I CD-9-CM Coding Guidelines

The below listed circulatory system guidelines are not inclusive. The coder should refer to the applicable Coding Clinic guidelines for additional information. The Centers for Medicare & Medicaid Services considers Coding Clinic, published by the American Hospital Association, to be the official source for coding guidelines. Hospitals should follow the Coding Clinic guidelines to assure accuracy in ICD-9-CM coding and DRG assignment.

Definition of Principal Diagnosis

The principal diagnosis is that condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care.

Two or more diagnoses may equally meet the definition for principal diagnosis as determined by the circumstances of admission, diagnostic work-up and/or therapy provided. Be aware that there is a difference between admitting a patient to treat two conditions and two conditions being present at the time of admission. The principal diagnosis is always the reason for admission.

Coding Guidelines

**Acquired septal defect due to a previous acute myocardial infarction (AMI) (less than eight weeks old)**

Assign code 429.71, acquired cardiac septal defect, and 410.92, AMI, unspecified site, subsequent episode of care. (See Coding Clinic, third quarter 1989, pages 5 and 6.)

**Acute myocardial infarction (AMI)**

Effective October 1, 2005, inclusion terms have been added to category 410, AMI, to indicate these codes apply to ST-segment elevation myocardial infarction (STEMI) and non-ST segment elevation myocardial infarction (NSTEMI).

STEMI show an ST segment change on electrocardiogram (ECG) and generally involve the whole thickness of myocardium from epicardium to endocardium. Codes 410.0-410.6 and 410.8 specify sites that equate to STEMI.

NSTEMI do not show an ST segment change on ECG and do not involve thickness of myocardium. Code 410.7, subendocardial infarction, should be used to code NSTEMI.

Code 410.9, AMI, unspecified site, does not indicate a site or whether there is an ST elevation. If only STEMI without a specified site documented, assign a code from subcategory 410.9.

If NSTEMI evolves to STEMI, assign the STEMI code. If STEMI converts to NSTEMI due to thrombolytic therapy, it is still coded as STEMI.

These codes only apply to abnormal ST-segment elevation involving AMIs. Other conditions, such as acute pericarditis, acute myocarditis, hyperkalemia, Brugada syndrome, pulmonary embolism, left bundle branch block and Prinzmetal's angina may cause ST-segment elevation.

An ST-elevation may be a normal variant.

Nontransmural AMI is coded 410.7x regardless of the site. (See Coding Clinic, fourth quarter 2005, pages 69-72.)
Effective October 1, 1989, fifth digit subclassifications were added to category 410, AMI, to indicate whether the episode of care was unspecified, initial or subsequent. (See Coding Clinic, third quarter 1989, pages 3 and 4.)

AMI/acute and chronic coronary insufficiency
These diagnoses only require a code for AMI. Acute coronary insufficiency, 411.89, is not coded, since 411.89 is not assigned with a code from 410.xx. Chronic coronary insufficiency, 414.8, can be coded to show a current history for internal purposes, but it is not necessary. (See Coding Clinic, first quarter 1991, page 14, and Coding Clinic, November-December 1986, page 12.)

AMI/cardiac arrhythmias/conduction disorders
If they occur and are treated, paroxysmal supraventricular tachycardia, atrial flutter, atrial fibrillation, ventricular fibrillation, conduction disorders or complete AV block, Mobitz II AV block, second-degree AV block and Wenckebach's block should be coded as an additional code with an AMI. (See Journal of AHIMA, October 1992, pages 26 - 28.)

AMI/clinical information
AMI may be transmural, involving the full thickness of the ventricular wall, or subendocardial (nontransmural) involving only the inner one third to one half of the ventricular wall. (See CodeWrite, May 1993 pages 6 - 8.)

AMI with extension
If a patient has an AMI during the same admission and then an extension or reinfarction of MI of the same site, assign one code for the site. If the MIs occur in two different sites during the same admission, assign a code for each site. (See Coding Clinic, volume 10, number 5 1993, pages 13 and 14.)

Acute myocardial ischemia
Acute myocardial ischemia with an infarction is designated as an AMI, 410.xx.

Acute myocardial ischemia without an infarction but with evidence of occlusion or thrombosis is assigned code 411.81.

Acute myocardial ischemia without an infarction or evidence of occlusion or thrombosis is assigned code 411.89, other acute and subacute forms of ischemic heart disease. (See Coding Clinic, third quarter 1991, page 18.)

Admission for AMI with transfer to another acute hospital
If a patient with AMI is transferred for a heart catheterization and continues to receive treatment for AMI, the principal diagnosis at the second hospital is AMI. AMI is coded with a fifth digit of “1” at the second hospital, because the patient was transferred. (See Coding Clinic, volume 10, number 5 1993, page 14, and Coding Clinic, fourth quarter 1992, page 24.)

Cardiac rehabilitation, outpatient, following an AMI
If the encounter is solely for cardiac rehabilitation, assign code V57.89, care involving use of rehabilitation procedures, other, and sequence as the primary diagnosis. Assign an additional code of 410.x2, AMI, subsequent episode of care, if the encounter occurs within eight weeks post AMI. Continue to assign 410.x2 until sessions are completed even if it goes beyond eight weeks post AMI. If the first rehabilitation encounter is started after the eight week post AMI time frame, assign code 412, old MI. (See Coding Clinic, third quarter 2001, page 21, and Coding Clinic, third quarter 1998, page 15.)
**Codes 425.7 and 425.8**

Codes 425.7, nutritional and metabolic cardiomyopathy, and 425.8, cardiomyopathy in other diseases classified elsewhere, are italicized codes and therefore, should never be sequenced as the principal diagnosis. The underlying disease is always sequenced first.

**Codes V42, V42.1, V42.2, V43.2, V43.3 and V43.4**

These codes are only assigned if there are no complications or malfunctions of the organ or tissue replaced. Codes from category V42 are never assigned with codes from category 996.8, complications of transplanted organ. (See *Coding Clinic*, fourth quarter 1998, page 43; *Coding Clinic*, third quarter 1998, pages 3 and 4; and *Coding Clinic*, second quarter 1994, page 9.)

**Complication of transplanted heart/congestive heart failure (CHF)**

A patient with a history CHF prior to a heart transplant was admitted for CHF one year following the heart transplant. Since CHF affected the transplant organ, this is considered a complication of the heart transplant, 996.83, with a secondary diagnosis of CHF, 428.0. (See *Coding Clinic*, third quarter 1998, page 5.)

**Complications of transplanted organ (subcategory 996.8)**

These codes are used for rejection of a transplanted organ and complications or diseases of the transplanted organ. When the function of the transplanted organ is affected, pre-existing conditions or post-transplant medical conditions are coded as complications of the transplanted organ. For example, a patient with a heart transplant was admitted for CHF. Because the heart was affected, assign code 996.83, complications of transplanted organ, heart, plus 428.0, for CHF. (See *Coding Clinic*, third quarter 1998, pages 3-5.)

A post-cardiac transplant patient admitted with nasopharyngeal Epstein-Barr virus lymphoproliferation is assigned code 238.7, neoplasm of uncertain behavior of other and unspecified sites and tissues, other, 075, infectious mononucleosis, and V42.1, organ or tissue replaced by transplant, heart. Code 996.83, complications of transplanted organ, heart, should only be assigned if the physician documents the transplanted heart has become affected by the Epstein-Barr lymphoproliferative disorder. (See *Coding Clinic*, third quarter 2001, pages 13 and 14.)

**Congestive or dilated cardiomyopathy/CHF**

Congestive cardiomyopathy is a myocardial disease characterized by ventricular dilation, contractile dysfunction and symptoms of CHF. When a patient is admitted with cardiomyopathy and CHF and the treatment is directed to the management of CHF, CHF, 428.0, should be sequenced as the principal diagnosis with cardiomyopathy, 425.4, sequenced as a secondary diagnosis. (See *Coding Clinic*, second quarter 1990, page 19.)

**Coronary artery stent stenosis**

Coronary artery stent stenosis is assigned code 996.72, other complication of internal (biological) (synthetic) prosthetic device, implant, and graft, due to other cardiac device, implant, and graft. (See *Coding Clinic*, third quarter 2001, page 20. This supercedes information published in *Coding Clinic*, first quarter 2000, page 10.)

**Cytomegalovirus (CMV)/heart transplant**

If a heart transplant patient has CMV from his transplanted heart, it is a complication of the transplanted heart. Assign code 996.83, complication of heart transplant, plus an additional code 078.5, cytomegalic inclusion disease. (See *Coding Clinic*, fourth quarter 1993, page 29, and *Coding Clinic*, third quarter 1993, page 13.)
**Dissection of coronary artery**
Code 414.12, dissection of coronary artery, was created October 1, 2002. Arterial dissection is defined as blood coursing within the layers of the arterial wall. Arterial dissections are common complications of interventional procedures, such as cardiac catheterization or angioplasty. Spontaneous coronary artery dissection is rare. (See *Coding Clinic*, fourth quarter 2002, pages 54 and 55.)

**Fifth digits of “0” and “2” for code 410.xx**
A fifth digit of “0,” episode of care unspecified, should be avoided. Physician clarification should be obtained.

A fifth digit of “2,” subsequent episode of care, for category 410, is assigned following discharge for initial care of AMI to indicate further observation, evaluation or treatment was needed for a MI that is less than eight weeks old. (See *Coding Clinic*, fourth quarter 1992, page 24, and *Coding Clinic*, third quarter 1989, pages 3 and 4.)

**Hypertension/hypotension/complication of procedure**
Hypertension documented as a complication of a procedure is assigned code 997.91. (See *Coding Clinic*, special edition 1995, page 11.)

Hypotension documented as a complication of a procedure is assigned code 458.2. (See *Coding Clinic*, special edition 1995, page 4.)

**Hypotension/AMI**
Hypotension was considered integral to AMI, so only AMI was assigned a code, until October 1, 1997, when the new code 458.8, other specified hypotension, was created. A post MI hypotension should be sequenced with AMI, 410.x1 plus 458.8. (See *Coding Clinic*, fourth quarter 1997, page 37, and *Coding Clinic*, third quarter 1995, page 9.)

**Increase of premature ventricular contractions (PVCs) due to surgery**
Assign code 997.1, cardiac complications. Assign code 427.69, PVCs, as an additional code to identify the cardiac complication. (See *Coding Clinic*, fourth quarter 1993, page 42 and 43.)

**INOmax therapy**
INOmax (nitric oxide/nitrogen) therapy is used to treat persistent pulmonary hypertension in newborns and pulmonary hypertension in patients with respiratory failure and hypoxia. Code 93.98, other control of atmospheric pressure and composition was assigned until October 1, 2002, when a new code was created, 00.12, administration of inhaled nitric oxide. (See *Coding Clinic*, fourth quarter 2002, page 94, and *Coding Clinic*, first quarter 2002, page 14.)

**Ischemic cardiomyopathy**
Assign code 414.8, other specified forms of chronic ischemic heart disease, unless documentation substantiates use of one of the other ischemic heart disease codes, 410-414. (See *Coding Clinic*, second quarter 1990, page 19.)

**Malfunction of Transjugular Intrahepatic Portosystemic Shunt (TIPS)**
Malfunction of TIPS is assigned code 996.1, mechanical complication of other vascular device, implants and graft. (See *Coding Clinic*, second quarter 2005, page 8.)
**Mechanical complication of cardiac device, implant and graft, due to coronary bypass graft (996.03)**

As of October 1, 1994, code 996.03, mechanical complication of cardiac device, implant and graft, due to coronary bypass graft, excludes atherosclerosis of graft 414.02 and 414.03, and embolism (occlusion NOS) (thrombosis) of graft, 996.72.

Code 996.03 does include occlusion of coronary bypass graft (live or synthetic) due to:

- Failure of the live graft to maintain patency (graft closure during first year) (early graft failure) excluding that due to progression of atherosclerosis or thrombosis.
- Fibrointimal proliferation (hyperplasia). This is a process distinct from atherosclerotic process.
- Hyperplasia, internal of live graft (late graft closure).

(See *Coding Clinic*, November-December 1986, pages 5 and 6.)

**Mural thrombus 12 weeks post AMI**

Assign codes 429.79, other certain sequelae of MI, NEC, for mural thrombus and 414.8, other specified forms of chronic ischemic heart disease, for MI over eight weeks old. (See *Coding Clinic*, third quarter 1989, pages 5 and 6.)

**Pacemaker evaluation by telephone**

Assign code V53.31, fitting and adjustment of other device, cardiac device, cardiac pacemaker and 89.45, artificial pacemaker, rate check. (See *Coding Clinic*, first quarter 2002, page 3.)

**Postoperative complication of cardiac arrest**

When cardiac arrest occurs as a postoperative complication, assign code 997.1, complications affecting specified body systems, not elsewhere classified, cardiac complications, and 427.5, cardiac arrest. Code 427.5 is also assigned because the nature of the complication is not specified in category 997, complications affecting specific body systems, not elsewhere classified. (See *Coding Clinic*, second quarter 2000, page 12.)

**Progressive coronary artery disease (CAD) of post heart transplant**

Progressive CAD of a transplanted heart is assigned code 414.0x plus an additional code for organ or tissue replaced by transplant—heart, V42.1. (See *Coding Clinic*, second quarter 1994 page 13.)

**Replacement of pacemaker pulse generator (battery)**

If the battery is demonstrating no problems, but is replaced because it is soon to expire, assign code V53.31 (V53.3 prior to October 1, 1994), fitting and adjustment of cardiac pacemaker to designate the replacement. (See *Coding Clinic*, third quarter 1992, page 3.)

**Septicemia due to a vascular access device**

Assign code 996.62, infection and inflammatory reaction due to other vascular device, implant and graft, and sequence as the primary diagnosis, followed by a code for septicemia. (See *Coding Clinic*, second quarter 1994, page 13.)

**Subsequent episode of care for AMI/congestive heart failure (CHF)**

A patient was admitted for CHF one week following an admission for AMI. The principal diagnosis is CHF, 428.0, because it was the reason for admission and treatment, and AMI, subsequent episode of care, 410.92, is sequenced as a secondary diagnosis. (See *Coding Clinic*, third quarter 1997, page 10.)
**Transplant rejection/heart**

A patient had a heart transplant for idiopathic cardiomyopathy. A cardiac catheterization with heart biopsy was performed. If the physician identifies a rejection, assign code 996.83, complication of transplanted organ, heart, as the reason for the visit and 37.25, biopsy of heart, for the procedure. If rejection is not identified, assign code V67.09, follow-up examination, following other surgery, as the reason for the visit. Assign code V42.1, organ or tissue replaced by transplant, heart, as an additional diagnosis and 37.25 for the procedure. (See *Coding Clinic*, third quarter 2003, page 16.)

**Unstable angina/AMI/cardiac catheterization**

The patient is admitted with unstable angina and has AMI during a cardiac catheterization. The physician must be queried to determine whether the myocardial infarction was caused by the cardiac catheterization. If the physician documents that the infarction has been caused by (is due to) the cardiac catheterization, then the principal diagnosis would be listed as 411.1, Intermediate coronary syndrome, with additional codes to describe the complication, i.e., 997.1, Cardiac complications, and appropriate code from the 410.xx series. Otherwise, only the infarction would be coded from the 410 category; no additional code would be necessary.

If a patient is admitted with unstable angina and five days later has AMI, only assign a code for AMI, 410.xx. (See *Coding Clinic*, fourth quarter 1993, pages 39 and 40.)

**Long Term Care Hospitals**

**Admission for continued treatment of infected AV graft**

A chronic renal failure patient was transferred from an acute care hospital to a long term care hospital (LTCH) following removal of an infected AV graft in her left arm. The patient was transferred to continue antibiotic therapy and hemodialysis via Quinton catheter. The principal diagnosis for the LTCH stay is infected AV graft, 996.62, infection and inflammatory reaction due to internal prosthetic device, implant, and graft, due to vascular device implant, and graft. (See *Coding Clinic*, fourth quarter 2003, pages 111 and 112.)