9-CM Codes                    |
|-------|-----------------------------|--|-----------------------------------|
| 2.02  | with loss of hands or feet  | Stage 1.02-2.01<br>AND mitten hand<br>OR claw hand<br>OR loss of lower extremity | STAGE 1.01-2.01 + DX V4960-V4977; |
| 3.01  | with pulmonary tuberculosis | Stage 1.03-2.02<br>AND pulmonary tuberculosis [culture and report or PCR report] | STAGE 1.01-2.02 + DXCAT RES27;    |
| 4.00  | with death                  | Stage 1.03-3.01<br>AND death   | NO;                               |

### References:

Abulafia J, Vignale RA. Leprosy: pathogenesis updated. *Int J Dermatol.* 1999;(38): 321-334.

Lockwood DNJ, Bryceson ADM. Leprosy. In: Champion RH, Burton JL, Burns DA, Breathnach SM. *Rook/Wilkinson, Ebling Textbook of Dermatology.* 6th ed. Oxford: Blackwell Science Ltd.; 1998:1215-1235.

Miller RA. Leprosy: Hansen's disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:1014-1019.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF15

DXCat Label: Listeriosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|----------------------------|---|--|
| 1.01  | Listeriosis                | Listeriosis [culture reports growth of Listeria spp.]   | DX 0270;   |
| 1.02  | Listeria conjunctivitis    | Listeria conjunctivitis [culture reports growth of Listeria spp.]   | STAGE 1.01 + (DX 37200-37204, 37230, 37239);       |
| 2.01  | Oculoglandular listeriosis | Listeria lymphadenitis [culture reports growth of Listeria spp.]<br>OR ophthalmitis [culture reports growth of Listeria spp.]   | STAGE 1.01-1.02 + DX 683;                          |
| 2.02  | Listeria urethritis        | Listeria urethritis [urethral discharge culture reports growth of Listeria spp.]  | STAGE 1.01-2.01 + DX 59780;                        |
| 2.03  | Listeria pneumonia         | New infiltrate [chest x-ray report]<br>AND infected sputum [gram strain documents presence of many WBC AND a single predominant organism or sputum culture reports growth of pathologic organism] | STAGE 1.01-2.02 + DXCAT RES15;                     |
| 2.04  | Listeria lung abscess      | Stage 2.03<br>AND lung abscess [chest x-ray report]   | STAGE 1.01-2.03 + DX 5130;                         |
| 3.01  | with endocarditis          | Stage 1.02-2.04<br>AND <b>endocarditis:</b>   | STAGE 1.01-2.04 + GROUP ENDOCARDITIS;              |
| 3.02  | with meningitis            | Stage 2.01-3.01<br>AND <b>meningitis:</b>   | STAGE 1.01-3.01 + DX 3207;                         |
| 3.03  | with sepsis                | Stage 1.02-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + GROUP SEPSIS;                    |
| 3.04  | with shock                 | Stage 1.02-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                 | Stage 2.01-3.04<br>AND death  | NO;  |

## References:

- Alriton W. Listeriosis. In: Behrman RE, Lkiegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:810-811.
- Beers MH, Berkow R, eds. Neonatal listeriosis. In: Merck Manual. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:2184-2185.
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- Southwick FS, Purich DL. Intracellular pathogenesis of listeriosis. N Engl J Med. 334(12):770-6, 1996 Mar 21

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF16

MultiStage: No

DXCat Label: Lyme disease (Erythema chronicum migrans)

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes                                   |
|-------|---------------------------------------|---|--|
| 0.00  | History of Erythema chronicum migrans | History of previous Erythema chronicum migrans<br>AND previous tick bite<br>AND identification of tick (laboratory report)                      | NO;  |
| 1.01  | Erythema chronicum migrans            | Bull's eye skin eruption [dermatology report or pathology report or laboratory report or ELISA indirect immunofluorescent or Western blot test] | DX 08881;  |
| 2.01  | with fever                            | Stage 0.00-1.01<br>AND <b>fever:</b>  | STAGE 1.01 + GROUP FEVER;                        |
| 2.02  | with lymphadenopathy                  | Stage 0.00-2.01<br>AND lymphadenopathy  | STAGE 1.01-2.01 + (DX 2891-2893, 683, 7856);     |
| 2.03  | with arthralgia                       | Stage 0.00-2.02<br>AND arthralgia   | STAGE 1.01-2.02 + DX 71950-71959;                |
| 2.04  | with hepatosplenomegaly               | Stage 0.00-2.03<br>AND hepatosplenomegaly [liver/spleen scan report or MRI report or CT scan report or sonography report]                       | STAGE 1.01-2.03 + (DX 5718, 7891-7892);          |
| 3.01  | with myocarditis                      | Stage 0.00-2.04<br>AND <b>myocarditis:</b>  | STAGE 1.01-2.04 + (DX 4220, 42290-42292, 42299); |
| 3.02  | with meningitis                       | Stage 0.00-3.01<br>AND <b>meningitis:</b>   | STAGE 1.01-3.01 + (DX 3207, 32089-3209);         |
| 3.03  | with coma                             | Stage 0.00-3.02<br>AND <b>coma:</b>   | STAGE 1.01-3.02 + GROUP COMA;                    |
| 4.00  | with death                            | Stage 0.00-3.03<br>AND death  | NO;  |

### References:

Hay RJ, Adriaans BM. Bacterial infections. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Winkinson/Ebing. Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd., 1998:1160-1162.

Schuttelaar MLA, Laeijendecker R, Heinhuis RJ, Joost TV. Erythema multiforme and persistent erythema as early cutaneous manifestations of Lyme disease. J Am Acad Dermatol. 1997; (37):873-875.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF17

MultiStage: No

DXCat Label: Lymphogranuloma Venereum

Specificity: A

Etiology: Infection

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                     |
|-------|--|---|------------------------------------|
| 1.01  | Lymphogranuloma venereum                           | Inguinal adenopathy<br>AND Chlamydia trachomatis infection [complement fixation test shows $\geq 4$ fold increase in antibody titers or culture reports growth of pathologic organism(s)] | DX 0991;                           |
| 2.01  | with ulcerations of inguinal lymph nodes           | Stage 1.01<br>AND ulceration of inguinal adenopathy<br>OR abscess formation of inguinal adenopathy  | STAGE 1.01 + DX 683;               |
| 2.02  | with ulcerative proctitis or sinus tract formation | Stage 2.01<br>AND purulent rectal discharge<br>OR sinus tract formation   | STAGE 1.01-2.01 + (DX 5562, 5651); |
| 2.03  | with elephantiasis                                 | Stage 1.01-2.02<br>AND lymphedema of entire lower limb  | STAGE 1.01-2.02 + DX 4571;         |
| 2.04  | with rectovaginal fistula                          | Stage 1.01-2.03<br>AND stool from vagina<br>OR rectovaginal fistula [barium enema report]   | STAGE 1.01-2.03 + DX 6191;         |
| 2.05  | with rectal strictures                             | Stage 1.01-2.04<br>AND rectal strictures  | STAGE 1.01-2.04 + DX 5692;         |

### References:

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Stamm WE, Holmes KK. Chlamydial infections. In: Wilson JD, Braunwald E, Isselbacher KJ, Petersdorf RG, Martin JB, Fauci AS, Root RK, eds. Harrison's Principles of Internal Medicine. 12th ed. New York, NY: McGraw-Hill; 1991:764-772.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF18

MultiStage: No

DXCat Label: Measles or Rubeola

Specificity: A

Etiology: Infection, Viral

| Stage | Description                              | Diagnostic findings   | ICD-9-CM Codes                       |
|-------|--|---|--------------------------------------|
| 0.00  | Screening exam for measles               |   | DX V732;                             |
| 1.01  | Rubeola                                  | Measles antigen [immunofluorescent smear]<br>OR measles [EIA serology reports $\geq$ 4 increase in IgM or IgG tier]<br>OR Coryza<br>OR <b>fever:</b><br>OR cough<br>OR conjunctivitis<br>AND multinucleated giant cells in nasal or pharyngeal and buccal secretions [gram stain report]<br>AND maculopapular rash<br>AND Koplik spots on buccal and labial mucosa<br>OR paramyxovirus infection in secretions from nasopharyngeal, conjunctiva, blood or urine [tissue culture report]   | DX 05579-0559;                       |
| 1.02  | with keratitis                           | Stage 1.01<br>AND keratitis   | DX 05571;                            |
| 1.03  | with otitis media                        | History of previous measles infection<br>AND otitis media   | DX 0552;                             |
| 1.04  | with tracheolaryngobronchitis (croup)    | Stage 1.01-1.03<br>AND croup  | STAGE 1.01-1.03 + DXCAT RES07;       |
| 2.01  | with pneumonitis                         | Stage 1.01-1.04<br>AND new infiltrate [chest x-ray report]  | DX 0551;                             |
| 3.01  | with acute encephalitis                  | Stage 1.01-2.01<br>AND <b>encephalitis:</b>   | DX 0550;                             |
| 3.02  | with congestive heart failure            | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.01 + GROUP CHF_NON_HTN; |
| 3.03  | with subacute sclerosing panencephalitis | Stage 1.01-1.03<br>AND behavioral and intellectual deterioration years after the original measles infection<br>AND convulsions<br>AND EIA serology reports $\geq$ 4 increase in measles specific-IgM or IgG titer in serum [serology report]<br>AND CSF with measles-specific IgG and IgM antibodies $\geq$ 1:8 and normal or slightly elevated protein with $\geq$ 20 percent of total protein composed of gamma globulin<br>AND bursts of high voltage sharp-slow waves every 3-8 seconds followed by periods of attenuated background [EEG report] | STAGE 1.01-3.02 + DX 0462;           |
| 3.04  | with respiratory failure                 | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.03 + GROUP RESP_FAIL;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF18

MultiStage: No

DXCat Label: Measles or Rubeola

Specificity: A

Etiology: Infection, Viral

| Stage | Description | Diagnostic findings                 | ICD-9-CM Codes                |
|-------|-------------|-------------------------------------|-------------------------------|
| 3.05  | with coma   | Stage 1.01-3.04<br>AND <b>coma:</b> | STAGE 1.01-3.04 + GROUP COMA; |
| 4.00  | with death  | Stage 2.01-3.05<br>AND death        | NO;                           |

### References:

Asher DM. Slow viral infections of the human nervous system. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:934-940.

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Cutts FT, Steinglass R. Should measles be eradicated? 1998;133):765-7.

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Shandera WX, Carlini ME. "Infectious Diseases: Viral & Rickettsial." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds Current Pediatric Diagnosis and Treatment. Stamford, CT: Appleton & Lange; 1998:1231-1267.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF19

DXCat Label: Mucormycosis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description          | Diagnostic findings   | ICD-9-CM Codes   |
|-------|----------------------|---|--|
| 1.01  | Mucormycosis         | Multiple abscess or necrotizing infection of the foot<br>OR<br>fistula formation of foot<br>AND<br>serosanguinous exudate from foot<br>AND<br>fungus infection [culture report of pathologic fungal organism growth]<br>AND<br>fungus granules [operative/pathology report]   | DX 1177;   |
| 2.01  | Orbital mucormycosis | Orbital mucormycosis [sinus biopsy report]<br>OR<br>change in vision<br>AND<br>facial pain<br>OR<br>ocular pain<br>AND<br>corneal hypesthesia<br>OR<br>proptosis<br>OR<br>lid edema<br>OR<br>internal ophthalmoplegia<br>OR<br>external ophthalmoplegia<br>AND<br>sinus opacification [orbital x-ray report]<br>AND<br>fungus infection [culture reports of growth of pathologic fungus]<br>AND<br>fungus granules [pathology report] | STAGE 1.01 + (DX 36752, 36810-36847, 3688-3689, 37181, 37482, 37630, 37855-37856, 37872, 37991, 7840); |
| 3.01  | with sepsis          | Stage 1.01-2.01<br>AND<br><b>sepsis:</b>  | STAGE 1.01-2.01 + GROUP SEPSIS;  |
| 3.02  | with shock           | Stage 2.01-3.01<br>AND<br><b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death           | Stage 2.01-3.02<br>AND<br>death   | NO;  |

## References:

- Bennett JE. Mucormycosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1156-1158.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF20

DXCat Label: Poliomyelitis

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|--|--|---|
| 0.00  | Contact with or exposure to poliomyelitis          | Added stage 5/8/06 cb  | DX V012, V730;                                      |
| 1.01  | Abortive poliomyelitis                             | Polio virus throat isolation [culture report]<br>OR polio antibody rise [acute phase antibodies/convalescent phase antibodies > 4] | DX 04520-04523, 04590-04593;                        |
| 1.02  | with septic meningitis                             | Stage 1.01<br>AND virus isolation from CSF [culture report]<br>OR <b>aseptic meningitis:</b>                                       | DX 04500-04503;<br>STAGE 1.01 + DXCAT NEU13;        |
| 2.01  | Spinal poliomyelitis with monoplegia or paraplegia | Stage 1.02<br>AND monoplegia<br>OR paraplegia  | DX 04510-04513;<br>STAGE 1.01-1.02 + DX 3442-34442; |
| 2.02  | Bulbar poliomyelitis with respiratory involvement  | Stage 1.02-2.01<br>AND <b>hypoxemia:</b>   | STAGE 1.01-2.01 + GROUP HYPOXEMIA;                  |
| 3.01  | Bulbar poliomyelitis with respiratory failure      | Stage 1.02-2.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.02 + GROUP RESP_FAIL;                  |
| 3.02  | Poliomyelitis with shock                           | Stage 1.02-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | Poliomyelitis with death                           | Stage 1.02-3.02<br>AND death   | NO;   |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF21

DXCat Label: Post-Polio Syndrome

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 2.01  | Post-Polio Syndrome                                       | Post polio syndrome<br>OR Past history of poliomyelitis with functional stability or recovery for $\geq$ ten years<br>AND decreased asymmetric muscle strength distribution<br>OR acute muscle atrophy<br>OR acute musculoskeletal pain<br>OR reduced exercise tolerance<br>OR poor sleep quality with sleep disruption and/or hypersomnolence<br>OR acute dysphagia<br>OR acute dysphonia<br>AND electrophysiologic features of acute denervation superimposed on chronic denervation-reinnervation | DX 138;   |
| 2.02  | with progressive nocturnal hypoventilation or sleep apnea | Stage 1.01<br>AND nocturnal hypoventilation or sleep apnea [polysomnography report]  | STAGE 2.01 + (DX 78051, 78053, 78057, 32720, 32726);                        |
| 2.03  | with pulmonary hypertension or cor pulmonale              | Stage 2.01-2.02<br>AND <b>pulmonary hypertension:</b>  | STAGE 2.01-2.02 + GROUP COR_PULMONAL;<br>STAGE 2.01-2.02 + (DX 4160, 4168); |
| 3.01  | with respiratory failure                                  | Stage 2.01-2.03<br>AND <b>respiratory failure:</b>   | STAGE 2.01-2.03 + GROUP RESP_FAIL;  |
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                          |

## References:

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Cohen JI. Enteroviruses and reoviruses/poliiovirus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1120-1121.

Hsu AA, Staats BA. Postpolio sequelae and sleep-related disordered breathing. Mayo Clinic Proceedings 1998;73:216-224.

Nolan P, Beeston P. Post polio syndrome. Australian Family Physician. 1997;26:1055-1059.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF22

DXCat Label: Reye's Syndrome

Etiology: Infection; Toxicologic

MultiStage: No

Specificity: A

| Stage | Description               | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---------------------------|---|--|
| 3.01  | Reye's syndrome           | History of recent convalescence from an upper respiratory tract infection, influenza or varicella in child aged $\leq$ 16 years old<br>OR history of salicylate use<br>AND <b>disorientation:</b><br>OR protracted vomiting<br>OR lethargy<br>AND fatty infiltration of the liver [operative or pathology report]<br>OR serum ammonia > 50 mcg/dL [chemistry report]<br>AND AST [SGOT] $\geq$ 105 u/l [chemistry report]<br>AND ALT [SGPT] $\geq$ 90 u/l [chemistry report] | DX 33181;  |
| 3.02  | with hypoglycemia         | Stage 3.01<br>AND <b>hypoglycemia:</b>  | STAGE 3.01 + DXCAT END08;                          |
| 3.03  | with hepatic failure      | Stage 3.01-3.02<br>AND <b>hyperammonemia:</b>   | STAGE 3.01-3.02 + (DX 570 OR GROUP HYPR_AMMON);    |
| 3.04  | with seizures             | Stage 3.01-3.03<br>AND seizures   | STAGE 3.01-3.03 + DX 78031-78039;                  |
| 3.05  | with respiratory failure  | Stage 3.01-3.04<br>AND <b>respiratory failure:</b>  | STAGE 3.01-3.04 + GROUP RESP_FAIL;                 |
| 3.06  | with decerebrate rigidity | Stage 3.01-3.05<br>AND decerebrate rigidity<br>OR cerebral edema and herniation [CT or MRI scan report]   | STAGE 3.01-3.05 + DX 3484 + DX 3485;               |
| 3.07  | with coma                 | Stage 3.01-3.06<br>AND <b>coma:</b>   | STAGE 3.01-3.06 + GROUP COMA;                      |
| 3.08  | with shock                | Stage 3.01-3.07<br>AND <b>shock:</b>  | STAGE 3.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                | Stage 3.01-3.08<br>AND death  | NO;  |

### References:

Balisteri WF. Reye's syndrome. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1144-1145.

Glasgow JFT and Moore R. Current concepts in Reye's syndrome. Brit. J. Hosp. Med. 1993;50:599-604.

Greene CL, Blitzler MG, Shapira E. Inborn errors of metabolism and Reye's syndrome: differential diagnosis. J. Pediatrics 1988;113:156-159.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF23

MultiStage: No

DXCat Label: Rheumatic Fever

Specificity: A

Etiology: Immune; Infection, Bacterial

| Stage | Description                                      | Diagnostic findings  | ICD-9-CM Codes                              |
|-------|--|--|---|
| 1.01  | Rheumatic fever with migratory polyarthritis     | History of B-hemolytic streptococcal infection<br>AND <b>arthritis:</b><br>AND ASO titer $\geq$ 250 u/l [chemistry report]<br>OR antihyaluronidase titer $\geq$ 1000 u/l [chemistry report]<br>OR anti-DNAse B titer elevated [chemistry report]<br>OR <b>fever:</b><br>OR migratory polyarthralgia<br>OR PR interval $\geq$ 0.21 seconds [EKG report]<br>OR ESR $\geq$ 15 mm/hr. [hematology report]                              | DX 390;                                     |
| 1.02  | with erythema marginatum or subcutaneous nodules | History of B-hemolytic streptococcal infection<br>AND erythema marginatum<br>OR subcutaneous nodules<br>AND ASO titer $\geq$ 250 u/l [chemistry report]<br>OR antihyaluronidase titer $\geq$ 1000 u/l [chemistry report]<br>OR anti-DNAse B titer elevated [chemistry report]<br>OR <b>fever:</b><br>OR migratory polyarthralgia<br>OR PR interval $\geq$ 0.21 seconds [EKG report]<br>OR ESR $\geq$ 15 mm/hr. [hematology report] | STAGE 1.01 + (DX 6950, 7822);               |
| 1.03  | with Sydenham's chorea                           | History of B-hemolytic streptococcal infection<br>AND Sydenham's chorea<br>AND ASO titer $\geq$ 250 u/l [chemistry report]<br>OR antihyaluronidase titer $\geq$ 1000 u/l [chemistry report]<br>OR anti-DNAse B titer elevated [chemistry report]<br>OR <b>fever:</b><br>OR migratory polyarthralgia<br>OR PR interval $\geq$ 0.21 seconds [EKG report]<br>OR ESR $\geq$ 15 mm/hr. [hematology report]                              | DX 3929;                                    |
| 2.01  | with carditis                                    | Stage 1.01-1.03<br>AND rheumatic myocarditis [myocardial biopsy reports Aschoff's lesion]<br>OR <b>myocarditis:</b><br>OR <b>pericarditis:</b>   | DX 3910, 3912-3920, 393, 3980-39890, 39899; |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF23

DXCat Label: Rheumatic Fever

Etiology: Immune; Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|-------------------------------|--|---|
| 2.02  | with valvular disease         | Stage 1.01-2.01<br>AND mitral stenosis [echocardiogram report]<br>OR mitral insufficiency [echocardiogram report]<br>OR aortic stenosis [echocardiogram report]<br>OR aortic insufficiency [echocardiogram report]<br>OR tricuspid stenosis [echocardiogram report]<br>OR tricuspid insufficiency [echocardiogram report]<br>OR pulmonic stenosis [echocardiogram report]<br>OR pulmonic insufficiency [echocardiogram report] | DX 3940-3963, 3968-3979;                              |
| 3.01  | with endocarditis             | Stage 1.01-2.02<br>AND <b>endocarditis:</b>  | DX 3911;  |
| 3.02  | with congestive heart failure | Stage 1.03-3.01<br>AND <b>congestive heart failure:</b>  | DX 39891;<br>STAGE 1.01-3.01 + GROUP<br>CHF_NON_HTN;  |
| 3.03  | with sepsis                   | Stage 1.01-3.02<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;                       |
| 3.04  | with respiratory failure      | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.03 + GROUP<br>RESP_FAIL;                 |
| 3.05  | with shock                    | Stage 2.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 2.01-3.05<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF23

MultiStage: No

DXCat Label: Rheumatic Fever

Specificity: A

Etiology: Immune; Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

|  |
|--|
| Bernstein D. Rheumatic heart disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1347-1349.  |
| Dajani AS et al. Guidelines for the diagnosis of rheumatic fever: Jones criteria updated 1992. Circ. 1993; 87:302-307.   |
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| Kaplan EL. Recent epidemiology of group A streptococcal infections in North America and abroad: an overview. [Review] [25 refs] [Journal Article. Review. Review, Tutorial] Pediatrics. 97(6 Pt 2):945-8, 1996                     |
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| Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Acquired heart disease. In: Hay WW, Groosthuss JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:516-524.  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF24

DXCat Label: Rickettsioses

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Uncomplicated rickettsial infection                | Rocky Mountain spotted fever (serology report)<br>OR Q fever (serology report)<br>OR endemic typhus (serology report)<br>OR epidemic typhus (serology report)<br>OR Brill-Zinsser disease or prior epidemic typhus infection and recurrence<br>OR Rickettsial pox (by serology report)<br>OR typhus fevers* (serology report)<br>OR scrub typhus (serology report)<br><br>*includes: fever boutonneuse, Indian tick typhus, Kenya tick typhus, South Africal tick typhus<br><br>Presumptive diagnostic findings by:<br>history of tick, louse or mite bite<br>AND hemorrhagic maculopapular rash<br>AND regional lymphadenitis<br>AND malaise, headache and fever | DX 080-0839;  |
| 2.01  | Q fever with pneumonia or hepatitis                | Q fever [serology report]<br>AND <b>pneumonia:</b><br>OR <b>hepatitis:</b>  | DX 0830 + (DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES19); |
| 2.02  | Disseminated intravascular coagulation or gangrene | Stage 1.01<br>AND <b>DIC:</b><br>OR gangrene [operative/pathology report]   | STAGE 1.01-2.01 + (DX 7854 OR GROUP DIC);   |
| 3.01  | Rocky Mountain spotted fever with renal failure    | Rocky Mountain spotted fever[serology report]<br>AND <b>renal failure:</b>  | DX 0820 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | Q fever with disorientation                        | Stage 2.01<br>AND <b>disorientation:</b>  | DX 0830 + GROUP DISORIENT;  |
| 3.03  | Q fever with endocarditis                          | Stage 2.01<br>AND <b>endocarditis:</b>  | DX 0830 + GROUP ENDOCARDITIS;   |
| 3.04  | with shock   | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death   | Stage 2.01-3.04<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF24

MultiStage: No

DXCat Label: Rickettsioses

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Brouqui P, Harle JR, Delmont J, Frances C, Weiller PJ, Raoult D. African tick-bite fever. an imported spotless rickettsiosis. Archives of Internal Medicine. 1997;157(1):119-24.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF25

DXCat Label: Rubella: Acquired

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                        | Diagnostic findings  | ICD-9-CM Codes   |
|-------|------------------------------------|--|--|
| 0.00  | Contat with or exposure to rubella | Added stage 5/8/06 cb  | DX V014, V733;   |
| 1.01  | Rubella                            | Rubella titer shows $\geq$ 4 fold rise in titer [IgG serology report]<br>AND coryza<br>OR lymphadenopathy<br>OR pinpoint "scarlatiniform" rash | DX 05679-0569;   |
| 1.02  | with otitis media                  | Stage 1.01<br>AND otitis media   | STAGE 1.01 + (DX 38013 OR DXCAT ENT18);  |
| 2.01  | with arthralgia                    | Stage 1.01<br>AND arthralgia   | STAGE 1.01-1.02 + DX 71950-71959;  |
| 2.02  | with arthritis                     | Stage 1.01-2.01<br>AND <b>arthritis:</b>   | DX 05671;  |
| 2.03  | with hepatitis                     | Stage 1.01-2.02<br>AND <b>hepatitis:</b>   | STAGE 1.01-2.02 + (DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR GROUP HEPATITIS); |
| 2.04  | with thrombocytopenic purpura      | Stage 1.01-2.03<br>AND purpuric rash of the skin<br>AND <b>thrombocytopenia:</b>   | STAGE 1.01-2.03 + (DX 2873-2875, 4466);  |
| 2.05  | with bronchopneumonia              | Stage 1.01-2.04<br>AND bronchopneumonia [chest x-ray report]   | STAGE 1.01-2.04 + (DX 4808-4809, 485-486);   |
| 3.01  | with myocarditis                   | Stage 1.01-2.04<br>AND <b>myocarditis:</b>   | STAGE 1.01-2.05 + (DX 4220, 42290-42292);  |
| 3.02  | with encephalitis                  | Stage 1.01-3.01<br>AND <b>encephalitis:</b>  | DX 05600-05609;  |
| 3.03  | with respiratory failure           | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;   |
| 3.04  | with coma                          | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;  |
| 4.00  | with death                         | Stage 2.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF25

MultiStage: No

DXCat Label: Rubella: Acquired

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Banatvala JE. Rubella--could do better. *Lancet*. 351(9106):849-50, 1998 Mar 21.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF26

DXCat Label: Schistosomiasis

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                              | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Schistosoma dermatitis or swimmer's itch | History of swimming in endemic area<br>AND pruritic papular dermatitis<br>AND schistosome dermatitis [biopsy report]                               | DX 1203-1209;   |
| 1.02  | Acute schistosomiasis                    | Antibodies to Schistosoma [serology report]<br>AND <b>Fever:</b><br>AND malaise<br>OR myalgia<br>OR diarrhea<br>OR weakness                        | DX 1201-1202;<br>STAGE 1.01 + GROUP FEVER +<br>(DX 0092-0093, 7291, 78079); |
| 2.01  | with cystitis or colitis                 | <b>Hematuria:</b><br>AND Schistosoma ova in stools [stool exam report]<br>OR Schistosoma ova in urine [urinalysis report]                          | DX 1200;<br>STAGE 1.01-1.02 + (DX 0090-0091,<br>5589, 5950, 59589-5959);    |
| 2.02  | with hydroureter or hydronephrosis       | Schistosoma ova in urine [urinalysis report]<br>AND hydroureter [intravenous pyelogram report]<br>OR hydronephrosis [intravenous pyelogram report] | STAGE 1.01-2.01 + (DX 591, 5935);   |
| 2.03  | with liver fibrosis                      | Stage 1.01-2.02<br>AND liver fibrosis [wedge biopsy report]  | STAGE 1.01-2.02 + (DX 5715, 5718-<br>5719);                                 |
| 2.04  | with cor pulmonale                       | Stage 1.01-2.03<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-2.03 + GROUP<br>COR_PULMONAL;                                    |
| 3.01  | with renal failure                       | Stage 1.01-2.04<br>AND <b>renal failure:</b>   | STAGE 1.01-2.04 + (GROUP<br>REN_FAIL_ACU OR GROUP<br>REN_FAIL_CHR);         |
| 3.02  | with central nervous system lesions      | Stage 1.01-3.01<br>AND mass lesions in brain or spinal cord [CT scan report or MRI report]   | STAGE 1.01-3.01 + (DX 3369,<br>3488);                                       |
| 3.03  | with coma                                | Stage 1.01-3.02<br>AND <b>coma:</b>  | STAGE 1.01-3.02 + GROUP COMA;   |
| 3.04  | with shock                               | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;                       |
| 4.00  | with death                               | Stage 2.01-3.04<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF26

MultiStage: No

DXCat Label: Schistosomiasis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Barrou B, Bitker MO, Boyer C, Sylla C, Chatelain C. Results of renal transplantation in patients with Schistosoma infection. *Journal of Urology*. 1997;157(4):1232-5.

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Goldsmith RS. Infectious diseases: protozoal & helminthic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1324-1388.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF27

MultiStage: No

DXCat Label: Syphilis: Acquired

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                      |
|-------|--|---|-------------------------------------|
| 1.01  | Primary syphilis   | Chancre at point of initial contact<br>AND spirochetes in wound or lymph nodes [immunofluorescence or hemagglutination antibody or dark field or microscopy report]<br>OR FTA test $\geq$ 1:4 dilutions [serology report]                           | DX 0910-0912, 0920, 0929, 096-0979; |
| 2.01  | Secondary syphilis   | Maculopapular skin rash<br>OR mucocutaneous lesions<br>OR generalized lymphadenopathy<br>AND FTA test $\geq$ 1:4 dilutions [serology report]  | DX 0913-0914, 0917, 09182-0919;     |
| 2.02  | Secondary syphilis with uveitis  | Stage 2.01<br>AND uveitis   | DX 09150-09152;                     |
| 2.03  | Asymptomatic neurosyphilis   | Stage 1.01-2.02<br>AND FTA of spinal fluid $\geq$ 1:4 dilutions [serology report]   | DX 0943, 09489-0949;                |
| 2.04  | Syphilis with visceral crisis  | Stage 1.01-2.03<br>AND paroxysms of pain in abdomen<br>OR paroxysms of pain in rectum<br>OR paroxysms of pain in bladder  | DX 09169;                           |
| 2.05  | Tertiary syphilis or syphilis involving the liver or spleen or kidney or joints or bones | Stage 1.01-2.04<br>AND mass lesion in liver demonstrates syphilis [biopsy report]<br>OR mass lesion in spleen demonstrates syphilis [biopsy report]<br>OR syphilis glomerulitis [biopsy report]<br>OR <b>arthritis:</b><br>OR <b>osteomyelitis:</b> | DX 09161-09162, 0950-0959;          |
| 3.01  | Cardiovascular syphilis  | Stage 1.01-2.05<br>AND aortitis [operative/pathology report]<br>OR thoracic aneurysm [operative/pathology report]<br>OR <b>myocarditis:</b><br>OR aortic insufficiency [echocardiogram report]  | DX 0930-0939;                       |
| 3.02  | Syphilitic meningitis  | Meningitis<br>AND FTA of spinal fluid $\geq$ 1:4 dilutions [serology report]  | DX 09181, 0942;                     |
| 3.03  | Meningovascular syphilis   | Stage 1.01-3.02<br>AND tabes dorsalis<br>OR locomotor ataxia<br>OR dementia paralytica<br>OR generalized paresis<br>OR <b>disorientation:</b>   | DX 0940-0941, 09481-09487;          |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF27

DXCat Label: Syphilis: Acquired

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                            | Diagnostic findings                                     | ICD-9-CM Codes                                     |
|-------|--|---|--|
| 3.04  | Syphilis with congestive heart failure | Stage 1.01-3.03<br>AND <b>congestive heart failure:</b> | STAGE 1.01-3.03 + GROUP CHF__NON_HTN;              |
| 3.05  | Syphilis with shock                    | Stage 1.03-3.04<br>AND <b>shock:</b>                    | STAGE 2.03-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Syphilis with death                    | Stage 1.01-3.05<br>AND death                            | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF28

DXCat Label: Tetanus

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|-----------------------------------|---|--|
| 1.01  | Tetanus                           | History of wound contamination<br>OR umbilical cord contamination<br>AND spasticity of musculature at the area of the wound<br>OR stiffness of the jaw<br>OR stiffness of facial musculature<br>OR dysphagia<br>OR hyperactive deep tendon reflexes | DX 037, 7713;                                      |
| 1.02  | with rigidity                     | Stage 1.01<br>AND rigidity of jaw<br>OR rigidity of facial musculature<br>OR risus sardonicus   | NO;  |
| 2.01  | with reflex spasms                | Stage 1.01-1.02<br>AND spasms precipitated by deep tendon reflexes<br>OR minimal motor stimuli  | NO;  |
| 2.02  | with fracture of vertebrae        | Stage 1.01-2.01<br>AND fracture(s) of thoracic or lumbar vertebrae [spine x-ray reports]  | STAGE 1.01 + DX 8052-8055;                         |
| 2.03  | with deep vein thrombosis         | Stage 1.01-2.02<br>AND <b>DVT:</b>  | STAGE 1.01-2.02 + GROUP DVT;                       |
| 2.04  | with aspiration pneumonia         | Stage 1.01-2.03<br>AND aspiration pneumonia   | STAGE 1.01-2.03 + DX 5070;                         |
| 2.05  | obstructive apnea or laryngospasm | Stage 1.01-2.04<br>AND obstructive apnea<br>OR laryngospasm   | STAGE 1.01-2.04 + (DX 47875, 78603);               |
| 3.01  | with pulmonary emboli             | Stage 1.01-2.05<br>AND <b>pulmonary embolism:</b>   | STAGE 1.01-2.05 + GROUP PULMEMB;                   |
| 3.02  | with myocarditis                  | Stage 1.01-3.01<br>AND <b>myocarditis:</b>  | STAGE 1.01-3.01 + (DX 4220, 42290, 42291, 42299) ; |
| 3.03  | with sepsis                       | Stage 1.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + (DX 0383, 0388-0389);            |
| 3.04  | with respiratory failure          | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.03 + GROUP RESP_FAIL;                 |
| 4.00  | with death                        | Stage 1.01-3.04<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF28

MultiStage: No

DXCat Label: Tetanus

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |  |
|--|
| Abrutyn E. Tetanus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:901-904. |
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| Finegold, S. Aspiration pneumonia. Reviews of Infectious Diseases 1991; 13(Suppl 9):S737-42.   |
| Galazka A, Gasse F. The present status of tetanus and tetanus vaccination. Current Topics in Microbiology & Immunology 1995; 195:31-53.  |
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| Sanford JP. Tetanus - forgotten but not gone. N Engl J Med. 1995;332:812-813.  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF29

DXCat Label: Toxoplasmosis: Acquired

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                             | Diagnostic findings  | ICD-9-CM Codes                                  |
|-------|---|--|---|
| 1.01  | Asymptomatic                            | <b>Toxoplasmosis:</b> [IgG antibodies present against Toxoplasma gondii by Sabin-Feldman dye test $\geq$ 1:4 or indirect fluorescent antibody $\geq$ 1:10 or indirect hemagglutination test = 1:16 or complement fixation test $\geq$ 1:4 or ELISA titer $\geq$ 2 or positive tissue culture report or tachyzoites of Toxoplasma gondii in tissue or body fluids per operative/pathology report] | DX 1307, 1309;                                  |
| 1.02  | Acute toxoplasmosis with lymphadenitis  | Enlarged lymph nodes<br>AND antibodies present against Toxoplasma gondii in high titers [IgG Sabin-Feldman dye test $\geq$ 1:1000 or indirect fluorescent antibody $\geq$ 1:1000 or indirect hemagglutination test $\geq$ 1:1000 or complement fixation test $\geq$ 1:4 or ELISA titer $\geq$ 6]<br>OR isolation of Toxoplasma gondii from body fluids [tissue culture report]                   | STAGE 1.01 + (DX 2891-2893, 683, 7856);         |
| 2.01  | Acute Toxoplasma mononucleosis syndrome | Stage 1.02<br>AND hepatosplenomegaly<br>OR maculopapular rash<br>OR <b>jaundice:</b>   | DX 1305;<br>STAGE 1.02 + (DX 5781, 7891, 7892); |
| 2.02  | with chorioretinitis                    | Stage 1.01-2.01<br>AND chorioretinitis [ophthalmologist's report]  | DX 1301-1302;                                   |
| 2.03  | with chorioretinitis and blindness      | Stage 2.02<br>AND <b>blindness:</b><br>AND macular scar [ophthalmologist's report]<br>OR retinal detachment [ophthalmologist's report]<br>OR optic nerve atrophy [ophthalmologist's report]  | STAGE 2.02 + GROUP BLINDNESS;                   |
| 2.04  | Toxoplasma pneumonia                    | Stage 1.02-2.03<br>AND <b>pneumonia:</b>   | DX 1304;  |
| 3.01  | Toxoplasma myocarditis                  | Stage 1.02-2.04<br>AND <b>myocarditis:</b>   | DX 1303;  |
| 3.02  | with disseminated toxoplasmosis         | Stage 1.02-3.01<br>AND disseminated toxoplasmosis  | DX 1308;  |
| 3.03  | with meningoencephalitis                | Stage 1.01-3.02<br>AND Toxoplasma gondii in CSF or brain [tissue culture report or tachyzoites of Toxoplasma gondii in tissue operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>Toxoplasma meningoencephalitis [MRI or CT scan report]   | DX 1300;  |
| 3.04  | with coma                               | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;                   |
| 4.00  | with death                              | Stage 2.02-3.04<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF29

MultiStage: No

DXCat Label: Toxoplasmosis: Acquired

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- American Academy of Pediatrics. Toxoplasma gondii infections. In Peter G, ed. 1997 Red Book: Report on the Committee on Infectious Diseases. 24th ed. Elk Grove Village, IL: American Academy of Pediatrics; 1997:531-535.
- Goldsmith RS. Infectious diseases: protozoal and helminthic/toxoplasmosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1353-1356.
- Kasper LH. Toxoplasma infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1197-1202.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF30

DXCat Label: Varicella (Chickenpox)

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                      | Diagnostic findings   | ICD-9-CM Codes  |
|-------|----------------------------------|---|---|
| 1.01  | Varicella                        | Pruritic generalized vesicular rash with an erythematous base and centripetal distribution<br>OR Varicella [Tzanck test OR skin biopsy (pathology report OR isolation of virus from lesions [tissue culture report]<br>OR acute phase H. zoster antibodies/convalescent phase H. zoster antibodies >4.0 [serology report] | DX 0528-0529;   |
| 1.02  | with orchitis                    | Stage 1.01<br>AND scrotal tenderness  | DX 0527;  |
| 1.03  | with arthritis                   | Stage 1.01-1.02<br>AND limited range of motion of joints<br>AND arthralgia<br>AND swelling of joints  | STAGE 1.01-1.02 + GROUP ARTHR_SEPTIC;   |
| 1.04  | with neuralgia                   | Stage 1.03<br>AND neuralgia   | STAGE 1.01-1.03 + DX 05310-05319;   |
| 1.05  | with conjunctivitis or keratitis | Stage 1.1-1.4<br>AND varicella keratitis [ophthalmology report]<br>OR conjunctivitis  | STAGE 1.01-1.04 + DX 05320-05329;   |
| 2.01  | with pneumonia                   | Stage 1.1-1.5<br>AND new parenchymal infiltrate (chest x-ray report)  | DX 0521;  |
| 2.02  | with hepatitis                   | Stage 1.01-2.01<br>AND <b>hepatitis:</b>  | STAGE 1.01-2.01 + DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09; |
| 2.03  | with thrombocytopenia            | Stage 1.01-1.03<br>AND 2.01-2.02<br>AND <b>thrombocytopenia:</b>  | STAGE 1.01-2.02 + GROUP THRMBCYTPEN;  |
| 3.01  | with myocarditis                 | Stage 1.01-1.03<br>AND 2.01-2.03<br>AND <b>myocarditis:</b>   | STAGE 1.01-2.03 + (DX 4220, 42290, 42292, 42299) ;  |
| 3.02  | with renal failure               | Stage 1.01-3.01<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF30

DXCat Label: Varicella (Chickenpox)

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--------------------------|---|--|
| 3.03  | with Reye's syndrome     | Reye's syndrome<br>OR History of recent convalescence from an upper respiratory tract infection, influenza or varicella in child aged ≤ 16 years old<br>AND <b>disorientation:</b><br>OR vomiting<br>OR lethargy<br>AND fatty infiltration of the liver (operative or pathology report)<br>OR serum ammonia > 50 mcg/dL (chemistry report)<br>AND AST (SGOT) ≥ 105 u/l (Chemistry report)<br>AND ALT (SGPT) ≥ 90 u/l (chemistry report) | STAGE 1.01-3.02 + GROUP REYE_S;                    |
| 3.04  | with meningoencephalitis | Stage 1.01-1.03 and 2.01-3.03<br>AND <b>aseptic meningitis:</b><br>AND ataxia<br>OR nystagmus<br>OR paralysis   | DX 0520, 0522;<br>STAGE 1.01-3.03 + DX 0530;       |
| 3.05  | with coma                | Stage 1.01-3.04<br>AND <b>coma:</b>   | STAGE 1.01-3.04 + GROUP COMA;                      |
| 3.06  | with shock               | Stage 1.01-3.05<br>AND <b>shock:</b>  | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 1.01-3.06<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF30

MultiStage: No

DXCat Label: Varicella (Chickenpox)

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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Whitley RJ. Varicella-zoster virus infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1086-1089.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF31

DXCat Label: Chancroid

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description             | Diagnostic findings   | ICD-9-CM Codes                            |
|-------|-------------------------|---|---|
| 1.01  | Soft chancre            | Shallow ulcers with ragged edges<br>AND nonindurated ulcers<br>AND inguinal adenopathy<br>AND Hemophilus ducreyi infection [culture reports growth of Hemophilus ducreyi] | DX 0990;                                  |
| 2.01  | Chancroid with phimosis | Stage 1.01<br>AND phimosis  | STAGE 1.01 + DX 605;                      |
| 2.02  | with urethral stricture | Stage 1.01-2.01<br>AND urethral stricture [cystoscopy report]   | STAGE 1.01-2.01 + (DX 59800-59801, 5969); |
| 2.03  | with urethral fistula   | Stage 1.01-2.02<br>AND urethral fistula [barium enema report]<br>OR urine from rectum   | STAGE 1.01-2.02 + (DX 5991, 60889, 6190); |

### References:

Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1267-1304.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF80

MultiStage: No

DXCat Label: Anthrax

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes             |
|-------|---|---------------------|----------------------------|
| 0.00  | Contact with or suspected or known exposure to Anthrax            |                     | DX V0181, V7182;           |
| 1.01  | Cutaneous or unspecified anthrax, or culture positive for anthrax |                     | DX 0220, 0228-0229, 79531; |
| 2.01  | Gastrointestinal anthrax  |                     | DX 0222;                   |
| 3.01  | Pulmonary anthrax   |                     | DX 0221;                   |
| 3.02  | Anthrax septicemia  |                     | DX 0223;                   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF81

DXCat Label: Malaria

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 0.00  | Personal history of malaria or screening for malaria  |                     | DX V1203, V751;   |
| 1.01  | Malaria, uncomplicated  |                     | DX 0840-0847;   |
| 2.01  | Malaria complicated by anemia, thrombocytopenia, or other non-specific condition                                    |                     | STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_HEM_ACQ OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN OR GROUP THRMBCYTPEN);<br>DX 0849; |
| 2.02  | Blackwater fever or malaria with jaundice, hepatomegaly, splenomegaly, hepatitis, retinal hemorrhages, or nephrosis |                     | DX 0848;<br>STAGE 1.01-2.01 + (DX 36281, 7891-7892, 5732, 58181, 7824);   |
| 3.01  | with respiratory failure  |                     | STAGE 1.01-2.02 + GROUP RESP_FAIL;  |
| 3.02  | with encephalitis or shock  |                     | STAGE 1.01-3.01 + (DX 3232, 3230-32302, 3234-3239 OR GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 3.03  | with coma   |                     | STAGE 1.01-3.02 + GROUP COMA;   |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF82

MultiStage: No

DXCat Label: Other Bacterial Infections

Specificity: C

Etiology: Infection, Bacterial

| Stage | Description                             | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 0.00  | Contact with or exposure to E. coli     |                     | DX V0183, V746-V749;   |
| 1.01  | Other bacterial infections              |                     | DX 0230-0239, 0260-0269, 0271, 0278-0279, 0311, 0318-0319, 0390, 0392-0399, 04081, 04089, 04100-0417, 04182-04185, 04189-0419, 0992, 0998-0999, 10089-1009, 1020-1023, 1027-1030, 1039-1049, 7907; |
| 2.01  | with pulmonary manifestations           |                     | DX 0310;   |
| 2.02  | Bacteremia, yaws, or icterohemorrhagica |                     | DX 0312, 1000, 1024-1026, 1031-1033;   |
| 2.03  | Infection with endocarditis             |                     | STAGE 1.01-2.02 + GROUP ENDOCARDITIS;  |
| 3.01  | Leptospiral meningitis                  |                     | DX 10081;  |
| 3.02  | Septicemia                              |                     | DX 0380-0389;  |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF83

MultiStage: No

DXCat Label: Other Fungal Infections

Specificity: C

Etiology: Infection

| Stage | Description                                    | Diagnostic findings | ICD-9-CM Codes                      |
|-------|--|---------------------|-------------------------------------|
| 0.00  | Screening for mycotic diseases                 |                     | DX V754;                            |
| 1.01  | Superficial dermatophytosis and dermatomycosis |                     | DX 1100-1119;                       |
| 1.02  | Subcutaneous and systemic mycoses              |                     | DX 1160-1172, 1174, 1176, 1178-118; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF84

MultiStage: No

DXCat Label: Other Infectious and Parasitic Infections

Specificity: C

Etiology: Infection

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 0.00  | Contact with or exposure to other communicable diseases including unspecified venereal disease or positive culture, screening exams |                     | DX 7953, V016-V018, V0189-V019, V745, V750, V752-V753, V755-V759;   |
| 1.01  | Leishmaniasis, trypanosomiasis, relapsing fever, helminthiasis, or other skin involvement   |                     | DX 0850-0859, 0862-0869, 0870-0879, 0880, 08882-0889, 1210-1219, 1222-1224, 1226-1239, 1250-1259, 1270-129, 13100, 13109, 1318-1319, 1320-1329, 1338-1349, 1360-1362, 1364-1369, 79539; |
| 1.02  | Infection with drug resistant organisms   |                     | DX V090-V0991;  |
| 2.01  | with non-cardiac organ involvement  |                     | DX 0861, 1220-1221, 1225, 1398;   |
| 2.02  | with cardiac system involvement   |                     | DX 0860;  |
| 3.01  | with central nervous system involvement   |                     | DX 3213;  |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF85

MultiStage: No

DXCat Label: Other Viral Infections

Specificity: C

Etiology: Infection, Viral

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 0.00  | Contact with or exposure to smallpox or rabies or screening exams for viral infections                              |                     | DX V013, V015, V731, V734-V735, V7389, V7399;   |
| 1.01  | Viral warts other than condyloma acuminatum   |                     | DX 07810, 07819;  |
| 1.02  | Other viral exanthems, fevers, mumps or rabies  |                     | DX 0500-0519, 0570-0579, 0600-061, 0660-06640, 06642-0669, 071, 07279-0728, 0772-0778, 07799-0780, 0782-0784, 0786, 07881-07882, 07889-0790, 0793-07959, 0799, 07999, 7908; |
| 2.01  | Viral hemorrhagic conditions, respiratory involvement or mumps orchitis, pancreatitis, hepatitis, or polyneuropathy |                     | DX 0650-0659, 0720-0721, 0723-07272, 0730-0739, 0787;   |
| 3.01  | Mumps meningitis or encephallitis, or West Nile encephalitis  |                     | DX 06641, 0722;   |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS01

DXCat Label: Benign Prostatic Hypertrophy

Etiology: Degenerative

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---------------------------------|--|--|
| 1.01  | Benign prostatic hypertrophy    | Benign prostatic hypertrophy [operative/pathology report or ultrasound report or physical exam report]<br>AND PSA < 4 ng/dl [serum chemistry report]   | DX 600-60000, 6001-60010, 6002-60020, 6009-60090 ;                               |
| 1.02  | with urinary tract infection    | Stage 1.01<br>AND <b>UTI:</b>  | STAGE 1.01 + DXCAT GUS10;  |
| 2.01  | with bladder outlet obstruction | Stage 1.01-1.02<br>AND bladder hypertrophy [excretory urogram report/operative cystoscopy report]<br>OR elevated post void residual urine [excretory urogram, ultrasound or catheterized sample]<br>OR American Urological Association Symptom Index $\geq$ 20 | DX 60001, 60011, 60021, 60091;<br>STAGE 1.01-1.02 + (DX 5935, 5960, 5996-59969); |
| 2.02  | with hydronephrosis             | Stage 1.01-2.01<br>AND hydronephrosis [excretory urogram or ultrasound or CT scan report]  | STAGE 1.01-2.01 + DX 591;  |
| 3.01  | with renal failure              | Stage 1.01-2.02<br>AND <b>renal failure:</b>   | STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;  |
| 3.02  | with sepsis                     | Stage 1.02-3.01<br>AND <b>sepsis:</b>  | STAGE 1.02-3.01 + GROUP SEPSIS;  |
| 3.03  | with shock                      | Stage 1.02-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                               |
| 4.00  | with death                      | Stage 1.02-3.03<br>AND death   | NO;  |

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS02

MultiStage: No

DXCat Label: Cryptorchidism

Specificity: A

Etiology: Congenital

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                     |
|-------|--|--|------------------------------------|
| 1.01  | Undescended testis or cryptorchidism   | Undescended testis [imaging study confirms physical examination]             | DX 75251-75252;                    |
| 1.02  | with sterility   | Stage 1.01<br>AND sterility  | STAGE 1.01 + (DX 6060-6061, 6069); |
| 1.03  | with indirect inguinal hernia  | Stage 1.01-1.02<br>AND indirect inguinal hernia [operative/pathology report] | STAGE 1.01-1.02 + DX 55000-55093;  |
| 2.01  | with torsion of the testis   | Stage 1.01-1.03<br>AND torsion of the testis [operative/pathology report]    | STAGE 1.01-1.03 + DX 6082-60823;   |
| 2.02  | with development of testicular malignancy (see Staging of Testicular Cancer) | Stage 1.01-2.01<br>AND malignancy of testicle [operative/pathology report]   | STAGE 1.01-2.01 + DX 1860;         |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS03

DXCat Label: Gonorrhea: Male

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Carrier or suspected carrier of gonorrhea                           |   | DX V027 + MALE;   |
| 1.02  | Gonococcal urethritis or pharyngitis or proctitis or conjunctivitis | Gonococci in exudates [gram stain of exudates report]<br>OR gonococcal infection [culture reports growth of Neisseria gonorrhoeae report]<br>OR gonococcal conjunctivitis [gram stain of exudates report]<br>OR gonococcal pharyngitis [gram stain of exudates report]<br>OR gonococcal proctitis [gram stain of exudates report] | (DX 0980-09811, 09819-09831, 09839, 09841-09849, 0986-0987) + MALE;<br>AGE 1-124 + DX 09840 + MALE; |
| 1.03  | Gonococcal epididymitis   | Stage 1.02<br>AND inguinal pain<br>OR spermatic cord pain<br>OR edema of scrotum<br>AND erythema of scrotum<br>AND tenderness of scrotum  | (DX 09813-09814, 09833-09834) + MALE;   |
| 1.04  | with acute prostatitis  | Stage 1.02-1.03<br>AND <b>prostatitis:</b>  | (DX 09812, 09832) + MALE;   |
| 2.01  | with gonococcal skin infection                                      | Stage 1.02-1.04<br>AND gonococcal skin infection [skin wound culture reports growth of Neisseria gonorrhoeae]   | DX 09881 + MALE;  |
| 2.02  | with peritonitis  | Stage 1.02-2.01<br>AND peritonitis [operative/pathology report]   | DX 09886 + MALE;  |
| 2.03  | with arthritis  | Stage 1.02-2.02<br>AND <b>arthritis:</b>  | DX 09850-09859 + MALE;  |
| 3.01  | Gonococcal endocarditis or pericarditis                             | Stage 1.02-2.03<br>AND <b>endocarditis:</b>   | DX 09883-09885 + MALE;  |
| 3.02  | Infection with meningitis   | Stage 1.02-3.01<br>AND <b>meningitis:</b>   | DX 09882 + MALE;  |
| 3.03  | with congestive heart failure                                       | Stage 3.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 3.01-3.02 + GROUP CHF_NON_HTN;  |
| 3.04  | with sepsis   | Stage 1.02-3.03<br>AND <b>sepsis:</b>   | DX 09889 + MALE;<br>STAGE 1.02-3.03 + (DX 03840, 03849-0389);                                       |
| 3.05  | with shock  | Stage 2.02-3.04<br>AND <b>shock:</b>  | STAGE 2.02-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death  | Stage 2.02-3.05<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS03

MultiStage: No

DXCat Label: Gonorrhea: Male

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS04

DXCat Label: Neoplasm, Malignant: Breast, Male

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | History of carcinoma of the breast   |  | DX V103 + MALE;   |
| 1.01  | in situ  | Carcinoma of the breast in situ [operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage 0   | DX 2330 + MALE;   |
| 1.02  | Cystosarcoma phyllodes   | Cystosarcoma phyllodes [operative/pathology report]  | DX 1750-1759 + MALE;  |
| 1.03  | ≤ 2 cm in diameter   | Carcinoma of the breast ≤ 2.0 cm in diameter [operative/pathology report]<br>AND<br>no lymph node involved [operative/pathology report]<br>OR<br>American Joint Committee on Cancer Stage 1  | NO;   |
| 1.04  | > 2 cm and ≤ 5 cm in diameter or single ipsilateral node involved                        | Carcinoma of the breast > 2 and ≤ 5.0 cm in diameter [operative/pathology report]<br>OR<br>< 1 ipsilateral lymph node involved [operative/pathology report]<br>OR<br>American Joint Committee Stage 2a   | STAGE 0.00-1.02 + DX 1963;  |
| 2.01  | > 5 cm in diameter   | Carcinoma of the breast > 5.0 cm in diameter [operative/pathology report]<br>OR<br>American Joint Committee Stage 2b   | NO;   |
| 3.01  | Nodal involvement with fixation  | > 1 ipsilateral node with fixation [operative/pathology report]<br>OR<br>American Joint Committee Stage 3a   | NO;   |
| 3.02  | Tumor extension to skin or tumor extension to chest or internal mammary node involvement | Tumor extension to skin [operative/pathology report]<br>OR<br>tumor extension to chest [operative/pathology report]<br>OR<br>internal mammary node involvement [operative/pathology report]<br>OR<br>American Joint Committee Stage 3b   | STAGE 0.00-1.04 + (DX 3383, 1961, 1970-1973, 1982);                                   |
| 3.03  | with metastasis  | Carcinoma of the breast involving the lungs [operative/pathology report or chest x-ray or CT scan]<br>OR<br>carcinoma of the breast involving the liver [operative/pathology report or CT scan or liver/spleen scan]<br>OR<br>carcinoma of the breast involving the skeletal system [operative/pathology report or bone scan or x-ray]<br>OR<br>American Joint Committee Stage 4 | STAGE 0.00-3.02 + (DX 1960, 1962, 1965, 1968-1969, 1974-1981, 1984-1985, 1987-1991 ); |
| 4.00  | and death  | Stage 1.02-3.02<br>AND<br>death  | NO;   |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS05

DXCat Label: Neoplasm, Malignant: Penile

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description                              | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Cancer in situ of penis                  | Carcinoma in situ [operative/pathology report]<br>OR<br>Stage TIS   | DX 2335, 2336;  |
| 1.02  | Localized penile cancer                  | Noninvasive verrucous carcinoma [operative/pathology report]<br>OR<br>Stage Ta  | DX 1871-1872, 1874;   |
| 1.03  | Superficially invasive                   | Tumor invades subepithelial connective tissue [operative/pathology report]<br>OR<br>Stage T1                                | NO;   |
| 2.01  | with corporal body invasion              | Tumor invades corpus spongiosum or cavernosum [operative/pathology report]<br>OR<br>Stage T2                                | DX 1873;  |
| 2.02  | with invasion of adjacent structures     | Tumor invades urethra or prostate [operative/pathology report]<br>OR<br>Stage T3  | DX 1878-1879;<br>STAGE 1.02-2.01 + (DX 3383,<br>1981, 19882);               |
| 2.03  | with invasion of adjacent organs         | Tumor invades other adjacent structures [operative/pathology report]<br>OR<br>T4  | NO;   |
| 2.04  | with involvement of a single lymph node  | Metastasis in a single superficial inguinal lymph node [operative/pathology report]<br>OR<br>Stage N1                       | STAGE 1.02-2.02 + DX 1965;  |
| 3.01  | with involvement of multiple lymph nodes | Metastasis in multiple or bilateral superficial inguinal lymph nodes [operative/pathology report]<br>OR<br>Stage N2         | NO;   |
| 3.02  | with involvement of pelvic lymph nodes   | Metastasis in deep inguinal or pelvic lymph node(s), unilateral or bilateral [operative/pathology report]<br>OR<br>Stage N3 | STAGE 1.02-2.04 + DX 1966;  |
| 3.03  | with distant metastasis                  | Metastasis beyond pelvis such as lung, liver or other organs [operative/pathology report]<br>OR<br>M1                       | STAGE 1.02-3.02 + (DX 1960-1963,<br>1968-1980, 1982-19881, 19889-<br>1991); |
| 3.04  | with shock                               | Stage 2.01-3.03<br>AND <b>shock:</b>  | STAGE 2.01-3.03 + (GROUP<br>SHOCKN OR GROUP SHOCKC) ;                       |
| 4.00  | with death                               | Stage 2.01-3.04<br>AND death  | NO;   |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Prostate

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                      |
|-------|---|---|-------------------------------------|
| 0.00  | History of carcinoma of the prostate                        |   | DX V1046;                           |
| 1.01  | Less than 3 microscopic areas of carcinoma on prostate      | No palpable tumor<br>AND ≤ 3 high power fields of carcinoma [TURP operative/pathology report]<br>OR Stage T1a   | NO;                                 |
| 1.02  | Greater than 3 areas of microscopic carcinoma on prostate   | No palpable tumor<br>AND > 3 high power fields of carcinoma [TURP operative/pathology report]<br>OR Stage T1b   | DX 2334;                            |
| 1.03  | Prostate specific antigen diagnosis for prostate carcinoma  | No palpable tumor<br>AND Prostate specific antigen elevation > 4 ng/ml [chemistry report]<br>OR Stage T1c   | DX 79093;                           |
| 2.01  | Tumor 1.5 cm in greatest dimension or in more than 1 lobe   | Palpable tumor nodule, confined to prostate<br>Tumor ≤ 1.5 cm or with normal tissue on two sides [radical prostatectomy /pathology report]<br>OR Stage 2a | DX 185;                             |
| 2.02  | Tumor > 1.5 cm in greatest dimension or in more than 1 lobe | Palpable tumor nodule, confined to prostate<br>Tumor > 1.5 cm or in more than one prostate lobe [radical prostatectomy /pathology report]<br>OR Stage 2b  | NO;                                 |
| 3.01  | Tumor has local extension                                   | Palpable tumor extends beyond prostate<br>Tumor extends through capsule on one or both sides [radical prostatectomy/pathology report]<br>OR Stage T3a     | STAGE 0.00-2.01 + (DX 19882, 3383); |
| 3.02  | with seminal vesicle involvement                            | Tumor invades seminal vesicals [radical prostatectomy/pathology report]<br>OR Stage T3b   | NO;                                 |
| 3.03  | Tumor is fixed or invades adjacent structures               | Carcinoma of the prostate with adjacent organ involvement [radical prostatectomy/pathology report]<br>OR Stage T4   | STAGE 0.00-3.01 + DX 1981;          |
| 3.04  | with involvement of a single node ≤ 2 cm                    | Carcinoma of the prostate with involvement of a single node ≤ 2 cm [operative/pathology report]<br>OR Stage N1  | STAGE 0.00-3.03 + DX 1965-1966;     |
| 3.05  | with involvement of node > 2 cm and < 5 cm in diameter      | Carcinoma of the prostate with involvement of node > 2 cm and < 5 cm diameter [operative/pathology report or imaging study]<br>OR Stage N2                | NO;                                 |
| 3.06  | with nodes > 5 cm in diameter                               | Carcinoma of the prostate with involvement of node > 5 cm diameter [operative/pathology report or imaging study]<br>OR Stage N3                           | NO;                                 |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS06

DXCat Label: Neoplasm, Malignant: Prostate

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description             | Diagnostic findings   | ICD-9-CM Codes  |
|-------|-------------------------|---|---|
| 3.07  | with distant metastasis | Carcinoma of the prostate with spread beyond the confines of the abdominal cavity [operative/pathology report]<br>OR Stage M1 | STAGE 0.00-3.04 + (DX 1960-1963, 1968-1980, 1982-19881, 19889-1991);<br>STAGE 0.00-3.04 + DX 1985 + DX 73310-73319 ;<br>STAGE 0.00-3.04 + GROUP ANEM_NEOPL; |
| 3.08  | with shock              | Stage 2.01-3.06<br>AND <b>shock:</b>  | STAGE 0.00-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death              | Stage 2.01-3.07<br>AND death  | NO;   |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Testicular

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | History of cancer of the testis                                  |  | DX V1047-V1048;   |
| 1.01  | Cancer of the testis limited to the testis and epididymis        | Tumor limited to testis and epididymis without vascular/lymphatic invasion tumor may invade tunica albuginea, but not tunica vaginalis [operative/pathology report]<br>OR Stage T1<br>OR Stage Tis intratubular cancer [operative/pathology report]                                      | DX 1860, 1869, 1875;  |
| 1.02  | with extension beyond the tunica albuginea into tunica vaginalis | Tumor limited to testis and epididymis with vascular/lymphatic invasion, or tumor extending through tunica albuginea with involvement of tunica vaginalis [operative/pathology report]<br>OR Stage T2  | STAGE 0.00-1.01 + DX 19882;                                     |
| 1.03  | with involvement of the spermatic cord                           | Tumor invades spermatic cord with or without vascular/lymphatic invasion [operative/pathology report]<br>OR Stage T3   | DX 1876;  |
| 2.01  | with invasion of the scrotum                                     | Tumor invades scrotum with or without vascular/lymphatic invasion. [operative/pathology report]<br>OR Stage T4   | DX 1877;  |
| 2.02  | with involvement of a single lymph node ≤ 2 cm                   | Carcinoma of the testis with a lymph node mass 2 cm or less in greatest dimension or multiple lymph nodes, none more than 2 cm in greatest dimension [operative/pathology report]<br>OR Stage N1   | STAGE 0.00-2.01 + DX 1965-1966;                                 |
| 3.01  | with involvement of node > 2 cm and ≤ 5 cm in diameter           | Carcinoma of the testis with involvement 2 cm but not more than 5 cm in greatest dimension, or multiple lymph nodes, any one mass more than 2 cm but not more than 5 cm in greatest dimension. [operative/pathology report]<br>OR Stage N2   | NO;   |
| 3.02  | with nodes > 5 cm in diameter                                    | Carcinoma of the testis with node > 5 cm diameter [operative/pathology report]<br>OR Stage N3  | NO;   |
| 3.03  | with distant metastasis  | Carcinoma of the testis with non-regional lymph nodes or pulmonary metastasis [operative/pathology report]<br>OR Stage M1 or M1a or M1b<br>[Note: regional lymph nodes are considered the periaortic, preaortic, interaortocaval, paracaval, precaval, retrocaval and retroaortic nodes] | STAGE 0.00-2.02 + (DX 3383, 1960-1963, 1968-19881, 19889-1991); |
| 3.04  | with shock   | Stage 2.01-3.03<br>AND <b>shock:</b>   | STAGE 2.01-3.03 + (GROUP SHOCKN OR GROUP SHOCKC) ;              |
| 4.00  | with death   | Stage 2.01-3.04<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Testicular

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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Richie JP. Neoplasms of the testis. In: Walsh PC, Retik AB, Vaughn ED, Wein AJ, eds. *Campbell's Urology*. 7th ed. Philadelphia, PA. 1998:2411-2452.

Sternberg CN. The management of stage I testis cancer. *Urol Clin North Am*. 1998; 25(3): 435-49.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS08

DXCat Label: Prostatitis

Etiology: Idiopathic; Infection; Trauma

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---------------------------------|--|--|
| 1.01  | Chronic abacterial prostatitis  | History of irritative voiding<br>AND negative urine cultures [urine culture report]  | DX 13103, 6011, 6018-6019;                               |
| 1.02  | Chronic bacterial prostatitis   | <b>Prostatitis:</b><br>AND <b>UTI:</b>   | STAGE 1.01 + (DX 04100-0419 OR DXCAT GUS10);<br>DX 6013; |
| 1.03  | Acute bacterial prostatitis     | <b>Prostatitis:</b><br>AND <b>UTI:</b><br>AND <b>fever:</b>  | DX 6010;   |
| 2.01  | Prostatic abscess               | Stage 1.02-1.03<br>AND prostatic abscess [operative/pathology report]  | DX 6012;   |
| 2.02  | with bladder outlet obstruction | Stage 1.01-2.01<br>AND distended urinary bladder<br>AND inability to void<br>OR increasing frequency of urination<br>OR overflow incontinence                        | STAGE 1.01-2.01 + (DX 5960, 5996-59969, 78820-78843);    |
| 2.03  | with epididymo-orchitis         | Stage 1.01-2.02<br>AND pain, tenderness, erythema and swelling of testis   | STAGE 1.01-2.02 + DX 6040-60499;                         |
| 2.04  | with pyelonephritis             | Stage 1.02-2.03<br>AND <b>pyelonephritis:</b><br>AND flank pain<br>OR costovertebral tenderness  | STAGE 1.01-2.03 + (DX 59010-59011, 59080-5909);          |
| 2.05  | with hydronephrosis             | Stage 1.01-2.04<br>AND dilated ureters [intravenous urogram or ultrasound or CT scan report]<br>OR hydronephrosis [intravenous urogram or ultrasound CT scan report] | STAGE 1.01-2.04 + (DX 591, 5935);                        |
| 3.01  | with sepsis                     | Stage 1.01-2.05<br>AND <b>sepsis:</b>  | STAGE 1.01-2.05 + GROUP SEPSIS;                          |
| 3.02  | with shock                      | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKN OR GROUP SHOCKC) ;       |
| 4.00  | with death                      | Stage 2.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS08

MultiStage: No

DXCat Label: Prostatitis

Specificity: A

Etiology: Idiopathic; Infection; Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Aarnink RG, Beerlage HP, De La Rosette JJ, Debruyne FM, Wijkstra H. Transrectal ultrasound of the prostate: innovations and future applications. *Journal of Urology*. 1998;159(5):1568-79.

Collins MM, Stafford RS, O'Leary MP, Barry MJ. How common is prostatitis? A national survey of physician visits. *Journal of Urology*. 1998;159(4):1224-8.

Goforth GA. Prostatitis. In: *Dambro: Griffith's 5-minute clinical consult*. Philadelphia, PA: Lippincott Williams & Wilkins, Inc.: 1999.

Nickel JC. Effective office management of chronic prostatitis. *Urol Clin North Am*. 1998;25(4): 677-84.

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Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:878-916.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS80

MultiStage: No

DXCat Label: Neoplasm, Benign: Male Reproductive System

Specificity: A

Etiology: Neoplasm

| Stage | Description                            | Diagnostic findings | ICD-9-CM Codes                 |
|-------|--|---------------------|--------------------------------|
| 1.01  | Benign neoplasm of male genital system |                     | DX 2144, 2220-2229, 2364-2366; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS81

MultiStage: No

DXCat Label: Other Disorders of Male Genital System

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 1.01  | Prostatic calculus, cyst or dysplasia; hydrocele, phimosis, abnormal semen, condyloma acuminatum or fertility disorders |                     | (DX 6003, 6020-6039, 605-6089, 7922);<br>(DX 07811 + MALE); |
| 1.02  | Orchitis  |                     | DX 6040-60499;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS01

MultiStage: No

DXCat Label: Bursitis

Specificity: A

Etiology: Degenerative; Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Bursitis   | Shoulder bursitis [x-ray report or physical examination]<br>OR trochanteric bursitis [femoral x-ray report or physical examination]<br>OR prepatellar bursitis [x-ray report or physical examination]<br>OR olecranon bursitis [x-ray report or physical examination]<br>OR foot bursitis [x-ray report or physical examination]<br>OR ischial bursitis [x-ray report or physical examination] | DX 72610, 72612, 72619, 72630-72639, 7264, 7265, 72660-72690; |
| 1.02  | Acute calcareous tendonitis with bursitis                    | Stage 1.01<br>AND acute calcareous tendonitis [x-ray report or physical examination of affected bursa]   | DX 72611, 7262;   |
| 1.03  | Supraspinatus or tensor fascia lata tendonitis with bursitis | Stage 1.01-1.02<br>AND supraspinatus tendonitis [shoulder x-ray report or physical examination]<br>OR tendonitis of the tensor fascia lata [humerus x-ray report or physical examination]  | DX 7260;  |
| 1.04  | Bursitis with bacterial infection                            | Stage 1.01-1.03<br>AND infected bursa [fluid culture reports growth of pathologic organism(s)]   | STAGE 1.01-1.03 + DX 0410-0419;                               |

### References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:97-99.

Gilliland BC. Relapsing polychondritis and other arthritides. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1951-1965.

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Stell IM, Gransden WR. Simple tests for septic bursitis: comparative study. BMJ. 1998;316(7148):1877.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS02

DXCat Label: Dislocation: Elbow

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Sprains of elbow and forearm  | Sprain of elbow<br>OR<br>sprain of forearm  | DX 8410-8419;   |
| 1.02  | Dislocation of the elbow  | Dislocation of the elbow [x-ray report]   | DX 71822, 71832, 71872, 71882,<br>71892, 83200-83219;                 |
| 1.03  | Humeroradioulnar dislocation  | Humeroradioulnar dislocation [x-ray report]   | NO;   |
| 1.04  | Dislocation of the elbow with fracture of the coronoid process                  | Stage 1.02-1.03<br>AND fracture of the coronoid process [x-ray report]  | STAGE 1.02-1.03 + (DX 81302,<br>81312);                               |
| 1.05  | Dislocation of the elbow with fracture of the head of the radius or epicondyle  | Stage 1.02-1.03<br>Fracture of the head of the radius [x-ray report]<br>OR fracture of the median epicondyle [x-ray report]<br>OR fracture of the lateral epicondyle [x-ray report] | STAGE 1.02-1.04 + (DX 81242-<br>81244, 81252-81254, 81305,<br>81315); |
| 1.06  | Dislocation of the elbow with injury to the brachialis muscle or triceps muscle | Stage 1.02-1.05<br>AND injury to the brachialis muscle<br>OR injury to the triceps muscle   | STAGE 1.01 + STAGE 1.02-1.05;   |
| 2.01  | Dislocation of the elbow with injury to the median nerve or ulnar nerve         | Stage 1.02-1.06<br>AND ulnar nerve palsy<br>OR median nerve palsy   | STAGE 1.02-1.06 + (DX 33811,<br>33821, 3540, 3542, 9551-9552);        |
| 2.02  | Dislocation of the elbow with injury to the brachial artery                     | Stage 1.02-2.01<br>AND brachial artery injury [angiography report]  | STAGE 1.02-2.01 + DX 9031;  |

### References:

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Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Ring D, Jupiter JB. Fracture-dislocation of the elbow. Journal of Bone & Joint Surgery - American Volume. 1998;80(4):566-80.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS03

DXCat Label: Dislocation: Knee

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                         | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-------------------------------------|--|--|
| 1.01  | Partial dislocation of the knee     | Partial dislocation of the knee [x-ray report]   | DX 71826, 71876, 71886, 83650-83654, 83659, 83660-83669; |
| 1.02  | Complete dislocation of the knee    | Complete dislocation of the knee [x-ray report]  | NO;  |
| 2.01  | with ligamentous injuries           | Stage 1.01-1.02<br>AND ligament injuries of the knee [operative/pathology report]                                | STAGE 1.01 + (DX 33811, 33821, 8440-8442, 8448, 8449);   |
| 2.02  | with injury to the peroneal nerve   | Stage 1.01-2.01<br>AND numbness of the lower leg<br>OR peroneal nerve injury [EMG/nerve conduction study report] | STAGE 1.01-2.01 + DX 9563;                               |
| 2.03  | with injury to the popliteal artery | Stage 1.01-2.02<br>AND injury to the popliteal artery [arteriogram report]                                       | STAGE 1.01-2.02 + DX 90441;                              |
| 2.04  | with osteomyelitis                  | Stage 1.01-2.03<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.03 + GROUP OSTEOMYELIT;                     |
| 2.05  | with gangrene of the lower leg      | Stage 1.01-2.04<br>AND gangrene of the lower leg [operative/pathology report]                                    | STAGE 1.01-2.04 + DX 7854;                               |
| 3.01  | with sepsis                         | Stage 2.04-2.05<br>AND <b>sepsis:</b>  | STAGE 1.01-2.05 + GROUP SEPSIS;                          |
| 3.02  | with shock                          | Stage 2.04-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA;                          |
| 4.00  | with death                          | Stage 2.04-3.02<br>AND death   | NO;  |

### References:

Clasby L, Young MA. Management of sports-related anterior cruciate ligament injuries. AORN Journal. 1997;66(4):609-30.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS04

MultiStage: No

DXCat Label: Eosinophilia Myalgia Syndrome

Specificity: A

Etiology: Toxicologic

| Stage | Description                           | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---------------------------------------|--|--|
| 1.01  | Eosinophilia Myalgia Syndrome         | Eosinophilia Myalgia Syndrome<br>OR <b>eosinophilia:</b><br>AND eosinophilia persists ≥ 6mo.<br>AND eosinophilic infiltration of heart [operative/pathology report]<br>OR eosinophilic infiltration of liver [operative/pathology report]<br>OR eosinophilic infiltration of spleen [operative/pathology report]<br>OR eosinophilic infiltration of lungs [operative/pathology report] | DX 7105, 725;<br>DX 2883 + DX 5183;                |
| 2.01  | with peripheral neuropathy            | Stage 1.01<br>AND peripheral neuropathy [EMG report]   | STAGE 1.01 + (DX 33811, 33821, 3569, 3577);        |
| 2.02  | with deep vein thrombosis             | Stage 1.01-2.01<br>AND <b>DVT:</b>   | STAGE 1.01-2.01 + GROUP DVT;                       |
| 2.03  | with cardiac conduction abnormalities | Stage 1.01-2.02<br>AND <b>cardiac conduction abnormalities:</b>  | STAGE 1.01-2.02 + GROUP COND_BBBS;                 |
| 2.04  | with aspiration pneumonia             | Stage 1.01-2.03<br>AND aspiration pneumonia  | STAGE 1.01-2.03 + DX 5070;                         |
| 3.01  | with pulmonary embolism               | Stage 2.02-2.04<br>AND <b>pulmonary embolism:</b>  | STAGE 2.02-2.04 + GROUP PULMEMB;                   |
| 3.02  | with sepsis                           | Stage 2.04-3.01<br>AND <b>sepsis:</b>  | STAGE 2.04-3.01 + GROUP SEPSIS;                    |
| 3.03  | with respiratory failure              | Stage 2.02-3.02<br>AND <b>respiratory failure:</b>   | STAGE 2.02-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with shock                            | Stage 2.01-3.03<br>AND <b>shock:</b>   | STAGE 2.02-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                            | Stage 2.01-3.04<br>AND death   | NO;  |

## References:

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Hertzman PA, Clauw DJ, Kaufman LD, et al. The eosinophilia-myalgia syndrome: status of 205 patients and results of treatment 2 years after onset. Annals of Internal Medicine. 1995;122(11):851-5.

Sullivan EA, Kamb ML, Jones JL et al. The natural history of eosinophilia-myalgia syndrome in a tryptophan-exposed cohort in South Carolina. Archives of Internal Medicine. 1996;156(9):973-9.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS05

MultiStage: No

DXCat Label: Fracture: Acetabulum

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                |
|-------|--|--|---|
| 1.01  | Fracture of the acetabulum without displacement                  | Fracture of the acetabulum without displacement [x-ray report]   | DX 8080;                                      |
| 1.02  | with displacement of the acetabular bone                         | Fracture of the acetabulum with displacement of acetabular bone [x-ray report]   | NO;   |
| 1.03  | Fracture of the dome of the acetabulum                           | Fracture of the dome of the acetabulum [x-ray report]  | NO;   |
| 1.04  | Fracture of the acetabulum with central displacement of the dome | Fracture of the acetabulum with central displacement of the dome [x-ray report]  | NO;   |
| 2.01  | Open fracture of the acetabulum                                  | Stage 1.01-1.04<br>AND laceration of the overlying skin of the acetabulum exposing fractured bone                                  | DX 8081;                                      |
| 2.02  | with injury to the sciatic nerve                                 | Stage 1.01-2.01<br>AND weakness of the involved lower extremity<br>OR laceration of the sciatic nerve [operative/pathology report] | STAGE 1.01-2.01 + (DX 33811, 33821, 9560);    |
| 2.03  | with deep vein thrombosis  | Stage 1.01-2.02<br>AND <b>DVT:</b>   | STAGE 1.01-2.02 + (DXCAT CVS22 OR GROUP DVT); |
| 3.01  | with pulmonary embolism  | Stage 1.01-2.03<br>AND <b>pulmonary embolism:</b>  | STAGE 2.01-2.03 + GROUP PULMEMB;              |
| 3.02  | with respiratory failure   | Stage 3.01<br>AND <b>respiratory failure:</b>  | STAGE 3.01 + GROUP RESP_FAIL;                 |
| 3.03  | with shock   | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 3.01-3.02 + GROUP SHOCKA;               |
| 4.00  | with death   | Stage 2.01-3.03<br>AND death   | NO;   |

### References:

Jaffe WL, Scott DF. Total hip arthroplasty with hydroxyapatite-coated prostheses. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(12):1918-34.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS06

DXCat Label: Fracture: Calcaneus

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                                    | Diagnostic findings  | ICD-9-CM Codes                                       |
|-------|--|--|--|
| 1.01  | Fracture of the calcaneus without displacement | Fracture of the calcaneus without displacement [x-ray report]                      | DX 8250;   |
| 1.02  | Fracture of the calcaneus with displacement    | Fracture of the calcaneus with displacement [x-ray report]                         | NO;  |
| 2.01  | Compound fractures of the calcaneus            | Stage 1.01-1.02<br>AND laceration of the skin with exposure of the fractured bones | DX 8251;   |
| 2.02  | with osteomyelitis                             | Stage 2.01<br>AND <b>osteomyelitis:</b>  | STAGE 2.01 + (DX 33811, 33821 OR GROUP OSTEOMYELIT); |
| 3.01  | with sepsis                                    | Stage 2.01-2.02<br>AND <b>sepsis:</b>  | STAGE 2.01-2.02 + GROUP SEPSIS;                      |
| 3.02  | with shock                                     | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                                     | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:196-197.

Klaue K. Planovalgus and cavovarus deformity of the hind foot. A functional approach to management. Journal of Bone & Joint Surgery - British Volume. 1997;79(6):892-5.

Kundel K, Funk E, Brutscher M, Bickel R. Calcaneal fractures: operative versus nonoperative treatment. Journal of Trauma. 1996;41(5):839-45.

Miric A, Patterson BM. Pathoanatomy of intra-articular fractures of the calcaneus. Journal of Bone & Joint Surgery -American Volume. 1998;80(2):207-12.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS07

MultiStage: No

DXCat Label: Fracture: Femur, Except Head or Neck

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Fracture of the femoral shaft without displacement  | Fracture of the femoral shaft without displacement [x-ray report]<br>OR linear fracture of the femoral shaft [x-ray report]   | DX 73315, 82100, 82101;  |
| 1.02  | Simple fracture of the femoral shaft with two bony fragments  | Fracture of the femoral shaft with two bony fragments [x-ray report]  | NO;  |
| 2.01  | Segmental fracture of the femoral shaft   | Double fractures of the femoral shaft [x-ray report]  | NO;  |
| 2.02  | Comminuted fracture of the femoral shaft  | Comminuted fracture of the femoral shaft [x-ray report]   | NO;  |
| 2.03  | Intercondylar or supracondylar or condylar or epiphyseal fracture of the femoral shaft                    | Intercondylar fracture of the femoral shaft and head [x-ray report]<br>OR supracondylar fracture of the femoral shaft and head [x-ray report]<br>OR condylar fracture of the femoral shaft and head [x-ray report]<br>OR epiphyseal fracture of the femoral shaft and head [x-ray report]   | DX 82120-82123, 82129;   |
| 2.04  | Subtrochanteric fracture of the femoral shaft   | Subtrochanteric fracture of the femoral shaft [x-ray report]  | DX 82022;  |
| 2.05  | Open fracture of the femoral shaft  | Fracture of the femoral shaft<br>AND laceration of the skin with exposure of bony fragments   | DX 82110-82111, 82130-82133, 82139, 82032;                       |
| 2.06  | with damage to the femoral nerve or peroneal nerve or tibial nerve or reflex sympathetic dystrophy        | Stage 1.01-2.05<br>AND damage to the femoral nerve [EMG/nerve conduction study report]<br>OR damage to the peroneal nerve [EMG/nerve conduction study report]<br>OR damage to the tibial nerve [EMG/nerve conduction study report]<br>OR reflex sympathetic dystrophy   | STAGE 1.01-2.05 + (DX 33811, 33821, 9561-9563, 9565, 9568-9569); |
| 2.07  | with laceration of the femoral artery or popliteal artery or femoral vein or popliteal vein or hemorrhage | Stage 1.01-2.06<br>AND laceration of the femoral artery [arteriogram report or operative/pathology report]<br>OR laceration of the popliteal artery [arteriogram report or operative/pathology report]<br>OR laceration of the femoral vein [venogram report or operative/pathology report]<br>OR laceration of the popliteal vein [venogram report or operative/pathology report]<br>OR <b>bleeding:</b> | STAGE 1.01-2.06 + (DX 9040-9042, 90440-90442);                   |
| 3.01  | with pulmonary embolism   | Stage 1.01-2.07<br>AND <b>pulmonary embolism:</b>   | STAGE 2.01-2.07 + GROUP PULMEMB;                                 |
| 3.02  | with sepsis   | Stage 2.03-3.01<br>AND <b>sepsis:</b>   | STAGE 2.05-3.01 + GROUP SEPSIS;                                  |
| 3.03  | with respiratory failure  | Stage 3.01<br>AND <b>respiratory failure:</b>   | STAGE 3.01-3.02 + GROUP RESP_FAIL;                               |
| 3.04  | with shock  | Stage 2.05-3.03<br>AND <b>shock:</b>  | STAGE 3.01-3.03 + GROUP SHOCKA;                                  |
| 4.00  | with death  | Stage 2.06-3.04<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS07

MultiStage: No

DXCat Label: Fracture: Femur, Except Head or Neck

Specificity: A

Etiology: Trauma

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Tominaga GT, Connolly JE, Wilson SE. Bilateral popliteal artery injury from bumper crush injury. *Journal of Trauma*. 1996;40(2):311-3.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS08

MultiStage: No

DXCat Label: Fracture: Femur, Head or Neck

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Stable fracture of the head or neck of the femur                  | Stress fracture of the head or neck of the femur [x-ray report]<br>OR impact fracture of the head or neck of the femur [x-ray report]<br>OR linear fracture of the head or neck of the femur [x-ray report]<br>OR intertrochanteric fracture of the femur [x-ray report]<br>OR transcervical fracture of the femur [x-ray report] | DX 73314, 82000-82003, 82009, 82020-82021, 8208;                 |
| 2.01  | Unstable fractures of the head or neck of the femur               | Displaced fracture of the head or neck of the femur [x-ray report]<br>OR comminuted fracture of the head or neck of the femur [x-ray report]  | NO;  |
| 2.02  | Open fracture of the head or neck of the femur                    | Fracture of the head or neck of the femur<br>AND exposure of the fractured bone through a skin laceration   | DX 82010-82013, 82019, 82030-82031, 8209;                        |
| 2.03  | Fracture of the head or neck of the femur with avascular necrosis | Fracture of the head or neck of the femur<br>AND avascular necrosis of the head or neck of the femur [operative/pathology report or x-ray report]   | STAGE 1.01-2.02 + DX 73342;                                      |
| 2.04  | with deep vein thrombosis   | Stage 1.01-2.03<br>AND <b>DVT:</b>  | STAGE 1.01-2.03 + (DX 33811, 33821 OR DXCAT CVS22 OR GROUP DVT); |
| 3.01  | with pulmonary embolism   | Stage 2.01-2.04<br>AND <b>pulmonary embolism:</b>   | STAGE 2.01-2.04 + GROUP PULMEMB;                                 |
| 3.02  | with respiratory failure  | Stage 3.01<br>AND <b>respiratory failure:</b>   | STAGE 3.01 + GROUP RESP_FAIL;                                    |
| 3.03  | with shock  | Stage 2.02-3.02<br>AND <b>shock:</b>  | STAGE 3.01-3.02 + GROUP SHOCKA;                                  |
| 4.00  | with death  | Stage 2.02-3.03<br>AND death  | NO;  |

### References:

Hughes LO, Beaty JH. Fractures of the head and neck of the femur in children. Journal of Bone & Joint Surgery - American Volume. 1994;76(2):283-92.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS09

DXCat Label: Fracture: Fibula

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Linear fracture of the fibula without displacement                | Linear fracture of the fibula without displacement [x-ray report]   | DX 82301, 82321, 82341, 82381;                               |
| 1.02  | Linear fracture of the fibula with displacement                   | Linear fracture of the fibula with displacement [x-ray report]  | NO;  |
| 1.03  | Comminuted fractures of the fibula                                | Comminuted fracture of the head or shaft of the fibula [x-ray report]   | NO;  |
| 1.04  | Segmental fracture of the fibular shaft                           | Segmental or double fracture of the fibular shaft [x-ray report]  | NO;  |
| 2.01  | Compound fracture of the fibula                                   | Fracture of the fibula<br>AND laceration of the skin with exposure of the fractured bones   | DX 82311, 82331, 82391;                                      |
| 2.02  | with compartment syndrome or vascular or neurologic complications | Stage 1.01-2.01<br>AND compartment syndrome [physical examination or compartment pressure $\geq$ 30 mmHg]<br>OR loss of pedal pulses<br>OR paresthesia of the lower extremity<br>OR Volkmann's compartment ischemia | STAGE 1.01-2.01 + (DX 33811, 33821, 7820, 7859, 9586, 9588); |
| 2.03  | with crush injuries to soft tissue                                | Stage 1.01-2.02<br>AND crush injury to soft tissues   | STAGE 1.01-2.02 + (DX 92810, 92811, 92821, 9288, 9289);      |
| 2.04  | with osteomyelitis  | Stage 2.01-2.03<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.03 + GROUP OSTEOMYELIT;                         |
| 2.05  | with gangrene   | Stage 2.01-2.04<br>AND gangrene of the fibula [operative/pathology report]  | STAGE 2.01-2.04 + DX 7854;                                   |
| 3.01  | with sepsis   | Stage 2.01-2.05<br>AND <b>sepsis:</b>   | STAGE 2.01-2.05 + GROUP SEPSIS;                              |
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death  | NO;  |

### References:

Lawless MW, Laughlin RT, Wright DG, Lemmon GW, Rigano WC. Massive pelvis injuries treated with amputations: case reports and literature review. *Journal of Trauma*. 1997;42(6):1169-75.

Levin LS, Garrett WE Jr. Fractures and dislocations: fractures of the tibia, fibula, ankle, and foot. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1444-1451.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS10

MultiStage: No

DXCat Label: Fracture: Humerus (Shaft)

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Transverse or oblique fracture of the shaft of the humerus with no displacement | Transverse or oblique fracture of the shaft of the humerus with no displacement [x-ray report]   | DX 73311, 81220, 81221;                                 |
| 1.02  | Fracture of the shaft of the humerus with simple displacement                   | Fracture of the shaft of the humerus with simple displacement [x-ray report]   | NO;   |
| 1.03  | Fracture of the shaft of the humerus with comminution and displacement          | Fracture of the shaft of the humerus with comminution and displacement [x-ray report]  | NO;   |
| 1.04  | Segmental fracture of the shaft of the humerus with displacement                | Segmental fracture of the shaft of the humerus with displacement [x-ray report]  | NO;   |
| 1.05  | with interposed muscle tissue   | Fracture of the shaft of the humerus<br>AND interposed soft tissue in fracture [operative/pathology report]  | STAGE 1.01 + (DX 88003, 88023);                         |
| 2.01  | with soft tissue damage or open fracture  | Fracture of the shaft of the humerus<br>AND laceration of the skin with exposure of the fractured or dislocated bones<br>OR extensive soft tissue damage | DX 81230, 81231;<br>STAGE 1.01-1.05 + DX 88013;         |
| 2.02  | with injury to the radial nerve   | Stage 1.01-2.01<br>AND radial nerve palsy<br>OR wrist drop   | STAGE 1.01-2.01 + (DX 33811, 33821, 3543, 73605, 9553); |
| 2.03  | with reflex sympathetic dystrophy   | Stage 1.01-2.02<br>AND causalgia<br>OR hyperesthesia<br>OR shoulder-hand syndrome  | STAGE 1.01-2.02 + (DX 33721, 3379, 3544, 7820);         |
| 2.04  | with osteomyelitis  | Stage 2.01-2.03<br>AND <b>osteomyelitis:</b>   | STAGE 2.01-2.03 + GROUP OSTEOMYELIT;                    |
| 2.05  | with gangrene   | Stage 2.01-2.04<br>AND gangrene  | STAGE 2.01-2.04 + DX 7854;                              |
| 3.01  | with sepsis   | Stage 2.01-2.04<br>AND <b>sepsis:</b>  | STAGE 2.01-2.05 + GROUP SEPSIS;                         |
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + GROUP SHOCKA;                         |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS10

MultiStage: No

DXCat Label: Fracture: Humerus (Shaft)

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bernstein J, Adler LM, Blank JE, Dalsey RM, Williams GR, Iannotti JP. Evaluation of the Neer system of classification of proximal humeral fractures with computerized tomographic scans and plain radiographs. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(9):1371-5.

Dowling J. *Musculoskeletal disease: staged for rapid comprehension*. Year Book Medical Publishers Inc. 1985:203-204.

Kontakis GM, Galanakis IA, Steriopoulos KA. Dislocation of the shoulder and ipsilateral fracture of the humeral shaft: case reports and literature review. *Journal of Trauma*. 1995;39(5):990-2.

Ogawa K, Ui M. Humeral shaft fracture sustained during arm wrestling: report on 30 cases and review of the literature. *Journal of Trauma*. 1997;42(2):243-6.

Swamy G, Schemitsch EH. Humeral head fracture dislocation: case report and review of the literature. *Journal of Trauma*. 1998;44(2):377-80.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS11

MultiStage: No

DXCat Label: Fracture: Humerus (Supracondylar)

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Supracondylar fracture of the humerus without displacement            | Supracondylar fracture of the humerus without displacement [x-ray report]  | DX 81240-81244, 81249;                                     |
| 1.02  | Supracondylar fracture of the humerus with displacement               | Supracondylar fracture of the humerus with displacement [x-ray report]   | NO;  |
| 1.03  | Supracondylar fracture of the humerus with cubitus varus deformity    | Supracondylar fracture of the humerus with cubitus varus deformity or gunstock deformity [x-ray report]  | NO;  |
| 1.04  | Supracondylar fracture of the humerus with intercondylar displacement | Supracondylar fracture of the humerus with intercondylar displacement [x-ray report]<br>OR supracondylar T-fracture of the humerus [x-ray report]    | NO;  |
| 2.01  | Open supracondylar fracture of the humerus                            | Supracondylar fracture of the humerus<br>AND laceration of the skin with exposure of the fractured or dislocated bones                               | DX 81250-81259;  |
| 2.02  | with injury to the radial nerve or ulnar nerve or medial nerve        | Supracondylar fracture of the humerus<br>AND radial nerve palsy<br>OR ulnar nerve palsy<br>OR median nerve palsy                                     | STAGE 1.01-2.01 + (DX 33811, 33821, 3541-3543, 9551-9553); |
| 2.03  | with Volkmann's ischemic contracture                                  | Stage 1.01-2.02<br>AND Volkmann's ischemic contracture<br>OR severe pain in hand and fingers<br>AND tissue pallor<br>AND inability to extend fingers | STAGE 1.01-2.02 + DX 9586;                                 |
| 2.04  | with osteomyelitis  | Stage 2.01-2.03<br>AND <b>osteomyelitis:</b>   | STAGE 2.01-2.03 + GROUP OSTEOMYELIT;                       |
| 2.05  | with gangrene   | Stage 2.01-2.04<br>AND gangrene  | STAGE 2.01-2.04 + DX 7854;                                 |
| 3.01  | with sepsis   | Stage 2.01-2.04<br>AND <b>sepsis:</b>  | STAGE 2.01-2.05 + GROUP SEPSIS;                            |
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;         |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS11

MultiStage: No

DXCat Label: Fracture: Humerus (Supracondylar)

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bernstein J, Adler LM, Blank JE, Dalsey RM, Williams GR, Iannotti JP. Evaluation of the Neer system of classification of proximal humeral fractures with computerized tomographic scans and plain radiographs. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(9):1371-5.

Dowling J. *Musculoskeletal Disease: Staged for Rapid Comprehension*. Year Book Medical Publishers Inc. 1985:203-204.

Kontakis GM, Galanakis IA, Steriopoulos KA. Dislocation of the shoulder and ipsilateral fracture of the humeral shaft: case reports and literature review. *Journal of Trauma*. 1995;39(5):990-2.

Ogawa K, Ui M. Humeral shaft fracture sustained during arm wrestling: report on 30 cases and review of the literature. *Journal of Trauma*. 1997;42(2):243-6.

Swamy G, Schemitsch EH. Humeral head fracture dislocation: case report and review of the literature. *Journal of Trauma*. 1998;44(2):377-80.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS12

MultiStage: No

DXCat Label: Fracture: Radial Head and Neck

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                       |
|-------|---|--|--|
| 1.01  | Fracture of the head and neck of the radius, without displacement   | Fracture of the head and neck of the radius without displacement [x-ray report]  | DX 81305, 81306;                                     |
| 1.02  | Fracture of the head and neck of the radius, with displacement involving $\geq 1/3$ of the articular surfaces | Fracture of the head and neck of the radius with displacement involving $\geq 1/3$ of the articular surfaces [x-ray report]  | NO;  |
| 1.03  | Fracture of the head and neck of the radius, with comminution   | Comminuted fracture of the head and neck of the radius [x-ray report]  | NO;  |
| 2.01  | Open fracture of the head and neck of the radius  | Fracture of the head and neck of the radius<br>AND laceration of the skin with exposure of the fractured or dislocated bones | DX 81315, 81316;                                     |
| 2.02  | with osteomyelitis  | Stage 2.01<br>AND <b>osteomyelitis:</b>  | STAGE 2.01 + (DX 33811, 33821 OR GROUP OSTEOMYELIT); |
| 2.03  | with gangrene   | Stage 2.01-2.02<br>AND gangrene  | STAGE 2.01-2.02 + DX 7854;                           |
| 3.01  | with sepsis   | Stage 2.01-2.03<br>AND <b>sepsis:</b>  | STAGE 2.01-2.03 + GROUP SEPSIS;                      |
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:217-218.

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS13

DXCat Label: Fracture: Radial Shaft, Ulna or Olecranon

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Fracture of the radius and/or ulna or olecranon without displacement   | Fracture of the radius or ulna without displacement [x-ray report]  | DX 81300-81302, 81304, 81307-81308, 81320-81323, 81343;           |
| 1.02  | with displacement  | Fracture of the radius or ulna with displacement [x-ray report]   | NO;   |
| 1.03  | with dislocation of the radioulnar joint or Monteggia's fracture joint | Fracture of the radius or ulna with dislocation of the radioulnar joint [x-ray report]<br>OR Galeazzi's fracture [x-ray report]<br>OR Monteggia's fracture                                    | STAGE 1.01 + DX 81342;<br>DX 81303;                               |
| 1.04  | with extensive soft tissue damage                                      | Stage 1.01-1.03<br>AND extensive soft tissue damage   | STAGE 1.01-1.03 + (DX 8400-84209, 9032-9039, 92310-92311, 92321); |
| 2.01  | Open fracture of the radius and/or ulna                                | Fracture of the radius or ulna<br>AND laceration of the skin with exposure of the fractured or dislocated bones   | DX 81310-81314, 81317-81318, 81330-81333, 81353;                  |
| 2.02  | with injury to the radial nerve or median nerve or ulnar nerve         | Stage 1.01-2.01<br>AND radial nerve palsy<br>OR medial nerve palsy<br>OR ulna nerve palsy   | STAGE 1.01-2.01 + (DX 33811, 33821, 3541-3543, 9551-9554);        |
| 2.03  | with reflex sympathetic dystrophy                                      | Stage 1.01-2.02<br>AND reflex sympathetic dystrophy<br>OR shoulder-hand syndrome<br>OR Sudeck's atrophy<br>OR hyperesthesia<br>AND skin pallor<br>AND trophic changes distal to fracture site | STAGE 1.01-2.02 + (DX 33721, 3379, 7337, 7820);                   |
| 2.04  | with Volkmann's ischemic contracture                                   | Stage 1.01-2.03<br>AND Volkmann's ischemic contracture  | STAGE 1.01-2.03 + DX 9586;  |
| 2.05  | with osteomyelitis   | Stage 2.01-2.04<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.04 + GROUP OSTEOMYELIT;                              |
| 2.06  | with gangrene  | Stage 2.01-2.05<br>AND gangrene   | STAGE 2.01-2.05 + DX 7854;  |
| 3.01  | with sepsis  | Stage 2.01-2.06<br>AND <b>sepsis:</b>   | STAGE 2.01-2.06 + GROUP SEPSIS;                                   |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                |
| 4.00  | with death   | Stage 2.01-3.02<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS13

MultiStage: No

DXCat Label: Fracture: Radial Shaft, Ulna or Olecranon

Specificity: A

Etiology: Trauma

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Stoffelen D, Broos P. Minimally displaced distal radius fractures: do they need plaster treatment? Journal of Trauma. 1998;44(3):503-5.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS14

MultiStage: No

DXCat Label: Fracture: Radius, Lower End

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                   |
|-------|---|---|--|
| 1.01  | Fracture of the lower end of the radius with minimal displacement                   | Fracture of the lower end of the radius with minimal displacement [x-ray report]<br>OR 'reversed' Colles' fracture [x-ray report]<br>OR linear fracture not involving articular surfaces [x-ray report]<br>OR linear fracture without involving the radiocarpal joints [x-ray report]<br>OR Colles' fracture [x-ray report] | DX 73312, 81340-81342, 81344-81345;              |
| 1.02  | Comminuted fracture of the lower end of the radius                                  | Comminuted fracture of the lower end of the radius [x-ray report]   | NO;  |
| 1.03  | Comminuted fracture of the lower end of the radius, running into the joint surfaces | Comminuted fracture of the lower end of the radius running into the joint surfaces [x-ray report]   | NO;  |
| 1.04  | Fracture of the lower end of the radius, with anterior subluxation of the carpus    | Fracture of the lower end of the radius with anterior subluxation of the carpus [x-ray report]  | STAGE 1.01 + (DX 83300, 83302);                  |
| 2.01  | Open fracture of the lower end of the radius  | Fracture of the lower end of the radius<br>AND laceration of the skin with exposure of the fractured or dislocated bones  | DX 81350-81352, 81354;                           |
| 2.02  | Fracture of the lower end of the radius, with entrapment neuropathy                 | Stage 1.01-2.01<br>AND median nerve palsy<br>OR ulnar nerve palsy   | STAGE 1.01-2.01 + (DX 33811, 33821, 3540, 3542); |
| 2.03  | with reflex sympathetic dystrophy   | Stage 1.01-2.02<br>AND reflex sympathetic dystrophy<br>OR shoulder-hand syndrome<br>OR Sudeck's atrophy<br>OR hyperesthesia<br>AND skin pallor<br>AND trophic changes distal to fracture site   | STAGE 1.01-2.02 + (DX 33721, 3379, 7820);        |
| 2.04  | with tendon rupture   | Stage 1.01-2.03<br>AND rupture of the extensor pollicis longus [physical examination or operative/pathology report]<br>OR rupture of flexor tendons [physical examination or operative/pathology report]  | STAGE 1.01-2.03 + (DX 84200-84202, 84209);       |
| 2.05  | with Volkmann's ischemic contracture  | Stage 1.01-2.04<br>AND Volkmann's ischemic contracture  | STAGE 1.01-2.04 + DX 9586;                       |
| 2.06  | with osteomyelitis  | Stage 2.01-2.05<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.05 + GROUP OSTEOMYELIT;             |
| 2.07  | with gangrene   | Stage 2.01-2.06<br>AND gangrene   | STAGE 2.01-2.06 + DX 7854;                       |
| 3.01  | with sepsis   | Stage 2.01-2.07<br>AND <b>sepsis:</b>   | STAGE 2.01-2.07 + GROUP SEPSIS;                  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS14

MultiStage: No

DXCat Label: Fracture: Radius, Lower End

Specificity: A

Etiology: Trauma

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b> | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death         | NO;  |

### References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:217-218.

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Kozin SH, Wood MB. Early soft-tissue complications after fractures of the distal part of the radius. Journal of Bone & Joint Surgery - American Volume. 1993;75(1):144-53.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS15

DXCat Label: Fracture: Tibia

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Fracture of the tibial tuberosity                                 | Fracture of the tibial tuberosity [x-ray report]  | DX 73316, 73393, 82300, 82302, 82340, 82342, 82380, 82382;   |
| 1.02  | Fracture of the tibial eminence                                   | Fracture of the tibial eminence [x-ray report]  | NO;  |
| 1.03  | Fracture of the lateral tibial condyles                           | Fracture of the lateral tibial condyles [x-ray report]  | NO;  |
| 1.04  | Fracture of the medial tibial condyles                            | Fracture of the medial tibial condyles [x-ray report]   | NO;  |
| 1.05  | Linear fracture of the tibia without displacement                 | Linear fracture of the tibia without displacement [x-ray report]  | NO;  |
| 1.06  | Linear fracture of the tibia with displacement                    | Linear fracture of the tibia with displacement [x-ray report]   | NO;  |
| 2.01  | Fracture of the lateral and medial tibial condyles                | Stage 1.03<br>AND Stage 1.04  | NO;  |
| 2.02  | Comminuted fractures of the tibia                                 | Comminuted fracture of the tibia  | NO;  |
| 2.03  | Segmental fracture of the tibial shaft                            | Segmental or double fracture of the tibial shaft [x-ray report]   | DX 82320, 82322;   |
| 2.04  | Compound fracture of the tibia                                    | Fracture of the tibia<br>AND laceration of the skin with exposure of the fractured bones  | DX 82310, 82312, 82330, 82332, 82390, 82392;                 |
| 2.05  | with compartment syndrome or vascular or neurologic complications | Stage 1.01-2.04<br>AND compartment syndrome [physical examination or compartment pressure $\geq$ 30 mmHg]<br>OR loss of pedal pulses<br>OR paresthesia of the lower extremity<br>OR Volkmann's compartment ischemia | STAGE 1.01-2.04 + (DX 33811, 33821, 7820, 7859, 9586, 9588); |
| 2.06  | with crush injuries to soft tissue                                | Stage 1.01-2.05<br>AND crush injury to soft tissues   | STAGE 1.01-2.05 + (DX 92810, 92811, 92821, 9288, 9289);      |
| 2.07  | with osteomyelitis  | Stage 2.04-2.06<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.06 + GROUP OSTEOMYELIT;                         |
| 2.08  | with gangrene   | Stage 2.04-2.07<br>AND gangrene of the tibia [operative/pathology report]   | STAGE 2.01-2.07 + DX 7854;                                   |
| 3.01  | with sepsis   | Stage 2.04-2.08<br>AND <b>sepsis:</b>   | STAGE 2.01-2.08 + GROUP SEPSIS;                              |
| 3.02  | with shock  | Stage 2.04-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death  | Stage 2.04-3.02<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS15

MultiStage: No

DXCat Label: Fracture: Tibia

Specificity: A

Etiology: Trauma

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Beaty JH, Kumar A. Fractures about the knee in children. *Journal of Bone & Joint Surgery - American Volume*. 1994;76(12):1870-80.

Brown C, Henderson S, Moore S. Surgical treatment of patients with open tibial fractures. *AORN Journal*. 1996;63(5):875-96.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. *Year Book Medical Publishers Inc*. 1985:181-812.

Watson JT. Treatment of unstable fractures of the shaft of the tibia. *Journal of Bone & Joint Surgery - American Volume*. 1994;76(10):1575-84.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS16

MultiStage: No

DXCat Label: Fracture or Dislocation: Patella

Specificity: A

Etiology: Trauma

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes |
|-------|---|--|----------------|
| 1.01  | Patellofemoral dislocation                  | Patellar instability<br>OR hemarthrosis<br>AND localized tenderness over patellar retinaculum                        | DX 8363;       |
| 1.02  | Chronic patellofemoral dislocation          | Stage 1.01<br>AND history of recurrent patellofemoral dislocation  | DX 71836;      |
| 1.03  | Transverse fracture of the patella          | Transverse fracture of the patella [x-ray report]  | DX 8220;       |
| 1.04  | Comminuted fracture of the patella          | Comminuted fracture of the patella [x-ray report]  | NO;            |
| 2.01  | Open fracture or dislocation of the patella | Fracture or dislocation of the patella<br>AND laceration of the underlying skin with exposure of the fractured bones | DX 8221, 8364; |

### References:

Dandy DJ. Chronic patellofemoral instability. *Journal of Bone & Joint Surgery - British Volume*. 1996;78(2):328-35.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS17

MultiStage: No

DXCat Label: Fracture or Sprain: Ankle

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                                   |
|-------|--|---|--|
| 1.01  | Ankle sprain   | Ankle sprain  | DX 84500-84503, 84509;                           |
| 1.02  | Nondisplaced malleolar fractures                       | Nondisplaced fracture of the medial malleolus [x-ray report]<br>OR nondisplaced fracture of the lateral malleolus [x-ray report]<br>OR nondisplaced fracture of the posterior malleolus [x-ray report]  | DX 8240, 8242, 8248;                             |
| 1.03  | Nondisplaced talar fractures                           | Nondisplaced fracture of the talus [x-ray report]   | DX 82521;  |
| 1.04  | Displaced single malleolar fractures                   | Displaced fracture of the medial malleolus [x-ray report]<br>OR displaced fracture of the lateral malleolus [x-ray report]<br>OR displaced fracture of the posterior malleolus [x-ray report]   | NO;  |
| 1.05  | Displaced bimalleolar fractures                        | Fracture of any <u>two</u> of the following bones:<br>Displaced fracture of the medial malleolus [x-ray report]<br>OR displaced fracture of the lateral malleolus [x-ray report]<br>OR displaced fracture of the posterior malleolus [x-ray report]   | DX 8244;   |
| 1.06  | Displaced trimalleolar fractures                       | Fracture of any <u>three</u> of the following bones:<br>Displaced fracture of the medial malleolus [x-ray report]<br>OR displaced fracture of the lateral malleolus [x-ray report]<br>OR displaced fracture of the posterior malleolus [x-ray report] | DX 8246;   |
| 1.07  | Displaced talar fractures                              | Displaced fracture of the talus [x-ray report]  | NO;  |
| 1.08  | Dislocation of the ankle                               | Dislocation of the ankle [x-ray report]   | DX 8370;   |
| 2.01  | Fracture and dislocation of the ankle                  | Stage 1.02-1.07<br>AND Stage 1.08   | STAGE 1.02-1.06 + STAGE 1.08;                    |
| 2.02  | Comminuted intra-articular ankle fracture              | Comminuted fracture of the malleolar bones [ankle x-ray report]<br>OR comminuted fracture of the talus bones [x-ray report]   | NO;  |
| 2.03  | Open fracture or dislocation of the ankle              | Fracture or dislocation of the ankle<br>AND laceration of the skin with exposure of the fractured bones   | DX 8241, 8243, 8245, 8247, 8249, 8371;           |
| 2.04  | with injury to ankle tendons                           | Stage 1.02-2.03<br>AND laceration of the posterior tibial tendon [x-ray report or operative/pathology report]<br>OR laceration of the peroneal tendon [x-ray report or operative/pathology report]  | STAGE 1.01 + STAGE 1.02-1.08;                    |
| 2.05  | with injury to the posterior tibial nerve              | Stage 1.02-2.04<br>AND posterior tibial nerve palsy [physical examination or EMG/nerve conduction study report]<br>OR tarsal tunnel syndrome  | STAGE 1.01-2.04 + (DX 33811, 33821, 3555, 9562); |
| 2.06  | with injury to the posterior or anterior tibial artery | Stage 1.02-2.05<br>AND posterior tibial artery laceration [angiogram report]<br>OR anterior tibial artery laceration [angiogram report]   | STAGE 1.01-2.05 + (DX 90451, 90453);             |
| 2.07  | with osteomyelitis                                     | Stage 2.03-2.06<br>AND <b>osteomyelitis:</b>  | STAGE 2.03-2.06 + GROUP OSTEOMYELITIS;           |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS17

MultiStage: No

DXCat Label: Fracture or Sprain: Ankle

Specificity: A

Etiology: Trauma

| Stage | Description | Diagnostic findings                   | ICD-9-CM Codes                                     |
|-------|-------------|---------------------------------------|--|
| 3.01  | with sepsis | Stage 2.03-2.07<br>AND <b>sepsis:</b> | STAGE 2.03-2.07 + GROUP SEPSIS;                    |
| 3.02  | with shock  | Stage 2.03-3.01<br>AND <b>shock:</b>  | STAGE 2.03-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.03-3.02<br>AND death          | NO;  |

### References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:190-191.

Levin LS, Garrett WE Jr. Fractures and dislocations: fractures of the tibia, fibula, ankle, and foot. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1444-1451.

Michelson JD. Fractures about the ankle. Journal of Bone & Joint Surgery - American Volume. 1995;77(1):142-52.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS18

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Facial Bones

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                          |
|-------|---|---|---|
| 1.01  | Sprain or dislocation, face and neck area                     | Sprain or dislocation, face and neck area   | DX 8300, 8480-8482;                     |
| 1.02  | Fracture of facial bones without displacement of bones        | Fracture of the maxilla without bony displacement [x-ray report]  | DX 8020, 80220-80229, 8024, 8028;       |
| 1.03  | Fracture of the lower third of the maxilla with displacement  | Fracture of the lower third of the maxilla with displacement [x-ray report]<br>OR LeFort type I fracture [x-ray report]<br>OR horizontal segment fracture of the alveolar process of the maxilla where the teeth are contained in the detached bony segment [x-ray report]<br>OR Guérin's fracture [x-ray report]<br>OR horizontal maxillary fracture [x-ray report]  | NO;                                     |
| 1.04  | Fracture of the middle third of the maxilla with displacement | Fracture of the middle third of the maxilla with displacement [x-ray report]<br>OR LeFort type II fracture [x-ray report]<br>OR unilateral or bilateral fracture of the maxilla where the body of the maxilla is separated from the facial skeleton and the separated portion is pyramidal in shape and extends through the body of the maxilla to the hard palate, through the floor of the orbit and into the nasal cavity [x-ray report]<br>OR pyramidal fracture [x-ray report] | NO;                                     |
| 1.05  | Fracture of the upper third of the maxilla with displacement  | Fracture of the upper third of the maxilla with displacement [x-ray report]<br>OR LeFort type III fracture [x-ray report]<br>OR the entire maxilla and facial bones are completely separated from the craniofacial skeleton [x-ray report]]<br>OR craniofacial displacement [x-ray report]<br>OR transverse facial fracture [x-ray report]  | NO;                                     |
| 2.01  | Open dislocation or fracture of facial bones                  | Fracture or dislocation of facial bones [x-ray report]<br>AND laceration of overlying skin  | DX 8301, 8021, 80230-80239, 8025, 8029; |
| 2.02  | with ruptured ocular globe                                    | Stage 1.02-2.01<br>AND ruptured ocular globe [CT scan report]   | STAGE 1.01-2.01 + DX 8710-8712;         |
| 2.03  | Closed fracture of larynx or trachea                          | Fracture of larynx or trachea [cervical x-ray, MRI or CT scan report]   | DX 8075;                                |
| 2.04  | Open fracture of larynx or trachea                            | Fracture of larynx or trachea<br>AND laceration of overlying skin   | DX 8076;                                |
| 2.05  | with intracranial injury                                      | Stage 1.02-2.04<br>AND cerebrospinal fluid rhinorrhea<br>OR cerebrospinal fluid otorrhea<br>OR intracranial bleeding [CT scan or MRI report]<br>OR intracranial contusion [CT scan or MRI report]   | STAGE 1.02-2.04 + DX 8500-85419;        |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS18

DXCat Label: Fracture, Dislocation, or Sprain: Facial Bones

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description               | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---------------------------|--|--|
| 2.06  | with facial osteomyelitis | Stage 1.02-2.05<br>AND <b>osteomyelitis:</b><br>AND face involvement | STAGE 1.02-2.05 + (DX 33811, 33821, 37603, 38320 , 5264, 73008, 73018, 73028); |
| 3.01  | with meningitis           | Stage 1.02-2.06<br>AND <b>meningitis:</b>                            | STAGE 2.01-2.06 + (GROUP MENGIT__BACT OR GROUP MENING__VIR);                   |
| 3.02  | with sepsis               | Stage 2.01-3.01<br>AND <b>sepsis:</b>                                | STAGE 2.01-3.01 + GROUP SEPSIS;  |
| 3.03  | with respiratory failure  | Stage 1.02-3.02<br>AND <b>respiratory failure:</b>                   | STAGE 2.01-3.02 + GROUP RESP_FAIL;   |
| 3.04  | with shock                | Stage 2.01-3.03<br>AND <b>shock:</b>                                 | STAGE 2.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                             |
| 4.00  | with death                | Stage 2.01-3.04<br>AND death   | NO;  |

### References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Fox LA. Images in clinical medicine. Three-dimensional CT diagnosis of maxillofacial trauma. N Engl J Med. 1993;329(2):102.

Ropper AH. Traumatic injuries of the head and spine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2390-2398.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS19

DXCat Label: Fracture, Dislocation, or Sprain: Foot

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Sprain or dislocation of the foot   | Sprain of foot<br>OR<br>dislocation of foot   | DX 71827, 71837, 71877, 71887,<br>71897, 84510-84513, 84519,<br>83800-83806, 83809; |
| 1.02  | Closed phalangeal fractures   | Closed phalangeal fractures [x-ray report]  | DX 8260;  |
| 1.03  | Linear fracture without displacement  | Linear fracture of the metatarsals without displacement [x-ray report]  | DX 73394, 82520, 82525-82529;   |
| 1.04  | Fracture of the metatarsals with displacement   | Fracture of the metatarsals with displacement [x-ray report]  | NO;   |
| 1.05  | Fracture of the metatarsals with concomitant divergent diastasis of the first and second tarsometatarsal rays | Fracture of the metatarsals with concomitant divergent diastasis of the first and second tarsometatarsal rays [x-ray report]  | STAGE 1.03 + DX 83803;  |
| 1.06  | Fracture of the metatarsals with tarsometatarsal dislocation  | Stage 1.01-1.05<br>AND tarsometatarsal dislocation [x-ray report]   | NO;   |
| 1.07  | Fracture of navicular, cuboid, cuneiform bones, closed  | Fracture of the navicular bone [x-ray report]<br>OR<br>fracture of the cuboid bone [x-ray report]<br>OR<br>fracture of the cuneiform bone [x-ray report]  | DX 82522-82524;   |
| 2.01  | Open phalangeal fracture or dislocation   | Fracture or dislocation of phalanges<br>AND<br>laceration of skin with exposure of the fractured toe(s)<br>OR<br>laceration of skin overlying site of dislocation of toe(s)   | DX 8261, 83810, 83815-83816,<br>83819;  |
| 2.02  | Open fracture or dislocation of the metatarsals   | Fracture or dislocation of metatarsals<br>AND<br>laceration of the skin with exposure of the fractured metatarsal bones<br>OR<br>laceration of the skin overlying site of metatarsal dislocation  | DX 83813, 83814, 82530-82531,<br>82535, 82539;                                      |
| 2.03  | Open fracture or dislocation of navicular, cuboid or cuneiform bones  | Fracture or dislocation of navicular, cuboid, or cuneiform bone<br>AND<br>laceration of skin with exposure of the navicular bone<br>OR<br>laceration of skin with exposure of the cuboid bone<br>OR<br>laceration of skin with exposure of the cuneiform bone<br>OR<br>laceration of the skin overlying the site of dislocation | DX 82532-82534, 83811-83812;  |
| 2.04  | Fracture or dislocation with injury to the medial or lateral plantar nerve or artery                          | Fracture or dislocation of phalanges, metatarsals, or tarsals<br>AND<br>injury to the medial or lateral plantar arteries [angiogram report]<br>OR<br>injury to the medial or lateral plantar nerves [physical examination or EMG nerve conduction study report]   | STAGE 1.01-2.03 + (DX 33811,<br>33821, 9046-9049, 9565, 9568-<br>9569);             |
| 2.05  | with osteomyelitis  | Stage 2.01-2.04<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.04 + GROUP<br>OSTEOMYELITIS;   |
| 3.01  | with sepsis   | Stage 2.01-2.05<br>AND <b>sepsis:</b>   | STAGE 2.01-2.05 + GROUP SEPSIS;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS19

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Foot

Specificity: A

Etiology: Trauma

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b> | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death         | NO;  |

### References:

Levin LS, Garrett WE Jr. Fractures and dislocations: fractures of the tibia, fibula, ankle, and foot. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1444-1451.

Mann RA, Prieskorn D, Sobel M. Mid-tarsal and tarsometatarsal arthrodesis for primary degenerative osteoarthritis or osteoarthritis after trauma. Journal of Bone & Joint Surgery - American Volume. 1996;78(9):1376-85.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS20

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Hip or Pelvis

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Sprain of pelvis, hip or thigh  | Sprain of pelvis<br>OR sprain of hip<br>OR sprain of thigh  | DX 8430-8439, 8485;  |
| 1.02  | Fracture or dislocation of hip or pelvis without break in continuity of the pelvic ring | No break in the continuity of pelvic ring [pelvic series x-ray report]<br>AND fracture of the ilium [x-ray report]<br>OR fracture of the ischium [x-ray report]<br>OR fracture of the pubis [x-ray report]<br>OR dislocation of the symphysis pubis [x-ray report]<br>OR dislocation of the sacroiliac joint [x-ray report]   | DX 71825, 71835, 71875, 71885, 71895, 8082, 80841-80842, 80849, 8088, 83500-83503; |
| 1.03  | Fracture or dislocation of the hip with a single break in pelvic ring                   | Single break in the continuity of pelvic ring [x-ray report]<br>AND fracture of the ilium [x-ray report]<br>OR fracture of the ischium [x-ray report]<br>OR fracture of the pubis [x-ray report]<br>OR dislocation of the symphysis pubis [x-ray report]<br>OR dislocation of the sacroiliac joint [x-ray report]   | NO;  |
| 2.01  | Double break in pelvic ring   | Double break in pelvic ring [x-ray report]<br>AND fracture of the ilium [x-ray report]<br>OR fracture of the ischium [x-ray report]<br>OR fracture of the pubis [x-ray report]<br>OR dislocation of the symphysis pubis [x-ray report]<br>OR dislocation of the sacroiliac joint [x-ray report]   | DX 80843;  |
| 2.02  | Malgaigne's fracture or straddle fracture   | Malgaigne fracture: break in anterior and posterior pelvic ring [x-ray report, or straddle fracture: double break in the pelvic ring associated with dislocation of the symphysis pubis [x-ray report]<br>AND fracture of the ilium [x-ray report]<br>OR fracture of the ischium [x-ray report]<br>OR fracture of the pubis [x-ray report]<br>OR dislocation of the symphysis pubis [x-ray report]<br>OR dislocation of the sacroiliac joint [x-ray report] | NO;  |
| 2.03  | Multiple fractures of the pelvis including pelvic ring                                  | Multiple fractures of the pelvis or pelvic ring [x-ray report]  | NO;  |
| 2.04  | Open fracture of the pelvis or hip  | Fracture of hip or pelvis<br>AND laceration of the skin and exposure of the underlying fractured bones  | DX 8083, 80851-80853, 80859, 8089, 83510-83513;                                    |
| 2.05  | with thrombophlebitis   | Stage 1.02-2.04<br>AND <b>DVT:</b>  | STAGE 1.02-2.04 + (DXCAT CVS22 OR GROUP DVT OR DX 33811, 33821);                   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS20

DXCat Label: Fracture, Dislocation, or Sprain: Hip or Pelvis

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 2.06  | with rupture of large pelvic veins  | Stage 1.02-2.05<br>AND venous hemorrhage [pelvic venography report or operative/pathology report]  | STAGE 1.02-2.05 + (DX 90231-90239, 90242, 90252, 90254, 90256, 90282);   |
| 2.07  | with injury to uterus or ovaries or colonic perforation or neurological injury or urological injury | Stage 1.02-2.06<br>AND trauma to uterus [contrast hystero-graphy or operative/pathology or CT scan report]<br>OR trauma to ovaries [contrast hystero-graphy or operative/pathology report]<br>OR colonic perforation [contrast GI series report or operative/pathology report]<br>OR fracture of vertebrae in the spinal column [myelogram, CT scan, x-ray or operative/pathology report]<br>OR laceration of urinary bladder [operative/pathology report]<br>OR ureters [operative/pathology report]<br>OR urethra [operative/pathology report] | STAGE 1.02-2.06 + (DX 86340-86346, 86349, 86350-86356, 86359, 8670-8679);                                      |
| 2.08  | with rupture of major pelvic arteries   | Stage 1.02-2.07<br>AND arterial hemorrhage [arteriogram report or operative/pathology report]  | STAGE 1.02-2.07 + (DX 90220-90229, 90240-90241, 90249, 90250-90251, 90253, 90255, 90259, 90281, 90287, 90289); |
| 3.01  | with pulmonary embolism   | Stage 1.02-2.08<br>AND <b>pulmonary embolism:</b>  | STAGE 1.02-2.08 + GROUP PULMEMB;   |
| 3.02  | with respiratory failure  | Stage 3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.02-3.01 + GROUP RESP_FAIL;   |
| 3.03  | with shock  | Stage 1.02-3.02<br>AND <b>shock:</b>   | STAGE 1.02-3.02 + GROUP SHOCKA;  |
| 4.00  | with death  | Stage 1.02-3.03<br>AND death   | NO;  |

### References:

Dowling J. Musculoskeletal disease: Staged for Rapid Comprehension. Year Book Medical Publishers Inc. 1985:135-139.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Koraitim MM. Pelvic fracture urethral injuries: evaluation of various methods of management. Journal of Urology. 1996;156(4):1288-91.

Resnick NM. Geriatric medicine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:37-46.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS21

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Humerus (Head) or Shoulder

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Sprains of shoulder and upper arm   | Sprain of shoulder<br>OR<br>sprain of upper arm  | DX 8400-8409;  |
| 1.02  | Closed dislocation of the head of the humerus, acromioclavicular joint or shoulder region   | Dislocation of the head of humerus [x-ray report]<br>OR<br>dislocation of the acromioclavicular joint [x-ray report]<br>OR<br>dislocation of the shoulder region [x-ray report]  | DX 71821, 71831, 71871, 71881, 71891, 83100, 83103-83104, 83109; |
| 1.03  | Anterior, subcoracoid, subglenoid, posterior or superior dislocation of the head of the humerus                                   | Anterior, subcoracoid, subglenoid, posterior or superior dislocation [x-ray report]  | DX 83101, 83102;   |
| 1.04  | Closed fracture of scapula or clavicle  | Fracture of the scapula [x-ray report]<br>OR<br>fracture of the clavicle [x-ray report]  | DX 81100-81103, 81109, 81000-81003;                              |
| 1.05  | Closed fracture of the head or neck of humerus  | Fracture of the head and neck of humerus without displacement [x-ray report]<br>OR<br>Neer Group I fracture  | DX 81200-81202, 81209;   |
| 1.06  | Closed fracture of greater or lesser tuberosity of humerus  | Fracture of the head and neck of the humerus with fracture of the greater or lesser tuberosities [x-ray report]<br>OR<br>Neer Group V fracture   | DX 81203;  |
| 1.07  | Fracture of the head or neck of humerus with displacement of fragments or segment   | Fracture of the head and neck of the humerus and impaction with 35-45 degrees of angulation and less than 2/3 diameter of lateral displacement<br>OR<br>fracture of the head and neck of the humerus with displacement of the head greater than 1 cm.<br>OR<br>Neer Group II fracture<br>OR<br>fracture of the head and neck of humerus with displaced shaft segment and intact rotator cuff<br>OR<br>Neer Group III fracture [x-ray report] | NO;  |
| 1.08  | Fracture of the head and neck of the humerus with fracture of the greater tuberosity and unimpacted fracture of the surgical neck | Fracture of the head and neck of the humerus with fracture of the greater tuberosity and unimpacted fracture of the surgical neck [ x-ray report]<br>OR<br>Neer Group IV fracture  | (DX 81200, 81202, 81209) + DX 81201 + DX 81203;                  |
| 2.01  | Open dislocation or fracture of clavicle or scapula   | Dislocation or fracture of clavicle or scapula<br>AND<br>laceration of skin overlying dislocation<br>OR<br>laceration of skin overlying fracture   | DX 83114, 83119, 81010-81013, 81110-81113, 81119 ;               |
| 2.02  | Open dislocation of the shoulder  | Dislocation of the shoulder<br>AND<br>laceration of the skin overlying the dislocation   | DX 83110-83113;  |
| 2.03  | Open fracture of the head or neck of the humerus  | Fracture of the head or neck of the humerus<br>AND<br>laceration of the skin with exposure of the fractured bone(s)  | DX 81210-81213, 81219;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS21

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Humerus (Head) or Shoulder

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 2.04  | Open fracture of the head or neck of humerus with displacement of fragments or segment | Displaced fracture of the head or neck of the humerus<br>AND laceration of the skin with exposure of the fractured bone(s)       | NO;  |
| 2.05  | with injury to the axillary artery or vein   | Stage 1.05-2.04<br>AND injury to the axillary artery [angiogram report]<br>OR injury to the axillary vein [venography report]    | STAGE 1.01-2.03 + DX 90300-90302;                  |
| 2.06  | with injury to the brachial plexus or axillary nerve                                   | Stage 1.05-2.05<br>AND ulnar nerve palsy<br>OR radial nerve palsy<br>OR median nerve palsy<br>OR paralysis of the deltoid muscle | STAGE 1.01-2.05 + (DX 33811, 33821, 9534, 9550);   |
| 2.07  | with osteomyelitis   | Stage 2.01-2.06<br>AND <b>osteomyelitis:</b>   | STAGE 2.01-2.06 + GROUP OSTEOMYELIT;               |
| 2.08  | with gangrene  | Stage 2.01-2.07<br>AND gangrene of the upper limb [operative/pathology report]   | STAGE 2.01-2.07 + DX 7854;                         |
| 3.01  | with sepsis  | Stage 2.01-2.08<br>AND <b>sepsis:</b>  | STAGE 2.01-2.08 + GROUP SEPSIS;                    |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 2.01-3.02<br>AND death   | NO;  |

### References:

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Kontakis GM, Galanakis IA, Steriopoulos KA. Dislocation of the shoulder and ipsilateral fracture of the humeral shaft: case reports and literature review. *Journal of Trauma*. 1995;39(5):990-2.

Ogawa K, Ui M. Humeral shaft fracture sustained during arm wrestling: report on 30 cases and review of the literature. *Journal of Trauma*. 1997;42(2):243-6.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS22

DXCat Label: Fracture, Dislocation, or Sprain: Wrist or Hand or Fingers

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Sprain or closed dislocation of wrist, hand, or fingers                    | Sprain of wrist<br>OR sprain of hand<br>OR sprain of fingers<br>OR dislocation of wrist [x-ray report]<br>OR dislocation of hand [x-ray report]<br>OR dislocation of fingers [x-ray report] | DX 71823-71824, 71833-71834, 71873-71874, 71883-71884, 71893-71894, 83300-83309, 83400-83402, 84200-84209, 84210-84219; |
| 1.02  | Closed fracture of phalanx or phalanges                                    | Closed fracture of one or more phalanges [x-ray report]   | DX 81600-81603;   |
| 1.03  | Closed fracture of metacarpal bone(s)                                      | Closed fracture of metacarpal bone(s) [x-ray report]  | DX 81500-81509;   |
| 1.04  | Fracture of the carpal bone(s) without displacement                        | Fracture of the carpal bones without displacement [x-ray report]  | DX 81400-81409;   |
| 1.05  | Fracture of the carpal bone(s) with proximal pole fracture                 | Fracture of the carpal bone(s) with proximal pole fracture [x-ray report]   | NO;   |
| 1.06  | Fracture of the carpal navicular waist                                     | Fracture of the carpal navicular waist [x-ray report]   | NO;   |
| 1.07  | Fracture of the carpal bone(s) with lunate bone subluxation or dislocation | Stage 1.04-1.06<br>AND fracture of the carpal bone(s) with lunate bone subluxation or dislocation [x-ray report]  | STAGE 1.04 + DX 83302;  |
| 2.01  | Open phalangeal dislocation or fracture                                    | Fracture or dislocation of phalanges<br>AND laceration of the skin with exposure of the dislocated or fractured bone(s)   | DX 81610-81613, 83410-83412;  |
| 2.02  | Open dislocation or fracture of metacarpal bone(s)                         | Fracture or dislocation of metacarpals<br>AND laceration of the skin with exposure of the dislocated or fractured bone(s)   | DX 83310-83319, 81510-81519;  |
| 2.03  | Open fracture of the carpal bone(s)  | Fracture or dislocation of carpals<br>AND laceration of the skin with exposure of the fractured or dislocated bone(s)   | DX 81410-81419;   |
| 2.04  | Fracture of the carpal bone(s) with damage to the median nerve             | Fracture of carpals<br>AND median nerve palsy   | STAGE 1.04-2.03 + (DX 33811, 33821, 3542, 9552);  |
| 2.05  | with osteomyelitis   | Stage 2.01-2.04<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.04 + GROUP OSTEOMYELITIS;  |
| 3.01  | with sepsis  | Stage 2.01-2.05<br>AND <b>sepsis:</b>   | STAGE 2.01-2.05 + GROUP SEPSIS;   |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death   | Stage 2.01-3.02<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS22

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Wrist or Hand or Fingers

Specificity: A

Etiology: Trauma

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Goldner RD, Goldner JL. Fractures and dislocations: fractures and dislocations of the hand. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1419-1431.

Ohioenoya D, Whitwell DJ. Occult scaphoid fracture: need to avoid complacency. Journal of Trauma. 1996;41(6):1054-5.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS23  
 DXCat Label: Gout  
 Etiology: Metabolic

MultiStage: No  
 Specificity: A

| Stage | Description             | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|-------------------------|--|--|
| 1.01  | Hyperuricemia           | <b>Hyperuricemia:</b>  | DX 27481-2749;                                     |
| 1.02  | Acute gouty arthritis   | Acute gouty arthritis [Needle shaped negatively birefringent crystals in fluid or in phagocytes per synovial fluid report]   | DX 2740;   |
| 2.01  | Chronic gouty arthritis | History of acute gouty arthritis of the involved joint<br>AND punched out lesion of subchondral bone [x-ray report]<br>OR destruction of involved joint [x-ray report] | NO;  |
| 2.02  | with renal urate stones | Stage 1.01-2.01<br>AND renal urate stones [pathology report]   | DX 27410-27419;                                    |
| 2.03  | with pyelonephritis     | Stage 1.01-2.02<br>AND <b>pyelonephritis:</b>  | STAGE 1.01-2.02 + DX 59010-59011;                  |
| 3.01  | with renal failure      | Stage 2.02-2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.03 + GROUP REN_FAIL_ACU;              |
| 3.02  | with shock              | Stage 2.03-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death              | Stage 2.03-3.03<br>AND death   | NO;  |

### References:

Barth WF. Office evaluation of the patient with musculoskeletal complaints. American Journal of Medicine. 1997;102(1A):3S-10S.

Emmerson BT. The management of gout N Engl J Med. 1996;334(7):445-51.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Wortmann RL. Gout and other disorders of purine metabolism. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2158-2166.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS24

MultiStage: No

DXCat Label: Hallux Deformities

Specificity: A

Etiology: Congenital; Degenerative; Trauma

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes                   |
|-------|--|--|----------------------------------|
| 1.01  | Hallux valgus or bunion                      | Hallux valgus [x-ray report]   | DX 7350, 7271;                   |
| 1.02  | Hallux valgus encroaching upon adjacent toes | Hallux valgus encroaching upon adjacent toes [x-ray report]  | NO;                              |
| 1.03  | Hallux valgus with inflamed overlying bursa  | Hallux valgus with inflamed overlying bursa [x-ray report]   | DX 72706;                        |
| 1.04  | Hallux valgus with infection                 | Hallux valgus with skin infection [wound discharge culture reports growth of pathologic organism(s)] | STAGE 1.01-1.03 + DX 68600-6869; |
| 1.05  | Hallux rigidus                               | Hallux rigidus [x-ray report]  | DX 7352;                         |
| 1.06  | Hallux varus                                 | Hallux varus [x-ray report]  | DX 7351;                         |
| 1.07  | Hallux malleus                               | Hallux malleus [x-ray report]  | DX 7353;                         |

### References:

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:119-121.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS25

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Lumbar and Lumbosacral

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 1.01  | Asymptomatic prolapse of the intervertebral disc        | Herniated intervertebral disc [spine x-ray or MRI or myelogram report]  | DX 72210, 7222, 72230, 72232-72239;                |
| 1.02  | Symptomatic prolapse of the intervertebral disc         | Stage 1.01<br>AND pain radiating to leg(s) or arm(s)<br>OR weakness of arm(s) or leg(s)<br>OR cervical radiculopathy [physical examination or EMG report]<br>OR lumbar radiculopathy [EMG report] | DX 72270, 72273;                                   |
| 2.01  | with loss of bladder or bowel control                   | Stage 1.01-1.02<br>AND incontinence of urine<br>OR incontinence of bowels   | STAGE 1.01-1.02 + (DX 78830, 78838, 7876);         |
| 2.02  | with cauda equina syndrome or conus medullaris syndrome | Stage 1.01-2.01<br>AND <b>cauda equina syndrome:</b><br>OR <b>conus medullaris syndrome:</b>  | STAGE 1.01-2.01 + DX 34460-34461;                  |
| 2.03  | with paraplegia   | Stage 1.01-2.02<br>AND paraplegia   | STAGE 1.01-2.02 + DX 3441;                         |
| 2.04  | with quadriplegia                                       | Stage 1.01-2.03<br>AND quadriplegia   | STAGE 1.01-2.03 + (DX 34400-34404);                |
| 2.05  | with pneumonia (aspiration or bacterial)                | Stage 1.01-2.04<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.04 + (DXCAT RES15 OR DX 5070);        |
| 3.01  | with sepsis   | Stage 2.05<br>AND <b>sepsis:</b>  | STAGE 2.05 + GROUP SEPSIS;                         |
| 3.02  | with shock  | Stage 2.05-3.01<br>AND <b>shock:</b>  | STAGE 2.05-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.05-3.02<br>AND death  | NO;  |

## References:

Boden SD. The use of radiographic imaging studies in the evaluation of patients who have degenerative disorders of the lumbar spine. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(1):114-24.

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS26

MultiStage: No

DXCat Label: Infectious Arthritis

Specificity: A

Etiology: Infection

| Stage | Description                   | Diagnostic findings                     | ICD-9-CM Codes  |
|-------|-------------------------------|---|---|
| 2.01  | Acute infectious arthritis    | <b>Infectious arthritis:</b>            | DX 71100-71199;                                       |
| 2.02  | with contiguous osteomyelitis | Stage 2.01<br>AND <b>osteomyelitis:</b> | STAGE 2.01 + GROUP<br>OSTEOMYELIT;                    |
| 3.01  | with sepsis                   | Stage 2.01-2.02<br>AND <b>sepsis:</b>   | STAGE 2.01-2.02 + GROUP SEPSIS;                       |
| 3.02  | with shock                    | Stage 2.01-3.01<br>AND <b>shock:</b>    | STAGE 2.01-2.03 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 2.01-3.02<br>AND death            | NO;   |

### References:

Goldenberg DL. Septic arthritis Lancet. 1998;351(9097):197-202.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Thaler SJ, Maguire JH. Infectious arthritis and injections of prosthetic joints. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1944-1949.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS27

MultiStage: No

DXCat Label: Injury, Chest Wall

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Closed trauma to the chest wall or closed trauma to the breast or chest wall sprain or dislocation of sternum or ribs | Closed trauma to the chest wall<br>OR closed trauma to the breast<br>OR sprain of sternum<br>OR sprain of ribs<br>OR closed dislocation of sternum<br>OR closed dislocation of ribs   | DX 83961, 83969, 8483, 84840-84849, 9221, 94800, 95911; |
| 1.02  | Closed fracture of chest wall, ribs or sternum without displacement   | Closed fracture of the chest wall without displacement [x-ray report]<br>OR closed fracture of rib without displacement [x-ray report]<br>OR closed fracture of sternum without displacement [x-ray report]                               | DX 80700-80709, 8072;                                   |
| 1.03  | Open wound of chest wall, ribs or sternum   | Open wound of chest wall<br>OR open wound of rib<br>OR open wound of sternum  | DX 8750-8751, 8790-8791;                                |
| 2.01  | Open fracture or dislocation of the chest wall or rib or sternum  | Fracture or dislocation of the chest wall, rib, or sternum<br>AND chest wall fracture with exposure of bones<br>OR rib fracture with exposure of bones<br>OR sternal fracture with exposure of bones                                      | DX 80710-80719, 8073, 83971, 83979;                     |
| 2.02  | Fracture of the ribs or sternum with displacement of bone or flail chest  | Fracture of the chest wall with displacement of bone [x-ray report]<br>OR fracture of the rib or sternum with displacement of bone [x-ray report]<br>OR fracture of the rib or sternum with flail chest [x-ray report]                    | DX 8074;  |
| 2.03  | with subcutaneous emphysema   | Stage 1.01-2.02<br>AND subcutaneous emphysema [x-ray report or physical examination]  | STAGE 1.01-2.02 + DX 9587;                              |
| 2.04  | with pneumothorax or hemothorax   | Stage 1.01-2.03<br>AND pneumothorax [x-ray report]<br>OR hemothorax [x-ray or thoracentesis report]   | DX 8600-8605;<br>STAGE 1.01-2.03 + (DX 33811, 33821);   |
| 2.05  | with tension pneumothorax   | Stage 1.01-2.04<br>AND tension pneumothorax [x-ray report]  | STAGE 1.01-2.04 + DX 5120;                              |
| 2.06  | with laceration of the thoracic duct  | Stage 1.01-2.05<br>AND lacerated thoracic duct [operative/pathology report]<br>OR chylous effusion [thoracentesis report]   | DX 86229, 86239;  |
| 2.07  | with laceration of the diaphragm  | Stage 1.01-2.06<br>AND laceration of the diaphragm [operative/pathology report or endoscopy report]   | DX 8620-8621;   |
| 2.08  | with laceration of trachea, bronchi, lung or esophagus  | Stage 1.01-2.07<br>AND laceration of the trachea [bronchoscopy report]<br>OR laceration of the bronchus [bronchoscopy report]<br>OR injury to the lung<br>OR laceration of the esophagus [operative/pathology report or endoscopy report] | DX 86120-86122, 86130-86132, 86221, 86231, 8744-8745;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS27

DXCat Label: Injury, Chest Wall

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 2.09  | with laceration of the heart, great vessels or cardiac tamponade | Stage 1.01-2.08<br>AND laceration of the heart [operative/pathology report]<br>OR laceration of the aorta[operative/pathology report]<br>OR laceration of the vena cava [operative/pathology report]<br>OR laceration of the pulmonary artery [operative/pathology report]<br>OR laceration of the pulmonary vein [operative/pathology report]<br>OR cardiac tamponade | DX 86100-86103, 86110-86113, 9010, 9020, 9012, 90140-90142; |
| 3.01  | with respiratory failure   | Stage 1.01-2.09<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.09 + GROUP RESP_FAIL;                          |
| 3.02  | with shock   | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA;                             |
| 4.00  | with death   | Stage 1.01-3.02<br>AND death   | NO;   |

### References:

Light RW. Disorders of the pleura, mediastinum, and diaphragm. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1472-1476.

Prete R, Chilcott M. Blunt trauma to the heart and great vessels. N Engl J Med. 1997;336(9):626-32.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-33.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS28

DXCat Label: Injury, Knee, Ligamentous

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                       |
|-------|--|--|--------------------------------------|
| 1.01  | Partial tear of knee ligament                            | Medial collateral ligament [stress x-ray report or physical examination]<br>OR lateral collateral ligament [stress x-ray report or physical examination]<br>OR anterior cruciate ligament [stress x-ray report or physical examination]<br>OR posterior cruciate ligament [stress x-ray report or physical examination]  | DX 8442-8443, 8448-8449, 71781-7179; |
| 1.02  | Complete rupture of the lateral collateral ligament      | Complete rupture of the lateral collateral ligament [arthroscopy or stress x-ray report or physical examination]   | DX 8440;                             |
| 1.03  | Complete rupture of the medial collateral ligament       | Complete rupture of the medial collateral ligament [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]  | DX 8441;                             |
| 1.04  | Complete rupture of the anterior cruciate ligament       | Complete rupture of the anterior cruciate ligament [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]  | NO;                                  |
| 1.05  | Complete rupture of the posterior cruciate ligament      | Complete rupture of the posterior cruciate ligament [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]   | NO;                                  |
| 2.01  | Collateral ligamentous tear with meniscus tear           | Medial collateral ligament tear [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]<br>OR lateral collateral ligament tear [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]<br>AND medial meniscus tear [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]<br>OR lateral meniscus tear [arthroscopy, arthroscopy, operative/pathology or stress x-ray report or physical examination] | STAGE 1.02-1.03 + DXCAT MUS29;       |
| 2.02  | Cruciate ligamentous tear with meniscus tear             | Anterior cruciate ligament tear [arthroscopy or arthroscopy report or operative/pathology report or stress x-ray report or physical examination]<br>OR posterior cruciate ligament tear [arthroscopy, arthroscopy, operative/pathology or stress x-ray report or physical examination]<br>AND medial meniscus tear [arthroscopy, arthroscopy, operative/pathology or stress x-ray report or physical examination]<br>OR lateral meniscus tear [arthroscopy, arthroscopy, operative/pathology or stress x-ray report or physical examination]                                     | STAGE 1.01 + DXCAT MUS29;            |
| 2.03  | Ligamentous tear and meniscus tear and torn knee capsule | Stage 2.01-2.02<br>AND torn knee capsule [arthroscopy, arthroscopy, operative/pathology or stress x-ray report or physical examination]  | NO;                                  |

### References:

Clasby L, Young MA. Management of sports-related anterior cruciate ligament injuries. AORN Journal. 1997;66(4):609-30.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS29

MultiStage: No

DXCat Label: Injury, Knee, Semilunar Cartilages

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                             |
|-------|--|--|--|
| 1.01  | Isolated peripheral tear of the medial or lateral meniscus                         | Isolated peripheral tear of the medial or lateral meniscus [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]                         | DX 8360-8362, 7170-7175;                   |
| 1.02  | Torn discoid medial or lateral meniscus  | Isolated discoid tear of the medial or lateral meniscus [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]                            | NO;  |
| 1.03  | Torn cystic medial or lateral meniscus   | Isolated cystic tear of the medial or lateral meniscus [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]                             | NO;  |
| 1.04  | Tear of the medial or lateral meniscus with displacement of the internal fragment  | Tear of the medial or lateral meniscus with displacement of the internal fragment [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]  | NO;  |
| 1.05  | Tear of the anterior horn of the lateral or medial meniscus                        | Tear of the anterior horn of the lateral or medial menisci [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]                         | NO;  |
| 1.06  | Tear of the posterior horn of the lateral or medial meniscus                       | Tear of the posterior horn of the lateral or medial menisci [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]                        | NO;  |
| 2.01  | Tear of the medial or lateral meniscus with tear of the medial collateral ligament | Tear of the medial or lateral meniscus with tear of the medial collateral ligament [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination] | STAGE 1.01 + DX 8441;                      |
| 2.02  | Tear of the medial or lateral meniscus with tear of the cruciate ligament          | Tear of the medial or lateral meniscus with tear of the medial collateral ligament [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination] | STAGE 1.01-2.01 + (DX 33811, 33821, 8442); |
| 2.03  | Ligamentous tear and meniscus tear and torn knee capsule                           | Stage 2.01-2.02<br>AND torn knee capsule [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]   | NO;  |

### References:

Clasby L, Young MA. Management of sports-related anterior cruciate ligament injuries. AORN Journal. 1997;66(4):609-30.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS30

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Lower Extremity

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Superficial injury or contusion of the lower extremity not penetrating beyond the subcutaneous tissue   | Incision or stab wound of the lower extremity not penetrating beyond the subcutaneous tissue<br>[operative/pathology report]   | DX 9160, 9162, 9164, 9166, 9168, 9170, 9172, 9174, 9176, 9178, 92400-9249, 9596-9597;        |
| 1.02  | Avulsion wound of the lower extremity not penetrating beyond the subcutaneous tissue                    | Avulsion wound of the lower extremity not penetrating beyond the subcutaneous tissue<br>[operative/pathology report]   | DX 8900-8901, 8910, 8920, 8930, 8940;  |
| 1.03  | with infection  | Stage 1.01-1.02<br>AND infected wound [wound culture reports growth of pathologic organism(s)]   | DX 8901, 8911, 8921, 8931, 8941, 9161, 9163, 9165, 9167, 9169, 9171, 9173, 9175, 9177, 9179; |
| 1.04  | with cellulitis   | Stage 1.01-1.03<br>AND <b>cellulitis:</b><br>AND involvement of lower extremity  | STAGE 1.01-1.03 + (DX 6826, 6827);   |
| 2.01  | Open wound of the lower extremity extending into the deep fascia or crush injury of the lower extremity | Open wound or trauma of the lower extremity extending into the deep fascia [operative/pathology report]<br>OR crush injury of the lower extremity  | DX 92800-9289;<br>STAGE 1.01-1.04 + (DX 33811, 33821);                                       |
| 2.02  | with abscess formation  | Stage 1.01-2.01<br>AND abscess formation [operative/pathology report]  | NO;  |
| 2.03  | with laceration of muscles or tendons   | Stage 1.01-2.02<br>AND laceration of muscle tissue<br>OR laceration of tendons   | DX 8902, 8912, 8922, 8932, 8942;   |
| 2.04  | with injury or laceration of the nerves of the lower extremity  | Stage 1.01-2.03<br>AND sciatic nerve laceration or trauma [operative/pathology report]<br>OR femoral nerve laceration or trauma [operative/pathology report]<br>OR tibial nerve laceration or trauma [operative/pathology report]<br>OR peroneal nerve laceration or trauma [operative/pathology report]<br>OR sural nerve laceration or trauma [operative/pathology report]<br>OR plantar nerve laceration or trauma [operative/pathology report]<br>OR saphenous nerve laceration or trauma [operative/pathology report] | DX 9560-9565, 9568, 9569;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS30

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Lower Extremity

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 2.05  | with trauma to blood vessels of the lower extremity | Stage 2.01-2.04<br>AND laceration or trauma of the femoral artery [operative/pathology report]<br>OR laceration or trauma of the femoral vein [operative/pathology report]<br>OR laceration or trauma of the popliteal artery [operative/pathology report]<br>OR laceration or trauma of the popliteal vein [operative/pathology report]<br>OR laceration or trauma of the iliac artery [operative/pathology report]<br>OR laceration or trauma of the iliac vein [operative/pathology report]<br>OR laceration or trauma of the tibial artery [operative/pathology report]<br>OR laceration or trauma of the saphenous vein [operative/pathology report] | DX 9040-9043, 90440-90442, 90450-90454, 9046-9049; |
| 2.06  | Traumatic amputation involving the lower extremity  | Amputation of the lower extremity [operative/pathology report]  | DX 8970-8977, 8950-8951, 8960-8963;                |
| 2.07  | with osteomyelitis                                  | Stage 1.03-2.06<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.06 + GROUP OSTEOMYELIT;               |
| 2.08  | with gangrene                                       | Stage 1.03-2.07<br>AND gangrene   | STAGE 2.01-2.07 + DX 7854;                         |
| 3.01  | with sepsis   | Stage 1.03-2.08<br>AND <b>sepsis:</b>   | STAGE 2.01-2.08 + GROUP SEPSIS;                    |
| 3.02  | with shock  | Stage 1.03-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKA);                  |
| 4.00  | with death  | Stage 1.03-3.02<br>AND death  | NO;  |

### References:

Bowyer GW, Rossiter ND. Management of gunshot wounds of the limbs. *Journal of Bone & Joint Surgery - British Volume*. 1997;79(6):1031-6.

Cooper C. The crippling consequences of fractures and their impact on quality of life. *American Journal of Medicine*. 1997;103(2A):12S-17S.

Jurkovich GJ, Carrico CJ. Trauma: management of the acutely injured patient. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:296-340.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS31

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Upper Extremity

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Superficial injury or contusion of the upper extremity not penetrating beyond the subcutaneous tissue | Incision or stab wound of the upper extremity not penetrating beyond the subcutaneous tissue [operative/pathology report]   | DX 9120, 9122, 9124, 9126, 9128, 9130, 9132, 9134, 9136, 9138, 9140, 9142, 9144, 9146, 9148, 9150, 9152, 9154, 9156, 9158, 92300-9239, 9592-9595;                             |
| 1.02  | Avulsion wound of the upper extremity not penetrating beyond the subcutaneous tissue                  | Avulsion wound of the upper extremity not penetrating beyond the subcutaneous tissue [operative/pathology report]   | DX 88000-88009, 88100-88102, 8820, 8830, 8840;  |
| 1.03  | with infection  | Stage 1.01-1.02<br>AND infected wound [wound culture reports growth of pathologic organism(s)]  | DX 88010-88013, 88019, 88110-88112, 8821, 8831, 8841, 9121, 9123, 9125, 9127, 9129, 9131, 9133, 9135, 9137, 9139, 9141, 9143, 9145, 9147, 9149, 9151, 9153, 9155, 9157, 9159; |
| 1.04  | with cellulitis   | Stage 1.01-1.03<br>AND <b>cellulitis:</b><br>AND involvement of extremity   | STAGE 1.01-1.03 + (DX 6823, 6824);  |
| 2.01  | Open wound of the upper extremity extending into the deep fascia or crush injury of upper extremity   | Open wound of the upper extremity extending into the deep fascia [operative/pathology report]<br>OR crush injury of upper extremity   | DX 92700-92703, 92709-9279;<br>STAGE 1.01-1.04 + (DX 33811, 33821);   |
| 2.02  | with abscess formation  | Stage 1.01-2.01<br>AND abscess formation [operative/pathology report]   | NO;   |
| 2.03  | with laceration of muscles or tendons   | Stage 1.01-2.02<br>AND laceration of muscle tissue<br>OR laceration of tendons  | DX 88020-88023, 88029, 88120-88122, 8822, 8832, 8842;   |
| 2.04  | with trauma to the upper extremity nerves   | Stage 1.01-2.03<br>AND axillary nerve laceration or trauma [operative/pathology report]<br>OR radial nerve laceration or trauma [operative/pathology report]<br>OR median nerve laceration or trauma [operative/pathology report]<br>OR ulnar nerve laceration or trauma [operative/pathology report] | DX 9550-9559;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS31

DXCat Label: Injury, Open Wound, or Blunt Trauma: Upper Extremity

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                         |
|-------|---|---|--|
| 2.05  | with trauma to the blood vessels of the upper extremity | Stage 2.01-2.04<br>AND laceration or trauma of the brachial artery [operative/pathology report]<br>OR laceration or trauma of the brachial vein [operative/pathology report]<br>OR laceration or trauma of the axillary artery [operative/pathology report]<br>OR laceration or trauma of the axillary vein [operative/pathology report]<br>OR laceration or trauma of the radial artery [operative/pathology report]<br>OR laceration or trauma of the ulnar artery [operative/pathology report] | DX 90300-90302, 9031-9035, 9038, 9039; |
| 2.06  | Traumatic amputation involving upper extremity          | Amputation of upper extremity [operative/pathology report]  | DX 8850-8851, 8860-8861, 8870-8877;    |
| 2.07  | with osteomyelitis                                      | Stage 1.03-2.06<br>AND <b>osteomyelitis:</b>  | STAGE 2.01-2.06 + GROUP OSTEOMYELIT;   |
| 2.08  | with gangrene   | Stage 1.03-2.07<br>AND gangrene   | STAGE 2.01-2.07 + DX 7854;             |
| 3.01  | with sepsis   | Stage 1.03-2.08<br>AND <b>sepsis:</b>   | STAGE 2.01-2.08 + GROUP SEPSIS;        |
| 3.02  | with shock  | Stage 1.03-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + GROUP SHOCKA;        |
| 4.00  | with death  | Stage 1.03-3.02<br>AND death  | NO;                                    |

### References:

Bowyer GW, Rossiter ND. Management of gunshot wounds of the limbs. *Journal of Bone & Joint Surgery - British Volume*. 1997;79(6):1031-6.

Jurkovich GJ, Carrico CJ. Trauma: management of the acutely injured patient. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:296-340.

Lillegard WA, Zukowski C, Butcher J. Common upper-extremity injuries. *Archives of Family Medicine*. 1996;5(3):159-68.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS32

DXCat Label: Muscular Dystrophy

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Distal muscular dystrophy  | Distal muscular dystrophy [physical examination or genetic analysis report]   | DX 3591;  |
| 1.02  | Becker muscular dystrophy or limb-girdle dystrophy   | Becker muscular dystrophy [physical examination or genetic analysis report or Western Blot analysis report]<br>OR limb-girdle dystrophy [physical examination or Western Blot analysis report or genetic analysis reports limb-girdle dystrophy subtype]  | NO;   |
| 1.03  | Myotonic dystrophy or ocular muscular dystrophy or fascioscapulohumeral dystrophy or congenital muscular dystrophy or oculopharyngeal muscular dystrophy | Myotonic dystrophy [physical examination or genetic analysis report an unstable expansion of a CTG trinucleotide repeat sequence in a gene at 19q13.3]<br>OR ocular muscular dystrophy [physical examination]<br>OR facioscapulohumeral dystrophy [physical examination or genetic analysis report defect at chromosome 4q35]<br>OR congenital muscular dystrophy [physical examination or laminin $\alpha$ 2 deficiency by muscle biopsy or defect in chromosome 6q22-23 by genetic analysis report]<br>OR oculopharyngeal muscular dystrophy [physical examination or genetic defect in chromosome 14q] | DX 3590, 3592;  |
| 2.01  | Duchennic type muscular dystrophy  | Duchennic type muscular dystrophy [physical examination or dystrophin in muscle tissue by Western Blot analysis report or dystrophin gene at short arm of the X chromosome at Xp21 by genetics report]  | NO;   |
| 2.02  | with hypertension  | Stage 1.01-2.01<br>AND <b>hypertension:</b>   | STAGE 1.01-1.03 + DXCAT CVS13;  |
| 2.03  | with mental retardation  | Stage 1.01-2.02<br>AND <b>mental retardation:</b>   | STAGE 1.01-2.02 + DXCAT NEU15;  |
| 2.04  | with pneumonia   | Stage 1.01-2.03<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.03 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19 OR DX 5070); |
| 2.05  | with cardiomyopathy or cardiac conduction abnormalities  | Stage 1.01-2.04<br>Cardiomyopathy [echocardiogram report]<br>OR <b>cardiac conduction abnormalities:</b>  | STAGE 1.01-2.04 + (DX 4250-4254, 4257-4259 OR DXCAT CVS08);   |
| 3.01  | with congestive heart failure  | Stage 1.01-2.05<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-2.05 + (GROUP CHF__HTNIVE OR GROUP CHF__NON_HTN);  |
| 3.02  | with respiratory failure   | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;  |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS32

MultiStage: No

DXCat Label: Muscular Dystrophy

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.03<br>AND death | NO;            |

### References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Anderson JR. Recent advances in muscular dystrophies and myopathies. Journal of Clinical Pathology. 1995;48(7):597-601.

Mendell JR, Griggs RC, Ptacek LJ. Diseases of muscle. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2473-2483.

Worton R. Muscular dystrophies: diseases of the dystrophin-glycoprotein complex. Science. 1995;270(5237):755-6.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Primary Bone

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 0.00  | History of primary malignant neoplasm of bone   |   | DX V1081;  |
| 1.01  | Osteosarcoma or osteogenic sarcoma or ossifying parosteal sarcoma or peripheral chondrosarcoma or medullary fibrosarcoma or osteoclastoma or Ewing's sarcoma of the long bones or reticulum cell sarcoma or lymphosarcoma or clasmocytoma or monocytoma | Osteosarcoma [operative/pathology report]<br>OR<br>osteogenic sarcoma [operative/pathology report]<br>OR<br>ossifying parosteal sarcoma [operative/pathology report]<br>OR<br>chondrosarcoma of the long bones [operative/pathology report]<br>OR<br>medullary fibrosarcoma [operative/pathology report]<br>OR<br>osteoclastoma [operative/pathology report]<br>OR<br>Ewing's sarcoma of the long bones [operative/pathology report]<br>OR<br>reticulum cell sarcoma [operative/pathology report]<br>OR<br>lymphosarcoma [operative/pathology report]<br>OR<br>clasmocytoma [operative/pathology report]<br>OR<br>monocytoma [operative/pathology report] | DX 1700-1709;                                      |
| 1.02  | Chondrosarcoma or Ewing's sarcoma of the axial skeleton or endothelial myeloma  | Chondrosarcoma of the axial skeleton [operative/pathology report]<br>OR<br>Ewing's sarcoma of the axial skeleton [operative/pathology report]<br>OR<br>endothelial myeloma [operative/pathology report]   | NO;  |
| 2.01  | Osteosarcoma with Paget's disease of the bones or parosteal osteosarcoma Grade III or chondrosarcoma with skeletal enchondromatosis or diffuse fibrosarcoma or giant cell tumor in soft tissues   | Osteosarcoma with Paget's disease of the bones [operative/pathology report]<br>OR<br>parosteal osteosarcoma Grade III [operative/pathology report]<br>OR<br>chondrosarcoma with skeletal enchondromatosis [operative/pathology report]<br>OR<br>diffuse fibrosarcoma [operative/pathology report]<br>OR<br>giant cell tumor in soft tissues [operative/pathology report]  | NO;  |
| 2.02  | Primary malignant bone tumors with tumor involving regional lymph nodes   | Stage 1.01-2.01<br>AND<br>tumor involving regional lymph nodes [operative/pathology report]   | STAGE 0.00-1.01 + DX 1960-1969;                    |
| 3.01  | Primary malignant bone tumors with metastasis to other bones  | Stage 1.01-2.02<br>AND<br>metastasis to other bones   | STAGE 0.00-2.02 + (DX 1985, 3383);                 |
| 3.02  | Primary malignant bone tumors with metastasis to the lungs  | Stage 1.01-3.01<br>AND<br>pulmonary metastasis [operative/pathology report]   | STAGE 0.00-3.01 + DX 1970-1972;                    |
| 3.03  | Primary malignant bone tumors with metastasis to the central nervous system   | Stage 1.01-3.02<br>AND<br>metastasis to the central nervous system [operative/pathology report]   | STAGE 0.00-3.02 + DX 1983-1984;                    |
| 3.04  | Primary malignant bone tumors with shock  | Stage 2.02-3.03<br>AND<br><b>shock:</b>   | STAGE 0.00-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.02-3.04<br>AND<br>death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Primary Bone

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Abdu WA, Provencher M. Primary bone and metastatic tumors of the cervical spine. *Spine*. 1998;23:2767-77.

Bridwell KH, DeWald RL. *The Textbook of Spinal Surgery, Second Edition*. In: Lippincott-Raven. Philadelphia, PA; 1997:1957-1982, 2007-2050.

Maher de Leon ME, Schnell S, Rozental JM. Tumors of the spine and spinal cord. *Seminars in Oncology Nursing*. 1998;14:43-52.

Marcuzzi A, Maiorana A, Adani R, Spina V, Busa R, Caroli A. Osteosarcoma of the scaphoid. A case report and review of the literature. *Journal of Bone & Joint Surgery - British Volume*. 1996;78(5):699-701.

Peyser AB, Makley JT, Callewart CC, Brackett B, Carter JR, Abdul-Karim FW. Osteoma of the long bones and the spine. A study of eleven patients and a review of the literature. *Journal of Bone & Joint Surgery -American Volume*. 1996;78(8):1172-80.

Scully SP, Harrelsohn JM. Fractures and dislocations: infections and neoplasms of bone. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1458-1469.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS34

MultiStage: No

DXCat Label: Osteoarthritis, Except Spine

Specificity: A

Etiology: Degenerative; Immune; Metabolic; Trauma

| Stage | Description                          | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--------------------------------------|---|---|
| 1.01  | Osteoarthritis of the hands          | Osteoarthritis of the hands [x-ray report]<br>OR Heberden's nodes<br>OR Bouchard's nodes  | DX 71504, 71514, 71524, 71534, 71594, 71500, 71509-71510, 71518, 71520, 71528, 71530, 71538, 71580, 71589-71590, 71598, 71600, 71604, 71608-71610, 71614, 71618-71620, 71624, 71628-71630, 71634, 71638-71640, 71644, 71648-71650, 71654, 71658-71660, 71664, 71668, 71680, 71684, 71688-71690, 71694, 71698-71699; |
| 1.02  | Osteoarthritis of the ankle and foot | Osteoarthritis of the ankle [x-ray report]<br>OR osteoarthritis of the foot [x-ray report]  | DX 71516-71517, 71526-71527, 71536-71537, 71596-71597, 71606-71607, 71616-71617, 71626-71627, 71636-71637, 71646-71647, 71656-71657, 71666-71667, 71686-71687, 71696-71697;   |
| 1.03  | Osteoarthritis of the elbow          | Osteoarthritis of the elbow [x-ray report]  | DX 71512-71513, 71522-71523, 71532-71533, 71592-71593, 71602-71603, 71612-71613, 71622-71623, 71632-71633, 71642-71643, 71652-71653, 71662-71663, 71682-71683, 71692-71693;   |
| 1.04  | Osteoarthritis of the shoulder area  | Osteoarthritis of the shoulder [x-ray report]   | DX 71511, 71521, 71531, 71591, 71601, 71611, 71621, 71631, 71641, 71651, 71661, 71681, 71691;   |
| 2.01  | with cervical radiculopathy          | Stage 1.03<br>AND cervical radiculopathy [EMG report]<br>OR no history of trauma to areas of pain<br>AND pain in either arm<br>OR pain in shoulders | STAGE 1.03-1.04 + (DX 7211, 72191);   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS34

MultiStage: No

DXCat Label: Osteoarthritis, Except Spine

Specificity: A

Etiology: Degenerative; Immune; Metabolic; Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                               |
|-------|---|---|--|
| 2.02  | with compression of the metacarpophalangeal joints or compression of the interphalangeal joints | Stage 1.01<br>AND no range of motion of fingers<br>OR compression of the metacarpophalangeal joints [x-ray report]<br>OR compression of the interphalangeal joints [x-ray report]                       | STAGE 1.01 + DX 3450-3459;                   |
| 2.03  | with compression of the knee joints or hip joints   | Stage 1.01-2.03<br>AND no range of motion of the lower extremities<br>OR compression of the knee joints [knee x-ray report]<br>OR compression of the hip joints [pelvic x-ray report or CT scan report] | STAGE 1.01-2.02 + (DX 3530-3539, 3550-3559); |

### References:

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Creamer P, Hochberg MC. Osteoarthritis. Lancet. 1997;350(9076):503-8.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:32-34.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lane NE, Thompson JM. Management of osteoarthritis in the primary-care setting: an evidence-based approach to treatment. American Journal of Medicine. 1997;103(6A):25S-30S.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS35

DXCat Label: Osteochondrodysplasia

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--------------------------|--|--|
| 1.01  | Osteochondrodysplasia    | Achondroplasia [ physical examination or genetic analysis report defect in chromosome 4p]<br>OR<br>hypochondroplasia [physical examination or genetic analysis report]<br>OR<br>pseudoachondroplasia [physical examination or genetic analysis report]<br>OR<br>diastrophic dysplasia [physical examination or genetic analysis report]<br>OR<br>multiple epiphyseal dysplasia [physical examination or genetic analysis report]<br>OR<br>spondyloepiphyseal dysplasia [physical examination or genetic analysis report]<br>OR<br>metaphyseal chondrodysplasia [physical examination or genetic analysis report]<br>OR<br>mesomelic dysplasia [physical examination or genetic analysis report]<br>OR<br>chondrodysplasia punctata, rhizomelic form [physical examination or genetic analysis report]<br>OR<br>chondrodysplasia punctata, Conradi-Hünemann form [physical examination or genetic analysis report]<br>OR<br>chondroectodermal dysplasia [physical examination or genetic analysis report] | DX 7564, 75655, 75656, 75659, 7569;                |
| 2.01  | with hydrocephalus       | Stage 1.01<br>AND hydrocephalus [physical examination or CT scan report]   | STAGE 1.01 + (DX 3314, 7423);                      |
| 2.02  | with mental retardation  | Stage 1.01-2.01<br>AND <b>mental retardation:</b>  | STAGE 1.01-2.01 + DXCAT NEU15;                     |
| 3.01  | with respiratory failure | Stage 1.01-2.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.02 + GROUP RESP_FAIL;                 |
| 3.02  | with coma                | Stage 1.01-3.01<br>AND <b>coma:</b>  | STAGE 1.01-3.01 + GROUP COMA;                      |
| 3.03  | with shock               | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 1.01-3.03<br>AND death   | NO;  |

### References:

Krane SM, Schiller AL. Polyostotic fibrous dysplasia, hyperostosis and other disorders of bone and metabolism. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2269-2277.

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Ozaki T, Lindner N, Blasius S. Dedifferentiated chondrosarcoma in Albright syndrome. A case report and review of the literature. Journal of Bone & Joint Surgery - American Volume. 1997;79(10):1545-51.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS36

MultiStage: No

DXCat Label: Osteomalacia

Specificity: A

Etiology: Metabolic; Nutritional

| Stage | Description              | Diagnostic findings                  | ICD-9-CM Codes                        |
|-------|--------------------------|--------------------------------------|---------------------------------------|
| 1.01  | Osteomalacia             | Osteomalacia [x-ray report]          | DX 2682, 7310;                        |
| 2.01  | with pathologic fracture | Pathological fracture [x-ray report] | STAGE 1.01 + (DX 73310-73316, 73319); |

### References:

- Fitzgerald PA. Endocrinology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1031-1095.
- Losowsky MS, Hussaini SH. Bone disease after liver transplantation Gut. 1996;39(4):505-7.
- Wilkin TJ. Changing perceptions in osteoporosis BMJ. 1999;318(7187):862-4.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS37

DXCat Label: Osteomyelitis

Etiology: Infection

MultiStage: No

Specificity: B

| Stage | Description                      | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|----------------------------------|--|--|
| 1.01  | Intervertebral disc infection    | Disk space narrowing with endplate blurring [spine x-ray report or MRI report or CT scan report or physical examination]<br>OR Intervertebral Disc Infection [changes include decreased enhancement on T1 and increased intensity on T2 weighted images with characteristic enhancement with gadolinium administration on MRI report]                          | NO;  |
| 1.02  | Vertebral osteomyelitis          | Vertebral osteomyelitis [growth of pathologic organism(s) by bone culture report or bone scan or areas of hypodensity and trabecular, cortical or endplate destruction by CT report or changes include decreased enhancement on T1 and increased intensity on T2 weighted images with characteristic enhancement with gadolinium administration by MRI report] | NO;  |
| 2.01  | Osteomyelitis                    | Growth of pathologic organism(s) in bone other than vertebra [bone culture report]<br>OR involved area of bone consistent with osteomyelitis [bone scan, MRI or x-ray report]  | DX 73000-73029;                                    |
| 2.02  | with extension into soft tissues | Stage 2.01<br>AND soft tissue abscess<br>OR sinus tract formation between overlying skin and bone lesion   | NO;  |
| 2.03  | with sequestrum formation        | Stage 2.01-2.02<br>AND sequestrum formation [skeletal x-ray report]  | STAGE 2.01 + (DX 6869, 73340-73349);               |
| 2.04  | with epidural abscess            | Stage 2.01-2.03<br>AND epidural abscess [MRI report]   | STAGE 2.01-2.03 + (DX 3240-3249);                  |
| 2.05  | with paraspinal abscess          | Stage 2.01-2.04<br>AND paraspinal abscess [MRI report or cultures sensitivity report]  | NO;  |
| 2.06  | with pathologic fracture         | Stage 2.01-2.05<br>AND pathologic fracture [x-ray report]  | STAGE 2.01-2.04 + (DX 73310-73316, 73319);         |
| 2.07  | involving the spinal column      | Stage 2.01-2.06<br>AND extension into spinal column  | DX 73008, 73018, 73028;                            |
| 2.08  | with paraplegia or paraparesis   | Stage 2.01-2.07<br>AND paraplegia<br>OR paraparesis  | STAGE 2.01-2.07 + DX 3441;                         |
| 3.01  | with sepsis                      | Stage 2.01-2.08<br>AND <b>sepsis:</b>  | STAGE 2.01-2.08 + GROUP SEPSIS;                    |
| 3.02  | with respiratory failure         | Stage 2.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 2.01-3.01 + GROUP RESP_FAIL;                 |
| 3.03  | with shock                       | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                       | Stage 2.01-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS37

MultiStage: No

DXCat Label: Osteomyelitis

Specificity: B

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lew DP, Waldvogel FA. Osteomyelitis. N Engl J Med. 1997;336(14):999-1007.

Maguire JH. Osteomyelitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:824-827.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS38

MultiStage: No

DXCat Label: Osteoporosis

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Metabolic; Nutritional

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Osteopenia  | <b>osteopenia:</b> [bone density analysis, DEXA scan, reports $\leq$ 2.5 standard deviation below standard adult mean value]   | NO;   |
| 1.02  | Osteoporosis  | <b>osteoporosis:</b> [bone density analysis, DEXA scan, reports $>$ 2.5 standard deviation below standard adult mean value]  | DX 73300-73303, 73309;  |
| 2.01  | Osteoporosis with fracture of the lumbar vertebra or hip or extremities | Stage 1.02<br>AND compression fracture of the lumbar vertebra [x-ray report]<br>OR compression fracture of the hip [x-ray report]<br>OR fracture of the extremities [x-ray report] | STAGE 1.02 + DX 73310-73319;                                  |
| 2.02  | Osteoporosis with fracture of the thoracic vertebra                     | Stage 1.02-2.01<br>AND compression fracture of the thoracic vertebra [x-ray report]  | NO;   |
| 2.03  | Osteoporosis with fracture of the cervical vertebra                     | Stage 1.02-2.02<br>AND compression fracture of the cervical vertebra [x-ray report]  | NO;   |
| 3.01  | with renal failure  | Stage 1.02-2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with shock  | Stage 1.02-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death  | Stage 1.02-3.02<br>AND death   | NO;   |

### References:

Deal CL. Osteoporosis: prevention, diagnosis and management. American Journal of Medicine. 1997;102(1A): 35S-39S.

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Krane SM, Holick MF. Metabolic bone disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2247-2259.

Wasnich RD. Epidemiology of osteoporosis. In: Favus MJ ed. Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism. 3rd ed. Philadelphia, PA. Lippincott-Raven; 1996:249-251.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS39

MultiStage: No

DXCat Label: Progressive Systemic Sclerosis

Specificity: A

Etiology: Immune

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Progressive systemic sclerosis, scleroderma or CREST syndrome | Scleroderma [skin biopsy report]<br>OR CREST syndrome:<br>OR calcinosis<br>AND Raynaud's phenomenon<br>AND dysphagia<br>AND sclerodactyly<br>AND telangiectasias<br><br><u>Presumptive Diagnostic Findings:</u><br>Raynaud's phenomenon<br>AND thickening of the skin proximal to the metacarpal-phalangeal joints<br>OR swelling of acral portions of the digits | DX 7101-7102;   |
| 1.02  | with flexion contractures of the hands or arthralgias         | Stage 1.01<br>AND flexion contractures of one or both hands<br>OR polyarthralgia  | STAGE 1.01 + (DX 71844, 71944, 71949);                        |
| 2.01  | with trophic ulcers of the hands                              | Stage 1.01-1.02<br>AND trophic skin ulcers of the hand  | STAGE 1.01-1.02 + DX 7078;                                    |
| 2.02  | with gastroesophageal reflux or pneumatosis intestinalis      | Stage 1.01-2.01<br>AND reflux esophagitis [endoscopy report or UGI series report]<br>OR pneumatosis cystoides intestinalis [abdominal x-ray report]   | STAGE 1.01-2.01 + (DX 53011, 53081, 56989);                   |
| 2.03  | with biliary cirrhosis or jaundice                            | Stage 1.01-2.02<br>AND biliary cirrhosis [liver biopsy report]<br>OR <b>jaundice:</b>   | STAGE 1.01-2.02 + (DX 5716, 7824);                            |
| 2.04  | with lung fibrosis  | Stage 1.01-2.03<br>AND lung fibrosis [x-ray report or CT scan report]   | STAGE 1.01-2.03 + (DX 5163, 5178);                            |
| 2.05  | with cardiac conduction abnormalities                         | Stage 1.01-2.04<br>AND <b>cardiac conduction abnormalities:</b>   | STAGE 1.01-2.04 + GROUP COND_BBBS;                            |
| 2.06  | with hypertension   | Stage 1.01-2.05<br>AND <b>hypertension:</b>   | STAGE 1.01-2.05 + DXCAT CVS13;                                |
| 3.01  | with renal failure  | Stage 1.01-2.06<br>AND <b>renal failure:</b>  | STAGE 1.01-2.06 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with pulmonary hypertension                                   | Stage 1.01-3.01<br>AND pulmonary artery pressure > 30.5 mmHg [cardiac catheterization report]   | STAGE 1.01-3.01 + DX 4168;                                    |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS39

MultiStage: No

DXCat Label: Progressive Systemic Sclerosis

Specificity: A

Etiology: Immune

| Stage | Description                   | Diagnostic findings                                     | ICD-9-CM Codes   |
|-------|-------------------------------|---|--|
| 3.03  | with congestive heart failure | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b> | STAGE 1.01-3.02 + (GROUP CHF__HTNIVE OR GROUP CHF__NON_HTN); |
| 3.04  | with respiratory failure      | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>      | STAGE 1.01-3.03 + GROUP RESP_FAIL;                           |
| 3.05  | with shock                    | Stage 1.01-3.04<br>AND <b>shock:</b>                    | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;           |
| 4.00  | with death                    | Stage 1.01-3.05<br>AND death                            | NO;  |

### References:

Anonymous. Systemic sclerosis: current pathogenetic concepts and future prospects for targeted therapy. *Lancet*. 1996;347(9013):1453-8.

Gilliland BC. Systemic sclerosis (scleroderma). In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1888-1896.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

Herrick AL, Clark S. Quantifying digital vascular disease in patients with primary Raynaud's phenomenon and systemic sclerosis. *Annals of the Rheumatic Diseases*. 1998;57(2):70-8.

Mullinax F. Chimerism in scleroderma. *Lancet*. 1998;351(9119):1886-1997.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS40  
 DXCat Label: Rheumatoid Arthritis  
 Etiology: Immune

MultiStage: No  
 Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Rheumatoid arthritis   | <b>rheumatoid arthritis:</b><br>Any 4 of the <u>1987</u> criteria of the American College of Rheumatology:<br>history of morning stiffness $\geq$ 6 weeks<br>AND $\geq$ 3 joints with swelling or effusion for $\geq$ 6 weeks: elbow, knee, ankle or metatarsalphalangeal joints<br>OR swelling or effusion of the hand or wrist joints for $\geq$ 6 weeks<br>OR symmetrical bilateral joint swelling $\geq$ 6 weeks<br>OR subcutaneous nodules<br>OR rheumatoid arthritis [x-ray report of any joint]<br>OR rheumatoid factor titer $\geq$ 1:160 [chemistry report] | DX 7140, 7142, 7144;   |
| 1.02  | with uveitis   | Stage 1.01<br>AND uveitis [ophthamologist's report]  | STAGE 1.01 + (DX 36400, 36404, 36411, 3643);                                       |
| 1.03  | with fusion of metacarpophalangeal or interphalangeal joint spaces | Stage 1.01-1.02<br>AND fusion of metacarpophalangeal or interphalangeal joint spaces [x-ray report]  | STAGE 1.01-1.02 + DX 71854;  |
| 1.04  | with carpal tunnel syndrome  | Stage 1.01-1.03<br>AND carpal tunnel syndrome [operative/pathology report]<br>OR atrophy of thenar muscles<br>OR Tinel's sign  | STAGE 1.01-1.03 + DX 3540;   |
| 2.01  | Juvenile onset rheumatoid arthritis                                | Age $\leq$ 16 years old<br>AND Still's disease<br>OR <b>fever:</b><br>AND splenomegaly<br>AND generalized lymphadenopathy<br>AND serositis<br>AND <b>leukocytosis:</b>   | DX 71430-71433;  |
| 2.02  | with anemia  | Stage 1.01-2.01<br>AND <b>anemia:</b>  | STAGE 1.01-2.01 + (GROUP ANEM_OTH_CHR OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN); |
| 2.03  | with Felty's syndrome  | Stage 1.01-2.02<br>AND splenomegaly<br>AND <b>leukopenia:</b>  | DX 7141;   |
| 2.04  | with pneumoconiosis or interstitial fibrosis                       | Stage 1.01-2.03<br>AND interstitial fibrosis [chest x-ray report]<br>OR pulmonary nodules [x-ray report]<br>OR pneumoconiosis or Caplan's syndrome [x-ray report]  | STAGE 1.01-2.03 + DX 515;<br>DX 71481;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS40  
 DXCat Label: Rheumatoid Arthritis  
 Etiology: Immune

MultiStage: No  
 Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.05  | with cardiac conduction abnormalities or pericarditis or cardiomyopathy | Stage 1.01-2.04<br>AND <b>pericarditis:</b><br>OR cardiomyopathy [echocardiogram report]<br>OR <b>cardiac conduction abnormalities:</b> | STAGE 1.01-2.04 + (GROUP COND_BBBS OR DX 4200, 4258); |
| 3.01  | with vasculitides   | Stage 1.01-2.05<br>AND vasculitis [operative/pathology report]  | STAGE 1.01-2.05 + DXCAT MUS45;                        |
| 3.02  | with amyloidosis  | Stage 1.01-3.01<br>AND amyloidosis [operative/pathology report]   | STAGE 1.01-3.01 + DX 2773-27739;                      |
| 3.03  | with congestive heart failure   | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;                  |
| 3.04  | with respiratory failure  | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.03 + GROUP RESP_FAIL;                    |
| 3.05  | with shock  | Stage 2.01-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;    |
| 4.00  | with death  | Stage 2.01-3.05<br>AND death  | NO;   |

### References:

Alarcon GS. Predictive factors in rheumatoid arthritis. *American Journal of Medicine.* 103(6A):19S-24S, 1997 Dec 29.

Hellmann DB. "Arthritis & Musculoskeletal Disorders." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange, 1998:774-824.

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Wolfe F. The prognosis of rheumatoid arthritis: assessment of disease activity and disease severity in the clinic. *American Journal of Medicine.* 103(6A):12S-18S, 1997 Dec 29.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS41

MultiStage: No

DXCat Label: Scoliosis of the Lumbar Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description                      | Diagnostic findings  | ICD-9-CM Codes |
|-------|----------------------------------|--|----------------|
| 1.01  | Dysplastic scoliosis             | <p>Scoliosis &lt; 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Neurofibromatosis Type I [genetic analysis report]</p> <p>OR cutaneous neurofibromatosis [operative/pathology report]</p> <p>OR subcutaneous neurofibromatosis [operative/pathology report]</p> <p>OR Autosomal dominant, chromosome 17, gene codes for neurofibromin [genetic analysis report]</p> <p>OR Two or more of the following must be present:</p> <p>cafe-au-lait spot ≥ 1.5 cm in diameter for age &gt; 13 years old</p> <p>OR cafe-au-lait spot ≥ 0.5 cm in diameter for &lt; age 13 years old</p> <p>AND total of ≥ 6 cafe-au-lait spots</p> <p>OR ≥ two neurofibromas of any type</p> <p>OR ≥ 1 plexiform neurofibroma</p> <p>OR freckling in the axillary and inguinal regions</p> <p>OR ≥ 1 optic pathways glioma</p> <p>OR ≥ 2 Lisch nodules (iris amartomas)</p> <p>OR osseous lesion, such as sphenoid wing dysplasia or thinning of the cortex of long bones</p> <p>OR a first-degree relative with NF1 by the above criteria</p> | NO;            |
| 1.02  | Marfan's Scoliosis               | <p>Scoliosis &lt; 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Marfan's Scoliosis</p>  | NO;            |
| 1.03  | with skeletal dysplasia          | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND diastrophic dysplasia</p> <p>OR mucopolysaccharidosis</p> <p>OR pseudoachondroplasia</p> <p>OR spondyloepiphyseal dysplasia</p> <p>OR chondroplasia</p>  | NO;            |
| 1.04  | with osteogenesis imperfecta     | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND osteogenesis imperfecta [pathology report]</p>   | NO;            |
| 1.05  | with familial dysautonomia       | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Riley-Tay syndrome or familial dysautonomia</p>  | NO;            |
| 1.06  | Congenital scoliosis             | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Type I: Failure of formation</p> <p>OR Type II: Failure of segmentation</p> <p>OR Type III: Mixture with rib abnormalities</p>   | NO;            |
| 1.07  | Infantile and juvenile scoliosis | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND infantile scoliosis present from birth to three years of age</p> <p>OR juvenile scoliosis present from four to ten years of age</p>  | NO;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS41

MultiStage: No

DXCat Label: Scoliosis of the Lumbar Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes |
|-------|--|--|----------------|
| 1.08  | Adolescent idiopathic scoliosis  | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND adolescent idiopathic scoliosis between ten and twenty years of age  | NO;            |
| 1.09  | Paralytic scoliosis  | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND neuromuscular scoliosis<br>OR cerebral palsy<br>OR Friedreich's ataxia<br>OR syringomyelia<br>OR Charcot-Marie Tooth Disease<br>OR spinal muscular atrophy<br>OR secondary to spinal cord injury<br>OR Duchenne's muscular dystrophy<br>OR arthrogyposis | NO;            |
| 1.10  | Degenerative scoliosis   | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND degenerative scoliosis   | NO;            |
| 2.01  | Scoliosis of the lumbar spine of $\geq$ 30 degrees and $\leq$ 50 degrees | Scoliosis of the lumbar spine of $\geq$ 30 degrees and $<$ 50 degrees [x-ray report]   | NO;            |
| 2.02  | Scoliosis of the lumbar spine of $\geq$ 50 degrees [x-ray report]        | Scoliosis of the lumbar spine of $\geq$ 50 degrees [x-ray report]  | NO;            |
| 2.03  | Scoliosis of the lumbar spine with cauda equina syndrome                 | Stage 1.01-2.02<br>AND <b>cauda equina syndrome:</b>   | NO;            |

### References:

Anonymous. Screening for adolescent idiopathic scoliosis. Review article. US Preventive Services Task Force. JAMA. 1993;269(20):2667-72.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:97-99.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lonstein JE. Adolescent idiopathic scoliosis. Lancet. 1994;344(8934):1407-12.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS42

MultiStage: No

DXCat Label: Scoliosis of the Thoracic Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes                            |
|-------|------------------------------|--|---|
| 1.01  | Dysplastic scoliosis         | <p>Scoliosis &lt; 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND neurofibromatosis Type I [genetic analysis report]</p> <p>OR cutaneous neurofibromatosis [operative/pathology report]</p> <p>OR subcutaneous neurofibromatosis [operative/pathology report]</p> <p>OR autosomal dominant, chromosome 17, gene codes for neurofibromin [genetic analysis report]</p> <p>OR two or more of the following must be present:</p> <p>cafe-au-lait spot ≥ 1.5 cm in diameter for age &gt; 13 years old</p> <p>OR cafe-au-lait spot ≥ 0.5 cm in diameter for &lt; age 13 years old</p> <p>AND total of ≥ 6 cafe-au-lait spots</p> <p>OR ≥ two neurofibromas of any type</p> <p>OR ≥ 1 plexiform neurofibroma</p> <p>OR freckling in the axillary and inguinal regions</p> <p>OR ≥ 1 optic pathways glioma</p> <p>OR ≥ 2 Lisch nodules (iris amartomas)</p> <p>OR osseous lesion, such as sphenoid wing dysplasia or thinning of the cortex of long bones</p> <p>OR a first-degree relative with NF1 by the above criteria</p> | DX 73730, 73733-73734, 73739, 7378, 7379; |
| 1.02  | Marfan's scoliosis           | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Marfan's syndrome</p>  | STAGE 1.01 + DX 75982;                    |
| 1.03  | with skeletal dysplasia      | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND dystrophic dysplasia</p> <p>OR mucopolysaccharidosis</p> <p>OR pseudoachondroplasia</p> <p>OR sondyloepiphyseal dysplasia</p> <p>OR chondroplasia</p>  | STAGE 1.01-1.02 + DX 2775;                |
| 1.04  | with osteogenesis imperfecta | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND osteogenesis imperfecta [pathology report]</p>   | STAGE 1.01-1.03 + DX 75651;               |
| 1.05  | with familial dysautonomia   | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Riley-Day syndrome or familial dysautonomia</p>  | STAGE 1.01-1.04 + DX 7428;                |
| 1.06  | Congenital scoliosis         | <p>Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]</p> <p>AND Type I: Failure of formation</p> <p>OR Type II: Failure of segmentation</p> <p>OR Type III: Mixture with rib abnormalities</p>   | DX 7542;                                  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS42

MultiStage: No

DXCat Label: Scoliosis of the Thoracic Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.07  | Infantile and juvenile scoliosis  | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND infantile scoliosis present from birth to three years of age<br>OR juvenile scoliosis present from four to ten years of age  | DX 73731-73732;                                    |
| 1.08  | Adolescent idiopathic scoliosis   | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND adolescent idiopathic scoliosis between ten and twenty years of age  | NO;  |
| 1.09  | Paralytic scoliosis   | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND Neuromuscular scoliosis<br>OR cerebral palsy<br>OR Friedreich's ataxia<br>OR syringomyelia<br>OR Charcot-Marie Tooth Disease<br>OR spinal muscular atrophy<br>OR secondary to spinal cord injury<br>OR Duchenne's muscular dystrophy<br>OR arthrogyposis | NO;  |
| 1.10  | Degenerative scoliosis  | Scoliosis $\geq$ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination]<br>AND degenerative scoliosis   | NO;  |
| 2.01  | Scoliosis of the thoracic spine of $\geq$ 30 degrees and $<$ 50 degrees | Scoliosis of the thoracic spine of $\geq$ 30 degrees and $<$ 50 degrees [x-ray report]   | NO;  |
| 2.02  | Scoliosis of the thoracic spine of $\geq$ 50 degrees                    | Scoliosis of the thoracic spine of $\geq$ 50 degrees [x-ray report]<br>OR kyphoscoliosis [x-ray report]  | NO;  |
| 2.03  | with cauda equina syndrome  | Stage 1.01-2.02<br>AND <b>cauda equina syndrome:</b>   | STAGE 1.01-1.07 + DX 34460;                        |
| 2.04  | with hypoxemia  | Stage 1.01-2.03<br>AND <b>hypoxemia:</b>   | STAGE 1.01-2.03 + GROUP HYPOXEMIA;                 |
| 3.01  | with cor pulmonale  | Stage 1.01-2.04<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-2.04 + GROUP COR_PULMONAL;              |
| 3.02  | with shock  | Stage 2.04-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.04-3.02<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS42

MultiStage: No

DXCat Label: Scoliosis of the Thoracic Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Anonymous. Screening for adolescent idiopathic scoliosis. Review article. US Preventive Services Task Force JAMA. 1993;269(20):2667-72.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:97-99.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lonstein JE. Adolescent idiopathic scoliosis. Lancet. 1994;344(8934):1407-12.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS43

DXCat Label: Spondylitis, Ankylosing

Etiology: Immune

MultiStage: No

Specificity: A

| Stage | Description                                      | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Ankylosing spondylitis                           | Sacroiliitis [sacroiliac x-ray report or axial skeleton report describes 'bamboo' appearance of spine x-ray report]<br>OR New York criteria (1984): a history of inflammatory back pain<br>OR back pain onset ≤ 40 years old<br>AND insidious onset<br>AND ≥ 3 months before medical attention is sought<br>AND morning stiffness improves with exercise<br>OR limitation of motion of the lumbar spine in both the sagittal and frontal planes<br>OR positive Schober test<br>OR ≤ 4 cm separation of horizontal line markers between the posterosuperior iliac spines<br>OR limited chest expansion<br>OR maximal inspiration and maximal forced expiration at 4 <sup>th</sup> intercostal space < 5 cm | DX 7200-7202, 72089-7209, 7216;                               |
| 2.01  | with cervical fusion or atlantoaxial subluxation | Stage 1.01<br>AND cervical fusion [x-ray report]<br>OR atlantoaxial subluxation [x-ray report]  | STAGE 1.01 + (DX 83910, 83911, 71828);<br>DX 7215;            |
| 2.02  | with uveitis                                     | Stage 1.01-2.01<br>AND uveitis [ophthalmologist's report]   | STAGE 1.01-2.01 + (DX 36400, 36404, 36411, 3643) ;            |
| 2.03  | with pulmonary fibrosis                          | Stage 1.01-2.02<br>AND pulmonary fibrosis [x-ray report]  | STAGE 1.01-2.02 + DX 5163;                                    |
| 2.04  | with cardiac conduction abnormalities            | Stage 1.01-2.03<br>AND <b>cardiac conduction abnormalities:</b>   | STAGE 1.01-2.03 + GROUP COND_BBBS;                            |
| 2.05  | with cauda equina syndrome                       | Stage 1.01-2.04<br>AND <b>cauda equina syndrome:</b>  | STAGE 1.01-2.04 + (DX 34460-34461);                           |
| 2.06  | with quadriparesis                               | Stage 1.01-2.05<br>AND quadriparesis  | STAGE 1.01-2.05 + (DX 34400-34409);                           |
| 3.01  | with renal failure                               | Stage 1.01-2.06<br>AND <b>renal failure:</b>  | STAGE 1.01-2.06 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with respiratory failure                         | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                            |
| 3.03  | with shock                                       | Stage 2.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + GROUP SHOCKA;                               |
| 4.00  | with death                                       | Stage 2.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS43

MultiStage: No

DXCat Label: Spondylitis, Ankylosing

Specificity: A

Etiology: Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Archer JR. Ankylosing spondylitis, IgA, and transforming growth factors. *Annals of the Rheumatic Diseases*. 1995;54(7):544-6.

Bridwell KH, DeWald RL. *The Textbook of Spinal Surgery, Second Edition*. Lippincott-Raven, Philadelphia, PA, 1997, pp. 1109-1158.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

Taurog JD, Lipsky PE. Ankylosing spondylitis, reactive arthritis, and undifferentiated spondyloarthropathy. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York: McGraw-Hill; 1998:1904-1910.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS44

MultiStage: Yes

DXCat Label: Systemic Lupus Erythematosus

Specificity: A

Etiology: Immune

| Stage | Description                                      | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Systemic lupus erythematosus                     | Systemic lupus erythematosus<br>OR Four or more of the following criteria:<br>Malar rash<br>OR Discoid rash<br>OR Photosensitivity<br>OR Oral ulcers<br>OR <b>arthritis:</b><br>OR Serositis<br>OR 0.5 g/d proteinuria [urinalysis report]<br>OR 3 + dipstick proteinuria [urinalysis report]<br>OR Cellular casts [urinalysis report]<br>OR Seizures [EEG report]<br>OR Psychosis<br>OR <b>hemolysis:</b><br>OR <b>leukopenia:</b><br>OR <b>lymphocytopenia:</b><br>OR <b>thrombocytopenia:</b><br>OR Positive LE cell preparation [chemistry report]<br>OR Double stranded anti-DNA antibody titer $\geq$ 1:40 [chemistry report]<br>OR Smith antigen titer $\geq$ 1:40 [chemistry report]<br>OR positive serologic test for syphilis [chemistry report]<br>OR antiphospholipid antibodies<br>OR ANA antibody titer $\geq$ 1:40[chemistry report] | DX 7100;  |
| 2.01  | with lupus anticoagulant or deep vein thrombosis | Stage 1.01<br>AND anticardiolipin antibodies positive [serology report]<br>OR history of recurrent deep vein thrombosis<br>OR <b>DVT:</b>   | STAGE 1.01 + GROUP DVT;                               |
| 2.02  | with pneumonia or lupus pneumonitis              | Stage 1.01-2.01<br>AND <b>pneumonia:</b><br>OR lupus pneumonitis  | STAGE 1.01-2.01 + (GROUP PNEUMONIA OR DX 5070, 5178); |
| 2.03  | with pleural effusion                            | Stage 1.01-2.02<br>AND pleural effusion [x-ray report or thoracentesis report]  | STAGE 1.01-2.02 + (DX 5111, 5118-5119);               |
| 2.04  | with lupus nephritis                             | Stage 1.01-2.03<br>AND lupus nephritis [renal biopsy report]  | STAGE 1.01-2.03 + (DX 58181, 58381);                  |
| 2.05  | with peritonitis                                 | Stage 1.01-2.04<br>AND peritonitis [operative/pathology report]   | STAGE 1.01-2.04 + (DX 5672-5679, 56983);              |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS44

MultiStage: Yes

DXCat Label: Systemic Lupus Erythematosus

Specificity: A

Etiology: Immune

| Stage | Description                      | Diagnostic findings   | ICD-9-CM Codes  |
|-------|----------------------------------|---|---|
| 2.06  | with pericarditis                | Stage 1.01-2.05<br>AND <b>pericarditis:</b>                           | STAGE 1.01-2.05 + DX 4200;  |
| 3.01  | with renal failure               | Stage 1.01-2.06<br>AND <b>renal failure:</b>                          | STAGE 1.01-2.06 + (GROUP<br>REN_FAIL_ACU OR GROUP<br>REN_FAIL_CHR); |
| 3.02  | with endocarditis or myocarditis | Stage 1.01-3.01<br>AND <b>endocarditis:</b><br>OR <b>myocarditis:</b> | STAGE 1.01-3.01 + (DX 4220,<br>42491);                              |
| 3.03  | with respiratory failure         | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>                    | STAGE 1.01-3.02 + GROUP<br>RESP_FAIL;                               |
| 3.04  | with coma                        | Stage 1.01-3.03<br>AND <b>coma:</b>                                   | STAGE 1.01-3.03 + GROUP COMA;                                       |
| 3.05  | with shock                       | Stage 2.01-3.04<br>AND <b>shock:</b>                                  | STAGE 1.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;               |
| 4.00  | with death                       | Stage 2.01-3.05<br>AND death  | NO;   |

### References:

Hahn BH. Antibodies to DNA. N Engl J Med. 1998;338(19):1359-68.

Hahn BH. Systemic lupus erythematosus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1874-1880.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Sathananthan R, David J. The adolescent with rheumatic disease. Archives of Disease in Childhood. 1997;77(4):355-8.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS45

DXCat Label: Vasculitis

Etiology: Idiopathic; Immune

MultiStage: No

Specificity: C

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---------------------------------------|---|--|
| 1.01  | Vasculitis                            | Unspecified disorder of coccyx<br>OR Unspecified disorder of cervical region<br>OR Unspecified disorder of other back region      | DX 4476;   |
| 2.01  | with myositis                         | Stage 1.01<br>AND myositis [operative/pathology report]   | STAGE 1.01 + DX 7291;  |
| 2.02  | with neuropathy                       | Stage 1.01-2.01<br>AND neuropathy [EMG report]  | STAGE 1.01-2.01 + (DX 3564-3569,<br>3571, 3574, 3578-3579);  |
| 2.03  | with pulmonary involvement            | Stage 1.01-2.02<br>AND pulmonary involvement [operative/pathology report]   | STAGE 1.01-2.02 + GROUP<br>PNEUMONIA;  |
| 2.04  | with cardiac conduction abnormalities | Stage 1.01-2.03<br>AND <b>cardiac conduction defects:</b>   | STAGE 1.01-2.03 + GROUP<br>COND_BBBS;  |
| 2.05  | with gastrointestinal involvement     | Stage 1.01-2.04<br>AND ileus [abdominal x-ray report]<br>OR heme positive stools<br>OR bowel obstruction [abdominal x-ray report] | STAGE 1.01-2.04 + (DX 5372-5373,<br>5601, 56089-5609);   |
| 3.01  | with renal failure                    | Stage 1.01-2.05<br>AND <b>renal failure:</b>  | STAGE 1.01-2.05 + GROUP<br>REN_FAIL_ACU;   |
| 3.02  | with cerebrovascular accident         | Stage 1.01-3.01<br>AND cerebrovascular accident [MRI scan report or CT scan report]   | STAGE 1.01-3.01 + (DX 430, 431,<br>4320-4321, 4329, 43301, 43311,<br>43321, 43331, 43381, 43391,<br>43401, 43411, 43491, 436); |
| 3.03  | with respiratory failure              | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP<br>RESP_FAIL;  |
| 3.04  | with shock                            | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                            | Stage 1.01-3.04<br>AND death  | NO;  |

## References:

Calabrese LH, Duna GF, Lie JT. Vasculitis in the central nervous system *Arthritis & Rheumatism*. 40(7):1189-201, 1997 Jul.

Hellmann DB. "Arthritis & Musculoskeletal Disorders." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange, 1998:774-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS46

MultiStage: No

DXCat Label: Osteoarthritis, Cervical Spine

Specificity: A

Etiology:

| Stage | Description                          | Diagnostic findings   | ICD-9-CM Codes |
|-------|--------------------------------------|---|----------------|
| 1.01  | Osteoarthritis of the cervical spine | Osteoarthritis of the cervical spine [x-ray or CT scan report]  | DX 7210, 7224; |
| 2.01  | with cervical radiculopathy          | Stage 1.01<br>AND cervical radiculopathy [EMG report]<br>OR no history of trauma to areas of pain<br>AND pain in either arm<br>OR pain in shoulders | DX 7211;       |

### References:

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Creamer P, Hochberg MC. Osteoarthritis. Lancet. 1997;350(9076):503-8.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:32-34.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lane NE, Thompson JM. Management of osteoarthritis in the primary-care setting: an evidence-based approach to treatment. American Journal of Medicine. 1997;103(6A):25S-30S.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS47

MultiStage: No

DXCat Label: Osteoarthritis, Thoracic Spine

Specificity: A

Etiology:

| Stage | Description                          | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--------------------------------------|--|-----------------|
| 1.01  | Osteoarthritis of the thoracic spine | Osteoarthritis of the thoracic spine [x-ray or CT scan report]   | DX 7212, 72251; |
| 2.01  | with thoracic radiculopathy          | tage 1.01<br>AND thoracic radiculopathy [EMG report]<br>OR no history of trauma to areas of pain<br>AND pain in either arm<br>OR pain in shoulders | DX 72141;       |

### References:

- Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.
- Creamer P, Hochberg MC. Osteoarthritis. *Lancet*. 1997;350(9076):503-8.
- Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:32-34.
- Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.
- Lane NE, Thompson JM. Management of osteoarthritis in the primary-care setting: an evidence-based approach to treatment. *American Journal of Medicine*. 1997;103(6A):25S-30S.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS48

MultiStage: No

DXCat Label: Osteoarthritis, Lumbar Spine

Specificity: A

Etiology:

| Stage | Description                        | Diagnostic findings  | ICD-9-CM Codes   |
|-------|------------------------------------|--|--|
| 1.01  | Osteoarthritis of the lumbar spine | Osteoarthritis of the lumbar spine [x-ray report or CT scan report]                  | DX 71515, 71525, 71535, 71595, 71605, 71615, 71625, 71635, 71645, 71655, 71665, 71685, 71695, 7213, 72190, 72252-7226; |
| 2.01  | with lumbar radiculopathy          | Stage 1.01<br>AND pain on straight leg raise<br>OR lumbar radiculopathy [EMG report] | DX 72191, 72142;   |

### References:

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Cremer P, Hochberg MC. Osteoarthritis. Lancet. 1997;350(9076):503-8.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:32-34.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lane NE, Thompson JM. Management of osteoarthritis in the primary-care setting: an evidence-based approach to treatment. American Journal of Medicine. 1997;103(6A):25S-30S.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS49

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Cervical

Specificity: A

### Etiology:

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Asymptomatic prolapse of the intervertebral disc        | Herniated intervertebral disc [spine x-ray or MRI or myelogram report]  | DX 7220;   |
| 1.02  | Symptomatic prolapse of intervertebral disc             | Stage 1.01<br>AND pain radiating to arm(s)<br>OR weakness of arm(s)<br>OR cervical radiculopathy [physical examination or EMG report] | STAGE 1.01 + (DX 3368, 7230-7239, 72281);<br>DX 72271; |
| 2.01  | with loss of bladder or bowel control                   | Stage 1.01-1.02<br>AND incontinence of urine<br>OR incontinence of bowels   | STAGE 1.01-1.02 + (DX 78830, 78838, 7876);             |
| 2.02  | with cauda equina syndrome or conus medullaris syndrome | Stage 1.01-2.01<br>AND <b>cauda equina syndrome:</b><br>OR <b>conus medullaris syndrome:</b>  | STAGE 1.01-2.01 + DX 34460-34461;                      |
| 2.03  | with paraplegia   | Stage 1.01-2.02<br>AND paraplegia   | STAGE 1.01-2.02 + DX 3441;                             |
| 2.04  | with quadriplegia                                       | Stage 1.01-2.03<br>AND quadriplegia   | STAGE 1.01-2.03 + DX 34400-34404;                      |
| 2.05  | with pneumonia (aspiration or bacterial)                | Stage 1.01-2.04<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.04 + (DXCAT RES15 OR DX 5070);            |
| 3.01  | with sepsis   | Stage 2.05<br>AND <b>sepsis:</b>  | STAGE 2.05 + GROUP SEPSIS;                             |
| 3.02  | with shock  | Stage 2.05-3.01<br>AND <b>shock:</b>  | STAGE 2.05-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;     |
| 4.00  | with death  | Stage 2.05-3.02<br>AND death  | NO;  |

### References:

Boden SD. The use of radiographic imaging studies in the evaluation of patients who have degenerative disorders of the lumbar spine. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(1):114-24.

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS50

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Thoracic

Specificity: A

Etiology:

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 1.01  | Asymptomatic prolapse of thoracic intervertebral disc   | Herniated intervertebral disc [spine x-ray or MRI or myelogram report]  | DX 72211, 72231;                                   |
| 1.02  | Symptomatic prolapse of thoracic intervertebral disc    | Stage 1.01<br>AND pain radiating to arm(s)<br>OR weakness of arm(s)<br>OR thoracic radiculopathy [physical examination or EMG report] | STAGE 1.01 + (DX 3368, 72282);<br>DX 72272;        |
| 2.01  | with loss of bladder or bowel control                   | Stage 1.01-1.02<br>AND incontinence of urine<br>OR incontinence of bowels   | STAGE 1.01-1.02 + (DX 78830, 78838, 7876);         |
| 2.02  | with cauda equina syndrome or conus medullaris syndrome | Stage 1.01-2.01<br>AND <b>cauda equina syndrome:</b><br>OR <b>conus medullaris syndrome:</b>  | STAGE 1.01-2.01 + DX 34460-34461;                  |
| 2.03  | with paraplegia   | Stage 1.01-2.02<br>AND paraplegia   | STAGE 1.01-2.02 + DX 3441;                         |
| 2.04  | with quadriplegia                                       | Stage 1.01-2.03<br>AND quadriplegia   | STAGE 1.01-2.03 + DX 34400-34404;                  |
| 2.05  | with pneumonia (aspiration or bacterial)                | Stage 1.01-2.04<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.04 + (DXCAT RES15 OR DX 5070);        |
| 3.01  | with sepsis   | Stage 2.05<br>AND <b>sepsis:</b>  | STAGE 2.05 + GROUP SEPSIS;                         |
| 3.02  | with shock  | Stage 2.05-3.01<br>AND <b>shock:</b>  | STAGE 2.05-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.05-3.02<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS50

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Thoracic

Specificity: A

Etiology:

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Boden SD. The use of radiographic imaging studies in the evaluation of patients who have degenerative disorders of the lumbar spine. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(1):114-24.

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS80

MultiStage: No

DXCat Label: Anomaly: Musculoskeletal System

Specificity: C

Etiology: Congenital

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Congenital dislocations and anomalies of bone, soft tissue anomalies, spondylolisthesis |                     | DX 7541, 75430-75616, 75619-7563, 75650-75654, 75670-75682, 75689; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS81

MultiStage: No

DXCat Label: Injury: Other and Ill-Defined Musculoskeletal Sites

Specificity: C

Etiology: Trauma

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 1.01  | Closed nonspecific fracture, sprain or multiple fractures, internal injury, or late effects of musculoskeletal trauma |                     | DX 81380-81383, 8170, 8180, 8190, 8270, 8280, 8290, 8398, 8488-8489, 8628, 9050-9064; |
| 2.01  | Nonspecific open fracture or injury   |                     | DX 81390-81393, 8171, 8181, 8191, 8271, 8281, 8291, 8399, 8629;                       |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS82

MultiStage: No

DXCat Label: Neoplasm, Benign: Musculoskeletal System or Connective Tissue

Specificity: A

Etiology: Neoplasm

| Stage | Description                               | Diagnostic findings | ICD-9-CM Codes            |
|-------|---|---------------------|---------------------------|
| 1.01  | Benign neoplasm of musculoskeletal system |                     | DX 2131-2139, 2380, 2392; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS83

MultiStage: No

DXCat Label: Other Arthropathies, Bone and Joint Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Crystal arthropathies, polymyalgia rheumatica, or somatic dysfunction                                    |                     | DX 71210-71299, 71489-7149, 7176-7177, 71800-71820, 71828, 71830, 71838, 71840-71865, 71870, 71878, 71880, 71888, 71890, 71898, 71900-71908, 71910-71918, 71920-71928, 71930-71938, 71940-71948, 71950-71958, 71960-71968, 7197-71978, 71980-71988, 71990-71998, 72691, 72700-72705, 72709, 7272-72749, 72781-72885, 72887-7289, 7290-72972, 7312-7313, 7320-7329, 73310, 73319, 73320-73322, 7333, 7336-73392, 73395-734, 7354-7369, 7380-7383, 7386-7389, 7390, 7396-7399, 32752, 72981-7299, 7937; |
| 2.01  | Pathological or recurrent dislocation or derangement of multiple joints or infections of bone and joints |                     | DX 71829, 71839, 71879, 71889, 71899, 71909, 71919, 71929, 71939, 71949, 71959, 71969, 71979, 71989, 71999, 73030-73039, 73090-73099, 73340-7335;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS84

MultiStage: No

DXCat Label: Other Disorders of Connective Tissue

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|--|---------------------|--|
| 1.01  | Polymyositis, ganglion cysts, synovial and tendon ruptures |                     | DX 7103-7104, 7108-7109, 72750-72769, 72973-72979; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS85

MultiStage: No

DXCat Label: Other Spinal and Back Disorders: Low Back

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 1.01  | Lumbago, sciatica, torticollis, other back symptoms and disorders |                     | DX 7217-7218, 72280, 72283, 72290, 72293, 7242-7249, 73720-73729, 7384-7385, 7393-7395; |
| 1.02  | Spinal Stenosis, Low Back   |                     | DX 72400, 72402-72409, 7243;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS86

MultiStage: No

DXCat Label: Other Spinal and Back Disorders: Cervical

Specificity: C

Etiology:

| Stage | Description                        | Diagnostic findings | ICD-9-CM Codes                    |
|-------|------------------------------------|---------------------|-----------------------------------|
| 1.01  | Other Disorders of Cervical Region |                     | DX 7231-7239, 72281, 72291, 7391; |
| 1.02  | Cervical spinal stenosis           |                     | DX 7230;                          |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS87

MultiStage: No

DXCat Label: Other Spinal and Back Disorders: Thoracic

Specificity: C

Etiology:

| Stage | Description                        | Diagnostic findings | ICD-9-CM Codes                           |
|-------|------------------------------------|---------------------|--|
| 1.01  | Other Disorders of Thoracic Region |                     | DX 72282, 72292, 7241, 7370-73719, 7392; |
| 1.02  | Stenosis of Thoracic Spine         |                     | DX 72401;                                |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU01

MultiStage: No

DXCat Label: Amyotrophic Lateral Sclerosis

Specificity: A

Etiology: Idiopathic

| Stage | Description                                   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Early lumbar amyotrophic lateral sclerosis    | Weakness of calves<br>OR asymmetric ankle reflexes<br>OR asymmetric toe reflexes<br>OR asymmetric "footdrop"<br>OR muscle wasting of the lower extremities<br>AND lower extremity muscular fibrillation [EMG report]<br>OR lower extremity muscular fasciculations [EMG report]<br>OR lower extremity giant motor unit potentials [EMG report]<br>OR lower extremity positive waves [EMG report]<br>OR familial amyotrophic lateral sclerosis, mutation in the copper-zinc superoxide dismutase gene on the long arm of chromosome 21 [genotype report] | DX 33520;   |
| 1.02  | Cervicothoracic amyotrophic lateral sclerosis | Asymmetric weakness of hands<br>OR asymmetric weakness of forearms<br>OR muscle wasting of upper extremities<br>AND upper extremity muscular fibrillation [EMG report]<br>OR upper extremity muscular fasciculations [EMG report]<br>OR upper extremity giant motor unit potentials [EMG report]<br>OR upper extremity positive waves [EMG report]  | NO;   |
| 2.01  | Advanced lumbar amyotrophic lateral sclerosis | Asymmetric weakness of the hamstring group of muscles<br>OR asymmetric weakness of the quadriceps group of muscles  | NO;   |
| 2.02  | with early craniobulbar involvement           | Stage 1.01-2.01<br>AND dysphagia<br>OR regurgitation<br>OR dysarthria   | STAGE 1.01 + (DX 78703, 7872, 7845);  |
| 3.01  | with pneumonia                                | Stage 1.01-2.02<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.02 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ; |
| 3.02  | with sepsis                                   | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;   |
| 3.03  | with respiratory failure                      | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 4.00  | with death                                    | Stage 1.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU01

MultiStage: No

DXCat Label: Amyotrophic Lateral Sclerosis

Specificity: A

Etiology: Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Brown Jr RH. Amyotrophic lateral sclerosis. Insights from genetics. Archives of Neurology. 1997;54(10):1246-50.

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Radunovic A, Leigh PN. Cu/Zn superoxide dismutase gene mutations in amyotrophic lateral sclerosis: correlation between genotype and clinical. Journal of Neurology, Neurosurgery & Psychiatry. 1996;61(6):565-72.

Wokke J. Riluzole. Lancet. 1996;348(9030):795-9.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU02

MultiStage: No

DXCat Label: Carpal Tunnel Syndrome

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                |
|-------|---|--|-------------------------------|
| 1.01  | Carpal tunnel syndrome  | Carpal tunnel syndrome<br>OR median nerve sensory and motor conduction delay [EMG report]<br>OR Tinel's sign positive<br>OR tingling or shock-like pain on volar wrist percussion<br>OR Phalen's sign positive<br>OR pain or paresthesia in the distribution of the median nerve when the patient flexes both wrists to 90 degrees with the dorsal aspects of the hands held in apposition for 60 seconds.<br>OR carpal compression test positive<br>OR pain or paresthesia on direct pressure on the carpal tunnel for 60 seconds | DX 3540;                      |
| 1.02  | with abductor pollicis brevis muscle or thenar eminence weakness or atrophy | Stage 1.01<br>AND abductor pollicis brevis muscle weakness or atrophy<br>OR eminentia thenar weakness or atrophy   | STAGE 1.01 + (DX 7282, 7289); |

### References:

Dawson DM. Entrapment neuropathies of the upper extremities. *N Engl J Med.* 1993;329(27):2013-8.

Gilliland BC. Relapsing polychondritis and other arthritides. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:1951-1965.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:774-824.

Yassi A. Repetitive strain injuries. *Lancet.* 1997;349(9056):943-7.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU03

DXCat Label: Cerebral Palsy

Etiology: Congenital; Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description                                     | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Cerebral palsy manifested as spastic monoplegia | Cerebral palsy manifested as spastic monoplegia  | DX 3433, 3438, 3439;                                      |
| 2.01  | manifested as choreoathetosis                   | Cerebral palsy manifested as choreoathetosis   | DX 3335;  |
| 2.02  | manifested as spastic hemiplegia                | Cerebral palsy manifested as spastic hemiplegia  | DX 3431, 3434;  |
| 2.03  | manifested as spastic diplegia                  | Cerebral palsy manifested as spastic diplegia  | DX 3430;  |
| 2.04  | manifested as spastic quadriplegia              | Cerebral palsy manifested as spastic quadriplegia  | DX 3432;  |
| 2.05  | with spastic and dyskinetic features            | Stage 1.01-2.04<br>AND spasticity and choreoathetosis  | STAGE 1.01 + STAGE 2.01;<br>STAGE 2.01 + STAGE 2.02-2.04; |
| 2.06  | with mental retardation                         | Stage 1.01-2.05<br>AND <b>mental retardation:</b>  | STAGE 1.01-2.05 + GROUP<br>MENT_RETARD;                   |
| 2.07  | with grand mal seizures                         | Stage 1.01-2.06<br>AND Grand mal seizure [EEG report]<br>OR tonic-clonic contraction of the muscles of the extremities<br>OR tonic seizures<br>OR clonic seizures<br>OR atonic seizures<br>OR myoclonic seizures<br>OR infantile spasms<br>AND loss of consciousness | STAGE 1.01-2.06 + DX 3453;                                |
| 2.08  | with aspiration pneumonia                       | Stage 1.01-2.07<br>AND aspiration pneumonia  | STAGE 1.01-2.07 + DX 5070;                                |
| 3.01  | with sepsis                                     | Stage 1.01-2.08<br>AND <b>sepsis:</b>  | STAGE 1.01-2.08 + GROUP SEPSIS;                           |
| 3.02  | with respiratory failure                        | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP<br>RESP_FAIL;                     |
| 3.03  | with shock                                      | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 3.01-3.02 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;     |
| 4.00  | with death                                      | Stage 1.01-3.03<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU03

MultiStage: No

DXCat Label: Cerebral Palsy

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

Eicher PS, Batshaw ML. Cerebral palsy. *Pediatric Clinics of North America*. 1993;40:537-551.

Haslam RHA. The nervous system/cerebral palsy. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*, 15th ed. Philadelphia, PA: WB Saunders; 1996:1713-1714.

Kuban KC, Levitan A. Cerebral palsy. *N Engl J Med*. 1994;330:188-95.

Moe PG, Seay AR. Neurologic and muscular disorders/cerebral palsy. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*. 13th ed. Stamford, CT: Appleton & Lange; 1997:700-703.

Russman BS. Disorders of motor execution I: cerebral palsy. In: David RB, ed. *Child and Adolescent Neurology*. St. Louis, MO: Mosby; 1998:453-468.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU04

MultiStage: No

DXCat Label: Cerebrovascular Disease

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Cerebral atherosclerosis or cerebral aneurysm or vascular malformation  | Cerebral atherosclerosis [CT scan or MRI report or cranial angiography report]<br>OR cerebral or precerebral aneurysm [CT scan or MRI report or cranial angiography report]<br>OR vascular malformation [CT scan or MRI report or cranial angiography report]<br>OR carotid artery dissection [CT scan or MRI report or cranial angiography report]<br>OR vertebral artery dissection [CT scan or MRI report or cranial angiography report]<br>OR fibromuscular dysplasia [CT scan or MRI report or cranial angiography report] | DX 4370-4371, 4373-4374, 4378-4379, 74781;  |
| 2.01  | Transient ischemic attack or occlusion or stenosis of precerebral arteries  | No new infarct [CT scan report]<br>AND acute paralysis resolving in $\leq$ 24 hours<br>OR acute inability to communicate verbally resolving in $\leq$ 24 hours<br>OR $>$ 50% occlusion or stenosis of precerebral arteries [CT scan or MRI report or cranial angiography report]<br>OR (the following new findings occur and persist $\leq$ 24h):<br><b>cranial nerve palsy:</b>  | DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 4350-4359, 4377;                            |
| 3.01  | Intracranial hemorrhage or intracranial infarction or nonpyogenic thrombosis of intracranial venous sinus or Moyamoya disease | Intracranial infarction [CT scan or MRI report]<br>OR intracranial hemorrhage [CT scan or MRI report]<br>OR nonpyogenic thrombosis of intracranial sinus [angiography report]<br>OR Moyamoya disease [angiography report]   | DX 430, 431, 4320-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436, 4375-4376, 44321; |
| 3.02  | Cerebrovascular accident with cranial nerve involvement   | Stage 3.01<br>AND (the following new findings occur and persist beyond 3 days after therapy):<br><b>cranial nerve palsy:</b>  | STAGE 3.01 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);<br>DX 4380-43819, 4386-4389;                            |
| 3.03  | Cerebrovascular accident with cerebellar or pyramidal tract signs   | Stage 3.01-3.02<br>AND acute loss of balance unresolved $\geq$ 24 hours<br>OR acute nystagmus unresolved $\geq$ 24 hours<br>OR acute spasticity unresolved $\geq$ 24 hours<br>OR acute poor finger-to-nose or heel-to-shin tests unresolved $\geq$ 24 hours   | STAGE 3.01-3.02 + (DX 37950, 7804, 7810, 7812, 7813);   |
| 3.04  | Cerebrovascular accident with hemiparesis or hemiplegia   | Stage 3.01-3.03<br>AND acute hemiparesis unresolved $\geq$ 24 hours<br>OR acute hemiplegia unresolved $\geq$ 24 hours   | STAGE 3.01-3.03 + (DX 34200-34202, 34210-34282, 34290-34292);<br>DX 43820-43853;                              |
| 3.05  | Cerebrovascular accident with quadriplegia  | Stage 3.01-3.04<br>AND acute quadriplegia unresolved $\geq$ 24 hours  | STAGE 3.01-3.04 + (DX 34400, 34409);  |
| 3.06  | with respiratory failure  | Stage 3.01-3.05<br>AND <b>respiratory failure:</b>  | STAGE 3.01-3.05 + GROUP RESP_FAIL;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU04

MultiStage: No

DXCat Label: Cerebrovascular Disease

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

| Stage | Description                         | Diagnostic findings                 | ICD-9-CM Codes                |
|-------|-------------------------------------|-------------------------------------|-------------------------------|
| 3.07  | Cerebrovascular accident with coma  | Stage 3.01-3.06<br>AND <b>coma:</b> | STAGE 3.01-3.06 + GROUP COMA; |
| 4.00  | Cerebrovascular accident with death | Stage 3.01-3.07<br>AND death        | NO;                           |

### References:

Abram HS, Lenn NJ and Haas RJ. Vascular disease. In: David RB, ed. Child and Adolescent Neurology. 1998:271-293.

Aminoff MJ. Transient ischemic attack. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. 1998:927-936.

Easton JD, Hauser SH, Martin JB. Cerebrovascular diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2325-2348.

Haslam, RHA. The nervous system/acute stroke syndromes. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1728-1730.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU05

MultiStage: No

DXCat Label: Dementia: Primary Degenerative (Alzheimer's or Pick's Disease)

Specificity: A

Etiology: Degenerative; Idiopathic

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Primary degenerative dementia (Alzheimer's disease or Pick's disease) | Alzheimer or Picks' Disease [neuropsychiatrist report]<br>OR Loss of recent memory<br>AND able to maintain employment routines<br>AND maintains personal hygiene<br>AND senile plaques and neurofibrillary tangles [operative/pathology report]<br>OR amyloid angiopathy with lobar hemorrhage [operative/pathology report]<br>OR circumscribed convolucional atrophy of the frontal and temporal lobes [operative/pathology report]<br>OR diffuse Lewy body disease [operative/pathology report] | DX 2900, 29010-29020, 2903, 29040-2909, 3310-3312, 33182, 797; |
| 1.02  | Early dementia  | Substantial loss of recent memory<br>AND slowed brain wave activity [EEG report]<br>OR inability to remember names<br>OR inability to recall new information  | STAGE 1.01 + (DX 29410, 2948);<br>DX 29021;                    |
| 2.01  | Midstage dementia   | Stage 1.01-1.02<br>AND become lost on > 1 occasion while driving a car<br>OR become lost on > 1 occasion as a pedestrian in familiar city<br>AND unresolved impairment of remote memory<br>AND unresolved aphasia<br>AND <b>disorientation:</b>   | STAGE 1.01-1.02 + (DX 29411, 7843 OR GROUP DISORIENT);         |
| 2.02  | with invalidism   | Stage 1.01-2.01<br>AND difficulty feeding self<br>OR unable to maintain personal hygiene<br>OR has become lost within own dwelling  | STAGE 1.01-2.01 + (DX 29410, 33189, 7812, 7998);               |
| 2.03  | with decubitus ulcer  | Stage 1.01-2.02<br>AND decubitus ulcer  | STAGE 1.01-2.02 + DXCAT SKN01;                                 |
| 3.01  | with sepsis   | Stage 1.01-2.03<br>AND <b>sepsis:</b>   | STAGE 1.01-2.03 + GROUP SEPSIS;                                |
| 3.02  | with respiratory failure  | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                             |
| 3.03  | with coma   | Stage 1.01-3.02<br>AND <b>coma:</b>   | STAGE 3.01-3.02 + GROUP COMA;                                  |
| 3.04  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 3.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;             |
| 4.00  | with death  | Stage 1.01-3.04<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU05

MultiStage: No

DXCat Label: Dementia: Primary Degenerative (Alzheimer's or Pick's Disease)

Specificity: A

Etiology: Degenerative; Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Aminoff MJ. Huntington's disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:946.

Bird TD. Alzheimer's disease and other primary dementias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2348-2356.

Lendon CL, Ashall F, Goate AM. Exploring the etiology of Alzheimer disease using molecular genetics. JAMA. 1997;277(10):825-831.

Selkoe DJ. Alzheimer's disease: genotypes, phenotypes, and treatments. Science. 1997;275(5300):630-631.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU06

MultiStage: No

DXCat Label: Disease of the Nervous System Secondary to Implants or Grafts

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 1.01  | Disease of the nervous system secondary to implanted devices or grafts    | Disease of the nervous system secondary to implanted devices or grafts    | DX 3491, 9962;                                     |
| 1.02  | Reaction to spinal or lumbar puncture or from surgically implanted device | Reaction to spinal or lumbar puncture or from surgically implanted device | DX 3490, 99675;                                    |
| 2.01  | with infection due to nervous system device implantation or graft         | Infection of the nervous system secondary to implanted devices or grafts  | DX 99663;  |
| 3.01  | with sepsis   | Stage 1.01-2.01<br>AND <b>sepsis:</b>                                     | STAGE 1.01-2.01 + GROUP SEPSIS;                    |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>                                      | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death  | NO;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU07  
 DXCat Label: Epilepsy  
 Etiology: Idiopathic

MultiStage: No  
 Specificity: A

| Stage | Description                                     | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Partial seizures with elementary symptomatology | Partial seizures [EEG report]<br>AND no loss of consciousness at time of seizures<br>OR no <b>disorientation</b> :  | DX 34550, 34560, 34570, 34580, 34590;                     |
| 1.02  | Partial seizures with complex symptomatology    | Partial seizures [EEG report]<br>AND loss of consciousness at time of seizures<br>OR loss of "contact with environment"<br>OR <b>disorientation</b> :   | DX 34540;   |
| 2.01  | Absence seizures                                | Petit mal seizures [EEG report]<br>OR atypical absence seizures   | DX 34500-34501, 3452;                                     |
| 2.02  | Tonic clonic seizures                           | Grand mal seizure [EEG report]<br>OR tonic-clonic contraction of the muscles of the extremities<br>OR tonic seizures<br>OR clonic seizures<br>OR atonic seizures<br>OR myoclonic seizures<br>OR infantile spasms<br>AND loss of consciousness | DX 34510;   |
| 3.01  | Status epilepticus                              | Stage 1.01-2.02<br>AND loss of consciousness for $\geq$ 24 hours<br>AND seizures recurring < 24 hour period   | DX 34511, 3453, 34541, 34551, 34561, 34571, 34581, 34591; |
| 3.02  | with respiratory failure                        | Stage 1.02-3.01<br>AND <b>respiratory failure</b> :   | STAGE 1.01-3.01 + GROUP RESP_FAIL;                        |
| 4.00  | with death                                      | Stage 1.02-3.02<br>AND death  | NO;   |

### References:

Aminoff MJ. Epilepsy. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:921-926.

Lowenstein DH. Seizures and epilepsy. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2311-2356.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU08

DXCat Label: Guillain-Barre Syndrome

Etiology: Idiopathic; Infection

MultiStage: No

Specificity: A

| Stage | Description                             | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.01  | Guillain-Barre syndrome                 | Guillain-Barre syndrome<br>OR progression of paresis or paresthesia ceases ≤ 4 weeks<br>AND progressive symmetric paresis within 6 weeks of a viral infection or vaccination or surgical procedure<br>OR progressing symmetric paresthesias of lower extremities within 6 weeks of a viral infection or vaccination or surgical procedure<br>OR nerve conduction slowing or block [EMG report]<br>CSF proteins > 50 mg/dl<br>AND CSF lymphocytes < 50/mm <sup>3</sup> | DX 3570;  |
| 2.02  | with ascending paralysis                | Stage 2.01<br>AND progressing weakness leading to monoplegia or paraplegia within 6 weeks<br>AND no cerebral infarction [CT scan report or MRI report]  | STAGE 2.01 + (DX 3441, 34430-34432 OR DX 34440-3445 + NOT (DX 430, 431, 4320-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491)); |
| 2.03  | with cranial nerve palsy                | Stage 2.01-2.02<br>AND <b>cranial nerve palsy:</b>  | STAGE 2.01-2.02 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);  |
| 3.01  | with arrhythmias or bundle branch block | Stage 2.01-2.03<br>AND <b>arrhythmias:</b><br>OR <b>bundle branch block:</b>  | STAGE 2.01-2.03 + DXCAT CVS06;<br>STAGE 2.01-2.03 + (DX 4260, 42610, 42611, 42613, 4262-42654, 4269);   |
| 3.02  | with respiratory failure                | Stage 2.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 2.01-3.01 + GROUP RESP_FAIL;  |
| 3.03  | with shock                              | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                              | Stage 2.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU08

MultiStage: No

DXCat Label: Guillain-Barre Syndrome

Specificity: A

Etiology: Idiopathic; Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Asbury AK. Diseases of the peripheral nervous system. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2457-2469.

Dalakas MC. Intravenous immune globulin therapy for neurologic diseases. Annals of Internal Medicine. 1997;126(9):721-30.

Tuttle J, Chen RT, Rantala H, Cherry JD, Rhodes PH, Hadler S. The risk of Guillain-Barre syndrome after tetanus-toxoid-containing vaccines in adults and children in the United States. American Journal of Public Health. 1997;87(12):2045-8.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU09  
 DXCat Label: Headache  
 Etiology: Idiopathic

MultiStage: No  
 Specificity: A

| Stage | Description                             | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Muscle tension headache                 | Band-like constriction around head or feeling of tightness of the head, neck and occiput  | DX 30781, 7840;  |
| 1.02  | Migraine headache                       | Migraine<br>OR history of five attacks of the following symptoms:<br>spreading unilateral or bilateral headache<br>AND headache is throbbing or pulsatile<br>AND headache is aggravated by activities of daily living<br>AND headache duration ≤ 72 hrs<br>OR headache duration is ≤ 48 hours in children<br>AND history of prior migraine 'aura'<br>OR nausea<br>OR dizziness<br>OR vomiting<br>OR photophobia<br>OR phonophobia<br>OR family history of migraine<br>OR diarrhea<br>AND no coexisting intracranial disease | DX 34600, 34601, 34610-34611,<br>34690, 34691;                   |
| 1.03  | Cluster headache                        | Severe unilateral throbbing headache around entire half of face and head<br>AND periorbital edema<br>OR conjunctival injection<br>OR ipsilateral Horner's syndrome<br>OR rhinorrhea<br>OR unilateral lacrimation<br>AND daily attacks for ≤ 90 minutes for ≤ 6 weeks  | DX 34620, 34621;   |
| 2.01  | Acute confusional or dysphoric migraine | Stage 1.02-1.03<br>AND agitation<br>AND <b>disorientation:</b><br>AND amnesia of the event  | STAGE 1.02-1.03 + GROUP<br>DISORIENT + (DX 3079, 4377,<br>7809); |
| 2.02  | Vertebrobasilar migraine                | Stage 1.02-2.01<br>AND vertigo resolves when headache remits<br>OR Romberg's sign resolves when headache remits<br>OR dysarthria resolves when headache remits  | NO;  |
| 2.03  | Migraine headache with retinal ischemia | Stage 1.02-2.02<br>AND visual disturbance in one eye  | STAGE 1.02-2.01 + DX 36284;                                      |
| 2.04  | Migraine headache with ophthalmoplegia  | Stage 1.02-2.03<br>AND ophthalmoplegia remits when headache remits  | DX 34680, 34681;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU09

DXCat Label: Headache

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.05  | Migraine headache with transient hemiparesis or monoparesis | Stage 1.02-2.04<br>AND hemiparesis which remits when headache remits<br>OR monoparesis which remits when headache remits<br>OR familial hemiplegic migraine gene on chromosome 19           | STAGE 1.02-2.04 + (DX 34200-34202, 34210-34282, 34290-34292); |
| 2.06  | Alternating hemiplegic migraine syndrome                    | Stage 1.02-2.05<br>AND Alternating hemiplegic migraine syndrome<br>OR recurrent alternating episodes of hemiplegia at < 3 years of age<br>AND progressive intellectual and motor impairment | NO;   |

### References:

- Aminoff MJ. Headache. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-919.
- Capobianco DJ, Cheshire WP, Campbell JK. An overview of the diagnosis and pharmacologic treatment of migraine. Mayo Clinic Proceedings. 1996;71(11):1055-1066.
- Goadsby PJ, Olesen J. Diagnosis and management of migraine. BMJ. 1996;312(7041):1279-1283.
- Haslam, RHA. The nervous system/headaches. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1702-1705.
- Parker C. Complicated migraine syndromes and migraine variants. Pediatric Annals 1997;26: 417-421.
- Pryse-Phillips WE, Dodick DW, Edmeads JG, Gawel MJ, Nelson RF, Purdy RA, Robinson G, Stirling D, Worthington I. Guidelines for the diagnosis and management of migraine in clinical practice. Canadian Headache Society. Canadian Medical Association Journal. 1997;156(9):1273-1287.
- Raskin NH. Migraine and the cluster headache syndrome. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2307-2311.
- Raskin NH. Headache. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:68-73.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU10

DXCat Label: Huntington's Chorea

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description                 | Diagnostic findings   | ICD-9-CM Codes  |
|-------|-----------------------------|---|---|
| 1.01  | Huntington's Chorea         | CAG sequences $\geq$ 38 in the Huntington's disease gene, chromosome 4p16.3 [laboratory report]<br>OR Family history of Huntington's disease<br>AND orofacial dyskinesia<br>OR choreoathetosis<br>OR rigidity or dystonia in children<br>OR dysphagia<br>OR motor impersistence<br>OR <b>clinical depression:</b><br>atrophy of the caudate nucleus and putamen [operative/pathology report or MRI report]<br>AND enlargement of lateral ventricles [operative/pathology report or MRI report]<br>AND cerebellar atrophy in children [operative/pathology report or MRI report]<br>OR with degeneration of medium sized spiny neurons of the caudate nucleus [operative/pathology report] | DX 3334;  |
| 2.01  | with seizures               | Stage 1.01<br>AND seizures [EEG report]   | STAGE 1.01 + (DX 78032, 78039);                                 |
| 2.02  | with dementia               | Stage 1.01-2.01<br>AND <b>dementia:</b>   | STAGE 1.01-2.01 + GROUP DEMENTIA;                               |
| 2.03  | with invalidism or cachexia | Stage 1.01-2.02<br>AND activities of daily living require 100% supervision<br>OR <b>cachexia:</b><br>ideal body weight < 85% of body weight   | STAGE 1.01-2.02 + GROUP CACHEXIA;<br>STAGE 1.01-2.02 + DX 7998; |
| 2.04  | with decubitus ulcer        | Stage 1.01-2.03<br>AND decubitus ulcer  | STAGE 1.01-2.03 + DXCAT SKN01;                                  |
| 2.05  | aspiration pneumonia        | Stage 1.01-2.04<br>AND aspiration pneumonia   | STAGE 1.01-2.04 + DX 5070;                                      |
| 3.01  | with sepsis                 | Stage 1.01-2.05<br>AND <b>sepsis:</b>   | STAGE 1.01-2.05 + GROUP SEPSIS;                                 |
| 3.02  | with respiratory failure    | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                              |
| 3.03  | with coma                   | Stage 1.01-3.02<br>AND <b>coma:</b>   | STAGE 1.01-3.02 + GROUP COMA;                                   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU10

MultiStage: No

DXCat Label: Huntington's Chorea

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.04  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b> | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.04<br>AND death         | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU11

MultiStage: No

DXCat Label: Injury: Craniocerebral

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Head injury with or without intracranial involvement    | Injury to the head with or without intracranial involvement   | DX 85400-85401, 95901-95909;  |
| 1.02  | with or without intracranial involvement and cellulitis | Stage 1.01<br>AND <b>cellulitis:</b>  | STAGE 1.01 + (DX 6820-6821, 6828-6829);<br>DX 85410-85411;  |
| 1.03  | with concussion   | Head injury<br>AND transient loss of consciousness  | DX 8500-8509, 85409, 85419;   |
| 2.01  | Linear or basilar skull fracture                        | linear skull fracture [skull x-ray report or CT scan report]<br>OR basilar skull fracture [skull x-ray report or CT scan report]  | DX 80000-80049, 80100-80149, 80300-80302, 80306-80309, 80400-80402, 80406-80409;  |
| 2.02  | Crushing injury to the head and neck                    | Crushing injury to the head and neck  | DX 9252;  |
| 2.03  | Depressed or compound skull fracture                    | Depressed or compound skull fracture [skull x-ray report or CT scan report]   | DX 80050-80099, 80150-80199, 80350-80352, 80356-80359, 80390-80392, 80396-80399, 80450-80452, 80456-80459, 80490-80492, 80496-80499;                          |
| 2.04  | with cranial nerve involvement                          | Stage 1.01 -2.03<br>AND (the following new findings occur and persist beyond 3 days after therapy):<br><b>cranial nerve palsy:</b>  | STAGE 1.01-2.03 + (DX 33811, 33821 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);<br>DX 80340-80342, 80346-80349, 80440-80442, 80446-80449, 9070-9071, 9501-9519; |
| 2.05  | with carotid or vertebral artery dissection             | Stage 1.01 -2.04<br>AND carotid artery dissection [MRI angiography report or angiography report]<br>OR vertebral artery dissection [MRI angiography report or angiography report] | DX 90000-9009;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU11

DXCat Label: Injury: Craniocerebral

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.06  | with intracranial hemorrhage or cerebral laceration                           | Stage 1.01-2.05<br>AND epidural hemorrhage, blood at or above the dura mater [CT or MRI report]<br>OR subdural hemorrhage, blood at or below the dura mater [CT or MRI report]<br>OR cerebral laceration [CT or MRI report] | DX 80310-80312, 80316-80319, 80320-80322, 80326-80329, 80330-80332, 80336-80339, 80360-80362, 80366-80369, 80370-80372, 80376-80379, 80380-80382, 80386-80389, 80410-80412, 80416-80419, 80420-80422, 80426-80429, 80430-80432, 80436-80439, 80460-80462, 80466-80469, 80470-80472, 80476-80479, 80480-80482, 80486-80489, 85100-85319; |
| 2.07  | with hyponatremia or syndrome of inappropriate antidiuretic hormone secretion | Stage 1.01 -2.06<br>AND <b>hyponatremia:</b><br>OR <b>SIADH:</b>  | STAGE 1.01-2.06 + (GROUP HYPONATREMIA OR GROUP SIADH);  |
| 3.01  | with cerebral infarction  | Stage 1.01-2.07<br>AND <b>cerebral infarction:</b> [CT or MRI reports]  | STAGE 1.01-2.07 + (DX 430, 431, 4320-4329, 43301 , 43311, 43321, 43331, 43381, 43391, 43401 , 43411, 43491);  |
| 3.02  | with paraparesis or quadriparesis   | Stage 1.01-3.01<br>AND paraparesis<br>OR quadriparesis  | STAGE 1.01-3.01 + (DX 34400-3441);  |
| 3.03  | with Glasgow coma scale rating $\geq$ 11                                      | Stage 1.01-3.02<br>AND Glasgow coma scale rating $\geq$ 11*   | DX 80303, 80313, 80323, 80333, 80343, 80353, 80363, 80373, 80383, 80393, 80403, 80413, 80423, 80433, 80443, 80453, 80463, 80473, 80483, 80493, 85402-85403, 85406, 85412-85413, 85416;  |
| 3.04  | with Glasgow coma scale rating $\geq$ 4 and $<$ 11*                           | Stage 1.01-3.03<br>AND Glasgow coma scale rating $\geq$ 4 and $<$ 11*   | STAGE 1.01-3.03 + DX 78009;   |
| 3.05  | with pulmonary embolism   | Stage 1.01-3.04<br>AND <b>pulmonary embolism:</b>   | STAGE 1.01-3.04 + GROUP PULMEMB;  |
| 3.06  | with bacterial meningitis   | Stage 1.01-3.05<br>AND <b>meningitis:</b>   | STAGE 1.01-3.05 + GROUP MENGIT__BACT;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU11

DXCat Label: Injury: Craniocerebral

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings                                   | ICD-9-CM Codes   |
|-------|-----------------------------------|---|--|
| 3.07  | with sepsis                       | Stage 1.01-3.06<br>AND <b>sepsis:</b>                 | STAGE 1.01-3.06 + GROUP SEPSIS;  |
| 3.08  | with respiratory failure          | Stage 1.01-3.07<br>AND <b>respiratory failure:</b>    | STAGE 1.01-3.07 + GROUP RESP_FAIL;   |
| 3.09  | with Glasgow coma scale rating <4 | Stage 1.01-3.08<br>AND Glasgow coma scale rating < 4* | STAGE 1.01-3.08 + DX 78001;<br>DX 80304-80305, 80314-80315,<br>80324-80325, 80334-80335, 80344-<br>80345, 80354-80355, 80364-<br>80365, 80374-80375, 80384-<br>80385, 80394-80395, 80404-<br>80405, 80414-80415, 80424-<br>80425, 80434-80435, 80444-<br>80445, 80454-80455, 80464-<br>80465, 80474-80475, 80484-<br>80485, 80494-80495, 85404-<br>85405, 85414-85415; |
| 3.10  | with shock                        | Stage 1.01-3.09<br>AND <b>shock:</b>                  | STAGE 3.01-3.09 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                        | Stage 1.01-3.10<br>AND death                          | NO;  |

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|   |
|---|
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU12

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Cervical

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Sprain of cervical back  | Cervical back pain   | DX 8470;  |
| 1.02  | Spinal cord concussion   | Spinal cord concussion   | DX 95200-95209, 9530;   |
| 1.03  | Dislocations(s) or fracture(s) of the vertebrae without injury to the cord | Fracture(s) or dislocation(s) of vertebrae [CT or MRI or spine x-ray report]               | DX 80500-80508, 83900-83908;  |
| 2.01  | Open fracture or dislocation of vertebrae without injury to the cord       | Stage 1.02<br>AND open fracture  | DX 80510-80518, 83910-83918;  |
| 2.02  | Trauma to spine and spinal cord with paresis                               | Stage 1.02-2.01<br>AND quadriparesis<br>OR paraparesis<br>OR monoparesis<br>OR hemiparesis | STAGE 1.02-2.01 + (DX 34200-34292, 34430-3445) ;<br>DX 80600;                           |
| 2.03  | with monoplegia or cauda equina syndrome or conus medullaris syndrome      | Stage 2.02<br>AND monoplegia<br>OR <b>cauda equina syndrome:</b>                           | STAGE 1.01-2.02 + (DX 34460, 34461);  |
| 2.04  | with paraplegia or hemiplegia  | Stage 2.02<br>AND paraplegia<br>OR hemiplegia  | STAGE 2.02 + (DX 34200-34292, 3441);  |
| 2.05  | with segmental sensory loss  | Stage 2.02<br>AND sensory loss distributed to a spinal segment [neurological exam report]  | STAGE 1.01-2.01 + DX 7820;  |
| 2.06  | with Brown-Sequard Syndrome  | Stage 2.02<br>AND Brown-Sequard Syndrome [neurological exam report]                        | STAGE 2.02-2.03 + DX 7820;  |
| 2.07  | with cellulitis  | Stage 2.01-2.06<br>AND <b>cellulitis:</b>  | STAGE 1.01-2.06 + DX 68100-6829;  |
| 2.08  | with urinary tract infections  | Stage 2.03-2.07<br>AND <b>UTI:</b>   | STAGE 1.01-2.07 + DXCAT GUS10;  |
| 2.09  | with osteomyelitis   | Stage 2.01-2.08<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.08 + GROUP OSTEOMYELIT;  |
| 2.10  | with deep vein thrombosis  | Stage 2.01-2.09<br>AND <b>DVT:</b>   | STAGE 1.01-2.10 + (GROUP DVT OR DX 33811, 33821) ;                                      |
| 2.11  | with quadriplegia  | Stage 2.01-2.10<br>AND quadriplegia  | STAGE 1.01-2.10 + (DX 34400-34404, 34409);<br>DX 80601-80609, 80610-80619, 95200-95209; |
| 3.01  | with pulmonary embolism or fat embolism                                    | Stage 2.01-2.11<br>AND <b>pulmonary embolism:</b>  | STAGE 1.01-2.11 + GROUP PULMEMB;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU12

DXCat Label: Injury: Spine and Spinal Cord: Cervical

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.02  | with renal failure       | Stage 2.01-3.01<br>AND <b>renal failure:</b>       | STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.03  | with sepsis              | Stage 2.01-3.02<br>AND <b>sepsis:</b>              | STAGE 1.01-3.02 + GROUP SEPSIS;                               |
| 3.04  | with respiratory failure | Stage 2.01-3.04<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.03 + (GROUP RESP_FAIL OR DX 5185);               |
| 3.05  | with shock               | Stage 2.01-3.05<br>AND <b>shock:</b>               | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death               | Stage 2.01-3.06<br>AND death                       | NO;   |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU13

DXCat Label: Meningitis, Encephalitis, and Myelitis: Viral

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Viral meningitis or aseptic meningitis                    | Viral meningitis [virus isolated from CSF tissue cultures or CSF virus specific antibody titers with convalescent/acute phase serum > 4.0<br>OR<br><b>aseptic meningitis:</b>               | GROUP MENING__VIR OR DX 3229;  |
| 2.01  | Viral meningoencephalitis                                 | Stage 1.01<br>AND lethargy<br>OR delirium<br>OR seizures<br>OR <b>encephalopathy:</b>   | DX 0460-0469, 048, 0498-0499, 0620-064, 3230-32302, 32341-3239;        |
| 2.02  | with acute cerebellar ataxia                              | Stage 1.01-2.01<br>AND acute cerebellar ataxia  | STAGE 1.01-2.01 + (DX 7813, 3334);                                     |
| 2.03  | with cranial nerve involvement                            | Stage 1.01-2.02<br>AND [the following new findings occur and persist beyond 3 days after therapy]:<br><b>cranial nerve palsy:</b>   | STAGE 1.01-2.02 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);<br>DX 1390; |
| 2.04  | with acute hemiplegia                                     | Stage 1.01-2.03<br>AND acute hemiplegia   | STAGE 1.01-2.03 + (DX 34200-34202, 34210-34282, 34290-34292);          |
| 2.05  | with viral pneumonia                                      | Stage 1.01-2.04<br>AND new infiltrate [chest x-ray report]<br>AND infected sputum [microbiology gram stain report]<br>AND no pathologic bacterial organisms in sputum [microbiology report] | STAGE 1.01-2.04 + (DX 4800-4809, 4870);                                |
| 2.06  | with aspiration pneumonia                                 | Stage 1.01-2.05<br>AND aspiration pneumonia   | STAGE 1.01-2.05 + DX 5070;   |
| 2.07  | with syndrome of inappropriate diuretic hormone secretion | Stage 1.01-2.06<br>AND <b>SIADH:</b>  | STAGE 1.01-2.06 + GROUP SIADH;   |
| 3.01  | with myocarditis  | Stage 1.01-2.07<br>AND <b>myocarditis:</b>  | STAGE 1.01-2.07 + (DX 4220, 42290, 42292, 42299, 4290);                |
| 3.02  | with myelitis   | Stage 1.01-3.01<br>AND asymmetric flaccid paralysis of any limb   | STAGE 1.01-3.01 + (DX 3442, 34430-34432, 34440-3445);                  |
| 3.03  | with sepsis   | Stage 1.01-3.02<br>AND <b>sepsis:</b>   | STAGE 1.01-3.02 + GROUP SEPSIS;  |
| 3.04  | with respiratory failure                                  | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.03 + GROUP RESP_FAIL;                                     |
| 3.05  | with coma   | Stage 1.01-3.04<br>AND <b>coma:</b>   | STAGE 1.01-3.04 + GROUP COMA;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU13

MultiStage: No

DXCat Label: Meningitis, Encephalitis, and Myelitis: Viral

Specificity: A

Etiology: Infection, Viral

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.06  | with shock  | Stage 1.01-3.05<br>AND <b>shock:</b> | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.06<br>AND death         | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU14

DXCat Label: Meningitis: Bacterial

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 0.00  | Observation for suspected mental condition                     | Added stage 5/8/06 cb   | DX V0184;   |
| 3.01  | of hematogenous origin or primary meningitis                   |   | DX 0360-0361, 03682-0369, 3200-3207, 32081-3209 ;<br>DX 9588 + (DX 0360-0361, 03682-0369, 3200-3207, 32081-3209);                                 |
| 3.02  | with syndrome of inappropriate antidiuretic hormone secretion  | Stage 3.01<br>AND SIADH, syndrome of inappropriate anti-diuretic hormone secretion<br>OR water load test positive for SIADH<br>OR <b>hyponatremia:</b><br>AND urine osmolality > 300 mmol/kg [urine chemistry report]<br>AND lethargy   | STAGE 3.01 + DX 2536;<br>STAGE 3.01 + DX 2761 + DX 78079;   |
| 3.03  | with obstructive hydrocephalus or subdural effusion            | Stage 3.02<br>AND papilledema<br>OR hydrocephalus [CT scan of head or MRI of the head report]<br>OR subdural effusion [CT scan of head or MRI of the head report]   | STAGE 3.01-3.02 + (DX 3314, 3485, 37700);   |
| 3.04  | with lateralizing neurological deficits                        | Stage 3.01-3.03<br>AND cerebral infarction [ CT scan of the head or MRI of the head report]<br>OR (the following new physical findings occur and persist beyond 3 days):<br>OR focal seizure<br>OR <b>cranial nerve palsy:</b>  | DX 03681;<br>STAGE 3.01-3.03 + (DX 3455, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS); |
| 3.05  | with disseminated intravascular coagulation                    | Stage 3.01-3.03<br>AND DIC, or disseminated intravascular coagulation<br>OR hypofibrinogenemia [hematology report]<br>AND <b>thrombocytopenia:</b><br>AND elevated fibrin degradation split products [hematology report]<br>AND elevated D-Dimer [hematology report]<br>AND INR > 1.0 [hematology report] | DX 03640-03643;<br>STAGE 3.01-3.04 + (DX 2863, 2866, 7762 OR GROUP DIC OR GROUP THRMBCYTPEN);   |
| 3.06  | with adrenal insufficiency or Waterhouse-Friderichsen syndrome | Stage 3.01-3.05<br>AND <b>hypoadrenalism:</b>   | DX 0363;<br>STAGE 3.01-3.05 + DXCAT END01;  |
| 3.07  | with sepsis  | Stage 3.01-3.06<br>AND <b>sepsis:</b>   | DX 0362;<br>STAGE 3.01-3.06 + GROUP SEPSIS;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU14

DXCat Label: Meningitis: Bacterial

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--|---|--|
| 3.08  | with hypoventilation syndrome  | Stage 3.01-3.07<br>AND <b>hypoxemia:</b><br>OR <b>hypercarbia:</b>  | STAGE 3.01-3.07 + (DX 78609 OR GROUP HYPOXEMIA);   |
| 3.09  | with cerebellar or temporal lobe uncal herniation or respiratory failure | Stage 3.01-3.08<br>AND cerebellar herniation [CT of the head or MRI of head report]<br>OR temporal lobe herniation [CT of the head or MRI of head report]<br>OR <b>respiratory failure:</b> | STAGE 3.01-3.08 + (DX 3484 OR GROUP RESP_FAIL);    |
| 3.10  | with coma  | Stage 3.01-3.09<br>AND <b>coma:</b>   | STAGE 3.01-3.09 + GROUP COMA;                      |
| 3.11  | with shock   | Stage 3.01-3.10<br>AND <b>shock:</b>  | STAGE 3.01-3.10 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 3.01-3.11<br>AND death  | NO;  |

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU15

MultiStage: No

DXCat Label: Mental Retardation

Specificity: A

Etiology: Congenital; Genetic (or hereditary); Toxicologic; Trauma

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes              |
|-------|-------------------------------|--|-----------------------------|
| 1.01  | Borderline mental retardation | Wechsler I.Q. $\geq$ 70<br>AND $\leq$ 85                       | DX 319;                     |
| 1.02  | Mild                          | Wechsler I.Q. $\geq$ 55<br>AND $\leq$ 69                       | DX 317;                     |
| 2.01  | Moderate                      | Wechsler I.Q. $\geq$ 40<br>AND $\leq$ 54                       | DX 3180;                    |
| 2.02  | Severe                        | Wechsler I.Q. $\geq$ 25<br>AND $\leq$ 39                       | DX 3181;                    |
| 2.03  | Profound                      | Wechsler I.Q. $<$ 25   | DX 3182;                    |
| 3.01  | with vegetative existence     | Stage 1.01-2.03<br>AND complete inability to provide self-care | STAGE 1.01-2.03 + DX 78003; |

### References:

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Camp BW, Kozleski EB. Developmental disorders/mental retardation. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*. 13th ed. Stamford, CT: Appleton & Lange; 1997:103-106.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU16

DXCat Label: Multiple Sclerosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Relapsing-remitting multiple sclerosis  | Relapsing-remitting multiple sclerosis [MRI report]<br>OR oligoclonal bands in CSF<br>OR myelin basic protein elevated in CSF<br>OR sheathing of the retinal veins<br>AND involvement of two or more areas of the CNS by history and examination:<br>OR optic neuritis [ophthalmologist's report]<br>OR abnormal visual evoked response [neurology report]<br>OR diplopia [ophthalmologist's report]<br>OR extremity weakness<br>OR parasthesias<br>OR hypesthesias<br>OR incontinence<br>OR ataxia<br>AND two separate episodes $\geq$ 24 hours apart, one month from initial onset | DX 340;   |
| 2.01  | with optic atrophy  | Stage 1.01<br>AND pale white disc [ophthalmoscopy report]  | STAGE 1.01 + (DX 37710, 37711, 37715);  |
| 2.02  | with vision limited to light perception   | Stage 1.01-2.01<br>AND <b>blindness:</b><br>AND intact light perception  | STAGE 1.01-2.01 + GROUP BLINDNESS;  |
| 2.03  | with memory loss or impaired attention or problem-solving difficulties or slowed information processing | Stage 1.01-2.02<br>AND memory loss<br>OR impaired attention<br>OR problem-solving difficulties<br>OR slowed information processing   | STAGE 1.01-2.02 + DX 7809;  |
| 2.04  | Secondary progressive multiple sclerosis  | Secondary progressive multiple sclerosis   | NO;   |
| 2.05  | Primary progressive multiple sclerosis  | Primary progressive multiple sclerosis   | NO;   |
| 2.06  | Progressive-relapsing multiple sclerosis  | Progressive-relapsing multiple sclerosis   | NO;   |
| 2.07  | with decubitus ulcer  | Stage 1.01-2.06<br>AND decubitus ulcer   | STAGE 1.01-2.03 + DXCAT SKN01;  |
| 2.08  | with pneumonia  | Stage 1.01-2.07<br>AND <b>pneumonia:</b>   | STAGE 1.01-2.07 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU16

DXCat Label: Multiple Sclerosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                          | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--------------------------------------|--|---|
| 3.01  | with permanent neurological deficits | Stage 1.01-2.08<br>AND monoparesis<br>OR monoplegia<br>OR paraplegia<br>OR paraparesis<br>OR hemiparesis<br>OR hemiplegia<br>OR incontinence<br>OR <b>cranial nerve palsy:</b> | STAGE 1.01-2.08 + GROUP CRAN_NRV_PAL;<br>STAGE 1.01-2.08 + (DX 34200-34202, 34210-34282, 34290-34292, 3441, 34430-34432, 34440-3445, 78830-78832, 78834-78838); |
| 3.02  | with sepsis                          | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;   |
| 3.03  | with shock                           | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                           | Stage 1.01-3.03<br>AND death   | NO;   |

### References:

- Aminoff MJ. Multiple sclerosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:949-950.
- Brett EM. Spinocerebellar degenerations and some related conditions/multiple sclerosis." In: Brett EM, ed. Pediatric Neurology. 3rd ed. 1997:258-261.
- Compston A. Genetic epidemiology of multiple sclerosis. Journal of Neurology, Neurosurgery & Psychiatry. 1997;62(6):553-561.
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- Hauser SL, Goodkin DE. Multiple sclerosis and other demyelinating diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2409-2419.
- Lucchinetti CF, Rodriguez M. The controversy surrounding the pathogenesis of the multiple sclerosis lesion. Mayo Clinic Proceedings. 1997;72(7):665-678.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU17

DXCat Label: Myasthenia Gravis

Etiology: Immune

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---|---|--|
| 1.01  | Localized myasthenia gravis                   | Acetylcholine receptor antibodies [chemistry report]<br>OR positive response to edrophonium test<br>OR positive response to anti-cholinesterase agent<br>OR decline in height of muscle action potential [EMG report]<br>AND ptosis<br>OR diplopia<br>OR easy fatigability of ocular muscles<br>OR dysarthria<br>OR dysphonia | DX 3580-35801, 7752;                               |
| 2.01  | with dysphagia or thymoma                     | Stage 1.01<br>AND dysphagia<br>OR thymoma<br>OR thymic hyperplasia  | STAGE 1.01 + (DX 1640, 2126, 2409, 24220, 7872);   |
| 2.02  | with generalized weakness                     | Stage 1.01-2.01<br>AND weakness in any extremity  | STAGE 1.01-2.01 + DX 78079;                        |
| 3.01  | with myasthenic crisis or respiratory failure | Stage 1.01-2.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-2.02 + GROUP RESP_FAIL;                 |
| 3.02  | with shock                                    | Stage 3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                    | Stage 3.01-3.02<br>AND death  | NO;  |

### References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Drachman DB. Myasthenia gravis and other diseases of the neuromuscular junction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2469-2473.

Keeseey J, Myasthenia gravis. Archives of Neurology. 1998;55(5):745-6.

Wittbrodt ET. Drugs and myasthenia gravis. An update. Archives of Internal Medicine. 1997;157(4):399-408, 1997 Feb 24.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU18

MultiStage: No

DXCat Label: Neoplasm: Central Nervous System

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 0.00  | History of Central Nervous System Neoplasia                 | History of central nervous system neoplasia  | DX V1085, V1086;   |
| 1.01  | Central Nervous System Neoplasia                            | Meningiomas [operative/pathology report]<br>OR gliomas [operative/pathology report]<br>OR schwannomas [operative/pathology report]<br>OR glioblastoma multiforme [operative/pathology report]<br>OR astrocytoma [operative/pathology report]<br>OR oligodendroglioma [operative/pathology report]<br>OR ependymoma [operative/pathology report]<br>OR medulloblastoma [operative/pathology report]<br>OR craniopharyngioma [operative/pathology report]<br>OR pituitary adenoma [operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>Central nervous system neoplasia [ CT scan or MRI report] | DX 1910-1929, 2250, 2252-2259, 22802, 2375, 2376 , 2379, 2396;   |
| 1.02  | with ataxia   | Stage 1.01<br>AND ataxia   | STAGE 0.00-1.01 + (DX 33189, 3344, 7813);  |
| 2.01  | with cranial nerve deficits                                 | Stage 1.01<br>AND (the following new findings occur and persist beyond 3 days after therapy):<br><b>cranial nerve palsy:</b>   | STAGE 0.00-1.02 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS OR DX 3383);  |
| 2.02  | with hydrocephalus or papilledema                           | Stage 1.01-2.01<br>AND hydrocephalus [CT Scan or MRI report]<br>OR papilledema   | STAGE 0.00-2.01 + (DX 3314, 3485, 37700, 37701);   |
| 3.01  | with grand mal (or simple or complex partial) seizures      | Stage 1.01-3.01<br>AND seizure disorder [EEG report or physical examination]<br>OR tonic-clonic convulsions<br>OR simple seizures [EEG report or physical examination]<br>OR complex partial seizures [EEG report or physical examination]   | STAGE 0.00-2.02 + (DX 34500-34501, 34510-3453, 34540-34541, 34550-34551, 34570-34571, 34580-34581, 34590-34591, 78032, 78039); |
| 3.02  | with hemiparesis or hemiplegia or paraplegia or paraparesis | Stage 1.01-2.02<br>AND hemiparesis<br>OR hemiplegia<br>OR paraplegia<br>OR paraparesis   | STAGE 0.00-3.01 + (DX 34200-34202, 34210-34282, 34290-34292, 3441);  |
| 3.03  | with decerebrate rigidity                                   | Stage 1.01-3.02<br>AND decerebrate rigidity<br>OR flaccid generalized paralysis  | STAGE 0.00-3.02 + (DX 34400-34409, 34481);   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU18

MultiStage: No

DXCat Label: Neoplasm: Central Nervous System

Specificity: A

Etiology: Neoplasm

| Stage | Description                                     | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 3.04  | with cerebral herniation or respiratory failure | Stage 1.01-3.03<br>AND cerebral herniation [CT scan or MRI report]<br>OR <b>respiratory failure:</b> | STAGE 0.00-3.03 + (DX 3484, 5185 OR GROUP RESP_FAIL); |
| 3.05  | with coma                                       | Stage 1.01-3.04<br>AND <b>coma:</b>  | STAGE 0.00-3.04 + GROUP COMA;                         |
| 3.06  | with shock                                      | Stage 1.01-3.05<br>AND <b>shock:</b>   | STAGE 0.00-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;    |
| 4.00  | with death                                      | Stage 1.01-3.06<br>AND death   | NO;   |

### References:

Aminoff MJ. Intracranial and spinal space-occupying lesions. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:937-941.

Pollack IF. Brain tumors in children. N Engl J Med. 1994;331(22):1500-1507.

Sagar SM, Israel MA. Tumors of the nervous system. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2409-2419.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU19

MultiStage: No

DXCat Label: Neurofibromatosis Type I [Von Recklinghausen's Disease]

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Neurofibromatosis Type I   | Neurofibromatosis Type I [genetic analysis report]<br>OR cutaneous neurofibromatosis [operative/pathology report]<br>OR subcutaneous neurofibromatosis [operative/pathology report]<br>OR Autosomal dominant, chromosome 17, gene codes for neurofibromin [genetic analysis report]<br>OR <b>Two</b> or more of the following must be present:<br>cafe-au-lait spot $\geq$ 1.5 cm in diameter for age > 13 years old<br>OR cafe-au-lait spot $\geq$ 0.5 cm in diameter for < age 13 years old<br>AND total of $\geq$ 6 cafe-au-lait spots<br>OR $\geq$ two neurofibromas of any type<br>OR $\geq$ 1 plexiform neurofibroma<br>OR freckling in the axillary and inguinal regions<br>OR $\geq$ 1 optic pathways glioma<br>OR $\geq$ 2 Lisch nodules (iris amartomas)<br>OR osseous lesion, such as sphenoid wing dysplasia or thinning of the cortex of long bones<br>OR a first-degree relative with NF1 by the above criteria | DX 23770-23772;   |
| 2.01  | with paresthesias or hypesthesia   | Stage 1.01<br>AND paresthesias<br>OR hypesthesia  | STAGE 1.01 + DX 7820;   |
| 2.02  | with macroencephaly or learning disability   | Stage 1.01-2.01<br>AND learning disability<br>OR head diameter $\geq$ 95th percentile   | STAGE 1.01-2.01 + (DX 3152, 7424);  |
| 2.03  | with pheochromocytoma or medullary thyroid carcinoma or dysplastic scoliosis or rhabdomyosarcoma or sarcomatous degeneration | Stage 1.01-2.02<br>AND sarcomatous degeneration [operative/pathology report]<br>OR neurofibrosarcoma [operative/pathology report]<br>OR malignant schwannoma [operative/pathology report]<br>OR pheochromocytoma [operative/pathology report]<br>OR medullary thyroid carcinoma [operative/pathology report]<br>OR dysplastic scoliosis [operative/pathology report]<br>OR rhabdomyosarcoma [operative/pathology report]  | STAGE 1.01-2.02 + (DXCAT END15 OR DXCAT END14 OR DX 73743, 1710-1719, 2150-2159); |
| 3.01  | with hemiparesis or paraparesis  | Stage 1.01-2.03<br>AND hemiparesis<br>OR paraparesis  | STAGE 1.01-2.03 + (DX 34200-34202, 34210-34282, 34290-34292, 3441);               |
| 3.02  | with hemiplegia or paraplegia  | Stage 1.01-3.01<br>AND hemiplegia<br>OR paraplegia  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU19

MultiStage: No

DXCat Label: Neurofibromatosis Type I [Von Recklinghausen's Disease]

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes                        |
|-------|--------------------------|--|---------------------------------------|
| 3.03  | with respiratory failure | Stage 1.01-3.02<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.02 + GROUP<br>RESP_FAIL; |
| 4.00  | with death               | Stage 1.01-3.03<br>AND death                       | NO;                                   |

### References:

- Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.
- Gutmann DH, Aylsworth A, Carey JC, et al. The diagnostic evaluation and multidisciplinary management of neurofibromatosis 1 and neurofibromatosis 2. JAMA. 1997;278(1):51-7.
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- Sagar SM, Israel MA. Tumors of the nervous system. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2398-2409.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU20

MultiStage: No

DXCat Label: Parkinson's Disease

Specificity: A

Etiology: Degenerative; Idiopathic; Infection; Toxicologic

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Parkinson's disease   | 'Pill rolling' resting tremors involving a single upper extremity   | DX 3320, 3321;  |
| 1.02  | with rigidity or tremor involving both lower or upper extremities | Resting tremor involving both arms<br>OR Resting tremor involving both legs<br>OR rigidity involving both arms<br>OR rigidity involving both legs<br>OR hemilateral rigidity  | STAGE 1.01 + (DX 7810, 7813);   |
| 1.03  | with bradykinesia   | Stage 1.01-1.02<br>AND slowness of movement<br>OR shuffling gait<br>OR difficulty initiating movement<br>OR akinesia<br>OR masklike facies  | STAGE 1.01-1.02 + DX 78199;   |
| 2.01  | with gait disturbances  | Stage 1.01-1.03<br>AND festination, tendency to quicken steps or run when initiating walking<br>OR retropulsion, tendency to fall backwards with shift in patient's center of gravity<br>OR propulsion, tendency to fall forwards with shift in patient's center of gravity<br>OR loss of postural reflexes | STAGE 1.01-1.03 + DX 7812;  |
| 2.02  | with impairment of dexterity                                      | Stage 1.01-2.01<br>AND loss of capacity to use hands  | NO;   |
| 2.03  | with midstage dementia  | Stage 1.01-2.02<br>AND <b>dementia:</b><br>AND become lost on > 1 occasion while driving a car<br>OR become lost on > 1 occasion as a pedestrian in familiar city<br>AND unresolved impairment of remote memory<br>AND unresolved aphasia<br>AND disorientation   | STAGE 1.01-2.01 + (DX 29410, 29411, 2948, 7843 OR GROUP DISORIENT OR GROUP DEMENTIA);         |
| 2.04  | with decubitus ulcer  | Stage 1.01-2.03<br>AND decubitus ulcer  | STAGE 1.01-2.03 + DXCAT SKN01;  |
| 2.05  | with pneumonia  | Stage 1.01-2.04<br>AND <b>pneumonia:</b>  | STAGE 1.01-2.04 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ; |
| 3.01  | with sepsis   | Stage 1.01-2.05<br>AND <b>sepsis:</b>   | STAGE 1.01-2.05 + GROUP SEPSIS;   |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU20

MultiStage: No

DXCat Label: Parkinson's Disease

Specificity: A

Etiology: Degenerative; Idiopathic; Infection; Toxicologic

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.02<br>AND death | NO;            |

### References:

- Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.
- Aminoff MJ. Parkinson's disease and other extrapyramidal disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2356-2363.
- Geldmacher DS, Whitehouse PJ. Evaluation of dementia. N Engl J Med. 1996;335(5):330-6.
- Kalra S, Bergeron C, Lang AE. Lewy body disease and dementia. Archives of Internal Medicine. 1996;156(5):487-93.
- Manyam BV. Practical guidelines for management of Parkinson's disease. Journal of the American Board of Family Practice. 1997;10(6):412-24.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU21

MultiStage: No

DXCat Label: Tuberos Sclerosis

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Asymptomatic tuberous sclerosis  | Tuberous sclerosis gene on chromosome 9q and 16p [genetics report]<br>OR cerebral cortical focal dysplastic island [MRI report]<br>OR subependymal nodule [CT scan report]<br>OR giant cell astrocytoma [CT scan report]<br>OR retinal astrocytic hamartoma [ultrasonography report]<br>OR facial angiofibroma ("adenoma sebaceum")<br>OR unguial fibroma<br>OR pulmonary lymphangiomyomatosis<br>OR a "shagreen patch"<br>OR hypopigmented ash-leaf shaped macules | DX 7595;  |
| 2.01  | with seizures  | Stage 1.01<br>AND seizures  | STAGE 1.01 + (DX 78032, 78039);                             |
| 2.02  | with mental retardation  | Stage 1.01-2.01<br>AND <b>mental retardation:</b>   | STAGE 1.01-2.01 + DXCAT NEU15;                              |
| 2.03  | with renal cysts   | Stage 1.01-2.02<br>AND renal cysts [ultrasonography report]   | STAGE 1.01-2.02 + (DX 75310, 75311);                        |
| 2.04  | with renal angiomyolipomas   | Stage 1.01-2.03<br>AND renal angiomyolipomas [operative/pathology report]   | STAGE 1.01-2.03 + (DX 2143, 2155);                          |
| 2.05  | with rhabdomyomas of the heart   | Stage 1.01-2.04<br>AND rhabdomyomas of the heart [ultrasonography report or cardiac catheterization report or operative/pathology report]   | STAGE 1.01-2.04 + DX 2127;                                  |
| 2.06  | with rhabdomyomas of the heart and ventricular premature contractions or atrial premature contractions or atrial premature contractions or supraventricular tachycardias or ectopic atrial rhythm or atrial fibrillation or atrial flutter | Stage 2.05<br>AND ventricular premature contractions [EKG report]<br>OR atrial premature contractions [EKG report]<br>OR supraventricular tachycardia [EKG report]<br>OR ectopic atrial rhythm [EKG report]<br>OR atrial fibrillation [EKG report]<br>OR atrial flutter [EKG report]  | STAGE 2.05 + (DX 42731, 42732, 42760, 42761, 42769, 42789); |
| 2.07  | with Wolff-Parkinson-White syndrome  | Stage 1.01-2.06<br>AND Wolff-Parkinson-White syndrome[EKG report]   | STAGE 1.01-2.06 + DX 4267;                                  |
| 3.01  | with renal failure   | Stage 1.01-2.07<br>AND <b>renal failure:</b>  | STAGE 1.01-2.07 + GROUP REN_FAIL_ACU;                       |
| 3.02  | with hydrocephalus   | Stage 1.01-3.01<br>AND hydrocephalus [CT scan or MRI report]  | STAGE 1.01-3.01 + (DX 74100, 7423);                         |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU21

MultiStage: No

DXCat Label: Tuberos Sclerosis

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 3.03  | with renal carcinoma or sarcoma                             | Stage 1.01-3.02<br>AND renal carcinoma [operative/pathology report]<br>OR renal sarcoma [operative/pathology report] | STAGE 1.01-3.02 + DXCAT GUS06;                     |
| 3.04  | with rhabdomyomas of the heart and congestive heart failure | Stage 2.05 -S2.07<br>AND <b>congestive heart failure:</b>  | STAGE 2.05-2.07 + GROUP CHF_NON_HTN;               |
| 3.05  | with shock  | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.01-3.04<br>AND death   | NO;  |

### References:

Haslam, RHA. The nervous system/neurocutaneous syndromes In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1705-1709.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU22

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Thoracic

Specificity: A

Etiology:

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Sprain of thoracic back  | Thoracic back pain   | DX 8471;  |
| 1.02  | Spinal cord concussion   | Thoracic spinal cord concussion  | DX 95210-95219, 9531, 9534;   |
| 1.03  | Dislocations(s) or fracture(s) of the vertebrae without injury to the cord | Fracture(s) or dislocation(s) of vertebrae [CT or MRI or spine x-ray report]               | DX 8052, 83921;   |
| 2.01  | Open fracture or dislocation of vertebrae without injury to the cord       | Stage 1.02<br>AND open fracture  | DX 8091, 8053, 83931;   |
| 2.02  | Trauma to spine and spinal cord with paresis                               | Stage 1.02-2.01<br>AND quadriparesis<br>OR paraparesis<br>OR monoparesis<br>OR hemiparesis | STAGE 1.02-2.01 + (DX 34200-34292, 34430-3445) ;<br>DX 80620-80639; |
| 2.03  | with monoplegia or cauda equina syndrome or conus medullaris syndrome      | Stage 2.02<br>AND monoplegia<br>OR <b>cauda equina syndrome:</b>                           | STAGE 1.01-2.02 + DX 34460-34461;                                   |
| 2.04  | with paraplegia or hemiplegia  | Stage 2.02<br>AND paraplegia<br>OR hemiplegia  | STAGE 2.02 + (DX 34200-34292, 3441);                                |
| 2.05  | with segmental sensory loss  | Stage 2.02<br>AND sensory loss distributed to a spinal segment [neurological exam report]  | STAGE 1.01-2.01 + DX 7820;  |
| 2.06  | with Brown-Sequard syndrome  | Stage 2.02<br>AND Brown-Sequard Syndrome [neurological exam report]                        | STAGE 2.02-2.03 + DX 7820;  |
| 2.07  | with cellulitis  | Stage 2.01-2.06<br>AND <b>cellulitis:</b>  | STAGE 1.01-2.06 + DX 68100-6829;                                    |
| 2.08  | with urinary tract infections  | Stage 2.03-2.07<br>AND <b>UTI:</b>   | STAGE 1.01-2.07 + DXCAT GUS10;                                      |
| 2.09  | with osteomyelitis   | Stage 2.03-2.08<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.08 + GROUP OSTEOMYELIT;                                |
| 2.10  | with deep vein thrombosis  | Stage 2.03-2.09<br>AND <b>DVT:</b>   | STAGE 1.01-2.09 + (GROUP DVT OR DX 33811, 33821) ;                  |
| 2.11  | with quadriplegia  | Stage 2.01-2.10<br>AND quadriplegia  | STAGE 1.01-2.10 + (DX 34400-34404, 34409);                          |
| 3.01  | with pulmonary embolism or fat embolism                                    | Stage 2.01-2.11<br>AND <b>pulmonary embolism:</b>  | STAGE 1.01-2.11 + GROUP PULMEMB;                                    |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU22

DXCat Label: Injury: Spine and Spinal Cord: Thoracic

Etiology:

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.02  | with renal failure       | Stage 2.01-3.01<br>AND <b>renal failure:</b>       | STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.03  | with sepsis              | Stage 2.01-3.02<br>AND <b>sepsis:</b>              | STAGE 1.01-3.02 + GROUP SEPSIS;                               |
| 3.04  | with respiratory failure | Stage 2.01-3.03<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.03 + (GROUP RESP_FAIL OR DX 5185);               |
| 3.05  | with shock               | Stage 2.01-3.04<br>AND <b>shock:</b>               | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death               | Stage 2.01-3.06<br>AND death                       | NO;   |

### References:

Aminoff MJ. Spinal Trauma. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:956.

Atkinson PP, Atkinson JL, Spinal shock. Mayo Clinic Proceedings. 1996;71(4):384-389.

Ditunno JF Jr, Formal CS. Chronic spinal cord injury. N Engl J Med. 1994;330(8):550-556.

Haslam, RHA. The nervous system/spinal cord trauma. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1736-1737.

Ropper AH. Traumatic injuries of the head and spine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2390-2398.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU23

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Low Back

Specificity: A

Etiology:

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Sprain of low back   | Lumbar back pain   | DX 8460-8469, 8472-8479, 73313;   |
| 1.02  | Spinal cord concussion   | Lumbar spinal cord concussion  | DX 9522-9529, 9532-9533, 9535-9539;                                     |
| 1.03  | Dislocations(s) or fracture(s) of the vertebrae without injury to the cord | Fracture(s) or dislocation(s) of vertebrae [CT or MRI or spine x-ray report]               | DX 8054, 8056, 8058, 8090, 83920, 83940-83949;                          |
| 2.01  | Open fracture or dislocation of vertebrae without injury to the cord       | Stage 1.02<br>AND open fracture  | DX 8055, 8057, 8059, 83950-83959, 83930;                                |
| 2.02  | Trauma to spine and spinal cord with paresis                               | Stage 1.02-2.01<br>AND quadriparesis<br>OR paraparesis<br>OR monoparesis<br>OR hemiparesis | STAGE 1.02-2.01 + (DX 34200-34292, 34430-3445) ;<br>DX 8064-8069, 9072; |
| 2.03  | with monoplegia or cauda equina syndrome or conus medullaris syndrome      | Stage 2.02<br>AND monoplegia<br>OR <b>cauda equina syndrome:</b>                           | STAGE 1.02-2.02 + DX 34460-34461;                                       |
| 2.04  | with paraplegia or hemiplegia  | Stage 2.02<br>AND paraplegia<br>OR hemiplegia  | STAGE 2.02 + (DX 34200-34292, 3441);                                    |
| 2.05  | with segmental sensory loss  | Stage 2.02<br>AND sensory loss distributed to a spinal segment [neurological exam report]  | STAGE 1.01-2.01 + DX 7820;  |
| 2.06  | with Brown-Sequard syndrome  | Stage 2.02<br>AND Brown-Sequard Syndrome [neurological exam report]                        | STAGE 2.02-2.03 + DX 7820;  |
| 2.07  | with cellulitis  | Stage 2.01-2.06<br>AND <b>cellulitis:</b>  | STAGE 1.01-2.06 + DX 68100-6829;  |
| 2.08  | with urinary tract infections  | Stage 2.03-2.07<br>AND <b>UTI:</b>   | STAGE 1.01-2.07 + DXCAT GUS10;  |
| 2.09  | with osteomyelitis   | Stage 2.01-2.08<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.08 + GROUP OSTEOMYELIT;                                    |
| 2.10  | with deep vein thrombosis  | Stage 2.03-2.09<br>AND <b>DVT:</b>   | STAGE 1.01-2.09 + (GROUP DVT OR DX 33811, 33821) ;                      |
| 2.11  | with quadriplegia  | Stage 2.01-2.10<br>AND quadriplegia  | STAGE 1.01-2.10 + (DX 34400-34404, 34409);                              |
| 3.01  | with pulmonary embolism or fat embolism                                    | Stage 1.01-2.11<br>AND <b>pulmonary embolism:</b>  | STAGE 1.01-2.11 + GROUP PULMEMB;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU23

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Low Back

Specificity: A

Etiology:

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.02  | with renal failure       | Stage 1.01-3.01<br>AND <b>renal failure:</b>       | STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.03  | with sepsis              | Stage 1.01-3.02<br>AND <b>sepsis:</b>              | STAGE 1.01-3.02 + GROUP SEPSIS;                               |
| 3.04  | with respiratory failure | Stage 2.01-3.03<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.03 + (GROUP RESP_FAIL OR DX 5185);               |
| 3.05  | with shock               | Stage 2.01-3.04<br>AND <b>shock:</b>               | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death               | Stage 2.01-3.06<br>AND death                       | NO;   |

### References:

Aminoff MJ. Spinal Trauma. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:956.

Atkinson PP, Atkinson JL, Spinal shock. Mayo Clinic Proceedings. 1996;71(4):384-389.

Ditunno JF Jr. Formal CS. Chronic spinal cord injury. N Engl J Med. 1994;330(8):550-556.

Haslam, RHA. The nervous system/spinal cord trauma. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1736-1737.

Ropper AH. Traumatic injuries of the head and spine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2390-2398.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU80

MultiStage: No

DXCat Label: Other CNS Inflammation, Infection, or Disorder

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Tremor or dystonias   |                     | DX 3331-3333, 3336-33389, 33511;   |
| 2.01  | Extrapyramidal conditions, cerebral degeneration, narcolepsy or cataplexy                         |                     | DX 3300-3309, 3317, 33189-3319, 3330, 33390-3340, 3342-3344, 3349-33510, 33519, 33521-3359, 3361-3370, 33720-3379, 3410-34292, 3442-34461, 34489-3449, 347-3480, 3482, 3488-3489, 3492-3499; |
| 2.02  | Intraspinal abscess and late effects of CNS infections  |                     | DX 3241-3249, 326;   |
| 2.03  | Paraplegia  |                     | DX 3341, 3441;   |
| 3.01  | Intracranial abscess, thrombus of intracranial sinus, communicating hydrocephalus or quadriplegia |                     | DX 3240, 325, 3313-3314, 34400-34409, 34481, 3481, 3483-3485;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU81

MultiStage: No

DXCat Label: Other Cranial Nerve Disorders

Specificity: C

Etiology:

| Stage | Description                   | Diagnostic findings | ICD-9-CM Codes           |
|-------|-------------------------------|---------------------|--------------------------|
| 1.01  | Other cranial nerve disorders |                     | DX 3501-3509, 3510-3529; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU82

MultiStage: No

DXCat Label: Other Neurological Conditions

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 1.01  | Neuropathies; abnormal movement; gait, coordination, sensory disturbances, meningismus, transient paralysis, clubbing |                     | DX 3577-3579, 7810-78199, 7843-78469, 79400-79409; |
| 1.02  | Neuropathy due to drugs, tetany   |                     | DX 3576;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU83

MultiStage: No

DXCat Label: Other Peripheral Nerve Disorders

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                       |
|-------|---|---------------------|--|
| 1.01  | Other mononeuritis, polyneuropathy, or myoneural disorders or late effect of nerve injury |                     | DX 3541-3569, 3571, 3582-3589, 3594-3599, 9073-9079; |
| 1.02  | Familial periodic paralysis   |                     | DX 3593;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU84

MultiStage: No

DXCat Label: Other Spinal Lesions

Specificity: C

Etiology:

| Stage | Description          | Diagnostic findings | ICD-9-CM Codes |
|-------|----------------------|---------------------|----------------|
| 1.01  | Other spinal lesions |                     | DX 3530-3539;  |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT01

DXCat Label: Beriberi, Thiamine Deficiency

Etiology: Nutritional

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings  | ICD-9-CM Codes                       |
|-------|-----------------------------------|--|--------------------------------------|
| 1.01  | Thiamine deficiency               | Urinary thiamine excretion $\leq$ 50 ug/24 hours [urine chemistry report]<br>AND serum pyruvate $\geq$ 1 mg/dl [chemistry report]<br>OR thiamine deficiency [RBC transketolase assay report]<br>AND bilateral lower extremity paresthesias<br>OR loss of bilateral patellar reflexes<br>OR loss of vibratory sense on bilateral lower extremities<br>OR loss of bilateral lower extremity position sense | DX 2650, 2651;                       |
| 1.02  | with toxic amblyopia              | Stage 1.01<br>AND central scotomas<br>AND visual acuity $\leq$ 20/50 [Snellen test report]   | STAGE 1.01 + (DX 37734, 36841);      |
| 1.03  | with nystagmus or ophthalmoplegia | Stage 1.01-1.02<br>AND gaze evoked nystagmus<br>OR ophthalmoplegia   | STAGE 1.01-1.02 + (DX 37950, 3789);  |
| 2.01  | with peripheral edema             | Stage 1.01-1.03<br>AND bilateral lower extremity edema   | STAGE 1.01-1.03 + DX 7823;           |
| 2.02  | with pleural effusion             | Stage 1.01-2.01<br>AND pleural effusion [thoracentesis report or chest x-ray report]   | STAGE 1.01-2.01 + DX 5119;           |
| 3.01  | with Wernicke-Korsakoff syndrome  | Stage 1.03<br>AND confabulation<br>AND <b>disorientation:</b><br>AND ataxia  | STAGE 1.01-2.02 + DX 2940;           |
| 3.02  | with congestive heart failure     | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN; |
| 3.03  | with coma                         | Stage 1.01-3.02<br>AND <b>coma:</b>  | STAGE 1.01-3.02 + GROUP COMA;        |
| 4.00  | with death                        | Stage 2.01-3.03<br>AND death   | NO;                                  |

## References:

Baron RB. Nutrition. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1150-1180.

Kopelman MD. The Korsakoff syndrome. British Journal of Psychiatry. 1995;166(2):154-73.

Wilson JD. Vitamin deficiency and excess. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:480-489.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT02

MultiStage: No

DXCat Label: Obesity

Specificity: A

Etiology: Genetic (or hereditary); Metabolic; Nutritional

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Simple obesity, overweight and other hyperalimentation | Body weight $\geq$ 1.2 times ideal body weight<br>AND body weight < 1.4 times ideal body weight<br>OR Body mass index $\geq$ 7.5 kg/m <sup>2</sup><br>AND Body mass index < 30 kg/m <sup>2</sup>                 | DX 27800, 2781, 27802, V8521-V8525;  |
| 1.02  | Moderate obesity                                       | Body weight $\geq$ 1.4 times ideal body weight<br>AND body weight < 2.0 times ideal body weight<br>OR Body Mass Index $\geq$ 30 kg/m <sup>2</sup><br>AND Body Mass Index < 40 kg/m <sup>2</sup>                  | DX V8530-V8539;  |
| 2.01  | Severe obesity   | Body weight $\geq$ 2.0 times ideal body weight<br>OR Body mass index > 40 kg/m <sup>2</sup>  | DX 27801, V854;  |
| 2.02  | with dyslipidemia                                      | Stage 1.01-2.01<br>AND <b>hypercholesterolemia:</b><br>OR <b>hypertriglyceridemia:</b><br>OR <b>low high density lipoprotein, HDL, cholesterol:</b><br>OR <b>high low density lipoprotein, LDL, cholesterol:</b> | STAGE 1.01 + (DX 2721, 2723, 2724, 2725, 2726, 2727, 2728, 2729 OR GROUP HYPR_CHOLEST);          |
| 2.03  | with the Pickwickian syndrome                          | Stage 1.01-2.02<br>AND Pickwickian syndrome<br>OR obesity hypoventilation syndrome<br>OR sleep apnea   | DX 2788;<br>STAGE 1.01-2.02 + (DX 78051, 78053, 78057, 78609, 32720, 32726, 32723-32724, 32729); |
| 3.01  | with respiratory failure                               | Stage 2.03<br>AND <b>respiratory failure:</b>  | STAGE 1.01-2.03 + GROUP RESP_FAIL;   |
| 3.02  | with shock   | Stage 2.03-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death   | Stage 2.03-3.02<br>AND death   | NO;  |

## References:

Baron RB. Obesity. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1161-1164.

Bjorntorp P. Obesity. Lancet. 1997;350(9075):423-426.

Bray GA. Obesity. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:454-462.

Rosenbaum M, Leibel RL, Hirsch J. Obesity. N Engl J Med. 1997;37(6):396-407.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT03  
 DXCat Label: Pellagra  
 Etiology: Nutritional

MultiStage: No  
 Specificity: A

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|------------------------------|---|--|
| 1.01  | Pellagra                     | History of dietary intake of American corn or maize as staple food<br>OR history of alcoholism or gastrointestinal disease or psychiatric disturbance<br>OR Hartnup disease<br>OR 'neutral' aminoaciduria (urinary chemistry report)<br>OR carcinoid syndrome<br>OR 5-HIAA $\geq$ 25 mg/dl (chemistry report)<br>OR urinary N-methylnicotinamide < 1.5 mg/d (urinary chemistry report)<br>AND symmetrically reddened and roughened skin when exposed to light | DX 2652;   |
| 2.01  | with dermatitis or mucositis | Stage 1.01<br>AND acute sunburn type skin when exposed to light (butterfly eruption on face and Casal's necklace)<br>OR proctitis<br>OR vaginitis<br>OR diarrhea<br>OR abdominal distention<br>OR peripheral neuritis and myelitis<br>OR atrophy of papillae of the tongue<br>OR dementia   | STAGE 1.01 + (DX 69272, 69282, 6929, 56949, 61610, 78791, 7873, 3574, 5294, 29410, 29411, 3238); |
| 3.01  | with renal failure           | Stage 1.01-2.01<br>AND <b>renal failure:</b>  | STAGE 1.01-2.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);                                    |
| 3.02  | with coma                    | Stage 1.01-3.01<br>AND <b>coma:</b>   | STAGE 1.01-3.01 + GROUP COMA;  |
| 4.00  | with death                   | Stage 3.01-3.02<br>AND death  | NO;  |

## References:

- Baron RB. Nutrition. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1150-1180.
- Black MM, Gawkrödger DJ, Seymour CA, Weismann K. Metabolic and nutritional disorders. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. Oxford: Blackwell Science Ltd.; 1998:2659-2660.
- Lanska DJ. Stages in the recognition of epidemic pellagra in the United States: 1865-1960. Neurology. 1996;47(3):829-34.
- Stratigos JD, Katsambas A. Pellagra, a still existing disease. Br J Dermatol. 1977;(96):99-106.
- Wilson JD. Vitamin deficiency and excess. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:480-489.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT80

MultiStage: No

DXCat Label: Other Electrolyte Disorders

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes            |
|-------|--|---------------------|---------------------------|
| 1.01  | Hyposmolality, alkalosis, hypovolemia, hyper- or hypopotassemia, or fluid overload |                     | DX 2753, 2761, 2763-2769; |
| 3.01  | Hyperosmolality or acidosis  |                     | DX 2760, 2762;            |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT81

DXCat Label: Other Nutritional and Metabolic Disorders

Etiology: Metabolic; Nutritional

MultiStage: No

Specificity: C

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Other malnutrition and dietary deficiencies or other disorders of lipids, amino-acids or metabolism |                     | DX 260-2639, 2660-2669, 2690-2699, 2701-2719, 2730-2732, 2738-2739, 2750, 2752, 2754-2759, 2758-2759, 2771-2772, 2775, 2777-2779, 2782-2784, 7830-7833, 7947, V850, V8551-V8552; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT82

MultiStage: No

DXCat Label: Lipid Abnormalities

Specificity: C

Etiology: Nutritional; Metabolic; Genetic (or hereditary)

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes |
|-------|---|---------------------|----------------|
| 1.01  | Hyperlipidemia, hypercholesterolemia, lipid deficiencies and other lipid disorders. |                     | DX 2720-2729;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH80

MultiStage: No

DXCat Label: Abnormal Lab, X-ray and Clinical Findings

Specificity: C

Etiology:

| Stage | Description                              | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 1.01  | Abnormal lab, X-ray or clinical findings |                     | DX 7900-7901, 7903-7906, 79091-79092, 79094-79099, 7910-7921, 7924-7930, 7936, 7938, 7939-79399, 79410, 79417-79419, 7949, 7951, 7954, 79581-79589, 7956-79589, 7961-7969; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH81

MultiStage: No

DXCat Label: Complications of Surgical and Medical Care

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 1.01  | Malfunction of or reaction to implanted genitourinary, gastric, vascular, ocular, skin or orthopedic device   |                     | DX 53087, 9961, 99630-99655, 99659-99660, 99662, 99664-99667, 99669-99670, 99674, 99676-99679, 99690-99699, 99700-99701, 99709, 9972-9975, 99760-99799, 99813, 9982-99851, 9987-9989, 9992, 9999, 33812, 33818, 33822, 33828; |
| 2.01  | Malfunction of or reaction to implanted cardiac or neurologic device, dialysis catheter, iatrogenic cardiac events, hemorrhage, infection, embolism |                     | DX 53086, 99600-99602, 99604-99609, 99656-99657, 99661, 99668, 99671-99673, 99702, 9971, 99811-99812, 99859-9986, 9991, 9993;   |
| 2.02  | Complications of transplanted organs  |                     | DX 99680-99684, 99686-99689, 5187;  |
| 3.01  | Postoperative shock   |                     | DX 9980;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH82

MultiStage: No

DXCat Label: Encounter for Chemotherapy

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                   |
|-------|---|---------------------|--|
| 1.01  | Encounter for chemotherapy or immunotherapy         |                     | DX V581-V5812;                                   |
| 1.02  | with nausea, vomiting, volume depletion or diarrhea |                     | STAGE 1.01 + (DX 2760-2769, 78701-78703, 78791); |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH83

MultiStage: No

DXCat Label: Encounter for Dialysis

Specificity: C

Etiology:

| Stage | Description                 | Diagnostic findings | ICD-9-CM Codes |
|-------|-----------------------------|---------------------|----------------|
| 1.01  | Dialysis related encounters |                     | DX V560-V568;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH84

MultiStage: No

DXCat Label: Encounter for Other Administrative Reasons

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes      |
|-------|--|---------------------|---------------------|
| 0.00  | Observation for suspected exposure to unspecified biological agent |                     | DX V7183;           |
| 1.01  | Administrative encounters  |                     | DX V600-V689, V851; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH85

MultiStage: No

DXCat Label: Encounter for Preventive Health Services

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 0.00  | Encounter for vaccination, examinations, or screening for other disease conditions |                     | DX V030-V070, V072-V0739, V078-V079, V202, V280-V289, V700-V709, V721-V7241, V725-V727, V7285-V7286, V729, V760-V799, V800-V801, V803, V810-V829, V8553-V8554; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH86

MultiStage: No

DXCat Label: Encounter for Radiation Therapy

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                   |
|-------|---|---------------------|--|
| 1.01  | Encounter for radiation therapy                     |                     | DX V580;   |
| 1.02  | with nausea, vomiting, volume depletion or diarrhea |                     | STAGE 1.01 + (DX 2760-2569, 78701-78703, 78791); |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH87

MultiStage: No

DXCat Label: Encounter Related to Other Treatment

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes  |
|-------|---|---------------------|---|
| 0.00  | Preoperative examinations or desensitization to allergens   |                     | DX V071, V7281-V7284;   |
| 1.01  | Elective surgery, physical therapy, rehabilitation, or other aftercare encounters, procreative treatment and management, artificial opening status, donor |                     | DX V2501-V269, V440-V449, V500-V559, V570-V579, V582-V5843, V5849-V585, V5871-V589, V5901-V599; |
| 1.02  | Organ transplant status or joint replacement status   |                     | DX V420, V423-V431, V434-V4389, V5844;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH88

MultiStage: No

DXCat Label: Factors Influencing Health Status

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 0.00  | Supervision of healthy child or constitutional states in development   |                     | DX V201, V210-V219;  |
| 1.01  | Tobacco use, infectious disease carrier, personal or family history of disease, allergy, abuse, exposure, dialysis status, other post-operative status, respirator dependent |                     | DX 3051, V023, V025-V0259, V026-V0260, V0262-V0269, V028-V029, V110-V1202, V1209-V198, V451-V4579, V4582-V4589, V460-V469, V4960-V499, V5861-V5869, V690-V694, V698-V699, V8401-V848, V860-V861; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH89

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Sites

Specificity: A

Etiology: Neoplasm

| Stage | Description                                    | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Benign neoplasm of other and unspecified sites |                     | DX 2143, 2150-2156, 2157-2159, 22800, 22804-22809, 2298-2299, 2381, 2388-2389, 2398-2399; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH90

MultiStage: No

DXCat Label: Neoplasm, Malignant: Nonspecific Sites

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 0.00  | History of malignancy, nonspecific site or observation for suspected malignancy |                     | DX V1088-V1089, V1045, V1049, V1083, V109, V711;       |
| 1.01  | Primary malignant neoplasm of other and nonspecific sites                       |                     | DX 1762, 1768-1769, 1958;                              |
| 2.01  | with lymph node involvement   |                     | STAGE 1.01 + DX 1960-1969;                             |
| 2.02  | with anemia or neuropathy of neoplastic disease                                 |                     | STAGE 1.01-2.01 + (DX 3383, 28522);<br>DX 28522, 3573; |
| 3.01  | with distant metastases   |                     | STAGE 1.01-2.02 + DX 1970-1991;                        |
| 3.02  | with shock  |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;     |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH91

MultiStage: No

DXCat Label: Neoplasm, Malignant: Unspecified Primary Site

Specificity: B

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|--|---------------------|--|
| 1.01  | Primary malignant neoplasm of body area with unspecified tissue involved |                     | DX 1950-1955, 2348-2349, 3383;                     |
| 2.01  | Secondary malignant neoplasm of lymph nodes with unstated primary        |                     | DX 1960-1969;                                      |
| 2.02  | with anemia of neoplastic disease  |                     | STAGE 1.01-2.01 + DX 28522;                        |
| 3.01  | Secondary malignant neoplasm of other sites with unstated primary        |                     | DX 1970-1991;                                      |
| 3.02  | with shock   |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH92

MultiStage: No

DXCat Label: General Signs, Symptoms, and Ill-Defined Conditions

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 0.00  | Observation for unspecified suspected conditions                                      |                     | DX V7189-V719, V718, 33819, 33829;   |
| 1.01  | General signs, symptoms and ill-defined conditions                                    |                     | DX 70521-70522, 7802, 7804, 7806-78099, 7820-7822, 78261-7829, 7834-7839, 7842, 7992-7999, V400-V401, V414-V415, V417-V419, V470-V472, V475-V495, 32720-32729, 3278, 32751, 32759, 32740-32749, 32700-32701, 32709-32714, 32719, 3380, 3384; |
| 2.01  | Jaundice or edema   |                     | DX 7823, 7824;   |
| 2.02  | Alteration of consciousness, persistent vegetative state, hallucinations, convulsions |                     | DX 78002-7801, 7803-78039;   |
| 3.01  | Coma, asphyxia, cyanosis or respiratory arrest  |                     | DX 78001, 7825, 7990-7991;   |
| 4.00  | Death   |                     | DX 7982-7989;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH93

MultiStage: No

DXCat Label: Sleep Disorders

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                              |
|-------|---|---------------------|---|
| 1.01  | Insomnia, Hypersomnia, Irregular sleep-wake rhythm, Sleep related movement disorder |                     | DX 78050, 78052, 78054-78056, 78058, 78059; |
| 2.01  | Sleep Apnea   |                     | DX 78051, 78053, 78057;                     |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED01

MultiStage: No

DXCat Label: Anomaly: Adrenal Hyperplasia

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

| Stage | Description                                    | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | 21-Hydroxylase deficiency                      | Urinary 17-hydroxyprogesterone $\geq$ normal value/24 hrs. [chemistry report]<br>OR<br>positive urine pregnanediol [chemistry report]<br>AND<br>clitoral hypertrophy in females<br>OR<br>macrogenitosomia in males                                      | DX 2552;  |
| 1.02  | 11-Beta hydroxylase deficiency                 | Serum elevations of 11-deoxycorticosterone [chemistry report]<br>AND<br>serum elevations of 11-deoxycortisol [chemistry report]<br>OR<br>urine elevations of tetrahydro 11-deoxycortisol [chemistry report]   | NO;   |
| 1.03  | 3-Beta hydroxysteroid dehydrogenase deficiency | Serum elevations of dehydroepiandrosterone [chemistry report]<br>OR<br>serum elevation of DHEA-sulfate [chemistry report]<br>AND<br>normal 17-hydroxyprogesterone level [chemistry report]<br>OR<br>low 17-hydroxyprogesterone level [chemistry report] | NO;   |
| 2.01  | Salt losing congenital adrenal hyperplasia     | Stage 1.01-1.03<br>AND<br><b>hyponatremia:</b>  | STAGE 1.01 + GROUP<br>HYPONATREMIA;                   |
| 3.01  | with shock                                     | Stage 1.01-2.01<br>AND<br><b>shock:</b>   | STAGE 1.01-2.01 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                     | Stage 1.01-3.01<br>AND<br>death   | NO;   |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED02

MultiStage: No

DXCat Label: Anomaly: Atrial Septal Defect

Specificity: A

Etiology: Congenital

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Atrial septal defect secundum  | Atrial septal defect secundum [cardiac catheterization report or cardiac surgery report or echocardiogram report]                          | DX 7455;   |
| 1.02  | Atrial septal defect primum  | Atrial septal defect primum [cardiac catheterization report or cardiac surgery report or echocardiogram report]                            | DX 74561;  |
| 2.01  | with atrial fibrillation or atrial flutter or reentrant atrial tachycardia | Stage 1.01-1.02<br>AND atrial fibrillation [EKG report]<br>OR atrial flutter [EKG report]<br>OR re-entrant atrial tachycardia [EKG report] | STAGE 1.01-1.02 + (DX 42731, 42732, 42789);        |
| 2.02  | with mitral regurgitation  | Stage 1.01-2.01<br>AND mitral regurgitation [echocardiogram report or cardiac catheterization report or cardiac surgery report]            | STAGE 1.01-2.01 + DX 7466;                         |
| 3.01  | with pulmonary hypertension  | Stage 1.01-2.02<br>AND <b>pulmonary hypertension:</b>  | STAGE 1.01-2.02 + (DX 4150, 4160, 4168);           |
| 3.02  | with congestive heart failure  | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;               |
| 3.03  | with respiratory failure   | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with shock   | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 1.01-3.04<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED02

MultiStage: No

DXCat Label: Anomaly: Atrial Septal Defect

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
|---|
| Bernstein D. Acyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1288-1296.   |
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED03

MultiStage: No

DXCat Label: Anomaly: Atrioventricular Defects

Specificity: A

Etiology: Congenital

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 2.01  | Endocardial cushion defect                               | Contiguous atrial and ventricular defects with a single atrioventricular valve [cardiac catheterization report or cardiac surgery report or echocardiogram report] | DX 74560, 74569;                                   |
| 2.02  | Endocardial cushion defect with pneumonia                | Stage 2.01<br>AND <b>pneumonia:</b>  | STAGE 2.01 + (GROUP PNEUMONIA OR DX 5070);         |
| 3.01  | Endocardial cushion defect with pulmonary hypertension   | Stage 2.01-2.02<br>AND <b>pulmonary hypertension:</b>  | STAGE 2.01-2.02 + (DX 4150, 4160, 4168);           |
| 3.02  | Endocardial cushion defect with infectious endocarditis  | Stage 2.02-3.01<br>AND <b>infectious endocarditis:</b>   | STAGE 2.01-3.01 + GROUP ENDOCARDITIS;              |
| 3.03  | Endocardial cushion defect with congestive heart failure | Stage 2.02-3.02<br>AND <b>congestive heart failure:</b>  | STAGE 2.01-3.02 + GROUP CHF__NON_HTN;              |
| 3.04  | Endocardial cushion defect with sepsis                   | Stage 2.02-3.03<br>AND <b>sepsis:</b>  | STAGE 2.01-3.03 + GROUP SEPSIS;                    |
| 3.05  | Endocardial cushion defect with respiratory failure      | Stage 2.02-3.04<br>AND <b>respiratory failure:</b>   | STAGE 2.01-3.04 + GROUP RESP_FAIL;                 |
| 3.06  | Endocardial cushion defect with shock                    | Stage 2.02-3.05<br>AND <b>shock:</b>   | STAGE 2.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Endocardial cushion defect with death                    | Stage 2.02-3.06<br>AND <b>death</b>  | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED04

MultiStage: No

DXCat Label: Anomaly: Coarctation of the Aorta

Specificity: A

Etiology: Congenital

| Stage | Description                                       | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Asymptomatic post-ductal coarctation of the aorta | Post-ductal coarctation of the aorta [cardiac catheterization report or MRI report or echocardiogram report]<br>OR<br>absent femoral pulses<br>AND upper extremity <b>hypertension:</b><br>AND rib notching [x-ray report] | DX 74710-74711;  |
| 1.02  | Asymptomatic pre-ductal coarctation of the aorta  | Pre-ductal coarctation of the aorta [cardiac catheterization report or MRI report or echocardiogram report]<br>OR<br>absent femoral pulses<br>AND upper extremity <b>hypertension:</b><br>AND rib notching [x-ray report]  | NO;  |
| 1.03  | with intermittent claudication                    | Stage 1.01<br>AND intermittent claudication  | STAGE 1.01 + DX 4439;  |
| 2.01  | with aortic insufficiency                         | Stage 1.01-1.02<br>AND aortic valve insufficiency [cardiac catheterization report or echocardiogram report]  | STAGE 1.01-1.03 + DX 7464;   |
| 3.01  | with endocarditis                                 | Stage 1.01-2.01<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.01 + DX 4253;   |
| 3.02  | with acute myocardial infarction                  | Stage 1.01-3.01<br>AND <b>acute myocardial infarction:</b>   | STAGE 1.01-3.01 + (DX 41001, 41011, 41021, 41031 , 41041, 41051, 41061, 41071, 41081, 41091 );                                     |
| 3.03  | with congestive heart failure                     | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;   |
| 3.04  | with new cerebrovascular accident                 | Stage 1.01-3.03<br>AND new cerebrovascular accident [MRI report or CT scan report]   | STAGE 1.01-3.03 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436, 77210-77214); |
| 3.05  | with sepsis                                       | Stage 1.01-3.04<br>AND <b>sepsis:</b>  | STAGE 1.01-3.04 + GROUP SEPSIS;  |
| 3.06  | with aortic dissection                            | Stage 1.01-3.05<br>AND aortic dissection [CT scan or MRI report]   | STAGE 1.01-3.05 + DX 44100-44103;  |
| 3.07  | with respiratory failure                          | Stage 3.01-3.06<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.06 + GROUP RESP_FAIL;   |
| 3.08  | with shock  | Stage 1.01-3.07<br>AND <b>shock:</b>   | STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED04

MultiStage: No

DXCat Label: Anomaly: Coarctation of the Aorta

Specificity: A

Etiology: Congenital

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.01-3.08<br>AND death | NO;            |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED05

MultiStage: No

DXCat Label: Anomaly: Congenital Megacolon

Specificity: A

Etiology: Congenital

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Congenital megacolon   | Congenital megacolon [rectal biopsy report or barium enema report]<br>OR absence of colonic ganglion cells [operative/pathology report]              | DX 7513;   |
| 2.01  | with toxic enterocolitis or dehydration or electrolyte imbalance | Stage 1.01<br>AND watery stools with movements $\geq$ 5 times a day<br>OR <b>dehydration:</b><br>OR <b>hypernatremia:</b><br>OR <b>hyperkalemia:</b> | STAGE 1.01 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPER_KALEM OR DX 5582); |
| 2.02  | with peritonitis   | Stage 1.01-2.01<br>AND peritonitis [operative/pathology report]  | STAGE 1.01-2.01 + (DX 5670-5679, 56983, 7776);   |
| 3.01  | with sepsis  | Stage 1.01-2.02<br>AND <b>sepsis:</b>  | STAGE 1.01-2.02 + GROUP SEPSIS;  |
| 3.02  | with shock   | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                     |
| 4.00  | with death   | Stage 1.01-3.02<br>AND death   | NO;  |

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED06

DXCat Label: Anomaly: Defects of Kidney

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Unilateral renal agenesis or unilateral renal hypoplasia   | Renal agenesis [intravenous urography report or CT scan report or sonogram report]<br>OR<br>renal hypoplasia [intravenous urography report or CT scan or sonogram report]   | DX 7530, 7534, 7537, 7539;  |
| 2.01  | Horseshoe kidney or supernumerary kidney or fusion of the kidney   | Horseshoe kidney [intravenous urography report or CT scan or sonogram report]<br>OR<br>supernumerary kidney [intravenous urography report or CT scan or sonogram report]<br>OR<br>fusion of the kidney [intravenous urography report CT scan or sonogram report]  | DX 7533;  |
| 2.02  | Renal dysplasia or juvenile polycystic kidney, or medullary cystic or sponge kidney or juvenile nephronophthisis | Renal dysplasia [intravenous urography report or CT scan or sonogram report or operative/pathology report]<br>OR<br>polycystic kidney [intravenous urography report or CT scan or sonogram report or operative/pathology report]<br>OR<br>medullary cystic or sponge kidney[intravenous urography report or CT scan or sonogram report or operative/pathology report]<br>OR<br>juvenile nephronophthisis [intravenous urography report or CT scan or sonogram report or operative/pathology report] | DX 75310-75312, 75314-75317, 75319;   |
| 2.03  | Segmental renal hypoplasia or Ask-Upmark syndrome  | Segmental renal hypoplasia [operative/pathology report]   | NO;   |
| 2.04  | Adult polycystic kidney  | Adult polycystic kidney [intravenous urography report or CT scan or sonogram report or operative/pathology report]  | DX 75313;   |
| 2.05  | Hydronephrosis   | Hydronephrosis [intravenous urography report or CT scan or sonogram report]   | STAGE 1.01-2.04 + DX 591;<br>DX 75320-75329;  |
| 2.06  | Hypoplastic kidneys  | Hypoplastic kidneys [intravenous urography report or CT scan or sonogram report]  | NO;   |
| 2.07  | with pyelonephritis  | Stage 1.01-2.06<br>AND <b>pyelonephritis:</b>   | STAGE 1.01-2.05 + (DX 59000, 59010, 59011, 59080 );   |
| 3.01  | with renal failure   | Stage 1.01-2.07<br>AND <b>renal failure:</b>  | STAGE 1.01-2.07 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);<br>STAGE 1.01-2.07 + (DX 40301, 40391) + AGE 0; |
| 3.02  | with sepsis  | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;   |
| 3.03  | with shock   | Stage 3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death   | Stage 3.01-3.03<br>AND <b>death</b>   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED06

MultiStage: No

DXCat Label: Anomaly: Defects of Kidney

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Asplin JR, Coe FL. Hereditary tubular disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1562-1569.

Brenner BM, Levy E, Hostetler TH. Tubulointerstitial diseases of the kidney. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1553-1558.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Woo D. Apoptosis and loss of renal tissue in polycystic kidney diseases. N Engl J Med. 1995;333(1):18-25.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED07

DXCat Label: Anomaly: Defects of Lower Genitourinary Tract

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|------------------------------|--|---|
| 1.01  | Congenital hydrocele         | Congenital hydrocele   | DX 7786;  |
| 1.02  | Hypospadias                  | Hypospadias  | DX 75261, 7538;   |
| 1.03  | Epispadias                   | Epispadias   | DX 75262;   |
| 1.04  | Posterior urethral valves    | Posterior urethral valves [voiding cystourethrogram report]                  | DX 7536;  |
| 1.05  | with urinary tract infection | Stage 1.01-1.04<br>AND <b>UTI:</b>   | STAGE 1.01-1.04 + DXCAT GUS10;                                |
| 2.01  | Hydronephrosis               | Hydronephrosis [intravenous urography report or CT scan or sonogram report]  | STAGE 1.01-1.05 + (DX 591, 75329);                            |
| 2.02  | Ectopic bladder              | Ectopic bladder [intravenous urography report or CT scan or sonogram report] | DX 7535;  |
| 2.03  | with pyelonephritis          | Stage 1.01-2.02<br>AND <b>pyelonephritis:</b>                                | STAGE 1.01-2.02 + (DX 59000, 59010, 59011, 59080 );           |
| 3.01  | with renal failure           | Stage 1.01-2.03<br>AND <b>renal failure:</b>                                 | STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.02  | with sepsis                  | Stage 1.02-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                               |
| 3.03  | with shock                   | Stage 3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | with death                   | Stage 3.01-3.02<br>AND death   | NO;   |

### References:

Asplin JR, Coe FL. Hereditary tubular disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1562-1569.

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Zerres K, Mucher G, Rudnik-Schoneborn S. Early morphological evidence of autosomal recessive polycystic kidney disease. Lancet. 1995;345(8955):987.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED08

MultiStage: No

DXCat Label: Anomaly: Integument (Genodermatoses)

Specificity: A

Etiology: Genetic (or hereditary)

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                   |
|-------|---|--|----------------------------------|
| 1.01  | Congenital dermatoses, Ichthyosis, Keratosis palmaris et plantaris, Pachyonychia congenita, Dyskeratosis congenita, Porokeratosis, Xeroderma pigmentosum, Ectodermal dysplasia, Focal dermal hypoplasia syndrome, Aplasia cutis congenita, Poikiloderma congenitale, Bloom's syndrome, Ataxia-telangiectasia, Epidermolysis bullosa, Familial benign pemphigus, Keratosis follicularis, Acrokeratosis verruciformis of hopf, Psuedoxanthoma elasticum, Connective tissue nevus, Ehlers-danlos syndrome, Cutis laxa, Urticaria pigmentosa, Incontinentia pigmenti, or Hypomelanosis of ito | Congenital dermatoses [operative/pathology report]<br>OR Ichthyosis [operative/pathology report]<br>OR Keratosis palmaris et plantaris [operative/pathology report]<br>OR Pachyonychia congenita [operative/pathology report]<br>OR Dyskeratosis congenita [operative/pathology report]<br>OR Porokeratosis [operative/pathology report]<br>OR Xeroderma pigmentosum [operative/pathology report]<br>OR Ectodermal dysplasia [operative/pathology report]<br>OR Focal dermal hypoplasia syndrome [operative/pathology report]<br>OR Aplasia cutis congenita [operative/pathology report]<br>OR Poikiloderma congenitale [operative/pathology report]<br>OR Bloom's syndrome [operative/pathology report]<br>OR Ataxia-telangiectasia [operative/pathology report]<br>OR Epidermolysis bullosa [operative/pathology report]<br>OR Familial benign pemphigus [operative/pathology report]<br>OR Keratosis follicularis [operative/pathology report]<br>OR Acrokeratosis verruciformis of hopf [operative/pathology report]<br>OR Pseudoxanthoma elasticum [operative/pathology report]<br>OR Connective tissue nevus [operative/pathology report]<br>OR Ehlers-danlos syndrome [operative/pathology report]<br>OR Cutis laxa<br>OR Urticaria pigmentosa [operative/pathology report]<br>OR Incontinentia pigmenti [operative/pathology report]<br>OR Hypomelanosis of ito [operative/pathology report] | DX 3348, 75683, 7570-7579, 7788; |
| 2.01  | Bullous congenital ichthyosiform erythroderma, Harlequin ichthyosis, Epidermolysis bullosa dystrophicans, recessive type  | Bullous congenital [operative/pathology report]<br>OR ichthyosiform erythroderma [operative/pathology report]<br>OR Harlequin ichthyosis [operative/pathology report]<br>OR Epidermolysis bullosa dystrophicans, recessive type [operative/pathology report]   | NO;                              |

## References:

Harper JI. Genetics and genodermatoses. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:357-436.

Johnson B Jr., Honig P. Congenital diseases (Genodermatoses). In: Elder D, Elnitsas R, Jaworsky C, Johnson B Jr. Lever's Histopathology of the skin. 8th ed. Philadelphia, PA: Lippincott; 1997:117-150.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED09

DXCat Label: Anomaly: Neural Tube Defects

Etiology: Congenital; Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Dermal sinus   | Dermal sinus, lumbosacral defect with connection to the subarachnoid [operative/pathology report]   | NO;  |
| 1.02  | Spina bifida occulta   | Spina bifida occulta, failure of fusion of vertebral laminae without protrusion of the spinal cord or meninges [operative/pathology report or lumbosacral x-ray report or CT scan or MRI or myelogram report] | DX 75617;  |
| 1.03  | Spina bifida occulta with tethered umbilical cord  | Stage 1.02<br>AND tethered umbilical cord   | NO;  |
| 1.04  | Spinal bifida occulta with diastematomyelia  | Stage 1.02-1.03<br>AND diastematomyelia   | DX 74251;  |
| 2.01  | Meningocele  | Meningocele, failure of fusion of vertebral laminae with protrusion of the meninges [operative/pathology report or lumbosacral x-ray report or CT scan or MRI or myelogram report]                            | DX 74190-74193;  |
| 2.02  | Defects of the neural tube with hemiparesis or paraparesis   | Stage 1.01-2.01<br>AND hemiparesis<br>OR paraparesis  | STAGE 1.01-2.01 + (DX 3430-3431, 3434);                      |
| 2.03  | Defects of the neural tube with bladder dysfunction  | Stage 1.01-2.02<br>AND bladder dysfunction [urology report]   | STAGE 1.01-2.02 + (DX 34461, 5965, 59651-59659);             |
| 2.04  | Defects of the neural tube with urinary tract infection  | Stage 1.01-2.03<br>AND <b>UTI:</b>  | STAGE 1.01-2.04 + DXCAT GUS10;                               |
| 2.05  | Syringomyelia  | Syringomyelia [operative/pathology report]  | DX 3360;   |
| 2.06  | Defects of the neural tube with paralysis  | Stage 1.01-2.05<br>AND quadriplegia<br>OR hemiplegia<br>OR paraplegia   | STAGE 1.01-2.05 + DX 34400-34409;                            |
| 3.01  | Myelomeningocele   | Myelomeningocele, failure of fusion of vertebral laminae with protrusion of the meninges and spinal cord [operative/pathology report or lumbosacral x-ray report or CT scan or MRI report]                    | NO;  |
| 3.02  | Encephalocele  | Encephalocele, cyst or cavity in the cerebral hemispheres with a ventricle connection [CT scan report]  | DX 7420;   |
| 3.03  | with meningitis  | Stage 1.01-3.02<br>AND <b>meningitis:</b>   | STAGE 1.01-3.02 + (GROUP MENGIT__BACT OR GROUP MENING__VIR); |
| 3.04  | with hydrocephalus   | Stage 1.01-3.03<br>AND hydrocephalus, ventricular dilatation [CT scan report or operative/pathology report]   | DX 74100-74103, 7423;  |
| 3.05  | Hydrocephalus with herniation of the medulla and cerebellar tonsils ("Chiari crisis") or respiratory failure | Stage 1.01-3.03<br>AND hydrocephalus, ventricular dilatation [CT scan report or operative/pathology report]   | STAGE 3.04 + (DX 3484 OR GROUP RESP_FAIL);                   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED09

DXCat Label: Anomaly: Neural Tube Defects

Etiology: Congenital; Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description                                   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 3.06  | Defects of the neural tube with renal failure | Stage 1.01-3.05<br>AND <b>renal failure:</b>                      | STAGE 1.01-3.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); |
| 3.07  | Defects of the neural tube with sepsis        | Stage 1.01-3.06<br>AND <b>sepsis:</b>                             | STAGE 1.01-3.06 + GROUP SEPSIS;                               |
| 3.08  | Anencephaly                                   | Anencephaly, absence of the cerebral hemispheres [CT scan report] | DX 7400;  |
| 3.09  | Defects of the neural tube with shock         | Stage 2.01-3.08<br>AND <b>shock:</b>                              | STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;            |
| 4.00  | Defects of the neural tube with death         | Stage 2.01-3.09<br>AND death                                      | NO;   |

### References:

- Aminoff MJ. Syringomyelia. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:956.
- Haller JS. Congenital malformations of the central nervous system II. In: David RB, ed. Child and Adolescent Neurology. St. Louis, MO: Mosby; 1998:441-452.
- Haslam, RHA. The nervous system/congenital anomalies of the central nervous system. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1677-1686.
- Hauser SL. Diseases of the spinal cord. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2381-2390.
- Perandones C, Cerretini RI, Vargas VRM, Aranda EI, Alba LG, Pivetta OH. Microcephaly, characteristic facies, joint abnormalities, and deficient leucocyte chemotaxis: a further case of the syndrome of Say et al. Journal of Medical Genetics. 1996;33(3):227-229.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED10

DXCat Label: Anomaly: Other Congenital Heart Disease

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Tricuspid atresia or truncus arteriosus or single ventricle or Ebstein's anomaly or hypoplastic left heart | Tricuspid atresia [cardiac catheterization report or cardiac surgery report or echocardiogram report]<br>OR<br>truncus arteriosus [cardiac catheterization report or cardiac surgery report or echocardiogram report]<br>OR<br>single ventricle [cardiac catheterization report or cardiac surgery report or echocardiogram report]<br>OR<br>Ebstein's anomaly<br>OR<br>hypoplastic left ventricle [cardiac catheterization report or cardiac surgery report or echocardiogram report] | DX 7450, 7453, 7457-7459, 74600-74601, 74609-7462, 7467, 74682, 74684-7469; |
| 2.01  | with hypoxemia   | Stage 1.01<br>AND <b>hypoxemia:</b>  | STAGE 1.01 + GROUP HYPOXEMIA;   |
| 3.01  | with congestive heart failure  | Stage 1.01-2.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-2.01 + (DX 514 OR GROUP CHF_NON_HTN) ;                           |
| 3.02  | with sepsis  | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;   |
| 3.03  | with respiratory failure   | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with shock   | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                          |
| 4.00  | with death   | Stage 1.01-3.04<br>AND <b>death</b>  | NO;   |

### References:

- Bernstein D. Cyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1310-1329.
- Freed M. Congenital heart disease: acyanotic and cyanotic. In: Gewitz MH, ed. Primary Pediatric Cardiology. Armonk, NY: Futura; 1995:145-220.
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- Perloff JK. The hypoplastic left heart. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:727-737.
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- Perloff JK. Truncus arteriosus. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:614-634.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED11

DXCat Label: Anomaly: Pulmonary Valve Stenosis

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                       | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|-----------------------------------|--|--|
| 1.01  | Pulmonary valve stenosis          | Pulmonary valve stenosis with an intact ventricular septum [echocardiogram report or cardiac catheterization report or cardiac surgery report]<br>AND ≤ 30 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report]<br>AND > 10 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report] | DX 74602, 74683;                                   |
| 1.02  | Moderate pulmonary valve stenosis | Pulmonary valve stenosis with an intact ventricular septum [echocardiogram report or cardiac catheterization report or cardiac surgery report]<br>AND ≤ 60 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report]<br>AND > 30 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report] | NO;  |
| 1.03  | Severe pulmonary valve stenosis   | Pulmonary valve stenosis with an intact ventricular septum [echocardiogram report or cardiac catheterization report or cardiac surgery report]<br>AND > 60 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report]   | NO;  |
| 2.01  | with hypoxemia                    | Stage 1.01-1.03<br>AND <b>hypoxemia:</b>   | STAGE 1.01 + GROUP HYPOXEMIA;                      |
| 3.01  | with infectious endocarditis      | Stage 1.01-2.01<br>AND <b>infectious endocarditis:</b>   | STAGE 1.01-2.01 + GROUP ENDOCARDITIS;              |
| 3.02  | with congestive heart failure     | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;               |
| 3.03  | with sepsis                       | Stage 1.01-3.02<br>AND <b>sepsis:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;                    |
| 3.04  | with respiratory failure          | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.03 + GROUP RESP_FAIL;                 |
| 3.05  | with shock                        | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                        | Stage 1.01-3.05<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED11

MultiStage: No

DXCat Label: Anomaly: Pulmonary Valve Stenosis

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |  |
|--|
| Bernstein D. Acyanotic congenital heart disease: obstructive lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1297-1305.  |
| Freed M. Congenital heart disease: acyanotic and cyanotic. In: Gewitz MH, ed. Primary Pediatric Cardiology. Armonk, NY: Futura; 1995:145-220.  |
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| Perloff JK. Congenital pulmonary stenosis. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:198-229.  |
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| Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Noncyanotic heart disease: malformations associated with obstruction of blood to the right side of the heart. In: Hay WW, Groothuis JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:496-498.   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED12

DXCat Label: Anomaly: Tetralogy of Fallot

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|-------------------------------|---|---|
| 1.01  | Tetralogy of Fallot           | Tetralogy of Fallot [cardiac catheterization report or cardiac surgery report]                | DX 7452;  |
| 2.01  | with hypercarbia              | Stage 1.01<br>AND <b>hypercarbia:</b>   | STAGE 1.01 + (DX 2764, 7708, 78609);  |
| 2.02  | with anemia                   | Stage 1.01-2.01<br>AND <b>anemia:</b>   | STAGE 1.01-2.01 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821, 2823, 2827-2829 OR GROUP ANEM_HEM_ACQ); |
| 2.03  | with polycythemia             | Stage 1.01-2.02<br>AND <b>polycythemia:</b>   | STAGE 1.01-2.02 + DX 7764;  |
| 2.04  | with aortic stenosis          | Stage 1.01-2.03<br>AND aortic stenosis [echocardiogram report or cardiac surgery report]      | STAGE 1.01-2.03 + DX 7463;  |
| 2.05  | with aortic regurgitation     | Stage 1.01-2.04<br>AND aortic regurgitation [echocardiogram report or cardiac surgery report] | STAGE 1.01-2.04 + DX 7464;  |
| 3.01  | with brain abscess            | Stage 1.01-2.05<br>AND brain abscess [CT report or MRI report or op/.path report]             | STAGE 1.01-2.06 + DX 3240;  |
| 3.02  | with infectious endocarditis  | Stage 1.01-3.01<br>AND <b>infectious endocarditis:</b>  | STAGE 1.01-3.01 + GROUP ENDOCARDITIS;   |
| 3.03  | with congestive heart failure | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>                                       | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;  |
| 3.04  | with cerebrovascular accident | Stage 1.01-3.01<br>AND cerebrovascular accident [CT report or MRI report or op/path report]   | STAGE 1.01-3.03 + (DX 430-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436, 77210-77214);   |
| 3.05  | with sepsis                   | Stage 1.01-3.04<br>AND <b>sepsis:</b>   | STAGE 1.01-3.04 + GROUP SEPSIS;   |
| 3.06  | with respiratory failure      | Stage 1.01-3.05<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.05 + GROUP RESP_FAIL;  |
| 3.07  | with shock                    | Stage 1.01-3.06<br>AND <b>shock:</b>  | STAGE 1.01-3.06 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                    | Stage 1.01-3.07<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED12

MultiStage: No

DXCat Label: Anomaly: Tetralogy of Fallot

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED13

MultiStage: No

DXCat Label: Anomaly: Tracheoesophageal Malformations

Specificity: A

Etiology: Congenital

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Esophageal atresia   | Tracheoesophageal atresia [operative/pathology report or esophagoscopy report]                                 | DX 7503;   |
| 1.02  | Tracheoesophageal fistula with or without esophageal atresia | Tracheoesophageal fistula [operative/pathology report or esophagoscopy report]                                 | NO;  |
| 2.01  | with reactive airways disease                                | Stage 1.01-1.02<br>AND paroxysms of wheezing or bronchoconstriction  | STAGE 1.01 + (DX 49300-49392, 5191-51919);                 |
| 2.02  | with pneumonia   | Stage 1.01-2.01<br>AND <b>pneumonia:</b>   | STAGE 1.01-2.01 + (DX 7700-7701, 5070 OR GROUP PNEUMONIA); |
| 2.03  | with chemical pneumonitis                                    | Stage 1.01-2.02<br>AND aspiration of gastric contents via distal fistula with pneumonitis [chest x-ray report] | STAGE 1.01-2.02 + DX 5060;                                 |
| 2.04  | with lung abscess  | Stage 1.01-2.03<br>AND lung abscess [chest x-ray report]   | STAGE 1.01-2.03 + DX 5130;                                 |
| 3.01  | with sepsis  | Stage 1.01-2.04<br>AND <b>sepsis:</b>  | STAGE 1.01-2.04 + GROUP SEPSIS;                            |
| 3.02  | with shock   | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;         |
| 4.00  | with death   | Stage 1.01-3.02<br>AND death   | NO;  |

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Cook TA, Dehn TC. Use of covered expandable metal stents in the treatment of oesophageal carcinoma and tracheo-oesophageal fistula. *British Journal of Surgery*. 1996;83(1):1417-8.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED14

DXCat Label: Anomaly: Transposition of the Great Arteries

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                         | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|-------------------------------------|---|--|
| 1.01  | Transposition of the great arteries | Transposition of the great arteries [cardiac catheterization report or cardiac surgery report or echocardiogram report]         | DX 74510-74519;                                    |
| 2.01  | with ventricular septal defect      | Stage 1.01<br>AND ventricular septal defect [cardiac catheterization report or cardiac surgery report or echocardiogram report] | STAGE 1.01 + DXCAT PED15;                          |
| 2.02  | with pulmonary stenosis             | Stage 1.01-2.01<br>AND pulmonic stenosis [cardiac catheterization report or cardiac surgery report or echocardiogram report]    | STAGE 1.01-2.01 + DXCAT PED11;                     |
| 2.03  | with polycythemia                   | Stage 1.01-2.02<br>AND <b>polycythemia:</b>   | STAGE 1.01-2.02 + DX 7764;                         |
| 3.01  | with pulmonary hypertension         | Stage 1.01-2.03<br>AND pulmonary hypertension   | STAGE 1.01-2.03 + (DX 4150, 4160, 4168);           |
| 3.02  | with infectious endocarditis        | Stage 1.01-3.01<br>AND <b>infectious endocarditis:</b>  | STAGE 1.01-3.01 + GROUP ENDOCARDITIS;              |
| 3.03  | with congestive heart failure       | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;               |
| 3.04  | with sepsis                         | Stage 1.01-3.03<br>AND <b>sepsis:</b>   | STAGE 1.01-3.03 + GROUP SEPSIS;                    |
| 3.05  | with respiratory failure            | Stage 1.01-3.04<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.04 + GROUP RESP_FAIL;                 |
| 3.06  | with shock                          | Stage 1.01-3.05<br>AND <b>shock:</b>  | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                          | Stage 1.01-3.06<br>AND death  | NO;  |

### References:

- Bernstein D. Cyanotic congenital heart disease: cyanotic lesions associated with increased pulmonary blood flow. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1320--1322.
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- Perloff JK. Survival patterns without cardiac surgery or interventional catheterization: a narrowing base. In: Perloff JK and Child JS. Congenital Heart Disease in Adults. 2nd ed. Philadelphia, PA: WB Saunders; 1998:15-52.
- Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Cyanotic heart disease: complete transposition of the great arteries. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:511-512.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED15

DXCat Label: Anomaly: Ventricular Septal Defects

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                             | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 1.01  | Ventricular septal defect < 1.0 sq. cm. | Ventricular septal defects < 1.0 cm <sup>2</sup> [echocardiogram report or Doppler report or cardiac catheterization report or cardiac surgery report] | DX 7454;   |
| 2.01  | Ventricular septal defect ≥ 1.0 sq. cm  | Ventricular septal defects ≥ 1.0 cm <sup>2</sup> [echocardiogram report or Doppler report or cardiac catheterization report or cardiac surgery report] | NO;  |
| 2.02  | with aortic insufficiency               | Stage 1.01-2.01<br>AND aortic insufficiency [echocardiogram report or Doppler report or cardiac catheterization report or cardiac surgery report]      | STAGE 1.01 + DX 7464;                              |
| 3.01  | with pulmonary hypertension             | Stage 1.01-2.02<br>AND <b>pulmonary hypertension:</b>  | STAGE 1.01-2.02 + (DX 4150, 4160, 4168);           |
| 3.02  | with Eisenmenger syndrome               | Stage 1.01-3.01<br>AND Eisenmenger syndrome  | STAGE 1.01-3.01 + DX 7458;                         |
| 3.03  | with infectious endocarditis            | Stage 1.01-3.02<br>AND <b>infectious endocarditis:</b>   | STAGE 1.01-3.02 + GROUP ENDOCARDITIS;              |
| 3.04  | with congestive heart failure           | Stage 1.01-3.03<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.03 + GROUP CHF_NON_HTN;               |
| 3.05  | with sepsis                             | Stage 1.01-3.04<br>AND <b>sepsis:</b>  | STAGE 1.01-3.04 + GROUP SEPSIS;                    |
| 3.06  | with respiratory failure                | Stage 1.01-3.05<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.05 + GROUP RESP_FAIL;                 |
| 3.07  | with shock                              | Stage 1.01-3.06<br>AND <b>shock:</b>   | STAGE 1.01-3.06 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                              | Stage 1.01-3.07<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED15

MultiStage: No

DXCat Label: Anomaly: Ventricular Septal Defects

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- Bernstein D. Acyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1288-1296.
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- Friedman WF, Child JS. Congenital heart disease in the adult: acyanotic congenital heart disease with a left-to-right shunt. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1303-1306.
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- Perloff JK. Primary pulmonary hypertension. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:273-292.
- Perloff JK. Survival patterns without cardiac surgery or interventional catheterization: a narrowing base. In: Perloff JK and Child JS. Congenital Heart Disease in Adults. 2nd ed. Philadelphia, PA: WB Saunders; 1998:15-52.
- Perloff JK. Ventricular septal defect. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:396-439.
- Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Noncyanotic heart disease: ventricular septal defects. In: Hay WW, Groothuis JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:490-492.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED16

MultiStage: No

DXCat Label: Bacterial and Fungal Infections of the Newborn

Specificity: A

Etiology: Infection

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 0.00  | Newborn born to mother with suspected infection at time of parturition | Newborn<br>AND mother with temperature $\leq$ 100.4<br>OR delivery at < 37 weeks gestation<br>OR previous infant with invasive GBS disease<br>OR Group B Streptococcus in mother's rectum or vagina [culture report without adequate treatment]<br>OR rupture of membranes $\geq$ 18 hours before delivery of infant                       | DX 7602;   |
| 1.01  | Candidal infection of the newborn                                      | Newborn<br>AND vesicopustules in the intertriginous areas of the skin<br>OR generalized scaling of the skin<br>OR white, friable plaques on an erythematous base over the tongue, palate, buccal mucosa and palate<br>AND <i>Candida albicans</i> seen in scraping from lesion<br>OR <i>Candida albicans</i> [report of culture of lesion] | DX 7717-7718, 77189;   |
| 1.02  | Conjunctivitis of the newborn  | Newborn<br>AND purulent discharge from eyes with conjunctival hyperemia and chemosis<br>AND eye culture reports growth of pathologic bacterial organism(s) [culture report]  | AGE 0 + DX 09840;<br>DX 7716;  |
| 1.03  | Staphylococcal pustulosis in the newborn                               | Newborn<br>AND pustular lesions on skin<br>AND <i>Staphylococcus aureus</i> reported on culture of material from pustules [culture report]   | NO;  |
| 1.04  | Mastitis of the newborn  | Newborn<br>AND localized swelling of breast tissue with erythema and warmth of overlying skin<br>AND aspirate culture reports growth of pathologic bacterial organism(s) [culture report]  | DX 7715;   |
| 1.05  | Omphalitis of the newborn  | Newborn<br>AND malodorous, wet umbilical stump with inflammation of the surrounding skin<br>AND umbilical stump culture reports growth of pathologic bacterial organism(s) [culture report]  | DX 7714;   |
| 1.06  | Scalded skin syndrome of the newborn                                   | Newborn<br>AND bullous lesions of the skin<br>AND <i>Staphylococcus aureus</i> [culture report]<br>OR scalded skin syndrome [report of skin biopsy]  | STAGE 1.01-1.06 + DX 6951;   |
| 2.01  | Bacteremia or fungemia in the newborn                                  | Newborn<br>AND <b>bacteremia:</b><br>OR <b>fungemia:</b>   | STAGE 1.01-1.06 + (GROUP BACTEREMIA OR GROUP FUNGEMIA);<br>DX 77183; |
| 2.02  | Septic arthritis in the newborn  | Newborn<br>AND septic arthritis [synovial fluid culture report]  | STAGE 1.01-2.01 + GROUP ARTHR_SEPTIC;                                |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED16

DXCat Label: Bacterial and Fungal Infections of the Newborn

Etiology: Infection

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 2.03  | Osteomyelitis in the newborn                | Newborn<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.02 + GROUP PULMEMB;                               |
| 2.04  | Urinary tract infection in the newborn      | Newborn<br>AND <b>UTI:</b>   | STAGE 1.01-2.03 + GROUP UTI;<br>DX 77182;                      |
| 2.05  | Pneumonia in the newborn                    | Newborn<br>AND <b>pneumonia:</b><br>OR infected tracheal aspirate [Gram's stain report or culture reports] | STAGE 1.01-2.04 + (DX 7700,<br>7701, 5070 OR GROUP PNEUMONIA); |
| 2.06  | Peritonitis in the newborn                  | Newborn<br>AND <b>peritonitis:</b>   | STAGE 1.01-2.05 + (DX 5670-5679,<br>56983);                    |
| 3.01  | with Infective endocarditis                 | Newborn<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.06 + GROUP ENDOCARDITIS;                          |
| 3.02  | Meningitis in the newborn                   | Newborn<br>AND <b>meningitis, pediatric:</b>   | STAGE 1.01-3.01 + GROUP MENGIT__BACT;                          |
| 3.03  | Sepsis of the newborn                       | Newborn<br>AND <b>sepsis, infant:</b>  | STAGE 1.01-3.02 + GROUP SEPSIS;<br>DX 77181;                   |
| 3.04  | with disseminated intravascular coagulation | Newborn<br>AND <b>DIC:</b>   | STAGE 1.01-3.03 + GROUP DIC;                                   |
| 3.05  | with shock                                  | Newborn<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;             |
| 4.00  | with death                                  | Stage 0.0-3.05<br>AND death  | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED16

MultiStage: No

DXCat Label: Bacterial and Fungal Infections of the Newborn

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

|   |
|---|
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| Cole FS. Bacterial Infections in the Newborn. In: Taeusch HW and Ballard RA, eds. <i>Avery's Diseases of the Newborn</i> . 7th ed. Philadelphia, PA: WB Saunders; 1998:490-512.   |
| Gotoff SP. Neonatal sepsis and meningitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. <i>Nelson Textbook of Pediatrics</i> . 15th ed. Philadelphia, PA: WB Saunders; 1996:528-537.                                      |
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| Rosenberg AA, Thilo EH. The newborn infant/infections in the newborn. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. <i>Current Pediatric Diagnosis and Treatment</i> . 13th ed. Stamford, CT: Appleton & Lange; 1997:52-59. |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED17

MultiStage: No

DXCat Label: Cytomegalovirus Disease (Congenital)

Specificity: A

Etiology: Infection, Viral

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                   |
|-------|---|--|--|
| 1.01  | Asymptomatic congenital cytomegalovirus infection                               | Newborn<br>AND isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva at < 2 weeks of age [virology culture report]<br>OR detection of IgM-specific cytomegalovirus virus antibody in the serum [serology report]<br>AND no signs or symptoms of infection      | DX 7711;   |
| 2.01  | Congenital cytomegalovirus infection with preterm delivery                      | Newborn<br>AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report]<br>OR detection of IgM or IgG-specific cytomegalovirus antibody in the serum [serology report]<br>AND delivery at < 37 weeks gestation                          | STAGE 1.01 + DX 76500-76519;                     |
| 2.02  | Congenital cytomegalovirus infection with intrauterine growth retardation       | Newborn<br>AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report]<br>OR detection of IgM or IgG -specific cytomegalovirus antibody in the serum [serology report]<br>AND weight ≤ 10 <sup>th</sup> percentile for gestational age | STAGE 1.01-2.01 + (DX 76400-76409, 76490-76499); |
| 2.03  | Cytomegalovirus retinitis   | Stage 2.01-2.02<br>AND retinitis [ophthalmoscopy report]   | STAGE 1.01-2.02 + DX 36300-36322;                |
| 2.04  | Cytomegalovirus retinitis with retinal hemorrhages or infiltrates or disk edema | Stage 2.01-2.03<br>AND retinal hemorrhages [ophthalmoscopy report]<br>OR sectoral infiltrates [ophthalmoscopy report]<br>OR optic disk edema [ophthalmoscopy report]   | STAGE 1.01-2.03 + (DX 36281, 36289, 37700);      |
| 2.05  | Cytomegalovirus retinitis with retinal detachment                               | Stage 2.01-2.04<br>AND retinal detachment [ophthalmoscopy report]<br>OR iris neovascularization [ophthalmoscopy report]  | STAGE 1.01-2.04 + DXCAT EYE07;                   |
| 2.06  | with hepatosplenomegaly and jaundice  | Stage 2.01-2.05<br>AND hepatosplenomegaly [sonography report or CT scan report or MRI report]<br>AND <b>hyperbilirubinemia:</b>  | STAGE 1.01-2.05 + (GROUP HYPERBILI OR DX 5718);  |
| 2.07  | with sensorineural hearing loss   | Stage 1.01-2.06<br>AND sensorineural hearing loss [audiology report of BAEP report]  | STAGE 1.01-2.06 + DX 38910-3892;                 |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED17

DXCat Label: Cytomegalovirus Disease (Congenital)

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                          | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--------------------------------------|---|---|
| 2.08  | with anemia                          | Stage 2.01-2.07<br>AND <b>anemia:</b>   | STAGE 1.01-2.07 + (GROUP ANEM_HEM_ACQ OR GROUP ANEM_CON_HEM OR GROUP ANEM_OTH_UN OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH); |
| 2.09  | with thrombocytopenia                | Stage 2.01-2.08<br>AND <b>thrombocytopenia:</b>   | STAGE 1.01-2.08 + GROUP THRMBCYPEN;   |
| 2.10  | with microcephaly                    | Stage 1.01-2.09<br>AND head circumference < 10 <sup>th</sup> percentile for gestational age | STAGE 1.01-2.09 + DX 7421;  |
| 2.11  | with seizures                        | Stage 2.01-2.10<br>AND seizures [EEG report]  | STAGE 1.01-2.10 + DX 7790;  |
| 2.12  | with mental retardation              | Stage 1.01-2.11<br>AND <b>mental retardation:</b>   | STAGE 1.01-2.11 + DXCAT NEU15;  |
| 3.01  | with glomerulopathy or renal failure | Stage 2.01-2.13<br>AND <b>renal failure:</b>  | STAGE 1.01-2.12 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | with meningoencephalitis             | Stage 2.01-3.01<br>AND <b>aseptic meningitis:</b>   | STAGE 1.01-3.01 + DXCAT NEU13;  |
| 3.03  | with respiratory failure             | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with coma                            | Stage 1.02-3.03<br>AND <b>coma:</b>   | STAGE 1.01-3.03 + GROUP COMA;   |
| 3.05  | with shock                           | Stage 1.02-3.04<br>AND <b>shock:</b>  | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                           | Stage 2.01-3.05<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED17

MultiStage: No

DXCat Label: Cytomegalovirus Disease (Congenital)

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |   |
|---|
| Beers MH, Berkow R. eds. Congenital and perinatal cytomegalovirus infection. In: Merck Manual. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:1288-1290.  |
| Cole FS. Viral infections of the fetus and newborn. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:467-489.   |
| Grose C. Intrauterine infection and prenatal diagnosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th Ed. Philadelphia: WB Saunders, 1996:521-522.                                   |
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED18

MultiStage: No

DXCat Label: Drug Withdrawal Syndromes in Neonates

Specificity: A

Etiology: Toxicologic

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Newborn infant with maternal drug addiction   | Newborn<br>AND maternal addiction to narcotics<br>OR maternal addiction to cocaine<br>OR maternal addiction to barbiturates<br>OR positive urine drug screen of the newborn as [toxicology report] | (DX 76071, 76072, 76073, 76075)<br>+ AGE 0;               |
| 2.01  | Newborn infant with maternal drug addiction, small for gestational age, with asymmetric intrauterine growth retardation | Stage 1.01<br>AND birth weight < 10th percentile for gestational age<br>AND head circumference ≥ 10th percentile for gestational age   | STAGE 1.01 + (DX 76400-76409,<br>76490-76499);            |
| 2.02  | Newborn infant with maternal drug addiction, small for gestational age, with symmetric inatruerine growth retardation   | Stage 1.01<br>AND birth weight < 10th percentile for gestational age<br>AND head circumference < 10th percentile for gestational age   | NO;   |
| 2.03  | with acute withdrawal syndrome  | Stage 1.01-2.02<br>AND irritability<br>AND increased tone<br>AND tremors<br>AND feeding difficulty<br>AND abnormal sleep patterns  | DX 7795;<br>STAGE 1.01-2.02 + (DX 33385,<br>76077-76078); |
| 2.04  | with apnea  | Stage 1.01-2.03<br>AND respiratory pause > 20 seconds<br>OR respiratory pause < 20 seconds<br>AND cyanosis<br>AND pallor<br>AND hypotonia<br>AND heart rate < 100 bpm                              | STAGE 1.01-2.03 + (DX 33372,<br>7708);                    |
| 2.05  | with seizures   | Stage 1.01-2.04<br>AND seizures  | STAGE 1.01-2.04 + DX 7790;                                |
| 3.01  | with cerebral vascular accident   | Stage 1.01-2.05<br>AND Perinatal cerebral infarction, usually in the distribution of the middle cerebral artery<br>[CT or MRI report]  | STAGE 1.01-2.05 + DX 77210-<br>77214;                     |
| 3.02  | with respiratory failure  | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP<br>RESP_FAIL;                     |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED18

DXCat Label: Drug Withdrawal Syndromes in Neonates

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---------------|--|--|
| 3.03  | with asphyxia | Stage 1.01-3.02<br>AND asphyxia<br>AND ph < 7.0 on umbilical artery sample [chemistry report]<br>AND Apgar score 0-3 for > 5 minutes<br>AND seizures<br>OR hypotonia<br>OR Stage 3.2<br>AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal) | STAGE 1.01-3.02 + (DX 7680-7689, 77088, 79901);    |
| 3.04  | with coma     | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;                      |
| 3.05  | with shock    | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death    | Stage 1.01-3.05<br>AND death   | NO;  |

### References:

Charlton V. Perinatal and long-term consequences of abnormal fetal growth and nutrition. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:52-54.

Martinez A, Partridge JC, Beam X, Taeusch HW. Perinatal substance abuse. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn, 7th Ed. Philadelphia: WB Saunders, 1998:103-118.

Rosenberg AA, Thilo EH. The newborn infant/infants of mothers who abuse drugs. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:68-70.

Schechner S. Drug abuse and withdrawal. In: Cloherty JP and Stark AR, eds. Manual of Neonatal Care. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:211-223.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED19

MultiStage: No

DXCat Label: Full Term Infant with Abnormal Birth Weight

Specificity: A

Etiology: Congenital

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Full term infant, large for gestational age  | Infant $\geq$ 38 weeks and $\leq$ 42 weeks gestational age<br>AND birth weight $\geq$ 90th percentile for gestational age  | DX 7660;<br>DX V3000-V392 + DX 7660;   |
| 1.02  | Full term infant, small for gestational age, with asymmetric intrauterine growth retardation | Infant $\geq$ 38 weeks and $\leq$ 42 weeks gestational age<br>AND birth weight $<$ 10th percentile for gestational age<br>AND head circumference $\geq$ 10th percentile for gestational age  | DX 76400-76419, 76490-76499;<br>DX V3000-V392 + (DX 76400-76419, 76490-76499); |
| 1.03  | Full term infant, small for gestational age, with symmetric intrauterine growth retardation  | Infant $\geq$ 38 weeks and $\leq$ 42 weeks gestational age<br>AND birth weight $<$ 10th percentile for gestational age<br>AND head circumference $<$ 10th percentile for gestational age   | NO;  |
| 2.01  | with hypocalcemia  | Stage 1.01-1.03<br>AND <b>hypocalcemia:</b>  | STAGE 1.01-1.02 + GROUP HYPOCALCEMIA;  |
| 2.02  | with hypoglycemia  | Stage 1.01-2.01<br>AND <b>hypoglycemia:</b>  | STAGE 1.01-2.01 + GROUP HYPOGLYCEMIA;  |
| 2.03  | with hyperbilirubinemia  | Stage 1.01-2.02<br>AND Infants $<$ 1 day old total serum bilirubin $\geq$ 8.0 mg/dl [chemistry report]<br>OR Infants 1-2 days old total serum bilirubin $\geq$ 12mg/dl [chemistry report]<br>OR Infants 2-5 days old total serum bilirubin $\geq$ 16mg/dl [chemistry report]<br>OR Infants $>$ 5 days old total serum bilirubin $\geq$ 2mg/dl [chemistry report] | STAGE 1.01-2.02 + GROUP HYPERBILI;   |
| 2.04  | with polycythemia  | Stage 1.01-2.03<br>AND Central hematocrit $>$ 65%  | STAGE 1.01-2.03 + DX 7764;   |
| 2.05  | with seizures  | Stage 1.01-2.04<br>AND seizures  | STAGE 1.01-2.04 + DX 7790;   |
| 3.01  | with persistent pulmonary hypertension   | Stage 1.01-2.05<br>AND Right to left shunting through a patent ductus arteriosus or patent foramen ovale [ultrasound report]<br>AND PaO <sub>2</sub> $<$ 60mmHg unresponsive to 100% O <sub>2</sub><br>OR PaO <sub>2</sub> gradient between the radial artery and the umbilical artery $>$ 20mmHg [ABG report]<br>AND normal pCO <sub>2</sub> [ABG report]       | STAGE 1.01-2.05 + (DX 4150, 4160, 4168);                                       |
| 3.02  | with heart failure   | Stage 1.01-3.01<br><b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;   |
| 3.03  | with respiratory failure   | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED19

DXCat Label: Full Term Infant with Abnormal Birth Weight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---------------|---|--|
| 3.04  | with asphyxia | Stage 1.01-3.03<br>AND asphyxia<br>AND ph < 7.0 on umbilical artery sample [chemistry report]<br>AND Apgar score 0-3 for > 5 minutes<br>AND seizures<br>OR hypotonia<br>OR <b>congestive heart failure:</b><br>AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal) | STAGE 1.01-3.03 + (DX 7680-7689, 77088, 79901);    |
| 3.05  | with coma     | Stage 1.01-3.04<br>AND <b>coma:</b>   | STAGE 1.01-3.04 + GROUP COMA;                      |
| 3.06  | with shock    | Stage 1.01-3.05<br>AND <b>shock:</b>  | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death    | Stage 1.01-3.06<br>AND death  | NO;  |

### References:

Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics*. 1996;98(1):141-142.

DeWayne MP, Cloherty JP. Identifying the high-risk infant. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.

Goorin AM. Polycythemia. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:466-470.

Kliegman RM. The fetus and the neonatal infant. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:431-513.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED20

DXCat Label: Hyaline Membrane Disease/Respiratory Distress Syndrome

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 2.01  | Newborn infant with respiratory distress syndrome  | Newborn<br>AND RR $\geq$ 60 within several hours of birth<br>AND grunting, flaring or retractions<br>AND lung parenchyma with a reticular granularity ("ground glass" appearance) with air bronchograms [chest x-ray report]   | DX 769, 7704-77083;                                    |
| 2.02  | Respiratory distress syndrome with interstitial emphysema or pneumothorax or pneumomediastinum | Stage 2.01<br>AND Interstitial emphysema [x-ray report]<br>OR pneumothorax [x-ray report]<br>OR pneumomediastinum [x-ray report]   | DX 7702-7703, 77087-7709;                              |
| 3.01  | with respiratory failure   | Stage 2.01-2.02<br>AND <b>respiratory failure:</b>   | STAGE 2.01-2.02 + GROUP RESP_FAIL;<br>DX 77084, 77087; |
| 3.02  | with asphyxia  | Stage 2.01-3.01<br>AND asphyxia<br>AND ph < 7.0 on umbilical artery sample [chemistry report]<br>AND Apgar score 0-3 for > 5 minutes<br>AND seizures<br>OR hypotonia<br>OR Stage 3.2<br>AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal) | STAGE 1.01-3.01 + (DX 79901);<br>DX 7682-7689;         |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;     |
| 4.00  | with death   | Stage 2.01-3.03<br>AND death   | DX 7680-7681;  |

## References:

Academy of Pediatrics. Use and abuse of the Apgar score. Pediatrics. 1996; 98(1):141-142.

Hansen T, Corbet A. Disorders of transition. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:602-629.

Kliegman RM. Respiratory tract disorders. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:476-490.

Liley HG, Stark AR. Respiratory distress syndrome/hyaline membrane disease. In: Cloherty JP and Stark AR, eds. Manual of Neonatal Care. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:329-336.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED21

MultiStage: No

DXCat Label: Injury: To Newborn During Delivery

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|-----------------|
| 1.01  | Nonspecific trauma to newborn or fetus                     | Newborn<br>AND trauma not specified below   | DX 7678-7679;   |
| 1.02  | Caput succedaneum  | Newborn<br>AND caput succedaneum (edema of the presenting portion of the scalp)   | DX 7671, 76719; |
| 1.03  | Cephalohematoma of the newborn                             | Newborn<br>AND cephalohematoma<br>OR localized cranial periosteal hemorrhage  | NO;             |
| 1.04  | Soft tissue injuries of the newborn                        | Newborn<br>AND bruises on face<br>OR bruises on torso   | NO;             |
| 1.05  | Linear skull fracture of the newborn                       | Newborn<br>AND linear skull fracture [x-ray report]<br>AND no associated neurological findings on physical examination  | DX 7673;        |
| 1.06  | Midclavicular, humeral or femoral fractures of the newborn | Newborn<br>AND fracture of the clavicle [x-ray report]<br>OR fracture of the humerus [x-ray report]<br>OR fracture of the femur [x-ray report]  | DX 7672;        |
| 1.07  | Subgaleal hemorrhage of the newborn                        | Newborn<br>AND subgaleal hemorrhage<br>OR boggy feeling over the entire scalp and temporal regions  | DX 76711;       |
| 2.01  | Facial nerve palsy of the newborn                          | Newborn<br>AND drooping of the mouth<br>OR flattened nasolabial fold<br>OR widening of the palpebral fissure<br>AND decreased movement of one side of the face  | DX 7675;        |
| 2.02  | Brachial plexus injuries of the newborn                    | Newborn<br>AND adduction and internal rotation of the shoulder with pronation of the forearm (Erb-Duchenne paralysis)<br>OR paralysis of either hand(s) (Klumpke paralysis)<br>OR ipsilateral ptosis and miosis | DX 7676;        |
| 2.03  | Phrenic nerve paralysis of the newborn                     | Newborn<br>AND Stage 2.02<br>AND phrenic nerve paralysis determined by absence of diaphragm movements [fluoroscopic or ultrasonic x-ray reports]  | DX 7677;        |
| 2.04  | Depressed skull fracture of the newborn                    | Newborn<br>AND depressed skull fracture [x-ray report]  | NO;             |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED21

MultiStage: No

DXCat Label: Injury: To Newborn During Delivery

Specificity: A

Etiology: Trauma

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                                  |
|-------|--|---|---|
| 2.05  | Gastrointestinal hemorrhage or intestinal perforation of the newborn |   | DX 7724, 7776;                                  |
| 2.06  | Rupture of the liver or spleen                                       | Newborn<br>AND rupture of the liver [ultrasound or operative or pathology report]<br>OR rupture of the spleen [ultrasound or operative or pathology report]   | NO;   |
| 2.07  | Adrenal hemorrhage   | Newborn<br>AND bleeding into one or both of the adrenals [ultrasound or operative or pathology report]  | DX 7725;  |
| 2.08  | Intracranial bleeding of the newborn                                 | Newborn<br>AND intracranial hemorrhage [CT scan report]   | DX 7670;  |
| 2.09  | Trauma to the spinal cord of the newborn                             | Newborn<br>AND total flaccidity<br>OR paralysis of intercostal muscles<br>AND incontinence of stools and urine<br>AND grossly bloody cerebrospinal fluid  | DX 7674;  |
| 3.01  | with respiratory failure   | Stage 1.01-2.08<br>AND <b>respiratory failure:</b>  | STAGE 1.01-2.08 + GROUP RESP_FAIL;              |
| 3.02  | with coma  | Stage 1.01-3.01<br>AND <b>coma:</b>   | STAGE 1.01-3.01 + GROUP COMA;                   |
| 3.03  | with asphyxia  | Stage 1.01-3.02<br>AND asphyxia<br>AND ph < 7.0 on umbilical artery sample [chemistry report]<br>AND Apgar score 0-3 for > 5 minutes<br>AND seizures<br>OR hypotonia<br>OR <b>coma:</b><br>AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal) | STAGE 1.01-3.02 + (DX 7680-7689, 77088, 79901); |
| 3.04  | with shock   | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + GROUP SHOCKA;                 |
| 4.00  | with death   | Stage 1.01-3.04<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED21

MultiStage: No

DXCat Label: Injury: To Newborn During Delivery

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics* 1996; 98(1):141-142.

Kliegman RM. Birth Injury. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:465-471.

Moe PG, Seay AR. Neurologic & muscular disorders/perinatal head injury. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*. 13th ed. Stamford, CT: Appleton & Lange; 1997:662-664.

Taeusch HW, Sniderman S. Initial evaluation: history and physical examination of the newborn. In: Taeusch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia: WB Saunders; 1998:334-353.

Tsuji, M. Birth trauma. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:225-232.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED22

MultiStage: No

DXCat Label: Meconium Aspiration Syndrome

Specificity: A

Etiology: Congenital

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                              |
|-------|---|--|---|
| 1.01  | Meconium stained amniotic fluid with no signs of respiratory distress | Newborn<br>AND Meconium stained amniotic fluid with no signs of respiratory distress   | DX 77984, 76384, 77011;                     |
| 1.02  | Meconium aspiration with no complications                             | Newborn<br>AND Presence of meconium below the vocal cords at the time of delivery<br>AND Tachypnea<br>AND Normal blood pH [ABG report]<br>AND <b>hypocarbica:</b><br>AND Resolution of symptoms in 2-3 days  | DX 7701, 77010, 77013, 77015, 77017, 77085; |
| 2.01  | Meconium aspiration with pneumonitis                                  | Newborn<br>AND Presence of meconium below the vocal cords at the time of delivery<br>AND Patchy infiltrates and coarse streaking in both lung fields, increased AP diameter and flattened diaphragm [x-ray report]   | DX 77012, 77014, 77016, 77018, 77086;       |
| 2.02  | with pneumothorax or pneumomediastinum                                | Stage 2.01<br>AND Pneumothorax or pneumomediastinum [x-ray report]   | STAGE 1.02-2.01 + DX 7702;                  |
| 2.03  | with secondary bacterial pneumonia                                    | Stage 2.01-2.02<br>AND <b>pneumonia:</b><br>OR tracheal aspirate culture reports growth of pathologic organism(s) [culture report]   | STAGE 1.02-2.02 + (DX 7700 OR DXCAT RES15); |
| 3.01  | with persistent pulmonary hypertension                                | Stage 2.01-2.03<br>AND Right to left shunting through a patent ductus arteriosus or patent foramen ovale [ultrasound report]<br>AND PaO <sub>2</sub> < 60mmHg unresponsive to 100% O <sub>2</sub><br>OR PaO <sub>2</sub> gradient between the radial artery and the umbilical artery > 20mmHg [ABG report]<br>AND normal pCO <sub>2</sub> [ABG report] | STAGE 1.02-2.03 + (DX 4150, 4160, 4168);    |
| 3.02  | with heart failure  | Stage 2.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.02-3.01 + GROUP CHF_NON_HTN;        |
| 3.03  | with sepsis   | Stage 2.01-3.02<br>AND <b>sepsis, infant:</b>  | STAGE 1.02-3.02 + GROUP SEPSIS;             |
| 3.04  | with DIC  | Stage 2.01-3.03<br>AND <b>DIC:</b>   | STAGE 1.02-3.03 + GROUP DIC;                |
| 3.05  | with respiratory failure  | Stage 2.01-3.04<br>AND <b>respiratory failure:</b>   | STAGE 1.02-3.04 + GROUP RESP_FAIL;          |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED22

DXCat Label: Meconium Aspiration Syndrome

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                                  |
|-------|---------------|--|---|
| 3.06  | with asphyxia | Stage 2.01-3.05<br>AND asphyxia<br>AND ph < 7.0 on umbilical artery sample [chemistry report]<br>AND Apgar score 0-3 for > 5 minutes<br>AND seizures<br>OR hypotonia<br>OR Stage 3.2<br>AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal) | STAGE 1.01-3.05 + (DX 7680-7689, 77088, 79901); |
| 3.07  | with coma     | Stage 2.01-3.06<br>AND <b>coma:</b>  | STAGE 1.02-3.06 + GROUP COMA;                   |
| 3.08  | with shock    | Stage 2.01-3.07<br>AND <b>shock:</b>   | STAGE 1.02-3.07 + GROUP SHOCKA;                 |
| 4.00  | with death    | Stage 2.01-3.08<br>AND death   | NO;   |

### References:

- Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics*. 1996; 98(1):141-142.
- Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.
- Eichenwald EC. Meconium Aspiration. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:388-391.
- Hansen T, Corbet A. Disorders of transition. In: Taeusch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, PA: WB Saunders, 1998:602-629.
- Kliegman RM. Respiratory tract disorders. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia: WB Saunders, 1996:476-490.
- Moore TR, Roberts D. Intrapartum fetal management. In: Taeusch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, PA: WB Saunders, 1998:154-166.
- Proulx F, Fayon M, Farrell CA, Lacroix J, Gauthier M. Epidemiology of sepsis and multiple organ dysfunction syndrome in children. *Chest*. 1996;109(4):1033-1037.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED23

MultiStage: No

DXCat Label: Neonatal Necrotizing Enterocolitis

Specificity: A

Etiology: Congenital

| Stage | Description                  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|------------------------------|---|---|
| 1.01  | Necrotizing enterocolitis    | Neonate<br>AND temperature instability<br>OR <b>apnea:</b><br>OR <b>bradycardia:</b><br>AND feeding problems<br>AND abdominal distention and absent bowel sounds<br>OR ileus [x-ray report]<br>AND abdominal tenderness<br>AND blood in the stool<br>AND pneumatosis intestinalis [x-ray report of abdomen] | DX 7775;  |
| 2.01  | with localized peritonitis   | Stage 1.01<br>AND abdominal cellulitis<br>AND RLQ mass<br>AND portal vein gas [x-ray report of ultrasound of the abdomen]   | STAGE 1.01 + (DX 5672-5679, 7776);                    |
| 2.02  | with stricture of the bowel  | Stage 1.01-2.01<br>AND abdominal distention 2-3 weeks after recovery from acute necrotizing enterocolitis<br>AND stricture of bowel [report of barium enema]  | STAGE 1.01-2.01 + (DX 56089, 5609, 5373, 7511, 7512); |
| 2.03  | with generalized peritonitis | Stage 1.01-2.02<br>AND <b>peritonitis:</b>  | NO;   |
| 2.04  | with bowel perforation       | Stage 1.01-2.03<br>AND pneumoperitoneum [x-ray report]  | STAGE 1.01-2.02 + DX 56983;                           |
| 3.01  | with sepsis                  | Stage 1.01-2.04<br>AND <b>sepsis, infant:</b>   | STAGE 1.01-2.04 + GROUP SEPSIS;                       |
| 3.02  | with DIC                     | Stage 1.01-3.01<br>AND <b>DIC:</b>  | STAGE 1.01-3.01 + GROUP DIC;                          |
| 3.03  | with shock                   | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;    |
| 4.00  | with death                   | Stage 1.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED23

MultiStage: No

DXCat Label: Neonatal Necrotizing Enterocolitis

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Berseth CL, Abrams SA. Special gastrointestinal concerns. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:965-978.

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. Chest. 1992; 101(6):1644-1655.

Kliegman RM. Digestive system disorders/neonatal necrotizing enterocolitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:492-493.

McAlmon KR. Necrotizing enterocolitis. In: Cloherty JP and Stark AR, eds. Manual of Neonatal Care. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:609-615.

Prouix F, Fayon M, Farrell CA, Lacroix J, Gauthier M. Epidemiology of sepsis and multiple organ dysfunction syndrome in children. Chest. 1996;109(4):1033-1037.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED24

MultiStage: No

DXCat Label: Perinatal Jaundice

Specificity: B

Etiology: Genetic (or hereditary); Idiopathic; Infection; Nutritional; Trauma

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes |
|-------|---|---------------------|----------------|
| 1.01  | Unspecified fetal and neonatal jaundice   |                     | NO;            |
| 2.01  | Perinatal jaundice from excessive hemolysis, Kernicterus not due to isoimmunization, Neonatal jaundice associated with preterm delivery or unspecified or other delayed conjugation |                     | NO;            |
| 2.02  | Perinatal jaundice due to hepatocellular damage   |                     | NO;            |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED25

DXCat Label: Postmaturity

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                   |
|-------|--|--|--|
| 1.01  | Postmature infant  | Infant born > 42 week gestation  | DX 7662-76622;<br>DX V3000-V392 + DX 7662-76622; |
| 1.02  | with large for gestational age                                   | Stage 1.01<br>AND birthweight greater than 90th percentile for gestational age   | DX 7661;<br>DX V3000-V392 + DX 7661;             |
| 1.03  | with small for gestational age (intrauterine growth retardation) | Stage 1.01-1.02<br>AND birthweight less than 10th percentile for gestational age   | STAGE 1.01-1.02 + (DX 76400-76409, 76490-76499); |
| 2.01  | with hypocalcemia  | Stage 1.01-1.03<br>AND <b>hypocalcemia:</b>  | STAGE 1.01-1.03 + GROUP HYPOCALCEMIA;            |
| 2.02  | with hypoglycemia  | Stage 1.01-2.01<br>AND <b>hypoglycemia:</b>  | STAGE 1.01-2.01 + GROUP HYPOGLYCEMIA;            |
| 2.03  | with hyperbilirubinemia  | Stage 1.01-2.02<br>AND Infants < 1 day old total serum bilirubin $\geq$ 8.0mg/dl [chemistry report]<br>OR Infants 1-2 days old total serum bilirubin $\geq$ 12mg/dl [chemistry report]<br>OR Infants 2-5 days old total serum bilirubin $\geq$ 16mg/dl [chemistry report]<br>OR Infants >5 days old total serum bilirubin $\geq$ 2mg/dl [chemistry report] | STAGE 1.01-2.02 + GROUP HYPERBILI;               |
| 2.04  | with polycythemia  | Stage 1.01-2.03<br>AND Central hematocrit > 65%  | STAGE 1.01-2.03 + DX 7764;                       |
| 2.05  | with seizures  | Stage 1.01-2.04<br>AND seizures  | STAGE 1.01-2.04 + DX 7790;                       |
| 3.01  | with persistent pulmonary hypertension                           | Stage 1.1-2.5<br>AND right to left shunting through a patent ductus arteriosus or patent foramen ovale [ultrasound report]<br>AND PaO <sub>2</sub> < 60mmHg unresponsive to 100% O <sub>2</sub><br>OR PaO <sub>2</sub> gradient between the radial artery and the umbilical artery > 20mmHg [ABG report]<br>AND normal pCO <sub>2</sub> [ABG report]       | STAGE 1.01-2.05 + (DX 4150, 4160, 4168);         |
| 3.02  | with heart failure   | Stage 1.01-3.01<br>AND <b>congestive heart failure:</b>  | STAGE 1.01-3.01 + GROUP CHF_NON_HTN;             |
| 3.03  | with respiratory failure   | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;               |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED25

DXCat Label: Postmaturity

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|---------------|---|--|
| 3.04  | with asphyxia | Stage 1.01-3.03<br>AND asphyxia<br>AND ph < 7.0 on umbilical artery sample [chemistry report]<br>AND Apgar score 0-3 for > 5 minutes<br>AND seizures<br>OR hypotonia<br>OR <b>congestive heart failure:</b><br>AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal) | STAGE 1.01-3.03 + (DX 7680-7689, 77088, 79901);    |
| 3.05  | with coma     | Stage 1.01-3.04<br>AND <b>coma:</b>   | STAGE 1.01-3.04 + GROUP COMA;                      |
| 3.06  | with shock    | Stage 1.01-3.05<br>AND <b>shock:</b>  | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death    | Stage 1.01-3.06<br>AND death  | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED26

DXCat Label: Prematurity: Extremely Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                                     | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 2.01  | Premature infant with extremely low birthweight | Infant born at < 38 weeks gestation<br>AND birthweight of < 1000g   | DX 76501-76503, 76511-76513;<br>DX V3000-V392 + (DX 76501-76503, 76511-76513);<br>DX V2131-V2132;  |
| 2.02  | with intrauterine growth retardation            | Stage 2.01<br>AND birthweight less than 10 <sup>th</sup> percentile for gestational age   | DX 76421-76423;<br>STAGE 2.01 + (DX 76411-76413, 76491-76493) ;<br>DX V3000-V392 + DX 76421-76423;   |
| 2.03  | with hypocalcemia                               | Stage 2.01-2.02<br>AND <b>hypocalcemia:</b>   | STAGE 2.01-2.02 + GROUP HYPOCALCEMIA;  |
| 2.04  | with hypoglycemia                               | Stage 2.01-2.03<br>AND <b>hypoglycemia:</b>   | STAGE 2.01-2.03 + GROUP HYPOGLYCEMIA;  |
| 2.05  | with hyperbilirubinemia                         | Stage 2.01-2.04<br>AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report]<br>OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report]<br>OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report]<br>OR Infants > 5 days old total serum bilirubin ≥ 2mg/dl [chemistry report] | STAGE 2.01-2.04 + GROUP HYPERBILI;   |
| 2.06  | with anemia                                     | Stage 2.01-2.05<br>AND <b>anemia:</b>   | STAGE 2.01-2.05 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829); |
| 2.07  | with apnea of prematurity                       | Stage 2.01-2.06<br>AND <b>apnea:</b><br>respiratory pause > 20 seconds<br>OR respiratory pause < 20 seconds<br>AND cyanosis<br>AND pallor<br>AND hypotonia<br>AND heart rate < 100 bpm  | STAGE 2.01-2.06 + DX 7708;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED26

DXCat Label: Prematurity: Extremely Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 2.08  | with seizures                               | Stage 2.01-2.07<br>AND seizures  | STAGE 2.01-2.07 + DX 7790;                         |
| 3.01  | with intraventricular hemorrhage            | Stage 2.01-2.08<br>AND intraventricular hemorrhage [ultrasound report] | STAGE 2.01-2.08 + DX 77210-77214;                  |
| 3.02  | with posthemorrhagic hydrocephalus          | Stage 2.01-3.01<br>AND hydrocephalus [ultrasound report]               | STAGE 2.01-3.01 + DX 7423;                         |
| 3.03  | with heart failure                          | Stage 2.01-3.02<br>AND <b>congestive heart failure:</b>                | STAGE 2.01-3.02 + GROUP CHF_NON_HTN;               |
| 3.04  | with sepsis                                 | Stage 2.01-3.03<br>AND <b>sepsis, infant:</b>                          | STAGE 2.01-3.03 + GROUP SEPSIS;                    |
| 3.05  | with disseminated intravascular coagulation | Stage 2.01-3.04<br>AND <b>DIC:</b>                                     | STAGE 2.01-3.04 + GROUP DIC;                       |
| 3.06  | with respiratory failure                    | Stage 2.01-3.05<br>AND <b>respiratory failure:</b>                     | STAGE 2.01-3.05 + GROUP RESP_FAIL;                 |
| 3.07  | with coma                                   | Stage 2.01-3.06<br>AND <b>coma:</b>                                    | STAGE 2.01-3.06 + GROUP COMA;                      |
| 3.08  | with shock                                  | Stage 2.01-3.07<br>AND <b>shock:</b>                                   | STAGE 2.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                  | Stage 2.01-3.08<br>AND death   | NO;  |

### References:

- Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.
- DeWayne MP, Cloherty JP. Identifying the high-risk infant. In Cloherty JP and Stark, AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED27

DXCat Label: Prematurity: Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Premature infant with low birthweight                           | Infant born at < 38 weeks gestation<br>AND birthweight of < 2500g and ≥ 1500g  | DX 76500, 76506-76509, 76510, 76516-76519;<br>DX V3000-V392 + (DX 76500, 76506-76509, 76510, 76516-76519);<br>DX V2130, V2134-V2135;   |
| 2.01  | and small for gestational age (intrauterine growth retardation) | Stage 1.01<br>AND birthweight less than 10 <sup>th</sup> percentile for gestational age  | DX 76420, 76426-76429;<br>STAGE 1.01 + DX 76496-76499;<br>DX V3000-V392 + (DX 76420, 76426-76429);   |
| 2.02  | with hypocalcemia   | Stage 1.01-2.01<br>AND <b>hypocalcemia:</b>  | STAGE 1.01-2.01 + GROUP HYPOCALCEMIA;  |
| 2.03  | with hypoglycemia   | Stage 1.01-2.02<br>AND <b>hypoglycemia:</b>  | STAGE 1.01-2.02 + GROUP HYPOGLYCEMIA;  |
| 2.04  | with hyperbilitubinemia   | Stage 1.01-2.03<br>AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report]<br>OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report]<br>OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report]<br>OR Infants >5 days old total serum bilirubin ≥ 2mg/dl [chemistry report] | STAGE 1.01-2.03 + GROUP HYPERBILI;   |
| 2.05  | with anemia   | Stage 1.01-2.04<br>AND <b>anemia:</b>  | STAGE 1.01-2.04 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829); |
| 2.06  | with apnea of prematurity                                       | Stage 1.01-2.05<br>AND <b>apnea:</b><br>respiratory pause > 20 seconds<br>OR respiratory pause < 20 seconds<br>AND cyanosis<br>AND pallor<br>AND hypotonia<br>AND heart rate < 100 bpm   | STAGE 1.01-2.05 + DX 7708;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED27

DXCat Label: Prematurity: Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 2.07  | with seizures                               | Stage 1.01-2.06<br>AND seizures  | STAGE 1.01-2.06 + DX 7790;                         |
| 3.01  | with intraventricular hemorrhage            | Stage 1.01-2.07<br>AND intraventricular hemorrhage [ultrasound report] | STAGE 1.01-2.07 + DX 77210-77214;                  |
| 3.02  | with posthemorrhagic hydrocephalus          | Stage 1.01-3.01<br>AND hydrocephalus [ultrasound report]               | STAGE 1.01-3.01 + DX 7423;                         |
| 3.03  | with heart failure                          | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>                | STAGE 1.01-3.02 + GROUP CHF_NON_HTN;               |
| 3.04  | with sepsis                                 | Stage 1.01-3.03<br>AND <b>sepsis, infant:</b>                          | STAGE 1.01-3.03 + GROUP SEPSIS;                    |
| 3.05  | with disseminated intravascular coagulation | Stage 1.01-3.04<br>AND <b>DIC:</b>                                     | STAGE 1.01-3.04 + GROUP DIC;                       |
| 3.06  | with respiratory failure                    | Stage 1.01-3.05<br>AND <b>respiratory failure:</b>                     | STAGE 1.01-3.05 + GROUP RESP_FAIL;                 |
| 3.07  | with coma                                   | Stage 1.01-3.06<br>AND <b>coma:</b>                                    | STAGE 1.01-3.06 + GROUP COMA;                      |
| 3.08  | with shock                                  | Stage 1.01-3.07<br>AND <b>shock:</b>                                   | STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                  | Stage 1.01-3.08<br>AND death   | NO;  |

### References:

- Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.
- DeWayne MP, Cloherty JP. Identifying the high-risk infant. In: Cloherty JP and Stark, AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED28

DXCat Label: Prematurity: Very Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 2.01  | Premature infant with very low birthweight                      | Infant born at < 38 weeks gestation<br>AND birthweight of < 1500g and ≥ 1000g  | DX 76504-76505, 76514-76515;<br>DX V3000-V392 + (DX 76504-76505, 76514-76515);<br>DX V2133;  |
| 2.02  | and small for gestational age (intrauterine growth retardation) | Stage 2.01<br>AND birthweight less than 10 <sup>th</sup> percentile for gestational age  | DX 76424-76425;<br>STAGE 2.01 + DX 76494-76495;<br>DX V3000-V392 + DX 76424-76425;   |
| 2.03  | with hypocalcemia   | Stage 2.01-2.02<br>AND <b>hypocalcemia:</b>  | STAGE 2.01-2.02 + GROUP HYPOCALCEMIA;  |
| 2.04  | with hypoglycemia   | Stage 2.01-2.03<br>AND <b>hypoglycemia:</b>  | STAGE 2.01-2.03 + GROUP HYPOGLYCEMIA;  |
| 2.05  | with hyperbilirubinemia   | Stage 2.01-2.04<br>AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report]<br>OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report]<br>OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report]<br>OR Infants >5 days old total serum bilirubin ≥ 2mg/dl [chemistry report] | STAGE 2.01-2.04 + GROUP HYPERBILI;   |
| 2.06  | with anemia   | Stage 2.01-2.05<br>AND <b>anemia:</b>  | STAGE 2.01-2.05 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829); |
| 2.07  | with apnea of prematurity                                       | Stage 2.01-2.06<br>AND <b>apnea:</b><br>respiratory pause > 20 seconds<br>OR respiratory pause < 20 seconds<br>AND cyanosis<br>AND pallor<br>AND hypotonia<br>AND heart rate < 100 bpm   | STAGE 2.01-2.06 + DX 7708;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED28

DXCat Label: Prematurity: Very Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|---|--|--|
| 2.08  | with seizures                               | Stage 2.01-2.07<br>AND seizures  | STAGE 2.01-2.07 + DX 7790;                         |
| 3.01  | with intraventricular hemorrhage            | Stage 2.01-2.08<br>AND intraventricular hemorrhage [ultrasound report] | STAGE 2.01-2.08 + DX 77210-77214;                  |
| 3.02  | with posthemorrhagic hydrocephalus          | Stage 2.01-3.01<br>AND hydrocephalus [ultrasound report]               | STAGE 2.01-3.01 + DX 7423;                         |
| 3.03  | with heart failure                          | Stage 2.01-3.02<br>AND <b>congestive heart failure:</b>                | STAGE 2.01-3.02 + GROUP CHF_NON_HTN;               |
| 3.04  | with sepsis                                 | Stage 2.01-3.03<br>AND <b>sepsis, infant:</b>                          | STAGE 2.01-3.03 + GROUP SEPSIS;                    |
| 3.05  | with disseminated intravascular coagulation | Stage 2.01-3.04<br>AND <b>DIC:</b>                                     | STAGE 2.01-3.04 + GROUP DIC;                       |
| 3.06  | with respiratory failure                    | Stage 2.01-3.05<br>AND <b>respiratory failure:</b>                     | STAGE 2.01-3.05 + GROUP RESP_FAIL;                 |
| 3.07  | with coma                                   | Stage 2.01-3.06<br>AND <b>coma:</b>                                    | STAGE 2.01-3.06 + GROUP COMA;                      |
| 3.08  | with shock                                  | Stage 2.01-3.07<br>AND <b>shock:</b>                                   | STAGE 2.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                                  | Stage 2.01-3.08<br>AND death   | NO;  |

## References:

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992; 101(6):1644-1655.

DeWayne MP, Cloherty JP. Identifying the high-risk infant. In: Cloherty JP and Stark, AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.

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Volpe JJ. Brain injury in the premature infant. *Clinics in Perinatology*. 1997;24(3):567-587.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED29

DXCat Label: Rubella: Congenital

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                             | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.01  | Congenital rubella infections           | Newborn<br>AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report]<br>OR detection of IgM or IGG-specific cytomegalovirus antibody in the serum [serology report]   | DX 7710;  |
| 2.02  | with intrauterine growth retardation    | Newborn<br>AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report]<br>OR detection of IgM or IGG-specific cytomegalovirus antibody in the serum [serology report]<br>AND birthweight ≤ 10 <sup>th</sup> percentile for gestational age  | STAGE 2.01 + (DX 76400-76409, 76490-76499);   |
| 2.03  | with hepatosplenomegaly and jaundice    | Stage 2.01-2.02<br>AND hepatosplenomegaly [sonography report or CT scan report or MRI report]<br>AND <b>hyperbilirubinemia:</b>   | STAGE 2.01-2.02 + (GROUP HYPERBILI OR DX 5718);   |
| 2.04  | with sensorineural hearing loss         | Stage 2.01-2.03<br>AND sensorineural hearing loss [audiology report or BAEP report]   | STAGE 2.01-2.03 + DX 38910-3892;  |
| 2.05  | with microcephaly                       | Stage 2.01-2.04<br>AND head circumference < 10 <sup>th</sup> percentile for gestational age   | STAGE 2.01-2.04 + DX 7421;  |
| 2.06  | with retinopathy, glaucoma or cataracts | Stage 2.01-2.05<br>AND retinopathy [ophthalmoscopy report]<br>OR glaucoma<br>OR cataracts   | STAGE 2.01-2.05 + (DXCAT EYE01 OR DXCAT EYE13 OR DX 36210, 36212-36218, 36229, 74330-74334, 74339); |
| 2.07  | with mental retardation                 | Stage 2.01-2.06<br>AND <b>mental retardation:</b>   | STAGE 2.01-2.06 + DXCAT NEU15;  |
| 2.08  | with interstitial pneumonitis           | Stage 2.01-2.07<br>AND interstitial pneumonitis [radiology report]  | STAGE 2.01-2.07 + DX 7700;  |
| 2.09  | with congenital heart disease           | Stage 2.01-2.08<br>AND pulmonary artery stenosis [cardiac catheterization report or echocardiography report]<br>OR patent ductus arteriosus [cardiac catheterization report or echocardiography report]<br>OR ventricular septal defect [cardiac catheterization report or echocardiography report] | STAGE 2.01-2.08 + (DX 7470, 7473 OR DXCAT PED15) ;  |
| 2.10  | with seizures                           | Stage 2.01-2.09<br>AND seizures [EEG report]  | STAGE 2.01-2.09 + DX 7790;  |
| 3.01  | with meningoencephalitis                | Stage 2.01-2.10<br>AND <b>aseptic meningitis:</b>   | STAGE 2.01-2.10 + DXCAT NEU13;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED29

DXCat Label: Rubella: Congenital

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                   | Diagnostic findings                                     | ICD-9-CM Codes                                     |
|-------|-------------------------------|---|--|
| 3.02  | with congestive heart failure | Stage 2.01-3.01<br>AND <b>congestive heart failure:</b> | STAGE 2.01-3.01 + GROUP CHF__NON_HTN;              |
| 3.03  | with respiratory failure      | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>      | STAGE 2.01-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with coma                     | Stage 2.01-3.03<br>AND <b>coma:</b>                     | STAGE 2.01-3.03 + GROUP COMA;                      |
| 3.05  | with shock                    | Stage 2.01-3.04<br>AND <b>shock:</b>                    | STAGE 2.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 2.01-3.05<br>AND <b>death:</b>                    | NO;  |

### References:

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Thomas DR, Salmon RL, King J. Rates of first measles-mumps-rubella immunisation in Wales (UK). *Lancet*. 1998;351(9120):1927.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED30

MultiStage: No

DXCat Label: Syphilis: Congenital

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                                   |
|-------|--|---|--|
| 1.01  | Congenital syphilis  | Newborn<br>AND Maculopapular skin rash<br>OR mucocutaneous lesions<br>OR generalized lymphadenopathy<br>OR syphilitic pemphigus<br>OR snuffles<br>OR osteochondritis<br>OR osteitis<br>AND FTA test > 1:4 dilutions.[serology report]<br>OR Treponema pallidum isolated from lesions [op/path report]                           | DX 0900-0902, 0909;                              |
| 2.01  | Congenital syphilis with malformations or late congenital syphilis             | Osteochondritis<br>OR interstitial keratitis<br>OR sensorineural deafness<br>OR Hutchinson's triad<br>OR Hutchinson's incisors<br>OR saddle nose<br>OR knee effusions or Clutton's joints<br>AND 2 years after birth FTA test > 1:4 dilutions [serology report]<br>OR Treponema pallidum isolated from lesions [op/path report] | DX 0903, 0905, 0906, 0907;                       |
| 2.02  | Congenital syphilis involving the liver or spleen or kidney or joints or bones | Stage 2.01<br>AND mass lesion in liver demonstrates treponema pallidum [biopsy report]<br>OR mass lesion in spleen demonstrates treponema pallidum [biopsy report]<br>OR treponema pallidum glomerulitis [biopsy report]<br>OR <b>osteomyelitis:</b>  | STAGE 2.01 + GROUP OSTEOMYELIT;                  |
| 3.01  | Cardiovascular congenital syphilis   | Stage 2.01-2.02<br>AND aortitis [op/path report]<br>OR thoracic aneurysm [op/path report]<br>OR <b>myocarditis:</b><br>OR aortic insufficiency [echocardiogram report]  | STAGE 2.01-2.02 + (DX 0930, 0931, 09322, 09382); |
| 3.02  | Congenital neurosyphilis   | <b>Aseptic meningitis:</b><br>AND FTA of spinal fluid > 1:4 dilutions (serology report).<br>AND tabes dorsalis<br>OR locomotor ataxia<br>OR dementia paralytica<br>OR generalized paresis   | DX 09040-09049;                                  |
| 3.03  | with congestive heart failure  | Stage 2.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.02 + GROUP CHF__HTNIVE;             |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED30

MultiStage: No

DXCat Label: Syphilis: Congenital

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.04  | with shock  | Stage 2.03-3.03<br>AND <b>shock:</b> | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 2.01-3.04<br>AND death         | NO;  |

### References:

Anonymous. High-dose intravenous penicillin G in patients with human immunodeficiency virus infection. N Engl J Med. 1994;331(22):1469-73.

Jacobs RA. Infectious diseases: spirochetal. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1304-1324.

Lukehart SA, Holmes KK. Syphilis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1023-1033.

Malone JL, Wallace MR, Hendrick BB, et al. Syphilis and neurosyphilis in a human immunodeficiency virus type-1 seropositive population: evidence for frequent serologic relapse after therapy. American Journal of Medicine. 1995;99(1):55-63.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED31

MultiStage: No

DXCat Label: Toxoplasmosis: Congenital

Specificity: A

Etiology: Infection

| Stage | Description                           | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---------------------------------------|---|--|
| 1.01  | Asymptomatic congenital toxoplasmosis | Congenital toxoplasma gondii [Toxoplasma gondii from placenta fetal blood or Toxoplasma gondii from amniotic fluid or Toxoplasma gondii from infant's cord blood or Toxoplasma gondii from peripheral blood]<br>OR B1 gene [amniotic fluid PCR report, infant's blood PCR report or CSF PCR report<br>OR detection of Toxoplasma-specific IgM, IgA or IgE [double sandwich ELISA or ISAGA report]<br>OR persistence of Toxoplasma-IgG beyond one year of life | DX 7712;   |
| 1.02  | with lymphadenitis                    | Enlarged lymph nodes<br>AND antibodies present against Toxoplasma gondii in high titers [IgG Sabin-Feldman dye test $\geq$ 1:1000 or indirect fluorescent antibody $\geq$ 1:1000 or indirect hemagglutination test $\geq$ 1:1000 or complement fixation test $\geq$ 1:4 or ELISA titer $\geq$ 6]<br>OR isolation of Toxoplasma gondii from body fluids [tissue culture report]  | STAGE 1.01 + (DX 683, 7856);   |
| 2.01  | Generalized congenital toxoplasmosis  | Stage 1.01-1.02<br>AND hepatosplenomegaly<br>OR generalized lymphadenopathy<br>OR <b>jaundice:</b><br>OR <b>anemia:</b>   | STAGE 1.01-1.02 + (DX 2893, 5718 OR GROUP HYPERBILI OR GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829); |
| 2.02  | with chorioretinitis                  | Stage 1.01-2.01<br>AND chorioretinitis [ophthalmologist's report]   | STAGE 1.01-2.01 + DX 36330;  |
| 2.03  | with chorioretinitis and blindness    | Stage 2.02<br>AND <b>blindness</b><br>AND macular scar [ophthalmologist's report]<br>OR retinal detachment [ophthalmologist's report]<br>OR optic nerve atrophy [ophthalmologist's report]  | STAGE 2.02 + GROUP BLINDNESS;  |
| 2.04  | Toxoplasma pneumonia                  | Stage 1.02-2.03<br>AND <b>pneumonia:</b>  | DX 7700;   |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED31

MultiStage: No

DXCat Label: Toxoplasmosis: Congenital

Specificity: A

Etiology: Infection

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                          |
|-------|--|---|---|
| 2.05  | with hemolytic anemia of the newborn or erythroblastosis fetalis | Stage 1.01-2.04<br>AND erythroblastosis fetalis<br>OR Rh-negative antibody in mother<br>AND Rh-positive antibody in father<br>AND Rh-positive antibody in newborn<br>AND cord blood hematocrit < 40% [hematology report]<br>AND cord blood bilirubin > 5mg/dl [hematology report]<br>AND cord blood reticulocytes > 15% [hematology report] | STAGE 1.01-2.04 + (DX 7730-7732, 7735); |
| 3.01  | with meningoencephalitis   | Abnormal CSF (pleocytosis and elevated protein)<br>AND Intracerebral calcifications<br>OR microcephaly<br>OR hydrocephalus<br>OR seizures<br>OR mental retardation<br>OR deafness   | STAGE 1.01-2.05 + DX 3234;              |
| 3.02  | Toxoplasma myocarditis   | Stage 1.02-3.01<br>AND <b>myocarditis:</b>  | STAGE 1.01-3.01 + (DX 1303, 42292);     |
| 3.03  | with hydrops fetalis   | Stage 1.01-3.02<br>AND hydrops fetalis [fetal ultrasound report]<br>OR newborn scalp edema<br>AND newborn cardiomegaly [chest x-ray report]<br>AND newborn hepatomegaly<br>AND newborn pleural effusions [chest x-ray report]<br>AND newborn ascites<br>AND newborn generalized edema<br>AND newborn hepatosplenomegaly                     | STAGE 1.01-3.02 + (DX 7733, 7780);      |
| 3.04  | with coma  | Stage 1.01-3.03<br>AND <b>coma:</b>   | STAGE 1.01-3.03 + GROUP COMA;           |
| 4.00  | with death   | Stage 2.02-3.04<br>AND death  | NO;                                     |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED31

MultiStage: No

DXCat Label: Toxoplasmosis: Congenital

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

American Academy of Pediatrics. Toxoplasma gondii infections. In Peter G, ed. 1997 Red Book: Report on the Committee on Infectious Diseases. 24th ed. Elk Grove Village, IL: American Academy of Pediatrics; 1997:531-535.

Lynfield R, Guerina NG. Toxoplasmosis. Pediatrics in Review. 1997;18:75-83.

McLeod R, Remington JS. Toxoplasmosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:978-987.

Remington, JS, McLeod, R and Desmonts, G. Toxoplasmosis. In: Remington JS, Klein JO, eds. Infectious Diseases of the Fetus and Newborn Infant. 4th ed. Philadelphia, PA: WB Saunders; 1995:180-222.

Weinberg A and Levin MJ. Parasitic and mycotic infections/toxoplasmosis. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997: 1074-76.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED80

MultiStage: No

DXCat Label: Anomaly: Other Circulatory System

Specificity: C

Etiology: Congenital

| Stage | Description                              | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|--|---------------------|--|
| 1.01  | Peripheral and visceral vessel anomalies |                     | DX 7475-74769, 74782-7479;                         |
| 1.02  | Great vessel anomalies                   |                     | DX 74720-74749;                                    |
| 2.01  | with hypoxemia                           |                     | STAGE 1.01-1.02 + GROUP HYPOXEMIA;                 |
| 3.01  | with CHF                                 |                     | STAGE 1.01-2.01 + GROUP CHF_NON_HTN;               |
| 3.02  | with sepsis                              |                     | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with respiratory failure                 |                     | STAGE 1.01-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with shock                               |                     | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | Death, including SIDS                    |                     | DX 7980;   |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED81

MultiStage: No

DXCat Label: Anomaly: Other Digestive or Hepatobiliary System

Specificity: C

Etiology: Congenital

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Gastrointestinal, hepatobiliary or pancreatic anomaly, Meckel's diverticulum, intestinal fixation or congenital cystic liver |                     | DX 7504, 7507-7510, 7514, 75160, 75162, 75169-7517, 7519; |
| 2.01  | Atresia of intestine or colon  |                     | DX 7511-7512;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED82

MultiStage: No

DXCat Label: Anomaly: Other Genitalia

Specificity: C

Etiology: Congenital

| Stage | Description                                       | Diagnostic findings | ICD-9-CM Codes                                |
|-------|---|---------------------|---|
| 1.01  | Congenital chordee, micropenia, indeterminate sex |                     | DX 75263-75269, 7528-7529;<br>DX 7527 + MALE; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED83

MultiStage: No

DXCat Label: Anomaly: Other Nervous System

Specificity: C

Etiology: Congenital

| Stage | Description                             | Diagnostic findings | ICD-9-CM Codes                  |
|-------|---|---------------------|---------------------------------|
| 1.01  | Unspecified anomalies of nervous system |                     | DX 7421-7422, 7424, 74253-7429; |
| 2.01  | Craniorachischisis or iniencephaly      |                     | DX 7401-7402;                   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED84

MultiStage: No

DXCat Label: Other Maternal Conditions Affecting Newborn

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 1.01  | Maternal or labor and delivery conditons affecting the newborn, weeks of gestation |                     | DX 7600-7601, 7603-76070, 76070, 76074, 76076-7636, 7637-76383, 76389-7639, 76520-76529; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED85

MultiStage: No

DXCat Label: Other Neonatal Conditions

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|-----------------------|---|
| 0.00  | Health supervision of foundling or observation and evaluation of infant for suspected condition not found                           | Added stage 5/8/06 cb | DX V200, V290-V299;   |
| 1.01  | Newborn with blood loss, cutaneous hemorrhage, anemia, hypothermia, integumentary conditions  |                       | DX 7720, 7723, 7726-7729, 7754-7759, 7761, 7763-7774, 7778-7779, 7781-7785, 7787, 7789, 7793, 7798-77983, 77989-7799; |
| 2.01  | Newborn with intraventricular hemorrhage, meconium obstruction, inspissated milk, cerebral irritation, periventricular leukomalacia |                       | DX 7721-7722, 7760, 7791, 7797;   |
| 3.01  | Newborn with DIC, hydrops fetalis, convulsions, CNS dysfunction, cardiac arrest, or terminated pregnancy                            |                       | DX 7762, 7780, 7790, 7792, 7794, 7796, 77985;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED86

MultiStage: No

DXCat Label: Live Newborns

Specificity: C

Etiology:

| Stage | Description | Diagnostic findings | ICD-9-CM Codes   |
|-------|-------------|---------------------|--|
| 0.00  | Newborn     |                     | DX V3000-V392 + NOT (DXCAT PED19 OR DXCAT PED25 OR DXCAT PED26 OR DXCAT PED27 OR DXCAT PED28); |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY01

MultiStage: No

DXCat Label: Antisocial Personality Disorder

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description         | Diagnostic findings  | ICD-9-CM Codes                          |
|-------|---------------------|--|---|
| 1.01  | Antisocial behavior | Antisocial behavior which meets DSM-IV criteria [psychiatrist report]  | DX 3017, 3093, 31200-3129, V7101-V7102; |
| 2.01  | with major crimes   | Stage 1.01<br>AND history of felony conviction<br>OR history of voluntary manslaughter<br>OR history of first or second degree murder conviction | STAGE 1.01 + DX V625;                   |
| 3.01  | with coma           | Stage 1.01-2.01<br>AND <b>coma:</b>  | STAGE 1.01-2.01 + GROUP COMA;           |
| 3.02  | with shock          | Stage 3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + GROUP SHOCKA;         |
| 4.00  | with death          | Stage 2.01-3.02<br>AND death   | NO;                                     |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:645-650.

Gunderson JG, Phillips KA. Personality disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1441-1444.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY02

MultiStage: No

DXCat Label: Bipolar Disorder - Major Depressive Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|------------------|
| 0.00  | Bipolar Disorder - major depression in full remission    | Major depressive episode which met DSM-IV criteria [psychiatrist report]<br>AND absence of significant signs or symptoms in < two months   | DX 29636, 29656; |
| 1.01  | Bipolar Disorder - major depression in partial remission | Major depressive episode which meets DSM-IV criteria [psychiatrist report]<br>AND four (or less) of the following symptoms<br>depressed mood<br>OR loss of pleasure or interest<br>OR significant weight loss<br>OR insomnia<br>OR hypersomnia<br>OR psychomotor agitation<br>OR psychomotor retardation<br>OR fatigue<br>OR feelings of worthlessness<br>OR feelings of excessive guilt<br>OR decreased ability to think<br>OR recurrent thoughts of death<br>AND one of the following symptoms:<br>impaired ability to maintain employment<br>OR impaired ability to care for self<br>OR reduced capability for social relationships | DX 29635, 29655; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY02

MultiStage: No

DXCat Label: Bipolar Disorder - Major Depressive Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

| Stage | Description                                     | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|-----------------|
| 2.01  | Bipolar Disorder - major depression             | Major Depressive Episode which meets DSM- IV criteria [psychiatrist report]<br>Depressed Mood<br>AND loss of interest or pleasure in usual activities<br>AND five or more of the following symptoms in the same 2 week period:<br>depressed mood most of the day, nearly daily<br>OR marked loss of interest and pleasure<br>OR significant weight loss (5% body weight in a month)<br>OR insomnia or hypersomnia almost daily<br>OR psychomotor agitation or retardation, almost daily<br>OR fatigue or loss of energy, nearly daily<br>OR feelings of worthlessness<br>OR feelings of excessive guilt<br>OR decreased ability to think<br>OR recurrent thoughts of death<br>AND one of the following symptoms:<br>impaired ability to maintain employment<br>OR impaired ability to care for self<br>OR reduced capability for social relationships | DX 29650-29652; |
| 2.02  | Major depression severe                         | Stage 1.01- 2.01<br>AND > 5 criteria necessary for DSM-IV diagnosis of major depression [psychiatrist report]<br>AND marked impairment of occupational functioning<br>OR marked impairment of self care<br>OR marked impairment of social relationships   | DX 29653;       |
| 2.03  | Major depression severe with psychotic features | Stage 2.02<br>AND delusions, mood congruent or incongruent<br>OR hallucinations, mood congruent or incongruent  | DX 29654;       |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY02

MultiStage: No

DXCat Label: Bipolar Disorder - Major Depressive Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.01  | with suicidal attempt    | Stage 1.01 - 2.03<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space<br>[chest x-ray report]<br>OR self-inflicted injury lacerating any artery<br>[operative/pathology report]<br>OR self-inflicted injury lacerating any nerve<br>[operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space<br>[operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report] | STAGE 1.01-2.03 + DX E9500-<br>E9589;                               |
| 3.02  | with renal failure       | Stage 3.01<br>AND <b>renal failure:</b>  | STAGE 1.01-3.01 + (GROUP<br>REN_FAIL_ACU OR GROUP<br>REN_FAIL_CHR); |
| 3.03  | with intracranial injury | Stage 3.01-3.02<br>AND intracranial injury [CT scan report or MRI report]  | STAGE 1.01-3.02 + DX 8500-8509;                                     |
| 3.04  | with respiratory failure | Stage 3.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 3.01-3.03 + GROUP<br>RESP_FAIL;                               |
| 3.05  | with coma                | Stage 3.01-3.04<br>AND <b>coma:</b>  | STAGE 3.01-3.04 + GROUP COMA;                                       |
| 3.06  | with shock               | Stage 3.03-3.05<br>AND <b>shock:</b>   | STAGE 3.01-3.05 + GROUP<br>SHOCKA;                                  |
| 4.00  | with death               | Stage 3.06<br>AND death  | NO;   |

## References:

Akiskal HS. Mood disorders: clinical features. In Kaplan HI, Sadock BJ. eds., Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1123-1152.  
American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:317-391.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY03

MultiStage: No

DXCat Label: Bipolar Disorder - Manic Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

| Stage | Description                                   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 0.00  | Manic episode in full remission               | Manic episode which met DSM-IV criteria [psychiatrist report]<br>AND absence of significant signs or symptoms in past 2 months   | DX 29605-29606, 29615-29616,<br>29645-29646, 29665-29666;       |
| 1.01  | Hypomanic episode                             | Hypomanic episode which meets DSM-IV criteria [psychiatrist report]<br>persistently elevated, expansive, or irritable mood for at least 4 days<br>AND during the mood disturbance, 3 (or more) or the following (4, if mood is only irritable):<br>inflated self-esteem or grandiosity<br>OR decreased need for sleep<br>OR more talkative than usual<br>OR flight of ideas, or racing thoughts<br>OR distractibility<br>OR increased activity or psychomotor agitation<br>OR excessive involvement in pleasurable, risk - taking activities<br>AND no impairment in functioning<br>AND absence of necessity for hospitalization<br>AND absence of psychotic features  | DX 29600-29602, 29610, 29680;                                   |
| 2.01  | Manic episode                                 | Manic episode which meets DSM-IV criteria [psychiatrist report]<br>abnormally elevated, expansive or irritable mood, for at least one week<br>AND during the mood disturbance, 3 (or more) of the following, (4, if mood is only irritable):<br>inflated self-esteem or grandiosity<br>OR decreased need for sleep<br>OR more talkative than usual<br>OR flight of ideas or racing thoughts<br>OR distractibility<br>OR increased activity or psychomotor agitation<br>OR excessive involvement in pleasurable, risk-taking activities<br>AND one of the following:<br>marked impairment in occupational functioning<br>OR marked impairment in social activities<br>OR marked impairment in interpersonal relationships | DX 29611-29612, 29640-29642,<br>29660-29662, 2967, 29681-29689; |
| 2.02  | Manic episode, severe                         | Stage 2.01<br>AND almost continual supervision necessary to prevent physical harm to self or others<br>OR threats to harm self or others<br>OR attempted assaults on others  | DX 29603, 29613, 29643, 29663;                                  |
| 2.03  | Manic episode, severe with psychotic features | Stage 2.02<br>AND delusions, mood congruent or incongruent<br>OR hallucinations, mood congruent or incongruent   | DX 29604, 29614, 29644, 29664;                                  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY03

DXCat Label: Bipolar Disorder - Manic Episode

Etiology: Genetic (or hereditary); Psychogenic

MultiStage: No

Specificity: A

| Stage | Description          | Diagnostic findings  | ICD-9-CM Codes                    |
|-------|----------------------|--|-----------------------------------|
| 3.01  | with suicide attempt | Stage 2.01-2.03<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space<br>[chest x-ray report]<br>OR self-inflicted injury lacerating any artery<br>[operative/pathology report]<br>OR self-inflicted injury lacerating any nerve<br>[operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space<br>[operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report] | STAGE 1.01-2.03 + DX E9500-E9589; |
| 3.02  | with shock           | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 2.01-3.01 + GROUP SHOCKA;   |
| 4.00  | with death           | Stage 2.02-3.02<br>AND death   | NO;                               |

## References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:393-444.

Papp LA, Gorman JM. Generalized anxiety disorder. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1236-1249.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY04

DXCat Label: Depression

Etiology: Genetic (or hereditary); Psychogenic

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                   |
|-------|--|--|--|
| 1.01  | Adjustment disorder with depressed mood (loss of interest or pleasure in usual activities) | Depressed mood<br>OR loss of interest or pleasure<br>AND life stress situation occurring within 3 months prior to onset<br>AND distress in excess of expected degree<br>OR significant social or occupational or academic dysfunction  | DX 29625-29626, 3090, 30928, 3099, 3131;         |
| 1.02  | Depression with loss of interest or pleasure in usual activities                           | Depressed Mood<br>OR loss of interest or pleasure<br>AND absence of life stress situation<br>OR life stress situation occurred $\geq$ 3 months ago<br>AND at least two (but < 5) of the following, while depressed:<br>poor appetite and weight loss<br>OR over eating and weight gain<br>OR insomnia<br>OR hypersomnia<br>OR low energy or fatigue<br>OR low self esteem<br>OR poor concentration or difficulty making decisions<br>OR feelings of hopelessness | DX 3004, 3091, 311;                              |
| 1.03  | Depression with substance abuse  | Stage 1.01- 1.02<br>AND drug abuse<br>OR alcohol abuse   | STAGE 1.01-1.02 + (DX 30300-30503, 30520-30593); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY04

DXCat Label: Depression

Etiology: Genetic (or hereditary); Psychogenic

MultiStage: No

Specificity: A

| Stage | Description             | Diagnostic findings   | ICD-9-CM Codes               |
|-------|-------------------------|---|------------------------------|
| 2.01  | Major Depression        | <p>Depressed Mood</p> <p>OR loss of interest or pleasure in usual activities</p> <p>AND five (or more) of the following symptoms in the same 2 week period:</p> <p>depressed mood most of day, nearly daily</p> <p>OR marked loss of interest or pleasure</p> <p>OR significant weight loss (5% body weight in a month)</p> <p>OR insomnia or hypersomnia almost daily</p> <p>OR psychomotor agitation or retardation, nearly daily</p> <p>OR fatigue or loss of energy, nearly daily</p> <p>OR feelings of worthlessness</p> <p>OR feelings of excessive guilt</p> <p>OR decreased ability to think</p> <p>OR recurrent thoughts of death</p> <p>AND one of the following symptoms:</p> <p>impaired ability to maintain employment</p> <p>OR impaired ability to care for self</p> <p>OR reduced capability for social relationships</p> | DX 29620-29623, 29630-29633; |
| 2.02  | with psychotic features | <p>Stage 2.01</p> <p>AND impairment in reality testing</p> <p>OR delusions</p> <p>OR auditory hallucinations</p> <p>OR visual hallucinations</p>  | DX 29624, 29634, 2980;       |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY04

DXCat Label: Depression

Etiology: Genetic (or hereditary); Psychogenic

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                        |
|-------|--------------------------|--|---------------------------------------|
| 3.01  | with suicide attempt     | Stage 1.01-2.02<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space<br>[chest x-ray report]<br>OR self-inflicted injury lacerating any artery<br>[operative/pathology report]<br>OR self-inflicted injury lacerating any nerve<br>[operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space<br>[operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report] | STAGE 1.01-2.02 + DX E9500-<br>E9589; |
| 3.02  | with respiratory failure | Stage 1.02-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP<br>RESP_FAIL; |
| 3.03  | with intracranial injury | Stage 1.02-3.02<br>AND intracranial injury [CT scan report or MRI report]  | STAGE 1.01-3.02 + DX 8500-8509;       |
| 3.04  | with coma                | Stage 1.02-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;         |
| 3.05  | with shock               | Stage 1.02-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + GROUP<br>SHOCKA;    |
| 4.00  | with death               | Stage 2.01-3.05<br>AND death   | NO;                                   |

## References:

Akiskal HS. Mood disorders: clinical features. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1123-1152.  
American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:317-349.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY05

MultiStage: Yes

DXCat Label: Drug Abuse, Dependence, Intoxication: Alcohol

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic; Toxicologic

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--|---|--|
| 1.01  | Alcohol abuse  | Alcohol use which meets DSM-IV criteria for abuse [psychiatrist report]<br>history of use<br>AND failure to fulfill major role obligations<br>OR recurrent alcohol use in physically dangerous situations<br>OR recurrent alcohol related legal problems<br>OR continued alcohol use despite social or interpersonal use related problems   | DX 30500-30503;  |
| 1.02  | Alcohol dependence   | Depressed Mood<br>OR loss of interest or pleasure<br>AND absence of life stress situation<br>OR life stress situation occurred ≥ 3 months ago<br>AND at least two (but < 5) of the following, while depressed:<br>poor appetite and weight loss<br>OR over eating and weight gain<br>OR insomnia<br>OR hypersomnia<br>OR low energy or fatigue<br>OR low self esteem<br>OR poor concentration or difficulty making decisions<br>OR feelings of hopelessness | DX 30390-30393, 29182;   |
| 2.01  | Alcohol intoxication   | Stage 1.01 - 1.02<br>AND recent ingestion of alcohol<br>AND 1 (or more) of the following during of after use:<br>slurred speech<br>OR incoordination<br>OR unsteady gait<br>OR nystagmus<br>OR impaired attention or memory<br>OR stupor or coma  | DX 2914, 30300-30303;  |
| 2.02  | Alcoholism with hepatomegaly or alcoholic polyneuropathy or chronic pancreatitis | Stage 1.01-1.02<br>AND <b>hepatomegaly:</b><br>OR <b>hepatitis:</b><br>OR <b>coagulation defect:</b><br>OR polyneuropathy [EMG report]<br>OR chronic pancreatitis   | DX 3575, 5710-5711, 5713;<br>STAGE 1.01-2.01 + (DX 5771 OR GROUP COAG_DEFECT); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY05

MultiStage: Yes

DXCat Label: Drug Abuse, Dependence, Intoxication: Alcohol

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic; Toxicologic

| Stage | Description                                   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 2.03  | with gastritis or anemia                      | Stage 1.01-2.02<br>AND gastritis [endoscopy report]<br>OR <b>anemia:</b>   | DX 53530-53531;<br>STAGE 1.01-2.02 + (DX 2859,<br>2875, 7863);<br>STAGE 1.01-2.02 + (GROUP<br>ANEM_DEF_B12 OR GROUP<br>ANEM_DEF_FE OR GROUP<br>ANEM_DEF_FOL OR GROUP<br>ANEM_DEF_OTH OR GROUP<br>ANEM_OTH_CHR OR GROUP<br>ANEM_OTH_UN); |
| 2.04  | with acute pancreatitis                       | Stage 1.01-2.03<br>AND <b>pancreatitis:</b>  | STAGE 1.01-2.03 + DX 5770;  |
| 2.05  | with cirrhosis                                | Stage 1.01-2.04<br>AND cirrhosis [sonogram report or liver biopsy report]  | DX 5712;<br>STAGE 1.01-2.04 + (DX 2760-2769,<br>7948);  |
| 3.01  | with Wernicke-Korsakoff's syndrome            | Stage 1.01-2.05<br>AND ophthalmoplegia<br>OR Korsakoff's psychosis<br>OR confabulation   | DX 2911-2913, 2915-2919;<br>STAGE 1.01-2.05 + (DX 37852,<br>37855-37856, 3789);   |
| 3.02  | with cardiomegaly or congestive heart failure | Stage 1.01-3.01<br>AND alcoholic cardiomyopathy [operative pathology report or echocardiogram report]<br>OR <b>congestive heart failure:</b>   | DX 4255;<br>STAGE 1.01-3.01 + GROUP<br>CHF_NON_HTN;   |
| 3.03  | Delirium tremens                              | Stage 1.1-3.2<br>AND history of alcohol abstinence for $\geq$ 24 hours<br>AND seizure disorder [physical examination or EEG report]<br>OR visual hallucinations<br>OR auditory hallucinations<br>OR nausea and vomiting<br>OR insomnia | DX 2910;  |
| 3.04  | with coma                                     | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;   |
| 3.05  | with shock                                    | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death                                    | Stage 2.01-3.05<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY05

MultiStage: Yes

DXCat Label: Drug Abuse, Dependence, Intoxication: Alcohol

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic; Toxicologic

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:194-204.

Schuckit MA. Alcohol- related disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:775-791.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY06

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Amphetamine

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description              | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--------------------------|---|--|
| 1.01  | Amphetamine abuse        | Amphetamine use which meets DSM- IV criteria for abuse [Psychiatrists report]<br>OR history of use<br>AND failure to fulfil major role obligations<br>OR recurrent use in physically dangerous situations<br>OR recurrent amphetamine related legal problems<br>OR continued use despite related social or interpersonal use related problems   | DX 30570-30573;  |
| 1.02  | Amphetamine dependence   | Stage 1.01<br>AND Amphetamine use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [Psychiatrists report]:<br>tolerance<br>OR withdrawal<br>OR increased use<br>OR desire or efforts to decrease use<br>OR increased time spent obtaining amphetamines<br>OR reduced social or occupational activities<br>OR recurrent use despite negative physical<br>OR psychological or social effects  | DX 30440-30443;<br>STAGE 1.01 + (DX 2920, 29211-29212, 29281-2929);  |
| 2.01  | Amphetamine intoxication | Stage 1.01-1.02<br>AND two of following develop > one hour after ingestion of dose and not due to other disorder:<br>psychomotor excitement<br>OR elation<br>OR grandiosity<br>OR psychomotor agitation or retardation<br>OR hypervigilance<br>OR resistance to fatigue<br>OR <b>tachycardia:</b><br>OR <b>bradycardia:</b><br>OR pupillary dilation<br>OR perspiration or chills<br>OR nausea or vomiting<br>OR anorexia<br>OR insomnia<br>OR <b>hypertension:</b><br>OR <b>hypotension:</b> | DX 9697, E8542, E9397;<br>STAGE 1.01-1.02 + (DX 29211-2922, 29282-2929, 7830, 7808, 78701-78702 OR GROUP TACHYCARDIA OR GROUP BRADYCARDIA OR GROUP HYPERTENSION OR GROUP HYPOTENSION); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY06

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Amphetamine

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description                             | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 3.01  | with suicide attempt                    | Stage 1.01-2.01<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space<br>[chest x-ray report]<br>OR self-inflicted injury lacerating any artery<br>[operative/pathology report]<br>OR self-inflicted injury lacerating any nerve<br>[operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space<br>[operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report] | STAGE 1.01-2.01 + DX E9500-E9589;                             |
| 3.02  | with disorientation or seizure disorder | Stage 1.01-3.01<br>AND <b>disorientation:</b><br>OR seizures [EEG report or physical examination]  | STAGE 1.01-3.01 + (DX 29281, 78031-78039 OR GROUP DISORIENT); |
| 3.03  | with shock                              | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + GROUP SHOCKA;                               |
| 4.00  | with death                              | Stage 1.03-3.03<br>AND death   | NO;   |

## References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association, 1994:204–212.

Jaffe JH. Amphetamine (or Amphetamine-like) – related disorder. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:791–799.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY07

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Barbiturate

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Barbiturate abuse  | Barbiturate use which meets DMS-IV criteria for abuse [psychiatrist report]<br>OR History of use<br>AND failure to fulfill major role obligations<br>OR recurrent use in physically dangerous situations<br>OR recurrent barbiturate related legal problems<br>OR continued use despite related social or interpersonal use related problems   | DX 30540-30543;   |
| 1.02  | Barbiturate dependence   | Stage 1.01<br>AND Barbiturate use which meets DSM-IV criteria for dependence [psychiatrist report] [3 or more criteria in a 12 month period]:<br>Tolerance<br>OR withdrawal<br>OR increased use<br>OR desire or efforts to decrease use<br>OR increased time spent obtaining barbiturates<br>OR reduced social or occupational activities<br>OR recurrent use despite negative physical<br>OR psychological or social effects. | DX 30410-30413;   |
| 2.01  | Barbiturate dependence with withdrawal syndrome                  | Stage 1.01 - 1.02<br>AND two (or more) of the following on cessation of drug:<br>autonomic hyperactivity<br>OR increased hand tremor<br>OR insomnia<br>OR nausea or vomiting<br>OR hallucinations or illusions: visual, tactile, or auditory<br>OR psychomotor agitation<br>OR anxiety   | STAGE 1.01-1.02 + (DX 2920, 29211-29212, 29281-2929);   |
| 2.02  | Barbiturate dependence with electrolyte imbalance or dehydration | Stage 1.02 - 2.01<br>AND <b>dehydration:</b><br>OR <b>hypernatremia:</b><br>OR <b>hyponatremia:</b><br>OR <b>hypokalemia:</b><br>OR <b>hyperkalemia:</b>   | STAGE 1.02-2.02 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPONATREMIA OR GROUP HYPOKALEMIA OR GROUP HYPER_KALEM); |
| 2.03  | Barbiturate intoxication   | Stage 1.01 - 2.02<br>AND barbiturate serum drug level $\geq$ normal [chemistry report]<br>OR phenobarbital level > 50 ug/ml [chemistry report]   | DX 9670, 9683;<br>STAGE 1.01-2.02 + DX 2922;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY07

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Barbiturate

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                     |
|-------|--------------------------|--|------------------------------------|
| 3.01  | with seizures            | Stage 1.02-2.03<br>AND seizures [EEG report or physical examination] | STAGE 1.02-2.03 + DX 78031-78039;  |
| 3.02  | with disorientation      | Stage 1.02 - 3.01<br>AND <b>disorientation:</b>                      | STAGE 1.02-3.01 + GROUP DISORIENT; |
| 3.03  | with respiratory failure | Stage 2.03 -3.02<br>AND <b>respiratory failure:</b>                  | STAGE 2.03-3.02 + GROUP RESP_FAIL; |
| 3.04  | with coma                | Stage 2.03 - 3.03<br>AND <b>coma:</b>                                | STAGE 2.03-3.03 + GROUP COMA;      |
| 3.05  | with shock               | Stage 2.03 - 3.04<br>AND <b>shock:</b>                               | STAGE 2.03-3.04 + GROUP SHOCKA;    |
| 4.00  | with death               | Stage 2.03 -3.05<br>AND death  | NO;                                |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:261-270.

Ciraulo DA, Greenblatt DJ. Sedative, hypnotic -, or anxiolytic – related disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:872-887.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY08

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cannabis

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                                  |
|-------|--------------------------|--|---|
| 1.01  | Cannabis abuse           | Cannabis use which meets DSM-IV criteria for abuse [psychiatrist report]<br>OR history of use<br>AND failure to fulfill major role obligations<br>OR recurrent cannabis use in physically dangerous situations<br>OR recurrent cannabis related legal problems<br>OR continued cannabis use despite social or interpersonal use related problems   | DX 30520-30523;                                 |
| 1.02  | Cannabis dependence      | Stage 1.01<br>AND cannabis use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [psychiatrist report]:<br>tolerance<br>OR withdrawal<br>OR increased use<br>OR desire or efforts to decrease use<br>OR increased time spent obtaining cannabis<br>OR reduced social or occupational activities<br>OR recurrent use despite negative physical<br>OR psychological or social effects | DX 30430-30433;                                 |
| 1.03  | with panic reaction      | Stage 1.01 - 1.02<br>AND panic reaction ≥ 10 minutes after ingestion of cannabis   | STAGE 1.01-1.02 + DX 30001;                     |
| 2.01  | with schizophrenia       | History of schizophrenia<br>AND exacerbation of schizophrenia after use of cannabis  | STAGE 1.01-1.03 + (DX 2920-2929, 29500-29595);  |
| 2.02  | with reckless behavior   | Stage 1.01-2.01<br>AND involvement in a life-threatening situation while intoxicated with cannabis   | STAGE 1.01-2.01 + (DX 31200-31203, V403, V698); |
| 2.03  | with drug related injury | Stage 1.01-2.02<br>AND injury during period of drug effect   | STAGE 1.01-2.02 + (DX 80000-9049, 9100-9599);   |
| 3.01  | with coma                | Stage 2.03<br>AND <b>coma:</b>   | STAGE 1.01-2.03 + GROUP COMA;                   |
| 3.02  | with shock               | Stage 2.03-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA;                 |
| 4.00  | with death               | Stage 2.01-3.02<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY08

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cannabis

Specificity: A

Etiology: Psychogenic; Toxicologic

**Stage Description**

**Diagnostic findings**

**ICD-9-CM Codes**

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:215–221.

Woody GE, MacFadden W. Cannabis – related disorders. In. : Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:810–817.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY09

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cocaine

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description          | Diagnostic findings  | ICD-9-CM Codes  |
|-------|----------------------|--|---|
| 1.01  | Cocaine abuse        | Cocaine use which meets DSM-IV criteria for abuse [psychiatrist report]<br>OR history of use<br>AND failure to fulfill major role obligations<br>OR recurrent cocaine use in physically dangerous situations<br>OR recurrent cocaine related legal problems<br>OR continued cocaine use despite social or interpersonal use related problems   | DX 30560-30563;   |
| 1.02  | Cocaine dependence   | Stage 1.01<br>AND Cocaine use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [psychiatrist report]:<br>tolerance<br>OR withdrawal<br>OR increased use<br>OR desire or efforts to decrease use<br>OR increased time spent obtaining cocaine<br>OR reduced social or occupational activities<br>OR recurrent use despite negative physical<br>OR psychological or social effects                                   | DX 30420-30423;   |
| 2.01  | Cocaine intoxication | Stage 1.01 - 1.02<br>AND recent use of cocaine<br>AND two (or more) or the following, during or after use<br><b>tachycardia:</b><br>OR <b>bradycardia:</b><br>OR pupillary dilation<br>OR <b>hypotension:</b><br>OR <b>hypertension:</b><br>OR perspiration or chills<br>OR nausea or vomiting<br>OR psychomotor agitation or retardation<br>OR muscular weakness<br>OR chest pain<br>OR <b>cardiac arrhythmias:</b><br>OR dyskinesias<br>OR dystonias | DX 9685, E8552, E9385;<br>STAGE 1.01-1.02 + (DX 78701-78703 OR GROUP TACHYCARDIA OR GROUP BRADYCARDIA OR GROUP HYPOTENSION OR GROUP HYPERTENSION OR GROUP ARRHYTHM_CARD); |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY09

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cocaine

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description                      | Diagnostic findings  | ICD-9-CM Codes   |
|-------|----------------------------------|--|--|
| 2.02  | with hallucinations or psychosis | Stage 1.01 - 2.01<br>AND no history of schizophrenia prior to cocaine abuse<br>AND no history of bipolar illness prior to cocaine abuse<br>AND visual hallucinations<br>OR auditory hallucinations<br>OR psychosis   | STAGE 1.01-2.01 + (DX 29212, 29281-29289);   |
| 2.03  | with suicidal ideation           | Stage 1.01-2.02<br>AND suicidal ideation   | STAGE 1.01-2.02 + (DX 3009, V6284);  |
| 3.01  | with suicide attempt             | Stage 1.01-2.03<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space [chest x-ray report]<br>OR self-inflicted injury lacerating any artery [operative/pathology report]<br>OR self-inflicted injury lacerating any nerve [operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space [operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report] | STAGE 1.01-2.03 + DX E9500-E9589;  |
| 3.02  | with seizures                    | Stage 1.01-3.01<br>AND seizures [EEG report or physical examination]   | STAGE 1.01-3.01 + DX 78031-78039;  |
| 3.03  | with myocardial infarction       | Stage 1.01-3.02<br>AND <b>acute myocardial infarction:</b>   | STAGE 1.01-3.02 + GROUP AMI;   |
| 3.04  | with cerebrovascular accident    | Stage 1.01-3.03<br>AND intracranial hemorrhage [CT scan report or MRI report]<br>OR intracranial infarction [CT scan report or MRI report]   | STAGE 1.01-3.03 + (DX 430-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436); |
| 3.05  | with respiratory failure         | Stage 1.01-3.04<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.04 + GROUP RESP_FAIL;   |
| 3.06  | with shock                       | Stage 2.01-3.05<br>AND <b>shock:</b>   | STAGE 1.01-3.05 + GROUP SHOCKA;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY09

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cocaine

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 2.01-3.06<br>AND death | NO;            |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association, 1994:221–229.

Jaffe JH. Cocaine – related disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:817–831.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY10

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Hallucinogen

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description               | Diagnostic findings  | ICD-9-CM Codes                                 |
|-------|---------------------------|--|--|
| 1.01  | Hallucinogen abuse        | Hallucinogen use which meets DMS-IV criteria for abuse [psychiatrist report]<br>OR History of use<br>AND failure to fulfill major role obligations<br>OR recurrent use in physically dangerous situations<br>OR recurrent hallucinogen related legal problems<br>OR continued use despite use related social or interpersonal problems   | DX 30530-30533;                                |
| 1.02  | Hallucinogen dependence   | Stage 1.01<br>AND hallucinogen use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [psychiatrist report]<br>tolerance<br>OR craving<br>OR increased use<br>OR desire or efforts to decrease use<br>OR increased time spent using and recovering from hallucinogen<br>OR reduced social or occupational activities<br>OR recurrent use despite negative physical<br>OR psychological or social effects | DX 30450-30453;                                |
| 2.01  | Hallucinogen intoxication | Stage 1.01 - 1.02<br>AND perceptual changes, in a state of full alertness, $\leq$ 1 hour after ingestion (depersonalization, derealization, illusions, hallucinations)<br>AND two (or more) of the following, $\leq$ 1 hour after ingestion<br>pupillary dilation<br>OR <b>tachycardia:</b><br>OR sweating<br>OR palpitations<br>OR blurred vision<br>OR tremors<br>OR uncoordinated   | DX 2922 + (DX E8541, E9396);                   |
| 2.02  | with psychotic reaction   | Stage 1.01 - 2.01<br>History of hallucinogen abuse<br>AND paranoia<br>OR persistent personality changes<br>OR persistent psychotic state<br>OR "flashback" phenomenon  | STAGE 1.01-2.01 + (DX 2920-29212, 29281-2929); |
| 2.03  | with drug related injury  | Stage 1.01-2.02<br>AND injury during period of drug effect   | STAGE 1.01-2.02 + GROUP INJURY;                |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY10

DXCat Label: Drug Abuse, Dependence, Overdose: Hallucinogen

Etiology: Psychogenic; Toxicologic

MultiStage: No

Specificity: A

| Stage | Description          | Diagnostic findings  | ICD-9-CM Codes                    |
|-------|----------------------|--|-----------------------------------|
| 3.01  | with suicide attempt | Stage 1.01-2.03<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space<br>[chest x-ray report]<br>OR self-inflicted injury lacerating any artery<br>[operative/pathology report]<br>OR self-inflicted injury lacerating any nerve<br>[operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space<br>[operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report] | STAGE 1.01-2.03 + DX E9500-E9589; |
| 3.02  | with seizure         | Stage 1.01-3.01<br>AND seizure [EEG report or physical examination]  | STAGE 1.01-3.01 + DX 78039;       |
| 3.03  | with coma            | Stage 1.01-3.02<br>AND <b>coma:</b>  | STAGE 1.01-3.02 + GROUP COMA;     |
| 3.04  | with shock           | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + GROUP SHOCKA;   |
| 4.00  | with death           | Stage 2.01-3.04<br>AND death   | NO;                               |

## References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:229-242, 255-261.

Crowley TJ. Hallucinogen – related disorders, inhalant – related disorders, Phencyclidine or Phencyclidine-like – related disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:831–872.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY11

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Opioid

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description                  | Diagnostic findings  | ICD-9-CM Codes                                      |
|-------|------------------------------|--|---|
| 1.01  | Opioid abuse                 | Opioid use which meets DSM -IV criteria for abuse [psychiatrist report]:<br>OR history of use<br>AND failure to fulfill major role obligations<br>OR recurrent use in physically dangerous situations<br>OR recurrent opioid related legal problems<br>OR continued use despite social or interpersonal use-related problems   | DX 30550-30553;                                     |
| 1.02  | Opioid dependence            | Stage 1.01<br>AND opioid use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 months period) [psychiatrist report]:<br>tolerance<br>OR withdrawal<br>OR increased use<br>OR desire or efforts to decrease use<br>OR increased time spent obtaining opioids<br>OR reduced social or occupational activities<br>OR recurrent use despite negative physical<br>OR psychological or social effects | DX 30400-30403, 30470-30473;                        |
| 2.01  | with cellulitis              | Stage 1.01-1.02<br>AND <b>cellulitis:</b>  | STAGE 1.01-1.02 + GROUP CELLULITIS;                 |
| 2.02  | with pulmonary complications | Stage 1.01-2.01<br>AND pulmonary fibrosis [chest x-ray report]<br>OR <b>COPD:</b><br>OR <b>pneumonia:</b>  | STAGE 1.01-2.01 + (GROUP COPD OR GROUP PNEUMONIA ); |
| 2.03  | with osteomyelitis           | Stage 1.01-2.02<br>AND <b>osteomyelitis:</b>   | STAGE 1.01-2.02 + GROUP OSTEOMYELIT;                |
| 3.01  | with endocarditis            | Stage 1.01-2.03<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.03 + GROUP ENDOCARDITIS;               |
| 3.02  | with sepsis                  | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                     |
| 3.03  | with respiratory failure     | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;                  |
| 3.04  | with coma                    | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;                       |
| 3.05  | with shock                   | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + GROUP SHOCKA;                     |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY11

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Opioid

Specificity: A

Etiology: Psychogenic; Toxicologic

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 2.01-3.05<br>AND death | NO;            |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:247–255.

Jaffe JH. Opioid – related disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:842–864.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY12

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Other

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes  |
|-------|--|---------------------|---|
| 1.01  | Other drug abuse   |                     | DX 30580-30593;   |
| 1.02  | Other drug dependence  |                     | DX 30460-30463, 30480-30493;  |
| 2.01  | Other drug dependence with withdrawal                          |                     | DX 2920-29212, 29281-2929;  |
| 2.02  | Other drug dependence with eletrolyte imbalance or dehydration |                     | STAGE 1.01-2.01 + (GROUP DEHYDRATION OR GROUP HYPOKALEMIA OR GROUP HYPONATREMIA OR GROUP HYPR_NATREM OR GROUP HYPER_KALEM); |
| 2.03  | with intoxication  |                     | STAGE 1.01-2.02 + DX 2922; DX 2922;   |
| 3.01  | with seizures  |                     | STAGE 1.01-2.03 + DX 78031-78039;   |
| 3.02  | with disorientation  |                     | STAGE 1.01-3.01 + GROUP DISORIENT;  |
| 3.03  | with respiratory failure                                       |                     | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with coma  |                     | STAGE 1.01-3.03 + GROUP COMA;   |
| 3.05  | with shock   |                     | STAGE 1.01-3.04 + GROUP SHOCKA;   |
| 4.00  | with death   |                     | NO;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY13

DXCat Label: Eating disorders: Anorexia Nervosa

Etiology: Psychogenic

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings   | ICD-9-CM Codes   |
|-------|--------------------------|---|--|
| 1.01  | Anorexia nervosa         | Refusal to maintain 85% of minimally normal body weight for age and height<br>AND intense fear of becoming fat or gaining weight<br>AND inability to perceive body size | DX 3071;   |
| 2.01  | with anemia              | Stage 1.01<br>AND <b>anemia:</b>  | STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN); |
| 2.02  | with hypokalemia         | Stage 1.01-2.01<br>AND <b>hypokalemia:</b>  | STAGE 1.01-2.01 + GROUP HYPOKALEMIA;   |
| 2.03  | with hypernatremia       | Stage 1.01-2.02<br>AND <b>hypernatremia:</b>  | STAGE 1.01-2.02 + GROUP HYPR_NATREM;   |
| 2.04  | with hypoadrenalism      | Stage 1.01-2.03<br>AND <b>hypoadrenalism:</b>   | STAGE 1.01-2.03 + GROUP HYPOADRENAL;   |
| 3.01  | with severe malnutrition | Stage 1.01-2.04<br>AND weight loss $\geq$ 50% of ideal body weight<br>AND pitting pedal edema<br>AND <b>hypoproteinemia:</b>  | STAGE 1.01-2.04 + (DX 260-262, 7823 OR GROUP HYPOPROTEIN);   |
| 3.02  | with shock               | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;   |
| 4.00  | with death               | Stage 2.01-3.02<br>AND death  | NO;  |

### References:

American Psychiatric Association. Diagnostic and Statistic Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:539–545.

Garfinkel PE. Eating disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1361–1371.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY14

MultiStage: No

DXCat Label: Eating disorders: Bulimia Nervosa

Specificity: A

Etiology: Psychogenic

| Stage | Description                             | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Bulimia nervosa                         | Recurrent episodes of binge eating as defined in DSM-IV<br>AND recurrent inappropriate efforts to prevent weight gain (laxatives, diuretics, enemas, fasting, excessive exercise)<br>AND binge eating and weight control efforts both occur $\geq$ twice weekly for three months | DX 30751;   |
| 1.02  | with self induced vomiting              | Stage 1.01<br>AND self induced vomiting as a significant method to control weight  | DX 30754;<br>STAGE 1.01 + (DX 3064, 5362, 78703);   |
| 2.01  | with fluid and electrolyte disturbances | Stage 1.01 - 1.02<br>AND <b>hypokalemia:</b><br>OR <b>hypernatremia:</b><br>OR <b>dehydration:</b><br>OR <b>alkalosis:</b>   | STAGE 1.01-1.02 + (GROUP HYPOKALEMIA OR GROUP HYPR_NATREM OR GROUP DEHYDRATION OR GROUP ALKALOSIS); |
| 2.02  | with cardiac arrhythmia                 | Stage 1.01 - 2.01<br>AND <b>cardiac arrhythmias:</b>   | STAGE 1.01-2.01 + GROUP ARHTHYM_CARD;   |
| 2.03  | with esophageal tears                   | Stage 1.01 - 2.02<br>AND esophageal tear [operative/pathology report]  | STAGE 1.01-2.02 + (DX 5304, 86222);   |
| 2.04  | with gastric rupture                    | Stage 1.01 - 2.03<br>AND gastric rupture [operative/pathology report]  | STAGE 1.01-2.03 + DX 8630;  |
| 3.01  | with shock                              | Stage 1.01 - 2.04<br>AND <b>shock:</b>   | STAGE 1.01-2.04 + GROUP SHOCKA;   |
| 4.00  | with death                              | Stage 1.01 - 3.01<br>AND Death   | NO;   |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:545-550.

Berkow R, Beers MH, eds. In. Merck Manual. 17th ed. Rahway, NJ: Merck & Co., Inc.; 1999:1597–1598.

Garfinkle PE. Eating disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1361–1371.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY15

MultiStage: No

DXCat Label: Generalized Anxiety Disorder

Specificity: A

Etiology: Psychogenic

| Stage | Description                              | Diagnostic findings  | ICD-9-CM Codes        |
|-------|--|--|-----------------------|
| 1.01  | Generalized anxiety disorder             | Generalized anxiety disorder which meets DSM-IV criteria [psychiatrist report]<br>AND < 6% change in body weight > 1 year    | DX 30000-30009, 3130; |
| 2.01  | with interference of normal function     | Stage 1.01<br>AND history of $\geq$ 2 days of absence from employment a year<br>AND $\geq$ 6% change in body weight > 1 year | NO;                   |
| 2.02  | wth severe impairment of normal function | Stage 1.01-2.01<br>AND history of $\geq$ 5 days of absence from employment a year<br>AND unable to maintain housing          | NO;                   |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:393–444.

Papp LA, Gorman JM. Generalized anxiety disorder. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1236–1249.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY16

DXCat Label: Obsessive-Compulsive Neurosis

Etiology: Psychogenic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Obsessive-compulsive disorder   | Obsessive-compulsive disorder which meets DSM-IV criteria [psychiatrist report]<br>Obsessions, defined by:<br>recurrent, intrusive, inappropriate thoughts that cause marked distress<br>AND thoughts that are not simply excessive worries about real life problems<br>AND attempts to suppress or neutralize such thoughts with other thoughts<br>AND recognition that obsessive thoughts are a product of one's own mind<br>OR Compulsions defined by: repetitive behaviors or mental acts one is driven to perform<br>AND repetitive behaviors or mental acts to prevent distress or a dreaded situation<br>AND recognition that the obsessions and/or compulsions are excessive or unrealistic<br>AND symptoms cause marked distress<br>OR take more than one hour daily<br>OR significantly interfere with occupational or social activities | DX 3003, 3014;   |
| 2.01  | with somatic manifestations   | Stage 1.1<br>AND obsessive-compulsive behavior significantly interferes with usual normal activities<br>AND dermatological problems due to excessive washing, body cleansing, or hair pulling<br>OR anorexia<br>OR development of tics<br>OR excessive use of alcohol, sedatives, hypnotics or anxiolytic medications<br>OR marked fatigue   | STAGE 1.01 + (DX 30500-30502, 30540-30542, 3071, 30720, 6920, 6924, 78071, 78079, 7830); |
| 2.02  | Obsessive-compulsive disorder with marked impairment of social, occupational or academic function | Stage 1.01-2.01<br>AND inability to maintain household<br>OR inability to maintain job<br>AND compulsion becomes the major life activity   | NO;  |

### References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:417-423.

Jenike MA. Obsessive-compulsive disorder. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1218-1226.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY80

DXCat Label: Schizophrenia

Etiology: Genetic (or hereditary); Psychogenic

MultiStage: No

Specificity: A

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Schizophrenia - Residual Type                | Schizophrenia which has met DSM-IV criteria at some time in the past [psychiatrist report]<br>AND absence of prominent psychotic symptoms<br>AND presence of negative symptoms. (Affective flattening, poverty of speech, avolition, anhedonia)<br>OR major symptoms present in mild form (odd beliefs, unusual perceptions) | DX 29560-29565;   |
| 1.02  | Schizophreniform Disorder                    | A condition meeting DSM-IV criteria for Schizophrenia, but lasting > 1 month and < 6 months  | DX 29540-29545;   |
| 1.03  | Schizophrenia                                | Schizophrenia which meets DSM-IV criteria [psychiatrist report]<br>AND two (or more) of the following symptoms<br>delusions<br>OR hallucinations<br>OR disorganized speech<br>OR grossly disorganized or catatonic behavior<br>OR negative symptoms<br>AND symptoms present for at least 6 months                            | DX 29500-29505, 29510-29515, 29530-29535, 29550-29555, 29570-29595; |
| 2.01  | Schizophrenia, Moderate                      | Stage 1.03<br>AND unable to maintain employment<br>OR unable to maintain household<br>OR unable to care for self<br>OR unable to maintain prior level of relationships<br>OR history of threats of bodily injury to self of others   | NO;   |
| 2.02  | Severe Schizophrenia                         | Stage 2.01<br>AND attempted physical injury to others<br>OR catatonic excitement<br>OR catatonia   | DX 29520-29525;   |
| 2.03  | with history of assault or murder conviction | Stage 2.01-2.02<br>AND inflicted physical injury to individuals<br>OR convicted of murder  | STAGE 1.01-2.02 + DX V625;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY80

DXCat Label: Schizophrenia

Etiology: Genetic (or hereditary); Psychogenic

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                    |
|-------|--|---|-----------------------------------|
| 3.01  | with suicide attempt or convicted of murder or assault | Stage 2.01-2.03<br>AND Suicide attempt<br>OR self-inflicted injuries<br>AND loss of consciousness<br>OR self-inflicted injury penetrating the pleural space [chest x-ray report]<br>OR self-inflicted injury lacerating any artery [operative/pathology report]<br>OR self-inflicted injury lacerating any nerve [operative/pathology report]<br>OR self-inflicted injury penetrating the peritoneal space [operative/pathology report]<br>OR fracture of the spinal column [x-ray report]<br>OR fracture of the tibia or fibula [x-ray report]<br>OR fracture of the femur [x-ray report]<br>OR convicted of murder or assault | STAGE 1.01-2.03 + DX E9500-E9589; |
| 3.02  | with shock   | Stage 2.02-3.01<br>AND <b>shock:</b>  | STAGE 2.02-3.02 + GROUP SHOCKA;   |
| 4.00  | with death   | Stage 2.02-3.02<br>AND death  | NO;                               |

## References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:273–296.

Lipton AA, Cancro R. Schizophrenia: clinical features. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:968–987.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY81

MultiStage: No

DXCat Label: Autism

Specificity: C

Etiology:

| Stage | Description                  | Diagnostic findings | ICD-9-CM Codes                              |
|-------|------------------------------|---------------------|---|
| 1.01  | Infantile autism             |                     | DX 29900-29901;                             |
| 2.01  | with seizures or convulsions |                     | STAGE 1.01 + (DX 34500-34591, 78031-78039); |
| 3.01  | with IQ < 50                 |                     | STAGE 1.01-2.01 + DX 3180-3182;             |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY82

DXCat Label: Other Neuroses

MultiStage: No

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Other neuroses, personality disorders and psychogenic disorders |                     | DX 30010-30029, 3005-3013, 30150-3016, 30181-3029, 3060-3070, 30720-30750, 30752-30753, 30759-30780, 30789-3089, 30921-30924, 30929, 3094-30989, 3100-3109, 31321-316, 32702, 32715, 32730-32739, 32753, 33183, V402-V409, V695; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY83

MultiStage: No

DXCat Label: Other Psychoses

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|-----------------------|--|
| 0.00  | Observation for suspected mental condition  | Added stage 5/8/06 cb | DX V7109;  |
| 1.01  | Organic delusions, hallucinosis, transient organic mental disorders and other psychoses |                       | DX 29381-2939, 2940-2949, 29690-29699, 2970-2979 , 2981-2989, 29910-29991; |
| 3.01  | Delirium  |                       | DX 2930-2931;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES01

DXCat Label: Asbestosis

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description                         | Diagnostic findings  | ICD-9-CM Codes   |
|-------|-------------------------------------|--|--|
| 1.01  | Asymptomatic pulmonary asbestosis   | History of exposure to asbestos dust > 10 years<br>AND small irregular or linear lung opacities consistent with asbestosis [chest x-ray report or CT scan report]<br>OR pleural plaques [chest x-ray report or CT Scan report]<br>OR pleural thickening [chest x-ray report or CT Scan report] | DX 501;  |
| 1.02  | with symptomatic pulmonary fibrosis | Stage 1.01<br>AND <b>COPD:</b><br>OR pulmonary fibrosis [chest x-ray report]   | STAGE 1.01 + GROUP COPD;<br>STAGE 1.01 + (DX 515, 5163); |
| 2.01  | with progressive pulmonary fibrosis | Stage 1.01<br>AND forced expiratory volume in 1 second (FEV <sub>1</sub> ) ≤ 60% of predicted value [pulmonary function tests]   | NO;  |
| 3.01  | with cor pulmonale                  | Stage 1.01-2.01<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-1.02 + GROUP COR_PULMONAL;                    |
| 3.02  | with respiratory failure            | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;                       |
| 3.03  | with shock                          | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;       |
| 4.00  | with death                          | Stage 1.02-3.03<br>AND death   | NO;  |

### References:

Madan I. ABC of work related disorders. occupational asthma and other respiratory diseases. BMJ. 1996;313(7052):291-4.

Rudd RM. New developments in asbestos-related pleural disease. Thorax. 1996;51(2):210-6.

Speizer FE. Environmental lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1429-1437.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Wagner GR. Asbestosis and silicosis. Lancet. 1997;349(9061):1311-5.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES02

DXCat Label: Asthma

Etiology: Idiopathic; Immune

MultiStage: No

Specificity: A

| Stage | Description                          | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--------------------------------------|---|--|
| 1.01  | Asymptomatic bronchial asthma        | History of bronchial asthma<br>OR history of paroxysms of wheezing or bronchoconstriction that resolve with treatment<br>OR $\geq 15\%$ increase in forced expiratory volume in 1 second, FEV1, following two puffs of a beta-adrenergic agonist  | DX 49300, 49310, 49320, 49381-49382, 49390;        |
| 2.01  | Mild intermittent bronchial asthma   | Stage 1.01<br>AND diffuse bilateral expiratory or inspiratory wheezing<br>AND peak expiratory flow rate or forced expiratory volume/min $\geq 80\%$ predicted value [PEFR report]<br>AND $\leq 2$ days/week with asthma symptoms  | DX 49302, 49312, 49322, 49392;                     |
| 2.02  | Mild persistent bronchial asthma     | Stage 1.01<br>AND diffuse bilateral expiratory or inspiratory wheezing<br>AND peak expiratory flow rate or forced expiratory volume/min $\geq 80\%$ predicted value [PEFR report]<br>AND 3-6 days/week with asthma symptoms   | NO;  |
| 2.03  | Moderate persistent bronchial asthma | Stage 1.01<br>AND diffuse bilateral expiratory or inspiratory wheezing<br>AND peak expiratory flow rate or forced expiratory volume/min $\leq 80\%$ predicted value [PEFR report]<br>AND peak expiratory flow rate or forced expiratory volume/min $> 60\%$ predicted value [PEFR report]<br>OR daily asthma symptoms | NO;  |
| 3.01  | Severe persistent bronchial asthma   | Stage 1.01<br>AND diffuse bilateral expiratory or inspiratory wheezing<br>AND peak expiratory flow rate or forced expiratory volume/min $\leq 60\%$ predicted value [PEFR report]<br>OR continuous asthma symptoms  | NO;  |
| 3.02  | Status asthmaticus or severe asthma  | Stage 2.01-3.01<br>AND <b>hypoxemia:</b><br>AND peak expiratory flow rate or forced expiratory volume/min $< 30\%$ predicted value [PEFR report]<br>OR PEFr $< 100\text{L}/\text{min}$ [PEFR report]<br>OR status asthmaticus   | DX 49301, 49311, 49321, 49391;                     |
| 3.03  | with respiratory failure             | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;                 |
| 3.04  | with shock                           | Stage 1.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES02

MultiStage: No

DXCat Label: Asthma

Specificity: A

Etiology: Idiopathic; Immune

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 2.01-3.04<br>AND death | NO;            |

### References:

Bone RC. Goals of asthma management. a step-care approach. Chest. 1996;109(4):1056-65.

McFadden Jr ER. Asthma. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1419-1426.

National Institutes of Health Consensus Development Conference Consensus Statement. Practical guide for the diagnosis and management of asthma. October 1, 1997.

Niederman MS, Peters SP. Update in pulmonary medicine. Annals of Internal Medicine. 1998;128(3):208-15.

Sly RM. Asthma. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:628-641.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES03

MultiStage: No

DXCat Label: Berylliosis

Specificity: A

Etiology: Toxicologic

| Stage | Description                   | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|-------------------------------|--|--|
| 1.01  | Berylliosis                   | History of exposure to beryllium dust of fumes<br>OR beryllium toxicity [toxicology report]<br>AND noncaseating pulmonary granuloma [operative/pathology report]<br>OR hilar adenopathy [chest x-ray report]<br>AND diffuse pulmonary infiltrates [chest x-ray report] | DX 503;  |
| 2.01  | with pulmonary impairment     | Stage 1.01<br>AND <b>restrictive lung disease:</b>   | NO;  |
| 2.02  | with spontaneous pneumothorax | Stage 1.01-2.01<br>AND pneumothorax [chest x-ray report]   | STAGE 1.01-2.01 + (DX 5120, 5128);                 |
| 3.01  | with cor pulmonale            | Stage 1.01-2.02<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-2.02 + GROUP COR_PULMONAL;              |
| 3.02  | with respiratory failure      | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;                 |
| 3.03  | with shock                    | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                    | Stage 2.01-3.03<br>AND death   | NO;  |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES04

DXCat Label: Byssinosis

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description                                      | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Early byssinosis                                 | History of current employment in areas with cotton, flax and hemp dust<br>AND history of dyspnea recurring on return to work after ≥ 48hour exposure free period<br>OR Forced expiratory volume in 1 second (FEV <sub>1</sub> ) diminished from baseline within 8 hours of return to work after 48 hour exposure free period [pulmonary function tests] | DX 504;   |
| 1.02  | Symptomatic byssinosis                           | History of current employment in areas with cotton, flax and hemp dust<br>AND wheezing that resolves ≥ 48 hours after cessation of exposure<br>OR peak expiratory flow rate improves from baseline ≥ 48 hour exposure free period [pulmonary function tests]<br>AND no new infiltrates [chest x-ray report]   | NO;   |
| 2.01  | with chronic bronchitis                          | Stage 1.01-1.02<br>AND productive cough for ≥ 3 months of the year for ≥ 2 consecutive years  | STAGE 1.01 + (DX 490, 4910, 4911, 49120, 49121, 49122, 4918, 4919); |
| 2.02  | with early chronic obstructive pulmonary disease | Stage 1.01-2.01<br>AND <b>COPD:</b>   | STAGE 1.01-2.01 + (DX 4920, 4928, 496);                             |
| 3.01  | with cor pulmonale                               | Stage 1.01-2.02<br>AND <b>cor pulmonale:</b>  | STAGE 1.01-2.02 + GROUP COR_PULMONAL;                               |
| 3.02  | with respiratory failure                         | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                                  |
| 3.03  | with shock                                       | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                  |
| 4.00  | with death                                       | Stage 2.01-3.03<br>AND death  | NO;   |

### References:

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Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES05

MultiStage: No

DXCat Label: Chronic Obstructive Pulmonary Disease

Specificity: B

Etiology: Toxicologic; Genetic (or hereditary)

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Chronic bronchitis   | History of a recurrent productive cough occurring for a minimum of three months during a year for two successive years  | DX 4910-49120, 4918-4919;   |
| 1.02  | Acute exacerbation of chronic bronchitis                             | Stage 1.01<br>AND history of malaise<br>OR history of chills<br>OR history of myalgia<br>OR history of sore throat<br>OR fever<br>AND productive or nonproductive cough<br>AND rhonchi<br>AND no rales<br>OR no lung parenchymal infiltrates (chest x-ray documents no infiltrate)                | DX 49121-49122;<br>STAGE 1.01 + DX 485-486;<br>DX 49121-49122 + DX 485-486; |
| 2.01  | Chronic obstructive pulmonary disease, mild                          | Forced expiratory ventilation in 1 second (FEV <sub>1</sub> ) < 75% of predicted value [pulmonary function tests]<br>AND maximal voluntary ventilation (MVV) < 80% of predicted value [pulmonary function tests]<br>AND residual volume (RV) > 120% of predicted value [pulmonary function tests] | DX 496;   |
| 2.02  | Chronic obstructive pulmonary disease, moderate                      | Forced expiratory ventilation in 1 second (FEV <sub>1</sub> ) < 60% of predicted value [pulmonary function tests]<br>AND maximal voluntary ventilation (MVV) < 65% of predicted value [pulmonary function tests]<br>AND residual volume (RV) > 150% of predicted value [pulmonary function tests] | NO;   |
| 2.03  | Chronic obstructive pulmonary disease, severe                        | Forced expiratory ventilation in 1 second (FEV <sub>1</sub> ) < 40% of predicted value [pulmonary function tests]<br>AND maximal voluntary ventilation (MVV) < 45% of predicted value [pulmonary function tests]<br>AND residual volume (RV) > 200% of predicted value [pulmonary function tests] | NO;   |
| 3.01  | Chronic obstructive pulmonary disease with pulmonary hypertension    | Stage 2.01-2.03<br>AND peak systolic pulmonary artery pressure > 30 mmHg [pulmonary artery catheter report]   | STAGE 1.01-2.01 + (DX 4160, 4168);  |
| 3.02  | Chronic obstructive pulmonary disease with cor pulmonale             | Stage 2.01-3.01<br>AND <b>cor pulmonale:</b>  | STAGE 1.01-3.01 + GROUP COR_PULMONAL;                                       |
| 3.03  | Chronic obstructive pulmonary disease with acute respiratory failure | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with shock   | Stage 2.01-3.03<br>AND <b>shock:</b>  | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                          |
| 4.00  | with death   | Stage 2.01-3.04<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES05

MultiStage: No

DXCat Label: Chronic Obstructive Pulmonary Disease

Specificity: B

Etiology: Toxicologic; Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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Honig EG, Ingram Jr RH. Chronic bronchitis, emphysema, and airway obstruction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1451-1460.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES06

MultiStage: No

DXCat Label: Coal Miner's Pneumoconiosis

Specificity: A

Etiology: Toxicologic

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Coal miner's pneumoconiosis                | History of exposure to coal dust > 10 years<br>AND multiple small rounded opacities ≤ 1 cm. in diameter throughout lung fields<br>[chest x-ray report] | DX 500;  |
| 2.01  | with progressive "massive" fibrosis        | Stage 1.01<br>AND radiopacity ≥ 1 cm. in diameter in a background of coal miner's pneumoconiosis<br>[chest x-ray report]                               | DX 515;  |
| 2.02  | with chronic bronchitis                    | Stage 1.01-2.01<br>AND <b>chronic bronchitis:</b> productive cough ≥ 3 months/ year for ≥ 2 consecutive years  | STAGE 1.01-2.01 + (DX 490, 4910, 4911, 49120, 49121, 49122, 4918, 4919); |
| 2.03  | with chronic obstructive pulmonary disease | Stage 1.01-2.02<br>AND <b>COPD:</b>  | STAGE 1.01-2.02 + (DX 4920, 4928, 496);                                  |
| 3.01  | with cor pulmonale                         | Stage 1.01-2.03<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-2.03 + GROUP COR_PULMONAL;                                    |
| 3.02  | with respiratory failure                   | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;                                       |
| 3.03  | with shock                                 | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                       |
| 4.00  | with death                                 | Stage 2.01-3.03<br>AND death   | NO;  |

### References:

Love RG, Miller BG, Groat SK, et al. Respiratory health effects of opencast coalmining: a cross sectional study of current workers. *Occupational & Environmental Medicine*. 1997;54(6):416-23.

Meijers JM, Swaen GM, Slangen JJ. Mortality of Dutch coal miners in relation to pneumoconiosis, chronic obstructive pulmonary disease, and lung function. *Occupational & Environmental Medicine*. 1997;54(10):708-13.

Speizer FE. Environmental lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1429-1437.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES07

DXCat Label: Croup

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                                    | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Croupy cough or acute laryngotracheobronchitis | History of upper respiratory tract infection<br>OR parainfluenza virus infection [respiratory culture]<br>OR Hemophilus influenza infection [respiratory culture report]<br>OR influenza A virus infection [respiratory culture]<br>OR pertussis<br>AND 'barking' raspy cough of croup<br>OR subglottic narrowing [anteroposterior neck x-ray report]<br>AND prolonged inspiration | DX 4644;<br>((DX 7862, 46420) + (AGE 10 OR AGE 0-9));                         |
| 1.02  | with hoarseness                                | Stage 1.01<br>AND hoarseness   | STAGE 1.01 + DX 78449;  |
| 1.03  | with inspiratory stridor                       | AND inspiratory stridor  | STAGE 1.01-1.02 + DX 7861;<br>DX 46421 + (AGE 10 OR AGE 0-9);                 |
| 2.01  | Pneumonia with croup                           | Stage 1.01<br>AND <b>pneumonia:</b>  | STAGE 1.01-1.03 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES19); |
| 2.02  | with pneumothorax or subcutaneous emphysema    | Stage 1.01-2.01<br>AND pneumothorax [chest x-ray report]<br>OR subcutaneous emphysema [chest x-ray report]   | STAGE 1.01-2.01 + (DX 5120, 5128, 5181);                                      |
| 3.01  | with hypoxemia                                 | Stage 1.01-2.01<br>AND <b>hypoxemia:</b>   | STAGE 1.01-2.02 + GROUP HYPOXEMIA;  |
| 3.02  | with respiratory failure                       | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;  |
| 3.03  | with shock                                     | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;                            |
| 4.00  | with death                                     | Stage 1.01-3.03<br>AND death   | NO;   |

## References:

Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:179-185.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES08

DXCat Label: Cystic Fibrosis

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 0.00  | Cystic fibrosis genetic carrier  | Added stage 5/8/06 cb  | DX V8381;  |
| 1.01  | Cystic fibrosis  | History of Mendelian inheritance pattern, autosomal recessive, for cystic fibrosis<br>OR linkage markers for cystic fibrosis on chromosome 7 [chromosome study report]<br>AND Sweat chloride concentration above > 80 meq/L ≥ age 20 on two occasions<br>[quantitative pilocarpine iontophoresis sweat test]<br>AND Sweat chloride concentration above > 60 meq/L ≤ age 20 on two occasions<br>[quantitative pilocarpine iontophoresis sweat test] | DX 27700, 27709;   |
| 1.02  | with chronic Pseudomonas aeruginosa or Staphylococcus aureus bronchitis        | Stage 1.01<br>AND loss of cilia and destruction and fibrosis of bronchial walls [operative/pathology report]<br>OR bronchiectasis [bronchogram x-ray report or CT scan report]<br>OR hyperinflation [chest x-ray report] Stage 1.01<br>AND productive cough which ≥ 3 months/ year ≥ 2 consecutive years<br>AND Pseudomonas aeruginosa in sputum [culture report]<br>OR Staphylococcus aureus in sputum [culture report]                           | STAGE 1.01 + (DX 490, 4910, 4911-4912, 49120, 49121, 49122, 4918, 4919) + (DX 04111, 0417);<br>DX 27702; |
| 1.03  | with bronchiectasis or hyperinflation  | Stage 1.01-1.02<br>AND loss of cilia and destruction and fibrosis of bronchial walls [operative/pathology report]<br>OR bronchiectasis [bronchogram x-ray report or CT scan report]<br>OR hyperinflation [chest x-ray report]  | STAGE 1.01-1.02 + (DX 4940, 4941);   |
| 2.01  | with chronic obstructive pulmonary disease or chronic restrictive lung disease | Stage 1.01-1.03<br>AND <b>COPD:</b><br>OR <b>restrictive lung disease:</b>   | STAGE 1.01-1.03 + DX 496;  |
| 2.02  | with pancreatic insufficiency  | Stage 1.02-2.01<br>AND <b>pancreatic insufficiency:</b>  | STAGE 1.01-2.01 + GROUP PANCR_INSUFF;  |
| 2.03  | with diabetes mellitus   | Stage 1.02-2.02<br>AND <b>diabetes mellitus:</b>   | STAGE 1.01-2.02 + (DXCAT END04 OR DXCAT END05);  |
| 2.04  | with meconium ileus  | Stage 1.02-2.03<br>AND abnormally thick, tenacious and stringy meconium<br>OR undigested albumin in stool (meconium/water, 1:1, mixture with trichloroacetic acid test yields precipitate)<br>AND ileus pattern [KUB x-ray report]   | DX 27701;  |
| 2.05  | with pneumonia   | Stage 1.02-2.04<br>AND <b>pneumonia:</b>   | STAGE 1.01-2.04 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ;            |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES08

DXCat Label: Cystic Fibrosis

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

| Stage | Description                             | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 2.06  | with cirrhosis of the liver             | Stage 1.02-2.05<br>AND cirrhosis of the liver [operative/pathology report or biopsy report or sonogram report or liver/spleen scan report] | STAGE 1.01-2.05 + DX 5715-5719;                        |
| 2.07  | with volvulus or intestinal obstruction | Stage 1.02-2.06<br>AND volvulus [KUB x-ray report or operative/path report]<br>OR large bowel obstruction [KUB x-ray report]               | STAGE 1.01-2.06 + (DX 5602, 56089, 5609);<br>DX 27703; |
| 2.08  | with pneumothorax                       | Stage 1.02-2.07<br>AND pneumothorax [chest x-ray report]   | STAGE 1.01-2.07 + (DX 5120, 5128);                     |
| 3.01  | with cor pulmonale                      | Stage 1.02-2.08<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-2.08 + GROUP COR_PULMONAL;                  |
| 3.02  | with sepsis                             | Stage 1.02-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                        |
| 3.03  | with respiratory failure                | Stage 1.02-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;                     |
| 3.04  | with coma                               | Stage 1.02-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;                          |
| 3.05  | with shock                              | Stage 1.02-3.04<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;     |
| 4.00  | with death                              | Stage 1.02-3.05<br>AND death   | NO;  |

### References:

- Boat TE. Cystic fibrosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1239-1251.
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- Rosenstein BJ, Zeitlin PL. Cystic fibrosis. Lancet. 1998;351(9098):277-82.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES09

MultiStage: No

DXCat Label: Emphysema

Specificity: A

Etiology: Genetic (or hereditary); Toxicologic

| Stage | Description                    | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--------------------------------|---|--|
| 1.01  | Emphysema                      | Emphysema<br>OR chronic obstruction of airways without bronchodilator response [pulmonary function test report]<br>AND hyperinflation [chest x-ray report]<br>AND reduced diffusing capacity [pulmonary function test report] | DX 4920, 4928;                                     |
| 2.01  | Moderately severe emphysema    | Stage 1.01<br>AND FEV <sub>1</sub> < 65% predicted [pulmonary function test report]   | NO;  |
| 2.03  | Severe emphysema               | Stage 1.01<br>AND FEV <sub>1</sub> < 50% predicted [pulmonary function test report]   | NO;  |
| 3.01  | with cor pulmonale             | Stage 2.01-2.02<br>AND <b>cor pulmonale:</b>  | STAGE 1.01 + GROUP COR_PULMONAL;                   |
| 3.02  | with acute respiratory failure | Stage 2.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                 |
| 3.03  | with shock                     | Stage 2.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                     | Stage 2.01-3.03<br>AND death  | NO;  |

### References:

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES10

MultiStage: No

DXCat Label: Hypersensitivity Pneumonitis

Specificity: A

Etiology: Immune; Toxicologic

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                                     |
|-------|--|---|--|
| 1.01  | Acute hypersensitivity pneumonitis or farmer's lung or bagassosis or bird-fancier's lung or suberosis or malt worker's lung or mushroom worker's lung or maple bark-stripper's lung or other extrinsic allergic alveolitis | History of exposure to allergen<br>AND precipitating antibody to allergen [serology report]<br>AND diffuse granulomatous interstitial pneumonitis [operative/pathology report or biopsy report or chest x-ray report]<br>AND improvement in pneumonia with cessation of allergen exposure | DX 4950-4959;                                      |
| 1.02  | with subacute hypersensitivity pneumonitis   | Stage 1.01<br>AND subacute hypersensitivity pneumonitis<br>OR <b>chronic time span:</b><br>symptoms or signs persists $\geq$ 3months/ year<br>AND cough<br>AND malaise<br>AND dyspnea<br>AND sputum production  | NO;  |
| 2.01  | with restrictive lung disease  | Stage 1.01<br>AND <b>restrictive lung disease:</b>  | NO;  |
| 2.02  | with diffuse interstitial fibrosis   | Stage 1.01-2.01<br>AND diffuse interstitial fibrosis [chest x-ray report]   | STAGE 1.01 + DX 515;                               |
| 3.01  | with cor pulmonale   | Stage 1.01-2.02<br>AND <b>cor pulmonale:</b>  | STAGE 1.01-2.02 + GROUP COR_PULMONAL;              |
| 3.02  | with respiratory failure   | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                 |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 2.01-3.03<br>AND death  | NO;  |

## References:

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Stern RC. Hypersensitivity to inhaled materials. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1218.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES11

DXCat Label: Influenza

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Influenza   | Influenza [tissue culture reports isolation of influenza virus or convalescent versus acute antibody titer shows $\geq$ four fold increase]<br>AND epidemic coryza<br>OR <b>fever:</b><br>AND malaise<br>AND productive cough<br>AND myalgia | DX 4878;  |
| 1.02  | with acute sinusitis or otitis media or purulent bronchitis | Stage 1.01<br>AND acute sinusitis<br>OR otitis media<br>OR purulent bronchitis   | DX 4871;<br>STAGE 1.01 + (DXCAT ENT18 OR DXCAT ENT21 OR DX 4660, 4911);   |
| 2.01  | with pneumonia  | Stage 1.01-1.02<br>AND <b>pneumonia:</b>   | DX 4870;  |
| 2.02  | with rhabdomyolysis   | Stage 1.01-2.01<br>AND <b>rhabdomyolysis:</b>  | STAGE 1.01-2.01 + GROUP RHABDOMYO;  |
| 3.01  | with Reye's syndrome  | Stage 1.01-2.02<br>AND <b>hypoglycemia:</b><br>AND <b>hyperammonemia:</b><br>AND <b>coagulation defect:</b><br>OR <b>jaundice:</b>   | STAGE 1.01-2.02 + (GROUP REYE_S OR DXCAT END08) ;<br>STAGE 1.01-2.02 + (GROUP HYPR_AMMON OR GROUP COAG_DEFECT);<br>STAGE 1.01-2.02 + DX 7824; |
| 3.02  | with aseptic meningitis                                     | Stage 1.01-2.03<br>AND <b>aseptic meningitis:</b>  | STAGE 1.01-3.01 + DXCAT NEU13;  |
| 3.03  | with respiratory failure                                    | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with coma   | Stage 1.01-3.03<br>AND <b>coma:</b>  | STAGE 1.01-3.03 + GROUP COMA;   |
| 3.05  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death  | Stage 1.03-3.05<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES11

MultiStage: No

DXCat Label: Influenza

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- Dolin R. Influenza. In: Fauci AS, Brawnwald E, Isselbacher KJ, Wilson JD, Martin JB, kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1112-1116.
- Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.
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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES12

DXCat Label: Mycoplasma pneumoniae Infection

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Mycoplasma pharyngitis or bullous myringitis or otitis media or sinusitis | Mycoplasma pneumonia titer increase 4 fold [microbiology/serology report]<br>OR cold hemagglutinins > 1:32 [microbiology/serology report]<br>AND pharyngitis<br>OR bullous myringitis<br>OR otitis media<br>OR sinusitis [physical examination or sinus x-ray report]<br>OR air/fluid level in tympanic membrane | DX 04181;<br>DX 04181 + (DX 4610-4619, 38200-38202, 3821-3829, 462, 38400-38409); |
| 1.02  | Mycoplasma bronchopneumonia   | Stage 1.01<br>AND new infiltrate [chest x-ray report]  | DX 4830;  |
| 2.01  | with pleural effusion   | Stage 1.02<br>AND pleural effusion [chest x-ray report]  | STAGE 1.01-1.02 + (DX 5118, 5119);  |
| 2.02  | with polyarthritis  | Stage 1.01-2.01<br>AND polyarthritis   | STAGE 1.01-2.01 + (DX 71140-71149, 71190-71199);                                  |
| 2.03  | with hemolytic anemia   | Stage 1.01-2.02<br>AND <b>hemolysis:</b><br>AND <b>anemia:</b>   | STAGE 1.01-2.02 + (DX 2820-2821, 2823, 2827-2829 OR GROUP ANEM_HEM_ACQ);          |
| 2.04  | with Guillain-Barre syndrome  | Stage 1.01-2.03<br>AND progressive monoparesis or paraparesis within 6 weeks of a viral infection<br>OR progressing paresthesia of lower extremities within 6 weeks of a viral infection   | STAGE 1.01-2.03 + DX 3570;  |
| 2.05  | with Stevens-Johnson syndrome   | Stage 1.01-2.04<br>AND erythema multiforme involving the skin and mucosae  | STAGE 1.01-2.04 + DXCAT SKN02;  |
| 2.06  | with cardiac arrhythmias  | Stage 1.01-2.05<br>AND <b>arrhythmias:</b>   | STAGE 1.01-2.05 + DXCAT CVS06;  |
| 3.01  | with myocarditis or pericarditis  | Stage 1.01-2.05<br>AND <b>myocarditis:</b><br>OR <b>pericarditis:</b>  | STAGE 1.01-2.06 + (DX 4200, 42090-42099 OR GROUP MYOCARDITIS);                    |
| 3.02  | with aseptic meningitis   | Stage 1.01-3.01<br>AND <b>aseptic meningitis:</b>  | STAGE 1.01-3.01 + GROUP MENING__VIR;  |
| 3.03  | with respiratory failure  | Stage 2.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with shock  | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                |
| 4.00  | with death  | Stage 2.01-3.04  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES12

MultiStage: No

DXCat Label: Mycoplasma pneumoniae Infection

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Cassell GH, Gray GC, Waites KB. Mycoplasma infections. In Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1052-1055.

Narita M, Matsuzono Y, Itakura O, Yamada S, Togashi T. Analysis of mycoplasmal pleural effusion by the polymerase chain reaction. Archives of Disease in Childhood. 1998;78(1):67-9.

O'Handley JG, Gray LD. The incidence of mycoplasma pneumoniae pneumonia. Journal of the American Board of Family Practice. 1997;10(6):425-9.

Powell DA. Mycoplasmal infections. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:824-827.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lungs, Bronchi, or Mediastinum

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 0.00  | History of cancer of the lungs, bronchi or mediastinum        | History of cancer of the lungs, bronchi or mediastinum   | DX V1011, V1012;  |
| 1.01  | Early carcinoma of the lungs or bronchi or mediastinum        | Stage 1 of the American Joint Committee on staging of non-small cell lung cancer<br>OR Stage T1N0M0 of the American Joint Committee on staging of lung cancer<br>OR Stage T2N0M0 of the American Joint Committee on staging of lung cancer   | DX 1622-1629, 1630-1639, 1642-1649, 1764, 2312;           |
| 2.01  | Extension of carcinoma of the lungs or bronchi or mediastinum | Stage 2 of the American Joint committee on staging non-small cell of lung cancer<br>OR Stage T2N1M0 of the American Joint Committee on staging of lung cancer<br>OR Stage T1N1M0 of the American Joint Committee on staging of lung cancer<br>OR Stage 1.1<br>AND non-small cell metastasis to lymph nodes in the peribronchial or the ipsilateral hilar region, or both, including direct extension [operative/pathology report]  | STAGE 0.00-1.01 + DX 1961;                                |
| 3.01  | Advanced carcinoma of the lung or bronchi or mediastinum      | Stage 3A of the American Joint Committee on staging non-small cell of lung cancer<br>OR Stage T3 of the American Joint Committee on staging of lung cancer<br>OR Stage T3N1 of the American Joint Committee on staging of lung cancer<br>OR Stage T1N2 of the American Joint Committee on staging of lung cancer<br>OR Stage T2N2 of the American Joint Committee on staging of lung cancer<br>OR Stage T3N2 of the American Joint Committee on staging of lung cancer<br>OR Stage 1.1-2.1<br>AND non-small cell tumor with direct extension into the chest wall , the diaphragm, the mediastinal pleura, or the parietal pericardium; or a tumor in the main bronchus < 2 cm distal to the carina without involving the carina; or associated atelectasis or obstructive pneumonitis of the entire lung [operative/pathology report]<br>OR non-small cell metastasis to ipsilateral mediastinal lymph nodes and/or subcarinal lymph nodes [operative/pathology report]<br>OR limited small cell carcinoma [operative/pathology report]<br>OR small cell carcinoma confined to one hemithorax and hilar, mediastinal, and supraclavicular nodes [operative/pathology report] | STAGE 0.00-2.01 + (DX 1960, 1970-1972, 3383, 486 , 5180); |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lungs, Bronchi, or Mediastinum

Specificity: A

Etiology: Neoplasm

| Stage | Description             | Diagnostic findings  | ICD-9-CM Codes                               |
|-------|-------------------------|--|--|
| 3.02  | with distant metastasis | Stage 3B of the American Joint Committee on staging of lung cancer<br>OR Stage 4 of the American Joint Committee on staging of lung cancer<br>OR Stage T4 of the American Joint Committee on staging of lung cancer<br>OR Stage N3 of the American Joint Committee on staging of lung cancer<br>OR Stage M1 of the American Joint Committee on staging of lung cancer<br>OR Stage 1.01-3.01<br>AND non-small cell metastasis to contralateral mediastinal lymph nodes, contralateral hilar lymph nodes, ipsilateral or contralateral scalene or supraclavicular lymph nodes [operative/pathology report]<br>OR non-small cell a tumor of any size with invasion of the mediastinum, heart, great vessels, trachea, esophagus, vertebral body, or carina; or with a malignant pleural or pericardial effusion; or with satellite tumor nodules within the ipsilateral lobe of the lung containing the primary tumor [operative/pathology report]<br>OR non-small cell distant metastasis [operative/pathology report]<br>OR extensive small cell carcinoma [operative/pathology report]<br>OR small cell carcinoma spread to more distant sites[operative/pathology report] | STAGE 0.00-3.01 + (DX 1962-1969, 1973-1991); |
| 3.03  | with shock              | Stage 2.01-3.02<br>AND <b>shock:</b>   | STAGE 0.00-3.02 + GROUP SHOCKN;              |
| 4.00  | with death              | Stage 2.01-3.03<br>AND death   | NO;  |

### References:

Minna JD. Neoplasms of the lung. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:552-562.

Spiro SG. Clinical trials in lung cancer: nihilism versus enthusiasm. Thorax. 1997;52(7):598-604.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Strauss GM, Gleason RE, Sugarbaker DJ. Screening for lung cancer. another look; a different view. Chest. 1997;111(3):754-68.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES14

DXCat Label: Parainfluenza Virus Infection

Etiology: Infection, Viral

MultiStage: No

Specificity: A

| Stage | Description                         | Diagnostic findings   | ICD-9-CM Codes   |
|-------|-------------------------------------|---|--|
| 1.01  | Parainfluenza virus infection       | Parainfluenza virus infection [tissue culture reports isolation of influenza virus or convalescent versus acute antibody titer shows >four fold increase]<br>AND coryza<br>AND productive cough<br>AND fever<br>AND malaise<br>AND myalgia<br><br><u>Presumptive Diagnostic Findings:</u><br>Parainfluenza virus infection >4 rise in antibody titer [hemagglutination inhibition or by complement-fixation or neutralization tests in acute-and convalescent-phase serology reports]<br>OR immunofluorescence of viral antigens in exfoliated cells from the respiratory tract [serology report] | DX 07989;  |
| 1.02  | with acute otitis media             | Stage 1.01<br>AND otitis media  | STAGE 1.01 + DXCAT ENT18;                                  |
| 1.03  | with croup                          | Stage 1.01<br>AND barking cough of croup<br>OR laryngotracheobronchitis   | STAGE 1.01-1.02 + DXCAT RES07;                             |
| 1.04  | with bronchiolitis                  | Stage 1.01<br>AND prolonged expiratory phase with wheezing on physical examination<br>AND hyperexpansion and increased peribronchial markings [chest x-ray report]  | NO;  |
| 2.01  | with pneumonia                      | Stage 1.01-1.04<br>AND <b>pneumonia:</b>  | DX 4802;   |
| 2.02  | with bacterial tracheitis           | Stage 1.01-2.01<br>AND dyspnea and tachypnea<br>AND purulent airway secretions<br>AND infected tracheal aspirate [Gram's stain [presence of many WBCs AND a single predominant organism<br>OR tracheal aspirate [culture reports growth of pathologic organism(s)]  | STAGE 1.01-2.01 + (DX 46410, 46420);                       |
| 2.03  | with hypoxemia                      | Stage 1.03-2.02<br>AND <b>hypoxemia:</b>  | STAGE 1.01-2.02 + GROUP HYPOXEMIA;                         |
| 3.01  | with acute upper airway obstruction | Stage 1.03-2.03<br>AND acute obstruction of the upper airway  | STAGE 1.01-2.03 + (DX 46401, 46411, 46421, 46431 , 47875); |
| 3.02  | with respiratory failure            | Stage 1.03-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP RESP_FAIL;                         |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES14

MultiStage: No

DXCat Label: Parainfluenza Virus Infection

Specificity: A

Etiology: Infection, Viral

| Stage | Description | Diagnostic findings                  | ICD-9-CM Codes                                     |
|-------|-------------|--------------------------------------|--|
| 3.03  | with shock  | Stage 1.03-3.02<br>AND <b>shock:</b> | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death  | Stage 1.03-3.03<br>AND death         | NO;  |

### References:

- Dolin R. Common viral respiratory infections. In: Fauci AS, Brawnwald E, Isselbacher KJ, Wilson JD, Martin JB, kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1100-1105.
- Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.
- Orenstein DM. Acute inflammatory upper airway obstruction. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1201-1205.
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- Wright P. Parainfluenza virus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:903-904.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

DXCat Label: Pneumonia: Bacterial

Etiology: Infection, Bacterial

MultiStage: Yes

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 1.01  | Pneumonia in one lobe   | <b>Pneumonia:</b>   | DX 481, 4820-4822, 48230-48239, 4824-48249, 48281-48283, 48289-4829, 485-486; |
| 2.01  | with bacteremia   | Stage 1.01<br>AND <b>bacteremia:</b>  | STAGE 1.01 + GROUP BACTEREMIA;  |
| 2.02  | with epiglottitis   | Stage 1.01-2.01<br>AND H. influenza pneumonia [sputum c/s report or blood c/s report]<br>AND epiglottitis   | DX 4822 + DX 46430;   |
| 2.03  | with empyema  | Stage 1.1-2.2<br>AND empyema [thoracentesis report or effusion culture reports growth of pathologic organism(s)]  | STAGE 1.01-2.02 + DX 5109;<br>STAGE 1.01-2.02 + DX 5119;                      |
| 2.04  | with lung abscess or bronchopleural fistula or bronchopleural cutaneous fistula | Stage 1.01-2.03<br>AND lung abscess [operative/pathology report]<br>OR air/fluid level [chest x-ray report]<br>OR air/fluid levels in pleural space [chest x-ray report]<br>OR cutaneous fistula [chest x-ray report and physical exam] | STAGE 1.01-2.03 + (DX 5100, 5130);  |
| 2.05  | with diffuse involvement of multiple lobes                                      | Stage 1.01-2.04<br>AND lobular pneumonia in $\geq$ 2 lobes [chest x-ray report]   | NO;   |
| 2.06  | with septic arthritis   | Stage 1.01-2.05<br>AND <b>septic arthritis:</b>   | STAGE 1.01-2.04 + GROUP ARTHR_SEPTIC;   |
| 2.07  | with osteomyelitis  | Stage 1.01-2.06<br>AND <b>osteomyelitis:</b>  | STAGE 1.01-2.06 + GROUP OSTEOMYELIT;  |
| 2.08  | with peritonitis or subphrenic abscess  | Stage 1.01-2.07<br>AND peritonitis [operative/pathology report or peritoneal fluid culture reports growth of same organism as pneumonia]<br>OR subphrenic abscess [operative/pathology report]  | STAGE 1.01-2.07 + (DX 5670-5679, 56983);                                      |
| 2.09  | with pericarditis   | Stage 1.01-2.08<br>AND <b>pericarditis:</b>   | STAGE 1.01-2.08 + (DX 4200, 42091-42099);                                     |
| 3.01  | with endocarditis   | Stage 1.01-2.08<br>AND <b>endocarditis:</b>   | STAGE 1.01-2.09 + GROUP ENDOCARDITIS;   |
| 3.02  | with meningitis   | Stage 1.01-3.01<br>AND <b>meningitis:</b>   | STAGE 1.01-3.01 + GROUP MENGIT__BACT;   |
| 3.03  | with congestive heart failure   | Stage 1.01-3.02<br>AND <b>congestive heart failure:</b>   | STAGE 1.01-3.02 + GROUP CHF__NON_HTN;   |
| 3.04  | with sepsis   | Stage 1.01-3.03<br>AND <b>sepsis:</b>   | STAGE 1.01-3.03 + GROUP SEPSIS;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

MultiStage: Yes

DXCat Label: Pneumonia: Bacterial

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes  |
|-------|--------------------------|--|---|
| 3.05  | with respiratory failure | Stage 1.01-3.04<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.04 + GROUP<br>RESP_FAIL;                 |
| 3.06  | with shock               | Stage 1.01-3.05<br>AND <b>shock:</b>               | STAGE 1.01-3.05 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 2.01-3.06<br>AND death                       | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

MultiStage: Yes

DXCat Label: Pneumonia: Bacterial

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- Arvin AM. Infections due to pseudomonas. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:796-798.
- Deresiewicz RL, Parsonnet J. Staphylococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:875-885.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

MultiStage: Yes

DXCat Label: Pneumonia: Bacterial

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes |
|-------|--|---------------------|----------------|
|       | Sundstrom J, Agrup C, Kronvall G, Wretlind B. Pseudomonas aeruginosa adherence to external auditory canal epithelium. Archives of Otolaryngology – Head & Neck Surgery. 1997;123(12):1287-92.  |                     |                |
|       | Todd J. Pneumococcal infections. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:760-762.   |                     |                |
|       | Todd J. Streptococcal infections. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:750-754.  |                     |                |
|       | Tuomanen EI, Austrian R, Masure HR. Pathogenesis of pneumococcal infection. N Engl J Med. 1995;332(19):1280-4.   |                     |                |
|       | Wainwright RB. The US Arctic Investigations Program: infectious disease prevention and control research in Alaska. Lancet. 1996;347(9000):517-20.  |                     |                |
|       | Wessels MR. "Streptococcal and Enterococcal Infections." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:885-892. |                     |                |
|       | Wilson R. The role of infection in COPD. Chest. 1998;113(4 Suppl):242S-248S.   |                     |                |
|       | Yinnon AM, Butnaru A, Raveh D, Jerassy Z, Rudensky B. Klebsiella bacteraemia: community versus nosocomial infection. QJM. 1996;89(12):933-41.  |                     |                |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES16

MultiStage: No

DXCat Label: Pneumonia: Chlamydial

Specificity: A

Etiology: Infection

| Stage | Description                        | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|------------------------------------|--|--|
| 1.01  | Chlamydia Pneumonia                | <b>pneumonia:</b><br>AND Chlamydia psittaci titer increase 4 fold [complement fixation or microimmunofluorescent antibody microbiology/serology report]<br>OR Chlamydia sp.titer increase 4 fold [complement fixation antibody microbiology/serology report] | DX 4831;   |
| 2.01  | with involvement of multiple lobes | Stage 1.01<br>AND lobular pneumonia in $\geq$ 2 lobes [chest x-ray report]   | NO;  |
| 2.02  | with hepatomegaly or splenomegaly  | Stage 1.01-2.01<br>AND hepatomegaly [physical examination or ultrasound or CT scan report]<br>AND splenomegaly [physical examination or ultrasound or CT scan report]  | STAGE 1.01 + (DX 7891, 7892);                      |
| 2.03  | with pericarditis                  | Stage 1.01-2.02<br>AND <b>pericarditis:</b>  | STAGE 1.01-2.02 + (DX 4200, 42090, 42091, 42099) ; |
| 3.01  | with endocarditis                  | Stage 1.01-2.03<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.03 + GROUP ENDOCARDITIS;              |
| 3.02  | with respiratory failure           | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP COR_PULMONAL;              |
| 3.03  | with shock                         | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;                 |
| 4.00  | with death                         | Stage 1.01-3.02<br>AND <b>shock:</b>   | NO;  |

### References:

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- Taylor-Robinson D, Thomas BJ. Antibodies to cytomegalovirus or Chlamydia pneumoniae and coronary heart disease. Lancet. 1998;351(9096):143.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES17

DXCat Label: Pneumonia: Legionella

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                     | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---------------------------------|--|--|
| 1.01  | Legionella pneumonia            | <b>pneumonia:</b><br>OR Legionella titer increase 4 fold $\geq$ 1:128 [microbiology/serology report]<br>OR Legionella by direct fluorescent antibody stain of exudate [microbiology/serology report]<br>OR Legionella soluble urinary antigen [urine chemistry report]<br>OR Legionella by PCR DNA probe [molecular medicine or genetic analysis report] | DX 48284;  |
| 1.02  | with multiple lobe involvement  | Stage 1.01<br>AND multilobular infiltrate [chest x-ray report]   | NO;  |
| 1.03  | with atelectasis                | Stage 1.01-1.02<br>AND atelectasis [chest x-ray report]  | STAGE 1.01 + DX 5180;  |
| 2.01  | with diarrhea or hyponatremia   | Stage 1.01-1.03<br>AND diarrhea<br>OR <b>hyponatremia:</b>   | STAGE 1.01-1.03 + (DX 00847, 0085, 0088, 0092, 0093, 78791 OR GROUP HYPONATREMIA); |
| 2.02  | with empyema                    | Stage 1.01-2.01<br>AND empyema [thoracentesis report or effusion culture reports growth of pathologic organism(s)]   | STAGE 1.01-2.01 + (DX 5100, 5109);   |
| 2.03  | with lung abscess or cavitation | Stage 1.01-2.02<br>AND lung abscess [operative/pathology report or CT scan report]<br>OR air/fluid level [chest x-ray report or CT scan report]  | STAGE 1.01-2.02 + (DX 5130, 51889);  |
| 2.04  | with pericarditis               | Stage 1.01-2.02-03<br>AND <b>pericarditis:</b>   | STAGE 1.01-2.03 + (DX 4200, 42090, 42091, 42099) ;                                 |
| 3.01  | with endocarditis               | Stage 1.01-2.04<br>AND <b>endocarditis:</b>  | STAGE 1.01-2.04 + GROUP ENDOCARDITIS;  |
| 3.02  | with sepsis                     | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;  |
| 3.03  | with acute respiratory failure  | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;   |
| 3.04  | with shock                      | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;                                 |
| 4.00  | with death                      | Stage 2.01-3.04<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES17

MultiStage: No

DXCat Label: Pneumonia: Legionella

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Johnson CC, Finegold SM. Pyogenic bacterial pneumonia, lung abscess, and empyema. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:1036-1093.

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Lieberman D, Schlaeffer F, Boldur I, et al. Multiple pathogens in adult patients admitted with community-acquired pneumonia: a one year prospective study of 346 consecutive patients. Thorax. 1996;51(2):179-84.

Mulazimoglu L, Yu VL. Legionella infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:928-933.

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Thompkins L. Legionella. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders, 1996:822-824.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES18

MultiStage: No

DXCat Label: Pneumonia: Moraxella catarrhalis

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes |
|-------|--|--|----------------|
| 1.01  | Moraxella catarrhalis pneumonia in one lobe            | <b>Pneumonia:</b>  | NO;            |
| 1.02  | with small areas in multiple lobes of bronchopneumonia | Stage 1.01<br>AND small multilobular infiltrate [chest x-ray report]<br>OR bronchopneumonia [chest x-ray report] | NO;            |
| 2.01  | with diffuse involvement of multiple lobes             | Stage 1.01-1.02<br>AND lobular pneumonia in $\geq$ 2 lobes [chest x-ray report]                                  | NO;            |
| 3.01  | with endocarditis                                      | Stage 1.01-2.02<br>AND <b>endocarditis:</b>  | NO;            |
| 3.02  | with meningitis  | Stage 1.01-3.01<br>AND <b>meningitis:</b>  | NO;            |
| 3.03  | with sepsis  | Stage 1.01-3.02<br>AND <b>sepsis:</b>  | NO;            |
| 3.04  | with respiratory failure                               | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | NO;            |
| 3.05  | with shock   | Stage 1.01-3.04<br>AND <b>shock:</b>   | NO;            |
| 4.00  | with death   | Stage 2.01-3.05<br>AND death   | NO;            |

### References:

Hol C, Verduin CM, van Dijke E, Verhoef J, van Dijk H. Complement resistance in Branhamella (Moraxella) catarrhalis. Lancet. 1993;341(8855):1281.

Kaiser L, Lew D, Hirschel B, et al. Effects of antibiotic treatment in the subset of common-cold patients who have bacteria in nasopharyngeal secretions. Lancet. 1996;347(9014):1507-10.

Musher DM. Moraxella (Branhamella) catarrhalis, other moraxella species, and kingella. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:922-924.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES19

MultiStage: No

DXCat Label: Pneumonia: Pneumocystis carinii

Specificity: A

Etiology: Infection

| Stage | Description                    | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--------------------------------|--|--|
| 1.01  | Pneumocystis carinii pneumonia | Pneumocystis carinii pneumonia [sputum or bronchial washings stain document cysts or trophozoites of Pneumocystis carinii or biopsy reports infection with Pneumocystis carinii] | DX 1363;   |
| 2.01  | with hypoxemia                 | Stage 1.01<br>AND <b>hypoxemia:</b>  | STAGE 1.01 + GROUP HYPOXEMIA;                      |
| 3.01  | with respiratory failure       | Stage 1.01-2.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.01 + GROUP RESP_FAIL;                 |
| 3.02  | with shock                     | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                     | Stage 1.01-3.02<br>AND death   | NO;  |

### References:

Beiser C. Recent advances. HIV infection-II. BMJ. 1997;314(7080):579-83.

Hughes WT. Pneumocystis carinii pneumonitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson, eds. Nelson Testbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:951-952.

Sepkowitz KA, Brown AE, Armstrong D. Pneumocystis carinii pneumonia without acquired immunodeficiency syndrome. more patients, same risk. Archives of Internal Medicine. 1995;155(11):1125-8.

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Walzer PD. Pneumocystitis carinii infection. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1161-1163.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES20

MultiStage: No

DXCat Label: Pulmonary Alveolar Proteinosis

Specificity: A

Etiology: Genetic (or hereditary); Idiopathic

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Pulmonary alveolar proteinosis, sporadic or adult type | Alveolar proteinosis [lung biopsy report or segmental bronchoalveolar lavage report]   | DX 5160;   |
| 1.02  | Congenital pulmonary alveolar proteinosis              | Alveolar proteinosis [immunostaining of lung biopsy or PCR of infant's blood, lung tissue of lavage of lung<br>AND genetic deficiency of the lung surfactant apoprotein B (SP-B) due to a defect in a two base pair insertion (121 ins 2) in codon 121 or deletion of exon 4 preventing the translation of SB protein and generation of a restriction fragment length polymorphism | NO;  |
| 2.01  | with hypoxemia   | Stage 1.01-1.02<br>AND <b>hypoxemia:</b>   | STAGE 1.01 + GROUP HYPOXEMIA;                      |
| 2.02  | with restrictive lung disease pattern                  | Stage 1.01-2.01<br>AND <b>restrictive lung disease:</b>  | NO;  |
| 3.01  | with cor pulmonale                                     | Stage 1.01-2.01<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-2.01 + GROUP COR_PULMONAL;              |
| 3.02  | with respiratory failure                               | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;                 |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 1.01-3.03<br>AND death   | NO;  |

### References:

- Colten HR and Mello DE. Pulmonary alveolar proteinosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1222-1223.
- King TE Jr, Cherniak RM, Schwarz MI. Idiopathic pulmonary fibrosis and other interstitial lung diseases of unknown etiology. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:1827-1849.
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- Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES21

MultiStage: No

DXCat Label: Pulmonary Embolism

Specificity: B

Etiology: Genetic (or hereditary); Metabolic; Trauma

| Stage | Description                        | Diagnostic findings   | ICD-9-CM Codes                     |
|-------|------------------------------------|---|------------------------------------|
| 3.01  | Pulmonary embolism                 | Pulmonary embolism [high probability nuclear ventilation/perfusion scan or pulmonary angiogram report]<br><br><u>Presumptive Diagnostic Findings:</u><br>Low to moderate probability pulmonary embolism [nuclear ventilation/perfusion scan ]<br>AND plasma D-dimer enzyme-linked immunosorbent assay (ELISA) >500 ng/mL [chemistry report]<br>AND right ventricular dyskinesia [echocardiogram report] | DX 41511, 41519;                   |
| 3.02  | with pulmonary infarction          | Stage 3.01<br>AND pulmonary infarction [chest x-ray reports]  | NO;                                |
| 3.03  | with right ventricular hypokinesia | Stage 3.01-3.02<br>AND right ventricular hypokinesia [echocardiogram report]  | STAGE 3.01 + DX 4280;              |
| 3.04  | with pulmonary hypertension        | Stage 3.01-3.03<br>AND <b>pulmonary hypertension:</b>   | STAGE 3.01-3.03 + (DX 4160, 4168); |
| 3.05  | with cor pulmonale                 | Stage 3.01-3.04<br>AND <b>cor pulmonale:</b>  | STAGE 3.01-3.04 + (DX 4150, 4169); |
| 3.06  | with shock                         | Stage 2.01-3.05<br>AND <b>shock:</b>  | STAGE 3.01-3.05 + GROUP SHOCKA;    |
| 4.00  | with death                         | Stage 1.01-3.06<br>AND death  | NO;                                |

### References:

Anonymous. Opinions regarding the diagnosis and management of venous thromboembolic disease. ACCP Consensus Committee on Pulmonary Embolism. American College of Chest Physicians. Chest. 1998;113(2):499-504.

Goldhaber SZ. Pulmonary thromboembolism. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1469-1472.

Hirsh J, Hoak J. Management of deep vein thrombosis and pulmonary embolism. a statement for healthcare professionals. council on thrombosis. Circulation. 1996;93(12):2212-45.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Stern RC. Pulmonary embolism and infarction. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1230-31.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES22

MultiStage: No

DXCat Label: Radiation Pneumonitis

Specificity: A

Etiology: Toxicologic; Trauma

| Stage | Description                        | Diagnostic findings   | ICD-9-CM Codes  |
|-------|------------------------------------|---|---|
| 1.01  | Asymptomatic radiation pneumonitis | History of ionizing radiation exposure > 25 Gy in ≤ 6 months<br>AND ground glass opacification [chest x-ray report]<br>OR hazy infiltrates [chest x-ray report]<br>OR lymphocytic interstitial pneumonitis [operative/pathology report] | DX 5080;  |
| 2.01  | with pulmonary impairment          | Stage 1.01<br>AND <b>restrictive lung disease:</b>  | DX 5081;<br>STAGE 1.01 + DX 51889;                    |
| 3.01  | with cor pulmonale                 | Stage 1.01-2.01<br>AND <b>cor pulmonale:</b>  | STAGE 1.01-2.01 + GROUP<br>COR_PULMONAL;              |
| 3.02  | with respiratory failure           | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | STAGE 1.01-3.01 + GROUP<br>RESP_FAIL;                 |
| 3.03  | with shock                         | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP<br>SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                         | Stage 1.01-3.03<br>AND death  | NO;   |

### References:

Cho C, Glatstein E. Radiation injury. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2559-2564.

Movsas B, Raffin TA, Epstein AH, Link CJ Jr. Pulmonary radiation injury. Chest. 1997;111(4):1061-76.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES23

MultiStage: No

DXCat Label: Respiratory Syncytial Virus Infections

Specificity: A

Etiology: Infection, Viral

| Stage | Description                                      | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Coryza, or acute nasopharyngitis, or common cold | Nasal congestion and discharge<br>AND malaise<br>AND infection by respiratory syncytial virus [tissue culture isolation report or immunofluorescent or enzyme immunoassay for direct detection of viral antigen] | DX 0796;<br>DX 0796 + DX 460;   |
| 1.02  | with conjunctivitis                              | Stage 1.01<br>AND inflammation of the conjunctiva  | STAGE 1.01 + (DX 37200, 37202, 37203, 37204, 37205, 37220-37230, 37233, 37239); |
| 1.03  | with pharyngitis                                 | Stage 1.01-1.02<br>AND sore throat<br>AND inflammation of the pharynx  | STAGE 1.01-1.02 + DX 462;   |
| 1.04  | with bronchitis                                  | Stage 1.01-1.03<br>AND productive cough  | STAGE 1.01-1.03 + (DX 4660, 4911);  |
| 1.05  | with bronchiolitis                               | Stage 1.01-1.04<br>AND prolonged expiratory phase with wheezing on PE<br>AND hyperexpansion and increased peribronchial markings [chest x-ray report]  | DX 46611;   |
| 1.06  | with bronchopneumonia                            | Stage 1.01-1.05<br>AND bronchopneumonia [chest x-ray report]   | STAGE 1.01-1.05 + DX 485;   |
| 1.07  | with pneumonia                                   | Stage 1.01-1.06<br>AND <b>pneumonia:</b>   | DX 4801;  |
| 2.01  | with hypoxemia                                   | Stage 1.01-1.07<br>AND <b>hypoxemia:</b>   | STAGE 1.01-1.07 + GROUP HYPOXEMIA;  |
| 3.01  | with respiratory failure                         | Stage 1.01-2.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-2.01 + GROUP RESP_FAIL;  |
| 3.02  | with shock                                       | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                              |
| 4.00  | with death                                       | Stage 1.07-3.02<br>AND death   | NO;   |

## References:

Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.

McIntosh K. Respiratory syncytial virus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:904-906.

Orenstein. Bronchiolitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1211-1213.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES24

MultiStage: No

DXCat Label: Rhino, Adeno, and Corona Virus Infections

Specificity: A

Etiology: Infection, Viral

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 0.00  | Exposure to SARS associated corona virus   | Added stage 5/8/06 cb  | DX V0182;  |
| 1.01  | Coryza by rhinovirus or adenovirus or corona virus or acute nasopharyngitis or common cold | Nasal congestion and discharge<br>AND malaise<br>AND infection by rhinovirus [tissue culture report]   | DX 07982;<br>DX 460 + NOT DX 0796;                                     |
| 1.02  | with conjunctivitis or keratoconjunctivitis  | Stage 1.01<br>AND inflammation of the conjunctiva<br>OR inflammation of the conjunctiva and cornea   | STAGE 1.01 + (DX 37200, 37202-37205, 37220-37230 , 37233, 37239);      |
| 1.03  | with pharyngitis   | Stage 1.01-1.02<br>AND sore throat<br>AND inflammation of the pharynx  | STAGE 1.01-1.02 + DX 462;<br>DX 7862 + AGE 11-124;                     |
| 1.04  | with acute sinusitis or otitis media   | Stage 1.01-1.03<br>AND acute sinusitis<br>OR otitis media  | STAGE 1.01-1.03 + (DXCAT ENT18 OR DXCAT ENT21);                        |
| 1.05  | Bronchitis   | Stage 1.01-1.04<br>AND productive cough  | STAGE 1.01-1.04 + (DX 4660, 46619, 490, 4911);<br>DX 4660, 46619, 490; |
| 1.06  | with bronchiolitis   | Stage 1.01-1.05<br>AND prolonged expiratory phase with wheezing on physical exam<br>AND hyperexpansion and increased peribronchial markings [chest x-ray report] | STAGE 1.01-1.05 + DX 46619;  |
| 1.07  | with bronchopneumonia  | Stage 1.01-1.06<br>AND bronchopneumonia [chest x-ray report]   | STAGE 1.01-1.06 + (DX 4801, 485);                                      |
| 1.08  | with pneumonia   | Stage 1.01-1.08<br>AND <b>pneumonia:</b>   | STAGE 1.01-1.07 + (DX 4808, 486);<br>DX 4800, 4803, 4808-4809, 4838;   |
| 2.01  | with hypoxemia   | Stage 1.01-1.08<br>AND <b>hypoxemia:</b>   | STAGE 1.01-1.08 + GROUP HYPOXEMIA;                                     |
| 3.01  | with aseptic meningitis  | Stage 1.01-2.01<br>AND <b>aseptic meningitis</b>   | STAGE 1.01-2.01 + DXCAT NEU13;   |
| 3.02  | with respiratory failure   | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL + NOT DX 485-486;                    |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) + NOT DX 485-486;     |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES24

MultiStage: No

DXCat Label: Rhino, Adeno, and Corona Virus Infections

Specificity: A

Etiology: Infection, Viral

| Stage | Description | Diagnostic findings          | ICD-9-CM Codes |
|-------|-------------|------------------------------|----------------|
| 4.00  | with death  | Stage 1.06-3.03<br>AND death | NO;            |

### References:

- Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.
- McIntosh K. Adenovirus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:906-908.
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- Orenstein. Bronchiolitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1211-1213.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES25

DXCat Label: Sarcoidosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Sarcoidosis   | Noncaseating epithelioid granulomas [operative/pathology report]<br>OR Kveim reaction (Kveim skin-test positive)<br><br><u>Presumptive Diagnostic Findings:</u><br>Bihilar adenopathy [chest x-ray report]<br>AND angiotensin converting enzyme > 2 standard deviations of normal range*<br>(normal value varies widely with different laboratories) | DX 135;<br>DX 135 + DX 5178;                                |
| 1.02  | Sarcoidosis with involvement of the skin or sicca syndrome or arthritis | Stage 1.01<br>AND skin lesions containing noncaseating epithelioid granulomas [operative/pathology report]<br>OR sicca syndrome (dryness of eyes or buccal mucosa)<br>OR nonspecific arthritis<br>OR joint WBC > 200 [arthrocentesis report]<br>AND joint culture reports no growth<br>AND joint glucose > 25 mg/dl [arthrocentesis report]          | STAGE 1.01 + (DX 6861, 7102, 7137);                         |
| 2.01  | Sarcoidosis with nephrolithiasis  | Stage 1.01-1.02<br>AND nephrolithiasis [intravenous urography report or nuclear renogram or sonography report or KUB report]<br>OR dilated ureters [intravenous urography report or nuclear renogram or sonography report or KUB report]   | STAGE 1.01-1.02 + (DX 5920, 5921, 5929);                    |
| 2.02  | Sarcoidosis with cranial nerve palsy                                    | Stage 1.01-2.01<br>AND Cranial nerve palsy<br>AND no new cerebral infarction [CT report or MRI report]   | STAGE 1.01-2.01 + (DX 3501-3529, 37749, 37820-37856, 3885); |
| 2.03  | Sarcoidosis with blindness  | Stage 1.01-2.02<br>AND <b>blindness:</b>   | STAGE 1.01-2.02 + GROUP BLINDNESS;                          |
| 2.04  | Sarcoidosis with diabetes insipidus                                     | Stage 1.01-2.03<br>AND urine output of > 6.0 liters/24 hours<br>AND urine specific gravity < 1.006<br>AND urine < 200 mOsm/l   | STAGE 1.01-2.03 + DXCAT END03;                              |
| 2.05  | Sarcoidosis with involvement of the pulmonary parenchyma                | Stage 1.01-2.04<br>AND diffuse, bilateral reticulonodular infiltrates [chest x-ray report]   | STAGE 1.01-2.04 + DX 5183;                                  |
| 3.01  | Sarcoidosis with pulmonary hypertension                                 | Stage 1.01-2.05<br>AND pulmonary artery peak systolic pressure > 30 mmHg [pulmonary artery catheter report]  | STAGE 1.01-2.05 + (DX 4160, 4168);                          |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES25

DXCat Label: Sarcoidosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

| Stage | Description                            | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 3.02  | Sarcoidosis meningitis                 | Stage 1.01-3.01<br>AND <b>meningitis:</b>  | DX 3214;   |
| 3.03  | Sarcoidosis with cor pulmonale         | Stage 1.01-3.01<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-3.02 + GROUP COR_PULMONAL;              |
| 3.04  | Sarcoidosis with cardiac abnormalities | Stage 1.01-3.02<br>AND low cardiac output (echocardiogram reports ejection fraction < 50% or nuclear ejection fraction reports ejection fraction < 50% or cardiac catheterization shows cardiac output < 4.0 l/min)<br>OR new onset bundle branch blocks or hemiblocks [EKG report or nuclear phase study report]<br>OR new onset second degree heart block [EKG report]<br>OR new onset third degree heart block [EKG report] | STAGE 1.01-3.03 + (DX 4260, 42610-4269);           |
| 3.05  | Sarcoidosis with respiratory failure   | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.04 + GROUP RESP_FAIL;                 |
| 3.06  | with shock                             | Stage 1.1-3.4<br>AND <b>shock:</b>   | STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death                             | Stage 2.01-3.05<br>AND death   | NO;  |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES26

DXCat Label: Silicosis

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|--|
| 1.01  | Simple nodular silicosis   | History of exposure to free silica for $\geq$ 10 years<br>AND round, small regular radiopacities $\leq$ 1 cm in diameter compatible with pneumoconiosis [chest x-ray report]<br>AND 'eggshell' calcification of hilar and mediastinal nodes [chest x-ray report] | DX 502;  |
| 2.01  | Conglomerate silicosis   | Stage 1.01<br>AND finding of > 1 cm diameter round regular radiopacities in a background of pneumoconiosis [chest x-ray report]  | NO;  |
| 2.02  | with early chronic obstructive pulmonary disease or restrictive lung disease | Stage 1.01-2.01<br>AND <b>COPD:</b><br>OR <b>restrictive lung disease:</b>   | STAGE 1.01-2.01 + GROUP COPD;<br>STAGE 1.01-2.01 + DX 51889; |
| 3.01  | with cor pulmonale   | Stage 1.01-2.02<br>AND <b>cor pulmonale:</b>   | STAGE 1.01-3.01 + GROUP COR_PULMONAL;                        |
| 3.02  | with respiratory failure   | Stage 1.01-3.02<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;                           |
| 3.03  | with shock   | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + GROUP SHOCKA;                              |
| 4.00  | with death   | Stage 1.01-3.03<br>AND death   | NO;  |

### References:

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Wagner GR. Asbestosis and silicosis. *Lancet*. 1997;349(9061):1311-5.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 0.00  | Observation for suspected tuberculosis                         | Added stage 5/8/06 cb  | DX V712, V741;  |
| 1.01  | M. Tuberculosis exposure                                       | History of previously negative tuberculin skin test $\geq$ 1 yr. ago<br>AND positive tuberculin skin test <1 yr. ago   | DX 7955, V011;  |
| 1.02  | Symptomatic primary tuberculosis                               | New infiltrate [chest x-ray report]<br>AND sputum infected with AFB [gram stain report or culture report or DNA probe analysis or ELISA serology report]   | DX 01000-01006, 01090-01096, 01180-01186, 01190-01196, 01210-01216;             |
| 1.03  | Tuberculosis of the head and neck                              | Stage 1.01<br>AND cervical tuberculous lymphadenitis with ulceration [ulcer biopsy culture report or DNA probe analysis or ELISA serology or ELISA serology report growth of Mycobacterium tuberculosis]<br>OR tuberculous oral ulcerations [oral ulcer culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis]<br>OR tuberculous otitis media [effusion culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis] | DX 01560-01566, 01720-01756;  |
| 1.04  | Advanced primary tuberculosis                                  | Stage 1.01-1.03<br>AND new infiltrate involves $\geq$ 1/3 of the lung volume [chest xray report]   | DX 01080-01086, 01100-01106, 01110-01116, 01130-01166, 01220-01286, 1370, 1374; |
| 2.01  | Cavitary primary tuberculosis or tuberculosis pleural effusion | Stage 1.01-1.04<br>AND cavitation or abscess formation [chest x-ray report]<br>OR pleural effusion [chest x-ray report]<br>OR pleural tuberculosis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]   | DX 01010-01016, 01120-01126, 01170-01176, 01200-01206;                          |
| 2.02  | Miliary tuberculosis   | Stage 1.01-2.01<br>AND miliary tuberculosis [chest x-ray report]<br>OR bilateral pulmonary infiltrates [chest x-ray report]  | DX 01700-01716, 01800-01806, 01880-01896;                                       |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 2.03  | Tuberculosis of the bones and joints                        | Stage 1.01-2.02<br>AND <b>arthritis:</b><br>OR tuberculous spondylitis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]  | DX 01500-01506, 01510-01516, 01520-01526, 01550-01556, 01570-01576, 01580-01586, 01590-01596, 1373;<br>STAGE 1.02-2.02 + (DX 71140-71149, 72081) ;<br>DX 01500-01506 + (DX 71145, 71149, 72081) ;<br>DX 01510-01516 + (DX 71145, 71149);<br>DX 01520-01526 + (DX 71146, 71149);<br>DX 01550-01556 + (DX 71141, 71143-71144, 71146-71147, 71149);<br>DX 01560-01586 + (DX 71148, 71149);<br>DX 01590-01596 + (DX 71140, 71149); |
| 2.04  | Tuberculosis urethritis, epididymo-orchitis, or prostatitis | Stage 1.01-2.03<br>AND <b>pyuria:</b><br>AND 'sterile' urine [urine culture report no growth]<br>OR tuberculosis of urethra [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]<br>OR tuberculosis of the epididymis or testis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]<br>OR tuberculosis of the prostate [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] | DX 01610-01616, 01620-01626, 01630-01636, 01640-01646, 01650-01656, 01690-01696, 1372;<br>STAGE 1.02-2.03 + DX 6014;<br>DX 01650-01656 + DX 6014;  |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes  |
|-------|---|---|---|
| 2.05  | Tuberculous pyelonephritis or pelvic inflammatory disease | Stage 1.01-2.04<br>AND pyelonephritis [intravenous pyelogram report or ultrasound report]<br>OR tuberculosis of the ovary [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]<br>OR tuberculosis of the uterus [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]<br>OR tuberculosis of the oviducts [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] | DX 01600-01606, 01660-01666, 01670-01676;<br>STAGE 1.02-2.04 + DX 59081;<br>DX 01660-01666 + DX 59081;                                |
| 2.06  | Tuberculosis of the GI tract                              | Stage 1.01-2.05<br>AND superficial mucosal ulcerations infected with M. tuberculosis [biopsy culture report or DNA probe analysis or ELISA serology or ELISA serology report growth or operative/pathology report]<br>OR intestinal tuberculoma [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]<br>OR small bowel obstruction [KUB xray report]<br>OR large bowel obstruction [KUB xray report]   | DX 01480-01486, 01780-01786;<br>STAGE 1.02-2.05 + (DX 5370, 56089, 5609) ;<br>(DX 01480-01486, 01780-01786) + (DX 5370, 56089, 5609); |
| 2.07  | Tuberculosis of the liver                                 | Stage 1.01-2.06<br>AND tuberculosis of the liver [biopsy culture report or DNA probe analysis or ELISA serology or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]<br><br><u>Presumptive Diagnostic Findings:</u><br>Stage 1.1-2.4<br>AND liver mass [CT scan report or MRI report]<br>AND <b>jaundice:</b>   | DX 01770-01776, 01790-01796;  |
| 2.08  | Tuberculous peritonitis                                   | Stage 1.01-2.07<br>AND tuberculous peritonitis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]  | DX 01400-01406;<br>STAGE 1.02-2.07 + (DX 5670-5679, 56983);<br>DX 01400-01406 + (DX 5670-5679, 56983);                                |
| 2.09  | Adrenal tuberculosis                                      | Stage 1.01-2.08<br>AND adrenal mass [CT scan report]<br>OR <b>hypoadrenalism:</b>   | DX 01760-01766;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--------------------------|--|--|
| 3.01  | Tuberculous pericarditis | Stage 1.01-2.09<br>AND <b>pericarditis:</b><br>OR tuberculous pericarditis [culture report or DNA probe analysis or ELISA serology report growth pathologic organism(s)]   | STAGE 1.02-2.09 + DX 4200;                         |
| 3.02  | Tuberculous meningitis   | Stage 1.02-3.01<br>AND tuberculous meningitis [CSF culture report or DNA probe analysis or ELISA serology report growth of M. tuberculosis]<br>OR tuberculoma [CT scan report intracranial mass]<br>AND <b>meningitis:</b> | DX 01300-01366, 01380-01396, 1371;                 |
| 3.03  | Tuberculous sepsis       | Stage 1.01-3.02<br>AND <b>sepsis:</b>  | STAGE 1.02-3.02 + GROUP SEPSIS;                    |
| 3.04  | with respiratory failure | Stage 1.01-3.03<br>AND <b>respiratory failure:</b>   | STAGE 1.02-3.03 + GROUP RESP_FAIL;                 |
| 3.05  | with shock               | Stage 1.01-3.04<br>AND <b>shock:</b>   | STAGE 1.02-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death               | Stage 1.01-3.05<br>AND death   | NO;  |

### References:

- Brook MG, Miller RF. Prevention and management of tuberculosis in HIV positive patients living in countries with a low prevalence of Mycobacterium tuberculosis. *Genitourinary Medicine*. 1996;72(2):89-92.
- Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1267-1304.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES28

DXCat Label: Pertussis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

| Stage | Description                                      | Diagnostic findings | ICD-9-CM Codes                        |
|-------|--|---------------------|---------------------------------------|
| 1.01  | Pertussis (whooping cough) without complications |                     | DX 0330-0339;                         |
| 1.02  | with otitis media                                |                     | STAGE 1.01 + DXCAT ENT18;             |
| 2.01  | with bronchopneumonia                            |                     | STAGE 1.01-1.02 + DX 4843;            |
| 2.02  | with interstitial and subcutaneous emphysema     |                     | STAGE 1.01-2.01 + DX 5181;            |
| 2.03  | with pneumothorax                                |                     | STAGE 1.01-2.02 + (DX 5120, 5128);    |
| 2.04  | with bronchiectasis                              |                     | STAGE 1.01-2.03 + DX 4940-4941;       |
| 3.01  | with cerebrovascular hemorrhage                  |                     | STAGE 1.01-2.04 + (DX 430-4329, 436); |
| 3.02  | with encephalitis                                |                     | STAGE 1.01-3.01 + DX 3207;            |
| 3.03  | with cerebral edema                              |                     | STAGE 1.01-3.02 + DX 3485;            |
| 4.00  | with death                                       |                     | NO;                                   |

### References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES80

MultiStage: No

DXCat Label: Complications of Tracheostomy

Specificity: B

Etiology:

| Stage | Description                             | Diagnostic findings | ICD-9-CM Codes              |
|-------|---|---------------------|-----------------------------|
| 1.01  | Mechanical complication of tracheostomy |                     | DX 5190-51900, 51902-51909; |
| 2.01  | Infection of tracheostomy               |                     | DX 51901;                   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES81

MultiStage: No

DXCat Label: Neoplasm, Benign: Respiratory System

Specificity: A

Etiology: Neoplasm

| Stage | Description                        | Diagnostic findings | ICD-9-CM Codes                                  |
|-------|------------------------------------|---------------------|---|
| 1.01  | Benign neoplasm respiratory system |                     | DX 2122-2125, 2128-2129, 2142, 2357-2359, 2391; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES82

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Respiratory System

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 0.00  | History of other respiratory malignancy                                 |                     | DX V1020, V1029;                                   |
| 1.01  | Primary malignant neoplasm of trachea or other respiratory system sites |                     | DX 1620, 1650, 1658-1659, 2311, 2318-2319;         |
| 2.01  | with local lymph node involvement                                       |                     | STAGE 0.00-1.01 + (DX 1960-1961, 1963);            |
| 2.02  | with anemia of neoplastic disease                                       |                     | STAGE 0.00-2.01 + (DX 28522, 3383);                |
| 3.01  | with distant metastases   |                     | STAGE 0.00-2.01 + (DX 1962, 1965-1991);            |
| 3.02  | with shock  |                     | STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES83

MultiStage: No

DXCat Label: Other Disorders of Respiratory System

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Upper respiratory tract hypersensitivity reaction, pneumonopathy, congenital anomalies of respiratory system              |                     | DX 4788-4789, 5161-5169, 5183, 51889, 5191-5199, 7484, 74860-7489; |
| 2.01  | Bronchiectasis, pneumothorax, empyema, or pleurisy; pulmonary congestion, collapse, or insufficiency; or agenesis of lung |                     | DX 494-4941, 5100-514, 5173, 5180-5182, 5184-5186, 51882, 7485;    |
| 3.01  | Respiratory failure   |                     | GROUP RESP_FAIL;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES84

MultiStage: No

DXCat Label: Other Respiratory Disease Due to External Agents

Specificity: C

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                     |
|-------|--|---------------------|------------------------------------|
| 1.01  | Pneumoconiosis, bronchitis, or pneumonitis due to fumes and vapors |                     | DX 505-5060, 5062-5069, 5088-5089; |
| 3.01  | Acute pulmonary edema  |                     | DX 5061;                           |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES85

MultiStage: No

DXCat Label: Other Respiratory Infections

Specificity: C

Etiology: Infection

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Plague, tularemia, glanders, meloidosis, pasturellosis, pertussis, actinomycosis, rhinoscleroma, or necrobacillosis |                     | DX 0200-0201, 0205-0211, 0213-0219, 024-025, 0272, 0391, 0401, 0403;                                     |
| 2.01  | Pneumonic plague or pulmonary tularemia or hantavirus   |                     | DX 0203-0204, 0212, 07981;   |
| 3.01  | Septicemic plague or other infection with septicemia  |                     | DX 0202;<br>(DX 0200-0201, 0203-0219, 024-025, 0272, 0330-0339, 0391, 0401, 0403, 07981) + GROUP SEPSIS; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES86

MultiStage: No

DXCat Label: Other Respiratory Symptoms

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 1.01  | Hyperventilation, apnea, dyspnea, shortness of breath, chest pain, hemoptysis, hiccough, abnormal function test |                     | DX 78600-7861, 7863-78652, 7866-7869, 7931, 7942 ; |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES87

DXCat Label: Pneumonia: Aspiration

MultiStage: No

Specificity: A

Etiology:

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes                               |
|-------|--|---------------------|--|
| 1.01  | Aspiration pneumonia   |                     | DX 5070-5078;<br>DX 5070-5078 + DX 5185;     |
| 2.01  | with bacteremia  |                     | STAGE 1.01 + GROUP<br>BACTEREMIA;            |
| 2.02  | with empyema   |                     | STAGE 1.01-2.01 + DX 5109;                   |
| 2.03  | with lung abscess or bronchopleural fistula<br>or bronchopleural cutaneous fistula |                     | STAGE 1.01-2.02 + (DX 5100,<br>5130);        |
| 2.04  | with septic arthritis  |                     | STAGE 1.01-2.03 + GROUP<br>ARTHR_SEPTIC;     |
| 2.05  | with osteomyelitis   |                     | STAGE 1.01-2.04 + GROUP<br>OSTEOMYELIT;      |
| 2.06  | with peritonitis or subphrenic abscess   |                     | STAGE 1.01-2.05 + (DX 5670-5679,<br>56983);  |
| 2.07  | with pericarditis  |                     | STAGE 1.01-2.08 + (DX 4200,<br>42091-42099); |
| 3.01  | with endocarditis  |                     | STAGE 1.01-2.06 + GROUP<br>ENDOCARDITIS;     |
| 3.02  | with meningitis  |                     | STAGE 1.01-3.01 + GROUP<br>MENGIT_BACT;      |
| 3.03  | with congestive heart failure  |                     | STAGE 1.01-3.02 + DXCAT CVS13;               |
| 3.04  | with sepsis  |                     | STAGE 1.01-3.03 + GROUP SEPSIS;              |
| 3.05  | with respiratory failure   |                     | STAGE 1.01-3.04 + GROUP<br>RESP_FAIL;        |
| 3.06  | with shock   |                     | STAGE 1.01-3.05 + GROUP<br>SHOCKA;           |
| 4.00  | with death   |                     | NO;  |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES99

MultiStage: No

DXCat Label: DELETED - Bronchial Foreign Body - Overlapped with ENT04

Specificity: A

Etiology:

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes |
|-------|---|---|----------------|
| 1.01  | Foreign body in trachea or bronchus                               | Foreign body in bronchus [bronchoscopy report or chest x-ray report]  | NO;            |
| 2.01  | with localized atelectasis or foreign body in lung or bronchioles | Stage 1.01<br>AND atelectasis [chest x-ray report]<br>OR foreign body in lung or bronchioles [chest x-ray or bronchoscopy report] | NO;            |
| 2.02  | with pulmonary abscess  | Stage 1.01-2.01<br>AND pulmonary abscess [bronchoscopy report or chest x-ray report]  | NO;            |
| 3.01  | with sepsis   | Stage 1.01-2.02<br>AND <b>sepsis:</b>   | NO;            |
| 3.02  | with respiratory failure  | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>  | NO;            |
| 3.03  | with shock  | Stage 1.01-3.02<br>AND <b>shock:</b>  | NO;            |
| 4.00  | with death  | Stage 2.01-3.03<br>AND death  | NO;            |

### References:

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN01

DXCat Label: Decubitus Ulcers

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|----------------------------|--|--|
| 1.01  | Decubitus ulcer, Grade I   | Erythema, induration, pain, fever, and brownish discoloration due to hemosiderin (dermatology report)<br>OR<br>decubitus ulcer, grade 1 [operative/pathology report]               | DX 7070-70709;                                     |
| 1.02  | Decubitus ulcer, Grade II  | Stage 1.01<br>AND<br>blister formation and/or minor ulceration (dermatology report)<br>OR<br>decubitus ulcer, grade 2 [operative/pathology report]                                 | NO;  |
| 2.01  | Decubitus ulcer, Grade III | Stage 1.01-1.02<br>AND<br>damaged involvement of tendons, ligaments, and muscles (myonecrosis) (dermatology report)<br>OR<br>decubitus ulcer, grade 3 [operative/pathology report] | NO;  |
| 2.02  | Decubitus ulcer, Grade IV  | Stage 1.01-2.01<br>AND<br>deep fistula formation<br>AND<br>exposure of bone on wound<br>OR<br><b>osteomyelitis:</b>  | STAGE 1.01 + GROUP OSTEOMYELIT;                    |
| 3.01  | with sepsis                | Stage 1.01-2.02<br>AND<br><b>sepsis:</b>   | STAGE 1.01-2.02 + GROUP SEPSIS;                    |
| 3.02  | with shock                 | Stage 1.01-3.01<br>AND<br><b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKA OR GROUP SHOCKN) ; |
| 4.00  | with death                 | Stage 2.01-3.02<br>AND<br>death  | NO;  |

### References:

Kennedy CTC. Mechanical and thermal injury. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998: 897-902.

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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN02

MultiStage: No

DXCat Label: Erythema Multiforme

Specificity: A

Etiology: Idiopathic; Immune

| Stage | Description                | Diagnostic findings   | ICD-9-CM Codes  |
|-------|----------------------------|---|---|
| 1.01  | Erythema multiforme, minor | Pruritic erythematous polymorphic eruptions and iris or target lesions [dermatology report or operative/pathology report]<br>AND analysis for virus DNA suggestive of erythema multiforme [polymerase chain reaction report]<br>OR Erythema annulare centrifugum [operative/pathology report]<br>OR erythema gyratum [operative/pathology report]<br>OR erythema perstans [operative/pathology report]<br>OR erythema figuratum perstans, pruritic papules in an erythematous and edematous base with central clearing mostly on lower extremities [operative/pathology report] | DX 6950, 6951;  |
| 2.01  | Erythema multiforme, major | Stage 1.01<br>AND generalized pruritic polymorphic eruptions with bulla formation [dermatology report]<br>AND Erythema multiforme iris (pruritic erythematous lesions with multiple concentricities similar to a target) [operative/pathology report]   | NO;   |
| 2.02  | Stevens-Johnson Syndrome   | Stage 1.01 - 2.01<br>AND Erythema multiforme, major with mucosal involvement [dermatology report]<br>AND Stevens-Johnson syndrome [operative/pathology report]  | NO;   |
| 3.01  | Toxic epidermal necrolysis | History of medication use<br>AND severe scolding like desquamation [dermatology report]<br>AND epidermal necrosis > 30 % body surface area [operative/pathology report]   | DX 69581;<br>STAGE 1.01 + (DX 9952-99529, 9779, E9300-E9499, E8500-E8589, E9500-E9505, E9620, E9800-E9805); |
| 3.02  | with sepsis                | Stage 1.01-3.01<br>AND <b>sepsis:</b>   | STAGE 1.01-3.01 + GROUP SEPSIS;   |
| 3.03  | with shock                 | Stage 1.01-3.02<br>AND <b>shock:</b>  | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death                 | Stage 1.01-3.03<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN02

MultiStage: No

DXCat Label: Erythema Multiforme

Specificity: A

Etiology: Idiopathic; Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |  |
|--|
| Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1999: 153-154.  |
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| Kroonen LM. Erythema multiforme: case report and discussion. Journal of the American Board of Family Practice. 1998;11(1):63-5.  |
| Weston WL, et al. Atypical forms of herpes simplex-associated erythema multiforme. J Am Acad Dermatol. 1998;39(1):124-6.   |
| Wintroub BU, Stern RS. Cutaneous drug reactions. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:304-310.               |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN03

MultiStage: No

DXCat Label: Erythroderma

Specificity: A

Etiology: Idiopathic

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Generalized erythema with exfoliation              | Erythroderma with exfoliation with more than 90% involvement of skin [dermatology report or pathology report] | DX 69589, 6959;   |
| 2.01  | Generalized erythema with exfoliation and fever    | Stage 1.01<br>AND loss of hairs and nails<br>AND pigmentary disturbance<br>AND <b>fever:</b>                  | STAGE 1.01 + GROUP FEVER;   |
| 2.02  | with dehydration or hypothermia or hypoalbuminemia | Stage 1.01-2.01<br>AND <b>dehydration:</b><br>OR <b>hypothermia:</b><br>OR <b>hypoalbuminemia:</b>            | STAGE 1.01 + (GROUP DEHYDRATION OR GROUP HYPOALBUMIN OR GROUP HYPOTHERMIA); |
| 3.01  | with shock   | Stage 1.01-2.02<br>AND <b>shock:</b>  | STAGE 1.01 + (GROUP SHOCKC OR GROUP SHOCKN);                                |
| 4.00  | with death   | Stage 1.01-3.01<br>AND death  | NO;   |

### References:

Boetella-Estrada R, Sanmartin O, Oliver V et al. Erythroderma: a clinico-pathological study of 56 cases. Arch Dermatol. 1994;(130):1503-7.

Burton JL, Holden CA. Eczema, lichenification and prurigo. In: Champion RH, Burton JL, Burns DA, Breathnach SM. 6th ed. Rook/Winkinson/Ebling Textbook of Dermatology. Oxford: Blackwell Science Ltd., 1998:673-678.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN04

MultiStage: No

DXCat Label: Immunologically Mediated Blistering Skin Diseases

Specificity: A

Etiology: Immune

| Stage | Description                                  | Diagnostic findings  | ICD-9-CM Codes   |
|-------|--|--|------------------|
| 1.01  | Cicatricial pemphigoid                       | Whitish eroded and scarred lesions or blistering lesions of mucosa (dermatology report)<br>AND subepithelial and subepidermal blistering (pathology report)<br>AND perilesional tissue with deposits of IgG IgA and C3 in basement membranes (direct and indirect immunofluorescence report)   | DX 69460, 69461; |
| 1.02  | Epidermolysis bullosa acquisita              | Blisters on hands and feet<br>OR blisters on elbows<br>OR blisters on knees<br>OR blisters on oral mucosa with erosion<br>OR blisters on the sites exposed to minor trauma<br>AND healed with scarring milia and hyperpigmentation (dermatology report)<br>AND subepidermal blister (pathology report)<br>AND perilesional tissue with deposits of IgG, IgA, IgM and C3 in basement membrane zone (immunofluorescent test report)  | NO;              |
| 1.03  | Linear IgA bullous dermatosis                | Linear IgA disease childhood and adult type [operative/pathology report]<br>OR Pruritic and burning papulovesicular, hemorrhagic, urticarial, and erosive lesions on perineum, trunk, face, extremities and mucosa (dermatology report)<br>OR linear deposits of IgA in the epidermal basement membrane zone (direct immunofluorescent microscopy report of normal perilesional skin)<br>AND circulating IgA autoantibodies against 285 Kda and 97/120 kDa antigens in normal epidermal basement membrane [operative/pathology report] | DX 6948, 6949;   |
| 1.04  | Dermatitis herpetiformis                     | Symmetric grouped papulovesicular and urticarial lesion on extensor surface of extremities, buttocks, trunk and scalp<br>AND No mucosal involvement (dermatology report)<br>OR Dermatitis herpetiformis [operative/pathology report]<br>OR granular deposits of IgA in the papillary dermis and along the epidermal basement membrane zone (direct immunofluorescent test report)<br>OR gluten enteropathy [operative/pathology report]<br>AND lymphoma [operative/pathology report]   | DX 6940, 6942;   |
| 1.05  | Pemphigoid gestationis or herpes gestationis | Pruritic polymorphic skin lesions beginning around umbilicus and spreading to abdomen and legs (dermatology report)<br>OR pregnancy<br>AND 48 hours after delivery with linear deposits of C3 in the epidermal basement membrane zone (direct and indirect immunofluorescent tests)  | NO;              |
| 1.06  | Bullous pemphigoid                           | Blister formation of flexor surfaces of arms, legs, trunk and oral mucosa (dermatology report)<br>OR eosinophil rich blisters in supraepidermal regions (pathology report)<br>OR linear deposits of IgG and C3 in the subepidermal basement membrane zone (direct and indirect immunofluorescent tests)  | DX 6945;         |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN04

MultiStage: No

DXCat Label: Immunologically Mediated Blistering Skin Diseases

Specificity: A

Etiology: Immune

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.07  | Pemphigus vulgaris  | Flaccid bullae and erosions on oral mucosa, scalp, face, sternum and groins<br>AND Nikolsky's sign (dermatology report)<br>OR suprabasal blister formation with acantholysis (pathology report)<br>OR Pemphigus vulgaris [direct and indirect immunofluorescent tests or anti-desmoglein I and III IgG by immuno-precipitation and immuno-absorption assays]   | DX 6944;  |
| 1.08  | Pemphigus foliaceus or fogo selvagem or Brazilial pemphigus | Crusting superficial erosions and blistering lesions (dermatology report)<br>OR subcorneal blister formation with acantholysis (pathology report)<br>OR Pemphigus foliaceus [direct and indirect immunofluorescent tests or anti-desmoglein I IgG by immuno-precipitation and immuno-absorption assays]  | NO;   |
| 2.01  | Paraneoplastic Pemphigus                                    | Mucosal bullous lesions and polymorphous cutaneous lesions (dermatology report)<br>AND non-Hodgkins lymphoma<br>OR chronic lymphocytic leukemia<br>OR Castleman's disease<br>OR thymoma<br>OR spindle cell neoplasms<br>AND necrosis of keratinocytes, vacuolar interface dermatitis, and suprabasal acantholysis (pathology report)<br>AND paraneoplastic pemphigus [direct and indirect immunofluorescent tests] | STAGE 1.01-1.07 + (DX 7856, 1640 OR DXCAT HEM20 OR DXCAT HEM22 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27); |
| 2.02  | with dehydration and electrolyte imbalance                  | Stage 1.07-2.01<br>AND <b>dehydration:</b><br>AND hyponatremia<br>OR hypokalemia   | STAGE 1.01-2.01 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPOKALEMIA);                              |
| 3.01  | with sepsis   | Stage 1.01-2.02<br>AND <b>sepsis:</b>  | STAGE 1.01-2.02 + GROUP SEPSIS;   |
| 3.02  | with shock  | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;  |
| 4.00  | with death  | Stage 1.01-3.02<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN04

MultiStage: No

DXCat Label: Immunologically Mediated Blistering Skin Diseases

Specificity: A

Etiology: Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

- |  |
|--|
| Amagai M, Tsunoda K, Zillikens D. et al. The clinical phenotype of pemphigus is defined by the anti-desmoglein autoantibody profile. <i>J Am Acad Dermatol.</i> 1999;40(2): 167-170.   |
| Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis &amp; Treatment.</i> Stamford, CT: Appleton & Lange; 1998:111-180.   |
| Jolles S, Hughes J, Whittaker S. Dermatological uses of high-dose intravenous immunoglobulin. <i>Archives of Dermatology.</i> 1998;134(1):80-6.  |
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| Wojnarowska F, Eady RAJ, Burge SM. Bullous eruptions. In: Champion RH, Burton JL, Burns DA, Breathnach SM. <i>Rook/Wilkinson/Ebling. Textbook of Dermatology.</i> 6th ed. Oxford: Blackwell Science Ltd., 1998:1817-1897.  |
| Yancey KB, Lawley TJ. Immunologically mediated skin diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. <i>Harrison's Principles of Internal Medicine.</i> 14th ed. New York, NY: McGraw-Hill; 1998:1869-1874. |

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN05

MultiStage: No

DXCat Label: Infections of Skin and Subcutaneous Tissue

Specificity: A

Etiology: Infection, Bacterial

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Impetigo contagiosa  | Vesiculopustule formation with honey colored crust (dermatology report)<br>AND subcorneal pustule (pathology report)<br>AND Staphylococuss species and Streptococcus species (laboratory report)<br>AND <b>cellulitis:</b>  | (DX 684, 68100-6829) + NOT (GROUP C_SECT OR DX 66971, 9540-9549); |
| 1.02  | Superficial folliculitis   | small pustules, pierced by hairs (dermatology report)<br>AND subcorneal pustule in the opening of hair follicle (pathology report)<br>AND Staphylococcus spp. and Streptococcus spp. isolation (laboratory report)  | DX 7048;  |
| 2.01  | Erysipelas (superficial cellulitis)  | Well demarcated, indurated and dusky red lesion with advancing palpable border (dermatology report)<br>AND marked edema of dermis, diffusely infiltrated with neutrophills and dilatation of capillaries and lymphatics (pathology report)<br>AND Streptococcal isolation (laboratory report)                         | DX 035;   |
| 2.02  | Deep folliculitis or acute deep folliculitis or furunculosis or carbunculosis or chronic deep folliculitis | Deep, tender, warm, and erythematous swelling of hair follicle (dermatology report)<br>AND peri-follicular necrosis and abscess formation with neutrophil, lymphoid cell, histiocyte, and plasma cell infiltration (pathology report)   | DX 6800-6809;   |
| 2.03  | Necrotizing fasciitis  | Ill-defined erythema, progression to painless ulceration and necrosis along fascial planes (dermatology report)<br>AND acute or chronic inflammation of dermis with necrosis in subcutaneous fat, fascia and muscle (pathology report)<br>AND Staphylococcus sp. and Streptococcus spp. isolation (laboratory report) | DX 72886 + NOT (GROUP C_SECT OR DX 66971);                        |
| 3.01  | with sepsis  | Stage 2.03<br>AND <b>sepsis:</b>  | STAGE 1.01-2.03 + GROUP SEPSIS;                                   |
| 3.02  | with shock   | Stage 2.03-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;                |
| 4.00  | with death   | Stage 2.03-3.02<br>AND death  | NO;   |

## References:

- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:111-180.
- Bisno AL, Stevens DL. Streptococcal infections of skin and soft tissues. N Engl J Med. 1996;334(4):240-5.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Carcinoma, Basal Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes                           |
|-------|---|--|--|
| 1.01  | Basal cell carcinoma or nodular ulcerative type or pigmented type or morpheic type or superficial type or fibroepithelioma type | Pearly to erythematous and telangiectatic nodule (dermatology report)<br>AND basalioma cells showing a palisade arrangement of the nuclei at the periphery of the tumor (pathology report) | DX 1730, 1732-1739;                      |
| 1.02  | Basal cell nevus syndrome   | Stage 1.1<br>AND basal cell nevus syndrome<br>OR Bazex syndrome<br>OR linear, unilateral basal cell nevus syndrome   | NO;                                      |
| 2.01  | Baso-squamous cell carcinoma  | Stage 1.1-1.2<br>AND meta typical basal cell carcinoma (pathology report)  | NO;                                      |
| 2.02  | with lymph node involvement   | Basal cell carcinoma with regional lymph node involvement (pathology report)   | STAGE 1.01 + DX 1960-1969;               |
| 3.01  | with distant metastasis   | Stage 1.1-2.2<br>AND metastasis to bone [bone scan or CT scan report]<br>OR brain metastasis [CT scan or MRI report]   | STAGE 1.01-2.02 + (DX 3383, 1983, 1985); |
| 4.00  | with death  | Stage 1.01-3.01<br>AND death   | NO;                                      |

### References:

- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange' 1998:111-180.
- Goldberg LH. Basal cell carcinoma. Lancet. 1996;347(9002):663-7.
- Grossman D, Leffell DJ. The molecular basis of nonmelanoma skin cancer: new understanding. Archives of Dermatology. 1997;133(10):1263-70.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Carcinoma, Squamous Cell

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings  | ICD-9-CM Codes  |
|-------|---|--|---|
| 1.01  | Bowen's disease or actinic keratosis or arsenic keratosis or squamous cell carcinoma in situ or leukoplakia | Solitary to multiple erythematous keratotic lesions (dermatology report)<br>AND squamous cell carcinoma in situ (pathology report)   | DX 2320, 2322-2329, 6924, 7020, 7028;                     |
| 2.01  | Squamous carcinoma of lip, oral cavity, external genitalia or ear   | Stage 1.01<br>AND an erythematous, eroded to ulcerated, indurated or nodular lesions (dermatology report)<br>AND squamous cell carcinoma of the lip (pathology report)<br>OR squamous cell carcinoma of the oral cavity (pathology report)<br>OR squamous cell carcinoma of the external genitalia (pathology report)<br>OR squamous cell carcinoma of the ear (pathology report)          | DX 1400-1401, 1406-1409, 1848-1849;                       |
| 2.02  | with lymph node involvement   | Stage 2.01<br>AND Palpable lymph nodes (dermatology report)<br>AND carcinoma with lymph node involvement (pathology report or CT scan report)  | STAGE 2.01 + DX 1960-1969;                                |
| 3.01  | with distant metastasis   | Stage 1.01-2.02<br>AND metastasis to bone [ liver/spleen scan or CT scan or gallium scan or bone scan report]<br>OR liver metastasis [liver/spleen scan or CT scan or gallium scan or bone scan report]<br>OR lung metastasis [liver/spleen scan or CT scan or gallium scan or bone scan report]<br>OR brain metastasis [liver/spleen scan or CT scan or gallium scan or bone scan report] | STAGE 2.01 + (DX 3383, 1970-1978, 1980-19889, 1990-1991); |
| 4.00  | with death  | Stage 1.01-3.01<br>AND death   | NO;   |

### References:

Letzel S, Drexler H. Occupationally related tumors in tar refinery workers. J Am Acad Dermatol. 1998;(39):712-20.

Mackie RM. Epidermal skin tumours. In: Champion RH, Burton JL, Burns DA, Breathnach SM., Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:1651-1693.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Melanoma

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes                  |
|-------|--|---|---------------------------------|
| 0.00  | History of melanoma  | History of prior melanoma<br>OR<br>dysplastic nevus syndrome  | DX V1082;                       |
| 1.01  | Melanoma in situ   | Irregularly shaped brown lesion with variation in brown or black pigmentation (dermatology report)<br>AND intraepidermal melanoma [operative/pathology report or S-100 and HMB-45 tests or electron microscopy (pathology report)]<br>AND Melanoma not within the papillary dermis [operative/pathology report]<br>OR Clark Level 1   | NO;                             |
| 2.01  | Lentigo maligna melanoma or superficial spreading melanoma or nodular melanoma or acral lentiginous melanoma | Stage 0.00-1.01<br>AND melanoma ≤ 0.75 mm. depth within the papillary dermis [operative/pathology report]<br>OR American Joint Cancer Commission Stage T1<br>OR Clark Level 2<br>OR melanoma ≤ 1.5 mm. depth within the papillary dermis [operative/pathology report]<br>OR American Joint Cancer Commission Stage T2<br>OR Clark Level 3<br>OR melanoma ≤ 3.00 mm. depth of invasion into the dermis [operative/pathology report]<br>OR American Joint Cancer Commission T3A<br>OR Clark Level 4 | DX 1720-1729;                   |
| 3.01  | with regional lymph node involvement   | Stage 1.01-2.01<br>AND melanoma with regional lymph node involvement [pathology report or sentinel lymph node biopsy report AND CT scan report]<br>OR melanoma within the subcutaneous fat [operative/pathology report]<br>OR melanoma ≤ 3.99mm. depth of invasion through the skin [operative/pathology report]<br>OR American Joint Cancer Commission Stage T3B<br>OR Clark Level 4   | STAGE 0.00-2.01 + DX 1960-1969; |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN08

DXCat Label: Neoplasm, Malignant: Melanoma

Etiology: Neoplasm

MultiStage: No

Specificity: A

| Stage | Description             | Diagnostic findings   | ICD-9-CM Codes   |
|-------|-------------------------|---|--|
| 3.02  | with distant metastasis | Stage 1.01-3.01<br>AND metastasis to lung (chest x-ray, CT scan or gallium scan)<br>OR metastasis to liver (liver/spleen scan or CT scan or gallium scan)<br>OR metastasis to bone (bone x-ray or bone scan)<br>OR metastasis to brain (brain CT scan or MRI)<br>OR melanoma $\geq$ 4.0 mm. depth of invasion through the skin [operative/pathology report]<br>OR American Joint Cancer Commission Stage T4A or T4B<br>OR Clark Level 5 | STAGE 0.00-3.01 + (DX 3383, 1970-1978, 1980-19889, 1990-1991); |
| 4.00  | with death              | Stage 3.01-3.02<br>AND death  | NO;  |

### References:

- Balch CM, Murad TM, Soong SJ et al. A multifactorial analysis of melanoma: prognostic histopathological features comparing Clark's and Breslow's staging methods. *Ann Surg.* 1978;(188):732-42.
- Berg P, Lindelof B. Differences in malignant melanoma between children and adolescents. a 35-year epidemiological study. *Archives of Dermatology.* 1997;133(3):295-7.
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## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN09

MultiStage: No

DXCat Label: Neoplasm: Atypical Nevus

Specificity: A

Etiology: Neoplasm

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes |
|-------|--|--|----------------|
| 0.00  | History of atypical nevus syndrome   | Sporadic atypical nevus or family history of multiple atypical nevi  | NO;            |
| 1.01  | Sporadic atypical nevus  | Asymmetric, irregularly marginated, and irregularly pigmented lesion (dermatology report)<br>AND architectural atypia and cytological atypia of nevus cells (pathology report)               | DX 2160-2169;  |
| 1.02  | Atypical nevus syndrome (Familial atypical mole/malignant melanoma syndrome) | AND multiple asymmetric, irregularly marginated, and irregularly pigmented lesions (dermatology report)<br>AND architectural atypia and cytological atypia of nevus cells (pathology report) | NO;            |

### References:

Mackie RM. Melanocytic naevi and malignant melanoma. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. Oxford: Blackwell Science Ltd.; 1998:1735-1737.

Slade J, Marghoob AA, Salopek TG, Rigel DS, Kopf AW, Bart RS. Atypical mole syndrome: risk factor for cutaneous malignant melanoma and implications for management. J Am Acad Dermatol. 1995;(32/3):479-494.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN10

MultiStage: No

DXCat Label: Pilonidal Cyst

Specificity: A

Etiology: Congenital; Trauma

| Stage | Description           | Diagnostic findings   | ICD-9-CM Codes                               |
|-------|-----------------------|---|--|
| 1.01  | Pilonidal cyst        | Pilonidal cyst [operative/pathology report]<br>OR a hair-containing sacrococcygeal cyst lined with epithelium | DX 6851;                                     |
| 1.02  | with multiple sinuses | Pilonidal cyst with multiple sinuses [operative/pathology report]   | NO;  |
| 2.01  | with cellulitis       | Stage 1.01-1.02<br>AND <b>cellulitis:</b>   | STAGE 1.01 + (DX 6822, 6825);                |
| 2.02  | with abscess          | Stage 1.01-2.01<br>AND abscess  | DX 6850;                                     |
| 3.01  | with sepsis           | Stage 1.01-2.02<br>AND <b>sepsis:</b>   | STAGE 2.01-2.02 + GROUP SEPSIS;              |
| 3.02  | with shock            | Stage 3.01<br>AND <b>shock:</b>   | STAGE 3.01 + (GROUP SHOCKC OR GROUP SHOCKN); |
| 4.00  | with death            | Stage 3.01-3.02<br>AND death  | NO;  |

### References:

Bascom J. Pilonidal sinus: experience with the Karydakis flap. *British Journal of Surgery*. 1998;(85/6):874.

Matter I, Kunin J, Schein M, Eldar S. Total excision versus non-resectional methods in the treatment of acute and chronic pilonidal disease. *British Journal of Surgery*. 1995;(82/6):752-3.

Sebastian MW. Plastic and maxillofacial surgery: pilonidal cysts and sinuses. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1330-1334.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN11

DXCat Label: Psoriasis Vulgaris

Etiology: Genetic (or hereditary); Immune

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes                                     |
|-------|--|--|--|
| 1.01  | Psoriasis vulgaris   | Parakeratosis, hypogranulosis, regular acanthosis, and Monroe's abscess (pathology report)<br>OR Silvery white scaly erythematous and well demarcated lesions, which bleed if removed<br>AND lesions involve scalp areas<br>OR lesions involve elbows<br>OR lesions involve knees<br>OR lesions involve lumbosacral areas<br>AND fingernail involvement with pittings, onycholysis, thickening, or thinning and yellowish discoloration (dermatology report) | DX 6961;   |
| 1.02  | Localized pustular psoriasis                                     | Macroscopic pustules on palms and soles (dermatology report and pathology report)  | NO;  |
| 1.03  | Generalized pustular psoriasis                                   | Generalized involvement of macroscopic pustules with fever (dermatology report and pathology report)   | NO;  |
| 2.01  | Distal interphalangeal joint psoriatic arthritis                 | Stage 1.01-1.03<br>AND distal inflammation of interphalangeal joints<br>AND rheumatoid factor negative [synovial fluid report]   | DX 6960;   |
| 2.02  | Psoriatic oligoarthritis   | Stage 1.01-2.01<br>AND nonspecific inflammation of knee<br>AND nonspecific inflammation of elbows<br>AND nonspecific inflammation of ankles<br>AND nonspecific inflammation of wrists<br>AND rheumatoid factor negative [synovial fluid report]  | STAGE 2.01 + DX 7138;                              |
| 2.03  | Psoriatic sacroiliitis or spinal arthritis or arthritis mutilans | Stage 1.01-2.02<br>AND sacroiliitis [ pelvic x-ray report]<br>OR severe destructive arthritis [x-ray report of affected area]  | STAGE 2.01 + (DX 7202, 7210-72191);                |
| 2.04  | with spondylitis   | Stage 1.01-2.03<br>AND spondylitis (x-ray report)  | STAGE 2.01 + (DX 7201, 72081-7209);                |
| 3.01  | Erythrodermic psoriasis  | Stage 1.01-2.04<br>Generalized exfoliative dermatitis<br>AND <b>fever:</b>   | STAGE 1.01-2.04 + DX 69589;                        |
| 3.02  | with sepsis  | Stage 1.01-3.01<br>AND <b>sepsis:</b>  | STAGE 1.01-3.01 + GROUP SEPSIS;                    |
| 3.03  | with shock   | Stage 1.01-3.02<br>AND <b>shock:</b>   | STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ; |
| 4.00  | with death   | Stage 1.01-3.03<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN11

MultiStage: No

DXCat Label: Psoriasis Vulgaris

Specificity: A

Etiology: Genetic (or hereditary); Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bardolph E, Ashton R. Psoriasis: a review of present and future management. *Nursing Standard*. 1998;12(21):43-7.

Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:111-180.

Camp RDR. Psoriasis. In: Champion RH, Burton JL, Burns DA, Breathnach SM. *Rook/Wilkinson/Ebling Textbook of Dermatology*. 6th ed. Oxford: Blackwell Science Ltd, 1998:1589-1649.

Dubic et al. Pathogenesis of psoriasis and the mechanism of action of tazarotene. *J Am Acad Dermatol*. 1998;(39):S129-33.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

Stern RS. Psoriasis. *Lancet*. 1997;350(9074):349-53.

Swerlick RA, Lawley TJ. Eczema, psoriasis, cutaneous infections, acne, and other common skin disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:298-304.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN12  
 DXCat Label: Scabies  
 Etiology: Infection

MultiStage: No  
 Specificity: A

| Stage | Description                                 | Diagnostic findings  | ICD-9-CM Codes   |
|-------|---|--|--|
| 1.01  | Scabies                                     | Nocturnal itching, burrows formation and erythematous papules on external genitalia (dermatology report)<br>AND mites and eggs [microbiology report]                           | DX 1330;   |
| 1.02  | Norwegian scabies                           | Patients with Down syndrome or under immuno suppression therapy<br>AND heavily crusted and eczematoid lesions (dermatology report)<br>AND mites and eggs [microbiology report] | NO;  |
| 2.01  | Scabies with bacterial infection (pyoderma) | Stage 1.01-1.02<br>AND excoriated lesions with pustule and abscess formation (dermatology report)  | STAGE 1.01 + (DX 68600-6869, 04100-04105, 04109-04111, 04119, 0412-0417, 04181-04186 , 04189, 0419); |

### References:

Arlian LG, Estes SA, Vyszynski-Moher DL. Prevalence of sarcoptes scabiei in the homes and nursing homes of scabietic patients. J Am Acad Dermatol. 1998;(19):806-811.

Burns DA. Diseases caused by arthropods and other noxious animals. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:1458-1465.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN80

MultiStage: No

DXCat Label: Neoplasm, Benign: Skin or Subcutaneous Tissue

Specificity: A

Etiology: Neoplasm

| Stage | Description                                    | Diagnostic findings | ICD-9-CM Codes                        |
|-------|--|---------------------|---------------------------------------|
| 1.01  | Benign neoplasm of skin or subcutaneous tissue |                     | DX 2140-2141, 2148-2149, 22801, 2382; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Skin and Soft Tissue

Specificity: A

Etiology: Neoplasm

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes                                     |
|-------|---|---------------------|--|
| 1.01  | Kaposi's sarcoma or other malignancy of skin or soft tissue |                     | DX 1760-1761;                                      |
| 2.01  | with lymph node involvement                                 |                     | STAGE 1.01 + DX 1960-1969;                         |
| 2.02  | with anemia of neoplastic disease                           |                     | STAGE 1.01-2.01 + DX 28522;                        |
| 3.01  | with distant metastasis                                     |                     | STAGE 1.01-2.02 + (DX 3383, 1970-1991);            |
| 3.02  | with shock  |                     | STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN82

MultiStage: No

DXCat Label: Other Inflammations and Infections of Skin and Subcutaneous Tissue

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes   |
|-------|---|---------------------|--|
| 1.01  | Local skin infections, dermatitis, pruritis, scars, ingrown nails, alopecia                   |                     | DX 6868-6922, 6925-6929, 6931-6939, 6980-7019, 70211-70219, 7030-7043, 7049-7051, 70581-7069, 7071-7079, 70900-7099; |
| 1.02  | Pyoderma, pyogenic granuloma, pustular dermatoses, pityriasis, systemic inflammatory response |                     | DX 68600-6861, 6941, 6943, 6952-6954, 6962-6979, 99590-99594;  |
| 2.01  | Gangrene  |                     | DX 7854;   |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA01

MultiStage: No

DXCat Label: Acetaminophen Toxicity

Specificity: A

Etiology: Toxicologic

| Stage | Description            | Diagnostic findings  | ICD-9-CM Codes                       |
|-------|------------------------|--|--------------------------------------|
| 1.01  | Acetaminophen Toxicity | Acetaminophen ingestion of $\geq$ 150 mg/kg/24 hours for age $\leq$ 12 years old<br>OR<br>Acetaminophen ingestion of $\geq$ 7 gm/24 hours for age > 13 years old | DX 9654, E8504, E9354, E9500, E9800; |
| 2.01  | with hepatitis         | Stage 1.01<br>AND <b>jaundice:</b>   | STAGE 1.01 + DXCAT HEP10;            |
| 3.01  | with hepatic coma      | Stage 1.01-2.01<br>AND <b>hepatic coma:</b>  | STAGE 1.01-2.01 + GROUP COMA_HEP;    |
| 3.02  | with shock             | Stage 1.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA;      |
| 4.00  | with death             | Stage 2.01-3.02<br>AND death   | NO;                                  |

### References:

Dienstag JL, Isselbacher KJ. Toxic and drug-induced hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1692-1696.

Heubi JE, Barbacci MB, Zimmerman HJ. Therapeutic misadventures with acetaminophen: hepatotoxicity after multiple doses in children. Journal of Pediatrics. 1998;132(1):22-7.

Mas A, Rodes J. Fulminant hepatic failure. Lancet. 1997;349(9058):1081-5.

Olson KR. Poisoning. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1465-1496.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA02

DXCat Label: Adverse Drug Reactions

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Adverse drug reaction with cutaneous manifestations                          | History of ingestion of drug(s) in therapeutic doses<br>OR history of contact with any drug(s) in therapeutic doses<br>AND contact dermatitis<br>OR skin rash<br>OR urticaria | DX 5583, 6923, 52801-52802, 6930;<br>(DX 9952-99520, 99522-99529, E9300-E9352, E9355-E9420, E9422-E9499) + NOT (DX E8583, E9421); |
| 1.02  | with fever   | Stage 1.01<br>AND <b>fever:</b>   | STAGE 1.01 + GROUP FEVER;   |
| 2.01  | with hemolytic anemia  | Stage 1.01-1.02<br>AND <b>hemolysis:</b>  | STAGE 1.01-1.02 + (DX 2820-2821, 2823, 2827-2829 OR GROUP ANEM_HEM_ACQ);  |
| 2.02  | with hepatitis or pancreatitis   | Stage 1.01-2.01<br>AND <b>hepatitis:</b><br>OR <b>pancreatitis:</b>   | STAGE 1.01-2.01 + (DXCAT HEP10 OR DXCAT HEP12);   |
| 2.03  | with coagulation defects   | Stage 1.01-2.02<br>AND <b>coagulation defect:</b>   | STAGE 1.01-2.02 + GROUP COAG_DEFECT;  |
| 2.04  | with angioneurotic edema   | Stage 1.01-2.03<br>AND angioneurotic edema  | DX 9951, 99521;   |
| 2.05  | with hypotension   | Stage 1.01-2.04<br>AND <b>hypotension:</b>  | STAGE 1.01-2.04 + GROUP HYPOTENSION;  |
| 3.01  | with renal failure   | Stage 1.01-2.05<br>AND <b>renal failure:</b>  | STAGE 1.01-2.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | with hepatic encephalopathy  | Stage 1.01-3.01<br>AND <b>hepatic coma:</b>   | STAGE 1.01-3.01 + GROUP COMA_HEP;   |
| 3.03  | with respiratory failure   | Stage 3.01-3.04<br>AND <b>coma:</b>   | STAGE 1.01-3.02 + GROUP RESP_FAIL;  |
| 3.04  | with ventricular flutter or ventricular fibrillation or "anaphylactic" shock | Stage 2.01-3.03<br>AND ventricular fibrillation<br>OR ventricular flutter<br>OR <b>shock:</b>   | STAGE 1.01-3.03 + (DX 9950, 9994 OR GROUP ARHTHYM_VFIB OR GROUP SHOCKA);  |
| 4.00  | with death   | Stage 2.01-3.04<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA02

MultiStage: No

DXCat Label: Adverse Drug Reactions

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Adelman DC, Terr A. Allergic & immunologic disorders. In: eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:748-774.

Trujillo MH, Guerrero J, Fragachan C, Fernandez MA. Pharmacologic antidotes in critical care medicine: a practical guide for drug administration. Critical Care Medicine. 26(2):377-91, 1998 Feb.

Wood AJJ. Adverse reactions to drugs." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:422-430.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA03

DXCat Label: Adverse Effects of Salicylates

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Salicylism                                 | Serum salicylate level $\geq 60$ mg/dl $\leq 1$ hour after ingestion<br>[chemistry report]<br>OR toxic levels up to 48 hours post ingestion<br>[serum salicylate level $\geq \{60 \text{ mg/dl} - (\text{hours post ingestion} \times 1.25)\}$ ]<br>e.g., serum salicylate level of 56 four hours post ingestion is toxic: $60 - (4 \times 1.25) = 55$ | DX 9651, E9353;   |
| 2.01  | with respiratory alkalosis                 | Stage 1.01<br>AND <b>alkalosis:</b><br>AND <b>hypocarbica:</b>   | STAGE 1.01 + GROUP ALKALOSIS;   |
| 2.02  | with metabolic derangements or dehydration | Stage 1.01-2.01<br>AND <b>dehydration:</b><br>OR <b>hypernatremia:</b><br>OR <b>hyperkalemia:</b><br>OR <b>hypokalemia:</b><br>OR <b>hyponatremia:</b>   | STAGE 1.01-2.01 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPER_KALEM OR GROUP HYPOKALEMIA OR GROUP HYPONATREMIA); |
| 2.03  | with acidosis                              | Stage 1.01-2.02<br>AND <b>acidosis:</b>  | STAGE 1.01-2.02 + GROUP ACIDOSIS;   |
| 2.04  | with hemorrhagic gastritis or diathesis    | Stage 1.01-2.03<br>AND hemorrhagic gastritis [endoscopy report]<br>OR petechiae<br>OR bleeding time prolonged [bleeding time report]<br>OR INR $> 1.5$ [hematology report]   | STAGE 1.01-2.03 + (DX 2879, 53501, 53551, 7827);  |
| 3.01  | with renal failure                         | Stage 1.01-2.03<br>AND <b>renal failure:</b>   | STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);   |
| 3.02  | with respiratory failure                   | Stage 1.01-3.01<br>AND <b>respiratory failure:</b>   | STAGE 1.01-3.01 + GROUP RESP_FAIL;  |
| 3.03  | with coma                                  | Stage 1.01-3.02<br>AND <b>coma:</b>  | STAGE 1.01-3.02 + GROUP COMA;   |
| 3.04  | with shock                                 | Stage 1.01-3.03<br>AND <b>shock:</b>   | STAGE 1.01-3.03 + (DX 9950, 9994 OR GROUP ARHTHYM_VFIB OR GROUP SHOCKA);  |
| 4.00  | with death                                 | Stage 2.01-3.04<br>AND death   | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA03

MultiStage: No

DXCat Label: Adverse Effects of Salicylates

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Linden CH, Lovejoy Jr FH. Poisoning and drug overdose. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2523-2544.

Matzke GR. Nonrenal toxicities of acetaminophen, aspirin, and nonsteroidal anti-inflammatory agents. American Journal of Kidney Diseases. 1996;28(1 Suppl 1):S63-70.

Olson KR. Poisoning. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1465-1496.

Wang X. Aspirin-like drugs cause gastrointestinal injuries by metallic cation chelation. Medical Hypotheses. 1998;50(3):227-38.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA04

DXCat Label: Burns

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description                                | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | First degree burn                          | Erythema of burned area  | DX 94100-94119, 94200-94205, 94209-94215, 94219, 94300-94306, 94309-94316, 94319, 94400-94408, 94410-94418, 94500-94506, 94509-94516, 94519, 9460-9461, 9490-9491;                                      |
| 2.01  | Second degree burn                         | Blistering of burned area<br>OR<br>vesicle formation of burned area  | DX 94120-94129, 94220-94225, 94229, 94320-94326, 94329, 94420-94428, 94520-94526, 94529, 9462, 9492;  |
| 2.02  | Third degree burn or late effects of burns | Charred appearance of burned area<br>OR<br>waxen appearance of burned area<br>AND<br>burned area is anesthetic   | DX 9065-9069, 94130-94139, 94230-94235, 94239, 94330-94336, 94339, 94430-94438, 94530-94536, 94539, 9463, 9493;   |
| 2.03  | Extensive surface area burn                | Stage 2.01-2.02<br>AND<br>third degree burn involving 2% or greater of body surface area<br>OR<br>second degree burn involving 10% or greater of body surface area | DX 94810-94811, 94820-94899;  |
| 2.04  | Infection of burned area(s)                | Stage 2.01-2.03<br>AND<br>infection of burned with growth of pathologic organisms [ culture report of wound exudate]   | DX 94140-94149, 94240-94245, 94249, 94340-94346, 94349, 94440-94448, 94540-94546, 94549, 94150-94159, 94250-94255, 94259, 94350-94356, 94359, 94450-94458, 94550-94556, 94559, 9464, 9465, 9494, 9495 ; |
| 2.05  | with urinary tract infection               | Burn involving perineum [operative/pathology report]<br>AND<br><b>UTI:</b>   | STAGE 2.01-2.04 + DXCAT GUS10;<br>DX 9474;  |
| 2.06  | with laryngeal edema                       | Stage 1.01-2.05<br>AND<br>stridor<br>OR<br>laryngeal edema [direct laryngoscopy report]  | STAGE 1.01-2.05 + (DX 33811, 33821, 4786, 7861) ;<br>DX 9470-9471, 9478-9479;   |
| 2.07  | with pneumonia                             | Stage 1.01-2.06<br>AND<br><b>pneumonia:</b>  | STAGE 1.01-2.06 + DXCAT RES15;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA04

DXCat Label: Burns

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description              | Diagnostic findings                                | ICD-9-CM Codes                        |
|-------|--------------------------|--|---------------------------------------|
| 3.01  | with sepsis              | Stage 1.01-2.07<br>AND <b>sepsis:</b>              | STAGE 1.01-2.07 + GROUP SEPSIS;       |
| 3.02  | with respiratory failure | Stage 1.01-3.01<br>AND <b>respiratory failure:</b> | STAGE 1.01-3.01 + GROUP<br>RESP_FAIL; |
| 3.03  | with shock               | Stage 1.01-3.02<br>AND <b>shock:</b>               | STAGE 1.01-3.02 + GROUP<br>SHOCKA;    |
| 4.00  | with death               | Stage 2.03-3.04<br>AND death                       | NO;                                   |

### References:

Atkinson A. Nursing burn wounds on general wards. *Nursing Standard*. 1998;12(41):58-67.

Cohen R, Moelleken BRW. Disorders due to physical agents. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1443-1465.

Madoff LC. Infections from bites, scratches, and burns, and environmental organisms. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:835-840.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA05

MultiStage: No

DXCat Label: Burns, Chemical: Esophagus, Stomach, or Small Intestine

Specificity: A

Etiology: Toxicologic

| Stage | Description  | Diagnostic findings   | ICD-9-CM Codes  |
|-------|--|---|---|
| 1.01  | Caustic esophagitis or gastritis or caustic burn of small intestines | Mucosal erythema and edema [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]   | DX 9472, 9473;  |
| 2.01  | with ulcerations   | Stage 1.01<br>AND ulcerations [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]  | STAGE 1.01 + (DX 33811, 5302, 53100-53131, 53200-53231, 53300-53331, 53400-53431, 53500-53501, 5354); |
| 2.02  | with strictures  | Stage 1.01-2.01<br>AND strictures [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]  | STAGE 1.01-2.02 + (DX 33821, 5376, 5303, 5373);   |
| 2.03  | with necrosis of muscle  | Stage 1.01-2.02<br>AND muscle necrosis [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]   | NO;   |
| 2.04  | with perforation of esophagus or stomach                             | Stage 1.01-2.03<br>AND<br>subcutaneous emphysema<br>OR free air in the peritoneal cavity [KUB x-ray or chest x-ray report]<br>OR perforation (UGI series reports spilling of contrast into the peritoneal cavity or thoracic cavity)<br>OR <b>bleeding:</b> | STAGE 1.01-2.02 + (DX 5301, 53082, 53541, 5780);  |
| 2.05  | with mediastinitis or mediastinal abscess                            | Stage 1.01-2.04<br>AND<br>mediastinitis [operative/pathology report]<br>OR mediastinal abscess [operative/pathology report or CT scan report]   | STAGE 1.01-2.04 + DX 5131;  |
| 2.06  | with peritonitis or abscess  | Stage 1.01-2.05<br>AND<br>peritonitis [operative/pathology report]<br>OR abscess [operative/pathology report]   | STAGE 1.01-2.05 + (DX 33811, 33821, 5672-5679, 56983, 6143-6146);                                     |
| 3.01  | with sepsis  | Stage 1.01-2.05<br>AND <b>sepsis:</b>   | STAGE 1.01-2.06 + GROUP SEPSIS;   |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + GROUP SHOCKA;   |
| 4.00  | with death   | Stage 2.01-3.02<br>AND death  | NO;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA05

MultiStage: No

DXCat Label: Burns, Chemical: Esophagus, Stomach, or Small Intestine

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

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- Watson DCT. Desophagus. In: Ellis BW, ed. Hamilton Bailey's Emergency Surgery. 12th ed, 1995:295-301.

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA06

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Abdomen or Trunk

Specificity: A

Etiology: Trauma

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Superficial trauma or contusion of the back or abdomen not penetrating beyond the subcutaneous tissue | Open wound of the back or abdomen not penetrating beyond the subcutaneous tissue [operative/pathology report]   | DX 9110, 9112, 9114, 9116, 9118, 9222, 92231-92233, 9591, 95912-95919; |
| 1.02  | Avulsion wound of the back or abdomen not penetrating beyond the subcutaneous tissue                  | Avulsion wound of the back or abdomen not penetrating beyond the subcutaneous tissue [operative/pathology report]   |  |
| 1.03  | with infection  | Stage 1.01-1.02<br>AND infected wound [wound culture reports growth of pathologic organism(s)]  | DX 8761, 8771, 8793, 8795, 8797, 9111, 9113, 9115, 9117, 9119;         |
| 1.04  | with cellulitis   | Stage 1.01-1.03<br>AND <b>cellulitis:</b>   | STAGE 1.01-1.03 + DX 6822;   |
| 2.01  | Open wound of the back or abdomen extending into the deep fascia or crush injury                      | Laceration or stab wound of the back or abdomen extending into the deep fascia [operative/pathology report]<br>OR crush injury to the back or abdomen   | DX 92611, 92619, 9540-9549;  |
| 2.02  | with abscess formation  | Stage 1.01-2.01<br>AND abscess formation [operative/pathology report]   | STAGE 1.04 + STAGE 2.01;<br>STAGE 2.01 + DX 6822;                      |
| 2.03  | with gangrene   | Stage 1.01-2.02<br>AND gangrene   | STAGE 1.01-2.02 + DX 7854;   |
| 2.04  | with trauma or laceration of internal organs  | Stage 2.01-2.03<br>AND laceration or trauma of the liver [operative/pathology report]<br>OR laceration or trauma of the spleen [operative/pathology report]<br>OR laceration or trauma of the pancreas [operative/pathology report]<br>OR laceration or trauma of the small intestines [operative/pathology report]<br>OR laceration or trauma of the stomach [operative/pathology report]<br>OR laceration or trauma of the large intestines [operative/pathology report]<br>OR laceration or trauma of the gallbladder [operative/pathology report] | DX 8630-86519, 8674-8679, 86800-86819, 8690-8691 ;                     |
| 2.05  | with peritonitis  | Stage 2.01-2.04<br>AND peritonitis [operative/pathology report]   | STAGE 1.01-2.04 + (DX 33811, 33821, 5672-5679, 56983);                 |
| 2.06  | with retroperitoneal hemorrhage   | Stage 2.01-2.05<br>AND retroperitoneal hemorrhage [operative/pathology report]  | STAGE 1.01-2.05 + DX 4590;   |
| 2.07  | with laceration of the abdominal aorta or laceration of the inferior vena cava or iliac vessels       | Stage 2.01-2.06<br>AND laceration of the abdominal aorta [operative/pathology report]<br>OR laceration of the inferior vena cava [operative/pathology report]<br>OR laceration of the iliac arteries [operative/pathology report]<br>OR laceration of the iliac veins [operative/pathology report]  | STAGE 1.01-2.06 + DX 9020;<br>DX 9011, 9013, 90181-9019, 90210-9029;   |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA06

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Abdomen or Trunk

Specificity: A

Etiology: Trauma

| Stage | Description | Diagnostic findings                   | ICD-9-CM Codes                  |
|-------|-------------|---------------------------------------|---------------------------------|
| 3.01  | with sepsis | Stage 2.01-2.07<br>AND <b>sepsis:</b> | STAGE 1.01-2.07 + GROUP SEPSIS; |
| 3.02  | with shock  | Stage 2.01-3.01<br>AND <b>shock:</b>  | STAGE 1.01-3.01 + GROUP SHOCKA; |
| 4.00  | with death  | Stage 2.01-3.02<br>AND death          | NO;                             |

### References:

Coupland R. Abdominal wounds in war. *British Journal of Surgery*. 1996;83(11):1505-11.

Jurkovich GJ, Carrico CJ. Trauma: management of the acutely injured patient. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:296-340.

Richardson JD, Brewer M. Management of upper abdominal solid organ injuries. *AORN Journal*. 1996;63(5):907-16.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA07

DXCat Label: Laceration: Esophagus

Etiology: Trauma

MultiStage: No

Specificity: A

| Stage | Description  | Diagnostic findings  | ICD-9-CM Codes  |
|-------|--|--|---|
| 1.01  | Laceration of the esophagus  | Laceration of the esophagus [upper endoscopy report]   | DX 53089, 86222, 86232;   |
| 2.01  | with acute bleeding  | Stage 1.01<br>AND <b>bleeding:</b><br>OR Mallory-Weiss syndrome [tear distal esophagus by upper endoscopy report]  | DX 5307;<br>STAGE 1.01 + DX 53082;                                      |
| 2.02  | with perforation including spontaneous perforation (Boerhaave's syndrome)  | Stage 1.01-2.01<br>AND subcutaneous or mediastinal emphysema [physical exam or chest x-ray report]<br>OR free air in the peritoneal cavity [KUB x-ray or chest x-ray report]<br>OR perforation (UGI series reports spilling of contrast into the peritoneal cavity or thoracic cavity) | DX 5304;<br>STAGE 1.01-2.01 + (DX 33811, 33821, 5181, 5672-5679, 9587); |
| 2.03  | with mediastinitis or mediastinal abscess or pleurisy or hydropneumothorax | Stage 2.01-2.02<br>AND mediastinitis [operative/pathology report]<br>OR mediastinal abscess [operative/pathology report or sonogram or CT scan report]<br>OR pleurisy (pleural effusion culture reports growth of pathologic organism(s))<br>OR hydropneumothorax [chest x-ray report] | STAGE 1.01-2.02 + (DX 5110, 5118, 5131, 8600, 8601);                    |
| 3.01  | with sepsis  | Stage 2.01-2.03<br>AND <b>sepsis:</b>  | STAGE 1.01-2.03 + GROUP SEPSIS;   |
| 3.02  | with shock   | Stage 2.01-3.01<br>AND <b>shock:</b>   | STAGE 1.01-3.01 + GROUP SHOCKA;   |
| 4.00  | with death   | Stage 2.01-3.02<br>AND death   | NO;   |

### References:

Duranceau A. Perforation of the esophagus. In: Sabiston, ed. Sabiston Textbook of Surgery, 15th ed. Philadelphia, PA: WB Saunders; 1997:759-767.

Goyal RK. Diseases of the esophagus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.

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McQuaid KR. Diseases of the esophagus: benign esophageal lesions. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:565.

Rohman M, Ivatury RR. Esophagus. In: Ivatury RR, Cayten CG, eds. The Textbook of Penetrating Trauma. Philadelphia, PA: Williams & Wilkins; 1996:555-563.

Rowe MI, O'Neill JA, Grosfeld JL, Fonkalsrud EW, Coran AG. Esophageal rupture and perforation. In: Mosby, ed. Essentials of Pediatric Surgery. Philadelphia, PA. 1995:419-421.

Scherer LR III. Thoracic trauma. In: Oldham KT, Colombani PM, Foglia RP, eds. Surgery of Infants and Children. Philadelphia, PA: Lippincott-Raven, 1997:455-461.

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# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA08

DXCat Label: Lead Poisoning

Etiology: Toxicologic

MultiStage: No

Specificity: A

| Stage | Description                        | Diagnostic findings  | ICD-9-CM Codes   |
|-------|------------------------------------|--|--|
| 1.01  | Lead poisoning                     | Blood lead level > 10mcg/dl [chemistry report]<br>AND Blood lead level ≤ 19mcg/dl [chemistry report]   | DX 9840-9849, 9851, 9612, E857, E8615, E8621, E8634, E8635, E8660;                                     |
| 1.02  | with blood lead level 20-44 mcg/dl | Blood lead level ≥ 20mcg/dl [chemistry report]<br>AND Blood lead level ≤ 44mcg/dl [chemistry report]   | NO;  |
| 1.03  | with blood lead level 45-69 mcg/dl | Blood lead level ≥ 45mcg/dl [chemistry report]<br>AND Blood lead level ≤ 69mcg/dl [chemistry report]   | NO;  |
| 1.04  | with blood lead level ≥70 mcg/dl   | Blood lead level ≥ 70mcg/dl [chemistry report]   | NO;  |
| 2.01  | Symptomatic lead poisoning         | Stage 1.01-1.04<br>AND abdominal pain<br>OR constipation<br>OR peripheral neuropathy at age ≥ 16 years   | STAGE 1.01 + (DX 33811, 33821, 56400-56409, 78900-78907, 78909);<br>STAGE 1.01 + DX 3577 + AGE 16-124; |
| 2.02  | with permanent neurologic deficits | Stage 1.01-2.01<br>AND <b>mental retardation:</b><br>OR persistence of seizure disorder with normalization of blood lead levels<br>OR developmental regression | STAGE 1.01-2.01 + (DX 78039 OR DXCAT NEU15);   |
| 3.01  | with encephalopathy                | Stage 1.01-2.02<br>AND persistent vomiting<br>OR seizures<br>OR <b>disorientation:</b><br>OR <b>coma:</b>  | STAGE 1.01-2.02 + (GROUP COMA OR GROUP DISORIENT OR GROUP ENCEPHALO);                                  |
| 4.00  | with death                         | Stage 1.01-3.01<br>AND death   | NO;  |

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA08

DXCat Label: Lead Poisoning

Etiology: Toxicologic

MultiStage: No

Specificity: A

Stage Description

Diagnostic findings

ICD-9-CM Codes

### References:

Bleeker ML, Lindgren KN, Ford DP. Differential contribution of current and cumulative indices of lead dose to neuropsychological performance by age. *Neurology*. 1997;48:639-645.

Davioli CT, Serwint JR, Chisolm JJ. Asymptomatic children with venous lead levels >100mcg/dl." *Pediatrics*. 1996;98:965-968.

Hu H. Heavy metal poisoning/lead. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:2565-2566.

Landrigan PJ, Todd AC. Lead poisoning. *Western Journal of Medicine*. 1994;161:153-159.

McDonald JA, Potter NU. Lead legacy? early and late mortality of 454 lead-poisoned children. *Archives of Environmental Health*. 1996;51:116-129.

Olson KR. Poisoning/lead. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange, 1998:1484-1485.

Piomelli S. Lead poisoning. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:2010-2013.

Pocock SJ, Smith M, Berghurst P. Environmental lead and children's intelligence: A systematic review of the epidemiological evidence." *British Medical Journal*. 1994;309:1189-1197.

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA09

MultiStage: No

DXCat Label: Toxic Effects of Nonmedicinal Agents

Specificity: A

Etiology:

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|---|--|
| 1.01  | Toxic effects of specified alcohols, petroleum products, solvents, corrosive agents, metals, excluding lead and beryllium, toxic effects of carbon monoxide and other gases, noxious substances eaten as food and other nonmedicinal substances, late effects of toxic effects of nonmedicinal substances | Late effects of toxic effects of nonmedicinal substances, toxic effects of specified alcohols, petroleum products, solvents, corrosive agents, metals, excluding lead and beryllium, toxic effects of carbon monoxide and other gases, noxious substances eaten as food and other nonmedicinal substances | DX 9091, 9800-9839, 9850, 9852-9899, E8600-E8614 , E8616-E8620, E8622-E8633, E8636-E8659, E8661-E8699, E908, E9292, E9506-E9529, E961-E9629, E972, E9806-E9829, E9972; |

References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA80

MultiStage: No

DXCat Label: Effects of Environment and Other External Causes

Specificity: C

Etiology:

| Stage | Description   | Diagnostic findings | ICD-9-CM Codes     |
|-------|---|---------------------|--------------------|
| 1.01  | Effects of radiation, temperature, elevation, motion, unspecified allergy |                     | DX 990-9949, 9953; |
| 3.01  | Anaphylactic or anesthetic shock  |                     | DX 9950, 9954;     |

References:

# Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA81

DXCat Label: Injury: Other

Etiology: Trauma

MultiStage: No

Specificity: C

| Stage | Description   | Diagnostic findings   | ICD-9-CM Codes   |
|-------|---|-----------------------|--|
| 0.00  | Observation following accident, rape, abuse, neglect or other inflicted injury                                | Added stage 5/8/06 cb | DX V713-V716, V7181;   |
| 1.01  | Periocular burns, open wounds, abrasions, blisters, foreign bodies, contusions, abuse, adverse food reactions |                       | DX 87200-87202, 87261-87269, 8728, 8730, 87320-87329, 87340-87349, 87360-87369, 8738, 87400-87402, 8742, 8748, 8780, 8782, 8784, 8786, 8788, 8798-8799, 9100, 9102, 9104, 9106, 9108, 9190, 9192, 9194, 9196, 9198, 920, 9224, 9228-9229, 9390-9399, 9400-9404, 9409, 9598-9599, 99550-99559, 9957, 99580-99589, 33811, 33821;   |
| 2.01  | Open wounds with infection, crush injuries, or late effects of internal injuries or other external causes     |                       | DX 87210-87212, 87271-87279, 8729, 8731, 87330-87339, 87350-87359, 87370-87379, 8739, 87410-87412, 8743, 8749, 8781, 8783, 8785, 8787, 8789, 8799, 9080-9089, 9090, 9092-9099, 9101, 9103, 9105, 9107, 9109, 9191, 9193, 9195, 9197, 9199, 9251, 9260, 92612, 9268-9269, 9290-9299, 9570-9579, 9582-9583, 9586-9587;<br>DX 9588-95899 + NOT (DX 0360-0361, 03682-0369, 3200-3207, 32081-3209); |
| 2.02  | Traumatic embolism  |                       | DX 9580-9581;  |
| 3.01  | Traumatic shock   |                       | DX 9584;   |
| 3.02  | Traumatic anuria  |                       | DX 9585, 99560-99569;  |

## References:

## Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA82

MultiStage: No

DXCat Label: Poisoning: Drugs Other Than Antidepressants or Tranquilizers

Specificity: C

Etiology: Toxicologic

| Stage | Description  | Diagnostic findings | ICD-9-CM Codes   |
|-------|--|---------------------|--|
| 1.01  | Poisoning by anti-infectives, hormones and other drugs |                     | DX 7960, 9600-9611, 9613-96509, 9655-9664, 9671-9682, 9684, 9686-9696, 9698-9720, 9722-9799; |

References:

# Disease Staging 5.0 Group Definitions w/Titles

Group Name: ACETOMIN TOX, Acetaminophen Toxicity

**Comments:** ICD-10 4th digit shows place of occurrence, except Y45.5. There is an optional 5th digit to show activity. Per DZL 10/12/01, we should include these optional codes in the definition

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- POIS-AROM ANALGESICS NEC  | =                     | 9654            |               | End                |
| 1° or 2° Dx<br>- ABN TOXICOLOGIC FINDING   | =                     | 7960            |               | And (              |
| 1° or 2° Dx<br>- ACC POISON-AROM ANALGESIC   | =                     | E8504           |               | Or                 |
| 1° or 2° Dx<br>- ADV EFF AROM ANALGSC NEC  | =                     | E9354           |               | Or                 |
| 1° or 2° Dx<br>- ASSAULT-POIS W MEDIC AGT  | =                     | E9620           |               | Or                 |
| 1° or 2° Dx<br>- UNDETERM POIS-ANALGESICS  | =                     | E9800           |               | )                  |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- 4-Aminophenol derivatives  | =                     | T391            |               | End                |
| 1° or 2° ICD10<br>- Finding of other specified substances, not normally found in blood   | =                     | R788            |               | And (              |
| 1° or 2° ICD10<br>- Accidental poisoning by and exposure to nonopioid analgesics,, Home<br>- Accidental poisoning by and exposure to nonopioid analgesics,, Unspecifi      | Between               | X400            | X4099         | Or                 |
| 1° or 2° ICD10<br>- Intentional self-poisoning by and exposure to nonopioid analgesics,, Hom<br>- Intentional self-poisoning by and exposure to nonopioid analgesics,, Uns | Between               | X600            | X6099         | Or                 |
| 1° or 2° ICD10<br>- Poisoning by and exposure to nonopioid analgesics, antipyretics and, Hom<br>- Poisoning by and exposure to nonopioid analgesics, antipyretics and, Uns | Between               | Y100            | Y1099         | Or                 |
| 1° or 2° ICD10<br>- 4-Aminophenol derivatives  | =                     | Y455            |               | )                  |

|                                |
|--------------------------------|
| Group Name: ACIDOSIS, ACIDOSIS |
|--------------------------------|

**Comments:** Includes mixed acid-base disorder 276.4, E87.3. Per MG, include 775.7 & P74.0 only in DXCATS applicable to newborns; also 775.81

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- ACIDOSIS  | =                     | 2762            |               | Or                 |
| 1° or 2° Dx<br>- MIXED ACID-BASE BAL DIS   | =                     | 2764            |               | Or                 |
| 1° or 2° Dx<br>- IMPAIRED RENAL FUNCT NEC  | =                     | 5888            |               | Or                 |
| 1° or 2° Dx<br>- Oth speci disorders from impaired renal f                         | =                     | 58889           |               | Or                 |
| 1° or 2° Dx<br>- LATE METAB ACIDOSIS NB  | =                     | 7757            |               | Or                 |
| 1° or 2° Dx<br>- Other acidosis of newborn   | =                     | 77581           |               |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Acidosis<br>- Alkalosis  | Between               | E872            | E873          | Or                 |
| 1° or 2° ICD10<br>- Other disorders resulting from impaired renal tubular function | =                     | N258            |               | Or                 |
| 1° or 2° ICD10<br>- Late metabolic acidosis of newborn                             | =                     | P740            |               |                    |

Group Name: ADREN INSUFF, ADRENAL INSUFFICIENCY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |      |      |  |
|----------------------------|---------|------|------|--|
| 1° or 2° Dx                | Between | 2554 | 2555 |  |
| - CORTICOADRENAL INSUFFIC  |         |      |      |  |
| - ADRENAL HYPOFUNCTION NEC |         |      |      |  |

**Coding System: ICD-10**

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10                         | = | E271 |  | Or |
| - Primary adrenocortical insufficiency |   |      |  |    |

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10                                       | = | E274 |  |  |
| - Other and unspecified adrenocortical insufficiency |   |      |  |  |

Group Name: ALCOHO COMA, ALCOHOLIC COMA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |       |  |     |
|-------------|---|-------|--|-----|
| 1° or 2° Dx | = | 78001 |  | And |
|-------------|---|-------|--|-----|

- COMA

|             |         |       |       |  |
|-------------|---------|-------|-------|--|
| 1° or 2° Dx | Between | 30300 | 30392 |  |
|-------------|---------|-------|-------|--|

- AC ALCOHOL INTOX-UNSPEC

- ALCOH DEP NEC/NOS-EPISOD

**Coding System: ICD-10**

|                |   |      |  |     |
|----------------|---|------|--|-----|
| 1° or 2° ICD10 | = | F102 |  | And |
|----------------|---|------|--|-----|

- Mental/behavioral disorders due to use of alcohol, dependence syndrome

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | R402 |  |  |
|----------------|---|------|--|--|

- Coma, unspecified

Group Name: ALCOHO INTOX, ALCOHOL INTOXICATION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2914 |  | Or |
|-------------|---|------|--|----|

- PATHOLOGIC ALCOHOL INTOX

|             |         |       |       |    |
|-------------|---------|-------|-------|----|
| 1° or 2° Dx | Between | 30300 | 30302 | Or |
|-------------|---------|-------|-------|----|

- AC ALCOHOL INTOX-UNSPEC

- AC ALCOHOL INTOX-EPISOD

|             |         |       |       |  |
|-------------|---------|-------|-------|--|
| 1° or 2° Dx | Between | 30500 | 30502 |  |
|-------------|---------|-------|-------|--|

- ALCOHOL ABUSE-UNSPEC

- ALCOHOL ABUSE-EPISODIC

**Coding System: ICD-10**

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | F100 |  |  |
|----------------|---|------|--|--|

- Mental/behavioral disorders due to use of alcohol, acute intoxication

Group Name: ALCOHO STUPO, ALCOHOLIC STUPOR

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |       |  |     |
|-------------|---|-------|--|-----|
| 1° or 2° Dx | = | 78009 |  | And |
|-------------|---|-------|--|-----|

- OTHER ALTER CONSCIOUSNES

|             |         |       |       |  |
|-------------|---------|-------|-------|--|
| 1° or 2° Dx | Between | 30300 | 30392 |  |
|-------------|---------|-------|-------|--|

- AC ALCOHOL INTOX-UNSPEC

- ALCOH DEP NEC/NOS-EPISOD

**Coding System: ICD-10**

|                |   |      |  |     |
|----------------|---|------|--|-----|
| 1° or 2° ICD10 | = | F102 |  | And |
|----------------|---|------|--|-----|

- Mental/behavioral disorders due to use of alcohol, dependence syndrome

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | R401 |  |  |
|----------------|---|------|--|--|

- Stupor

Group Name: ALKALOSIS, ALKALOSIS

**Comments:** Includes mixed acid-base disorder 276.4, E87.4. Does not includes hyperaldosteronism, 255.1, E26.x

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |         |      |      |  |
|---------------------------|---------|------|------|--|
| 1° or 2° Dx               | Between | 2763 | 2764 |  |
| - ALKALOSIS               |         |      |      |  |
| - MIXED ACID-BASE BAL DIS |         |      |      |  |

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**Coding System: ICD-10**

|                                       |         |      |      |  |
|---------------------------------------|---------|------|------|--|
| 1° or 2° ICD10                        | Between | E873 | E874 |  |
| - Alkalosis                           |         |      |      |  |
| - Mixed disorder of acid-base balance |         |      |      |  |

---

Group Name: AMI, ACUTE MYOCARDIAL INFARCTION

**Comments:** We did not include 5th digit of 2 here, for subsequent episode of care, as the glossary definition of acute states "within one week", and subsequent episode in the codes means up to 8 weeks after initial treatment. Nor did we include ICD-10 codes of I22.x as those are more than 4 weeks from onset.  
We did include 410.x0 here for Unspecified episode of care; ICD-10 does not have a comparable code, so it would be coded to I21.x - per DZL 10/12/01, this is appropriate.

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- AMI ANTEROLATERAL, UNSPEC<br>- AMI ANTEROLATERAL, INIT   | Between               | 41000           | 41001         | Or                 |
| 1° or 2° Dx<br>- AMI ANTERIOR WALL, UNSPEC<br>- AMI ANTERIOR WALL, INIT   | Between               | 41010           | 41011         | Or                 |
| 1° or 2° Dx<br>- AMI INFEROLATERAL, UNSPEC<br>- AMI INFEROLATERAL, INIT   | Between               | 41020           | 41021         | Or                 |
| 1° or 2° Dx<br>- AMI INFEROPOST, UNSPEC<br>- AMI INFEROPOST, INITIAL  | Between               | 41030           | 41031         | Or                 |
| 1° or 2° Dx<br>- AMI INFERIOR WALL, UNSPEC<br>- AMI INFERIOR WALL, INIT   | Between               | 41040           | 41041         | Or                 |
| 1° or 2° Dx<br>- AMI LATERAL NEC, UNSPEC<br>- AMI LATERAL NEC, INITIAL  | Between               | 41050           | 41051         | Or                 |
| 1° or 2° Dx<br>- TRUE POST INFARCT, UNSPEC<br>- TRUE POST INFARCT, INIT   | Between               | 41060           | 41061         | Or                 |
| 1° or 2° Dx<br>- SUBENDO INFARCT, UNSPEC<br>- SUBENDO INFARCT, INITIAL  | Between               | 41070           | 41071         | Or                 |
| 1° or 2° Dx<br>- AMI NEC, UNSPECIFIED<br>- AMI NEC, INITIAL   | Between               | 41080           | 41081         | Or                 |
| 1° or 2° Dx<br>- AMI NOS, UNSPECIFIED<br>- AMI NOS, INITIAL   | Between               | 41090           | 41091         |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Acute transmural myocardial infarction of anterior wall<br>- Acute myocardial infarction, unspecified | Between               | I210            | I219          |                    |

**Comments:**

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- HEREDITARY SPHEROCYTOSIS<br>- THALASSEMIAS*  | Between               | 2820            | 2824          | Or                 |
| 1° or 2° Dx<br>- Other thalassemia  | =                     | 28249           |               | Or                 |
| 1° or 2° Dx<br>- HEMOGLOBINOPATHIES NEC<br>- HERED HEMOLYTIC ANEM NOS   | Between               | 2827            | 2829          |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Anaemia due to glucose-6-phosphate dehydrogenase [G6PD] deficiency<br>- Anaemia due to enzyme disorder, unspecified | Between               | D550            | D559          | Or                 |
| 1° or 2° ICD10<br>- Hereditary spherocytosis<br>- Hereditary haemolytic anaemia, unspecified  | Between               | D580            | D589          |                    |

Group Name: ANEM-APLAST, ANEMIA, APLASTIC

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                          |         |      |      |  |
|--------------------------|---------|------|------|--|
| 1° or 2° Dx              | Between | 2840 | 2849 |  |
| - CONGEN APLASTIC ANEMIA |         |      |      |  |
| - APLASTIC ANEMIA NOS    |         |      |      |  |

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10                           | Between | D600 | D619 |  |
| - Chronic acquired pure red cell aplasia |         |      |      |  |
| - Aplastic anaemia, unspecified          |         |      |      |  |

Group Name: ANEM-DEF B12, ANEMIA, DEFICIENCY, VITAMIN B-12

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                        |         |      |      |  |
|------------------------|---------|------|------|--|
| 1° or 2° Dx            | Between | 2810 | 2811 |  |
| - PERNICIOUS ANEMIA    |         |      |      |  |
| - B12 DEFIC ANEMIA NEC |         |      |      |  |

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10  | Between | D510 | D519 |  |
| - Vitamin B12 deficiency anaemia due to intrinsic factor deficiency |         |      |      |  |
| - Vitamin B12 deficiency anaemia, unspecified                       |         |      |      |  |

Group Name: ANEM-DEF FE, ANEMIA, DEFICIENCY, IRON

**Comments:** Includes chronic blood loss anemia

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                         |         |      |      |  |
|-------------------------|---------|------|------|--|
| 1° or 2° Dx             | Between | 2800 | 2809 |  |
| - CHR BLOOD LOSS ANEMIA |         |      |      |  |
| - IRON DEFIC ANEMIA NOS |         |      |      |  |

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**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10  | Between | D500 | D509 |  |
| - Iron deficiency anaemia secondary to blood loss (chronic) |         |      |      |  |
| - Iron deficiency anaemia, unspecified                      |         |      |      |  |

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Group Name: ANEM-DEF FOL, ANEMIA, DEFICIENCY, FOLIC ACID

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- FOLATE-DEFICIENCY ANEMIA | = | 2812 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Dietary folate deficiency anaemia<br>- Folate deficiency anaemia, unspecified | Between | D520 | D529 |  |
|---|---------|------|------|--|

Group Name: ANEM-DEF OTH, ANEMIA, DEFICIENCY, OTHER

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |      |      |  |
|----------------------------|---------|------|------|--|
| 1° or 2° Dx                | Between | 2813 | 2819 |  |
| - MEGALOBLASTIC ANEMIA NEC |         |      |      |  |
| - DEFICIENCY ANEMIA NOS    |         |      |      |  |

**Coding System: ICD-10**

|                                    |         |      |      |  |
|------------------------------------|---------|------|------|--|
| 1° or 2° ICD10                     | Between | D530 | D539 |  |
| - Protein deficiency anaemia       |         |      |      |  |
| - Nutritional anaemia, unspecified |         |      |      |  |

Group Name: ANEM-ESRD, ANEMIA, IN END STAGE RENAL DISEASE

**Comments:** I-10 code is same as for anemia of other chronic disease.

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                 |   |       |  |  |
|---------------------------------|---|-------|--|--|
| 1° or 2° Dx<br>- ANEMIA IN ESRD | = | 28521 |  |  |
|---------------------------------|---|-------|--|--|

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Anaemia in other chronic diseases classified elsewhere | = | D638 |  |  |
|--|---|------|--|--|

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Group Name: ANEM-HEM ACQ, ANEMIA, HEMOLYTIC, ACQUIRED

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |      |      |  |
|----------------------------|---------|------|------|--|
| 1° or 2° Dx                | Between | 2830 | 2839 |  |
| - AUTOIMMUN HEMOLYTIC ANEM |         |      |      |  |
| - ACQ HEMOLYTIC ANEMIA NOS |         |      |      |  |

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10                               | Between | D590 | D599 |  |
| - Drug-induced autoimmune haemolytic anaemia |         |      |      |  |
| - Acquired haemolytic anaemia, unspecified   |         |      |      |  |

Group Name: ANEM-NEOPL, ANEMIA IN NEOPLASTIC DISEASE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |       |  |  |
|---|---|-------|--|--|
| 1° or 2° Dx<br>- ANEMIA IN NEOPLASTIC DIS | = | 28522 |  |  |
|---|---|-------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Anaemia in neoplastic disease (C00-D48+) | = | D630 |  |  |
|--|---|------|--|--|

Group Name: ANEM-OTH CHR, ANEMIA IN OTHER CHRONIC DISEASE

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                          |   |       |  |  |
|--------------------------|---|-------|--|--|
| 1° or 2° Dx              | = | 28529 |  |  |
| - ANEMIA-OTH CHRONIC ILL |   |       |  |  |

---

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | D638 |  |  |
| - Anaemia in other chronic diseases classified elsewhere |   |      |  |  |

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Group Name: ANEM-OTH UN, ANEMIA, OTHER AND UNSPECIFIED

**Comments:** Includes post-hemorrhagic

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° Dx<br>- SIDEROBLASTIC ANEMIA<br>- AC POSTHEMORRHAG ANEMIA | Between | 2850 | 2851 | Or |
|--|---------|------|------|----|

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° Dx<br>- ANEMIA NEC<br>- ANEMIA NOS | Between | 2858 | 2859 |  |
|---|---------|------|------|--|

**Coding System: ICD-10**

|  |   |     |  |    |
|--|---|-----|--|----|
| 1° or 2° ICD10<br>- Acute posthaemorrhagic anaemia | = | D62 |  | Or |
|--|---|-----|--|----|

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Hereditary sideroblastic anaemia<br>- Anaemia, unspecified | Between | D640 | D649 |  |
|--|---------|------|------|--|

Group Name: ANEM-SICKLE, ANEMIA, SICKLE CELL

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |       |       |    |
|--|---------|-------|-------|----|
| 1° or 2° Dx<br>- Sickle-cell thalassemia without crisis<br>- Sickle-cell thalassemia with crisis | Between | 28241 | 28242 | Or |
|--|---------|-------|-------|----|

|  |         |      |       |  |
|--|---------|------|-------|--|
| 1° or 2° Dx<br>- SICKLE-CELL TRAIT<br>- SICKLE-CELL ANEMIA NEC | Between | 2825 | 28269 |  |
|--|---------|------|-------|--|

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Sickle-cell anaemia with crisis<br>- Other sickle-cell disorders | Between | D570 | D578 |  |
|--|---------|------|------|--|

Group Name: ANEM-THALASS, ANEMIA, THALASSEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2824 |  | Or |
|-------------|---|------|--|----|

- THALASSEMIAS\*

|             |   |       |  |  |
|-------------|---|-------|--|--|
| 1° or 2° Dx | = | 28249 |  |  |
|-------------|---|-------|--|--|

- Other thalassemia

**Coding System: ICD-10**

|                |         |      |      |  |
|----------------|---------|------|------|--|
| 1° or 2° ICD10 | Between | D560 | D569 |  |
|----------------|---------|------|------|--|

- Alpha thalassaemia

- Thalassaemia, unspecified

Group Name: ANURIA, ANURIA

**Comments:** Add 958.5 if etiology of DXCAT is trauma

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                     |   |      |  |  |
|---------------------|---|------|--|--|
| 1° or 2° Dx         | = | 7885 |  |  |
| - OLIGURIA & ANURIA |   |      |  |  |

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**Coding System: ICD-10**

|                       |   |     |  |  |
|-----------------------|---|-----|--|--|
| 1° or 2° ICD10        | = | R34 |  |  |
| - Anuria and oliguria |   |     |  |  |

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Group Name: ARHTHYM-AFIB, ARRHTHYMIAS, ATRIAL FIBRILLATION

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                       |   |       |  |  |
|-----------------------|---|-------|--|--|
| 1° or 2° Dx           | = | 42731 |  |  |
| - ATRIAL FIBRILLATION |   |       |  |  |

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**Coding System: ICD-10**

|                                   |   |     |  |  |
|-----------------------------------|---|-----|--|--|
| 1° or 2° ICD10                    | = | I48 |  |  |
| - Atrial fibrillation and flutter |   |     |  |  |

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Group Name: ARHTHYM-AFLU, ARRHTHYMIAS, ATRIAL FLUTTER

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                  |   |       |  |  |
|------------------|---|-------|--|--|
| 1° or 2° Dx      | = | 42732 |  |  |
| - ATRIAL FLUTTER |   |       |  |  |

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**Coding System: ICD-10**

|                                   |   |     |  |  |
|-----------------------------------|---|-----|--|--|
| 1° or 2° ICD10                    | = | I48 |  |  |
| - Atrial fibrillation and flutter |   |     |  |  |

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Group Name: ARHTHYM-ATPC, ARRHTHYMIAS, ATRIAL PREMATURE CONTRACTION

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                          |   |       |  |  |
|--------------------------|---|-------|--|--|
| 1° or 2° Dx              | = | 42761 |  |  |
| - ATRIAL PREMATURE BEATS |   |       |  |  |

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**Coding System: ICD-10**

|                                   |   |      |  |  |
|-----------------------------------|---|------|--|--|
| 1° or 2° ICD10                    | = | I491 |  |  |
| - Atrial premature depolarization |   |      |  |  |

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|  |
|--|
| Group Name: ARHTHYM-CARD, ARRHTHYMIAS, CARDIAC |
|--|

**Comments:** Includes supraventricular tachycardia, A fib, Flutter, but not ib, Flutter. Per MG, moved 426.7, 426.81, 426.89, I45.6, I45.8 to this category as these are arrhythmias, not BBBs.

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- ANOMALOUS AV EXCITATION<br>- CONDUCTION DISORDER NEC                    | Between               | 4267            | 42689         | Or                 |
| 1° or 2° Dx<br>- PAROX ATRIAL TACHYCARDIA<br>- ATRIAL FLUTTER                            | Between               | 4270            | 42732         | Or                 |
| 1° or 2° Dx<br>- PREMATURE BEATS NOS<br>- CARDIAC DYSRHYTHMIA NOS                        | Between               | 42760           | 4279          |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Pre-excitation syndrome<br>- Other specified conduction disorders    | Between               | I456            | I458          | Or                 |
| 1° or 2° ICD10<br>- Re-entry ventricular arrhythmia<br>- Atrial fibrillation and flutter | Between               | I470            | I48           | Or                 |
| 1° or 2° ICD10<br>- Atrial premature depolarization<br>- Cardiac arrhythmia, unspecified | Between               | I491            | I499          |                    |

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                      |   |       |  |  |
|--------------------------------------|---|-------|--|--|
| 1° or 2° Dx<br>- PREMATURE BEATS NOS | = | 42760 |  |  |
|--------------------------------------|---|-------|--|--|

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**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Junctional premature depolarization | = | I492 |  |  |
|---|---|------|--|--|

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Group Name: ARHTHYM-VFIB, ARRHTHYMIAS, VENTRICULAR FIBRILLATION OR FLUTT

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |       |       |  |
|----------------------------|---------|-------|-------|--|
| 1° or 2° Dx                | Between | 42741 | 42742 |  |
| - VENTRICULAR FIBRILLATION |         |       |       |  |
| - VENTRICULAR FLUTTER      |         |       |       |  |

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10                         | = | I490 |  |  |
| - Ventricular fibrillation and flutter |   |      |  |  |

Group Name: ARRHYTHM-VTPC, ARRHYTHMIAS, VENTRICULAR PREMATURE CONTRACT

**Comments:** Per MG, do not include Sick Sinus Syndrome (427.81, I49.5) or Ventricular fibrillation and flutter (427.41, 427.42, I49.0), or 427.9, I47.0, I49.8, I49.9 as arrhythmias  
Make V. Fib and Flutter a separate glossary category

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                       |   |       |  |  |
|-----------------------|---|-------|--|--|
| 1° or 2° Dx           | = | 42769 |  |  |
| - PREMATURE BEATS NEC |   |       |  |  |

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10                         | = | I493 |  |  |
| - Ventricular premature depolarization |   |      |  |  |

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Group Name: ARTHR-OTH, ARTHRITIS, OTHER

**Comments:** Includes degenerative and post-traumatic

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- GENERAL OSTEOARTHROSIS<br>- ARTHROPATHY NOS-MULT                                 | Between               | 71500           | 71699         | Or                 |
| 1° or 2° Dx<br>- CERVICAL SPONDYLOSIS<br>- SPONDYLOSIS NOS W MYELOP                               | Between               | 7210            | 72191         |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Polyarthritis, unspecified<br>- Arthritis, unspecified, UnSpec Site           | Between               | M130            | M1399         | Or                 |
| 1° or 2° ICD10<br>- Primary generalized (osteo)arthrosis<br>- Arthrosis, unspecified, UnSpec Site | Between               | M150            | M1999         |                    |

Group Name: ARTHR-RHEUM, ARTHRITIS, RHEUMATOID

**Comments:** Includes juvenile

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° Dx<br>- RHEUMATOID ARTHRITIS<br>- INFLAMM POLYARTHROP NOS | Between | 7140 | 7149 |  |
|--|---------|------|------|--|

**Coding System: ICD-10**

|   |         |      |       |    |
|---|---------|------|-------|----|
| 1° or 2° ICD10<br>- Felty's syndrome<br>- Seropositive rheumatoid arthritis, unspecified, UnSpec Site | Between | M050 | M0599 | Or |
|---|---------|------|-------|----|

|   |         |      |       |    |
|---|---------|------|-------|----|
| 1° or 2° ICD10<br>- Juvenile rheumatoid arthritis<br>- Juvenile arthritis, unspecified, UnSpec Site | Between | M080 | M0899 | Or |
|---|---------|------|-------|----|

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Ankylosing spondylitis, Multiple Sites Spine<br>- Ankylosing spondylitis, Unspec Site of Spine | Between | M450 | M459 |  |
|--|---------|------|------|--|

Group Name: ARTHR-SEPTIC, ARTHRITIS, SEPTIC (INFECTIOUS)

**Comments:** Did not include italicized or asterisked codes, as they will be picked up in individual diseases

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |       |       |    |
|---|---------|-------|-------|----|
| 1° or 2° Dx<br>- PYOGEN ARTHRITIS-UNSPEC<br>- PYOGEN ARTHRITIS-MULT | Between | 71100 | 71109 | Or |
|---|---------|-------|-------|----|

|   |         |       |       |  |
|---|---------|-------|-------|--|
| 1° or 2° Dx<br>- INF ARTHRITIS NOS-UNSPEC<br>- INF ARTHRITIS NOS-MULT | Between | 71190 | 71199 |  |
|---|---------|-------|-------|--|

**Coding System: ICD-10**

|  |         |      |       |  |
|--|---------|------|-------|--|
| 1° or 2° ICD10<br>- Staphylococcal arthritis and polyarthritis<br>- Pyogenic arthritis, unspecified, UnSpec Site | Between | M000 | M0099 |  |
|--|---------|------|-------|--|

Group Name: BACTEREMIA, BACTEREMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|              |   |      |  |  |
|--------------|---|------|--|--|
| 1° or 2° Dx  | = | 7907 |  |  |
| - BACTEREMIA |   |      |  |  |

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | R788 |  |  |
| - Finding of other specified substances, not normally found in blood |   |      |  |  |

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Group Name: BIBASLR RALE, BIBASILAR RALES

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° Dx<br>- ABNORMAL CHEST SOUNDS | = | 7867 |  |  |
|--|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Other specified symptoms and signs involving the circulatory and | = | R098 |  |  |
|--|---|------|--|--|

Group Name: BLINDNESS, BLINDNESS

**Comments:** Definition is  $\leq 20/200$ , one or both eyes. Used Low Vision (impairment ) at severe or profound levels, and blindness at moderate, legal, severe, total, or near total levels.

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |         |       |       |  |
|---------------------------|---------|-------|-------|--|
| 1° or 2° Dx               | Between | 36900 | 36973 |  |
| - BOTH EYES BLIND-WHO DEF |         |       |       |  |
| - ONE EYE-SEVERE/OTH-NORM |         |       |       |  |

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**Coding System: ICD-10**

|                                    |         |      |      |  |
|------------------------------------|---------|------|------|--|
| 1° or 2° ICD10                     | Between | H540 | H546 |  |
| - Blindness, both eyes             |         |      |      |  |
| - Unqualified visual loss, one eye |         |      |      |  |

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Group Name: BLOCK, 1ST, HEART BLOCK, FIRST DEGREEE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |       |  |  |
|-------------|---|-------|--|--|
| 1° or 2° Dx | = | 42611 |  |  |
|-------------|---|-------|--|--|

- ATRIOVENT BLOCK-1ST DEGR

**Coding System: ICD-10**

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | I440 |  |  |
|----------------|---|------|--|--|

- Atrioventricular block, first degree

Group Name: BLOCK, 2ND, HEART BLOCK, SECOND DEGREE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |       |       |  |
|----------------------------|---------|-------|-------|--|
| 1° or 2° Dx                | Between | 42612 | 42613 |  |
| - ATRIOVEN BLOCK-MOBITZ II |         |       |       |  |
| - AV BLOCK-2ND DEGREE NEC  |         |       |       |  |

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10                          | = | I441 |  |  |
| - Atrioventricular block, second degree |   |      |  |  |

Group Name: BLOCK, 3RD, HEART BLOCK, THIRD DEGREE

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° Dx                | = | 4260 |  |  |
| - ATRIOVENT BLOCK COMPLETE |   |      |  |  |

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**Coding System: ICD-10**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° ICD10                     | = | I442 |  |  |
| - Atrioventricular block, complete |   |      |  |  |

---

Group Name: BLOCK, L A H, BLOCK, LEFT ANTERIOR HEMIBLOCK

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- LEFT BB HEMIBLOCK | = | 4262 |  |  |
|------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Other and unspecified fascicular block | = | I446 |  |  |
|--|---|------|--|--|

Group Name: BLOCK, L B B, BLOCK, LEFT BUNDLE BRANCH

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 4263 |  |  |
|-------------|---|------|--|--|

- LEFT BB BLOCK NEC

**Coding System: ICD-10**

|                |         |      |      |    |
|----------------|---------|------|------|----|
| 1° or 2° ICD10 | Between | I444 | I445 | Or |
|----------------|---------|------|------|----|

- Left anterior fascicular block

- Left posterior fascicular block

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | I447 |  |  |
|----------------|---|------|--|--|

- Left bundle-branch block, unspecified

Group Name: BLOCK, L P H, BLOCK, LEFT POSTERIOR HEMIBLOCK

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- LEFT BB HEMIBLOCK | = | 4262 |  |  |
|------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Other and unspecified fascicular block | = | I446 |  |  |
|--|---|------|--|--|

Group Name: BLOCK, R B B, BLOCK, RIGHT BUNDLE BRANCH

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- RT BUNDLE BRANCH BLOCK | = | 4264 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Other and unspecified right bundle-branch block | = | I451 |  |  |
|---|---|------|--|--|

Group Name: BRADYCARDIA, BRADYCARDIA

**Comments:** Add 997.1, I97.8 if post-operative, 763.83, P29.1 for newborn categories, E, X, or Y code for drug-induced.

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |       |       |  |
|----------------------------|---------|-------|-------|--|
| 1° or 2° Dx                | Between | 42781 | 42789 |  |
| - SINOATRIAL NODE DYSFUNCT |         |       |       |  |
| - CARDIAC DYSRHYTHMIAS NEC |         |       |       |  |

**Coding System: ICD-10**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° ICD10             | = | R001 |  |  |
| - Bradycardia, unspecified |   |      |  |  |

**Group Name: CACHEXIA, CACHEXIA**

**Comments:** Lead, old age, dehydration, cancerous, malnutrition, endocrine, many other causes are coded differently. Coding will depend on actual cause - some codes are not specific to cachexia.

HIV B22.2; malignant 199.1, C80; nutritional marasmus, malnutrition 261, E41; exophthalmic 242.0x; hypopituitary or hypophyseal (pituitary) 253.2, E23.0; lead (saturine) 984.9, T56.0; marsh or paludial (malaria) 084.9, B54; nervous 300.5, F48.0, old age 300.5, R54; renal 593.9; splenic D73.0, 289.59; strumipriva 244.9, E03.4; tuberculous 011.9x, A16.9; dehydration 276.5, 276.0, 276.1; senile 797

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |   |      |  |  |
|---------------------------|---|------|--|--|
| 1° or 2° Dx<br>- CACHEXIA | = | 7994 |  |  |
|---------------------------|---|------|--|--|

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**Coding System: ICD-10**

|                              |   |     |  |  |
|------------------------------|---|-----|--|--|
| 1° or 2° ICD10<br>- Cachexia | = | R64 |  |  |
|------------------------------|---|-----|--|--|

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Group Name: CANDIDA ALB, CANDIDA ALBICANS

Comments: 771.7, P37.5 are codes for neonates

| Variable | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|----------|-----------------------|-----------------|---------------|--------------------|
|----------|-----------------------|-----------------|---------------|--------------------|

**Coding System: ICD-9-CM**

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° Dx<br>- THRUSH<br>- CANDIDIASIS SITE NOS | Between | 1120 | 1129 | Or |
|---|---------|------|------|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° Dx<br>- NEONATAL CANDIDA INFECT | = | 7717 |  |  |
|--|---|------|--|--|

**Coding System: ICD-10**

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Candidal stomatitis<br>- Candidiasis, unspecified | Between | B370 | B379 | Or |
|---|---------|------|------|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Neonatal candidiasis | = | P375 |  |  |
|--|---|------|--|--|

Group Name: CELLULITIS, CELLULITIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                          |         |       |      |  |
|--------------------------|---------|-------|------|--|
| 1° or 2° Dx              | Between | 68100 | 6829 |  |
| - CELLULITIS, FINGER NOS |         |       |      |  |
| - CELLULITIS NOS         |         |       |      |  |

**Coding System: ICD-10**

|                                |         |      |      |  |
|--------------------------------|---------|------|------|--|
| 1° or 2° ICD10                 | Between | L030 | L039 |  |
| - Cellulitis of finger and toe |         |      |      |  |
| - Cellulitis, unspecified      |         |      |      |  |

Group Name: CHF, HTNIVE, Congestive Heart Failure, Hypertensive

**Comments:**

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- MAL HYPERT HRT DIS W CHF  | =                             | 40201                   |                       | Or                         |
| 1° or 2° Dx<br>- BENIGN HYP HRT DIS W CHF  | =                             | 40211                   |                       | Or                         |
| 1° or 2° Dx<br>- HYPERTEN HEART DIS W CHF  | =                             | 40291                   |                       | Or                         |
| 1° or 2° Dx<br>- MAL HYPER HRT/REN W CHF   | =                             | 40401                   |                       | Or                         |
| 1° or 2° Dx<br>- BEN HYPER HRT/REN W CHF   | =                             | 40411                   |                       | Or                         |
| 1° or 2° Dx<br>- HYPER HRT/REN NOS W CHF   | =                             | 40491                   |                       |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Hypertensive heart disease with (congestive) heart failure   | =                             | I110                    |                       | Or                         |
| 1° or 2° ICD10<br>- Hypertensive heart and renal disease with (congestive) heart | =                             | I130                    |                       |                            |

Group Name: CHF, NON-HTN, Congestive Heart Failure, Non-Hypertensive

**Comments:** Per MG; Include left heart failure 428.1 in CHF.  
Per DZL; only use the rheumatic CHF code 398.91 in rheumatic heart disease categories; note there is no specific I-10 code for it

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|  |         |      |       |  |
|--|---------|------|-------|--|
| 1° or 2° Dx                              | Between | 4280 | 42843 |  |
| - CONGESTIVE HEART FAILURE               |         |      |       |  |
| - Combined syst/diast hrt failure ac/chr |         |      |       |  |

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**Coding System: ICD-10**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° ICD10             | = | I500 |  |  |
| - Congestive heart failure |   |      |  |  |

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Group Name: CMV, CYTOMEGALOVIRUS (CMV) INFECTION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 0785 |  | Or |
|-------------|---|------|--|----|

- CYTOMEGALOVIRAL DISEASE

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 7711 |  |  |
|-------------|---|------|--|--|

- CONG CYTOMEGALOVIRUS INF

**Coding System: ICD-10**

|                |         |      |      |  |
|----------------|---------|------|------|--|
| 1° or 2° ICD10 | Between | B250 | B259 |  |
|----------------|---------|------|------|--|

- Cytomegaloviral pneumonitis (J17.1\*)

- Cytomegaloviral disease, unspecified

Group Name: COAG DEFECT, COAGULATION DEFECT

Comments:

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- CONG FACTOR VIII DIORD<br>- COAGULAT DEFECT NEC/NOS   | Between               | 2860            | 2869          | Or                 |
| 1° or 2° Dx<br>- HEMORRHAGIC COND NOS  | =                     | 2879            |               | Or                 |
| 1° or 2° Dx<br>- NB HEMORRHAGIC DISEASE  | =                     | 7760            |               |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Disseminated intravascular coagulation [defibrination syndrome]<br>- Hereditary factor IX deficiency | Between               | D65             | D67           | Or                 |
| 1° or 2° ICD10<br>- Von Willebrand's disease<br>- Hereditary deficiency of other clotting factors                        | Between               | D680            | D682          | Or                 |
| 1° or 2° ICD10<br>- Acquired coagulation factor deficiency<br>- Coagulation defect, unspecified                          | Between               | D684            | D689          | Or                 |
| 1° or 2° ICD10<br>- Other specified haemorrhagic conditions  | =                     | D698            |               | Or                 |
| 1° or 2° ICD10<br>- Haemorrhagic disease of fetus and newborn  | =                     | P53             |               |                    |

Group Name: COMA, COMA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 7792 |  | Or |
|-------------|---|------|--|----|

- CNS DYSFUNCTION SYN NB

|             |   |       |  |  |
|-------------|---|-------|--|--|
| 1° or 2° Dx | = | 78001 |  |  |
|-------------|---|-------|--|--|

- COMA

**Coding System: ICD-10**

|                |   |      |  |    |
|----------------|---|------|--|----|
| 1° or 2° ICD10 | = | R402 |  | Or |
|----------------|---|------|--|----|

- Coma, unspecified

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | P915 |  |  |
|----------------|---|------|--|--|

- Neonatal coma

Group Name: COMA, HEP, COMA, HEPATIC

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                               |   |      |  |  |
|-------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HEPATIC COMA | = | 5722 |  |  |
|-------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Acute and subacute hepatic failure | = | K720 |  | Or |
|--|---|------|--|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Hepatic failure, unspecified | = | K729 |  |  |
|--|---|------|--|--|

Group Name: COND DEF INT, CONDUCTION DEFECT, INTRAVENTRICULAR, NONSPECIFIC

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |   |      |  |  |
|---------------------------|---|------|--|--|
| 1° or 2° Dx               | = | 4269 |  |  |
| - CONDUCTION DISORDER NOS |   |      |  |  |

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**Coding System: ICD-10**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° ICD10                     | = | I459 |  |  |
| - Conduction disorder, unspecified |   |      |  |  |

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Group Name: COND-BBBs, CONDUCTION ABNORMALITIES BUNDLE BRANCH BLOCKS

Comments:

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- LEFT BB HEMIBLOCK<br>- OTHER HEART BLOCK                                     | Between               | 4262            | 4266          | Or                 |
| 1° or 2° Dx<br>- CONDUCTION DISORDER NOS  | =                     | 4269            |               |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Left anterior fascicular block<br>- Left bundle-branch block, unspecified | Between               | I444            | I447          | Or                 |
| 1° or 2° ICD10<br>- Other and unspecified right bundle-branch block                           | =                     | I451            |               | Or                 |
| 1° or 2° ICD10<br>- Nonspecific intraventricular block<br>- Other specified heart block       | Between               | I454            | I455          | Or                 |
| 1° or 2° ICD10<br>- Conduction disorder, unspecified  | =                     | I459            |               |                    |

Group Name: CONG ADR HYP, CONGENITAL ADRENAL HYPERPLASIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |   |      |  |  |
|---------------------------|---|------|--|--|
| 1° or 2° Dx               | = | 2552 |  |  |
| - ADRENOGENITAL DISORDERS |   |      |  |  |

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | E250 |  |  |
| - Congenital adrenogenital disorders associated with enzyme deficiency |   |      |  |  |

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**Group Name: COPD, CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)**

**Comments:** Will we include in this category asthma (NO, per DZL), extrinsic allergic alveolitis, and /or pneumoconiosis? Or only the truly obstructive COPD's. See categories 491.0, 491.1, 491.8, 491.9, 493.xx, J45, J46, 495.x & J47, 500ff (probably not per DZL) & J60ff.

Bronchiectasis not included because it is usually due to an infection, per MG. Keep the 491.x codes

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- SIMPLE CHR BRONCHITIS<br>- EMPHYSEMA NEC  | Between                       | 4910                    | 4928                  | Or                         |
| 1° or 2° Dx<br>- CHR AIRWAY OBSTRUCT NEC   | =                             | 496                     |                       |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Simple chronic bronchitis<br>- Unspecified chronic bronchitis  | Between                       | J410                    | J42                   | Or                         |
| 1° or 2° ICD10<br>- MacLeod's syndrome<br>- Emphysema, unspecified   | Between                       | J430                    | J439                  | Or                         |
| 1° or 2° ICD10<br>- Chronic obstructive pulmonary disease with acute lower respiratory<br>- Chronic obstructive pulmonary disease, unspecified | Between                       | J440                    | J449                  |                            |

Group Name: COR PULMONAL, COR PULMONALE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 4150 |  | Or |
|-------------|---|------|--|----|

- ACUTE COR PULMONALE

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 4169 |  |  |
|-------------|---|------|--|--|

- CHR PULMON HEART DIS NOS

**Coding System: ICD-10**

|                |   |      |  |    |
|----------------|---|------|--|----|
| 1° or 2° ICD10 | = | I260 |  | Or |
|----------------|---|------|--|----|

- Pulmonary embolism with mention of acute cor pulmonale

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | I279 |  |  |
|----------------|---|------|--|--|

- Pulmonary heart disease, unspecified

Group Name: CRAN NRV PAL, CRANIAL NERVE PALSY

**Comments:** Did not include 781.1, R43.x Disturbance of sensation of smell and taste.  
 Did not include 787.2, R13 Dysphagia. These are symptoms not necessarily related solely to cranial nerve palsy;  
 deleted 360.00-36973 because these codes are in group blindness

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- TRIGEMINAL NERVE DIS NOS<br>- BELL'S PALSY                    | Between               | 3509            | 3510          | Or                 |
| 1° or 2° Dx<br>- FACIAL NERVE DIS NOS  | =                     | 3519            |               | Or                 |
| 1° or 2° Dx<br>- OLFACTORY NERVE DISORDER                                      | =                     | 3520            |               | Or                 |
| 1° or 2° Dx<br>- GLOSSOPHAR NERVE DIS NEC<br>- MULT CRANIAL NERVE PALSY        | Between               | 3522            | 3526          | Or                 |
| 1° or 2° Dx<br>- PARESIS OF ACCOMMODATION                                      | =                     | 36751           |               | Or                 |
| 1° or 2° Dx<br>- OPTIC NERVE DISORDER NEC                                      | =                     | 37749           |               | Or                 |
| 1° or 2° Dx<br>- PARTIAL THIRD NERV PALSY<br>- EXTERNAL OPHTHALMOPLEGIA        | Between               | 37851           | 37855         | Or                 |
| 1° or 2° Dx<br>- ACOUSTIC NERVE DISORDERS                                      | =                     | 3885            |               | Or                 |
| 1° or 2° Dx<br>- SENSORY HEARING LOSS  | =                     | 38911           |               | Or                 |
| 1° or 2° Dx<br>- FACIAL NERVE INJ-BIRTH  | =                     | 7675            |               | Or                 |
| 1° or 2° Dx<br>- SMELL & TASTE DISTURB   | =                     | 7811            |               | Or                 |
| 1° or 2° Dx<br>- SKIN SENSATION DISTURB  | =                     | 7820            |               | Or                 |
| 1° or 2° Dx<br>- DYSPHAGIA   | =                     | 7872            |               | Or                 |
| 1° or 2° Dx<br>- ACCIDENTAL OP LACERATION                                      | =                     | 9982            |               |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Blindness, both eyes<br>- Unqualified visual loss, one eye | Between               | H540            | H546          | Or                 |
| 1° or 2° ICD10<br>- Disorder of trigeminal nerve, unspecified                  | =                     | G509            |               | Or                 |

|   |  |  |  |  |
|---|--|--|--|--|
| Group Name: CRAN NRV PAL, CRANIAL NERVE PALSY |  |  |  |  |
|---|--|--|--|--|

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Bell's palsy  | =       | G510 |      | Or |
| 1° or 2° ICD10<br>- Disorder of facial nerve, unspecified   | =       | G519 |      | Or |
| 1° or 2° ICD10<br>- Disorders of olfactory nerve<br>- Cranial nerve disorder, unspecified                                   | Between | G520 | G529 | Or |
| 1° or 2° ICD10<br>- Disorders of optic nerve, not elsewhere classified  | =       | H470 |      | Or |
| 1° or 2° ICD10<br>- Third [oculomotor] nerve palsy<br>- Sixth [abducent] nerve palsy  | Between | H490 | H492 | Or |
| 1° or 2° ICD10<br>- Paralytic strabismus, unspecified   | =       | H499 |      | Or |
| 1° or 2° ICD10<br>- Disorders of accommodation  | =       | H525 |      | Or |
| 1° or 2° ICD10<br>- Sensorineural hearing loss, unspecified<br>- Mixed conductive and sensorineural hearing loss, bilateral | Between | H905 | H906 | Or |
| 1° or 2° ICD10<br>- Disorders of acoustic nerve   | =       | H933 |      | Or |
| 1° or 2° ICD10<br>- Birth injury to facial nerve  | =       | P113 |      | Or |
| 1° or 2° ICD10<br>- Other and unspecified disturbances of skin sensation  | =       | R208 |      |    |

Group Name: CRYPTOCOCCUS, CRYPTOCOCCUS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                 |   |      |  |  |
|---------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- CRYPTOCOCCOSIS | = | 1175 |  |  |
|---------------------------------|---|------|--|--|

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Pulmonary cryptococcosis<br>- Cryptococcosis, unspecified | Between | B450 | B459 |  |
|---|---------|------|------|--|

Group Name: CRYPTOSPORID, CRYPTOSPORIDIUM spp.

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- CRYPTOSPORIDIOSIS | = | 0074 |  |  |
|------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                       |   |      |  |  |
|---------------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Cryptosporidiosis | = | A072 |  |  |
|---------------------------------------|---|------|--|--|

Group Name: C-SECT, CESAREAN SECTION

Comments:

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Px<br>- CLASSICAL C-SECTION<br>- EXTRAPERITONEAL C-SECT   | Between               | 740             | 742           | Or                 |
| 1° or 2° Px<br>- CESAREAN SECTION NEC  | =                     | 744             |               | Or                 |
| 1° or 2° Px<br>- CESAREAN SECTION NOS  | =                     | 7499            |               |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Delivery by elective caesarean section<br>- Delivery by caesarean hysterectomy             | Between               | O820            | O822          | Or                 |
| 1° or 2° ICD10<br>- Other single delivery by caesarean section<br>- Delivery by caesarean section, unspecified | Between               | O828            | O829          | Or                 |
| 1° or 2° ICD10<br>- Multiple delivery, all by caesarean section  | =                     | O842            |               |                    |

Group Name: CUSHING'S, CUSHING'S DISEASE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                     |   |      |  |  |
|-------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- CUSHING'S SYNDROME | = | 2550 |  |  |
|-------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Pituitary-dependent Cushing's disease<br>- Cushing's syndrome, unspecified | Between | E240 | E249 |  |
|--|---------|------|------|--|

Group Name: CYSTIC FIBRO, CYSTIC FIBROSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |         |       |       |  |
|---------------------------|---------|-------|-------|--|
| 1° or 2° Dx               | Between | 27700 | 27701 |  |
| - CYSTIC FIBROS W/O ILEUS |         |       |       |  |
| - CYSTIC FIBROSIS W ILEUS |         |       |       |  |

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10                                  | Between | E840 | E849 |  |
| - Cystic fibrosis with pulmonary manifestations |         |      |      |  |
| - Cystic fibrosis, unspecified                  |         |      |      |  |

Group Name: DEHYDRATION, DEHYDRATION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |      |       |    |
|---|---------|------|-------|----|
| 1° or 2° Dx<br>- HYPOVOLEMIA<br>- Hypovolemia | Between | 2765 | 27652 | Or |
|---|---------|------|-------|----|

|                                       |   |      |  |  |
|---------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- NEONATAL DEHYDRATION | = | 7755 |  |  |
|---------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                      |   |     |  |    |
|--------------------------------------|---|-----|--|----|
| 1° or 2° ICD10<br>- Volume depletion | = | E86 |  | Or |
|--------------------------------------|---|-----|--|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Dehydration of newborn | = | P741 |  |  |
|--|---|------|--|--|

|                                |
|--------------------------------|
| Group Name: DEMENTIA, DEMENTIA |
|--------------------------------|

**Comments:** Has many causes with specific codes, including arteriosclerotic disease, senility, alcoholism, etc. All are included here. May need to break these out to multiple categories.

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- SENILE DEMENTIA UNCOMP<br>- SENILE DEMENTIA W/DEPRESS                                  | Between               | 2900            | 29021         | Or                 |
| 1° or 2° Dx<br>- ARTERIOSCLER DEMENT NOS<br>- ARTERIOSCLER DEPRESSIVE                                   | Between               | 29040           | 29043         | Or                 |
| 1° or 2° Dx<br>- ALCOHOLIC DEMENTIA NEC   | =                     | 2912            |               | Or                 |
| 1° or 2° Dx<br>- DEMENTIA W/O BEHAV DIST<br>- ORGANIC BRAIN SYND NEC                                    | Between               | 29410           | 2948          | Or                 |
| 1° or 2° Dx<br>- Pick's disease<br>- Other frontotemporal dementia                                      | Between               | 33111           | 33119         | Or                 |
| 1° or 2° Dx<br>- Dementia with Lewy bodies  | =                     | 33182           |               |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Dementia in Alzheimer's disease with early onset (G30.0+)<br>- Unspecified dementia | Between               | F000            | F03           | Or                 |
| 1° or 2° ICD10<br>- Delirium superimposed on dementia   | =                     | F051            |               |                    |

Group Name: DIABETES GES, DIABETES MELITUS, GESTATIONAL

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |       |       |  |
|----------------------------|---------|-------|-------|--|
| 1° or 2° Dx                | Between | 64880 | 64884 |  |
| - ABN GLUCOSE IN PREG-UNSP |         |       |       |  |
| - ABN GLUCOSE-POSTPARTUM   |         |       |       |  |

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10                           | = | O244 |  |  |
| - Diabetes mellitus arising in pregnancy |   |      |  |  |

Group Name: DIABETES MEL, DIABETES MELLITUS (Type 1 and Type 2)

**Comments:** What are we doing with that pesky new 277.7 code for dysmetabolic syndrome X in V5.0?

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- DMII WO CMP NT ST UNCNR<br>- DMI UNSPF UNCNRD   | Between               | 25000           | 25093         | Or                 |
| 1° or 2° Dx<br>- DIABETES IN PREG-UNSPEC<br>- DIABETES-POSTPARTUM  | Between               | 64800           | 64804         | Or                 |
| 1° or 2° Dx<br>- DIABETIC RETINOPATHY NOS<br>- PROLIF DIAB RETINOPATHY   | Between               | 36201           | 36202         | Or                 |
| 1° or 2° Dx<br>- NEUROPATHY IN DIABETES  | =                     | 3572            |               | Or                 |
| 1° or 2° Dx<br>- DIABETIC CATARACT   | =                     | 36641           |               |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Insulin-dependent diabetes mellitus with coma<br>- Unspecified diabetes mellitus without complications | Between               | E100            | E149          | Or                 |
| 1° or 2° ICD10<br>- Pre-existing diabetes mellitus, insulin-dependent<br>- Pre-existing diabetes mellitus, unspecified     | Between               | O240            | O243          | Or                 |
| 1° or 2° ICD10<br>- Diabetes mellitus in pregnancy, unspecified  | =                     | O249            |               |                    |

Group Name: DIC, DISSEMINATED INTRAVASCULAR COAGULATION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2866 |  | Or |
|-------------|---|------|--|----|

- DEFIBRATION SYNDROME

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 7762 |  |  |
|-------------|---|------|--|--|

- DISSEM INTRAVASC COAG NB

**Coding System: ICD-10**

|                |   |     |  |    |
|----------------|---|-----|--|----|
| 1° or 2° ICD10 | = | D65 |  | Or |
|----------------|---|-----|--|----|

- Disseminated intravascular coagulation [defibrination syndrome]

|                |   |     |  |  |
|----------------|---|-----|--|--|
| 1° or 2° ICD10 | = | P60 |  |  |
|----------------|---|-----|--|--|

- Disseminated intravascular coagulation of fetus and newborn

Group Name: DIG TOXIC, DIGOXIN TOXICITY

Comments:

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- POISONING-CARDIOTONICS  | =                     | 9721            |               | End                |
| 1° or 2° Dx<br>- ABN TOXICOLOGIC FINDING   | =                     | 7960            |               | And (              |
| 1° or 2° Dx<br>- ACC POISN-CARDIOVASC AGT  | =                     | E8583           |               | Or                 |
| 1° or 2° Dx<br>- ADV EFF CARDIOTONICS  | =                     | E9421           |               | Or                 |
| 1° or 2° Dx<br>- POISON-DRUG/MEDICIN NEC   | =                     | E9504           |               | Or                 |
| 1° or 2° Dx<br>- ASSAULT-POIS W MEDIC AGT  | =                     | E9620           |               | )                  |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Cardiac-stimulant glycosides and drugs of similar action   | =                     | T460            |               | End                |
| 1° or 2° ICD10<br>- Finding of other specified substances, not normally found in blood   | =                     | R788            |               | And (              |
| 1° or 2° ICD10<br>- Accidental poisoning by and exposure to other and unspecified drugs,, Ho<br>- Accidental poisoning by and exposure to other and unspecified drugs,, Un | Between               | X440            | X4499         | Or                 |
| 1° or 2° ICD10<br>- Intentional self-poisoning by and exposure to other and unspecified, Hom<br>- Intentional self-poisoning by and exposure to other and unspecified, Uns | Between               | X640            | X6499         | Or                 |
| 1° or 2° ICD10<br>- Poisoning by/exposure to other & unspec drugs, medicaments, undet intent<br>- Poisoning by and exposure to other and unspecified drugs, medicaments, U | Between               | Y140            | Y1499         | Or                 |
| 1° or 2° ICD10<br>- Cardiac-stimulant glycosides and drugs of similar action   | =                     | Y520            |               | )                  |

Group Name: DISORIENT, DISORIENTATION

**Comments:** There is no disorientation code in ICD-9-CM. In I-10, disorientation is coded R41.0 and also means confusion, so used I-9 code for confusion here.

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                |   |      |  |  |
|--------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- PSYCHOSIS NOS | = | 2989 |  |  |
|--------------------------------|---|------|--|--|

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**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Disorientation, unspecified | = | R410 |  |  |
|---|---|------|--|--|

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Group Name: DOWN SYN, DOWN SYNDROME

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                  |   |      |  |  |
|----------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- DOWN'S SYNDROME | = | 7580 |  |  |
|----------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Trisomy 21, meiotic nondisjunction<br>- Down's syndrome, unspecified | Between | Q900 | Q909 |  |
|--|---------|------|------|--|

Group Name: DVT, DEEP VEIN THROMBOSIS

**Comments:** Include all 451-453, I80-I82 codes, per MG

---

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                          |         |      |      |  |
|--------------------------|---------|------|------|--|
| 1° or 2° Dx              | Between | 4510 | 4539 |  |
| - SUPERFIC PHLEBITIS-LEG |         |      |      |  |
| - VENOUS THROMBOSIS NOS  |         |      |      |  |

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**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10   | Between | I800 | I829 |  |
| - Phlebitis and thrombophlebitis of superficial vessels of lower |         |      |      |  |
| - Embolism and thrombosis of unspecified vein                    |         |      |      |  |

---

Group Name: ENCEPHALO, ENCEPHALOPATHY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |      |       |    |
|--|---------|------|-------|----|
| 1° or 2° Dx<br>- ENCEPHALOPATHY NOS*<br>- Other encephalopathy | Between | 3483 | 34839 | Or |
|--|---------|------|-------|----|

|                     |   |      |  |  |
|---------------------|---|------|--|--|
| Group<br>- DEMENTIA | = | DEME |  |  |
|---------------------|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |    |
|---|---|------|--|----|
| 1° or 2° ICD10<br>- Encephalopathy, unspecified | = | G934 |  | Or |
|---|---|------|--|----|

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Disorientation, unspecified | = | R410 |  |  |
|---|---|------|--|--|

Group Name: ENDOCARDITIS, ENDOCARDITIS

Comments: See notes in CVS14

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- AC/SUBAC BACT ENDOCARD<br>- AC/SUBAC ENDOCARDIT NOS                               | Between               | 4210            | 4219          | Or                 |
| 1° or 2° Dx<br>- AORTIC VALVE DISORDER   | =                     | 4241            |               | Or                 |
| 1° or 2° Dx<br>- ENDOCARDITIS NOS<br>- ENDOCARDITIS NEC  | Between               | 42490           | 42499         | Or                 |
| 1° or 2° Dx<br>- CONG HEART ANOMALY NEC  | =                     | 74689           |               |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Acute and subacute infective endocarditis<br>- Acute endocarditis, unspecified | Between               | I330            | I339          | Or                 |
| 1° or 2° ICD10<br>- Endocarditis, valve unspecified  | =                     | I38             |               | Or                 |
| 1° or 2° ICD10<br>- Endocarditis, valve unspecified, in diseases classified elsewhere              | =                     | I398            |               |                    |

Group Name: EOSINOPHILIA, EOSINOPHILIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                               |   |      |  |  |
|-------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- EOSINOPHILIA | = | 2883 |  |  |
|-------------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                  |   |      |  |  |
|----------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Eosinophilia | = | D721 |  |  |
|----------------------------------|---|------|--|--|

Group Name: FEVER, FEVER

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                        |   |      |  |  |
|------------------------|---|------|--|--|
| 1° or 2° Dx<br>- FEVER | = | 7806 |  |  |
|------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                       |   |      |  |    |
|---------------------------------------|---|------|--|----|
| 1° or 2° ICD10<br>- Fever with chills | = | R500 |  | Or |
|---------------------------------------|---|------|--|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Fever, unspecified | = | R509 |  |  |
|--|---|------|--|--|

Group Name: FUNGEMIA, FUNGEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- MYCOSES NEC & NOS | = | 1179 |  |  |
|------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|   |   |     |  |  |
|---|---|-----|--|--|
| 1° or 2° ICD10<br>- Unspecified mycosis | = | B49 |  |  |
|---|---|-----|--|--|

Group Name: G-6-PD DEF, G-6-PD DEFICIENCY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                               |   |      |  |  |
|-------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- GLYCOGENOSIS | = | 2710 |  |  |
|-------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Glycogen storage disease | = | E740 |  |  |
|--|---|------|--|--|

Group Name: GOITER, EUTH, GOITER, EUTHYROID

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |         |      |      |  |
|---------------------------|---------|------|------|--|
| 1° or 2° Dx               | Between | 2400 | 2419 |  |
| - SIMPLE GOITER           |         |      |      |  |
| - NONTOX NODUL GOITER NOS |         |      |      |  |

**Coding System: ICD-10**

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° ICD10   | Between | E010 | E018 | Or |
| - Iodine-deficiency-related diffuse (endemic) goitre           |         |      |      |    |
| - Other iodine-deficiency-related thyroid disorders and allied |         |      |      |    |

|                                |         |      |      |  |
|--------------------------------|---------|------|------|--|
| 1° or 2° ICD10                 | Between | E040 | E049 |  |
| - Nontoxic diffuse goitre      |         |      |      |  |
| - Nontoxic goitre, unspecified |         |      |      |  |

Group Name: HEMATURIA, HEMATURIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HEMATURIA | = | 5997 |  |  |
|----------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Paroxysmal nocturnal haemoglobinuria [Marchiafava-Micheli] | = | D595 |  | Or |
|--|---|------|--|----|

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Recurrent and persistent haematuria, minor glomerular abnormality<br>- Recurrent and persistent haematuria, unspecified | Between | N020 | N029 | Or |
|---|---------|------|------|----|

|  |   |     |  |    |
|--|---|-----|--|----|
| 1° or 2° ICD10<br>- Unspecified haematuria | = | R31 |  | Or |
|--|---|-----|--|----|

|                                     |   |      |  |  |
|-------------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Haemoglobinuria | = | R823 |  |  |
|-------------------------------------|---|------|--|--|

Group Name: HEMOLYSIS, HEMOLYSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                       |   |      |  |    |
|---------------------------------------|---|------|--|----|
| 1° or 2° Dx<br>- DEFIBRATION SYNDROME | = | 2866 |  | Or |
|---------------------------------------|---|------|--|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° Dx<br>- POSTABORTION HEMORRHAGE | = | 6391 |  |  |
|--|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |    |
|---|---|------|--|----|
| 1° or 2° ICD10<br>- Delayed or excessive haemorrhage following abortion and ectopic | = | O081 |  | Or |
|---|---|------|--|----|

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Postpartum coagulation defects | = | O723 |  | Or |
|--|---|------|--|----|

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Neonatal jaundice due to other specified excessive haemolysis | = | P588 |  |  |
|---|---|------|--|--|

Group Name: HEMOPHILIA, HEMOPHILIA

**Comments:**

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- CONG FACTOR VIII DIORD<br>- CONG FACTOR XI DISORDER                       | Between                       | 2860                    | 2862                  | Or                         |
| 1° or 2° Dx<br>- VON WILLEBRAND'S DISEASE  | =                             | 2864                    |                       | Or                         |
| 1° or 2° Dx<br>- ACQ COAGUL FACTOR DEFIC   | =                             | 2867                    |                       |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Hereditary factor VIII deficiency<br>- Hereditary factor XI deficiency | Between                       | D66                     | D681                  | Or                         |
| 1° or 2° ICD10<br>- Acquired coagulation factor deficiency                                 | =                             | D684                    |                       |                            |

Group Name: HEPATITIS, HEPATITIS, other than viral or chemical

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |       |       |    |
|--|---------|-------|-------|----|
| 1° or 2° Dx<br>- CHR PERSISTENT HEPATITIS<br>- CHRONIC HEPATITIS NEC | Between | 57141 | 57149 | Or |
|--|---------|-------|-------|----|

|                                |   |      |  |  |
|--------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HEPATITIS NOS | = | 5733 |  |  |
|--------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° ICD10<br>- Toxic liver disease with acute hepatitis<br>- Toxic liver disease with hepatitis, not elsewhere classified | Between | K712 | K716 | Or |
|--|---------|------|------|----|

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° ICD10<br>- Chronic persistent hepatitis, not elsewhere classified<br>- Chronic hepatitis, unspecified | Between | K730 | K739 | Or |
|--|---------|------|------|----|

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Nonspecific reactive hepatitis<br>- Autoimmune hepatitis | Between | K752 | K754 |  |
|--|---------|------|------|--|

Group Name: HERPES VIRUS, HERPES VIRUS spp.

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |      |       |  |
|---|---------|------|-------|--|
| 1° or 2° Dx<br>- HERPES ZOSTER MENINGITIS<br>- H ZOSTER COMPLICATED NEC | Between | 0530 | 05379 |  |
|---|---------|------|-------|--|

**Coding System: ICD-10**

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° ICD10<br>- Herpesviral infection of genitalia and urogenital tract<br>- Anogenital herpesviral infection, unspecified | Between | A600 | A609 | Or |
|--|---------|------|------|----|

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Eczema herpeticum<br>- Herpesviral infection, unspecified | Between | B000 | B009 | Or |
|---|---------|------|------|----|

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Zoster encephalitis (G05.1*)<br>- Zoster without complication | Between | B020 | B029 | Or |
|---|---------|------|------|----|

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Congenital herpesviral [herpes simplex] infection | = | P352 |  |  |
|---|---|------|--|--|

Group Name: HISTOPLASMA, HISTOPLASMA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |       |       |  |
|----------------------------|---------|-------|-------|--|
| 1° or 2° Dx                | Between | 11500 | 11599 |  |
| - HISTOPLASMA CAPSULAT NOS |         |       |       |  |
| - HISTOPLASMOSIS NEC       |         |       |       |  |

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10                             | Between | B390 | B399 |  |
| - Acute pulmonary histoplasmosis capsulati |         |      |      |  |
| - Histoplasmosis, unspecified              |         |      |      |  |

Group Name: HIV, HUMAN IMMUNODEFICIENCY VIRUS (HIV) INFECTION

Comments:

| Variable | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|----------|-----------------------|-----------------|---------------|--------------------|
|----------|-----------------------|-----------------|---------------|--------------------|

**Coding System: ICD-9-CM**

|   |   |     |  |    |
|---|---|-----|--|----|
| 1° or 2° Dx<br>- HUMAN IMMUNO VIRUS DIS | = | 042 |  | Or |
|---|---|-----|--|----|

|   |   |     |  |  |
|---|---|-----|--|--|
| 1° or 2° Dx<br>- ASYMP HIV INFECTN STATUS | = | V08 |  |  |
|---|---|-----|--|--|

**Coding System: ICD-10**

|  |         |      |     |    |
|--|---------|------|-----|----|
| 1° or 2° ICD10<br>- HIV disease resulting in mycobacterial infection<br>- Unspecified human immunodeficiency virus [HIV] disease | Between | B200 | B24 | Or |
|--|---------|------|-----|----|

|  |   |     |  |  |
|--|---|-----|--|--|
| 1° or 2° ICD10<br>- Asymptomatic human immunodeficiency virus [HIV] infection status | = | Z21 |  |  |
|--|---|-----|--|--|

Group Name: HUNTINGTON'S, HUNTINGTON'S DISEASE (CHOREA)

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                      |   |      |  |  |
|--------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HUNTINGTON'S CHOREA | = | 3334 |  |  |
|--------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |     |  |  |
|--|---|-----|--|--|
| 1° or 2° ICD10<br>- Huntington's disease | = | G10 |  |  |
|--|---|-----|--|--|

Group Name: HYPERBILI, HYPERBILIRUBINEMIA

**Comments:**

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- DIS BILIRUBIN EXCRETION                               | =                             | 2774                    |                       | Or                         |
| 1° or 2° Dx<br>- NEONAT JAUND PRETERM DEL                              | =                             | 7742                    |                       | Or                         |
| 1° or 2° Dx<br>- FETAL/NEONATAL JAUND NOS                              | =                             | 7746                    |                       | Or                         |
| 1° or 2° Dx<br>- JAUNDICE NOS  | =                             | 7824                    |                       |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Other disorders of bilirubin metabolism            | =                             | E806                    |                       | Or                         |
| 1° or 2° ICD10<br>- Neonatal jaundice associated with preterm delivery | =                             | P590                    |                       | Or                         |
| 1° or 2° ICD10<br>- Neonatal jaundice, unspecified                     | =                             | P599                    |                       | Or                         |
| 1° or 2° ICD10<br>- Unspecified jaundice                               | =                             | R17                     |                       |                            |

Group Name: HYPERCARB, HYPERCARBIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |   |      |  |  |
|---------------------------|---|------|--|--|
| 1° or 2° Dx<br>- ACIDOSIS | = | 2762 |  |  |
|---------------------------|---|------|--|--|

Group Name: HYPER-KALEM, HYPERKALEMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                  |   |      |  |  |
|----------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HYPERPOTASSEMIA | = | 2767 |  |  |
|----------------------------------|---|------|--|--|

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**Coding System: ICD-10**

|                                   |   |      |  |  |
|-----------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Hyperkalaemia | = | E875 |  |  |
|-----------------------------------|---|------|--|--|

---

Group Name: HYPERTENSION, HYPERTENSION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                          |         |      |       |  |
|--------------------------|---------|------|-------|--|
| 1° or 2° Dx              | Between | 4010 | 40591 |  |
| - MALIGNANT HYPERTENSION |         |      |       |  |
| - RENOVASC HYPERTENSION  |         |      |       |  |

**Coding System: ICD-10**

|                                       |         |     |      |  |
|---------------------------------------|---------|-----|------|--|
| 1° or 2° ICD10                        | Between | I10 | I159 |  |
| - Essential (primary) hypertension    |         |     |      |  |
| - Secondary hypertension, unspecified |         |     |      |  |

Group Name: HYPER-URICEM, HYPERURICEMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |   |      |  |  |
|---------------------------|---|------|--|--|
| 1° or 2° Dx               | = | 7906 |  |  |
| - ABN BLOOD CHEMISTRY NEC |   |      |  |  |

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**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10  | = | E790 |  |  |
| - Hyperuricaemia without signs of inflammatory arthritis and tophaceous |   |      |  |  |

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Group Name: HYPOADRENAL, HYPOADRENALISM

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° Dx<br>- CORTICOADRENAL INSUFFIC<br>- ADRENAL HYPOFUNCTION NEC | Between | 2554 | 2555 |  |
|--|---------|------|------|--|

**Coding System: ICD-10**

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Primary adrenocortical insufficiency | = | E271 |  | Or |
|--|---|------|--|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Other and unspecified adrenocortical insufficiency | = | E274 |  |  |
|--|---|------|--|--|

Group Name: HYPOALBUMIN, HYPOALBUMINEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° Dx                | = | 2738 |  |  |
| - DIS PLAS PROTEIN MET NEC |   |      |  |  |

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | E880 |  |  |
| - Disorders of plasma-protein metabolism, not elsewhere classified |   |      |  |  |

Group Name: HYPOCALCEMIA, HYPOCALCEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                               |   |       |  |    |
|-------------------------------|---|-------|--|----|
| 1° or 2° Dx<br>- HYPOCALCEMIA | = | 27541 |  | Or |
|-------------------------------|---|-------|--|----|

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- HYPOCALCEM/HYPOMAGNES NB | = | 7754 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|  |   |     |  |    |
|--|---|-----|--|----|
| 1° or 2° ICD10<br>- Dietary calcium deficiency | = | E58 |  | Or |
|--|---|-----|--|----|

|   |   |      |  |    |
|---|---|------|--|----|
| 1° or 2° ICD10<br>- Disorders of calcium metabolism | = | E835 |  | Or |
|---|---|------|--|----|

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Cow's milk hypocalcaemia in newborn<br>- Other neonatal hypocalcaemia | Between | P710 | P711 |  |
|---|---------|------|------|--|

Group Name: HYPOCHLOREM, HYPOCHLOREMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° Dx                | = | 2769 |  |  |
| - ELECTROLYT/FLUID DIS NEC |   |      |  |  |

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | E878 |  |  |
| - Other disorders of electrolyte and fluid balance, not elsewhere clas |   |      |  |  |

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Group Name: HYPOGLYCEMIA, HYPOGLYCEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                         |         |      |      |  |
|-------------------------|---------|------|------|--|
| 1° or 2° Dx             | Between | 2511 | 2512 |  |
| - OTH SPCF HYPOGLYCEMIA |         |      |      |  |
| - HYPOGLYCEMIA NOS      |         |      |      |  |

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10                            | Between | E160 | E162 |  |
| - Drug-induced hypoglycaemia without coma |         |      |      |  |
| - Hypoglycaemia, unspecified              |         |      |      |  |

Group Name: HYPOKALEMIA, HYPOKALEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                 |   |      |  |  |
|---------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HYPOPOTASSEMIA | = | 2768 |  |  |
|---------------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                  |   |      |  |  |
|----------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Hypokalaemia | = | E876 |  |  |
|----------------------------------|---|------|--|--|

Group Name: HYPONATREMIA, HYPONATREMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                |   |      |  |  |
|--------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HYPOSMOLALITY | = | 2761 |  |  |
|--------------------------------|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Hypo-osmolality and hyponatraemia | = | E871 |  |  |
|---|---|------|--|--|

Group Name: HYPOPHOSPHAT, HYPOPHOSPHATEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- DIS PHOSPHORUS METABOL | = | 2753 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Disorders of phosphorus metabolism | = | E833 |  |  |
|--|---|------|--|--|

Group Name: HYPOPROTEIN, HYPOPROTEINEMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° Dx                | = | 2738 |  |  |
| - DIS PLAS PROTEIN MET NEC |   |      |  |  |

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10                               | = | E778 |  |  |
| - Other disorders of glycoprotein metabolism |   |      |  |  |

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Group Name: HYPORENINEM, HYPORENINEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |       |  |  |
|-------------|---|-------|--|--|
| 1° or 2° Dx | = | 79099 |  |  |
|-------------|---|-------|--|--|

- OTH NSPCF FINDING BLOOD

Group Name: HYPOTENSION, HYPOTENSION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                   |   |      |  |  |
|-----------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HYPOTENSION NOS* | = | 4589 |  |  |
|-----------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Hypotension, unspecified | = | I959 |  |  |
|--|---|------|--|--|

Group Name: HYPOTHERMIA, HYPOTHERMIA

**Comments:**

| <b>Variable</b>   | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|---|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>  |                               |                         |                       |                            |
| 1° or 2° Dx<br>- NB HYPOTHERMIA NEC   | =                             | 7783                    |                       | Or                         |
| 1° or 2° Dx<br>- GENERAL SYMPTOMS NEC*  | =                             | 7809                    |                       | Or                         |
| 1° or 2° Dx<br>- HYPOTHERMIA  | =                             | 9916                    |                       | Or                         |
| 1° or 2° Dx<br>- ADVERSE EFFECT NEC   | =                             | 99589                   |                       |                            |
| <b>Coding System: ICD-10</b>  |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Other hypothermia of newborn<br>- Hypothermia of newborn, unspecified | Between                       | P808                    | P809                  | Or                         |
| 1° or 2° ICD10<br>- Hypothermia, not associated with low environmental temperature        | =                             | R680                    |                       | Or                         |
| 1° or 2° ICD10<br>- Hypothermia   | =                             | T68                     |                       | Or                         |
| 1° or 2° ICD10<br>- Other complications of anaesthesia                                    | =                             | T885                    |                       |                            |

Group Name: HYPOTHYROID, HYPOTHYROIDISM

Comments:

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- POSTSURGICAL HYPOTHYROID<br>- HYPOTHYROIDISM NOS   | Between               | 2440            | 2449          | Or                 |
| 1° or 2° Dx<br>- DYSHORMONOGENIC GOITER   | =                     | 2461            |               |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Congenital iodine-deficiency syndrome, unspecified  | =                     | E009            |               | Or                 |
| 1° or 2° ICD10<br>- Other iodine-deficiency-related thyroid disorders and allied<br>- Postinfectious hypothyroidism | Between               | E018            | E033          | Or                 |
| 1° or 2° ICD10<br>- Other specified hypothyroidism  | =                     | E038            |               | Or                 |
| 1° or 2° ICD10<br>- Dyshormogenetic goitre  | =                     | E071            |               | Or                 |
| 1° or 2° ICD10<br>- Postprocedural hypothyroidism   | =                     | E890            |               |                    |

Group Name: HYPOXEMIA, HYPOXEMIA

**Comments:**

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- SEVERE BIRTH ASPHYXIA<br>- BIRTH ASPHYXIA NOS   | Between               | 7685            | 7689          | Or                 |
| 1° or 2° Dx<br>- Hypoxemia of newborn<br>- OTHER RESPIRATORY PROBLEMS AFTER BIRTH                                  | Between               | 77088           | 77089         | Or                 |
| 1° or 2° Dx<br>- ASPHYXIA<br>- Hypoxemia   | Between               | 7990            | 79902         |                    |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Maternal care for signs of fetal hypoxia   | =                     | O363            |               | Or                 |
| 1° or 2° ICD10<br>- Intrauterine hypoxia first noted before onset of labour<br>- Intrauterine hypoxia, unspecified | Between               | P200            | P209          | Or                 |
| 1° or 2° ICD10<br>- Birth asphyxia, unspecified  | =                     | P219            |               |                    |

Group Name: HYPR-ALDOST, HYPERALDOSTERONISM

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |      |       |  |
|---|---------|------|-------|--|
| 1° or 2° Dx<br>- HYPERALDOSTERONISM*<br>- Other secondary aldosteronism | Between | 2551 | 25514 |  |
|---|---------|------|-------|--|

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Primary hyperaldosteronism<br>- Hyperaldosteronism, unspecified | Between | E260 | E269 |  |
|---|---------|------|------|--|

Group Name: HYPR-AMMON, HYPERAMMONEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- DIS UREA CYCLE METABOL | = | 2706 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Disorders of urea cycle metabolism | = | E722 |  |  |
|--|---|------|--|--|

Group Name: HYPR-BILI, HYPERBILIRUBINEMIA

**Comments:**

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- DIS BILIRUBIN EXCRETION                               | =                             | 2774                    |                       | Or                         |
| 1° or 2° Dx<br>- NEONAT JAUND PRETERM DEL                              | =                             | 7742                    |                       | Or                         |
| 1° or 2° Dx<br>- FETAL/NEONATAL JAUND NOS                              | =                             | 7746                    |                       | Or                         |
| 1° or 2° Dx<br>- JAUNDICE NOS  | =                             | 7824                    |                       |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Other disorders of bilirubin metabolism            | =                             | E806                    |                       | Or                         |
| 1° or 2° ICD10<br>- Neonatal jaundice associated with preterm delivery | =                             | P590                    |                       | Or                         |
| 1° or 2° ICD10<br>- Neonatal jaundice, unspecified                     | =                             | P599                    |                       | Or                         |
| 1° or 2° ICD10<br>- Unspecified jaundice                               | =                             | R17                     |                       |                            |

Group Name: HYPR-CALCEM, HYPERCALCEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                |   |       |  |  |
|--------------------------------|---|-------|--|--|
| 1° or 2° Dx<br>- HYPERCALCEMIA | = | 27542 |  |  |
|--------------------------------|---|-------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Disorders of calcium metabolism | = | E835 |  |  |
|---|---|------|--|--|

Group Name: HYPR-CALCIUR, HYPERCALCIURIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |       |  |  |
|---|---|-------|--|--|
| 1° or 2° Dx<br>- DIS CALCIUM METABLSM NOS | = | 27540 |  |  |
|---|---|-------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Disorders of calcium metabolism | = | E835 |  |  |
|---|---|------|--|--|

Group Name: HYPR-CHLOREM, HYPERCHLOREMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° Dx                | = | 2769 |  |  |
| - ELECTROLYT/FLUID DIS NEC |   |      |  |  |

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | E878 |  |  |
| - Other disorders of electrolyte and fluid balance, not elsewhere clas |   |      |  |  |

Group Name: HYPR-CHOLEST, HYPERCHOLESTEROLEMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2720 |  | Or |
|-------------|---|------|--|----|

- PURE HYPERCHOLESTEROLEM

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 2722 |  |  |
|-------------|---|------|--|--|

- MIXED HYPERLIPIDEMIA

**Coding System: ICD-10**

|                |   |      |  |    |
|----------------|---|------|--|----|
| 1° or 2° ICD10 | = | E780 |  | Or |
|----------------|---|------|--|----|

- Pure hypercholesterolaemia

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | E782 |  |  |
|----------------|---|------|--|--|

- Mixed hyperlipidaemia

Group Name: HYPR-NATREM, HYPERNATREMIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                  |   |      |  |  |
|----------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- HYPEROSMOLALITY | = | 2760 |  |  |
|----------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Hyperosmolality and hypernatraemia | = | E870 |  |  |
|--|---|------|--|--|

Group Name: HYPR-THYROID, HYPERTHYROIDISM

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |       |       |    |
|--|---------|-------|-------|----|
| 1° or 2° Dx<br>- TOX DIF GOITER NO CRISIS<br>- THYROTOX NOS W CRISIS | Between | 24200 | 24291 | Or |
|--|---------|-------|-------|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° Dx<br>- NEONATAL THYROTOXICOSIS | = | 7753 |  |  |
|--|---|------|--|--|

**Coding System: ICD-10**

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Thyrotoxicosis with diffuse goitre<br>- Thyrotoxicosis, unspecified | Between | E050 | E059 | Or |
|---|---------|------|------|----|

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Transitory neonatal hyperthyroidism | = | P721 |  |  |
|---|---|------|--|--|

Group Name: HYPR-TRIGS, HYPERTRIGLYCERIDEMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                          |   |      |  |  |
|--------------------------|---|------|--|--|
| 1° or 2° Dx              | = | 2721 |  |  |
| - PURE HYPERGLYCERIDEMIA |   |      |  |  |

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**Coding System: ICD-10**

|                           |   |      |  |  |
|---------------------------|---|------|--|--|
| 1° or 2° ICD10            | = | E781 |  |  |
| - Pure hyperglyceridaemia |   |      |  |  |

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Group Name: INJURY, INJURY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |       |      |  |
|---|---------|-------|------|--|
| 1° or 2° Dx<br>- CLOSED SKULL VAULT FX<br>- INJURY-SITE NOS | Between | 80000 | 9599 |  |
|---|---------|-------|------|--|

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Superficial injury of scalp<br>- Unspecified frostbite of unspecified site | Between | S000 | T357 |  |
|--|---------|------|------|--|

Group Name: ISOSPORA BEL, ISOSPORA BELLI

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                              |   |      |  |  |
|------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- COCCIDIOSIS | = | 0072 |  |  |
|------------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                  |   |      |  |  |
|----------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Isosporiasis | = | A073 |  |  |
|----------------------------------|---|------|--|--|

Group Name: LEAD INTOX, LEAD INTOXICATION

Comments:

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- POIS-HEAV MET ANTI-INFEC                                    | =                     | 9612            |               | Or                 |
| 1° or 2° Dx<br>- TX EFF INORG LEAD COMPND<br>- TOX EFF LEAD COMPND NOS       | Between               | 9840            | 9849          | Or                 |
| 1° or 2° Dx<br>- TOXIC EFFECT ARSENIC  | =                     | 9851            |               | End                |
| 1° or 2° Dx<br>- ABN TOXICOLOGIC FINDING                                     | =                     | 7960            |               | And (              |
| 1° or 2° Dx<br>- ACC POIS-OTH ANTI-INFECT                                    | =                     | E857            |               | Or                 |
| 1° or 2° Dx<br>- ACC POISON-LEAD PAINTS                                      | =                     | E8615           |               | Or                 |
| 1° or 2° Dx<br>- ACC POISN-PETROLEUM FUEL                                    | =                     | E8621           |               | Or                 |
| 1° or 2° Dx<br>- ACC POISON-PESTICIDE NEC<br>- ACC POISON-HERBICIDES         | Between               | E8634           | E8635         | Or                 |
| 1° or 2° Dx<br>- ACC POISONING-LEAD  | =                     | E8660           |               | Or                 |
| 1° or 2° Dx<br>- ADV EFF METAL ANTI-INF                                      | =                     | E9312           |               | Or                 |
| 1° or 2° Dx<br>- POISON-DRUG/MEDICIN NEC                                     | =                     | E9504           |               | Or                 |
| 1° or 2° Dx<br>- POISON-ARSENIC<br>- POISON-SOLID/LIQUID NEC                 | Between               | E9508           | E9509         | Or                 |
| 1° or 2° Dx<br>- UNDET POIS-MED AGNT NEC                                     | =                     | E9804           |               | Or                 |
| 1° or 2° Dx<br>- UNDETER POIS-ARSENIC<br>- UNDETER POIS-SOL/LIQ NEC          | Between               | E9808           | E9809         | )                  |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Cardiac-stimulant glycosides and drugs of similar action | =                     | T460            |               | Or                 |
| 1° or 2° ICD10<br>- Local astringents and local detergents                   | =                     | T492            |               | Or                 |
| 1° or 2° ICD10<br>- Lead and its compounds                                   | =                     | T560            |               | Or                 |

|   |  |  |  |  |
|---|--|--|--|--|
| Group Name: LEAD INTOX, LEAD INTOXICATION |  |  |  |  |
|---|--|--|--|--|

|  |         |      |       |       |
|--|---------|------|-------|-------|
| 1° or 2° ICD10   | =       | T570 |       | End   |
| - Arsenic and its compounds  |         |      |       |       |
| 1° or 2° ICD10   | =       | R788 |       | And ( |
| - Finding of other specified substances, not normally found in blood       |         |      |       |       |
| 1° or 2° ICD10   | Between | X440 | X4499 | Or    |
| - Accidental poisoning by and exposure to other and unspecified drugs,, Ho |         |      |       |       |
| - Accidental poisoning by and exposure to other and unspecified drugs,, Un |         |      |       |       |
| 1° or 2° ICD10   | Between | X460 | X4699 | Or    |
| - Accidental poisoning by and exposure to organic solvents and, Home       |         |      |       |       |
| - Accidental poisoning by and exposure to organic solvents and, Unspecifie |         |      |       |       |
| 1° or 2° ICD10   | Between | X480 | X4999 | Or    |
| - Accidental poisoning by and exposure to pesticides, Home                 |         |      |       |       |
| - Accidental poisoning by and exposure to other and unspecified, Unspecifi |         |      |       |       |
| 1° or 2° ICD10   | Between | X640 | X6499 | Or    |
| - Intentional self-poisoning by and exposure to other and unspecified, Hom |         |      |       |       |
| - Intentional self-poisoning by and exposure to other and unspecified, Uns |         |      |       |       |
| 1° or 2° ICD10   | Between | X680 | X6999 | Or    |
| - Intentional self-poisoning by and exposure to pesticides, Home           |         |      |       |       |
| - Intentional self-poisoning by and exposure to other and unspecified, Uns |         |      |       |       |
| 1° or 2° ICD10   | Between | Y160 | Y1699 | Or    |
| - Poisoning by and exposure to organic solvents and halogenated, Home      |         |      |       |       |
| - Poisoning by and exposure to organic solvents and halogenated, Unspecifi |         |      |       |       |
| 1° or 2° ICD10   | Between | Y180 | Y1999 | Or    |
| - Poisoning by and exposure to pesticides, undetermined intent, Home       |         |      |       |       |
| - Poisoning by and exposure to other and unspecified chemicals and, Unspec |         |      |       |       |
| 1° or 2° ICD10   | =       | Y562 |       | )     |
| - Local astringents and local detergents                                   |         |      |       |       |

Group Name: LEUKOCYTOSIS, LEUKOCYTOSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                  |   |      |  |    |
|----------------------------------|---|------|--|----|
| 1° or 2° Dx<br>- WBC DISEASE NEC | = | 2888 |  | Or |
|----------------------------------|---|------|--|----|

|   |         |       |       |  |
|---|---------|-------|-------|--|
| 1° or 2° Dx<br>- Leukocytosis, unspecified<br>- Other elevated white blood cell count | Between | 28860 | 28869 |  |
|---|---------|-------|-------|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Other specified disorders of white blood cells | = | D728 |  |  |
|--|---|------|--|--|

Group Name: LEUKOPENIA, LEUKOPENIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2880 |  | Or |
|-------------|---|------|--|----|

- AGRANULOCYTOSIS

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 7767 |  |  |
|-------------|---|------|--|--|

- NEONATAL NEUTROPENIA

**Coding System: ICD-10**

|                |   |     |  |  |
|----------------|---|-----|--|--|
| 1° or 2° ICD10 | = | D70 |  |  |
|----------------|---|-----|--|--|

- Agranulocytosis

Group Name: LUPUS, LUPUS ERYTHEMATOSUS

**Comments:**

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- LUPUS ERYTHEMATOSUS   | =                             | 6954                    |                       | Or                         |
| 1° or 2° Dx<br>- SYST LUPUS ERYTHEMATOSUS  | =                             | 7100                    |                       |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Noninfectious dermatoses of eyelid   | =                             | H011                    |                       | Or                         |
| 1° or 2° ICD10<br>- Subacute cutaneous lupus erythematosus<br>- Other local lupus erythematosus              | Between                       | L931                    | L932                  | Or                         |
| 1° or 2° ICD10<br>- Drug-induced systemic lupus erythematosus<br>- Systemic lupus erythematosus, unspecified | Between                       | M320                    | M329                  | Or                         |
| 1° or 2° ICD10<br>- Fetus and newborn affected by other maternal conditions                                  | =                             | P008                    |                       |                            |

Group Name: LYMPHCYTPEN, LYMPHOCYTOPENIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2888 |  | Or |
|-------------|---|------|--|----|

- WBC DISEASE NEC

|             |         |       |       |  |
|-------------|---------|-------|-------|--|
| 1° or 2° Dx | Between | 28860 | 28869 |  |
|-------------|---------|-------|-------|--|

- Leukocytosis, unspecified

- Other elevated white blood cell count

**Coding System: ICD-10**

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | D728 |  |  |
|----------------|---|------|--|--|

- Other specified disorders of white blood cells

Group Name: MACROCYT, EY, MACROCYTOSIS, ERYTHROCYTE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 2898 |  | Or |
|-------------|---|------|--|----|

- BLOOD DISEASES NEC\*

|             |   |       |  |  |
|-------------|---|-------|--|--|
| 1° or 2° Dx | = | 28989 |  |  |
|-------------|---|-------|--|--|

- Other spec'd dis blood/blood forming org

**Coding System: ICD-10**

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | D758 |  |  |
|----------------|---|------|--|--|

- Other specified diseases of blood and blood-forming organs

Group Name: MENGIT, BACT, MENINGITIS, BACTERIAL

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° Dx<br>- MENINGOCOCCAL MENINGITIS<br>- MENINGOCOCCAL INFECT NOS | Between | 0360 | 0369 | Or |
|---|---------|------|------|----|

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° Dx<br>- HEMOPHILUS MENINGITIS<br>- BACTERIAL MENINGITIS NOS | Between | 3200 | 3209 |  |
|--|---------|------|------|--|

**Coding System: ICD-10**

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10<br>- Meningococcal meningitis (G01*)<br>- Meningococcal infection, unspecified | Between | A390 | A399 | Or |
|---|---------|------|------|----|

|   |         |      |     |    |
|---|---------|------|-----|----|
| 1° or 2° ICD10<br>- Haemophilus meningitis<br>- Meningitis in bacterial diseases classified elsewhere | Between | G000 | G01 | Or |
|---|---------|------|-----|----|

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Bacterial meningoenzephalitis and meningomyelitis, not elsewhere | = | G042 |  | Or |
|--|---|------|--|----|

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Enzephalitis, myelitis and enzephalomyelitis in bacterial diseases | = | G050 |  |  |
|--|---|------|--|--|

Group Name: MENING, VIR, MENINGITIS, VIRAL OR ASEPTIC

**Comments:**

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- COXSACKIE VIRUS MENING<br>- ADENOVIRAL MENINGITIS  | Between               | 0470            | 0491          | Or                 |
| 1° or 2° Dx<br>- MENING IN OTH VIRAL DIS  | =                     | 3212            |               | Or                 |
| 1° or 2° Dx<br>- MENING IN OTH NONBAC DIS   | =                     | 3218            |               | Or                 |
| 1° or 2° Dx<br>- NONPYOGENIC MENINGITIS<br>- CHRONIC MENINGITIS   | Between               | 3220            | 3222          |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Unspecified viral encephalitis<br>- Viral meningitis, unspecified   | Between               | A86             | A879          | Or                 |
| 1° or 2° ICD10<br>- Meningitis in viral diseases classified elsewhere   | =                     | G020            |               | Or                 |
| 1° or 2° ICD10<br>- Nonpyogenic meningitis<br>- Acute disseminated encephalitis   | Between               | G030            | G040          | Or                 |
| 1° or 2° ICD10<br>- Other encephalitis, myelitis and encephalomyelitis<br>- Encephalitis, myelitis and encephalomyelitis, unspecified | Between               | G048            | G049          |                    |

Group Name: MENT RETARD, MENTAL RETARDATION

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |         |     |     |  |
|---------------------------|---------|-----|-----|--|
| 1° or 2° Dx               | Between | 317 | 319 |  |
| - MILD MENTAL RETARDATION |         |     |     |  |
| - MENTAL RETARDATION NOS  |         |     |     |  |

**Coding System: ICD-10**

|   |         |      |      |    |
|---|---------|------|------|----|
| 1° or 2° ICD10  | Between | F700 | F799 | Or |
| - Mild mental retardation, w/ statement of no or minimal behav impairment |         |      |      |    |
| - Unspec mental retardation, w/o mention of impairment of behavior        |         |      |      |    |

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | F844 |  |  |
| - Overactive disorder associated with mental retardation and stereotyped |   |      |  |  |

Group Name: MULT SCLERO, MULTIPLE SCLEROSIS

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                     |   |     |  |  |
|-------------------------------------|---|-----|--|--|
| 1° or 2° Dx<br>- MULTIPLE SCLEROSIS | = | 340 |  |  |
|-------------------------------------|---|-----|--|--|

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**Coding System: ICD-10**

|  |   |     |  |  |
|--|---|-----|--|--|
| 1° or 2° ICD10<br>- Multiple sclerosis | = | G35 |  |  |
|--|---|-----|--|--|

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Group Name: MYCOBAC INTR, MYCOBACTERIUM INTRACELLULARE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- PULMONARY MYCOBACTERIA | = | 0310 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Pulmonary mycobacterial infection | = | A310 |  |  |
|---|---|------|--|--|

Group Name: MYOCARDITIS, MYOCARDITIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |         |      |       |  |
|---------------------------|---------|------|-------|--|
| 1° or 2° Dx               | Between | 4220 | 42299 |  |
| - AC MYOCARDIT IN OTH DIS |         |      |       |  |
| - ACUTE MYOCARDITIS NEC   |         |      |       |  |

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10                                       | Between | I400 | I418 |  |
| - Infective myocarditis                              |         |      |      |  |
| - Myocarditis in other diseases classified elsewhere |         |      |      |  |

Group Name: NOONAN'S, NOONAN'S SYNDROME

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                             |   |       |  |  |
|-----------------------------|---|-------|--|--|
| 1° or 2° Dx                 | = | 75989 |  |  |
| - SPECIFIED CONG ANOMAL NEC |   |       |  |  |

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | Q871 |  |  |
| - Congenital malformation syndromes predominantly associated with shor |   |      |  |  |

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Group Name: OBESITY, OBESITY

**Comments:**

| <b>Variable</b>  | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|--|-------------------------------|-------------------------|-----------------------|----------------------------|
| <b>Coding System: ICD-9-CM</b>   |                               |                         |                       |                            |
| 1° or 2° Dx<br>- OBESITY NOS<br>- Overweight                                 | Between                       | 27800                   | 27802                 | Or                         |
| 1° or 2° Dx<br>- OTHER HYPERALIMENTATION                                     | =                             | 2788                    |                       | Or                         |
| 1° or 2° Dx<br>- BMI <19 adult<br>- BMI 40 and over adult                    | Between                       | V850                    | V854                  |                            |
| <b>Coding System: ICD-10</b>   |                               |                         |                       |                            |
| 1° or 2° ICD10<br>- Obesity due to excess calories<br>- Obesity, unspecified | Between                       | E660                    | E669                  |                            |

Group Name: OLIGURIA, OLIGURIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- OLIGURIA & ANURIA | = | 7885 |  |  |
|------------------------------------|---|------|--|--|

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**Coding System: ICD-10**

|   |   |     |  |  |
|---|---|-----|--|--|
| 1° or 2° ICD10<br>- Anuria and oliguria | = | R34 |  |  |
|---|---|-----|--|--|

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|   |
|---|
| Group Name: OPP INF, Opportunistic Infections |
|---|

**Comments:**

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- PRIM TB COMPLEX-UNSPEC<br>- MILIARY TB NOS-UNSPEC  | Between               | 01000           | 01890         | Or                 |
| Group<br>- PNEUMOCYSTIS CARINII   | =                     | PNEU            |               | Or                 |
| Group<br>- CYTOMEGALOVIRUS (CMV) INFECTION  | =                     | CMV             |               | Or                 |
| Group<br>- CANDIDA ALBICANS   | =                     | CANDI           |               | Or                 |
| Group<br>- CRYPTOCOCCUS   | =                     | CRYPT           |               | Or                 |
| Group<br>- HISTOPLASMA  | =                     | HISTO           |               | Or                 |
| Group<br>- TOXOPLASMA GONDII  | =                     | TOXOP           |               | Or                 |
| Group<br>- MYCOBACTERIUM INTRACELLULARE   | =                     | MYCO            |               | Or                 |
| Group<br>- CRYPTOSPORIDIUM spp.   | =                     | CRYPT           |               | Or                 |
| Group<br>- ISOSPOA BELLI  | =                     | ISOSP           |               | Or                 |
| Group<br>- HERPES VIRUS spp.  | =                     | HERPE           |               | Or                 |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Tuberculosis of lung, confirmed by sputum microscopy with or<br>- Miliary tuberculosis, unspecified | Between               | A150            | A199          | Or                 |
| Group<br>- PNEUMOCYSTIS CARINII   | =                     | PNEU            |               | Or                 |
| Group<br>- HERPES VIRUS spp.  | =                     | HERPE           |               | Or                 |
| Group<br>- CANDIDA ALBICANS   | =                     | CANDI           |               | Or                 |
| Group<br>- CRYPTOCOCCUS   | =                     | CRYPT           |               | Or                 |
| Group<br>- HISTOPLASMA  | =                     | HISTO           |               | Or                 |
| Group<br>- TOXOPLASMA GONDII  | =                     | TOXOP           |               | Or                 |

|   |   |       |    |
|---|---|-------|----|
| Group Name: OPP INF, Opportunistic Infections |   |       |    |
| Group<br>- MYCOBACTERIUM INTRACELLULARE       | = | MYCO  | Or |
| Group<br>- CRYPTOSPORIDIUM spp.               | = | CRYPT | Or |
| Group<br>- ISOSPORA BELLI                     | = | ISOSP | Or |
| Group<br>- CYTOMEGALOVIRUS (CMV) INFECTION    | = | CMV   |    |

Group Name: OSTEOMYELIT, OSTEOMYELITIS

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                           |         |       |       |  |
|---------------------------|---------|-------|-------|--|
| 1° or 2° Dx               | Between | 73000 | 73029 |  |
| - AC OSTEOMYELITIS-UNSPEC |         |       |       |  |
| - OSTEOMYELITIS NOS-MULT  |         |       |       |  |

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**Coding System: ICD-10**

|   |         |      |       |  |
|---|---------|------|-------|--|
| 1° or 2° ICD10                            | Between | M860 | M8699 |  |
| - Acute haematogenous osteomyelitis       |         |      |       |  |
| - Osteomyelitis, unspecified, UnSpec Site |         |      |       |  |

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Group Name: OSTEOPOROS, OSTEOPOROSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                    |         |       |       |  |
|--------------------|---------|-------|-------|--|
| 1° or 2° Dx        | Between | 73300 | 73309 |  |
| - OSTEOPOROSIS NOS |         |       |       |  |
| - OSTEOPOROSIS NEC |         |       |       |  |

**Coding System: ICD-10**

|  |         |      |       |  |
|--|---------|------|-------|--|
| 1° or 2° ICD10   | Between | M800 | M8199 |  |
| - Postmenopausal osteoporosis with pathological fracture |         |      |       |  |
| - Osteoporosis, unspecified, UnSpec Site                 |         |      |       |  |

Group Name: PANCR INSUFF, PANCREATIC INSUFFICIENCY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- PANCREATIC DISEASE NEC | = | 5778 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Other specified diseases of pancreas | = | K868 |  |  |
|--|---|------|--|--|

Group Name: PANCREATITIS, PANCREATITIS

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                        |         |      |      |  |
|------------------------|---------|------|------|--|
| 1° or 2° Dx            | Between | 5770 | 5771 |  |
| - ACUTE PANCREATITIS   |         |      |      |  |
| - CHRONIC PANCREATITIS |         |      |      |  |

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**Coding System: ICD-10**

|                              |         |     |      |  |
|------------------------------|---------|-----|------|--|
| 1° or 2° ICD10               | Between | K85 | K861 |  |
| - Acute pancreatitis         |         |     |      |  |
| - Other chronic pancreatitis |         |     |      |  |

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Group Name: PEDAL EDEMA, PEDAL EDEMA 3+

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                        |   |      |  |  |
|------------------------|---|------|--|--|
| 1° or 2° Dx<br>- EDEMA | = | 7823 |  |  |
|------------------------|---|------|--|--|

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**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Localized oedema<br>- Oedema, unspecified | Between | R600 | R609 |  |
|---|---------|------|------|--|

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Group Name: PNEUMOCYSTIS, PNEUMOCYSTIS CARINII

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                 |   |      |  |  |
|---------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- PNEUMOCYSTOSIS | = | 1363 |  |  |
|---------------------------------|---|------|--|--|

**Coding System: ICD-10**

|                                    |   |     |  |  |
|------------------------------------|---|-----|--|--|
| 1° or 2° ICD10<br>- Pneumocystosis | = | B59 |  |  |
|------------------------------------|---|-----|--|--|

Group Name: PNEUMONIA, PNEUMONIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° Dx<br>- ADENOVIRAL PNEUMONIA<br>- INFLUENZA WITH PNEUMONIA | Between | 4800 | 4870 |  |
|---|---------|------|------|--|

**Coding System: ICD-10**

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Influenza with pneumonia, influenza virus identified | = | J100 |  | Or |
|--|---|------|--|----|

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Influenza with pneumonia, virus not identified | = | J110 |  | Or |
|--|---|------|--|----|

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Adenoviral pneumonia<br>- Pneumonia, unspecified | Between | J120 | J189 |  |
|--|---------|------|------|--|

Group Name: POLYCYTH,2ND, POLYCYTHEMIA, SECONDARY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- SECONDARY POLYCYTHEMIA | = | 2890 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Secondary polycythaemia | = | D751 |  |  |
|---|---|------|--|--|

Group Name: PULMEMB, PULMONARY EMBOLISM

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                          |         |      |       |  |
|--------------------------|---------|------|-------|--|
| 1° or 2° Dx              | Between | 4150 | 41519 |  |
| - ACUTE COR PULMONALE    |         |      |       |  |
| - PULM EMBOL/INFARCT NEC |         |      |       |  |

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10  | Between | I260 | I269 |  |
| - Pulmonary embolism with mention of acute cor pulmonale    |         |      |      |  |
| - Pulmonary embolism without mention of acute cor pulmonale |         |      |      |  |

Group Name: REN FAIL ACU, RENAL FAILURE, ACUTE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |         |      |      |  |
|---------------------------|---------|------|------|--|
| 1° or 2° Dx               | Between | 5845 | 5849 |  |
| - LOWER NEPHRON NEPHROSIS |         |      |      |  |
| - ACUTE RENAL FAILURE NOS |         |      |      |  |

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10                              | Between | N170 | N179 |  |
| - Acute renal failure with tubular necrosis |         |      |      |  |
| - Acute renal failure, unspecified          |         |      |      |  |

Group Name: REN FAIL CHR, RENAL FAILURE, CHRONIC

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |         |     |     |  |
|---|---------|-----|-----|--|
| 1° or 2° Dx<br>- CHRONIC RENAL FAILURE<br>- RENAL FAILURE NOS | Between | 585 | 586 |  |
|---|---------|-----|-----|--|

**Coding System: ICD-10**

|   |   |      |  |    |
|---|---|------|--|----|
| 1° or 2° ICD10<br>- Hypertensive renal disease with renal failure | = | I120 |  | Or |
|---|---|------|--|----|

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° ICD10<br>- Hypertensive heart and renal disease with renal failure<br>- Hypertensive heart and renal disease with both (congestive) heart | Between | I131 | I132 | Or |
|--|---------|------|------|----|

|  |         |      |     |  |
|--|---------|------|-----|--|
| 1° or 2° ICD10<br>- End-stage renal disease<br>- Unspecified renal failure | Between | N180 | N19 |  |
|--|---------|------|-----|--|

Group Name: RENAL INSUFF, RENAL INSUFFICIENCY

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° Dx<br>- RENAL & URETERAL DIS NOS | = | 5939 |  |  |
|---|---|------|--|--|

**Coding System: ICD-10**

|   |   |     |  |  |
|---|---|-----|--|--|
| 1° or 2° ICD10<br>- Unspecified renal failure | = | N19 |  |  |
|---|---|-----|--|--|

|  |
|--|
| Group Name: RESP FAIL, RESPIRATORY FAILURE |
|--|

**Comments:** Per MG, we should not include respiratory insufficiency here (786.09, 518.82, 518.5, 770.8, R06.8, P28.5)

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>                                 |                       |                 |               |                    |
| 1° or 2° Dx<br>- ACUTE RESPIRATRY FAILURE                      | =                     | 51881           |               | Or                 |
| 1° or 2° Dx<br>- CHRONIC RESPIRATORY FAIL                      | =                     | 51883           |               | Or                 |
| 1° or 2° Dx<br>- ACUTE & CHRONC RESP FAIL                      | =                     | 51884           |               | End                |
| <b>Coding System: ICD-10</b>                                   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Other specified disorders of brain         | =                     | G938            |               | Or                 |
| 1° or 2° ICD10<br>- Other postprocedural respiratory disorders | =                     | J958            |               | Or                 |
| 1° or 2° ICD10<br>- Acute respiratory failure                  | =                     | J960            |               | Or                 |
| 1° or 2° ICD10<br>- Chronic respiratory failure                | =                     | J961            |               | Or                 |
| 1° or 2° ICD10<br>- Respiratory failure, unspecified           | =                     | J969            |               |                    |

Group Name: RETICULOCYT, RETICULOCYTOSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |   |       |  |  |
|---------------------------|---|-------|--|--|
| 1° or 2° Dx               | = | 79099 |  |  |
| - OTH NSPCF FINDING BLOOD |   |       |  |  |

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10   | = | D758 |  |  |
| - Other specified diseases of blood and blood-forming organs |   |      |  |  |

Group Name: REYE'S, REYE'S SYNDROME

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                  |   |       |  |  |
|----------------------------------|---|-------|--|--|
| 1° or 2° Dx<br>- REYE'S SYNDROME | = | 33181 |  |  |
|----------------------------------|---|-------|--|--|

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**Coding System: ICD-10**

|                                     |   |      |  |  |
|-------------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Reye's syndrome | = | G937 |  |  |
|-------------------------------------|---|------|--|--|

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Group Name: RHABDOMYO, RHABDOMYOLYSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |       |       |    |
|--|---------|-------|-------|----|
| 1° or 2° Dx<br>- Rhabdomyolysis<br>- MUSCLE/LIGAMENT DIS NEC | Between | 72888 | 72889 | Or |
|--|---------|-------|-------|----|

|                                       |   |       |  |  |
|---------------------------------------|---|-------|--|--|
| 1° or 2° Dx<br>- Psoas muscle abscess | = | 56731 |  |  |
|---------------------------------------|---|-------|--|--|

**Coding System: ICD-10**

|   |         |      |       |  |
|---|---------|------|-------|--|
| 1° or 2° ICD10<br>- Other specified disorders of muscle<br>- Other specified disorders of muscle, UnSpec Site | Between | M628 | M6289 |  |
|---|---------|------|-------|--|

Group Name: S3 GALLOP, S3 GALLOP

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |       |  |    |
|-------------|---|-------|--|----|
| 1° or 2° Dx | = | 42789 |  | Or |
|-------------|---|-------|--|----|

- CARDIAC DYSRHYTHMIAS NEC

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 7853 |  |  |
|-------------|---|------|--|--|

- ABNORM HEART SOUNDS NEC

**Coding System: ICD-10**

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | R008 |  |  |
|----------------|---|------|--|--|

- Other and unspecified abnormalities of heart beat

Group Name: SALICY INTOX, SALICYLATE INTOXICATION

Comments:

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- POISONING-SALICYLATES   | =                     | 9651            |               | Or                 |
| 1° or 2° Dx<br>- POIS-PURINE DIURETICS   | =                     | 9741            |               | Or                 |
| 1° or 2° Dx<br>- POIS-EMOL/DEMUL/PROTECT   | =                     | 9763            |               | End                |
| 1° or 2° Dx<br>- ABN TOXICOLOGIC FINDING   | =                     | 7960            |               | And (              |
| 1° or 2° Dx<br>- ACC POISON-SALICYLATES  | =                     | E8503           |               | Or                 |
| 1° or 2° Dx<br>- ACC POISON-BLOOD AGENT  | =                     | E8582           |               | Or                 |
| 1° or 2° Dx<br>- ACC POISN-SKIN/EENT AGNT  | =                     | E8587           |               | Or                 |
| 1° or 2° Dx<br>- ADV EFF SALICYLATES   | =                     | E9353           |               | Or                 |
| 1° or 2° Dx<br>- ADV EFF PURINE DIURETICS  | =                     | E9441           |               | Or                 |
| 1° or 2° Dx<br>- ADV EFF EMOLLIENT/DEMULC  | =                     | E9463           |               | Or                 |
| 1° or 2° Dx<br>- POISON-ANALGESICS   | =                     | E9500           |               | Or                 |
| 1° or 2° Dx<br>- POISON-DRUG/MEDICIN NEC   | =                     | E9504           |               | Or                 |
| 1° or 2° Dx<br>- ASSAULT-POIS W MEDIC AGT  | =                     | E9620           |               | Or                 |
| 1° or 2° Dx<br>- UNDETERM POIS-ANALGESICS  | =                     | E9800           |               | )                  |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Salicylates  | =                     | T390            |               | End                |
| 1° or 2° ICD10<br>- Finding of other specified substances, not normally found in blood   | =                     | R788            |               | And (              |
| 1° or 2° ICD10<br>- Accidental poisoning by and exposure to nonopioid analgesics,, Home<br>- Accidental poisoning by and exposure to nonopioid analgesics,, Industria      | Between               | X400            | X4069         | Or                 |
| 1° or 2° ICD10<br>- Intentional self-poisoning by and exposure to nonopioid analgesics,, Hom<br>- Intentional self-poisoning by and exposure to nonopioid analgesics,, Hom | Between               | X600            | X6009         | Or                 |

|   |
|---|
| Group Name: SALICY INTOX, SALICYLATE INTOXICATION |
|---|

|  |         |      |       |    |
|--|---------|------|-------|----|
| 1° or 2° ICD10   | Between | Y100 | Y1099 | Or |
| - Poisoning by and exposure to nonopioid analgesics, antipyretics and, Hom |         |      |       |    |
| - Poisoning by and exposure to nonopioid analgesics, antipyretics and, Uns |         |      |       |    |
| <hr/>  |         |      |       |    |
| 1° or 2° ICD10   | =       | Y451 |       | )  |
| - Salicylates  |         |      |       |    |
| <hr/>  |         |      |       |    |

Group Name: SARCOIDOSIS, SARCOIDOSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                              |   |     |  |  |
|------------------------------|---|-----|--|--|
| 1° or 2° Dx<br>- SARCOIDOSIS | = | 135 |  |  |
|------------------------------|---|-----|--|--|

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Sarcoidosis of lung<br>- Sarcoidosis, unspecified | Between | D860 | D869 |  |
|---|---------|------|------|--|

Group Name: SCHISTOSOM, SCHISTOSOMIASIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |      |      |  |
|----------------------------|---------|------|------|--|
| 1° or 2° Dx                | Between | 1200 | 1209 |  |
| - SCHISTOSOMA HAEMATOBIMUM |         |      |      |  |
| - SCHISTOSOMIASIS NOS      |         |      |      |  |

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10  | Between | B650 | B659 |  |
| - Schistosomiasis due to Schistosoma haematobium [urinary |         |      |      |  |
| - Schistosomiasis, unspecified                            |         |      |      |  |

Group Name: SEPSIS, SEPSIS or SEPTICEMIA

**Comments:** See also other codes for specific organisms, such as meningococcal septicemia; cannot use this group if etiology of a DXCAT is a specific organism.

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                            |         |      |      |  |
|----------------------------|---------|------|------|--|
| 1° or 2° Dx                | Between | 0380 | 0389 |  |
| - STREPTOCOCCAL SEPTICEMIA |         |      |      |  |
| - SEPTICEMIA NOS           |         |      |      |  |

---

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10                              | Between | A400 | A419 |  |
| - Septicaemia due to streptococcus, group A |         |      |      |  |
| - Septicaemia, unspecified                  |         |      |      |  |

---

Group Name: SEPSIS, INF, SEPSIS, INFANT

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° Dx<br>- PERINATAL INFECTION NEC | = | 7718 |  |  |
|--|---|------|--|--|

**Coding System: ICD-10**

|   |         |      |      |  |
|---|---------|------|------|--|
| 1° or 2° ICD10<br>- Sepsis of newborn due to streptococcus, group B<br>- Bacterial sepsis of newborn, unspecified | Between | P360 | P369 |  |
|---|---------|------|------|--|

Group Name: SHOCKA, SHOCK, ALL TYPES

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |   |       |  |     |
|--|---|-------|--|-----|
| Group<br>- SHOCK, CARDIOGENIC              | = | SHOCK |  | Or  |
| Group<br>- SHOCK, NONCARDIAC, NONTRAUMATIC | = | SHOCK |  | Or  |
| Group<br>- SHOCK, TRAUMATIC                | = | SHOCK |  | End |

**Coding System: ICD-10**

|  |   |       |  |    |
|--|---|-------|--|----|
| Group<br>- SHOCK, CARDIOGENIC              | = | SHOCK |  | Or |
| Group<br>- SHOCK, NONCARDIAC, NONTRAUMATIC | = | SHOCK |  | Or |
| Group<br>- SHOCK, TRAUMATIC                | = | SHOCK |  |    |

Group Name: SHOCKC, SHOCK, CARDIOGENIC

**Comments:**

---

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                                    |   |       |  |  |
|------------------------------------|---|-------|--|--|
| 1° or 2° Dx<br>- CARDIOGENIC SHOCK | = | 78551 |  |  |
|------------------------------------|---|-------|--|--|

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**Coding System: ICD-10**

|                                       |   |      |  |  |
|---------------------------------------|---|------|--|--|
| 1° or 2° ICD10<br>- Cardiogenic shock | = | R570 |  |  |
|---------------------------------------|---|------|--|--|

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Group Name: SHOCKN, SHOCK, NONCARDIAC, NONTRAUMATIC

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                       |   |       |  |     |
|---------------------------------------|---|-------|--|-----|
| 1° or 2° Dx<br>- SHOCK NOS            | = | 78550 |  | Or  |
| 1° or 2° Dx<br>- SHOCK W/O TRAUMA NEC | = | 78559 |  | End |

**Coding System: ICD-10**

|  |   |      |  |    |
|--|---|------|--|----|
| 1° or 2° ICD10<br>- Hypovolaemic shock | = | R571 |  | Or |
| 1° or 2° ICD10<br>- Other shock        | = | R578 |  | Or |
| 1° or 2° ICD10<br>- Shock, unspecified | = | R579 |  |    |

Group Name: SHOCKT, SHOCK, TRAUMATIC

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                   |   |      |  |  |
|-------------------|---|------|--|--|
| 1° or 2° Dx       | = | 9584 |  |  |
| - TRAUMATIC SHOCK |   |      |  |  |

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**Coding System: ICD-10**

|                   |   |      |  |  |
|-------------------|---|------|--|--|
| 1° or 2° ICD10    | = | T794 |  |  |
| - Traumatic shock |   |      |  |  |

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Group Name: SIADH, SYNDROME OF INAPPROPRIATE ANTIDIURETIC HORMONE

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° Dx<br>- NEUROHYPOPHYSIS DIS NEC | = | 2536 |  |  |
|--|---|------|--|--|

**Coding System: ICD-10**

|   |   |      |  |  |
|---|---|------|--|--|
| 1° or 2° ICD10<br>- Syndrome of inappropriate secretion of antidiuretic hormone | = | E222 |  |  |
|---|---|------|--|--|

Group Name: TACHYCARDIA, TACHYCARDIA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                   |   |      |  |  |
|-------------------|---|------|--|--|
| 1° or 2° Dx       | = | 7850 |  |  |
| - TACHYCARDIA NOS |   |      |  |  |

**Coding System: ICD-10**

|                            |   |      |  |  |
|----------------------------|---|------|--|--|
| 1° or 2° ICD10             | = | R000 |  |  |
| - Tachycardia, unspecified |   |      |  |  |

Group Name: TACHYPNEA, TACHYPNEA

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |      |  |    |
|-------------|---|------|--|----|
| 1° or 2° Dx | = | 7706 |  | Or |
|-------------|---|------|--|----|

- NB TRANSITORY TACHYPNEA

|             |   |       |  |  |
|-------------|---|-------|--|--|
| 1° or 2° Dx | = | 78606 |  |  |
|-------------|---|-------|--|--|

- TACHYPNEA

**Coding System: ICD-10**

|                |   |      |  |    |
|----------------|---|------|--|----|
| 1° or 2° ICD10 | = | P221 |  | Or |
|----------------|---|------|--|----|

- Transient tachypnoea of newborn

|                |   |      |  |  |
|----------------|---|------|--|--|
| 1° or 2° ICD10 | = | R068 |  |  |
|----------------|---|------|--|--|

- Other and unspecified abnormalities of breathing

Group Name: TETANUS, TETANUS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|             |   |     |  |    |
|-------------|---|-----|--|----|
| 1° or 2° Dx | = | 037 |  | Or |
|-------------|---|-----|--|----|

- TETANUS

|             |   |      |  |  |
|-------------|---|------|--|--|
| 1° or 2° Dx | = | 7713 |  |  |
|-------------|---|------|--|--|

- TETANUS NEONATORUM

**Coding System: ICD-10**

|                |   |     |  |    |
|----------------|---|-----|--|----|
| 1° or 2° ICD10 | = | A33 |  | Or |
|----------------|---|-----|--|----|

- Tetanus neonatorum

|                |   |     |  |  |
|----------------|---|-----|--|--|
| 1° or 2° ICD10 | = | A35 |  |  |
|----------------|---|-----|--|--|

- Other tetanus

Group Name: THRMBCYTOSIS, THROMBOCYTOSIS

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                                    |   |      |  |  |
|------------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- BLOOD DISEASE NOS | = | 2899 |  |  |
|------------------------------------|---|------|--|--|

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Essential thrombocytosis | = | D752 |  |  |
|--|---|------|--|--|

Group Name: THRMBCYTPEN, THROMBOCYTOPENIA

Comments:

| Variable   | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|--|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>   |                       |                 |               |                    |
| 1° or 2° Dx<br>- WISKOTT-ALDRICH SYNDROME  | =                     | 27912           |               | Or                 |
| 1° or 2° Dx<br>- PRIMARY THROMBOCYTOPENIA<br>- THROMBOCYTOPENIA NOS                        | Between               | 2873            | 2875          | Or                 |
| 1° or 2° Dx<br>- THROMBOT MICROANGIOPATHY  | =                     | 4466            |               | Or                 |
| 1° or 2° Dx<br>- NEONATAL THROMBOCYTOPEN   | =                     | 7761            |               | Or                 |
| 1° or 2° Dx<br>- PRIMARY THROMBOCYTOPENIA  | =                     | 2873            |               | End                |
| <b>Coding System: ICD-10</b>   |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Idiopathic thrombocytopenic purpura<br>- Thrombocytopenia, unspecified | Between               | D693            | D696          | Or                 |
| 1° or 2° ICD10<br>- Wiskott-Aldrich syndrome   | =                     | D820            |               | Or                 |
| 1° or 2° ICD10<br>- Thrombotic microangiopathy   | =                     | M311            |               | Or                 |
| 1° or 2° ICD10<br>- Transient neonatal thrombocytopenia                                    | =                     | P610            |               |                    |

Group Name: TOXOPLASMA, TOXOPLASMA GONDII

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                           |         |      |      |  |
|---------------------------|---------|------|------|--|
| 1° or 2° Dx               | Between | 1300 | 1309 |  |
| - TOXOPLASM MENINGOENCEPH |         |      |      |  |
| - TOXOPLASMOSIS NOS       |         |      |      |  |

**Coding System: ICD-10**

|                              |         |      |      |  |
|------------------------------|---------|------|------|--|
| 1° or 2° ICD10               | Between | B580 | B589 |  |
| - Toxoplasma oculopathy      |         |      |      |  |
| - Toxoplasmosis, unspecified |         |      |      |  |

Group Name: TURNER'S, TURNER'S SYNDROME

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|  |         |      |      |    |
|--|---------|------|------|----|
| 1° or 2° Dx<br>- AUTOSOMAL ANOMALIES NEC<br>- GONADAL DYSGENESIS | Between | 7585 | 7586 | Or |
|--|---------|------|------|----|

|   |         |       |       |  |
|---|---------|-------|-------|--|
| 1° or 2° Dx<br>- OTH COND DUE TO SEX CHRM<br>- OTH CON D/T CHRM ANM NEC | Between | 75881 | 75889 |  |
|---|---------|-------|-------|--|

**Coding System: ICD-10**

|  |         |      |      |  |
|--|---------|------|------|--|
| 1° or 2° ICD10<br>- Karyotype 45,X<br>- Turner's syndrome, unspecified | Between | Q960 | Q969 |  |
|--|---------|------|------|--|

Group Name: UTI, URINARY TRACT INFECTION

Comments:

| Variable  | Relational<br>Operand | (From)<br>Value | (To)<br>Value | Logical<br>Operand |
|---|-----------------------|-----------------|---------------|--------------------|
| <b>Coding System: ICD-9-CM</b>  |                       |                 |               |                    |
| 1° or 2° Dx<br>- CHR PYELONEPHRITIS NOS<br>- INFECTION OF KIDNEY NOS  | Between               | 59000           | 5909          | Or                 |
| 1° or 2° Dx<br>- ACUTE CYSTITIS<br>- CYSTITIS NOS   | Between               | 5950            | 5959          | Or                 |
| 1° or 2° Dx<br>- URIN TRACT INFECTION NOS   | =                     | 5990            |               |                    |
| <b>Coding System: ICD-10</b>  |                       |                 |               |                    |
| 1° or 2° ICD10<br>- Acute tubulo-interstitial nephritis<br>- Tubulo-interstitial nephritis, not specified as acute or chronic | Between               | N10             | N12           | Or                 |
| 1° or 2° ICD10<br>- Urinary tract infection, site not specified   | =                     | N390            |               |                    |

Group Name: V FIB FLUTER, Ventricular Fibrillation or Ventricular Flutter

**Comments:**

| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

**Coding System: ICD-9-CM**

|                            |         |       |       |  |
|----------------------------|---------|-------|-------|--|
| 1° or 2° Dx                | Between | 42741 | 42742 |  |
| - VENTRICULAR FIBRILLATION |         |       |       |  |
| - VENTRICULAR FLUTTER      |         |       |       |  |

**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10                         | = | I490 |  |  |
| - Ventricular fibrillation and flutter |   |      |  |  |

Group Name: VIREMIA, VIREMIA

**Comments:**

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| <b>Variable</b> | <b>Relational<br/>Operand</b> | <b>(From)<br/>Value</b> | <b>(To)<br/>Value</b> | <b>Logical<br/>Operand</b> |
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|
|-----------------|-------------------------------|-------------------------|-----------------------|----------------------------|

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**Coding System: ICD-9-CM**

|                              |   |      |  |  |
|------------------------------|---|------|--|--|
| 1° or 2° Dx<br>- VIREMIA NOS | = | 7908 |  |  |
|------------------------------|---|------|--|--|

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**Coding System: ICD-10**

|  |   |      |  |  |
|--|---|------|--|--|
| 1° or 2° ICD10<br>- Viral infection, unspecified | = | B349 |  |  |
|--|---|------|--|--|

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## GLOSSARY OF DIAGNOSTIC TERMS

The following list of diseases, conditions and diagnostic tests is provided to assist in identifying secondary or complicating aspects of a primary disease. They are listed here because they may occur under more than one primary disease heading. For increases or decreases in quantitative data, the figure listed indicates 3 standard deviations from the mean value for the analyte. This has been done to avoid minor deviations from the reference range that might be due merely to chance rather than representing a significant deviation due to a pathological process. For some analytes, particularly enzyme measurements, the limits for “increased” or “decreased” are set further from the mean values on the basis of published information. When appropriate, separate adult and pediatric laboratory values are noted.

Bold printing indicates a reference to another citation within the glossary. These citations may be consulted for reference ranges if they are not given in the primary citation.

Reference Ranges are from Tietz (1). Significant increased or decreased values are based on data given for individual diseases listed in this volume or on information in references 2 and 3.

### References

1. Tietz NW. Clinical Guide to Laboratory Tests. 3<sup>rd</sup> ed. 1995, W. B. Saunders Company, Philadelphia.
2. Speicher CE. The Right Test. 3<sup>rd</sup> ed. 1998, W. B. Saunders Company, Philadelphia.
3. Conn RB, Borer WZ, Snyder JW. Current Diagnosis. 9<sup>th</sup> ed. 1997, W. B. Saunders Company, Philadelphia.

#### **Acetaminophen toxicity:**

Acetaminophen, serum or plasma: [chemistry report]

Therapeutic concentration: 10 - 30 µg/mL

Toxic concentration: > 200 µg/mL (4 h post ingestion)

#### **Acidosis (measured blood pH):**

Decreased: Blood pH < 7.325 [chemistry report]

Reference range: 7.35 - 7.45

#### **Acute:**

Occurs within 1 week

**Acute myocardial infarction:** *See Myocardial infarction, acute*

**Acute renal failure:**

Onset within one week

AND creatinine  $\geq 3.0$  mg/dl [chemistry report]

AND BUN/creatinine ratio  $\leq 20.0$ , as calculated from simultaneously drawn serums for this test

OR  $FE_{Na} \leq 1.0$

OR Renal Failure Index  $\leq 1.0$

**AH Titer:** *See Antihyaluronidase titer*

**Adrenal insufficiency:** *See Hypoadrenalism*

**AIDS-Defining diseases:**

These are diseases that indicate a patient has the Acquired Immunodeficiency Syndrome (AIDS) when present in a patient who tests positive for infection with the Human Immunodeficiency Virus (HIV):

Burkitt's lymphoma

Chronic cryptosporidiosis

Chronic herpes simplex

Chronic isosporiasis

Cytomegalovirus disease

Cytomegalovirus retinitis

Disseminated coccidioidomycosis

Disseminated histoplasmosis

Esophageal candidiasis

Extrapulmonary cryptococcosis

Extrapulmonary tuberculosis

HIV encephalopathy

Immunoblastic lymphoma

Invasive cervical cancer

Kaposi sarcoma

Mycobacterium avium complex

Other disseminated

Mycobacterium

Pneumocystis carinii pneumonia

Primary brain lymphoma

Progressive multifocal

leukoencephalopathy

Pulmonary candidiasis

Pulmonary tuberculosis

Recurrent pneumonia

Recurrent Salmonella septicemia

Toxoplasmosis of brain

Wasting syndrome

**Alanine aminotransferase, serum (ALT):**

Increased: Males  $\geq 48$  U/L [chemistry report]

Females  $\geq 42$  U/L [chemistry report]

Reference ranges: Males 10 - 40 U/L

Females 7 - 35 U/L

**Alcohol (ethanol), blood:**

No intake: blood ethanol  $< 0.05$  mg/dL [chemistry report]

Intoxication:  $> 100$  mg/dL ( $> 0.1$  %)

Marked intoxication: 300 - 400 mg/dL (0.3 - 0.4 %)

Alcoholic stupor: 400 - 500 mg/dL (0.4 - 0.5 %)

Coma:  $> 500$  mg/dL ( $> 0.5$  %)

**Alkaline phosphatase, serum (ALP):**

Reference ranges vary with age, sex and method of analysis.

Kodak (4-NPP, AMP) reference method at 37° C  
Increased:  $\geq 148$  U/L  
Reference Range: Male 38 - 126 U/L

**Alkalosis (measured blood pH):**

Increased: Blood pH  $>7.475$  [chemistry report]  
Reference Range: 7.35 - 7.45

**ALP:** *See Alkaline phosphatase*

**ALT:** *See Alanine aminotransferase*

**Alveolar-arterial gradient:**

The difference in  $pO_2$  (partial pressure of oxygen) between the lung (alveoli) and arterial blood.

$(693 \times F_{IO_2}) - (1.2 \times pCO_2) - pO_2 > 15$  mm Hg

Where 693 is barometric pressure without water vapor

$F_{IO_2}$  is the fractional concentration of  $O_2$  in inspired gas

$pCO_2$  is the partial pressure of carbon dioxide in blood

$pO_2$  is the partial pressure of oxygen in blood

Reference range:  $\leq 10$  mmHg

**Amylase, serum or urine:**

Kodak Ektachem Slide, 37° C

Serum: Increased  $\geq 500$  U/L [chemistry report]

Reference range: 30 - 110 U/L

Urine (2 to 4 h specimen):

Increased  $\geq 1000$  U/L [urine chemistry report]

Reference range: 32 - 641 U/L

**Amylase/creatinine clearance ratio:**

The ratio between renal clearance of amylase and creatinine; It is calculated as follows:

$$\frac{\text{Urine amylase}}{\text{Serum amylase}} \times \frac{\text{Serum creatinine}}{\text{Urine creatinine}} \times 100$$

Increased:  $\geq 4.8$  % Clearance

Reference range: 1 - 4 % Clearance

**Anemia: Hemoglobin**

|                   |  |
|-------------------|--|
| Decreased:        | Cord Blood $\leq 11.8$ g/dL [CBC report]       |
|                   | $\leq 1$ y $\leq 8.2$ g/dL [CBC report]        |
|                   | 1 - 12 y $\leq 10.0$ g/dL [CBC report]         |
|                   | 12 - 17 y Male $\leq 10.5$ g/dL [CBC report]   |
|                   | Female $\leq 10.5$ g/dL [CBC report]           |
|                   | 18 - 44 y Male $\leq 12.2$ g/dL [CBC report]   |
|                   | Female $\leq 10.8$ g/dL [CBC report]           |
|                   | 45 - 64 y Male $\leq 12.6$ g/dL [CBC report]   |
|                   | Female $\leq 10.6$ g/dL [CBC report]           |
|                   | $\geq 65$ y Male $\leq 11.4$ g/dL [CBC report] |
|                   | Female $\leq 10.6$ g/dL [CBC report]           |
| Reference ranges: | Cord Blood 13.5 - 20.5 g/dL                    |
|                   | $\leq 1$ y 9.4 - 14.1 g/dL                     |
|                   | 1 - 12 y 11.0 - 15.0 g/dL                      |
|                   | 12 - 17 y Male 11.7 - 16.6 g/dL                |
|                   | Female 11.5 - 15.3 g/dL                        |
|                   | 18 - 44 y Male 13.2 - 17.3 g/dL                |
|                   | Female 11.7 - 15.5 g/dL                        |
|                   | 45 - 64 y Male 13.1 - 17.2 g/dL                |
|                   | Female: 11.7 - 16.0 g/dL                       |
|                   | $\geq 65$ y Male 12.6 - 17.4 g/dL              |
|                   | Female 11.7 - 16.1 g/dL                        |

**Anion gap:**

Increased:  $(\text{Serum Na}^+) - (\text{Serum Cl}^- + \text{Serum HCO}_3^-) \geq 16$  mEq/L [chemistry report]

Reference Range: 7 - 14 mEq/L

**Antihyaluronidase titer (AH Titer):**

Antibody titer for Group A

$\beta$ -hemolytic Streptococci. Titer rises in second week of infection and falls after 3 - 5 weeks. [serology report]

Increased:  $> 128$  units/mL

Reference range:  $\leq 128$  units/mL

**Antinuclear antibodies (ANA):**

Increased: Positive at  $\geq 1:20$  dilution [chemistry report]

Reference range: Negative at 1:20 dilution

**Antistreptolysin-O titer (ASO Titer):**

Antibody titer for Group A

$\beta$ -hemolytic Streptococci. Titer rises in 1 week, peaks at 3 - 5 weeks and returns to baseline in 6 months to 1 year. [serology report]

Increased: > 166 Todd Units

Reference range:  $\leq$  166 Todd Units

 **$\alpha_1$ -Antitrypsin:**

Decreased: Newborn  $\leq$  114 mg/dL [chemistry report]

Adult  $\leq$  48 mg/dL [chemistry report]

> 60 y  $\leq$  94 mg/dL [chemistry report]

Reference Ranges: Newborn 145 - 270 mg/dL

Adult (M-phenotype) 78-200 mg/dL

> 60 y 115 - 200 mg/dL

**Anuria:**

Urine output  $\leq$  100 mL/24 hr

OR < 1mL/kg/24h for children  $\leq$  16 years old

**Arrhythmias, Cardiac:**

Any cardiac rhythm other than the normal sinus rhythm. [ECG Report]

OR atrial premature contraction [ECG Report]

OR ventricular premature contraction [ECG Report]

OR junctional premature contraction [ECG Report]

OR atrial fibrillation [ECG Report]

OR supraventricular tachycardia [ECG Report]

OR atrial flutter [ECG Report]

OR ectopic atrial rhythm [ECG Report]

**Arthritis:**

**Infectious arthritis:** Also known as **Septic arthritis.**

Synovial fluid neutrophils  $\geq$  50% of total leukocytes [chemistry report]

OR Micro-organisms identified on Gram stain [chemistry report]

OR Pathogenic micro-organisms grown on culture [chemistry report]

**Non-infectious arthritis:**

Usually polyarticular.

Synovial culture report: No growth of pathologic organism(s) [culture report]

**Aseptic meningitis:** *See Meningitis, viral*

**ASO Titer:** *See Antistreptolysin-O titer*

**Aspartate aminotransferase, serum (AST):**

Increased: Male  $\geq 46$  U/L [chemistry report]  
Female  $\geq 41$  U/L [chemistry report]  
Reference ranges: Male 15 - 40 U/L  
Female 13 - 35 U/L

**AST:** *See Aspartate aminotransferase*

**Azotemia:**

Serum Urea Nitrogen  $\geq 24$  mg/dL [chemistry report]  
Reference range 6 - 20 mg/dL [chemistry report]

**Bacteremia:**

Blood culture reports growth of bacterial organism [blood culture report after 48 hours]

**Band neutrophils:**

Increased: White  $\geq 1250/\mu\text{L}$  [CBC report]  
Black  $\geq 750/\mu\text{L}$  [CBC report]  
Reference ranges: White 0 - 1000/ $\mu\text{L}$   
Black 0 - 600/ $\mu\text{L}$

**Bleeding:**

Hemoglobin decreases  $> 1\text{g/dL}$  in 8 hours [CBC report]  
OR  $> 500$  mL blood loss

**Blindness:**

Visual acuity  $\leq 20/200$  Snellen notation, in one or both eyes

**Bradycardia:**

Resting heart rate  $\leq 60/\text{min}$

**Bundle branch block:** *See Cardiac conduction abnormalities*

**Cachexia:**

Body weight  $< 85\%$  of ideal body weight

**Cardiac output (CO):**

Decreased:  $< 4$  L/min/ $1.73\text{ m}^2$   
Reference range: 2.5 - 3.6 L/min/ $\text{m}^2$   
4.33 - 6.23 L/min/ $1.73\text{ m}^2$

[Doppler echocardiography, radionuclide ventriculography or indicator dilution test during cardiac catheterization]

**Cardiac conduction abnormalities:**

May accompany or be caused by other myocardial disorders. [ECG Report]

Left bundle branch block [ECG Report]

OR Right bundle branch block [ECG Report]

OR Left anterior hemiblock [ECG Report]

OR Left posterior hemiblock [ECG Report]

OR Nonspecific intraventricular conduction defect [ECG Report]

OR First degree heart block [ECG Report]

OR Second degree heart block [ECG Report]

OR Third degree heart block [ECG Report]

**Ceruloplasmin, serum:**

Decreased: < 12 mg/dL [chemistry report]

Reference range: 18 - 45 mg/dL

Also see *Copper, serum*

**Central venous pressure:**

Increased: > 15 cm H<sub>2</sub>O

Reference range: 0 - 6 mm Hg

0 - 7.0 cm H<sub>2</sub>O

**CFU:** See *Colony forming unit*

**Child:**

Individual <15 years of age

**Chronic obstructive pulmonary disease (COPD):**

[pulmonary function tests]

Mild: **FEV<sub>1</sub>** < 75 % of predicted value

AND **MVV** < 80 % of predicted value

AND **RV** > 120 % of predicted value

Moderate: **FEV<sub>1</sub>** < 60 % of predicted value

AND **MVV** < 65 % of predicted value

AND **RV** > 150 % of predicted value

Severe: **FEV<sub>1</sub>** < 40 % of predicted value

AND **MVV** < 45 % of predicted value

AND **RV** > 200 % of predicted value

**Chronic renal failure:**

- Small kidneys [abdominal ultrasound report]
- AND renal osteodystrophy [x-ray report]
- AND creatinine  $\geq 3.0$  mg/dl [chemistry report]
- AND BUN/creatinine ratio  $\leq 20.0$ , as calculated from simultaneously drawn serums for this test
- OR  $FE_{Na} \leq 1.0$
- OR Renal Failure Index  $\leq 1.0$

**Chronic Time Span of Illness:**

Symptoms persist three months or longer per year and occur during two or more successive years.

**Coagulation Defect:**

- International normalized ratio (INR)  $\geq 1.5$  [hematology report]
  - OR Prothrombin time (PT)  $\geq 1.5$  x control time [hematology report]
  - OR Partial thromboplastin time (PTT)  $\geq 1.5$  x control time [hematology report]
  - OR Bleeding time  $\geq 8$  minutes
- Reference ranges: INR 1.0  
Prothrombin time 11 - 15 s  
Partial thromboplastin time  $< 35$  s  
Bleeding time (template) 2.5 - 9.5 min

**Cold agglutinins:**

Increased:  $\geq 4$  fold rise in titer, acute and convalescent samples [serology report]

**Coma:**

- Glasgow coma scale rating  $< 8$
- OR unresponsive to pain
- AND unresponsive to verbal stimuli
- AND unresponsive to tactile stimuli

**Congenital adrenal hyperplasia:**

Urine 17-ketosteroids > 20 mg/24hr [urine chemistry report]

Reference ranges: 1 - 4 Y < 1 mg/d

5 - 9 y < 3 mg/d

10 - 15 y 1 - 6 mg/d

15 - 16 y Male 3 - 13 mg/d

Female 2 - 8 mg/d

Adult Male 10 - 25 mg/d

Female 6 - 14 mg/d

Due to 21-Hydroxylase deficiency

AND Urinary 17-hydroxyprogesterone increased [urine chemistry report]

OR 11-Beta hydroxylase deficiency

AND Urinary tetrahydro-17-deoxycorticosterol increased [urine chemistry report]

AND Serum 11-deoxycorticosterone increased [urine chemistry report]

AND Serum 11-deoxycortisol increased [urine chemistry report]

OR 3-Beta hydroxysteroid dehydrogenase deficiency [urine chemistry report]

AND Serum dehydroepiandrosterone increased [urine chemistry report]

**Congestive heart failure (CHF):**

Initial central venous pressure  $\geq 15$  cm H<sub>2</sub>O [central venous pressure report or pulmonary artery catheter report]

OR Initial peak systolic right ventricular pressure  $\geq 25$  mmHg

OR Initial pulmonary wedge pressure  $\geq 18$  mmHg

OR Low cardiac output measured by ejection fraction  $\leq 50\%$  [echocardiogram or nuclear ejection fraction report]

OR Cardiac output  $\leq 4$  L/min [cardiac catheterization report]

Presumptive Diagnostic Findings:

Jugular venous distention

OR Pedal edema 3+

OR S<sub>3</sub> gallop

OR Bibasilar rales

OR Congestive heart failure [chest x-ray report]

Infants:

Congestive heart failure [chest x-ray report]

AND Tachycardia

AND Tachypnea

AND Rales on auscultation of the lungs

AND Capillary refill > 2 seconds

AND Hepatomegaly

**Congestive heart failure (CHF) acute:**

**CHF and duration  $\leq 7$  days**

**Convalescent/Acute Phase serology:**

To demonstrate an immunological response to an infectious agent a blood sample is taken during the acute illness and stored for several weeks. A second blood sample is taken during convalescence, and both are analyzed in the same batch. A rise in antibody titer ratio of  $\geq 4$  which represents two successive dilutions is interpreted as an immunological response.

**COPD:** *See Chronic obstructive pulmonary disease*

**Copper, serum:**

Increased: Male  $> 160 \mu\text{g/dL}$  [chemistry report]  
Female  $> 175 \mu\text{g/dL}$  [chemistry report]  
Reference range: Adult Male 70 - 140  $\mu\text{g/dL}$   
Female 80 - 155  $\mu\text{g/dL}$

**Coproporphyrin, urine:**

Increased:  $> 200 \mu\text{g/24 h}$  [chemistry report]  
Reference range: 52 - 163  $\mu\text{g/24 h}$

**Cor pulmonale:**

Initial central venous pressure  $\geq 15 \text{ cm H}_2\text{O}$  [central venous catheter report or pulmonary artery catheter report]  
OR Initial peak systolic right ventricular pressure  $\geq 25 \text{ mmHg}$  [pulmonary artery catheter report]  
OR Pulmonary artery pressure  $\geq 30/15 \text{ mmHg}$  [pulmonary artery catheter report]  
AND Jugular venous distention  
OR  $S_3$  gallop  
OR Ascites  
OR Hepatomegaly

**CK:** *See Creatine kinase*

**CPK:** *See Creatine kinase*

**C-Reactive protein (CRP):**

Increased:  $> 1 \text{ mg/dL}$  [chemistry report]  
Reference range: 6.8 - 820  $\mu\text{g/dL}$

**Cranial nerve palsy:**

- OR blindness in one or both eyes
- OR loss of sense of smell
- OR paralysis of one or both eye's musculature
- OR facial numbness
- OR facial paralysis
- OR deafness in any ear
- OR difficulty swallowing
- OR loss of taste

**Creatine kinase, total, serum (CK):**

Increased: Male CK  $\geq$  208 U/L [chemistry report]  
                  Female CK  $\geq$  169 U/L [chemistry report]  
Reference ranges: Male 38 - 174 U/L  
                          Female 26 - 140 U/L

**Creatine kinase isoenzymes, serum:**

Increased: total CK and CK-MB increase above reference values within 3 - 4 h following myocardial infarction. Peak values are seen at 24 - 36 h, with return to normal within 3 d.  
Reference ranges: CK-MB 4 - 6 % of total CK [chemistry report]  
                          0 - 10 U/L  
                          0 - 9  $\mu$ g/L

**Creatine kinase isoforms:**

Measured by high voltage electrophoresis. Formed in the blood by action of proteolytic enzymes.  
Increased: CK3c/CK3a ratio  $>$  3.0  
                  Increases within 1 - 2 h after myocardial infarction  
                  (earlier than CK-MB) and peaks at 10 - 12 h  
Reference ranges: CK-3a 42 - 75 % of total CK  
                          CK-3b 18 - 51 % of total CK  
                          CK-3c 2 - 14 % of total CK  
                          CK3c/CK3a ratio 0.31 - 2.5

**Creatine kinase relative index:**

Useful in diagnosis of myocardial infarction when skeletal muscle trauma causes increase in CK-MM  
$$\frac{\text{CK-MB } \mu\text{g/L}}{\text{Total CK U/L}} \times 100$$

Increased: CK relative index  $>$  4.5  
Reference range: CK relative index  $<$  3.9 %

**Creatine phosphokinase (CPK):** *See Creatine kinase*

**CSF Reference values:**

- CSF Cell counts:** < 5/μL, all mononuclear [chemistry report]
- CSF Pressure:** (Opening) 15 - 45 mm H<sub>2</sub>O
- CSF Glucose:** 50 - 75 mg/dL (20 mg/dL less than in serum) [chemistry report]
- CSF Protein, total:** (Lumbar) 15 - 45 mg/dL [chemistry report]
- CSF Protein electrophoresis:** Albumin predominant  
No oligoclonal bands
- CSF IgG:** Children under 14 y < 8 % of total protein  
Adults < 14 % of Total protein
- CSF IgG Index:** 0.3 - 0.6

$$\text{Calculated as: IgG Index} = \left[ \frac{\text{IgG}_{\text{csf}} / \text{IgG}_{\text{serum}}}{\text{Albumin}_{\text{csf}} / \text{Albumin}_{\text{serum}}} \right] \times 100$$

**Cushing's Disease:**

- Urinary hydroxycorticosteroids
  - Increased: > 10 mg/24h [chemistry report]
  - Reference ranges: Child 0.5 - 5.6 mg/24h  
Adult Male 3.0 - 10 mg/24h  
Female 2.0 - 8.0 mg/24h
- Plasma Adrenocorticotrophic Hormone (A.C.T.H.)
  - Increased at 9:00 pm > 35 pg/mL [chemistry report]
  - Reference range: < 10 pg/mL (Patient supine)

**Cystic fibrosis:**

- Sweat test with pilocarpine iontophoresis:
  - Sweat chloride test:** Sweat chloride > 60 mEq/L [chemistry report]
  - Cystic fibrosis variant: Sweat Cl<sup>-</sup> > 40 and ≤ 60 mEq/L
  - Reference range: 5 - 35 mEq/L
- Chromosome analysis: Linkage marker on chromosome 7 for CFTR  
Cystic fibrosis transmembrane conductance regulator (CFTR)

**Cytomegalovirus (CMV) infection:**

- CMV isolated on culture
- OR IgM Antibodies to CMV found

**Dehydration:**

- >5% loss of ideal body weight in 24 hr

**Dementia:**

- Mini-mental status examination < 9.7 points

**Diabetes mellitus:**

Major types: Type I - insulin dependent diabetes mellitus (IDDM), and Type II - non-insulin dependent diabetes mellitus (NIDDM).

Serum glucose  $\geq$  126 mg/dL after > 8hr fast

OR 2 hr postprandial glucose  $\geq$  200 mg/dL (World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water)

AND  $\geq$  24 hours later, serum glucose  $\geq$  126 mg/dL after >8 hr fast

OR History of Type 1 Diabetes mellitus with random plasma

Serum glucose > 200 mg/dL

AND Polyuria

OR Polydipsia

OR Polyphagia

**Diabetes Mellitus Gestational:**

No prior pre-gestational diabetes

AND > 2 abnormal values on 3h glucose tolerance test (100gm glucose)

Fasting  $\geq$  105 mg/dL

1 hr  $\geq$ 190 mg/dL

2 hr  $\geq$ 165 mg/dL

3 hr  $\geq$ 145 mg/dL

OR positive WHO 75g test

**DIC:** *See Disseminated Intravascular Coagulation*

**Digoxin toxicity:**

Digoxin, serum: Therapeutic range 0.8 - 2.0 ng/mL [chemistry report]

Toxic range > 2.5 ng/mL

**Disorientation:** *See encephalopathy*

**Disseminated Intravascular Coagulation (DIC):**

Prothrombin time (PT) in seconds > 1.5 x control [hematology report]

OR Partial thromboplastin time (PTT) in seconds > 1.5 x control [hematology report]

OR International Normalized Ratio (INR) > 1.5 [hematology report]

One of the first three above AND all of the following

AND Platelet count < 75,000/ $\mu$ L [CBC report]

AND Fibrin split products > 1:8 dilution [chemistry report]

OR Fibrin split products  $\geq$  40 mg/dL [chemistry report]

AND Fibrinogen concentration < 150 mg/dL [chemistry report]

OR Hypofibrinogenemia

AND Increased D-Dimer concentration [chemistry report]

**Down's syndrome:**

Cytogenetics report: Trisomy 21

OR Down's syndrome mosaic: Genotype 46/47 with trisomy 21

**DVT:**

deep vein thrombosis [Doppler ultrasound, nuclear venogram, contrast venography or other venogram report]

**Ejection fraction, cardiac (EF):**

Decreased: < 0.50

Reference range: 0.56 - 0.78

[Contrast ventriculography report, radionuclide imaging report, or echocardiography report]

**Encephalopathy:**

Disoriented to person

AND disoriented to place

AND disoriented to time

**End-stage renal disease:**

Creatinine, serum >15 mg/dL [chemistry report]

AND Urea nitrogen, serum > 100 mg/dL [chemistry report]

AND Creatinine clearance < 5 mL/min [chemistry report]

Reference ranges: Creatinine, serum Male 0.9 - 1.3 mg/dL

Female 0.6 - 1.1 mg/dL

Urea nitrogen, serum 6 - 20 mg/dL

Creatinine clearance: Males 94 - 140 mL/min

Females 72 - 110 mL/min

Corrected to 1.73 m<sup>2</sup> body surface area

**Endocarditis:**

Infective endocarditis

Culture with growth of pathologic organism(s) from heart valves [operative or pathology report]

OR Fever: (Temperature  $\geq$  101°F oral or  $\geq$  101.5°F rectal)

AND New heart vegetation [Echocardiography report]

OR Change in heart murmur

OR New heart murmur

AND **Bacteremia:** (Blood culture reports growth of bacterial organism)

OR **Fungemia:** (Blood culture reports growth of fungal organism)

**Eosinophilia:**

Increased: >750 eosinophils/ $\mu$ L [CBC report]

Reference Range: 0 - 600/ $\mu$ L

**Erythrocyte sedimentation rate (ESR):**

Westergren method

Increased: Males > 19 mm/h [hematology report]

Females > 25 mm/h [hematology report]

Reference Ranges: Males 0 - 15 mm/h

Females 0 - 20 mm/h

**Erythrocyte survival time (T<sub>½</sub> with <sup>51</sup>Cr):**

Decreased: < 25 d [hematology report]

Reference range: 25 - 32 d

**Ethanol, blood:** *See Alcohol, blood*

**Euthyroid goiter:**

All values for thyroid hormones within reference ranges

Reference Ranges: Thyroxine (T<sub>4</sub>) 4 - 13 µg/dL

Triiodothyronine (T<sub>3</sub>) 75 - 256 ng/dL

Free T<sub>4</sub> Index < 456

**Ferritin, serum:**

Increased: (Overload) > 220 ng/mL [chemistry report]

Decreased: 6 mo - 15 y < 7 ng/mL

Male < 20 ng/mL

Female < 10 ng/mL

Reference ranges: 6 mo - 15 y 7 - 140 ng/mL

Male 20 - 250 ng/mL

Female 10 - 120 ng/mL

**Fever:**

Temperature ≥ 101° F oral or ≥ 101.5° F rectal

*Moderate:* Temperature ≥ 102° F oral or ≥ 102.5° F rectal

*Severe:* Temperature ≥ 104° F oral or ≥ 104.5° F rectal

**Folate (Folic acid), serum or erythrocytes:**

Decreased: Serum < 3 ng/mL [chemistry report]

Erythrocytes < 100 ng/mL [chemistry report]

Reference range: Serum 3 - 20 ng/mL

Erythrocytes 140 - 628 ng/mL

**Forced expiratory volume in one second (FEV<sub>1</sub>):**

Decreased: < 80 % of predicted value

Reference Ranges:

Expressed as percentage of the predicted value

FEV<sub>1</sub> ≥ 80 % of predicted value

Expressed as ratio to Forced Vital Capacity

FEV<sub>1</sub>/FVC ≥ 70 %

**Fractional excretion of sodium (FENa):**

A calculation to measure the excretion of sodium compared to excretion of creatinine. In renal failure, it is increased FENa  $\geq 1.0$

$$\left[ \frac{U_{\text{Na}} / P_{\text{Na}}}{U_{\text{Cr}} / P_{\text{Cr}}} \right] \times 100$$

Where  $U_{\text{Na}}$  is Urine sodium  
 $P_{\text{Na}}$  is Plasma sodium  
 $U_{\text{Cr}}$  is Urine creatinine  
 $P_{\text{Cr}}$  is Plasma creatinine

**FTA test (Fluorescent treponemal antibody absorption test):**

Used to confirm reactive VDRL and RPR tests for syphilis

Reported as: Nonreactive  
Borderline  
Reactive

**Fungemia:**

Blood culture reports growth of fungal organism [blood culture report within 48 hours]

**Gamma glutamyl transferase:** *See  $\gamma$ -Glutamyl transferase*

**GGT:** *See  $\gamma$ -Glutamyl transferase*

**Glucose-6-Phosphate Dehydrogenase deficiency (G-6-PD deficiency):**

Causes hemolysis in infection or after ingestion of oxidant drugs.

Inheritance is sex linked. Numerous variants (>300)

Decreased: < 4.5 U/g hemoglobin [chemistry report]

Reference range: 5.5 - 9.3 U/g hemoglobin

 **$\gamma$ -Glutamyl transferase:**

Increased: Males  $\geq 38$  U/L [chemistry report]

Females  $\geq 30$  U/L [chemistry report]

Reference range: Dependent on method, age and sex

Ektachem, 37° C

Males 2 - 30 U/L

Female 1 - 24 U/L

**Guaic test, stool:**

Positive test indicates blood in the stool

**Haptoglobin, serum:**

Decreased: < 30 mg/dL [chemistry report]  
Reference range: 40 - 240 mg/dL

**Hematuria:**

Females  $\geq 4$  red blood cells/hpf [urinalysis report]  
Males  $\geq 1$  red blood cell/hpf [urinalysis report]

**Hemoglobin A<sub>2</sub>, blood:**

Chromatographic method:

Increased: 3.7 - 7.0 % in  $\beta$ -thalassemia trait [hematology report]  
Reference range: 1.5 - 3.5 %

**Hemoglobin S, blood:**

Sickle cell trait: Hemoglobin S > 20 % of total [Hemoglobin electrophoresis report]  
AND Hemoglobin A > 60 % of total [Hemoglobin electrophoresis report]  
Sickle cell disease: Hemoglobin S > 80% of total [Hemoglobin electrophoresis report]  
AND Hemoglobin F > 2 % of total [Hemoglobin electrophoresis report]

**Hemolysis:**

Serum haptoglobin  $\leq 30$  mg/dL [chemistry report]  
OR Total serum bilirubin  $\geq 1.4$  mg/dL [chemistry report]  
AND Unconjugated serum bilirubin > 80% of total bilirubin [chemistry report]  
OR Chromium labeled erythrocyte T<sub>1/2</sub> survival time  $\leq 25$  days [Nuclear Medicine report]  
Reference Ranges: Haptoglobin, serum 40 - 240 mg/dL  
Total bilirubin, serum 0.3 - 1.2 mg/dL  
Erythrocyte survival time T<sub>1/2</sub> 25 - 32 days

**Hemophilia:**

Asymptomatic: Factor VIII  $\geq 25$  % and  $\leq 50$  % of normal [chemistry report]  
Mild: Factor VIII < 25 % of normal [chemistry report]  
Moderate: Factor VIII  $\leq 5$  % of normal [chemistry report]  
Severe: Factor VIII not detected [chemistry report]

**Hepatic Coma:**

History of severe liver disease  
AND Coma  
OR Hepatic encephalopathy  
OR Portal systemic encephalopathy

**Hepatitis:**

Serum bilirubin > 3 mg/dL [chemistry report]  
 AND AST > 60 U/L [chemistry report]  
 OR ALT > 60 U/L [chemistry report]  
 OR GGT > 38 U/L [chemistry report]  
 AND Hepatomegaly [physical examination, liver-spleen scan or CT scan]

**HIV (Human Immunodeficiency Virus) infection:**

Screening: EIA test for antibodies to HIV  
 Confirmatory: Western blot for HIV antigens

**Huntington's disease (Huntington's chorea):**

Chromosome studies: Repeated CAG sequences in gene IT15

**5-Hydroxyindoleacetic acid, urine (5-HIAA):**

Increased: > 25 mg/d [urine chemistry report]  
 Reference range: Negative, < 25 mg/d

**Hyperaldosteronism:**

Increased (Average sodium diet)  
 Urine aldosterone > 20 µg/d [urine chemistry report]  
 OR Plasma aldosterone ≥17.4 ng/dL [chemistry report]

Reference ranges:

Depends on sodium intake, age, sex and posture

Urine: Total urinary Na      Urinary aldosterone

mEq/d

µg/d

< 20

35 - 80

50

13 - 33

100

5 - 24

200

1 - 16

Plasma: Adults (Average sodium diet)

Supine 3 - 16 ng/dL

Upright 7 - 30 ng/dL

**Hyperammonemia:**

Increased: Serum ammonia > 98 µg/dL [chemistry report]  
 Reference range: 19 - 60 µg/dL

**Hyperbilirubinemia:**

Total serum bilirubin > 3.0 mg/dL [chemistry report]  
Infants <1day old total serum bilirubin > 8mg/dL [chemistry report]  
Infants 1-2day old total serum bilirubin > 12mg/dL [chemistry report]  
Infants 2-5day old total serum bilirubin > 16mg/dL [chemistry report]  
Infants >5day old total serum bilirubin > 2mg/dL [chemistry report]  
Reference range (Adults) Total 0.3 - 1.2 mg/dL  
Unconjugated < 1.1 mg/dL

**Hypercalcemia:**

Increased: Serum calcium > 10.7 mg/dL [chemistry report]  
Reference Range: 8.6 - 10.0 mg/dL

**Hypercalciuria:**

Increased: Higher than reference range  
Reference range: Calcium free diet 5 - 40 mg/d  
Low calcium diet 50 - 150 mg/d  
Average diet 100 - 300 mg/d

**Hypercarbia:**

Increased: Males pCO<sub>2</sub> > 51 mmHg [ABG report]  
Females pCO<sub>2</sub> > 48 mmHg[ABG report]  
Reference ranges: Males pCO<sub>2</sub> 35 - 48 mmHg  
Females pCO<sub>2</sub> 32 - 45 mmHg

**Hyperchloremia:**

Increased: Serum chloride ≥109 mEq/L [chemistry report]  
Reference range: 98 - 107 mEq/L

**Hypercholesterolemia:**

Increased: Total serum cholesterol ≥ 200 mg/dL [chemistry report]  
Reference ranges: Total cholesterol  
Desirable\* < 200 mg/dL  
Moderate risk 200 - 239 mg/dL  
High risk > 240 mg/dL

\*(Recently “desirable” rather than “normal” concentrations have been established by consensus)

**Hyperkalemia:**

Increased: Serum potassium ≥ 5.5 mEq/L [chemistry report]  
Concentrations > 7.0 mEq/L may be fatal  
Reference range: 3.5 - 5.1 mEq/L

**Hypernatremia:**

Increased: Serum sodium  $\geq 148$  mEq/L [chemistry report]  
Reference range: 136 - 145 mEq/L

**Hypertension:**

Diastolic blood pressure  $> 90$  mmHg  
OR Systolic blood pressure  $> 140$  mmHg

**Hyperthyroidism:**

TSH (thyrotropin)  $0.0$   $\mu\text{g/dL}$  [chemistry report]  
AND Free thyroxine index  $\geq 15.2$  [chemistry report]  
OR Serum free T<sub>4</sub> (thyroxine)  $\geq 3.2$  ng/dL [chemistry report]

**Hypertriglyceridemia:**

Increased: Serum triglycerides:  $\geq 250$  mg/dL [chemistry report]  
Recommended therapeutic goals:  
Normal  $< 250$  mg/dL  
Borderline high 250 - 500 mg/dL  
Hyperglyceridemic  $> 500$  mg/dL  
High risk for pancreatitis  $> 1000$  mg/dL

**Hyperuricemia:**

Increased: Males: Serum uric acid  $\geq 8.4$  mg/dl [chemistry report]  
Females: Serum uric acid  $\geq 7.7$  mg/dL [chemistry report]  
Reference Ranges: Male 4.4 - 7.6 mg/dL  
Female: 2.3 - 6.6 mg/dL

**Hypoadrenalism:**

Decreased: Serum cortisol, 8:00 am  $< 4$  ug/dL [chemistry report]  
Reference Range: 5-23  $\mu\text{g/dL}$

**Hypoalbuminemia:**

Decreased: Serum albumin  $\leq 2.8$  g/dL [chemistry report]  
Reference range: 3.4 - 4.8 g/dL

**Hypocalcemia:**

Decreased: Serum calcium  $\leq 8.2$  mg/dL [chemistry report]  
OR Serum ionized calcium  $\leq 4.48$  mg/dL [chemistry report]  
Infants, serum calcium  $< 6.0$  mg/dL [chemistry report]  
OR serum ionized calcium  $< 4.0$  mg/dl [chemistry report]  
Reference ranges: Calcium 8.6 - 10.0 mg/dL  
Ionized calcium 4.60 - 5.08 mg/dL

**Hypochloremia:**

Decreased: Serum chloride  $\leq 95$  mEq/L [chemistry report]  
Reference range: 98 - 107 mEq/L

**Hypoglycemia:**

Decreased: Serum glucose  $\leq 45$  mg/dL [chemistry report]  
Infants, serum glucose  $<40$  mg/dL in first 24 hr of life  
 $<45$  mg/dL thereafter [chemistry report]  
Reference range: 75 - 115 mg/dL

**Hypokalemia:**

Decreased: Serum potassium  $\leq 3.2$  mEq/L [chemistry report]  
Reference range: 3.5 - 4.5 mEq/L

**Hyponatremia:**

Decreased: Serum sodium  $< 133$  mEq/L [chemistry report]  
Reference Range: 136 - 145 mEq/L

**Hypophosphatemia:**

Decreased: Serum inorganic phosphorus  $\leq 2.2$  mg/dL [chemistry report]  
Reference range: 2.7 - 4.5 mg/dL

**Hypoproteinemia:**

Decreased: Total serum protein  $\leq 5.5$  g/dL [chemistry report]  
Reference range: Ambulatory 6.4 - 8.3 g/dL  
Recumbent 6.0 - 7.8 g/dL

**Hyporeninemia:**

Usually measured as plasma renin activity (PRA) as Angiotensin I (AI).  
Decreased: Renin  $\leq 5.0$  MU/L on normal salt diet [chemistry report]  
Reference range: Supine 12 - 79 MU/L  
Standing 13 - 114 MU/L

**Hypotension:**

Systolic blood pressure  $< 90$  mmHg

**Hypothermia:**

Body Temperature  $< 96^\circ$  F rectal

**Hypothyroidism:**

Thyroid stimulating hormone (TSH)  $\geq 12.0$   $\mu$ U/mL [chemistry report]  
OR Free Thyroxine (FT<sub>4</sub>)  $\leq 0.3$  ng/dL [chemistry report]  
Reference ranges: TSH 0.5 - 4.2  $\mu$ U/mL  
FT<sub>4</sub> 0.8 - 2.7 ng/dL

**Hypoxemia:**

pO<sub>2</sub> < 60 mmHg with patient breathing room air  
 OR Alveolar-arterial gradient > 15 mmHg  
 (693 x F<sub>I</sub>O<sub>2</sub>) - (1.2 x pCO<sub>2</sub>) - pO<sub>2</sub> > 15 mmHg  
 [calculated from arterial blood gas values]  
 Reference ranges: pO<sub>2</sub> 83 - 108 mmHg  
 Gradient ≤ 10 mmHg

**IgG Index:**

An index of local IgG synthesis in the CNS.

$$\text{IgG Index} = \frac{[\text{IgG}_{\text{csf}} / \text{IgG}_{\text{serum}}]}{[\text{Albumin}_{\text{csf}} / \text{Albumin}_{\text{serum}}]} \times 100$$

Reference range: 0.3 - 0.6

**Infectious arthritis:** *See Arthritis, infectious*

**Initial peak systolic right ventricular pressure:**

Increased: > 25 mm Hg  
 Reference range: < 20 mm Hg

**Initial pulmonary wedge pressure:**

Increased: > 15 mm Hg  
 Reference range: 3 - 15 mmHg

**International Normalized Ratio (INR):**

A method of expressing the prothrombin time that eliminates laboratory-to-laboratory variation in results due to use of different thromboplastins.

$$\text{INR} = \left[ \frac{\text{Patient PT}}{\text{Normal mean PT}} \right]^{\text{ISI}}$$

Where ISI is the International Sensitivity Index of the thromboplastin used  
 Reference Value : 1.0

**Iron Deficiency:****Anemia**

AND Serum iron  $\leq 35$   $\mu\text{g/dL}$  in females or  $\leq 55$   $\mu\text{g/dL}$  in males [chemistry report]

AND Total iron binding capacity  $\geq 513$   $\mu\text{g/dL}$  [chemistry report]

OR **Serum ferritin**  $\leq 10$   $\text{ng/mL}$  [chemistry report]

OR Iron depletion of bone marrow [bone marrow biopsy report]

Reference ranges: Iron, serum Child 50 - 120  $\mu\text{g/dL}$

Male 65 - 175  $\mu\text{g/dL}$

Female 50 - 170  $\mu\text{g/dL}$

Iron binding capacity Adult 250 - 425  $\mu\text{g/dL}$

Ferritin, serum Male 20 - 250  $\text{ng/mL}$

Female 10 - 120  $\text{ng/mL}$

**Jaundice:** *See hyperbilirubinemia*

**Lactate dehydrogenase, serum (LD):**

Serum measurements have little organ specificity unless isoenzymes are measured.

Reference ranges: Highly method dependent

Adult: 140 - 280 U/L

**Lactate dehydrogenase isoenzymes:**

There are five isoenzymes which have been numbered LD-1 to LD-5. Ordinarily LD-2 is present in greater activity than LD-1; Because myocardium contains LD-1, following myocardial infarction the ratio LD-1/LD-2 becomes greater than 1.0 (the “flipped” pattern).

**LD:** *See Lactate dehydrogenase*

**LDH:** *See Lactate dehydrogenase*

**Leukocytosis:**

Increased: Leukocytes, blood  $> 12.6 \times 10^3/\mu\text{L}$  [CBC report]

Reference Range: 4.5 - 11.0  $\times 10^3/\mu\text{L}$

**Leukocyte (neutrophil) alkaline phosphatase (LAP):**

Decreased: Score  $< 20$

Reference range: Score 40 - 130

(Score is based on 0 - 4+ rating of 100 neutrophils)

**Leukopenia:**

Decreased: Leukocytes, blood  $< 3.0 \times 10^3/\mu\text{L}$  [CBC report]

Severe decrease: Leukocytes, blood  $< 0.5 \times 10^3/\mu\text{L}$

Reference Range: 4.5 - 11.0  $\times 10^3/\mu\text{L}$

**Lipase, serum:**

Increased: Serum lipase > 300 U/L [chemistry report]

Reference range: Highly method dependent

With triolein substrate < 200 U/L

With olive oil substrate < 160 U/L

**Lymphocytopenia:**

Decreased: Blood lymphocytes <  $1.0 \times 10^3/\mu\text{L}$  [CBC report]  
< 1000/ $\mu\text{L}$

Reference range:  $1.5 - 4.0 \times 10^3/\mu\text{L}$

**Macrocytosis, erythrocyte:**

Mean corpuscular volume (MCV)  $\geq 95$  fL (or  $\mu^3$ ) [CBC report]

Reference Range: 80 - 90 fL

**Maximum voluntary ventilation (MVV):**

Decreased: MVV < 80 % of predicted value

Reference Ranges: 3 - 5 L/sec  $\geq 80$  % of predicted value

**Meningitis, pediatric:**

Growth of pathologic organism(s) in CSF

AND CSF glucose < 50% of serum glucose [chemistry report]

AND CSF protein > 150 mg/dL (premature infant) [chemistry report]

OR > 170 mg/dL (full-term infant) [chemistry report]

AND CSF neutrophils > 10/ $\mu\text{L}$  [CSF cell count report]

OR CSF lymphocytes > 25/ $\mu\text{L}$  in a premature infant [CSF cell count report]

OR > 20/ $\mu\text{L}$  in a term infant [CSF cell count report]

**Meningitis:****Bacterial meningitis:**

Growth of pathologic organism(s) in CSF [culture report]

AND CSF glucose < 50% of serum glucose [chemistry report]

AND CSF protein > 50 mg/dL [chemistry report]

AND CSF neutrophils > 1/ $\mu\text{L}$  [CSF cell count report]

OR CSF lymphocytes > 8/ $\mu\text{L}$  [CSF cell count report]

**Viral meningitis:** Also known as “Aseptic meningitis”

No growth on bacterial culture of CSF

AND CSF Glucose > 50% of serum glucose [chemistry report]

AND CSF Protein > 50 mg/dL [chemistry report]

AND CSF Lymphocytes/neutrophils > 1 [CSF cell count report]

AND CSF Lymphocytes > 8/ $\mu$ L [CSF cell count report]

OR Virus isolated from CSF [tissue culture report]

OR Acute/convalescent virus-specific antibody titer increases  
>4.0

Reference ranges: CSF glucose Infant, child 60 - 80 mg/dL

Adult 40 - 70 mg/dL

CSF protein 15 - 45 mg/dL

CSF cell count 0 - 5 cells/ $\mu$ L

All mononuclear cells

**Mental Retardation:**

Wechsler IQ  $\leq$  55

**Microcytosis, erythrocyte:**

Mean corpuscular volume (MCV) < 80 fL [CBC report]

Reference range: 80 - 90 fL

**Mini-mental Status Examination:**

A verbal test for grading cognitive status. Total maximal score is 30.

Organic Brain Disease: Score < 27

Dementia:  $\leq$  9.7

Folstein MF et al. J Psychiatr Res 12: 189, 1975

**Multiple sclerosis:**

Multiple sclerosis [MRI scan report]

OR Oligoclonal bands [CSF electrophoresis report]

OR Increased Myelin basic protein [CSF electrophoresis report]

OR Increased IgG index [CSF electrophoresis report]

**Mycoplasma:**

*Mycoplasma pneumoniae* [culture report]

OR Rise in acute/convalescent antibodies [serology report]

OR Cold agglutinin titer of > 1:64 [serology report]

**Myelin basic protein, CSF:**

Increased: > 2 ng/mL [CSF chemistry report]

Reference range: < 2ng/mL [CSF chemistry report]

**Myocardial infarction, acute (AMI):**

Elevation of ST segment [EKG report]

OR Appearance of new Q waves [EKG report]

OR Troponin I increased at 4 - 6 h [chemistry report]

OR Creatine kinase MB fraction increased at 3 - 4 h [chemistry report]

OR Creatine kinase isoforms CK3c/3a increased at 2 - 3 h [chemistry report]

Laboratory: "Cardiac markers" become elevated a few hours after onset of chest pain; however, it is important to follow the levels for 12 to 18 hours to confirm MI.

**Myocarditis:**

Diffuse ST-T wave findings on electrocardiogram [ECG Report]

AND Serum Creatine Kinase MB fraction within reference range [chemistry report]

OR Myocarditis on myocardial biopsy [pathology report]

**Myoglobin, serum:**

Increased: Male > 110  $\mu\text{g/L}$  [chemistry report]

Female > 92  $\mu\text{g/L}$

Increased 1 - 3 h after myocardial infarction

Reference ranges: Male 19 - 92  $\mu\text{g/L}$

Female 12 - 76  $\mu\text{g/L}$

**Neutrophilia:**

Increased: Segmented neutrophils, blood >  $8 \times 10^3/\mu\text{L}$  [CBC report]  
> 8000/ $\mu\text{L}$

Reference ranges: White  $1.6 - 6.9 \times 10^3/\mu\text{L}$

Black  $1.2 - 6.0 \times 10^3/\mu\text{L}$

**Noonan's syndrome:**

Cytogenetics: Genotype 46XX or 46XY

**Obesity:**

Mild: Body weight  $\geq 1.2$  times ideal body weight

OR Body mass index (BMI)  $\geq 27.5 \text{ kg/m}^2$

Moderate: Body weight 1.4 - 2.0 times ideal body weight

Severe: Body weight > 2.0 times ideal body weight

**Oligoclonal bands:**

Reference range: No oligoclonal bands present

**Oliguria:**

Urine output  $\leq 500 \text{ mL/24 h}$

OR Urine output < 30 mL/h

OR Pregnancy

AND Urine output  $\leq 500 \text{ mL/24 h}$

**Opportunistic infection:**

Pneumocystis carinii [culture report]  
Cytomegalovirus spp. [culture report]  
Herpes virus spp. [culture report]  
Candida albicans [culture report]  
Cryptococcus spp. [culture report]  
Histoplasma spp. [culture report]  
Toxoplasma gondii [culture report]  
Mycobacterium-intracellulare [culture report]  
Mycobacterium-tuberculosis [culture report]  
Cryptosporidium spp. [culture report]  
Isospora belli [culture report]

**Osmolality, serum or urine:**

Increased: Serum > 300 mOsm/kg H<sub>2</sub>O [urine chemistry report]  
Decreased: Serum < 270 mOsm/kg H<sub>2</sub>O  
Reference ranges: Serum 275 - 295 mOsm/kg H<sub>2</sub>O  
Urine 50 - 1200 mOsm/kg H<sub>2</sub>O

**Osteomyelitis:**

Growth of pathologic organism(s)[microbiology culture report]  
OR **Osteomyelitis** [bone scan report OR CT scan report OR MRI report]

**Osteoporosis:**

Bone density analysis, DEXA scan, report > 2.5 standard deviations below standard adult mean value

**Pancreatic insufficiency:**

Oil droplets, egg particles or buttery material on gross examination of stool  
OR Three globules/hpf or globules ≥ 75 micra with Sudan III stain  
[Microscopic stool report]  
OR Fecal fat > 6 gm fat/day on standard diet of 100 gm fat/day  
(3 day stool specimen)

**Pancreatitis:**

Pancreatitis [operative/pathology report or CT scan report or sonogram report or KUB x-ray report]  
OR Serum lipase ≥ 300 U/L  
AND Serum amylase ≥ 500 U/L  
OR Serum p-type isoamylasemia

**Pneumonia:**

New pulmonary infiltrate (chest x-ray report)

AND Growth of pathogenic organism on sputum culture

OR Single predominant organism and many WBCs on Gram stain of sputum

**Polycythemia:**

Increased erythrocytes: Red cell mass Male  $\geq 37.5$  mL/kg [hematology report]

Female  $\geq 32.5$  mL/kg [hematology report]

Reference ranges: Male 25 - 35 mL/kg body weight

Female 20 - 30 mL/kg body weight

**Protein electrophoresis, serum (Cellulose acetate):**

Reference ranges: Albumin 3.5 - 5.5 g/dL

$\alpha_1$ -Globulin 0.1 - 0.3 g/dL

$\alpha_2$ -Globulin 0.6 - 1.0 g/dL

$\beta$ -Globulin 0.7 - 1.1 g/dL

$\gamma$ -Globulin 0.8 - 1.6 g/dL

**Prostate specific antigen, serum (PSA):**

Increases with age, benign prostatic hypertrophy and carcinoma of the prostate

Reference range  $< 4$  ng/mL

**Red cell (erythrocyte) mass:**

Increased: Above reference range in polycythemia vera and secondary polycythemia

Reference ranges: Male 25 - 35 mL/kg

Female 20 - 30 mL/kg

**Renal failure index (RFi):**

A calculated index to assess renal failure.

$$\left[ \frac{U_{Na}}{U_{Cr} / P_{Cr}} \right] \times 100$$

Where  $U_{Na}$  is concentration of sodium in the urine

$U_{Cr}$  is concentration of creatinine in the urine

$P_{Cr}$  is concentration of creatinine in the plasma

Reference ranges: RFi  $> 1$  in acute tubular necrosis

RFi  $< 1$  in glomerulonephritis

RFi  $< 1$  in obstructive nephropathy

**Renal insufficiency:**

Also see *End-stage renal disease*.

Creatinine, serum Male  $\geq 1.4$  mg/dL [chemistry report]  
Female  $\geq 1.2$  mg/dL [chemistry report]  
Reference ranges: Male 0.9 - 1.3 mg/dL  
Female 0.6 - 1.1 mg/dL

**Residual volume (RV):**

Reference range: 1000 - 1200 mL for young adult males

**Respiratory failure:**

Acute lung injury  
OR Acute respiratory distress syndrome  
OR (**Hypoxemia:**  $pO_2 < 60$  mmHg with patient breathing room air)  
OR **Alveolar-arterial gradient**  $> 15$  mmHg  
AND **Acidosis:** (Decreased: Blood pH  $< 7.325$ )  
AND **Hypercarbia:** (Males  $pCO_2 > 51$  mmHg; Females  $pCO_2 > 48$  mmHg)

**Restrictive Lung Disease:**

Total lung capacity  $\leq 75\%$  of predicted value  
[pulmonary function test report]  
OR Forced vital capacity  $\leq 75\%$  of predicted value  
[pulmonary function test report]

**Reticulocytosis:**

Increased: Reticulocytes, blood  $> 2.0\%$  of erythrocytes [CBC report]  
or  $> 100 \times 10^3/\mu\text{L}$   
Reference ranges: Reticulocytes, blood 0.5 - 1.5 %  
or 24 - 84  $\times 10^3/\mu\text{L}$

**Reye's Syndrome:**

History of recent convalescence from an upper respiratory tract infection, influenza or varicella in a child aged  $\leq 16$  years old.  
AND History of salicylate ingestion  
AND Disorientation  
OR Protracted vomiting  
OR Lethargy  
AND Fatty infiltration of the liver [operative or pathology report]  
AND Serum **ammonia**  $> 50$   $\mu\text{g/dL}$  [chemistry report]  
OR **AST**  $> 105$  U/L [chemistry report]  
AND **ALT**  $> 90$  U/L [chemistry report]

**Rhabdomyolysis:**

**Creatine kinase**  $> 267$  U/L [chemistry report]  
AND Myoglobinuria

**Rheumatoid arthritis:**

Five of the following criteria of the American Rheumatism Association are necessary for diagnosis:

History of morning stiffness > 6 weeks

Pain on motion or tenderness in one joint, as observed by physician, > 6 weeks

Swelling of one other joint > 6 weeks

AND any interval of joint free symptoms > 3 months

Symmetrical bilateral joint swelling, except the terminal phalangeal joints > 6 weeks

Subcutaneous nodules

Rheumatoid arthritis on x-ray [x-ray report of any joints]

Rheumatoid factor titer > 1:160 [chemistry report]

Poor mucin synovial clot

Synovial WBC  $\geq$  2000 cells/ $\mu$ L [cell count report]

AND No crystals

Rheumatoid arthritis on biopsy [synovial biopsy report]

**Salicylate intoxication:**

Therapeutic range: < 20 mg/dL

Toxic range: 30 - 60 mg/dL [chemistry report]

Lethal range: > 60 mg/dL [chemistry report]

**Sarcoidosis:**

Sarcoidosis [Pathology report]

**Schistosomiasis:**

Three major species are: *Schistosoma haematobium*, *S. mansoni* and *S. japonicum*.

Demonstration of eggs in the feces [Parasitology report]

**Sepsis, infant:**

Viremia: (viral culture reports growth of bacterial virus)

OR **Bacteremia:** (blood culture reports growth of bacterial organism)

OR **Fungemia:** (blood culture reports growth of fungal organism)

OR Clinical evidence of infection

AND 2 of the following criteria:

Fever in infant,  $> 38^{\circ}$  C rectal or  $> 37.8^{\circ}$  C oral

OR Hypothermia in infant  $< 36^{\circ}$  C rectal or  $< 35.8^{\circ}$  C oral

Tachypnea, Respiratory Rate  $> 90\%$  for age

OR Hyperventilation

OR  $pCO_2 < 32$  mmHg [ABG report]

OR Apnea

OR Patient intubated

OR Tachycardia, Heart Rate  $> 90\%$  for age

OR  $WBC > 12,000/\mu L$  [CBC report]

OR  $WBC < 4000/\mu L$  [CBC report]

OR  $> 10\%$  immature neutrophils [CBC report]

**Sepsis:**

- Sepsis syndrome
  - OR Viremia: (blood culture reports growth of virus organism)
  - OR **Fungemia:** (blood culture reports growth of fungal organism)
  - OR **Bacteremia:** (blood culture reports growth of bacterial organism)
  - AND **Fever:** (Temperature  $\geq 101^\circ\text{F}$  oral or  $\geq 101.5^\circ\text{F}$  rectal)
  - OR **Hypothermia:** (Body Temperature  $< 96^\circ\text{F}$  rectal)
  - AND **Tachypnea:** (Respiratory rate  $> 26/\text{min}$ )
  - OR Patient intubated
  - AND **Tachycardia:** (Heart rate  $> 110$  beats/min)
  - AND One of the following:
    - PaO<sub>2</sub>/F<sub>I</sub>O<sub>2</sub>  $< 280$  [Arterial Blood Gas Report]
    - OR Use of 40% Ventimask
    - OR **Anion gap:**  $\geq 14$
    - OR **Acidosis:** (Decreased: Blood pH  $< 7.325$ )
    - OR **Anuria:** (Urine output  $\leq 100$  mL/24 hr)
    - OR  $< 1\text{mL}/\text{kg}/24\text{h}$  for children  $\leq 16$  years old
    - OR **Hypotension:** (Systolic blood pressure  $< 90$  mmHg)
    - OR International normalized ratio (INR)  $> 1.0$
    - OR PTT  $>$  baseline
    - OR **Thrombocytopenia:** (Decreased: Platelet count, blood  $< 10 \times 10^3/\mu\text{L}$ )
    - OR Pregnant
      - AND Platelet count  $< 15 \times 10^3/\mu\text{L}$
    - OR Baseline platelet count drops 50% in 24 hours
    - OR **Coma:** (Glasgow coma scale rating  $< 8$ )
    - OR unresponsive to pain
      - AND unresponsive to verbal stimuli
      - AND unresponsive to tactile stimuli
    - OR encephalopathy
- Quartin A et.al. JAMA 1997;277;1058-63  
Sands K et.al. JAMA 1997;278;234-240

**SGOT:** *See Aspartate aminotransferase*

**Shock:**

- Hypotension:** (Systolic blood pressure < 90 mmHg)
- AND **Oliguria:** (Urine output  $\leq$  500 mL/24 h)
  - OR Urine output < 30 mL/h
  - OR Pregnancy
    - AND Urine output  $\leq$  500 mL/24 h
  - OR **Anuria:** (Urine output  $\leq$  100 mL/24 hr)
  - OR < 1mL/kg/24h for children  $\leq$  16 years old
  - OR Newborn with poor peripheral perfusion
- AND Capillary refill >2 seconds
  - OR Age < 16 years old
- AND Systolic blood pressure < 50 mmHg
- AND Urine output < 1 mL/kg/h

**SGPT:** *See Alanine aminotransferase*

**Syndrome of inappropriate anti-diuretic hormone secretion (SIADH):**

- Serum osmolality > 300 mOsm/kg H<sub>2</sub>O [chemistry report]
- AND Lethargy
  - OR Water load test positive for SIADH
  - OR **Hyponatremia:** (Decreased: Serum sodium < 133 mEq/L)

**Tachycardia:**

Heart rate > 110 beats/min for adults

**Tachypnea:**

Respiratory rate > 26/min for adults

**Temperature:** *See Fever, Hypothermia*

**Tetanus:**

Tetanospasmin and tetanolysin [chemistry report]  
An acute, often fatal, infection caused by the *C. tetani* from infected tissue

**Thiamine, blood or urine:**

- Decreased (deficiency): blood < 1.7  $\mu$ g/dL [chemistry report]
  - urine < 50  $\mu$ g/d [urine chemistry report]
- Reference ranges: blood 2.5 - 7.5  $\mu$ g/dL
  - urine  $\geq$  100  $\mu$ g/d

**Thrombocytopenia:**

Decreased: Platelet count, blood  $< 10 \times 10^3/\mu\text{L}$  [CBC report]  
 OR Pregnant  
 AND Platelet count  $< 15 \times 10^3/\mu\text{L}$   
 Reference range:  $150 - 400 \times 10^3/\mu\text{L}$

**Thrombocytosis:**

Increased platelet count, blood  $> 500 \times 10^3/\mu\text{L}$  [CBC report]  
 Reference range:  $150 - 400 \times 10^3/\mu\text{L}$

**Thyroid stimulating hormone (TSH), serum:**

Reference ranges: 1-4 days 1.0 – 39  $\mu\text{L}/\text{mL}$   
 21 - 54 y 0.4 - 4.2  $\mu\text{U}/\text{mL}$   
 55 - 87 y 0.5 - 8.9  $\mu\text{U}/\text{mL}$

**Thyroxine, total, serum (T<sub>4</sub>):**

Reference ranges: Adult Male 4.6 - 10.5  $\mu\text{g}/\text{dL}$   
 Adult Female Cord 7.4 – 13.0  $\text{ng}/\text{dL}$   
 1-3 days 11.8 – 22.6

**Thyroxine, free, serum (FT<sub>4</sub>):**

Reference range: 0.8 - 2.7  $\text{ng}/\text{dL}$

**Thyroxine, free, index (FT<sub>4</sub>I):**

Reference range: FT<sub>4</sub>index 4.2 - 13.0  
 $\text{FT}_4\text{I} = \text{Total T}_4 \times \text{Thyroid hormone binding ratio (THBR)}$

$$\text{THBR} = \frac{[\% \text{ T uptake (patient serum)}]}{[\% \text{ T uptake (reference serum)}]}$$

**Toxoplasmosis:**

An infection with *Toxoplasma gondii* an intracellular parasite of humans and animals. The cat is the definitive host, while humans are the intermediate host.  
 Toxoplasmosis [Pathology report]  
 Serological tests positive

**Triiodothyronine, total, serum (T<sub>3</sub>):**

Increased: 20 - 50 y  $> 238 \text{ ng}/\text{dL}$  [chemistry report]  
 50 - 90 y  $> 216 \text{ ng}/\text{dL}$  [chemistry report]  
 Reference ranges: Cord 5 - 141  $\text{ng}/\text{dL}$   
 1-3 days 100 – 740  $\text{ng}/\text{dL}$   
 20 - 50 y 70 - 204  $\text{ng}/\text{dL}$   
 50 - 90 y 40 - 181  $\text{ng}/\text{dL}$

**Triiodothyronine, free, serum (T<sub>3</sub>):**

Increased: > 535 ng/dL [chemistry report]  
Reference ranges: 260-480 ng/dL  
Pregnancy: 211-383 ng/dL

**Troponin I, cardiac specific, serum (cTnI):**

Increased: > 10 µg/L [chemistry report]  
Increases within 4 - 6 h after myocardial infarction  
Reference range: < 10 µg/L

**Tuberculosis:**

An infectious disease caused by the acid-fast bacterium *Mycobacterium tuberculosis*.  
Disease is also caused by other mycobacteria: *M. bovis*, *M. avium*, *M. kansasii* and *M. intracellulare*.

Tuberculosis [x-ray report]  
AND Acid-fast bacilli present [gram stain report]  
OR *M. tuberculosis* [culture report]

**Turner's syndrome:**

Genotype Turner's syndrome [Cytogenetics report]  
Sexual karyotype is XO, but some patients are mosaics, with XO/XX,  
XO/XXX or XO/XY being most common

**Unsaturated vitamin B<sub>12</sub> binding capacity:** *See Vitamin B<sub>12</sub> binding capacity, unsaturated*

**Urinary Tract Infection (UTI):**

Urine infected with ≥ 100,000 cfu/mL  
[culture from freshly voided 'clean catch' urine]  
AND Pyuria

**UTI:** *See urinary tract infection*

**Viscosity, serum:**

Increased: ≥ 1.25 cP  
Reference range: 1.00 - 1.24 cP  
Relative to water at 37° C

**Vitamin A, serum:**

Decreased: < 10 µg/dL [chemistry report]  
Reference range: 30 - 80 µg/dL

**Vitamin B<sub>12</sub>, serum:**

Decreased: < 100 pg/mL [chemistry report]  
Reference range: 200 - 835 pg/mL

**Vitamin B<sub>12</sub> binding capacity, unsaturated, serum:**

Increased: > 1600 pg/mL [chemistry report]

Reference range: 600 - 1400 pg/mL

**Vitamin D, serum:**

Decreased: < 4 pg/mL [chemistry report]

Reference range: 16 - 65 pg/mL

**White cell count (WBC):** *See Leukocytosis count*

**D-Xylose test:**

Decreased (malabsorption):

Urinary excretion (25 g dose) < 4.0 g/5 h

Reference range: Adult, 25 g dose, > 4.0 g/5 h