1999 Edition

ICD-9-CM
Beyond the Basics

By Sherri A. Mallett, MEd, RRA, CCS-P

ICD-9-CM
Beyond the Basics
1999 Edition

Sherri A. Mallett, MEd, RRA, CCS-P

About the Author

Sherri Mallett, MEd, RRA, CCS-P, has 17 years of experience in the healthcare industry. Her experience includes health record department supervision and *ICD-9-CM* and *CPT* coding expertise. Sherri has worked in an acute care setting, a peer review organization, and educational settings.

For the past 10 years, Sherri has been an instructor/coordinator in the health information management program at Cincinnati State Technical and Community College. Since the early 1990s, Sherri has presented over 40 coding workshops and edited or written several publications concerning *ICD-9-CM* and *CPT* coding.

How to Use This Workbook

This self-study workbook includes lessons, self-quizzes, a final review exercise, and a separate answer key to help coders and coding students assess their own learning.

Credentialed HIM professionals may wish to take advantage of the continuing education option offered with this workbook. Six CE credits can be earned by successfully completing the CE quiz enclosed separately. Just take the quiz and mail it along with your answer form and payment, to AHIMA at the address indicated on the application.

This text builds on a basic knowledge of *ICD-9-CM* to explain coding procedures for complex body systems and addresses the technicalities of complete and accurate coding and DRG assignment in the inpatient setting.

Lesson 1 presents the complexities of coding related to the circulatory system.

Lesson 2 presents the complexities of coding related to the respiratory system.

Lesson 3 presents the complexities of coding related to the digestive and musculoskeletal systems, complications, and other advanced coding areas.

Lesson 4 presents a detailed discussion of coding for optimization and reimbursement.

Contents

Lesson 1

Circulatory System

Objectives

Upon completion of this lesson, the student should be able to:

1. Read and interpret health record documentation to identify all diagnoses and significant procedures that affect the current inpatient stay.

2. Apply Uniform Hospital Discharge Data Set definitions to select the principal diagnosis, principal procedure, complications and comorbid conditions, and significant procedures that require coding.

3. Apply knowledge of current approved *ICD-9-CM* coding guidelines to assign and sequence accurate codes to diagnoses and procedures of the circulatory system.

4. Apply knowledge of anatomy, clinical disease processes, treatment protocols, diagnostic and procedural terminology, and pharmacology to assign accurate codes to diagnoses and procedures of the circulatory system.

Introduction

Lesson 1 begins with a brief review of the health record coding process. After this is accomplished, the lesson goes beyond the basics to explore the complexities of coding diseases of the circulatory system and vascular surgeries.

Health Record Coding Process

The coding process for each hospital should be organized to address the following areas:

- Review of the health record

- Selection of codes significant for the current episode of care

- Criteria for the sequencing of diagnostic and procedural codes

- Interaction with physicians regarding documentation issues

- Generic coding guidelines

- Body system–specific guidelines

- Optimization

These elements of the process should be documented in a coding policy and procedure manual. Hospital coding policies and procedures should be developed jointly between the health information management department and the medical staff. In addition, the advice and support of any and all hospital users of encoded medical data should be sought. The criteria should address the comprehensive, and sometimes unique, data needs of the institution; local, state, and national reporting requirements; third-party reimbursement requirements; and professional standards of care as determined by the medical staff.

Coding policies and procedures should be continuously assessed and updated. Official coding guidelines, published quarterly in the *Coding Clinic for ICD-9-CM,* should be reviewed and included in the written manual.

For complete and accurate coding and DRG assignment, it is critical that the entire health record be reviewed in a thorough and efficient manner. The chart review process covers the following documents:

- *Face sheet:* Review all diagnoses and procedures listed.

- *Discharge summary:* Review for clarification of diagnoses and procedures that have been listed on the face sheet. The discharge summary may also identify comorbidities and/or complications that were treated during the hospital stay.

- *Emergency service record:* Review to identify signs and symptoms that can be correlated with other diagnoses that could be designated as the principal diagnosis. Also, vital signs and lab and x-ray findings may be documented that may help substantiate principal and secondary diagnoses.

- *History and physical:* Review the reason for admission by examining symptoms and signs and the physician's initial impression, the patient's chief complaint, current medications, assessment, and plan. Scan the history and physical for any comorbid conditions. The history may document conditions such as previous myocardial infarctions,

pacemaker in situ, a history of cancer, or chronic conditions such as chronic bronchitis, renal failure, COPD, cardiac conditions, and diabetes.

- *Physicians' orders:* Review for treatment plan. The initial admitting orders may be the most important clue to the principal diagnosis. Documentation will show what the physician was really treating at admission. Evidence of treatment of chronic conditions (medications, etc.) can lead to the addition of other diagnoses. Upon identification of such chronic conditions, the coder should query the physician before assigning codes.

- *Operative report:* Careful review of the operative report may disclose additional procedures not included in the title of the procedure. This review also assists in coding some procedures more specifically.

- *Pre- and postoperative anesthesia reports:* Review for additional conditions or complications occurring pre- and postsurgery.

- *Pathology report:* The pathology report confirms or gives additional detailed information about the postoperative diagnosis. For example, the pre- and postoperative diagnoses may only identify a "mass," whereas the pathology report may confirm the mass to be "carcinoma of the breast." The pathological diagnosis also may reveal the presence of metastasis or identify the primary site from a biopsy of a metastatic site.

- *Progress notes:* Review the progress notes to detect complications that arose during the hospitalization, secondary diagnoses for which the patient was treated, and procedures performed outside the operating room.

- *Consultations:* Review to identify any additional secondary diagnoses or complications treated during this hospitalization.

- *Test results:* The coder should be alert to any variances from normal test results. Abnormal results of laboratory, radiology, cardiopulmonary, and other tests *may be* indicative of important diagnoses that are reportable. Caution should be exercised, as *incidental findings* from these reports do not represent valid secondary diagnoses (see *Coding Clinic for ICD-9-CM,* Second Quarter, 1990, pp. 15–16). Upon identification of such variances, the coder should query the physician before assigning codes.

- *Nurses' notes:* The nurses' notes are generally a well-documented history of the patient's hospitalization and therefore can help clarify the treatment plan and diagnoses. Review can also identify conditions such as decubitus ulcers, blood transfusion reactions, postoperative complications, adverse effects of drugs, hypotension in myocardial infarctions, seizures, and urinary retention requiring catheterization. Upon identification of such variances, the coder should query the physician before assigning codes.

- *Medication record:* Review of the medications a patient receives during the hospitalization may uncover conditions that are being treated but have not been documented. For example, a patient receiving Lasix may have chronic congestive heart failure. Upon identification of such conditions, the coder should query the physician before assigning codes.

- *Dietary notes:* Review of dietary documentation might identify conditions such as malnutrition (supplemental feedings such as Ensure, hyperalimentation therapy), cachexia, cholelithiasis, protein deficiency anemia, other nutritional anemias, acute gastritis, diabetes mellitus, and vitamin K deficiency. Upon identification of such variances, the coder should query the physician before assigning codes.

Because circumstances of the inpatient admission always determine the selection of the principal diagnosis, the health record entries made at the time of admission should always be carefully reviewed to identify why the patient was admitted. Sources of admitting information include the following:

- Emergency service record

- Admitting diagnosis listed on the face sheet

- Patient's chief complaint recorded in the history and physical, as well as the nursing admission assessment

- Initial progress notes

- Initial orders (identify the focus of treatment)

Data recorded at or near the time of admission are more useful in identifying the circumstances of the admission than the discharge summary or the face sheet because these documents contain information recorded upon discharge of the patient. Thus, the physician may identify as the principal diagnosis the most significant diagnosis in terms of the implications for the patient's health, medical care, and use of the hospital. If death occurs, the physician may record the cause of death instead of identifying why the patient was admitted.

After you have thoroughly reviewed the record, you must uniformly apply coding principles and official coding guidelines to report the appropriate diagnoses and procedures. In almost all instances, the coder can confidently identify the principal diagnosis after carefully reviewing the documentation. However, problems may be encountered in poorly or inconsistently documented records. In such instances, documentation deficiencies should be discussed with the physician.

Exercise 1.1

Identify where you would look in the health record to find the documentation needed to answer the following questions that are pertinent to coding accuracy. (**Note:** Answers in this exercise are not absolute, just guidelines.)

1. A comatose patient was admitted through the emergency service with severe head trauma. How long has the patient been in a coma?

   _____

2. A patient was admitted for repair of femoral hernia. Was a lysis of peritoneal adhesions also performed?

   _____

3. A microbiology culture showed over 100,000-colony growth of E. coli. Did the patient have a urinary tract infection?

   _____

Coding Guidelines

Remember, the principal diagnosis is defined as "that condition established, after study, to be chiefly responsible for occasioning the admission of the patient to the hospital for care." All conditions existing at the time of admission or developing subsequently that affect the treatment of the patient, resource consumption, or length of stay are to be coded. Diagnoses that relate to an earlier episode of care which have no bearing on the current hospital stay are to be excluded.

For reporting purposes, the definition of "other diagnoses" is interpreted as additional conditions that affect patient care in terms of requiring:

- Clinical evaluation
- Therapeutic treatment
- Diagnostic procedures
- Extended length of stay
- Increased nursing care and/or monitoring

Systemic conditions, such as hypertension, Parkinson's disease, chronic obstructive pulmonary disease (COPD), and diabetes mellitus should always be coded, even if active treatment is not documented in the record (*Coding Clinic for ICD-9-CM,* Second Quarter, 1990).

Coding guidelines for newborns include all of the above-mentioned definitions of other diagnoses, *plus* any condition that has implications for future healthcare needs (*Coding Clinic for ICD-9-CM,* First Quarter, 1994).

If the physician has included a diagnosis in the final diagnostic statement (i.e., on the discharge summary or the face sheet), it should ordinarily be coded. Some physicians, however, include in the diagnostic statement historical information or status post procedures performed on a previous admission that have no bearing on the current stay. Such conditions are not to be reported and are coded only if required by hospital policy.

Conditions that are integral to the disease process should not be assigned as additional codes.

Coding Clinic established this related guideline: "Respiratory insufficiency is an integral part of COPD and is included in any COPD code; including specific types such as chronic obstructive bronchitis, emphysema, and chronic obstructive asthma, as well as COPD NEC (496). Do not assign 518.82, acute respiratory insufficiency, as an additional code."

Additional conditions that may not be associated routinely with a disease process should be coded when present. For example, urinary retention is not an integral part of benign prostatic hyperplasia (BPH). Therefore, a code for BPH should be assigned as the principal diagnosis, and a secondary code for urinary retention should be assigned as a secondary diagnosis (*Coding Clinic for ICD-9-CM,* Third Quarter, 1994).

When the physician has documented what appears to be a current diagnosis in the body of the record but has not included the diagnosis in the final diagnostic statement, the physician should be asked whether the diagnosis should be added.

Abnormal findings (laboratory, X-ray, pathologic, and other diagnostic results) are not coded and reported unless the physician indicates their clinical significance. If the findings are outside the normal range and the physician has ordered other tests to evaluate the condition or prescribed treatment, it is appropriate to ask the physician whether the diagnosis should be added.

Exercise 1.2

Review the following cases. From the information provided, identify the principal diagnosis (PDX) and which "other" diagnoses (ODX) should be coded.

1. A patient was admitted with a diagnosis of acute myocardial infarction. The physician noted in the history that the patient was status post prostatectomy and was hospitalized a year ago for pneumonia. The patient also has had Parkinson's disease for four years. The physical exam of lower extremities documented that the patient also had bunions. At discharge, the physician lists the following diagnoses on the face sheet: acute myocardial infarction, status post prostatectomy, history of pneumonia, and bunions.

2. A 91-year-old patient is admitted with severe dehydration. She has not been able to eat for the past couple of days because of emesis. The patient was immediately started on IV fluids. Blood count revealed iron deficiency anemia, probably nutritional. The patient was given Slow Fe. After satisfactory rehydration, the patient was discharged. The cause of dehydration was established to be gastroenteritis.

3. A patient was admitted complaining of severe shortness of breath and fatigue upon exertion. Upon examination, the patient was found to have rales in the lower lungs posteriorly and grade II pretibial pitting edema of the legs. The diagnosis of acute congestive heart failure was made. She also has diabetes mellitus, which has been controlled with a diabetic diet. The patient had a pacemaker inserted three years ago. During this hospitalization, she was diuresed and maintained on a diabetic diet. The patient's blood sugars were reasonably well controlled throughout the stay. The last chest X–ray showed clearing of the congestive infiltrates. The patient was discharged home, where she will continue to take Lasix and Lanoxin daily.

4. A patient is admitted with acute bronchopneumonia unresponsive to outpatient treatment. The patient is on chemotherapy for previously resected breast carcinoma with axillary and possible lung metastases. The pneumonia responded slowly to IV antibiotic therapy, but when lungs cleared, the patient was discharged to resume antineoplastic therapy in one week.
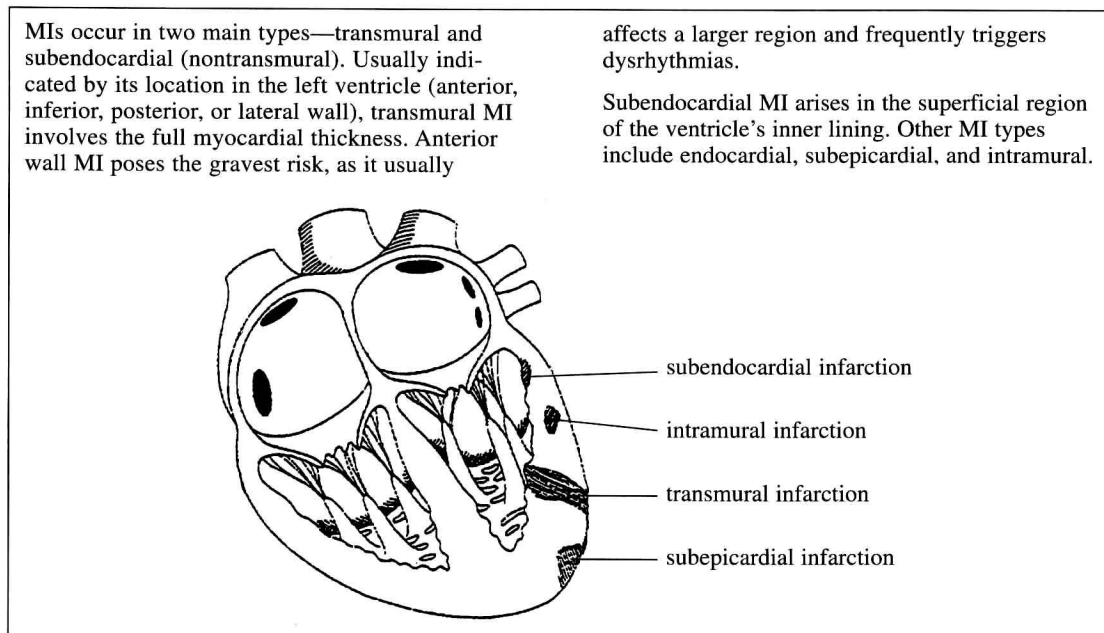
Diseases of the Circulatory System

One of the most difficult and challenging chapters to master in the *ICD-9-CM* is Chapter 7, Diseases of the Circulatory System. This lesson introduces you to specific circulatory diseases and procedures, established guidelines applicable to the circulatory system, and selected articles.

Myocardial Infarction

Myocardial infarction (MI), commonly referred to as a "heart attack," is the development of ischemia and necrosis of the myocardial tissue. The origin of an MI is usually atherosclerosis; however, it can occur from any condition in which myocardial oxygen supply cannot keep pace with demand. With limited oxygen reaching the myocardial tissue, it suffers progressive ischemia, leading to injury and finally the infarction. When atherosclerosis is the cause of the MI, it occurs as a result of a buildup of plaque within the coronary artery walls. This creates an occlusion of varying degrees and limits the blood flow to the heart. Thrombus develops from the plaque as it breaks away from the artery wall and circulates in the coronary arteries until it lodges in a vessel too narrow to permit passage. The occlusion is complete and no blood passes, causing the infarction.

The majority of MIs involve the left ventricle because this chamber has a thicker wall, larger perfusion area and vessel supply, and a greater workload. Infarctions are described as transmural and subendocardial (nontransmural). Transmural MIs are further identified by location (anterior, posterior, inferior, or lateral wall) and involve the full myocardial thickness. Subendocardial MIs arise in the superficial region of the ventricle's inner lining. Other MIs include endocardial, subepicardial, and intramural (see Figure 1.1).

Figure 1.1.   Left ventricle myocardial infarction

MIs occur in two main types—transmural and subendocardial (nontransmural). Usually indicated by its location in the left ventricle (anterior, inferior, posterior, or lateral wall), transmural MI involves the full myocardial thickness. Anterior wall MI poses the gravest risk, as it usually affects a larger region and frequently triggers dysrhythmias.

Subendocardial MI arises in the superficial region of the ventricle's inner lining. Other MI types include endocardial, subepicardial, and intramural.

subendocardial infarction

intramural infarction

transmural infarction

subepicardial infarction

Acute myocardial infarctions are classified to category 410 in *ICD-9-CM*. The inclusion notes indicate that this category includes coronary artery thrombosis, embolism, occlusion, and rupture, as well as infarction or rupture of the heart, myocardium, or ventricle. At the fourth-digit level, the specified locations are identified. A fifth-digit subclassification identifies the episode of care:

0   Episode of care unspecified

Use when the source document does not contain sufficient information for the assignment of fifth-digit 1 or 2.

1 Initial episode of care

Use fifth-digit 1 to designate the first episode of care (regardless of facility site) for a newly diagnosed myocardial infarction. The fifth-digit 1 is assigned regardless of the number of times a patient may be transferred during the initial episode.

2 Subsequent episode of care

Use fifth-digit 2 to designate an episode of care following the initial episode when the patient is admitted for further observation, evaluation, or treatment for a myocardial infarction that has received initial treatment but is still less than eight weeks old.

Coders should note that patients with myocardial ischemia without infarction are classified to code 411.81, Coronary occlusion without myocardial infarction, or code 411.89, Other (i.e., acute coronary insufficiency, subendocardial ischemia).

The initial diagnostic test is usually the EKG (electrocardiogram). The EKG is helpful in determining the site of the infarction and proper fourth-digit assignment.

Laboratory data (serum enzyme creatinine kinase [CK] and isoenzyme [CK-MB]) are essential in determining a diagnosis of myocardial infarction. CK rises above normal values within six to eight hours of infarction. The CK-MB rises above normal values within four to six hours of infarction. Both CK and CK-MB levels peak within 18 to 24 hours and return to normal within 36 to 72 hours. If a patient arrives late to the emergency service (i.e., more than 12 to 24 hours after onset of symptoms), with negative CK and CK-MB levels, then serum LD (lactate dehydrogenase) isoenzymes are measured. The LD levels increase within 24 to 28 hours of symptom onset, peak at 4 to 6 days, and return to normal by 7 to 10 days.

Exercise 1.3

Code all relevant diagnoses and procedures.

1. A patient is transferred to Rosewood Medical Center for continuing care of a myocardial infarction of the anterior wall. The evaluation includes a right- and left-heart catheterization with coronary arteriography using the Judkins technique. The results of the diagnostic test do not show any significant stenosis that could be resolved surgically.

   _____

2. A patient is readmitted to an acute care hospital from a long-term care facility for treatment of a UTI due to E. coli. He is three weeks status post an inferior wall MI. During the hospitalization, the patient experienced cardiac arrhythmia and was placed on a telemetry unit for monitoring. The arrhythmia resolved spontaneously.

   _____

Hypertensive Disease

There is no defined threshold of blood pressure above which an individual is considered hypertensive. Commonly, a sustained diastolic pressure above 90 mm Hg constitutes hypertension,

and a sustained systolic pressure above 140 mm Hg constitutes hypertension. Prevalence increases with age. About 90 percent of hypertension is primary (essential hypertension), and its cause is unknown. The remaining 10 percent is secondary to renal disease. Both essential and secondary hypertension can be benign or malignant. Complications of hypertension include left ventricular failure, arteriosclerotic heart disease, retinal hemorrhages, cerebrovascular insufficiency, and renal failure.

In most cases, benign hypertension remains fairly stable over years and is compatible with a long life, but if untreated, it is an important risk factor in coronary heart disease and cerebrovascular disease. It is also asymptomatic until complications develop. Effective antihypertensive drug therapy is the treatment of choice.

Malignant hypertension is far less common, occurring in only about 5 percent of patients with elevated blood pressure. The malignant form is frequently of abrupt onset and runs a course measured in months. It often ends with renal failure or cerebral hemorrhage. Usually, a person with malignant hypertension will complain of headaches and visual difficulties. Blood pressures of 200/140 are common, and there is an abnormal protrusion of the optic nerve (papilledema) with microscopic hemorrhages and exudates seen in the retina. The initial event appears to be some form of vascular damage to the kidneys. This may result from long-standing benign hypertension with damage of the arteriolar walls, or it may spring from arteritis of some form. The chances of long-term survival are dependent on early treatment before significant renal insufficiency has developed.

Hypertensive heart disease refers to the secondary effects on the heart of prolonged sustained systemic hypertension. The heart has to work against greatly increased resistance in the form of high blood pressure. The primary effect is thickening of the left ventricle and finally resulting in heart failure. The symptoms are similar to those of heart failure from other causes. Many persons with controlled hypertension do not develop heart failure.

The following coding guidelines approved by the Cooperating Parties (AHIMA, American Hospital Association, National Center for Health Statistics, and Health Care Financing Administration) are applicable in coding hypertensive disease:

Hypertension, Essential or NOS

Assign hypertension (arterial) (essential) (primary) (systemic) (NOS) to category 401 with the appropriate fourth digit to indicate malignant (.0), benign (.1), or unspecified (.9). Do not use either .0 (malignant) or .1 (benign) unless the documentation in the health record supports such a designation.

Hypertension with Heart Disease

Certain heart conditions (428.0–428.9, 429.0–429.3, 429.8, 429.9) are assigned to a code from category 402, when a causal relationship is stated or implied. See the inclusion note in the disease tabular, which appears below category 402. When a causal relationship exists, only the code from category 402 is assigned.

In *ICD-9-CM*, a causal relationship is usually documented using the terms *due to* or *hypertensive*. For example, the diagnoses "congestive heart failure due to hypertension" and "hypertensive cardiomegaly" establish a causal relationship between hypertension and the heart disease. Both diagnoses would be assigned to category 402.

In category 402, the fourth-digit subcategory describes whether the hypertensive condition is malignant, benign, or unspecified. The fifth-digit subclassification states the absence or presence of congestive heart failure. The same heart conditions (428.0–428.9, 429.0–429.3, 429.8, 429.9) with hypertension, but without a stated causal relationship, are coded separately.

Although hypertension is frequently the cause of various forms of heart and vascular disease, *ICD-9-CM* does not presume a cause-and-effect relationship. The mention of heart disease with hypertension should not be interpreted as only a "due to" condition. The use of terms *and* and *with* in the diagnostic statement does not imply cause and effect. For example, a patient with cardiomegaly and hypertension is assigned two codes: cardiomegaly, 429.3, and hypertension, unspecified, 401.9.

Hypertensive Renal Disease and Chronic Renal Failure

Assign codes from category 403, Hypertensive renal disease, when conditions classified to categories 585–587 are present with hypertension. Unlike hypertension with heart disease, *ICD-9-CM* presumes a cause-and-effect relationship and classifies renal failure with hypertensive disease unless documentation in the health record indicates otherwise. For example, a patient with hypertension and chronic renal failure would be assigned code 403.91, Hypertensive renal disease with renal failure.

As with the hypertensive heart disease, the fourth-digit subcategory describes whether the hypertensive condition is malignant, benign, or unspecified. The fifth-digit subclassification identifies the presence or absence of renal failure.

Hypertensive Heart and Renal Disease

Assign codes from category 404, Hypertensive heart and renal disease, when both hypertensive renal disease and hypertensive heart disease are stated in the diagnosis. Assume a causal relationship between the hypertension and the renal disease, whether or not the condition is so designated.

Again, the fourth-digit subcategory describes whether the hypertensive condition is malignant, benign, or unspecified. The fifth-digit subclassification identifies the presence, absence, or combination of congestive heart failure and/or renal failure. For example, a patient with hypertensive cardiomegaly and hypertensive renal failure would be assigned code 404.92. In this case, the fifth digit selected (2) reflects the presence of renal failure only.

Hypertensive Cerebrovascular Disease

Two codes are required to fully describe the hypertensive cerebrovascular condition. The first code assigned is the one describing the cerebrovascular disease (430–438), followed by the appropriate code describing the hypertension (401–405). For example, a patient with a cerebrovascular accident and benign hypertension would be assigned code 436, Acute, but ill-defined cerebrovascular disease, and code 401.1, Benign hypertension.

Hypertensive Retinopathy

Two codes are required to identify the hypertensive retinopathy condition. The first code assigned is 362.11, Hypertensive retinopathy, followed by the appropriate code from categories 401–405 describing the hypertension.

Hypertension, Secondary

When a physician documents that the hypertension is due to another disease (i.e., secondary hypertension), two codes are required to completely describe the condition. One code describes the underlying condition, and the other is selected from category 405, Secondary hypertension. Sequencing will depend on the circumstances of the admission.

Category 405 is further subdivided at the fourth-digit level to describe whether the hypertensive condition is malignant, benign, or unspecified. The fifth-digit subclassification identifies the underlying condition of renovascular origin or of other origin. Renovascular origin can include renal artery aneurysm, anomaly, embolism, fibromuscular hyperplasia, occlusion, stenosis, or thrombosis. Other types of diseases causing secondary hypertension can include a calculus of the ureter or kidney, brain tumor, polycystic kidneys, polycythemia, and so on.

Hypertension, Transient and Elevated Blood Pressure

Assign code 796.2, Elevated blood pressure reading without diagnosis of hypertension, unless the patient has an established diagnosis of hypertension. Assign code 642.3x for transient hypertension of pregnancy. Coders should note that these codes are located in other chapters of *ICD-9-CM*.

Postoperative Hypertension

When hypertension is related to or complicates a procedure, code 997.91, Complications affecting other specified body systems, NEC—Hypertension, is assigned. In addition, a code in the 401–405 series may be assigned to further identify the type of hypertension. The physician should always be asked to establish the cause-and-effect relationship between the surgery and the hypertension before the 997.91 code is assigned. If such a relationship is not indicated, only a code in the 401–405 range should be assigned (*Coding Clinic for ICD-9-CM,* Fifth Issue, 1993).

Hypertension, Controlled and Uncontrolled

Assign the appropriate code from categories 401–405 to describe a diagnostic statement of controlled hypertension. This type of statement usually refers to an existing state of hypertension under control by therapy.

Uncontrolled hypertension may refer to untreated hypertension or hypertension not responding to current therapeutic treatment. In either case, assign the appropriate code from categories 401–405 with the appropriate fourth and fifth digits (*Coding Clinic for ICD-9-CM,* Third Quarter, 1990).