Chapter 5 Section 1.1

Diagnostic Radiology (Diagnostic Imaging)

Issue Date: March 7, 1986
Authority: 32 CFR 199.4(a), (b)(2)(x), (c)(2)(viii), (e)(14) and 32 CFR 199.6(d)(2)

1.0 CPT[1] PROCEDURE CODES

70010 - 72292, 73000 - 76499, 77071 - 77084, 95965 - 95967

2.0 HCPCS PROCEDURE CODES

G0204, G0206

3.0 DESCRIPTION

3.1 Radiology is the science that deals with the use of radiant energy, such as X-rays, radium, and radioactive isotopes, in the diagnosis and treatment of disease. Radiology is an important diagnostic tool useful for the evaluation. The techniques used for diagnostic radiology are as follows:

3.2 Magnetic Resonance Imaging (MRI) is a non-invasive method of graphically representing the distribution of water and other hydrogen-rich molecules in the human body. MRI uses radio frequency radiation in the presence of a carefully controlled magnetic field to produce high quality cross-sectional images of the head and body in any plane. These tomographic images represent the tissue being analyzed and the environment surrounding it. MRI has become a useful diagnostic imaging modality that is capable of demonstrating a wide variety of soft-tissue lesions with contrast resolution equal or superior to Computerized Tomography (CT) scanning in various parts of the body. Among the advantages of MRI are the absence of ionizing radiation and the ability to achieve high levels of tissue contrast resolution without injected iodinated contrast agents.

3.3 Magnetic Resonance Angiography (MRA) techniques generate contrast between flowing blood and surrounding tissue, and provide anatomic images that can be provided in a format similar to that of conventional x-ray angiography, and can also provide physiologic information.

3.4 A CT/Computerized Axial Tomography (CAT) scan is interchangeably referred to as either a CT or CAT scan. This diagnostic test uses x-ray technology to create three-dimensional, computerized images of internal organs. However, unlike a traditional x-ray, CT/CAT scans are able to distinguish between obscured and overlapping parts of the body. CAT scans are also capable of producing images of several different internal components, including soft tissue, blood vessels and bones.

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4.0 POLICY

4.1 MRI and MRI with contrast media are covered when medically necessary, appropriate, and the standard of care. (CPT[2] procedure codes 70336, 70540 - 70543, 70551 - 70553, 71550 - 71552, 72141 - 72158, 72195 - 72197, 73218 - 73223, 73718 - 73723, 74181 - 74183, 75552 - 75556, and 76400.)

4.2 Breast MRI (CPT[2] procedure codes 77058 and 77059) is covered for the following indications. This list of indications is not all inclusive. Other indications may be covered when documented by reliable evidence as safe, effective and comparable to conventional technology (proven):

4.2.1 To detect breast implant rupture (the implantation of the breast implants must have been covered by TRICARE).

4.2.2 For detection of occult breast cancer in the setting of axillary nodal adenocarcinoma with negative physical exam and negative mammography.

4.2.3 For presurgical planning for locally advanced breast cancer before and after completion of neoadjuvant chemotherapy, to permit tumor localization and characterization.

4.2.4 For presurgical planning to evaluate the presence of multicentric disease in patients with localized or locally advanced breast cancer who are candidates for breast conservation treatment.

4.2.5 Evaluation of suspected cancer recurrence.

4.2.6 To determine the presence of pectoralis major muscle/chest wall invasion in patients with posteriorly located tumor.

4.2.7 For guidance of interventional procedures such as vacuum assisted biopsy and preoperative wire localization for lesions that are occult on mammography or sonography and are demonstrable only with MRI.

Note: For policy on breast MRI to screen for breast cancer in high risk women, see Chapter 7, Sections 2.1 and 2.2.

4.3 Open MRI and Open MRI with contrast media are covered when medically necessary, appropriate, and the standard of care.

4.4 Cardiovascular Magnetic Resonance (CMR) (CPT[2] procedure codes 75557, 75559, 75561, 75563, and 75565) is covered for the following indications:

4.4.1 Detection Of Coronary Artery Disease (CAD). Symptomatic--evaluation of chest pain syndrome (use of vasodilator perfusion CMR or dobutamine stress function CMR).

- Intermediate pre-test probability of CAD.
- Electrocardiogram (ECG) uninterpretable OR unable to exercise.

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4.4.2 Detection of CAD:

- Symptomatic--evaluation of intracardiac structures (use of Magnetic Resonance (MR) coronary angiography).
- Evaluation of suspected coronary anomalies.

4.4.3 Risk assessment with prior test results (use of vasolidator perfusion CMR or dobutamine stress function CMR).

- Coronary angiography (catheterization or CT).
- Stenosis of unclear significance.

4.4.4 Structure and Function. Evaluation of ventricular and valvular function. Procedures may include Left Ventricular (LV)/Right Ventricular (RV) mass and volumes, MRA, quantification of valvular disease, and delayed contrast enhancement.

4.4.4.1 Assessment of complex congenital heart disease including anomalies of coronary circulation, great vessels, and cardiac chambers and valves.

4.4.4.2 Evaluation of LV function following Myocardial Infarction (MI) OR in heart failure patients. Patients with technically limited images from echocardiogram.

4.4.4.3 Quantification of LV function. Discordant information that is clinically significant from prior tests.

4.4.4.4 Evaluation of specific cardiomyopathies (infiltrative [amyloid, sarcoid], Hypertrophic Cardiomyopathy (HCM), or due to cardiotoxic therapies.

4.4.4.5 Characterization of native and prosthetic cardiac valves--including planimetry of stenotic disease and quantification of regurgitant disease. Patients with technically limited images from echocardiogram or Transesophageal Echocardiography (TEE).

4.4.4.6 Evaluation for Arrhythmogenic Right Ventricular Cardiomyopathy (ARVC). Patients presenting with syncope or ventricular arrhythmia.

4.4.4.7 Evaluation of myocarditis or MI with normal coronary arteries. Positive cardiac enzymes without obstructive atherosclerosis on angiography.

4.4.5 Structure and Function. Evaluation of intracardiac and extracardiac structures.

4.4.5.1 Evaluation of cardiac mass (suspected tumor or thrombus). Use of contrast for perfusion and enhancement.

4.4.5.2 Evaluation of pericardial conditions (pericardial mass, constrictive pericarditis).

4.4.5.3 Evaluation for aortic dissection.

4.4.5.4 Evaluation of pulmonary veins prior to radiofrequency ablation for atrial fibrillation. Left atrial and pulmonary venous anatomy including dimensions of veins for mapping purposes.

4.4.6 Detection of Myocardial Scar and Viability. Evaluation of myocardial scar (use of late gadolinium enhancement).

4.4.6.1 To determine the location and extent of myocardial necrosis including "no reflow" regions. Post acute MI.

4.4.6.2 To determine viability prior to revascularization. Establish likelihood of recovery of function with revascularization (Percutaneous Coronary Intervention [PCI] or Coronary Artery Bypass Graft [CABG]) or medical therapy.

4.4.6.3 To determine viability prior to revascularization. Viability assessment by Single Photon Emission Tomography (SPECT) or dobutamine echo has provided "equivocal or indeterminate" results.

4.5 MRA is covered when medically necessary, appropriate and the standard of care. (CPT[3] procedure codes 70544 - 70549, 71555, 72159, 72198, 73225, 73725, and 74185.)

4.6 CT scans are covered when medically necessary, appropriate and the standard of care and all criteria stipulated in 32 CFR 199.4(e) are met. (CPT[3] procedure codes 70450 - 70498, 71250 - 71275, 72125 - 72133, 72191 - 72194, 73200 - 73206, 73700 - 73706, 74150 - 74175, 75635, and 76355 - 76380.)

4.7 TRICARE considers three-dimensional (3D) rendering (CPT[3] procedure codes 76376 and 76377) medically necessary under certain circumstances (see Section 2.1).

4.8 Helical (spiral) CT scans, with or without contrast enhancement, are covered when medically necessary, appropriate and the standard of care.

4.9 Chest x-rays (CPT[3] procedure codes 71010 - 71035) are covered.

4.10 Diagnostic mammography (CPT[3] procedure codes 76090 - 76092/HCPCS codes G0204 - G0207) to further define breast abnormalities or other problems is covered.

4.11 Portable X-ray services are covered. The suppliers must meet the conditions of coverage of the Medicare program, set forth in the Medicare regulations, or the Medicaid program in that state in which the covered service is provided. In addition to the specific radiology services, reasonable transportation and set-up charges are covered and separately reimbursable.

4.12 Bone density studies (CPT[3] procedure codes 77078 - 77082) are covered for the following:

4.12.1 The diagnosis and monitoring of osteoporosis.

4.12.2 The diagnosis and monitoring of osteopenia.

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4.12.3 Patients must present with signs and symptoms of bone disease or be considered at high-risk for developing osteoporosis. High-risk factors for osteoporosis are those identified as the standard of care by the American College of Obstetricians and Gynecologists (ACOG).

4.13 Radiological supervision and interpretation, percutaneous vertebroplasty or vertebral augmentation including cavity creation, per vertebral body; under fluoroscopic guidance (CPT[4] procedure code 72291) or under CT guidance (CPT[4] procedure code 72292) is covered.

4.14 Multislice or multidetector row CT angiography (CT, heart) (CPT[4] codes 75571 - 75574) is covered for the following indications:

4.14.1 Evaluation of heart failure of unknown origin when invasive coronary angiography +/- Percutaneous Coronary Intervention (PCI) is not planned, unable to be preformed or is equivocal.

4.14.2 In an Emergency Department (ED) for patients with acute chest pain, but no other evidence of cardiac disease (low-pretest probability), when results would be used to determine the need for further testing or observation.

4.14.3 Acute chest pain or unstable angina when invasive coronary angiography or a PCI cannot be performed or is equivocal.

4.14.4 Chronic stable angina and chest pain of uncertain etiology or other cardiac findings prompting evaluation for CAD (for example: new or unexplained heart failure or new bundle branch block).

4.14.4.1 When invasive coronary angiography or PCI is not planned, unable to be performed, or is equivocal; AND

4.14.4.2 Exercise stress test is unable to be performed or is equivocal; AND

4.14.4.3 At least one of the following non-invasive tests were attempted and results could not be interpreted or where equivocal or none of the following tests could be performed:

4.14.4.3.1 Exercise stress echocardiography.

4.14.4.3.2 Exercise stress echo with dobutamine.

4.14.4.3.3 Exercise myocardial perfusion (SPECT).

4.14.4.3.4 Pharmacologic myocardial perfusion (SPECT).

4.14.5 Evaluation of anomalous native coronary arteries in symptomatic patients when conventional angiography is unsuccessful or equivocal and when results would impact treatment.

4.14.6 Evaluation of complex congenital anomaly of coronary circulation or of the great vessels.

4.14.7 Presurgical evaluation prior to biventricular pacemaker placement.

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4.14.8 Presurgical evaluation of coronary anatomy prior to non-coronary surgery (valve placement or repair; repair of aortic aneurysm or dissection).

4.14.9 Presurgical cardiovascular evaluation for patients with equivocal stress study prior to kidney or liver transplantation.

4.14.10 Presurgical evaluation prior to electrophysiologic procedure to isolate pulmonary veins for radiofrequency ablation of arrhythmia focus.

5.0 EXCLUSIONS

5.1 Bone density studies for the routine screening of osteoporosis.

5.2 Ultrafast CT (electron beam CT (HCPCS code S8092)) to predict asymptomatic heart disease is preventive. Ultrafast CT (electron beam CT) is excluded for symptomatic patients and for screening asymptomatic patients for CAD.

5.3 MRIs (CPT[5] procedure codes 77058 and 77059) to screen for breast cancer in asymptomatic women considered to be at low or average risk of developing breast cancer; for diagnosis of suspicious lesions to avoid biopsy, to evaluate response to neoadjuvant chemotherapy, to differentiate cysts from solid lesions.

5.4 MRIs (CPT[5] procedure codes 76058 and 77059) to assess implant integrity or confirm implant rupture, if implants were not originally covered or coverable.

5.5 3D rendering (CPT[5] procedure codes 76376 and 76377) for monitoring coronary artery stenosis activity in patients with angiographically confirmed CAD is unproven.

5.6 3D rendering (CPT[5] procedure codes 76376 and 76377) for evaluating graft patency in individuals who have undergone revascularization procedures is unproven.

5.7 3D rendering (CPT[5] procedure codes 76376 and 76377) for use as a screening test for CAD in healthy individuals or in asymptomatic patients who have one or more traditional risk factors for CAD is unproven.

5.8 CT angiography (CPT[5] procedure codes 76376 and 76377) for acute ischemic stroke is unproven.

5.9 CT angiography (CPT[5] procedure codes 76376 and 76377) for intracerebral aneurysm and subarachnoid hemorrhage is unproven.

5.10 CT, heart, without contrast material, with quantitative evaluation of coronary calcium (CPT[5] procedure code 75571) is excluded for patients with typical anginal chest pain with high suspicion of CAD; patients with acute MI; and for screening asymptomatic patients for CAD.

5.11 CT, heart, without contrast material, for evaluation of cardiac structure and morphology (including 3D image postprocessing, assessment of cardiac function, and evaluation of venous

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structures, if performed) (CPT[6] procedure code 75572) is excluded for patients with typical anginal chest pain with high suspicion for CAD; patients with acute MI; and for screening asymptomatic patients for CAD.

5.12 CT, heart, with contrast material, for evaluation of cardiac structure and morphology in the setting of congenital heart disease (including 3D image postprocessing, assessment of LV cardiac function, RV structure and function and evaluation of venous structures, if performed) (CPT[6] procedure code 75573) is excluded for patients with typical anginal chest pain with high suspicion for CAD; patients with acute MI; and for screening asymptomatic patients for CAD.

5.13 Computed tomographic angiography heart, coronary arteries and bypass (when present), with contrast material, including 3D image postprocessing (including evaluation of cardiac structure and morphology, assessment of cardiac function, and evaluation of venous structures, if performed) (CPT[6] procedure code 75574) is excluded for patients with typical anginal chest pain with high suspicion for CAD; patients with acute MI; and for screening asymptomatic patients for CAD.

5.14 Multislice or multidetector row CT angiography of less than 16 slices per sec and 1mm or less resolution is excluded.

5.15 Radiological supervision and interpretation of percutaneous vertebroplasty (CPT[6] procedure codes 72291 and 72292).

5.16 Dual Energy X-Ray Absorptiometry (DXA) composition study (CPT[6] procedure code 0028T) is unproven.

5.17 Computer-Aided Detection with breast MRI (CPT[6] 0159T) is unproven.

6.0 EFFECTIVE DATES

6.1 The effective date for MRIs with contrast media is dependent on the U.S. Food and Drug Administration (FDA) approval of the contrast media and a determination by the contractor of whether the labeled or unlabeled use of the contrast media is medically necessary and a proven indication.

6.2 March 31, 2006, for breast MRI.

6.3 March 31, 2006, for coverage of multislice or multidetector row CT angiography.

6.4 January 1, 2007, for CPT[6] procedure codes 72291 and 72292.

6.5 January 1, 2007, for coverage of multislice of multidetector row CT angiography performed for presurgical evaluation prior to electrophysiological procedure to isolate pulmonary veins for radiofrequency ablation of arrhythmia focus.

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6.6 October 1, 2008, for breast MRI for guidance of interventional procedures such as vacuum assisted biopsy and preoperative wire localization for lesions that are occult on mammography or sonography and are demonstrable only with MRI.

6.7 October 3, 2006, for CMR.

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