Local Coverage Determination (LCD): Cardiology – non-emergent outpatient testing: exercise stress test, stress echo, MPI SPECT, and cardiac PET (L36209)

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Contractor Information

Contractor Name	Contract Type	Contract Number	Jurisdiction	State(s)
First Coast Service Options, Inc.	A and B MAC	09101 - MAC A	J - N	Florida
First Coast Service Options, Inc.	A and B MAC	09102 - MAC B	J - N	Florida
First Coast Service Options, Inc.	A and B MAC	09201 - MAC A	J - N	Puerto Rico Virgin Islands
First Coast Service Options, Inc.	A and B MAC	09202 - MAC B	J - N	Puerto Rico
First Coast Service Options, Inc.	A and B MAC	09302 - MAC B	J - N	Virgin Islands

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LCD Information

Document Information

LCD ID
L36209

LCD Title
Cardiology – non-emergent outpatient testing: exercise stress test, stress echo, MPI SPECT, and cardiac PET

Proposed LCD in Comment Period
N/A

Source Proposed LCD
N/A

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N/A

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N/A

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N/A

Notice Period End Date
N/A

CMS National Coverage Policy
Language quoted from CMS National Coverage Determination (NCDs) and coverage provisions in interpretive manuals are italicized throughout the Local Coverage Determination (LCD). NCDs and coverage provisions in interpretive manuals are not subject to the LCD Review Process (42 CFR 405.860[b] and 42 CFR 426 [Subpart D]). In addition, an administrative law judge may not review an NCD. See §1869(f)(1)(A)(i) of the Social Security Act.

Unless otherwise specified, *italicized text* represents quotation from one or more of the following CMS sources:

Medicare National Coverage Determinations Manual, Pub. 100-03, Chap. 1, Part 4, Sections 220.12, 220.5, 220.6, 220.6.1, and 220.6.8

Medicare Claims Processing Manual, Pub. 100-04, Chap. 13, Section 60.2.1, 60.3.2, 60.4

Coverage Guidance
Coverage Indications, Limitations, and/or Medical Necessity

Noninvasive testing in the outpatient setting to assess coronary artery disease (CAD) and left ventricular (LV) dysfunction may be accomplished utilizing conventional exercise testing or by measuring the distribution of nuclear medicine reagents during physiologic or pharmacologic stress.

Cardiovascular stress testing, also called an exercise stress test (EST), exercise electrocardiogram, exercise treadmill test (ETT), graded exercise test, or stress electrocardiogram (ECG), is used to provide information about how the heart responds to exertion. It usually involves walking on a treadmill or pedaling a stationary bike at increasing levels of difficulty, while the electrocardiogram, heart rate, and blood pressure are monitored. The same measurement may be obtained with the substitution of echocardiography for a standard ECG. Echocardiography is used to image cardiac structures and function and also flow direction and velocities within cardiac chambers and vessels. Usually these images are obtained from several positions on the chest wall and abdomen using a hand-held transducer.

In many instances, exercise testing (without imaging) may be combined with imaging procedures, such as myocardial perfusion imaging, radionuclide ventriculography, echocardiography, or other imaging procedures.

There are 3 principle types of stress tests which do not involve the measurement of radio-labelled distribution within the body. These include:

• Exercise stress test (EST) is normally the first stress test performed. The patient walks on a treadmill or similar device while being monitored to measure endurance with an end-point of symptoms, ECG, or echocardiographic changes that suggest coronary under-perfusion. EST is without imaging. An EST must include an ECG that can be interpreted for ischemia, and the patient must be capable of exercise on a treadmill or similar device generally at 4 METs or greater (i.e., able to walk four blocks without stopping, can climb two flights of stairs without stopping). An abnormal EST includes any one of the following: ST segment depression, development of chest pain, significant arrhythmia (especially ventricular arrhythmia), or hypotension.

• Dobutamine, Dipyridamole, or Adenosine Stress Test is used in people who are unable to exercise. A drug is given to make the heart respond as if the person were exercising. This way the doctor can still determine how the heart responds to stress, but no exercise is required.

• Stress echocardiogram is a graphic outline of the heart's movement. A stress echo can accurately visualize the motion of the heart's walls and pumping action when the heart is stressed; it may reveal a lack of blood flow that isn't always apparent on other heart tests.

The main task of Nuclear Cardiology and Nuclear Medicine is not the representation of anatomy, as in traditional Diagnostic Radiology; rather, it is the non-invasive visualization of functional, metabolic processes. In diagnostic Nuclear Medicine, the subject first incorporates tracer amounts of a radioactively-labelled molecule. Once the tracer molecule is properly distributed inside the body, imaging techniques visualize the metabolism of the substance by measuring the distribution of the radioactively-labelled molecule through externally emitted radiation.

Myocardial perfusion imaging (MPI) SPECT is a cardiac radionuclide imaging procedure that evaluates blood flow to the cardiac muscle. MPI is usually performed with exercise ECG testing for detecting coronary artery disease and determining prognosis using a gamma camera to record images in planar or tomographic (single photon emission computed tomography) (SPECT) projections. Use of dual radiopharmaceuticals permits concurrent studies at rest and after stress, which is then compared and interpreted by a nuclear physician. Since the radiopharmaceutical accumulates in the myocardium in relation to blood flow, ischemic and infarcted myocardium can be detected. The specific imaging technique (perfusion versus ventricular function) and the reason for the imaging determines what radionuclide agent is employed. A perfusion study utilizes an imaging isotope agent that reflects myocardial blood flow and, dependent on the agent and timing of image acquisition, the presence of scar and/or ischemia. Ventricular function studies utilize specific imaging isotopes to outline the borders of the left ventricular endocardium or to identify the ventricular blood pool independent of the surrounding myocardium. The motion of the left ventricle is synchronized with the electrocardiogram to generate wall motion and ejection fraction information. In instances where an exercise test cannot be performed, Dipyridamole, Adenosine, Dobutamine or other provocative agents may be used to alter coronary flow, thereby unmasking a suspected lesion in the coronary bed.

Cardiac PET (positron emission tomography) myocardial perfusion imaging is another cardiac radionuclide imaging procedure in which radioactive tracers are used to diagnose patients with suspected coronary artery disease (CAD) and provide important risk stratification of patients with known CAD. This test is also a valuable tool to assess myocardial viability, myocardial wall motion and ejection fraction, as well as, cardiac sarcoidosis. For diagnosis, radionuclides are administered intravenously and distribute in proportion to the regional myocardial blood flow present at the time of injection. In selected patients, cardiac PET offers certain advantages over standard of care Single Photon Emission Computed Tomography Myocardial Perfusion Imaging (SPECT MPI). Cardiac PET is a useful technique that allows a noninvasive evaluation of myocardial blood flow, function, and metabolism, using physiological substrates prepared with positron-emitting radionuclides, such as oxygen, nitrogen, fluorine, and rubidium. These radionuclides have half-lives that are considerably shorter than those used in SPECT. Positron-emitting radionuclides are produced either using a cyclotron, such as fluoro-2-deoxyglucose (F-18 FDG) with a 110-minute half-life, or nitrogen-13-ammonia (N-13), with a half-life of 9.8 minutes or a generator such as rubidium-82 (Rb-82) with a 75-second half-life. Because of availability, the most common PET blood flow tracer is rubidium-82. The goal of cardiac PET perfusion imaging is to detect physiologically significant coronary artery narrowing. Results of the test should lead toward risk factor modification in order to delay or reverse the progression of atherosclerosis, alleviate symptoms of ischemia, and improve patient survival by either medical therapy or revascularization procedures such as bypass surgery (CABG) or percutaneous coronary intervention (PCI). Stress and rest paired myocardial perfusion studies are commonly performed to assess myocardial ischemia and/or infarction. Current Food and Drug Administration (FDA)-approved and Centers for Medicare and Medicaid Services-covered PET myocardial blood flow tracers are limited to Rb-82, F-18 FDG, and N-13 ammonia. Normal MPI implies the absence of significant CAD. Abnormal myocardial perfusion on stress imaging suggests the presence of significantly narrowed coronary arteries. If the stress regional perfusion defect is absent on the corresponding rest images, it suggests the presence of stress-induced myocardial ischemia. If the stress perfusion defect persists at rest, it suggests prior infarction. Imaging of myocardial perfusion can also be combined with myocardial metabolism imaging with F-18FDG for the assessment of myocardial viability in areas of resting hypoperfusion and dysfunctional myocardium. The stress protocols are, for the most part, similar for all cardiac PET perfusion agents. The specific differences in acquisition protocols for Rb-82 and N-13 are related to the duration of uptake and clearance of these radiopharmaceuticals and their physical half-lives.

Indications:

A cardiovascular stress test (pharmacologic and non-pharmacologic) will be considered medically reasonable and necessary for the following conditions:

Stress Testing without Imaging: For the diagnosis of suspected and prognosis of coronary artery disease in patients with normal or minor changes in resting ECG and no contraindications to exercise.

Stress Testing with Imaging:

Imaging stress tests addressed in this LCD include stress echocardiography and SPECT or PET nuclear myocardial perfusion imaging (MPI).

Stress testing with imaging can be performed with maximal exercise or chemical stress (dipyridamole, dobutamine, adenosine or adenosine analogs).

Stress echo and SPECT MPI are considered equivalent diagnostic tests. However, in addition to myocardial ischemia, stress echo can provide additional information that is not obtainable with MPI, such as valve function, assessment of pulmonary pressure, and assessment of dynamic obstruction. The most commonly performed myocardial perfusion imaging are single (at rest or stress, CPT code 78451) and multiple (at rest and stress, CPT code 78452) tomographic SPECT studies. Evaluation of the individual's left ventricular wall motion and ejection fractions are routinely performed during SPECT MPI and are included in the code's definition. Attenuation correction, when performed, is included in the MPI service.

When symptoms are present, and there is sufficient suspicion of heart disease to warrant cardiac evaluation, it is expected that the provider make a probability estimate of the likelihood of CAD prior to selecting testing. Assessment of coronary artery disease can be determined by the following:

Typical angina (definite): Substernal chest pain or discomfort that is provoked by exertion or emotional stress and relieved by rest and/or nitroglycerin.

Atypical angina (probable): Chest pain or discomfort (arm or jaw pain) that lacks one of the characteristics of definite or typical angina.

Non-anginal chest pain: Chest pain or discomfort that meets one or none of the typical angina characteristics.

Anginal variants or equivalents: A manifestation of myocardial ischemia, which is perceived by patients to be (otherwise unexplained) dyspnea, unusual fatigue, more often seen in women and may be unassociated with chest pain.

Age, gender, and the character of the chest pain provide useful predictors of CAD. Refer to the following table for cardiac imaging guidelines.

Pre-test probability of CAD by age, gender, and symptoms:

Age (yr)	Gender	Typical/Definite Angina Pectoris	Atypical/Probable Angina Pectoris	Non-Anginal Chest Pain	Asymptomatic
≤39	Men	Intermediate	Intermediate	Low	Very Low
	Women	Intermediate	Very Low	Very Low	Very Low
40-49	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Low	Very Low	Very Low
50-59	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Low	Very Low
≥60	Men	High	Intermediate	Intermediate	Low
	Women	High	Intermediate	Intermediate	Low

High: Greater than 90% pre-test probability

Intermediate: Between 10% and 90% pre-test probability

Low: Between 5% and 10% pre-test probability

Very Low: Less than 5% pre-test probability

In summary, the choice of stress testing modality depends on many factors such as the patient's ability to exercise, the resting ECG, the clinical indication for performing the test, the patient's body habitus, and history of prior revascularization.

The following are considered medically necessary for either the stress echo or SPECT MPI:

1. New, recurrent, or worsening cardiac symptoms **AND** any of the following:

- Physical inability to perform a maximum exercise workload

- A history of CAD based on a prior anatomic evaluation of the coronary arteries OR a history of CABG or PCI
- Syncope (i.e., no prodromal symptoms, not near syncope) in patient with high likelihood of CAD
- Evidence or high suspicion of ventricular tachycardia
- Age 50 years or greater and known diabetes mellitus
- New or previously unrecognized uninterpretable ECG
- Poorly controlled hypertension, generally, above 180 mm/Hg systolic, if the provider feels strongly that CAD needs evaluation prior to BP being controlled
- ECG is uninterpretable for ischemia due to any one of the following:
    - Complete Left Bundle Branch Block (right bundle branch does not render ECG uninterpretable for ischemia)
    - Ventricular paced rhythm
    - Pre-excitation pattern such as Wolff-Parkinson-White
    - > 0.5 mm ST segment depression (NOT nonspecific ST/T wave changes)
    - LVH with repolarization abnormalities, also called LVH with strain (NOT without repolarization abnormalities or by voltage criteria)
    - T wave inversion in the inferior and/or lateral leads (leads II, AVF, V5, or V6)
    - Patient on digitalis preparation
- Worsening or continuing symptoms in a patient who had a normal or submaximal exercise stress test and there is suspicion of a false negative result
- Patients with recent equivocal or borderline testing where ischemia remains a concern
- Patients on beta blocker, calcium channel blocker, and/or antiarrhythmic medication when the documentation supports that an adequate workload may not be attainable to enable a fully diagnostic exercise study
- History of false positive exercise stress test (e.g., one that is abnormal, but the abnormality does not appear to be due to macrovascular CAD)
- High pretest probability of CAD (assuming emergency evaluation and/or prompt coronary angiography not previously implemented)

2. Patients without clear cardiac symptoms in the presence of an elevated cardiac troponin

3. Routine study > 3 years after a PCI (stent) without cardiac symptoms and absent an evaluation for CAD within the past 2 years (stress echo, MPI SPECT, cardiac PET, coronary computed tomography angiography (CCTA), cardiac catheterization)

4. Routine study > 5 years after CABG without cardiac symptoms in a patient who has not had an evaluation for CAD within the past 2 years (stress echo, MPI SPECT, cardiac PET, coronary computed tomography angiography (CCTA), cardiac catheterization)

5. Every 2 years in patients with documentation of previous "silent ischemia" (and diabetes mellitus) evident on previous MPI but not evident on previous exercise stress test

6. To assess for CAD in a patient with unexplained or drug-induced intraventricular condition disturbances

7. Prior anatomic imaging study (coronary angiogram or CCTA) to assess recently demonstrated coronary stenosis of uncertain functional significance in a major coronary branch can have one stress test with imaging

8. Established CAD in a patient who had an acute coronary syndrome (ACS) (ST segment elevation MI (STEMI), Non–ST segment elevation MI (NSTEMI), unstable angina) event within the past 90 days provided that the patient has not undergone coronary angiography at the time of the acute event and is currently clinically stable

9. Evaluating new, recurrent, or worsening left ventricular dysfunction/CHF

10. Assessing myocardial viability in patients with significant ischemic ventricular dysfunction (suspected hibernating myocardium) and persistent symptoms or heart failure such that revascularization would be considered

11. Pre-operative cardiac evaluation in patients undergoing non-cardiac surgery

- Intermediate risk surgery (cardiac risk 1-5%) one or more cardiac risk factor(s) and inability to exercise adequately
- high risk surgery (> 5% cardiac risk)

12. Asymptomatic patients with uninterpretable ECG and no evaluation for cardiac disease in the past 3 years

13. Planned cardiac or other solid-organ transplant if no cardiac evaluation has been performed within the past year

14. Patients to be treated with interleukin 2 (a pro-atherogenic agent) for various malignant disorders, etc.

15. Patients with disease conditions associated with CAD (e.g., DM, AAA, PVD, carotid artery disease, CRF) and no documented evaluation was performed within the preceding 2 years

16. Stress echocardiography will be considered reasonable and necessary for the evaluation of valvular heart disease and detection and management of occult pulmonary hypertension.

The following are considered medically necessary for cardiac PET:

1. For the evaluation of coronary artery disease for perfusion of the heart via myocardial perfusion imaging, PET scans using either FDA-approved radiopharmaceutical Rubidium 82 (RB-82) or Ammonia N-13 when performed at rest or with pharmacological stress used for noninvasive imaging of the perfusion of the heart for the diagnosis and management of patients with known or suspected coronary artery disease, provided the following requirements are met:

a. *The PET scan, whether at rest alone or rest with stress, is performed in place of, but not in addition to, a single photon emission computed tomography (SPECT);*

OR

b. *The PET scan, whether at rest alone or rest with stress, is used following a SPECT that was found to be inconclusive. In these cases, the PET scan must have been considered necessary in order to determine what medical or surgical intervention is required to treat the patient. (For purposes of this requirement, an inconclusive test is a test(s) whose results are equivocal, technically uninterpretable, or discordant with a patient's other clinical data and must be documented in the beneficiary's file.)*

For cardiac perfusion studies, patient selection criteria for PET scans involve an individual assessment of the pretest probability of CAD, based both on patient symptoms and risk factors:

- Patients at low risk for CAD may be adequately evaluated with exercise electrocardiography.
- Patients at high risk for CAD will typically not benefit from non-invasive assessment of myocardial perfusion since a negative test will not alter disease probability sufficiently to avoid invasive angiography.
- Myocardial perfusion imaging is potentially beneficial for patients at intermediate risk of CAD (approximately 25% to 75% disease prevalence).

The risk can be estimated using the patient's age, sex, and chest pain quality. The range for intermediate risk can vary.

The following summarizes a characterization for patient populations at intermediate risk for CAD:

<u>Typical Angina:</u>

Chest pain with all of the following characteristics:

- Substernal chest discomfort with characteristic quality and duration, and provoked by exertion or emotional stress, and relieved by rest or nitroglycerin
- Men ages 30-39
- Women ages 30-60

<u>Atypical Angina:</u>

- Chest pain that lacks one of the characteristics of typical angina
- Men ages 30-70
- Women ages 50 years and older

Non-anginal Chest Pain:

- Chest pain that meets one or none of the typical angina characteristics
- Men ages 50 years and older
- Women ages 60 years and older

2. *For the determination of myocardial viability as a primary or initial diagnostic study prior to revascularization, or following an inconclusive SPECT. However, if a patient receives an FDG PET study with inconclusive results, a follow up SPECT test is not covered. The identification of patients with partial loss of heart muscle movement or hibernating myocardium is important in selecting candidates with compromised ventricular function to determine appropriateness for revascularization. Diagnostic tests such as FDG PET distinguish between dysfunctional but viable myocardial tissue and scar tissue in order to affect management decisions in patients with ischemic cardiomyopathy and left ventricular dysfunction.*

3. For the determination of cardiac involvement, using Fluorodeoxyglucose (F-18 FDG), to diagnose cardiac sarcoidosis in patients who are unable to undergo magnetic resonance imaging (MRI) scanning. Examples of patients who are unable to undergo MRI include, but are not limited to, patients with pacemakers, automatic implantable cardioverter defibrillators (AICDs), or other metal implants.

Limitations:

- The CMS Manual System, Pub. 100-8, Program Integrity Manual, Chapter 13, Section 5.1, outlines that "reasonable and necessary" services are "ordered and/or furnished by qualified personnel." Services will be considered medically reasonable and necessary only if performed by appropriately trained providers. A qualified physician for this service/procedure is defined as follows: A) Physician is properly enrolled in Medicare. B) Training and expertise must have been acquired within the framework of an accredited residency and/or fellowship program in the applicable specialty/subspecialty in the United States or must reflect equivalent education, training, and expertise endorsed by an academic institution in the United States and/or by the applicable specialty/subspecialty society in the United States.

- The presence of risk factors for CAD, absent disease activity, is not a Medicare-covered indication for noninvasive testing. Screening for coronary artery disease in asymptomatic patients is not considered reasonable and necessary.

- Patient selection should be based on clinical grounds. Pretest probability is based on age, gender, symptoms, and cardiac risk factors. Selection of the test should be made within the context of other testing modalities so that the expected information does not become redundant. In the instance where regional wall motion abnormalities and ejection fraction have been assessed, during the same episode of care, by other testing modalities (i.e. echocardiography), the medical necessity of repeating this assessment through the use of nuclear imaging modalities must be clearly documented in the medical record. The routine and repetitive monitoring of such patients beyond the first stress echo or MPI, in the absence of a documented clinical exacerbation (i.e., new symptoms or progression of existing symptoms) is not considered medically necessary.

- MPI SPECT/PET and stress echo are not covered in patients with low pretest probability, interpretable ECG, and the ability to exercise.

- MPI SPECT/PET and stress echo pre-operative evaluation for low risk non-cardiac surgery is not covered.

- MPI SPECT/PET and stress echo are not covered for the pre-operative evaluation of planned intermediate risk, non-cardiac surgery, and the patient is able to exercise.

- MPI SPECT/PET and stress echo are not covered for routine risk assessment for asymptomatic patients with known CAD, who have not had a revascularization procedure.

- MPI SPECT/PET and stress echo are not covered for pre-operative, asymptomatic patients undergoing high risk non-cardiac surgery up to 1 year following normal stress echo, MPI SPECT, cardiac PET, coronary computed tomography angiography (CCTA), cardiac catheterization.

- Exercise stress testing would not be expected to be performed with signs and symptoms of cardiopulmonary instability and generally-recognized contraindications (e.g., unstable angina, LV dysfunction).

- For patients with an abnormal resting ECG because of left bundle branch block, pre-excitation syndrome, left ventricular hypertrophy (LVH) or digoxin therapy, an exercise or pharmacological imaging study should be considered because the accuracy of the exercise ECG in detecting provocable ischemia is reduced.

- Cardiovascular stress testing may be performed in conjunction with additional cardiac diagnostic tests including echocardiography and nuclear cardiac imaging. It is expected that only the most appropriate test(s) necessary will be performed and billed to Medicare. The routine and repetitive monitoring of such patients beyond the first cardiac stress test, in the absence of a documented change in condition (i.e. new symptoms or progression of existing symptoms) is not considered medically necessary.

- Exercise testing should be supervised by an appropriately trained physician. Exercise testing in selected patients can be performed safely by properly trained nurses, exercise physiologists, physician assistants, physical therapists, or medical technicians working directly under the supervision of a physician, who should be in the immediate vicinity and available for emergencies.

- Given the limitations of uptake, low photon energy and distribution, the perfusion imaging codes are not generally covered on the same date of service.

- Patients with initial abnormal test results have variable pre-test probabilities for adverse events, and the need and timing of follow up nuclear imaging studies must be justified in the medical record.

- All cardiovascular nuclear tests must be referred by a physician or a qualified non-physician.

- All cardiovascular nuclear tests must be performed under the general supervision of a physician. The Medicare Carriers Manual describes general supervision as applicable when a procedure is furnished under the physician's overall direction and control, but the physician's presence is not required during the performance of the procedure. Under general supervision guidelines, the training of the nonphysician personnel who actually perform the exercise procedure and the maintenance of the necessary equipment and supplies are the continuing responsibility of the supervising physician.

- Neither exercise testing nor radiologic imaging is indicated in the initial months after PCI without specific symptoms (i.e., chest pain, ECG changes etc.).

- Cardiovascular stress testing (with or without imaging) and cardiac imaging studies are not indicated if the results will not affect patient management decisions. If a decision to perform cardiac catheterization or other angiography has already been made, there is often no need for cardiovascular stress testing and/or cardiac imaging testing.

- *In the case of myocardial viability, the FDG positron emission tomography (PET) may be used following a SPECT that was found to be inconclusive. However, SPECT may not be used following an inconclusive FDG PET performed to evaluate myocardial viability.*

Summary of Evidence

N/A

Analysis of Evidence
(Rationale for Determination)

N/A

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Coding Information

Bill Type Codes:

Contractors may specify Bill Types to help providers identify those Bill Types typically used to report this service. Absence of a Bill Type does not guarantee that the policy does not apply to that Bill Type. Complete absence of all Bill Types indicates that coverage is not influenced by Bill Type and the policy should be assumed to apply equally to all claims.

012x Hospital Inpatient (Medicare Part B only)
013x Hospital Outpatient
014x Hospital - Laboratory Services Provided to Non-patients
022x Skilled Nursing - Inpatient (Medicare Part B only)
023x Skilled Nursing - Outpatient
071x Clinic - Rural Health
085x Critical Access Hospital

Revenue Codes:

Contractors may specify Revenue Codes to help providers identify those Revenue Codes typically used to report this service. In most instances Revenue Codes are purely advisory. Unless specified in the policy, services reported under other Revenue Codes are equally subject to this coverage determination. Complete absence of all Revenue Codes indicates that coverage is not influenced by Revenue Code and the policy should be assumed to apply equally to all Revenue Codes.

Contractors may specify Revenue Codes to help providers identify those Revenue Codes typically used to report this service. In most instances Revenue Codes are purely advisory; unless specified in the policy services reported under other Revenue Codes are equally subject to this coverage determination. Complete absence of all Revenue Codes indicates that coverage is not influenced by Revenue Code and the policy should be assumed to apply equally to all Revenue Codes.

034X Nuclear Medicine - General Classification
0404 Other Imaging Services - Positron Emission Tomography
048X Cardiology - General Classification
092X Other Diagnostic Services - General Classification

CPT/HCPCS Codes
Group 1 Paragraph: N/A

Group 1 Codes:

93015 CARDIOVASCULAR STRESS TEST USING MAXIMAL OR SUBMAXIMAL TREADMILL OR BICYCLE EXERCISE, CONTINUOUS ELECTROCARDIOGRAPHIC MONITORING, AND/OR PHARMACOLOGICAL STRESS; WITH SUPERVISION, INTERPRETATION AND REPORT

93016 CARDIOVASCULAR STRESS TEST USING MAXIMAL OR SUBMAXIMAL TREADMILL OR BICYCLE EXERCISE, CONTINUOUS ELECTROCARDIOGRAPHIC MONITORING, AND/OR PHARMACOLOGICAL STRESS; SUPERVISION ONLY, WITHOUT INTERPRETATION AND REPORT

93017 CARDIOVASCULAR STRESS TEST USING MAXIMAL OR SUBMAXIMAL TREADMILL OR BICYCLE EXERCISE, CONTINUOUS ELECTROCARDIOGRAPHIC MONITORING, AND/OR PHARMACOLOGICAL STRESS; TRACING ONLY, WITHOUT INTERPRETATION AND REPORT

93018 CARDIOVASCULAR STRESS TEST USING MAXIMAL OR SUBMAXIMAL TREADMILL OR BICYCLE EXERCISE, CONTINUOUS ELECTROCARDIOGRAPHIC MONITORING, AND/OR PHARMACOLOGICAL STRESS; INTERPRETATION AND REPORT ONLY

Group 2 Paragraph: N/A

Group 2 Codes:

93350	ECHOCARDIOGRAPHY, TRANSTHORACIC, REAL-TIME WITH IMAGE DOCUMENTATION (2D), INCLUDES M-MODE RECORDING, WHEN PERFORMED, DURING REST AND CARDIOVASCULAR STRESS TEST USING TREADMILL, BICYCLE EXERCISE AND/OR PHARMACOLOGICALLY INDUCED STRESS, WITH INTERPRETATION AND REPORT;
93351	ECHOCARDIOGRAPHY, TRANSTHORACIC, REAL-TIME WITH IMAGE DOCUMENTATION (2D), INCLUDES M-MODE RECORDING, WHEN PERFORMED, DURING REST AND CARDIOVASCULAR STRESS TEST USING TREADMILL, BICYCLE EXERCISE AND/OR PHARMACOLOGICALLY INDUCED STRESS, WITH INTERPRETATION AND REPORT; INCLUDING PERFORMANCE OF CONTINUOUS ELECTROCARDIOGRAPHIC MONITORING, WITH SUPERVISION BY A PHYSICIAN OR OTHER QUALIFIED HEALTH CARE PROFESSIONAL
93352	USE OF ECHOCARDIOGRAPHIC CONTRAST AGENT DURING STRESS ECHOCARDIOGRAPHY (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)

Group 3 Paragraph: N/A

Group 3 Codes:

78451	MYOCARDIAL PERFUSION IMAGING, TOMOGRAPHIC (SPECT) (INCLUDING ATTENUATION CORRECTION, QUALITATIVE OR QUANTITATIVE WALL MOTION, EJECTION FRACTION BY FIRST PASS OR GATED TECHNIQUE, ADDITIONAL QUANTIFICATION, WHEN PERFORMED); SINGLE STUDY, AT REST OR STRESS (EXERCISE OR PHARMACOLOGIC)
78452	MYOCARDIAL PERFUSION IMAGING, TOMOGRAPHIC (SPECT) (INCLUDING ATTENUATION CORRECTION, QUALITATIVE OR QUANTITATIVE WALL MOTION, EJECTION FRACTION BY FIRST PASS OR GATED TECHNIQUE, ADDITIONAL QUANTIFICATION, WHEN PERFORMED); MULTIPLE STUDIES, AT REST AND/OR STRESS (EXERCISE OR PHARMACOLOGIC) AND/OR REDISTRIBUTION AND/OR REST REINJECTION
78453	MYOCARDIAL PERFUSION IMAGING, PLANAR (INCLUDING QUALITATIVE OR QUANTITATIVE WALL MOTION, EJECTION FRACTION BY FIRST PASS OR GATED TECHNIQUE, ADDITIONAL QUANTIFICATION, WHEN PERFORMED); SINGLE STUDY, AT REST OR STRESS (EXERCISE OR PHARMACOLOGIC)
78454	MYOCARDIAL PERFUSION IMAGING, PLANAR (INCLUDING QUALITATIVE OR QUANTITATIVE WALL MOTION, EJECTION FRACTION BY FIRST PASS OR GATED TECHNIQUE, ADDITIONAL QUANTIFICATION, WHEN PERFORMED); MULTIPLE STUDIES, AT REST AND/OR STRESS (EXERCISE OR PHARMACOLOGIC) AND/OR REDISTRIBUTION AND/OR REST REINJECTION

Group 4 Paragraph: N/A

Group 4 Codes:

78459	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), METABOLIC EVALUATION
78491	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), PERFUSION; SINGLE STUDY AT REST OR STRESS
78492	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), PERFUSION; MULTIPLE STUDIES AT REST AND/OR STRESS
A9526	NITROGEN N-13 AMMONIA, DIAGNOSTIC, PER STUDY DOSE, UP TO 40 MILLICURIES
A9552	FLUORODEOXYGLUCOSE F-18 FDG, DIAGNOSTIC, PER STUDY DOSE, UP TO 45 MILLICURIES
A9555	RUBIDIUM RB-82, DIAGNOSTIC, PER STUDY DOSE, UP TO 60 MILLICURIES

ICD-10 Codes that Support Medical Necessity
Group 1 Paragraph: N/A

Group 1 Codes:

ICD-10 Codes	Description
I01.0 - I01.9	Acute rheumatic pericarditis - Acute rheumatic heart disease, unspecified
I02.0	Rheumatic chorea with heart involvement
I05.0 - I05.9	Rheumatic mitral stenosis - Rheumatic mitral valve disease, unspecified
I06.0 - I06.9	Rheumatic aortic stenosis - Rheumatic aortic valve disease, unspecified
I08.0	Rheumatic disorders of both mitral and aortic valves
I08.8 - I08.9	Other rheumatic multiple valve diseases - Rheumatic multiple valve disease, unspecified
I11.0 - I11.9	Hypertensive heart disease with heart failure - Hypertensive heart disease without heart failure

ICD-10 Codes	Description
I13.0 - I13.2	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease - Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
I20.0 - I20.9	Unstable angina - Angina pectoris, unspecified
I21.01 - I21.9	ST elevation (STEMI) myocardial infarction involving left main coronary artery - Acute myocardial infarction, unspecified
I21.A1 - I21.A9	Myocardial infarction type 2 - Other myocardial infarction type
I22.0 - I22.9	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall - Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
I24.0 - I24.9	Acute coronary thrombosis not resulting in myocardial infarction - Acute ischemic heart disease, unspecified
I25.10 - I25.9	Atherosclerotic heart disease of native coronary artery without angina pectoris - Chronic ischemic heart disease, unspecified
I26.01 - I26.99	Septic pulmonary embolism with acute cor pulmonale - Other pulmonary embolism without acute cor pulmonale
I27.0 - I27.9	Primary pulmonary hypertension - Pulmonary heart disease, unspecified
I34.0 - I34.9	Nonrheumatic mitral (valve) insufficiency - Nonrheumatic mitral valve disorder, unspecified
I35.0 - I35.9	Nonrheumatic aortic (valve) stenosis - Nonrheumatic aortic valve disorder, unspecified
I46.2 - I46.9	Cardiac arrest due to underlying cardiac condition - Cardiac arrest, cause unspecified
I47.0 - I47.9	Re-entry ventricular arrhythmia - Paroxysmal tachycardia, unspecified
I48.0 - I48.92	Paroxysmal atrial fibrillation - Unspecified atrial flutter
I49.01 - I49.9	Ventricular fibrillation - Cardiac arrhythmia, unspecified
I50.1 - I50.9	Left ventricular failure, unspecified - Heart failure, unspecified
R00.0 - R00.9	Tachycardia, unspecified - Unspecified abnormalities of heart beat
R01.0 - R01.2	Benign and innocent cardiac murmurs - Other cardiac sounds
R06.00 - R06.09	Dyspnea, unspecified - Other forms of dyspnea
R06.2 - R06.4	Wheezing - Hyperventilation
R06.81 - R06.9	Apnea, not elsewhere classified - Unspecified abnormalities of breathing
R07.1 - R07.9	Chest pain on breathing - Chest pain, unspecified
R42	Dizziness and giddiness
R55	Syncope and collapse
R94.31	Abnormal electrocardiogram [ECG] [EKG]
Z09	Encounter for follow-up examination after completed treatment for conditions other than malignant neoplasm
Z48.21	Encounter for aftercare following heart transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z94.1	Heart transplant status
Z94.3	Heart and lungs transplant status
Z95.0	Presence of cardiac pacemaker
Z95.1	Presence of aortocoronary bypass graft
Z95.5	Presence of coronary angioplasty implant and graft
Z98.61	Coronary angioplasty status

Group 2 Paragraph: N/A

Group 2 Codes:

ICD-10 Codes	Description
I05.0 - I05.9	Rheumatic mitral stenosis - Rheumatic mitral valve disease, unspecified
I06.0 - I06.9	Rheumatic aortic stenosis - Rheumatic aortic valve disease, unspecified
I07.0 - I07.9	Rheumatic tricuspid stenosis - Rheumatic tricuspid valve disease, unspecified
I08.0 - I08.9	Rheumatic disorders of both mitral and aortic valves - Rheumatic multiple valve disease, unspecified
I09.1	Rheumatic diseases of endocardium, valve unspecified
I09.81	Rheumatic heart failure
I09.89	Other specified rheumatic heart diseases
I09.9	Rheumatic heart disease, unspecified
I20.0 - I20.9	Unstable angina - Angina pectoris, unspecified
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.8	Other forms of acute ischemic heart disease
I24.9	Acute ischemic heart disease, unspecified
I25.10 - I25.799	Atherosclerotic heart disease of native coronary artery without angina pectoris - Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris
I25.811 - I25.812	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris - Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I25.84	Coronary atherosclerosis due to calcified coronary lesion
I25.89	Other forms of chronic ischemic heart disease
I25.9	Chronic ischemic heart disease, unspecified
I34.0 - I34.9	Nonrheumatic mitral (valve) insufficiency - Nonrheumatic mitral valve disorder, unspecified
I35.0 - I35.9	Nonrheumatic aortic (valve) stenosis - Nonrheumatic aortic valve disorder, unspecified
I36.0 - I36.9	Nonrheumatic tricuspid (valve) stenosis - Nonrheumatic tricuspid valve disorder, unspecified
I37.0 - I37.9	Nonrheumatic pulmonary valve stenosis - Nonrheumatic pulmonary valve disorder, unspecified
I44.30 - I45.6	Unspecified atrioventricular block - Pre-excitation syndrome
I48.0	Paroxysmal atrial fibrillation
I48.2	Chronic atrial fibrillation
I48.91	Unspecified atrial fibrillation
I50.1 - I50.9	Left ventricular failure, unspecified - Heart failure, unspecified
I70.211 - I70.269	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg - Atherosclerosis of native arteries of extremities with gangrene, unspecified extremity
R94.31	Abnormal electrocardiogram [ECG] [EKG]
T38.0X5A - T38.0X5S	Adverse effect of glucocorticoids and synthetic analogues, initial encounter - Adverse effect of glucocorticoids and synthetic analogues, sequela
T38.1X5A - T38.1X5S	Adverse effect of thyroid hormones and substitutes, initial encounter - Adverse effect of thyroid hormones and substitutes, sequela
T38.2X5A - T38.2X5S	Adverse effect of antithyroid drugs, initial encounter - Adverse effect of antithyroid drugs, sequela
T38.6X5A - T38.6X5S	Adverse effect of antigonadotrophins, antiestrogens, antiandrogens, not elsewhere classified, initial encounter - Adverse effect of antigonadotrophins, antiestrogens, antiandrogens, not elsewhere classified, sequela
T38.7X5A - T38.7X5S	Adverse effect of androgens and anabolic congeners, initial encounter - Adverse effect of androgens and anabolic congeners, sequela
T38.805A - T38.805S	Adverse effect of unspecified hormones and synthetic substitutes, initial encounter - Adverse effect of unspecified hormones and synthetic substitutes, sequela
T38.815A - T38.815S	Adverse effect of anterior pituitary [adenohypophyseal] hormones, initial encounter - Adverse effect of anterior pituitary [adenohypophyseal] hormones, sequela
T38.895A - T38.895S	Adverse effect of other hormones and synthetic substitutes, initial encounter - Adverse effect of other hormones and synthetic substitutes, sequela
T38.905A - T38.905S	Adverse effect of unspecified hormone antagonists, initial encounter - Adverse effect of unspecified hormone antagonists, sequela
T38.995A - T38.995S	Adverse effect of other hormone antagonists, initial encounter - Adverse effect of other hormone antagonists, sequela
T44.1X5A - T44.1X5S	Adverse effect of other parasympathomimetics [cholinergics], initial encounter - Adverse effect of other parasympathomimetics [cholinergics], sequela

ICD-10 Codes	Description
T44.2X5A - T44.2X5S	Adverse effect of ganglionic blocking drugs, initial encounter - Adverse effect of ganglionic blocking drugs, sequela
T44.3X5A - T44.3X5S	Adverse effect of other parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics, initial encounter - Adverse effect of other parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics, sequela
T44.4X5A - T44.4X5S	Adverse effect of predominantly alpha-adrenoreceptor agonists, initial encounter - Adverse effect of predominantly alpha-adrenoreceptor agonists, sequela
T44.5X5A - T44.5X5S	Adverse effect of predominantly beta-adrenoreceptor agonists, initial encounter - Adverse effect of predominantly beta-adrenoreceptor agonists, sequela
T44.6X5A - T44.6X5S	Adverse effect of alpha-adrenoreceptor antagonists, initial encounter - Adverse effect of alpha-adrenoreceptor antagonists, sequela
T44.7X5A - T44.7X5S	Adverse effect of beta-adrenoreceptor antagonists, initial encounter - Adverse effect of beta-adrenoreceptor antagonists, sequela
T44.8X5A - T44.8X5S	Adverse effect of centrally-acting and adrenergic-neuron-blocking agents, initial encounter - Adverse effect of centrally-acting and adrenergic-neuron-blocking agents, sequela
T44.905A - T44.905S	Adverse effect of unspecified drugs primarily affecting the autonomic nervous system, initial encounter - Adverse effect of unspecified drugs primarily affecting the autonomic nervous system, sequela
T44.995A - T44.995S	Adverse effect of other drug primarily affecting the autonomic nervous system, initial encounter - Adverse effect of other drug primarily affecting the autonomic nervous system, sequela
T45.1X5A - T45.1X5S	Adverse effect of antineoplastic and immunosuppressive drugs, initial encounter - Adverse effect of antineoplastic and immunosuppressive drugs, sequela
T46.0X5A - T46.0X5S	Adverse effect of cardiac-stimulant glycosides and drugs of similar action, initial encounter - Adverse effect of cardiac-stimulant glycosides and drugs of similar action, sequela
T46.1X5A - T46.1X5S	Adverse effect of calcium-channel blockers, initial encounter - Adverse effect of calcium-channel blockers, sequela
T46.2X5A - T46.2X5S	Adverse effect of other antidysrhythmic drugs, initial encounter - Adverse effect of other antidysrhythmic drugs, sequela
T46.3X5A - T46.3X5S	Adverse effect of coronary vasodilators, initial encounter - Adverse effect of coronary vasodilators, sequela
T46.4X5A - T46.4X5S	Adverse effect of angiotensin-converting-enzyme inhibitors, initial encounter - Adverse effect of angiotensin-converting-enzyme inhibitors, sequela
T46.5X5A - T46.5X5S	Adverse effect of other antihypertensive drugs, initial encounter - Adverse effect of other antihypertensive drugs, sequela
T46.6X5A - T46.6X5S	Adverse effect of antihyperlipidemic and antiarteriosclerotic drugs, initial encounter - Adverse effect of antihyperlipidemic and antiarteriosclerotic drugs, sequela
T46.7X5A - T46.7X5S	Adverse effect of peripheral vasodilators, initial encounter - Adverse effect of peripheral vasodilators, sequela
T46.8X5A - T46.8X5S	Adverse effect of antivaricose drugs, including sclerosing agents, initial encounter - Adverse effect of antivaricose drugs, including sclerosing agents, sequela
T46.905A - T46.905S	Adverse effect of unspecified agents primarily affecting the cardiovascular system, initial encounter - Adverse effect of unspecified agents primarily affecting the cardiovascular system, sequela
T46.995A - T46.995S	Adverse effect of other agents primarily affecting the cardiovascular system, initial encounter - Adverse effect of other agents primarily affecting the cardiovascular system, sequela
T47.0X5A - T47.0X5S	Adverse effect of histamine H2-receptor blockers, initial encounter - Adverse effect of histamine H2 -receptor blockers, sequela
T50.0X5A - T50.0X5S	Adverse effect of mineralocorticoids and their antagonists, initial encounter - Adverse effect of mineralocorticoids and their antagonists, sequela
T50.1X5A - T50.1X5S	Adverse effect of loop [high-ceiling] diuretics, initial encounter - Adverse effect of loop [high-ceiling] diuretics, sequela
T50.2X5A - T50.2X5S	Adverse effect of carbonic-anhydrase inhibitors, benzothiadiazides and other diuretics, initial encounter - Adverse effect of carbonic-anhydrase inhibitors, benzothiadiazides and other diuretics, sequela
Z08	Encounter for follow-up examination after completed treatment for malignant neoplasm
Z09	Encounter for follow-up examination after completed treatment for conditions other than malignant neoplasm

Group 3 Paragraph: N/A

Group 3 Codes:

ICD-10 Codes	Description
I20.0 - I20.9	Unstable angina - Angina pectoris, unspecified
I24.0 - I24.9	Acute coronary thrombosis not resulting in myocardial infarction - Acute ischemic heart disease, unspecified
I25.10 - I25.9	Atherosclerotic heart disease of native coronary artery without angina pectoris - Chronic ischemic heart disease, unspecified
I34.0 - I34.9	Nonrheumatic mitral (valve) insufficiency - Nonrheumatic mitral valve disorder, unspecified
I44.30 - I45.6	Unspecified atrioventricular block - Pre-excitation syndrome
I48.0	Paroxysmal atrial fibrillation
I48.2	Chronic atrial fibrillation
I48.91	Unspecified atrial fibrillation
I50.1 - I50.9	Left ventricular failure, unspecified - Heart failure, unspecified
I70.211 - I70.269	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg - Atherosclerosis of native arteries of extremities with gangrene, unspecified extremity
I70.92	Chronic total occlusion of artery of the extremities
R94.31	Abnormal electrocardiogram [ECG] [EKG]
R94.39*	Abnormal result of other cardiovascular function study
T36.0X5A - T36.0X5S	Adverse effect of penicillins, initial encounter - Adverse effect of penicillins, sequela
T36.1X5A - T36.1X5S	Adverse effect of cephalosporins and other beta-lactam antibiotics, initial encounter - Adverse effect of cephalosporins and other beta-lactam antibiotics, sequela
T36.2X5A - T36.2X5S	Adverse effect of chloramphenicol group, initial encounter - Adverse effect of chloramphenicol group, sequela
T36.3X5A - T36.3X5S	Adverse effect of macrolides, initial encounter - Adverse effect of macrolides, sequela
T36.4X5A - T36.4X5S	Adverse effect of tetracyclines, initial encounter - Adverse effect of tetracyclines, sequela
T36.5X5A - T36.5X5S	Adverse effect of aminoglycosides, initial encounter - Adverse effect of aminoglycosides, sequela
T36.6X5A - T36.6X5S	Adverse effect of rifampicins, initial encounter - Adverse effect of rifampicins, sequela
T36.7X5A - T36.7X5S	Adverse effect of antifungal antibiotics, systemically used, initial encounter - Adverse effect of antifungal antibiotics, systemically used, sequela
T36.8X5A - T36.8X5S	Adverse effect of other systemic antibiotics, initial encounter - Adverse effect of other systemic antibiotics, sequela
T36.95XA - T36.95XS	Adverse effect of unspecified systemic antibiotic, initial encounter - Adverse effect of unspecified systemic antibiotic, sequela
T37.0X5A - T37.0X5S	Adverse effect of sulfonamides, initial encounter - Adverse effect of sulfonamides, sequela
T37.1X5A - T37.1X5S	Adverse effect of antimycobacterial drugs, initial encounter - Adverse effect of antimycobacterial drugs, sequela
T37.2X5A - T37.2X5S	Adverse effect of antimalarials and drugs acting on other blood protozoa, initial encounter - Adverse effect of antimalarials and drugs acting on other blood protozoa, sequela
T37.3X5A - T37.3X5S	Adverse effect of other antiprotozoal drugs, initial encounter - Adverse effect of other antiprotozoal drugs, sequela
T37.4X5A - T37.4X5S	Adverse effect of anthelminthics, initial encounter - Adverse effect of anthelminthics, sequela
T37.5X5A - T37.5X5S	Adverse effect of antiviral drugs, initial encounter - Adverse effect of antiviral drugs, sequela
T37.8X5A - T37.8X5S	Adverse effect of other specified systemic anti-infectives and antiparasitics, initial encounter - Adverse effect of other specified systemic anti-infectives and antiparasitics, sequela
T37.95XA - T37.95XS	Adverse effect of unspecified systemic anti-infective and antiparasitic, initial encounter - Adverse effect of unspecified systemic anti-infective and antiparasitic, sequela
T38.0X5A - T38.0X5S	Adverse effect of glucocorticoids and synthetic analogues, initial encounter - Adverse effect of glucocorticoids and synthetic analogues, sequela
T38.1X5A - T38.1X5S	Adverse effect of thyroid hormones and substitutes, initial encounter - Adverse effect of thyroid hormones and substitutes, sequela
T38.2X5A - T38.2X5S	Adverse effect of antithyroid drugs, initial encounter - Adverse effect of antithyroid drugs, sequela
T38.4X5A - T38.4X5S	Adverse effect of oral contraceptives, initial encounter - Adverse effect of oral contraceptives, sequela

ICD-10 Codes	Description
T38.5X5A - T38.5X5S	Adverse effect of other estrogens and progestogens, initial encounter - Adverse effect of other estrogens and progestogens, sequela
T38.6X5A - T38.6X5S	Adverse effect of antigonadotrophins, antiestrogens, antiandrogens, not elsewhere classified, initial encounter - Adverse effect of antigonadotrophins, antiestrogens, antiandrogens, not elsewhere classified, sequela
T38.7X5A - T38.7X5S	Adverse effect of androgens and anabolic congeners, initial encounter - Adverse effect of androgens and anabolic congeners, sequela
T38.805A - T38.805S	Adverse effect of unspecified hormones and synthetic substitutes, initial encounter - Adverse effect of unspecified hormones and synthetic substitutes, sequela
T38.815A - T38.815S	Adverse effect of anterior pituitary [adenohypophyseal] hormones, initial encounter - Adverse effect of anterior pituitary [adenohypophyseal] hormones, sequela
T38.895A - T38.895S	Adverse effect of other hormones and synthetic substitutes, initial encounter - Adverse effect of other hormones and synthetic substitutes, sequela
T38.905A - T38.905S	Adverse effect of unspecified hormone antagonists, initial encounter - Adverse effect of unspecified hormone antagonists, sequela
T38.995A - T38.995S	Adverse effect of other hormone antagonists, initial encounter - Adverse effect of other hormone antagonists, sequela
T39.015A - T39.015S	Adverse effect of aspirin, initial encounter - Adverse effect of aspirin, sequela
T39.095A - T39.095S	Adverse effect of salicylates, initial encounter - Adverse effect of salicylates, sequela
T39.1X5A - T39.1X5S	Adverse effect of 4-Aminophenol derivatives, initial encounter - Adverse effect of 4-Aminophenol derivatives, sequela
T39.2X5A - T39.2X5S	Adverse effect of pyrazolone derivatives, initial encounter - Adverse effect of pyrazolone derivatives, sequela
T39.315A - T39.315S	Adverse effect of propionic acid derivatives, initial encounter - Adverse effect of propionic acid derivatives, sequela
T39.395A - T39.395S	Adverse effect of other nonsteroidal anti-inflammatory drugs [NSAID], initial encounter - Adverse effect of other nonsteroidal anti-inflammatory drugs [NSAID], sequela
T39.4X5A - T39.4X5S	Adverse effect of antirheumatics, not elsewhere classified, initial encounter - Adverse effect of antirheumatics, not elsewhere classified, sequela
T39.8X5A - T39.8X5S	Adverse effect of other nonopioid analgesics and antipyretics, not elsewhere classified, initial encounter - Adverse effect of other nonopioid analgesics and antipyretics, not elsewhere classified, sequela
T39.95XA - T39.95XS	Adverse effect of unspecified nonopioid analgesic, antipyretic and antirheumatic, initial encounter - Adverse effect of unspecified nonopioid analgesic, antipyretic and antirheumatic, sequela
T40.0X5A - T40.0X5S	Adverse effect of opium, initial encounter - Adverse effect of opium, sequela
T40.2X5A - T40.2X5S	Adverse effect of other opioids, initial encounter - Adverse effect of other opioids, sequela
T40.3X5A - T40.3X5S	Adverse effect of methadone, initial encounter - Adverse effect of methadone, sequela
T40.4X5A - T40.4X5S	Adverse effect of other synthetic narcotics, initial encounter - Adverse effect of other synthetic narcotics, sequela
T40.5X5A - T40.5X5S	Adverse effect of cocaine, initial encounter - Adverse effect of cocaine, sequela
T40.605A - T40.605S	Adverse effect of unspecified narcotics, initial encounter - Adverse effect of unspecified narcotics, sequela
T40.695A - T40.695S	Adverse effect of other narcotics, initial encounter - Adverse effect of other narcotics, sequela
T40.7X5A - T40.7X5S	Adverse effect of cannabis (derivatives), initial encounter - Adverse effect of cannabis (derivatives), sequela
T40.905A - T40.905S	Adverse effect of unspecified psychodysleptics [hallucinogens], initial encounter - Adverse effect of unspecified psychodysleptics [hallucinogens], sequela
T40.995A - T40.995S	Adverse effect of other psychodysleptics [hallucinogens], initial encounter - Adverse effect of other psychodysleptics [hallucinogens], sequela
T41.5X5A - T41.5X5S	Adverse effect of therapeutic gases, initial encounter - Adverse effect of therapeutic gases, sequela
T42.0X5A - T42.0X5S	Adverse effect of hydantoin derivatives, initial encounter - Adverse effect of hydantoin derivatives, sequela
	Adverse effect of iminostilbenes, initial encounter - Adverse effect of iminostilbenes, sequela

ICD-10 Codes	Description
T42.1X5A - T42.1X5S	
T42.2X5A - T42.2X5S	Adverse effect of succinimides and oxazolidinediones, initial encounter - Adverse effect of succinimides and oxazolidinediones, sequela
T42.3X5A - T42.3X5S	Adverse effect of barbiturates, initial encounter - Adverse effect of barbiturates, sequela
T42.4X5A - T42.4X5S	Adverse effect of benzodiazepines, initial encounter - Adverse effect of benzodiazepines, sequela
T42.5X5A - T42.5X5S	Adverse effect of mixed antiepileptics, initial encounter - Adverse effect of mixed antiepileptics, sequela
T42.6X5A - T42.6X5S	Adverse effect of other antiepileptic and sedative-hypnotic drugs, initial encounter - Adverse effect of other antiepileptic and sedative-hypnotic drugs, sequela
T42.75XA - T42.75XS	Adverse effect of unspecified antiepileptic and sedative-hypnotic drugs, initial encounter - Adverse effect of unspecified antiepileptic and sedative-hypnotic drugs, sequela
T42.8X5A - T42.8X5S	Adverse effect of antiparkinsonism drugs and other central muscle-tone depressants, initial encounter - Adverse effect of antiparkinsonism drugs and other central muscle-tone depressants, sequela
T43.015A - T43.015S	Adverse effect of tricyclic antidepressants, initial encounter - Adverse effect of tricyclic antidepressants, sequela
T43.025A - T43.025S	Adverse effect of tetracyclic antidepressants, initial encounter - Adverse effect of tetracyclic antidepressants, sequela
T43.1X5A - T43.1X5S	Adverse effect of monoamine-oxidase-inhibitor antidepressants, initial encounter - Adverse effect of monoamine-oxidase-inhibitor antidepressants, sequela
T43.205A - T43.205S	Adverse effect of unspecified antidepressants, initial encounter - Adverse effect of unspecified antidepressants, sequela
T43.215A - T43.215S	Adverse effect of selective serotonin and norepinephrine reuptake inhibitors, initial encounter - Adverse effect of selective serotonin and norepinephrine reuptake inhibitors, sequela
T43.225A - T43.225S	Adverse effect of selective serotonin reuptake inhibitors, initial encounter - Adverse effect of selective serotonin reuptake inhibitors, sequela
T43.295A - T43.295S	Adverse effect of other antidepressants, initial encounter - Adverse effect of other antidepressants, sequela
T43.3X5A - T43.3X5S	Adverse effect of phenothiazine antipsychotics and neuroleptics, initial encounter - Adverse effect of phenothiazine antipsychotics and neuroleptics, sequela
T43.4X5A - T43.4X5S	Adverse effect of butyrophenone and thiothixene neuroleptics, initial encounter - Adverse effect of butyrophenone and thiothixene neuroleptics, sequela
T43.505A - T43.505S	Adverse effect of unspecified antipsychotics and neuroleptics, initial encounter - Adverse effect of unspecified antipsychotics and neuroleptics, sequela
T43.595A - T43.595S	Adverse effect of other antipsychotics and neuroleptics, initial encounter - Adverse effect of other antipsychotics and neuroleptics, sequela
T43.605A - T43.605S	Adverse effect of unspecified psychostimulants, initial encounter - Adverse effect of unspecified psychostimulants, sequela
T43.615A - T43.615S	Adverse effect of caffeine, initial encounter - Adverse effect of caffeine, sequela
T43.625A - T43.625S	Adverse effect of amphetamines, initial encounter - Adverse effect of amphetamines, sequela
T43.635A - T43.635S	Adverse effect of methylphenidate, initial encounter - Adverse effect of methylphenidate, sequela
T43.695A - T43.695S	Adverse effect of other psychostimulants, initial encounter - Adverse effect of other psychostimulants, sequela
T43.8X5A - T43.8X5S	Adverse effect of other psychotropic drugs, initial encounter - Adverse effect of other psychotropic drugs, sequela
T43.95XA - T43.95XS	Adverse effect of unspecified psychotropic drug, initial encounter - Adverse effect of unspecified psychotropic drug, sequela
T44.0X5A - T44.0X5S	Adverse effect of anticholinesterase agents, initial encounter - Adverse effect of anticholinesterase agents, sequela
T44.1X5A - T44.1X5S	Adverse effect of other parasympathomimetics [cholinergics], initial encounter - Adverse effect of other parasympathomimetics [cholinergics], sequela
T44.2X5A - T44.2X5S	Adverse effect of ganglionic blocking drugs, initial encounter - Adverse effect of ganglionic blocking drugs, sequela
T44.3X5A - T44.3X5S	

ICD-10 Codes	Description
	Adverse effect of other parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics, initial encounter - Adverse effect of other parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics, sequela
T44.4X5A - T44.4X5S	Adverse effect of predominantly alpha-adrenoreceptor agonists, initial encounter - Adverse effect of predominantly alpha-adrenoreceptor agonists, sequela
T44.5X5A - T44.5X5S	Adverse effect of predominantly beta-adrenoreceptor agonists, initial encounter - Adverse effect of predominantly beta-adrenoreceptor agonists, sequela
T44.6X5A - T44.6X5S	Adverse effect of alpha-adrenoreceptor antagonists, initial encounter - Adverse effect of alpha-adrenoreceptor antagonists, sequela
T44.7X5A - T44.7X5S	Adverse effect of beta-adrenoreceptor antagonists, initial encounter - Adverse effect of beta-adrenoreceptor antagonists, sequela
T44.8X5A - T44.8X5S	Adverse effect of centrally-acting and adrenergic-neuron-blocking agents, initial encounter - Adverse effect of centrally-acting and adrenergic-neuron-blocking agents, sequela
T44.905A - T44.905S	Adverse effect of unspecified drugs primarily affecting the autonomic nervous system, initial encounter - Adverse effect of unspecified drugs primarily affecting the autonomic nervous system, sequela
T44.995A - T44.995S	Adverse effect of other drug primarily affecting the autonomic nervous system, initial encounter - Adverse effect of other drug primarily affecting the autonomic nervous system, sequela
T45.0X5A - T45.0X5S	Adverse effect of antiallergic and antiemetic drugs, initial encounter - Adverse effect of antiallergic and antiemetic drugs, sequela
T45.1X1A - T45.1X1S	Poisoning by antineoplastic and immunosuppressive drugs, accidental (unintentional), initial encounter - Poisoning by antineoplastic and immunosuppressive drugs, accidental (unintentional), sequela
T45.1X5A - T45.1X5S	Adverse effect of antineoplastic and immunosuppressive drugs, initial encounter - Adverse effect of antineoplastic and immunosuppressive drugs, sequela
T45.2X5A - T45.2X5S	Adverse effect of vitamins, initial encounter - Adverse effect of vitamins, sequela
T45.3X5A - T45.3X5S	Adverse effect of enzymes, initial encounter - Adverse effect of enzymes, sequela
T45.4X5A - T45.4X5S	Adverse effect of iron and its compounds, initial encounter - Adverse effect of iron and its compounds, sequela
T45.515A - T45.515S	Adverse effect of anticoagulants, initial encounter - Adverse effect of anticoagulants, sequela
T45.525A - T45.525S	Adverse effect of antithrombotic drugs, initial encounter - Adverse effect of antithrombotic drugs, sequela
T45.605A - T45.605S	Adverse effect of unspecified fibrinolysis-affecting drugs, initial encounter - Adverse effect of unspecified fibrinolysis-affecting drugs, sequela
T45.615A - T45.615S	Adverse effect of thrombolytic drugs, initial encounter - Adverse effect of thrombolytic drugs, sequela
T45.625A - T45.625S	Adverse effect of hemostatic drug, initial encounter - Adverse effect of hemostatic drug, sequela
T45.695A - T45.695S	Adverse effect of other fibrinolysis-affecting drugs, initial encounter - Adverse effect of other fibrinolysis-affecting drugs, sequela
T45.7X5A - T45.7X5S	Adverse effect of anticoagulant antagonists, vitamin K and other coagulants, initial encounter - Adverse effect of anticoagulant antagonists, vitamin K and other coagulants, sequela
T45.8X5A - T45.8X5S	Adverse effect of other primarily systemic and hematological agents, initial encounter - Adverse effect of other primarily systemic and hematological agents, sequela
T45.95XA - T45.95XS	Adverse effect of unspecified primarily systemic and hematological agent, initial encounter - Adverse effect of unspecified primarily systemic and hematological agent, sequela
T46.0X5A - T46.0X5S	Adverse effect of cardiac-stimulant glycosides and drugs of similar action, initial encounter - Adverse effect of cardiac-stimulant glycosides and drugs of similar action, sequela
T46.1X5A - T46.1X5S	Adverse effect of calcium-channel blockers, initial encounter - Adverse effect of calcium-channel blockers, sequela
T46.2X5A - T46.2X5S	Adverse effect of other antidysrhythmic drugs, initial encounter - Adverse effect of other antidysrhythmic drugs, sequela
T46.3X5A - T46.3X5S	Adverse effect of coronary vasodilators, initial encounter - Adverse effect of coronary vasodilators, sequela
T46.4X5A - T46.4X5S	Adverse effect of angiotensin-converting-enzyme inhibitors, initial encounter - Adverse effect of angiotensin-converting-enzyme inhibitors, sequela
T46.5X5A - T46.5X5S	Adverse effect of other antihypertensive drugs, initial encounter - Adverse effect of other antihypertensive drugs, sequela

ICD-10 Codes	Description
T46.6X5A - T46.6X5S	Adverse effect of antihyperlipidemic and antiarteriosclerotic drugs, initial encounter - Adverse effect of antihyperlipidemic and antiarteriosclerotic drugs, sequela
T46.7X5A - T46.7X5S	Adverse effect of peripheral vasodilators, initial encounter - Adverse effect of peripheral vasodilators, sequela
T46.8X5A - T46.8X5S	Adverse effect of antivaricose drugs, including sclerosing agents, initial encounter - Adverse effect of antivaricose drugs, including sclerosing agents, sequela
T46.905A - T46.905S	Adverse effect of unspecified agents primarily affecting the cardiovascular system, initial encounter - Adverse effect of unspecified agents primarily affecting the cardiovascular system, sequela
T46.995A - T46.995S	Adverse effect of other agents primarily affecting the cardiovascular system, initial encounter - Adverse effect of other agents primarily affecting the cardiovascular system, sequela
T47.0X5A - T47.0X5S	Adverse effect of histamine H2-receptor blockers, initial encounter - Adverse effect of histamine H2 -receptor blockers, sequela
T47.1X5A - T47.1X5S	Adverse effect of other antacids and anti-gastric-secretion drugs, initial encounter - Adverse effect of other antacids and anti-gastric-secretion drugs, sequela
T47.2X5A - T47.2X5S	Adverse effect of stimulant laxatives, initial encounter - Adverse effect of stimulant laxatives, sequela
T47.3X5A - T47.3X5S	Adverse effect of saline and osmotic laxatives, initial encounter - Adverse effect of saline and osmotic laxatives, sequela
T47.4X5A - T47.4X5S	Adverse effect of other laxatives, initial encounter - Adverse effect of other laxatives, sequela
T47.5X5A - T47.5X5S	Adverse effect of digestants, initial encounter - Adverse effect of digestants, sequela
T47.6X5A - T47.6X5S	Adverse effect of antidiarrheal drugs, initial encounter - Adverse effect of antidiarrheal drugs, sequela
T47.7X5A - T47.7X5S	Adverse effect of emetics, initial encounter - Adverse effect of emetics, sequela
T47.8X5A - T47.8X5S	Adverse effect of other agents primarily affecting gastrointestinal system, initial encounter - Adverse effect of other agents primarily affecting gastrointestinal system, sequela
T47.95XA - T47.95XS	Adverse effect of unspecified agents primarily affecting the gastrointestinal system, initial encounter - Adverse effect of unspecified agents primarily affecting the gastrointestinal system, sequela
T48.0X5A - T48.0X5S	Adverse effect of oxytocic drugs, initial encounter - Adverse effect of oxytocic drugs, sequela
T48.1X5A - T48.1X5S	Adverse effect of skeletal muscle relaxants [neuromuscular blocking agents], initial encounter - Adverse effect of skeletal muscle relaxants [neuromuscular blocking agents], sequela
T48.205A - T48.205S	Adverse effect of unspecified drugs acting on muscles, initial encounter - Adverse effect of unspecified drugs acting on muscles, sequela
T48.295A - T48.295S	Adverse effect of other drugs acting on muscles, initial encounter - Adverse effect of other drugs acting on muscles, sequela
T48.3X5A - T48.3X5S	Adverse effect of antitussives, initial encounter - Adverse effect of antitussives, sequela
T48.4X5A - T48.4X5S	Adverse effect of expectorants, initial encounter - Adverse effect of expectorants, sequela
T48.5X5A - T48.5X5S	Adverse effect of other anti-common-cold drugs, initial encounter - Adverse effect of other anti-common-cold drugs, sequela
T48.6X5A - T48.6X5S	Adverse effect of antiasthmatics, initial encounter - Adverse effect of antiasthmatics, sequela
T48.905A - T48.905S	Adverse effect of unspecified agents primarily acting on the respiratory system, initial encounter - Adverse effect of unspecified agents primarily acting on the respiratory system, sequela
T48.995A - T48.995S	Adverse effect of other agents primarily acting on the respiratory system, initial encounter - Adverse effect of other agents primarily acting on the respiratory system, sequela
T49.0X5A - T49.0X5S	Adverse effect of local antifungal, anti-infective and anti-inflammatory drugs, initial encounter - Adverse effect of local antifungal, anti-infective and anti-inflammatory drugs, sequela
T49.1X5A - T49.1X5S	Adverse effect of antipruritics, initial encounter - Adverse effect of antipruritics, sequela
T49.2X5A - T49.2X5S	Adverse effect of local astringents and local detergents, initial encounter - Adverse effect of local astringents and local detergents, sequela
T49.3X5A - T49.3X5S	Adverse effect of emollients, demulcents and protectants, initial encounter - Adverse effect of emollients, demulcents and protectants, sequela
T49.4X5A - T49.4X5S	

ICD-10 Codes	Description
	Adverse effect of keratolytics, keratoplastics, and other hair treatment drugs and preparations, initial encounter - Adverse effect of keratolytics, keratoplastics, and other hair treatment drugs and preparations, sequela
T49.5X5A - T49.5X5S	Adverse effect of ophthalmological drugs and preparations, initial encounter - Adverse effect of ophthalmological drugs and preparations, sequela
T49.6X5A - T49.6X5S	Adverse effect of otorhinolaryngological drugs and preparations, initial encounter - Adverse effect of otorhinolaryngological drugs and preparations, sequela
T49.7X5A - T49.7X5S	Adverse effect of dental drugs, topically applied, initial encounter - Adverse effect of dental drugs, topically applied, sequela
T49.8X5A - T49.8X5S	Adverse effect of other topical agents, initial encounter - Adverse effect of other topical agents, sequela
T49.95XA - T49.95XS	Adverse effect of unspecified topical agent, initial encounter - Adverse effect of unspecified topical agent, sequela
T50.0X5A - T50.0X5S	Adverse effect of mineralocorticoids and their antagonists, initial encounter - Adverse effect of mineralocorticoids and their antagonists, sequela
T50.1X5A - T50.1X5S	Adverse effect of loop [high-ceiling] diuretics, initial encounter - Adverse effect of loop [high-ceiling] diuretics, sequela
T50.2X5A - T50.2X5S	Adverse effect of carbonic-anhydrase inhibitors, benzothiadiazides and other diuretics, initial encounter - Adverse effect of carbonic-anhydrase inhibitors, benzothiadiazides and other diuretics, sequela
T50.3X5A - T50.3X5S	Adverse effect of electrolytic, caloric and water-balance agents, initial encounter - Adverse effect of electrolytic, caloric and water-balance agents, sequela
T50.4X5A - T50.4X5S	Adverse effect of drugs affecting uric acid metabolism, initial encounter - Adverse effect of drugs affecting uric acid metabolism, sequela
T50.5X5A - T50.5X5S	Adverse effect of appetite depressants, initial encounter - Adverse effect of appetite depressants, sequela
T50.6X5A - T50.6X5S	Adverse effect of antidotes and chelating agents, initial encounter - Adverse effect of antidotes and chelating agents, sequela
T50.7X5A - T50.7X5S	Adverse effect of analeptics and opioid receptor antagonists, initial encounter - Adverse effect of analeptics and opioid receptor antagonists, sequela
T50.8X5A - T50.8X5S	Adverse effect of diagnostic agents, initial encounter - Adverse effect of diagnostic agents, sequela
T50.A15A - T50.A15S	Adverse effect of pertussis vaccine, including combinations with a pertussis component, initial encounter - Adverse effect of pertussis vaccine, including combinations with a pertussis component, sequela
T50.A25A - T50.A25S	Adverse effect of mixed bacterial vaccines without a pertussis component, initial encounter - Adverse effect of mixed bacterial vaccines without a pertussis component, sequela
T50.A95A - T50.A95S	Adverse effect of other bacterial vaccines, initial encounter - Adverse effect of other bacterial vaccines, sequela
T50.B15A - T50.B15S	Adverse effect of smallpox vaccines, initial encounter - Adverse effect of smallpox vaccines, sequela
T50.B95A - T50.B95S	Adverse effect of other viral vaccines, initial encounter - Adverse effect of other viral vaccines, sequela
T50.Z15A - T50.Z15S	Adverse effect of immunoglobulin, initial encounter - Adverse effect of immunoglobulin, sequela
T50.Z95A - T50.Z95S	Adverse effect of other vaccines and biological substances, initial encounter - Adverse effect of other vaccines and biological substances, sequela
T50.905A - T50.905S	Adverse effect of unspecified drugs, medicaments and biological substances, initial encounter - Adverse effect of unspecified drugs, medicaments and biological substances, sequela
T50.995A - T50.995S	Adverse effect of other drugs, medicaments and biological substances, initial encounter - Adverse effect of other drugs, medicaments and biological substances, sequela
T88.52XA - T88.52XS	Failed moderate sedation during procedure, initial encounter - Failed moderate sedation during procedure, sequela
Z01.810	Encounter for preprocedural cardiovascular examination
Z08	Encounter for follow-up examination after completed treatment for malignant neoplasm
Z09	Encounter for follow-up examination after completed treatment for conditions other than malignant neoplasm
Z79.3	Long term (current) use of hormonal contraceptives
Z79.891	Long term (current) use of opiate analgesic
Z79.899	Other long term (current) drug therapy

Group 3 Medical Necessity ICD-10 Codes Asterisk Explanation:

*ICD-10-CM code R94.39 should be used when an abnormal or non-diagnostic stress test is the reason myocardial perfusion imaging is being performed.

Group 4 Paragraph:

The following ICD-10 codes are applicable to Procedure codes 78459, 78491, and 78492 only:

Group 4 Codes:

ICD-10 Codes	Description
D86.85*	Sarcoid myocarditis
D86.9*	Sarcoidosis, unspecified
I20.1 - I20.9	Angina pectoris with documented spasm - Angina pectoris, unspecified
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.1	Dressler's syndrome
I25.10 - I25.119	Atherosclerotic heart disease of native coronary artery without angina pectoris - Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.3 - I25.42	Aneurysm of heart - Coronary artery dissection
I25.700 - I25.812	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris - Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I43*	Cardiomyopathy in diseases classified elsewhere
I44.30 - I45.5	Unspecified atrioventricular block - Other specified heart block
I48.0	Paroxysmal atrial fibrillation
I48.2	Chronic atrial fibrillation
I48.91	Unspecified atrial fibrillation
I50.1 - I50.9	Left ventricular failure, unspecified - Heart failure, unspecified
R07.9	Chest pain, unspecified

Group 4 Medical Necessity ICD-10 Codes Asterisk Explanation:

*The billing for the treatment of cardiac sarcoidosis requires dual diagnoses. To ensure reimbursement for this service, dual diagnosis codes I43 and D86.9 or D86.85 must be submitted for CPT code 78459.

ICD-10 Codes that DO NOT Support Medical Necessity N/A

ICD-10 Additional Information Back to Top

General Information

Associated Information

Documentation Requirements

Medical record documentation maintained by the ordering/referring physician must indicate the medical necessity for performing the study, including:

- history and physical
- office/progress note, and
- test results

If the provider of the service is other than the ordering/referring physician, the provider of the service must maintain hard copy documentation of test results and interpretation, along with copies of the ordering/referring physician's order for the studies. The physician must state the clinical indication/medical necessity for the study

in the order for the test. All segments of the service must have a formal interpretation and report.

When billing for the purchase of radiopharmaceutical(s), the dosage administered, unit price per dose, name and total charge of the radioactive drug must be on file.

The rationale for selecting pharmacologic stress rather than exercise stress must be indicated in the medical record.

The medical record must document when significant resting ECG abnormalities are present or a medication is being used and cannot be withdrawn that would interfere with the interpretation of a stress ECG, resulting in the selection of a myocardial perfusion study.

Documentation that the required conditions (as indicated in the "Indications and Limitations of Coverage and/or Medical Necessity" section of this policy) for the PET scan performed has been met must be maintained by the referring physician in the beneficiary's medical record. PET scan facilities must keep patient record information on file for each Medicare patient for whom such a PET scan claim is made. The medical record must include standard information (e.g., age, sex, and height) along with any annotations regarding body size or type that indicates the need for a PET scan to determine the patient's condition. Documentation for PET scans for myocardial perfusion imaging or for myocardial viability that were performed following a SPECT should address the inconclusive nature of the SPECT by describing if the results were equivocal, technically uninterpretable, or discordant with the patient's other clinical data in the beneficiary's file. Documentation containing medical necessity of procedures in addition to testing results such as images and reports must be maintained. Medical necessity for each service reported must be clearly demonstrated in the patient's medical record. When billing for the purchase of radiopharmaceutical(s), the dosage administered, unit price per dose, name and total charge of the radioactive drug must be documented in the file.

Utilization Guidelines

It is expected that these services would be performed as indicated by current medical literature and/or standards of practice. When services are performed in excess of established parameters they may be subject to review for medical necessity.

Reimbursement of cardiovascular stress testing (93015-93018) which exceeds the frequency or duration indicated by the accepted standards of medical practice are not covered unless there are special circumstances which justify additional cardiovascular stress testing. The routine and repetitive monitoring of such patients beyond the first cardiac stress test, in the absence of a documented change in condition (i.e. new symptoms or progression of existing symptoms) is not considered medically necessary.

Frequency is considered excessive when services are performed more often than generally accepted by peers, and the reason for additional services is not justified in the documentation. Each patient's condition and response to treatment must medically warrant the number of services reported for payment. There must be medical necessity for each service reported to be clearly demonstrated in the patient's medical record. Repetitive frequent PET for myocardial perfusion imaging or myocardial viability at a frequency greater than one per year is not reasonable and necessary in the absence of a documented change in condition (i.e., new symptoms or progression of existing symptoms). It is expected that patients will not routinely require the maximum allowable number of services.

Sources of Information

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Bibliography

N/A

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Revision History Information

Revision History Date	Revision History Number	Revision History Explanation	Reason(s) for Change
11/09/2017	R6	Revision Number: 4 Publication: November 2017 Connection LCR A/B2017-044 Explanation of Revision: Based on a reconsideration request, the LCD was revised to remove additional prerequisite language for cardiac PET that was added to the NCD indication. In addition, italics were removed from language italicized in error. The effective date of this revision is based on date of service.	• Reconsideration Request
10/01/2017	R5	**Revision Number: 3** Publication: September 2017 Connection LCR A/B2017-038	• Revisions Due To ICD-10-CM Code Changes

Revision History Date	Revision History Number	Revision History Explanation	Reason(s) for Change
		Explanation of Revision: Based on CR 10153 (Annual 2018 ICD-10-CM Update) the LCD was revised. Descriptor revised for ICD-10-CM diagnosis code I50.1. Added ICD-10-CM diagnosis code I21.9, I21.A1 – I21.A9 for procedure codes 93015, 93016, 93017, 93018. The effective date of this revision is based on date of service.	
		10/01/2017: At this time 21st Century Cures Act will apply to new and revised LCDs that restrict coverage which requires comment and notice. This revision is not a restriction to the coverage determination and therefore not all the fields included on the LCD are applicable as noted in this policy. Revision History Number: R2 Revision Number: 2 Publication: April 2017 Connection LCR A/B2017-009	
03/23/2017	R4	Explanation of revision: LCD was revised to add ICD-10 -CM diagnosis code Z01.810 in the "ICD-10 Codes that Support Medical Necessity" section of the LCD for CPT codes 78451, 78452, 78453 and 78454. The effective date of this revision is for claims processed on or after 03/23/2017, for dates of service on or after 10/01/15.	• Reconsideration Request
10/01/2015	R3	10/28/15- Added ICD-10 codes; I05.0- I05.9, I06.0- I06.9, I07.0- I07.9, I08.0- I08.9, I09.1 ,I09.81 , I09.89 ,I09.9 ,I35.0- I35.9, I36.0- I36.9,I37.0- I37.9	• Other (Added ICD-10 codes; I05.0- I05.9, I06.0- I06.9, I07.0- I07.9, I08.0- I08.9, I09.1 ,I09.81 , I09.89 ,I09.9 ,I35.0- I35.9, I36.0- I36.9,I37.0- I37.9.)
10/01/2015	R2	7/28/19- Paragraph information added to ICD-10 code group four.	• Provider Education/Guidance
10/01/2015	R1	2/17/15 - The language and/or ICD-10-CM diagnoses were updated to be consistent with the current ICD-9-CM LCD's language and coding.	• Provider Education/Guidance

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Associated Documents

Attachments Comment Summary (PDF - 151 KB)

Related Local Coverage Documents Article(s) A55789 - Cardiology— non-emergent outpatient testing: exercise stress test, stress echo, MPI SPECT, and cardiac PET revision to the Part A and B LCD

Related National Coverage Documents N/A

Public Version(s) Updated on 11/03/2017 with effective dates 11/09/2017 - N/A Updated on 09/22/2017 with effective dates 10/01/2017 - 11/08/2017 Updated on 03/23/2017 with effective dates 03/23/2017 - 09/30/2017 Updated on 10/28/2015 with effective dates 10/01/2015 - 03/22/2017 Updated on 07/28/2015 with effective dates 10/01/2015 - N/A Updated on 07/17/2015 with effective dates 10/01/2015 - N/A Updated on 07/17/2015 with effective dates 10/01/2015 - N/A Back to Top

Keywords

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