

# Local Coverage Determination (LCD): Cardiology Non-emergent Outpatient Stress Testing (L38396)

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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

## LCD Information

### Document Information

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**LCD Title**

Cardiology Non-emergent Outpatient Stress Testing

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## **CMS National Coverage Policy**

This LCD supplements but does not replace, modify or supersede existing Medicare applicable National Coverage Determinations (NCDs) or payment policy rules and regulations for Cardiology Non-emergent Outpatient Stress Testing. Federal statute and subsequent Medicare regulations regarding provision and payment for medical services are lengthy. They are not repeated in this LCD. Neither Medicare payment policy rules nor this LCD replace, modify or supersede applicable state statutes regarding medical practice or other health practice professions acts, definitions and/or scopes of practice. All providers who report services for Medicare payment must fully understand and follow all existing laws, regulations and rules for Medicare payment for Cardiology Non-emergent Outpatient Stress Testing and must properly submit only valid claims for them. Please review and understand them and apply the medical necessity provisions in the policy within the context of the manual rules. Relevant CMS manual instructions and policies may be found in the following Internet-Only Manuals (IOMs) published on the CMS Web site.

### **Internet Only Manual (IOM) Citations:**

- CMS IOM Publication 100-02, *Medicare Benefit Policy Manual*,
  - Chapter 6, Section 20.4 Outpatient Diagnostic Services, 20.4.1 Diagnostic Services Defined
  - Chapter 15, Section 50 Drugs and Biologicals, Section 80 Requirements for Diagnostic X-Ray, Diagnostic Laboratory, and Other Diagnostic Tests
- CMS IOM Publication 100-03, *Medicare National Coverage Determinations (NCD) Manual*,
  - Chapter 1, Part 4, Section 220.12 Single Photon Emission Computed Tomography (SPECT), Section 220.2 Magnetic Resonance Imaging, Section 220.3 Magnetic Resonance Angiography, Section 220.5 Ultrasound Diagnostic Procedures, Section 220.6 Positron Emission Tomography (PET) Scans, Section 220.6.1 PET for Perfusion of the Heart, Section 220.6.8 FDG PET for Myocardial Viability
- CMS IOM Publication 100-04, *Medicare Claims Processing Manual*,
  - Chapter 13, Section 40 Magnetic Resonance Imaging (MRI) Procedures, Section 50 Nuclear Medicine (CPT 78000 - 79999), Section 60.11 Coverage for PET scans for Perfusion of the Heart Using Ammonia N-13, Section 60.2.1 Coverage for Myocardial Viability, Section 60.3.2 Tracer Codes Required for

Positron Emission Tomography (PET) Scans, Section 60.4 PET Scans for Imaging of the Perfusion of the Heart Using Rubidium 82 (Rb 82), Section 60.9 Coverage of PET Scans for Myocardial Viability

- CMS IOM Publication 100-08, *Medicare Program Integrity Manual*,
  - Chapter 13, Section 13.5.4 Reasonable and Necessary Provisions in LCDs

### **Social Security Act (Title XVIII):**

- Title XVIII of the Social Security Act, Section 1833(e) states that no payment shall be made to any provider for any claim that lacks the necessary information to process the claim.
- Title XVIII of the Social Security Act, Section §1834(e)(1)(B). Claims for the technical component of advanced diagnostic imaging services.
- Title XVIII of the Social Security Act, Section 1861(r)(1) defines "physician" (a doctor of medicine or osteopathy legally authorized to practice medicine and surgery by the State in which he performs such function or action).
- Title XVIII of the Social Security Act, Section 1861(s)(3) diagnostic tests covered under the Social Security Act and payable under the physician fee schedule have to be performed under the supervision of an individual meeting the definition of a "physician".
- Title XVIII of the Social Security Act, Section 1862(a)(1)(A) states that no Medicare payment shall be made for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury.
- Title XVIII of the Social Security Act, Section 1862(a)(7). This section excludes routine physical examinations.

### **Code of Federal Regulations (CFR) References:**

- 42 CFR Section 410.32 Diagnostic x-ray tests, diagnostic laboratory tests, and other diagnostic tests: Conditions and Part 410.33 Independent diagnostic testing facility.

## **Coverage Guidance**

### **Coverage Indications, Limitations, and/or Medical Necessity**

Noninvasive testing in the outpatient setting to assess for coronary artery disease (CAD) and left ventricular (LV) dysfunction may be accomplished by utilizing conventional exercise stress testing without imaging or by utilizing exercise or pharmacologic stress testing with imaging.

Compliance with the provisions in this LCD may be monitored and addressed through post payment data analysis and subsequent medical review audits.

### **History/Background and/or General Information**

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.

In many instances, EST may be combined with imaging procedures, such as myocardial perfusion imaging (MPI), echocardiography, or other imaging procedures.

There are 3 principle types of stress tests which do not involve the measurement of radioactively-labelled molecules

distribution within the body. These include:

- An exercise stress test (EST), where the patient walks on a treadmill or similar device while being monitored to measure endurance with an end-point of symptoms or changes that suggest coronary under-perfusion on ECG. 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 (metabolic equivalents of task) or greater (e.g., able to perform light housework, able to climb one flight of stairs carrying a bag of groceries, able to walk on level ground at 4 miles/hour). An abnormal EST may include any one of the following: ST segment depression or elevation, development of chest pain, significant arrhythmia (e.g., ventricular tachycardia), or hypotension.
- The same measurement may be obtained with the substitution of echocardiography for a standard ECG. Echocardiography is used to image cardiac structures, function, and 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. Stress echocardiogram is a graphic outline of the heart's movement. A stress echocardiogram 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.
- Stress cardiac magnetic resonance imaging (CMR) provides details on left ventricular function, the presence of late gadolinium enhancement, and whether there is structural or valvular heart disease.<sup>1</sup>

Stress testing with an injection of Dobutamine, Dipyridamole, Adenosine, or Regadenoson 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.

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.

Single photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI) 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. In instances where an exercise test cannot be performed, Dipyridamole, Adenosine, Dobutamine, Regadenoson, or other provocative agents may be used to alter coronary flow, thereby unmasking a suspected lesion in the coronary bed. 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.

Cardiac positron emission tomography (PET) MPI 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 MPI offers certain advantages over standard of care SPECT MPI. Cardiac PET MPI 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 MPI 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.

Imaging of myocardial perfusion can also be combined with myocardial metabolism imaging with F-18 FDG 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.

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.

Types of stress testing with imaging addressed in this LCD include stress echocardiography, SPECT MPI, PET MPI, and cardiac magnetic resonance imaging (CMR). Stress testing with imaging can be performed with maximal exercise or chemical stress (Dipyridamole, Dobutamine, Adenosine, Regadenoson, or other provocative agents).<sup>2</sup>

Stress echocardiography, SPECT MPI, PET MPI and CMR are considered equivalent diagnostic tests. However, in addition to myocardial ischemia, stress echocardiography can provide 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) and multiple (at rest and stress) SPECT studies.

### **Pre-test probability of CAD:**

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): 1) Substernal chest pain or discomfort (possibly described as pressure, squeezing, burning or fullness) with characteristic quality and duration that is 2) provoked by exertion or emotional stress and 3) relieved by rest and/or nitroglycerin. May also have pain in the arms, neck, jaw, shoulder or back accompanying the chest pain.

Atypical angina (probable): Chest pain or discomfort 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 presents as otherwise unexplained symptoms (e.g., dyspnea, unusual fatigue, pain at a site other than the chest). It is more often seen in women and patients with diabetes mellitus 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:**<sup>3</sup>

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
60-69	Men	High	Intermediate	Intermediate	Low
	Women	High	Intermediate	Intermediate	Low

<sup>a</sup>Table adapted from Gibbons 2002 Guideline Update for Exercise Testing

**High:** Greater than 90% pre-test probability for CAD

**Intermediate:** Between 10% and 90% pre-test probability for CAD

**Low:** Between 5% and 10% pre-test probability for CAD

**Very Low:** Less than 5% pre-test probability for CAD

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

### Typical Angina:

Chest pain with all of the following characteristics:

- Substernal chest pain or discomfort with characteristic quality and duration that is provoked by exertion or emotional stress, and relieved by rest or nitroglycerin
- Men ages  $\leq 39$  years
- Women ages  $\leq 59$  years

### Atypical Angina:

- Chest pain that lacks one of the characteristics of typical angina
- Men all ages
- Women  $\geq 50$  years

### Non-Anginal Chest Pain:

- Chest pain that meets one or none of the typical angina characteristics
- Men ages  $\geq 40$  years
- Women ages  $\geq 60$  years

### **Covered Indications**

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

#### **Stress testing without cardiac imaging is medically reasonable and necessary for:**

1. Cardiac symptoms, including otherwise unexplained angina equivalent symptoms, in a patient with low pre-test probability for CAD with normal or minor changes in resting ECG and no contraindications to exercise.<sup>3,4,5,6,7,8</sup>
2. Cardiac symptoms, including otherwise unexplained angina equivalent symptoms, in a patient with intermediate pre-test probability for CAD with normal or minor changes in resting ECG and no contraindications to exercise.<sup>3,7,8</sup>
3. Cardiac symptoms, including otherwise unexplained angina equivalent symptoms, in a patient with diabetes mellitus with normal or minor changes in resting ECG and no contraindications to exercise.<sup>9</sup>
4. To determine functional capacity and response to therapy in patients with hypertrophic cardiomyopathy (HCM).<sup>10</sup>
5. Syncope (i.e., no prodromal symptoms, not near syncope) in patient with intermediate or high pre-test probability of CAD.<sup>4,6,8,11,12</sup>
6. Routine study  $> 2$  years after a PCI (stent) without cardiac symptoms and absent an evaluation for CAD within the past 2 years [stress echocardiogram, SPECT MPI, PET MPI, CMR, coronary computed tomography angiography (CCTA), cardiac catheterization].<sup>4,5,6,11,13,14</sup>
7. 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 echocardiogram, SPECT MPI, PET MPI, CMR, CCTA, cardiac catheterization].<sup>4,5,6,11,13</sup>
8. Established CAD in a patient who had an acute coronary syndrome (ACS) [ST segment elevation myocardial infarction (STEMI), Non-ST segment elevation myocardial infarction (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.<sup>4,6</sup>

9. Patients with disease conditions associated with CAD (e.g., atherosclerotic abdominal aortic aneurysm, peripheral vascular disease, carotid artery disease, chronic renal failure) and no documented evaluation was performed within the preceding 2 years.<sup>13</sup>
10. Pre-operative cardiac evaluation in patients undergoing noncardiac surgery with<sup>15</sup>:
  - Intermediate risk surgery (cardiac risk 1-5%), unknown functional capacity, and the results will affect patient management decisions
  - High risk surgery (> 5% cardiac risk), unknown functional capacity, and the results will affect patient management decisions

**Stress testing with cardiac imaging is medically reasonable and necessary for:**

1. New, recurrent, or worsening cardiac symptoms, including otherwise unexplained angina equivalent symptoms, **AND** any of the following:
  - Physical inability to perform a maximum exercise workload.<sup>2,3,4,6,7,8,11,16</sup>
  - New or previously unrecognized uninterpretable ECG.<sup>2,3,4,6,7,8</sup>
    - ECG is uninterpretable for ischemia due to any one of the following<sup>2,3,6,7,11,17</sup>:
      - 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
      - > 1 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)
      - Patient on digoxin therapy
  - A history of CAD based on a prior anatomic evaluation of the coronary arteries OR a history of CABG or PCI.<sup>4,6,11</sup>
  - Syncope (i.e., no prodromal symptoms, not near syncope) in patient with intermediate or high pre-test probability of CAD.<sup>4,6,8,11,12</sup>
  - Evidence or high suspicion of ventricular arrhythmias.<sup>4,5,6,8</sup>
  - 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.<sup>16,18</sup>
  - Patients with recent equivocal or borderline testing where ischemia remains a concern.<sup>6,11,16</sup>
  - 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.<sup>2,3</sup>
  - 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).<sup>6,18</sup>
  - Intermediate pre-test probability for CAD regardless of ECG interpretability and ability to exercise.<sup>5,6,8,11</sup>
  - High pre-test probability for CAD regardless of ECG interpretability and ability to exercise and a decision to perform cardiac catheterization or other angiography has not already been made.<sup>5,6,8,11</sup>
  - Patient with hypertrophic cardiomyopathy.<sup>10</sup>
2. Patients without clear cardiac symptoms in the presence of an elevated cardiac troponin.<sup>4,6</sup>
3. Routine study > 2 years after a PCI (stent) without cardiac symptoms and absent an evaluation for CAD within the past 2 years [stress echocardiogram, SPECT MPI, PET MPI, CMR, coronary computed tomography angiography (CCTA), cardiac catheterization].<sup>4,5,6,11,13,14</sup>
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 echocardiogram, SPECT MPI, PET MPI, CMR, CCTA, cardiac catheterization].<sup>4,5,6,11,13</sup>



5. Patients with recently demonstrated coronary stenosis of uncertain functional significance in a major coronary branch on an anatomic imaging study (coronary angiogram or CCTA) can have one stress test with imaging.<sup>4,5,6</sup>
6. Established CAD in a patient who had an acute coronary syndrome (ACS) [ST segment elevation myocardial infarction (STEMI), Non-ST segment elevation myocardial infarction (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.<sup>4,6</sup>
7. Evaluating new, recurrent, or worsening left ventricular dysfunction/congestive heart failure.<sup>4,5,6,8</sup>
8. 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.<sup>4,5,6,7,11</sup>
9. Pre-operative cardiac evaluation in patients undergoing noncardiac surgery with<sup>4,5,6,11,13,15</sup>:
  - Intermediate risk surgery (cardiac risk 1-5%), poor (<4 METs) or unknown functional capacity, inability to exercise adequately or ECG uninterpretable for ischemia, and the results will affect patient management decisions
  - High risk surgery (> 5% cardiac risk), poor (<4 METs) or unknown functional capacity, inability to exercise adequately or ECG uninterpretable for ischemia, and the results will affect patient management decisions
10. Asymptomatic patients with coronary calcium Agatston score >400.<sup>4,5,6,13</sup>
11. Planned cardiac or other solid-organ transplant if no cardiac evaluation has been performed within the past year.<sup>8,19</sup>
12. Patients to be treated with interleukin 2 products for various malignant disorders.<sup>20</sup> The FDA has issued a black box warning for interleukin 2 products. See the FDA drug label for the FDA black box warning.  
<https://labels.fda.gov/>
13. Patients with disease conditions associated with CAD (e.g., atherosclerotic abdominal aortic aneurysm, peripheral vascular disease, carotid artery disease, chronic renal failure) and no documented evaluation was performed within the preceding 2 years.<sup>13</sup>
14. Stress echocardiography is considered reasonable and necessary for the evaluation of moderate to severe valvular heart disease, suspected pulmonary artery hypertension, and re-evaluation of exercise-induced pulmonary hypertension to evaluate response to therapy.<sup>4,21</sup>
15. PET MPI is considered reasonable and necessary 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). Examples of patients who are unable to undergo MRI include, but are not limited to, patients with metal implants.<sup>7,11,22,23</sup>
16. Stress echocardiography is considered reasonable and necessary for the detection and quantification of dynamic left ventricular outflow tract (LVOT) obstruction in the absence of resting LVOT in patients with hypertrophic cardiomyopathy (HCM).<sup>10</sup>
17. Routine study for patients with a history of organ transplantation.<sup>24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37</sup>

## Limitations

1. Screening for coronary artery disease in asymptomatic patients is not considered reasonable and necessary. The presence of risk factors for CAD, absent disease activity, is not a Medicare covered indication for noninvasive testing.
2. Selection of testing should be based on the individual patient's medical condition. Pretest probability is based on age, gender, symptoms, and cardiac risk factors. Cardiovascular stress testing may be performed in conjunction with additional cardiac diagnostic tests including echocardiography and nuclear cardiac imaging. 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 (e.g.,

- echocardiography), the medical necessity of repeating this assessment through the use of nuclear imaging modalities must be clearly documented in the medical record. 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 (e.g., new symptoms or progression of existing symptoms), is not considered medically necessary.
3. In asymptomatic patients with diabetes mellitus, routine screening for CAD is not reasonable and necessary.<sup>9</sup>
  4. In asymptomatic patients with abnormal prior stress imaging, routine stress testing is not reasonable and necessary.<sup>4,6,8</sup>
  5. In asymptomatic patients with obstructive or nonobstructive CAD without a revascularization procedure, routine stress testing is not reasonable and necessary.<sup>4,6,8</sup>
  6. SPECT MPI, PET MPI, stress echocardiography, and CMR are not covered in patients with low pretest probability, interpretable ECG, and the ability to exercise.<sup>4,5,6,7</sup>
  7. Stress testing with or without imaging is not covered for pre-operative evaluation for low risk noncardiac surgery.<sup>4,5,6,15</sup>
  8. SPECT MPI, PET MPI, stress echocardiography, and CMR are not covered for the pre-operative evaluation of planned intermediate or high risk, noncardiac surgery, in the patient with normal or minor changes in resting ECG and no contraindications to exercise.<sup>4,5,6,13,15</sup>
  9. Stress testing with or without imaging is not covered for pre-operative evaluation of asymptomatic patients undergoing intermediate or high risk noncardiac surgery up to 1 year following a normal stress echocardiography, SPECT MPI, PET MPI, CMR, coronary computed tomography angiography (CCTA), or cardiac catheterization.<sup>5,8,15</sup>
  10. Exercise stress testing is contraindicated within 2 to 4 days of an acute myocardial infarction, with high-risk unstable angina, uncontrolled cardiac arrhythmias causing symptoms or hemodynamic compromise, systolic blood pressure at rest >200mmHg or diastolic blood pressure at rest >110mmHg, symptomatic severe aortic stenosis, decompensated or inadequately controlled congestive heart failure, acute pulmonary embolism or pulmonary infarct, acute myocarditis or pericarditis, severe pulmonary hypertension, acute symptomatic medical illness, and acute aortic dissection.<sup>2,3</sup>
  11. Neither exercise testing nor radiologic imaging is indicated in the initial months after PCI without specific symptoms (e.g., chest pain, ECG changes, etc.).<sup>6,13,14</sup>
  12. Cardiovascular stress testing with or without cardiac imaging is 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, it is not medically reasonable and necessary to perform cardiovascular stress testing with or without cardiac imaging.
  13. The PET MPI is performed in place of, but not in addition to a SPECT MPI except a PET MPI may be performed following an inconclusive SPECT MPI. However, a SPECT MPI may not be used following an inconclusive PET MPI. Please refer to CMS IOM Publication 100-03, *Medicare National Coverage Determinations (NCDs)*, Chapter 1, Part 4, Section 220.6.8 FDG PET for Myocardial Viability.
  14. The rationale for selecting pharmacologic stress testing rather than exercise stress testing must be documented in the medical record.
  15. Exceeding the cardiovascular stress testing frequency indicated by the accepted standards of medical practice is not reasonable and necessary except when there are special circumstances which justify more frequent cardiovascular stress testing. The routine and repetitive monitoring of 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.

As published in the CMS IOM Publication 100-08, *Medicare Program Integrity Manual*, Chapter 13, Section 13.5.4, an item or service may be covered by a contractor LCD if it is reasonable and necessary under the Social Security Act Section 1862 (a)(1)(A). Contractors shall determine and describe the circumstances under which the item or service is considered reasonable and necessary.

## Provider Qualifications

The CMS IOM, Publication 100-08, *Medicare Program Integrity Manual*, Chapter 13, Section 13.5.4, outlines that reasonable and necessary services are ordered and 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.

Exercise testing must be supervised by a physician appropriately trained in exercise testing, capable of recognizing symptoms and signs of cardiac disease and be capable of interpreting the exercise test findings. Exercise testing in selected patients can be conducted by a healthcare professional that has training in a related health area, has appropriate training in the supervision of exercise stress tests, and is capable of performing cardio-pulmonary resuscitation. The appropriately trained healthcare professional should work directly under the supervision of a physician, who must be in the immediate vicinity and available for emergencies.<sup>38</sup> In addition, all cardiovascular imaging studies must be performed under the general supervision of a physician. Please refer to CMS IOM Publication 100-02, *Medicare Benefit Policy Manual*, Chapter 15, Section 80 for the description and requirements for general and direct supervision.

## Summary of Evidence

Multiple guidelines and appropriate use criteria are available for cardiovascular stress testing without and with cardiac imaging. The 2002 Guideline Update for Exercise Testing<sup>3</sup> is a meta-analysis with recommendations regarding the appropriate use of testing in the diagnosis and treatment of patients with known or suspected CAD. Absolute and relative contraindications to exercise testing are addressed by Henzlova and Gibbons.<sup>2,3</sup> 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 provokable ischemia is reduced.<sup>2,3</sup>

The pretest probability of CAD is based on age, gender, and symptoms.<sup>3</sup> The pretest probability is used to determine if cardiovascular stress testing is appropriate and whether cardiac imaging is also appropriate.<sup>3,4,5,6,7,8,11</sup> Multiple articles<sup>2,3,6,7,11,17</sup> address the confounders of stress ECG interpretation include resting ST-segment depression, left ventricular hypertrophy with repolarization abnormalities, left bundle branch block, various medications, pre-excitation pattern such as Wolff-Parkinson-White, and ventricular paced rhythm.

The review of the American Diabetes Association standards of medical care in diabetes 2018 states<sup>9</sup> routine screening for CAD in asymptomatic patients is not recommended as it does not improve outcomes as long as atherosclerotic cardiovascular disease risk factors are treated. Screening is not recommended in part because high risk patients should already be receiving intensive medical therapy-an approach that provides benefit similar to that of invasive revascularization. The review states to consider investigations for CAD in the presence of atypical symptoms, signs and symptoms of associated vascular disease, or electrocardiogram abnormalities.

The guideline for the diagnosis and treatment of hypertrophic cardiomyopathy<sup>10</sup> addresses the use of stress echocardiography for the detection of dynamic LVOT obstruction, the use of treadmill stress testing to determine

functional capacity and response to therapy, and the use of MPI in patients with chest discomfort to evaluate for concomitant CAD.

The guideline for the evaluation and management of patients with syncope<sup>12</sup> recommends routine cardiac imaging is not useful unless cardiac etiology is suspected on the basis of an initial evaluation, including history, physical examination, or ECG.

The guideline on perioperative cardiovascular evaluation and management of patients undergoing noncardiac surgery<sup>15</sup> states perioperative cardiac and long-term risks are increased in patients who are unable to perform 4 METs of work during daily activities. Perioperative myocardial ischemia and cardiovascular events were more common in those with poor functional status. Patients undergoing low-risk noncardiac surgery and patients undergoing elevated risk noncardiac surgery with moderate or greater functional capacity do not require cardiovascular stress testing. For patients undergoing elevated risk noncardiac surgery with unknown or poor (<4 METs) functional capacity and further testing will impact decision making or perioperative care, it may be reasonable to perform cardiovascular stress testing.

The Shah<sup>14</sup> study assessed the relationship between rates of diagnostic testing for CAD after PCI and the incidence of repeat revascularization, acute myocardial infarction, and death in a national patient cohort. The study method linked CMS inpatient and outpatient claims to National Cardiovascular Data Registry CathPCI data from 2005 to 2007. The study found that there was marked variation in use of subsequent cardiovascular testing that was not fully explained by differences in patient and hospital characteristics. Increased testing after PCI was associated with a clear increase in repeat revascularization. However, the variation in testing and revascularization did not result in decreased acute myocardial infarction or mortality. The use of repeat revascularization with CABG was constant across testing quartiles, but repeat PCI was increased with increased site testing. Increased testing after PCI was not associated with lower rates of death or acute myocardial infarction.

The Taqueti<sup>7</sup> article is a consensus statement regarding MPI in women. In women, SPECT MPI is highly accurate to diagnose flow-limiting CAD and to stratify risk of ischemic heart disease events. A strength of SPECT is the availability of robust software programs for the interpretation of MPI. Women have a smaller heart size than men and a higher left ventricular ejection fraction (LVEF). Women may have higher normal limits of transient ischemic dilation ratio compared to men. Using sex-based normal limits and software interpretation, diagnostic accuracy for detection of obstructive CAD was high without significant sex differences in a multicenter study of SPECT MPI. Attenuation correction represents an important consideration to improve the specificity and normalcy rates, particularly in women with high likelihood of attenuation from breast tissue and/or high body mass indices (BMIs).

Unique sex differences in the development of atherosclerosis and obstructive CAD may underlie some observed differences in test performance between women and men. There is increasing recognition that coronary microvascular dysfunction (CMD) with or without epicardial CAD is prevalent in women. In this setting, SPECT MPI may have lower apparent specificity for women especially when obstructive epicardial CAD is used as the reference standard for diagnostic accuracy of MPI.

Exercise stress is preferred over pharmacological stress for SPECT MPI in women. Among women, exercise induced ST depression in the absence of CAD has been described in relation to changes in estrogen levels or from hormone therapy. In a study of 2,994 asymptomatic women, measures of reduced functional capacity rather than ischemic ST depression provided prognostic value. Results of the multicenter randomized WOMEN trial indicated no advantage of exercise stress testing with MPI over exercise stress testing alone in low-intermediate pre-test risk women able to exercise. In women with intermediate-high pretest risk, the diagnostic accuracy to detect obstructive CAD was greater for exercise stress testing with SPECT MPI.

Among men and women with normal adenosine SPECT MPI, women more frequently manifested ischemic ECG changes. Despite a normal adenosine SPECT MPI, rates of CAD death and nonfatal myocardial infarction were higher in women with ischemic ECG changes.

PET MPI offers distinct advantages in evaluation of myocardial ischemia in women including improved diagnostic accuracy, low radiation exposure, and the ability to quantify myocardial blood flow and coronary flow reserve to diagnose ischemia, even in the absence of obstructive CAD. For symptomatic intermediate risk women who are capable of exercising and have an interpretable resting ECG, exercise stress testing remains the recommended initial diagnostic test. PET MPI has an excellent diagnostic performance for the detection of CAD. Relative to SPECT MPI and stress echocardiography, PET MPI provides images of high diagnostic quality and improved diagnostic accuracy. Several technical advantages account for the enhanced diagnostic ability of PET, including routine measured attenuation correction which decreases false positives, high spatial and contrast resolution which allows detection of small perfusion defects thereby decreasing false negatives, the use of short-lived radiopharmaceuticals, and high temporal resolution which makes possible the absolute quantification of myocardial perfusion. In women, these advantages may be especially relevant given the risk of false positives due to attenuation from breast or general adipose tissue in those with high BMIs, the risk of false negatives due to partial volume effects which are amplified in small left ventricles, the need to minimize exposure to radiation, and a high prevalence of nonobstructive CAD and CMD which are increasingly recognized to be associated with significant cardiovascular morbidity and mortality.

Growing data support that the pathophysiology of CAD in women may vary as compared to men. Although women frequently have less anatomical obstructive CAD, this does not translate into fewer ischemic heart disease events. A major contributor may be vascular dysfunction in the form of abnormal coronary reactivity due to diffuse endothelial dysfunction and plaque erosion.

The Lipinski<sup>1</sup> article was a meta-analysis which showed that stress CMR provided excellent prognostic stratification of patients with known or suspected CAD. Patients with a negative stress CMR had a <1% annualized event rate for cardiovascular death or nonfatal myocardial infarction. Patients with a positive stress CMR had a 5% annualized event rate. The presence of late gadolinium enhancement (LGE) during CMR suggested an increased risk for major adverse cardiovascular events. This imaging modality not only provides assessment of ischemia and identify LGE, but can also identify valvular heart disease and assess cardiac structure and function. Stress CMR seems to be comparable to other stress testing modalities.

The appropriate use criteria for echocardiography<sup>4</sup> is a meta-analysis that addresses appropriate use of transthoracic echocardiography, transesophageal echocardiography, stress echocardiography. The article addresses appropriate use of stress echocardiography for patients with known or suspected CAD who are symptomatic or asymptomatic. Stress echocardiography is also used to assess chronic valvular disease and pulmonary hypertension.

Multiple articles address MPI using SPECT or PET.<sup>2,5,6,7,11,13,16,19,22,23</sup> The articles address appropriate use of stress MPI for patients with known or suspected CAD who are symptomatic or asymptomatic. Per the Ramirez<sup>22</sup> and Sgard<sup>23</sup> articles, F-18 FDG PET MPI is also indicated to diagnose cardiac sarcoidosis in patients who are unable to undergo MRI.

Multiple articles address the increased risk for premature cardiovascular disease following organ transplantation.<sup>24, 25, 26, 27, 28, 29, 30, 31, 32</sup> There are unique factors in organ transplant recipients that include underlying comorbidities and metabolic effects of immunosuppression.<sup>24</sup> The Ducloux study demonstrates the cumulative impacts of traditional and nontraditional cardiovascular risk factors in renal transplant recipients.<sup>25</sup> According to the Gamba article, cyclosporine, regardless of the blood cyclosporine levels, is the main risk factor for coronary artery disease.<sup>26</sup> Tepperman et.al. noted that although immunosuppressive agents are sufficient to minimize allograft rejection and promote short-term survival after transplantation, a major limitation to longer-term survival is the

development of allograft vasculopathy.<sup>27</sup> Central to development of allograft vasculopathy is endothelial damage and subsequent dysfunction. The factors contributing to endothelial dysfunction include organ preservation solutions, ischemia and reperfusion injury, acute allograft rejection episodes, dyslipidemia, hypertension, diabetes mellitus, and the use of immunosuppressive drugs. Many of the currently used immunosuppressants cause endothelial dysfunction after transplantation. The Kazmirczak article found that Regadenoson stress cardiovascular magnetic resonance (CMR) imaging is safe and well tolerated in heart transplant recipients.<sup>33</sup> An abnormal Regadenoson stress CMR identifies heart transplant recipients at a higher risk for major adverse cardiovascular events. Abuzeid et.al. found that among renal transplant recipients, SPECT-MPI predicted risk of cardiovascular death and cardiovascular hospitalization events.<sup>34</sup> The Sade article concluded that echocardiographic coronary flow reserve is very sensitive for detecting cardiac allograft vasculopathy and increases the diagnostic accuracy of dobutamine stress echocardiography in heart transplant recipients.<sup>36</sup> Elhendy et.al. found dobutamine stress myocardial perfusion imaging is a safe and feasible method for evaluation of coronary artery disease in heart transplant recipients.<sup>37</sup>

## **Analysis of Evidence (Rationale for Determination)**

Multiple guidelines and appropriate use criteria are available for cardiovascular stress testing without and with cardiac imaging. They are meta-analyses of available literature with recommendations regarding the appropriate use of testing in the diagnosis and treatment of symptomatic or asymptomatic patients with known or suspected CAD. Stress echocardiography has additional indications for moderate to severe valvular heart disease, suspected pulmonary artery hypertension, re-evaluation of exercise-induced pulmonary hypertension to evaluate response to therapy, and the detection and quantification of dynamic left ventricular outflow tract (LVOT) obstruction in the absence of resting LVOT in patients with HCM. The F-18 FDG PET MPI has an additional indication for the diagnosis of cardiac sarcoidosis in patients who are unable to undergo MRI.

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# **General Information**

## **Associated Information**

### **Documentation Requirements**

Please refer to the Local Coverage Article: Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing (A56952) for documentation requirements that apply to the reasonable and necessary provisions outlined in this LCD.

### **Utilization Guidelines**

Please refer to the Local Coverage Article: Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing (A56952) for utilization guidelines that apply to the reasonable and necessary provisions outlined in this LCD.

### **Sources of Information**

First Coast Service Options, Inc. L36209 Cardiology – non-emergent outpatient testing: exercise stress test, stress echo, MPI SPECT, and cardiac PET

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## Revision History Information

N/A

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## Associated Documents

### Attachments

N/A

### Related Local Coverage Documents

Article(s)

A56952 - Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing

A57960 - Cardiology non-emergent outpatient stress testing – new Part A and Part B LCD

A57958 - Response to Comments: Cardiology Non-emergent Outpatient Stress Testing

### Related National Coverage Documents

N/A

### Public Version(s)

Updated on 01/24/2020 with effective dates 03/15/2020 - N/A

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## Keywords

N/A

# Local Coverage Article: Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing (A56952)

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## Note Posted on MCD: 1/30/2020

The Original Effective Date, and the Revision Effective Date for the article A56952 Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing is corrected to read 03/15/2020.

## 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

## Article Information

### General Information

**Article ID**

A56952

**Original Effective Date**

03/16/2020

**Article Title**

Billing and Coding: Cardiology Non-emergent Outpatient  
Stress Testing

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03/16/2020

**Article Type**

Billing and Coding

**Revision Ending Date**

N/A

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Statement**

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**Retirement Date**

N/A

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## **CMS National Coverage Policy**

N/A

## **Article Guidance**

### **Article Text:**

This Billing and Coding Article for Local Coverage Determination (LCD) L38396 Cardiology Non-emergent Outpatient Stress Testing provides billing and coding guidance for diagnosis limitations that support diagnosis to procedure code automated denials. However, services performed for any given diagnosis must meet all of the indications and limitations stated in the LCD, the general requirements for medical necessity as stated in CMS payment policy manuals, any and all existing CMS national coverage determinations, and all Medicare payment rules.

Refer to the LCD for reasonable and necessary requirements and limitations.

The redetermination process may be utilized for consideration of services performed outside of the reasonable and necessary requirements in the LCD.

## **Coding Guidelines**

For ICD-10-CM codes I12.0, I13.11, and I13.2, use an additional ICD-10-CM code N18.5 or N18.6 to identify the stage of chronic kidney disease. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

For ICD-10-CM codes I12.9, I13.0, and I13.10, use an additional ICD-10-CM code N18.1, N18.2, N18.3, or N18.4 to identify the stage of chronic kidney disease. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

For ICD-10-CM codes I09.81, I11.0, I13.0 and I13.2, use an additional ICD-10-CM code I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, or I50.89 to identify type of heart failure. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

For ICD-10-CM code I25.10, use an additional ICD-10-CM code Z95.1, Z95.5, or Z98.61 to indicate post PCI or post CABG status. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

Use ICD-10-CM code R79.89 for an elevated cardiac troponin. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

Use ICD-10-CM code R93.1 for recently demonstrated coronary stenosis of uncertain functional significance on a coronary angiogram or CCTA and for coronary calcium Agatston score >400. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

For ICD-10-CM code Z79.899, use an additional ICD-10-CM code T45.1X1A, T45.1X1D, T45.1X1S, T45.1X2A, T45.1X2D, T45.1X2S, T45.1X3A, T45.1X3D, T45.1X3S, T45.1X4A, T45.1X4D, T45.1X4S, T45.1X5A, T45.1X5D, or T45.1X5S to indicate the patient is being treated with an interleukin 2 product. This applies to all CPT codes in Group 1, 2, 3, 4, and 5.

Use ICD-10-CM code I09.89 for rheumatic disease of the pulmonary valve. This applies to Group 2 CPT codes 93350, 93351, and 93352.

Use ICD-10-CM code I49.8 for Brugada Syndrome. This applies to all CPT codes in Group 2, 3, 4, and 5.

Use ICD-10-CM code R94.31 for > 1 mm ST segment depression or LVH with repolarization abnormalities. This applies to all CPT codes in Group 2, 3, 4, and 5.

Use ICD-10-CM code R94.39 when an abnormal or non-diagnostic stress test is the reason cardiac imaging is being performed. This applies to all CPT codes in Group 2, 3, 4, and 5.

Use ICD-10-CM code Z79.899 with an appropriate ICD-10-CM Poisoning by, adverse effects of and underdosing of drugs, medicaments and biological substances (T36-T50) for imaging indications digoxin, beta blocker, calcium channel blocker and/or other antiarrhythmic medication therapy. This applies to all CPT codes in Group 2, 3, 4, and 5.

The billing for the evaluation for cardiac sarcoidosis requires dual diagnoses. Use ICD-10-CM code I43 with an appropriate ICD-10-CM code D86.0, D86.1, D86.2, D86.3, D86.81, D86.82, D86.83, D86.84, D86.85, D86.86, or D86.87. The claim must be submitted with CPT code, 78429, 78432, 78433 or 78459.

Use CPT code 78434 in conjunction with CPT code 78431 or 78492.

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.

**Notice:** It is not appropriate to bill Medicare for services that are not covered (as described by the entire LCD) as if they are covered. When billing for non-covered services, use the appropriate modifier.

### Documentation Requirements

1. All documentation must be maintained in the patient's medical record and made available to the contractor upon request.
2. Every page of the record must be legible and include appropriate patient identification information (e.g., complete name, dates of service[s]). The documentation must include the legible signature of the physician or non-physician practitioner responsible for and providing the care to the patient.
3. The submitted medical record must support the use of the selected ICD-10-CM code(s). The submitted CPT/HCPCS code must describe the service performed.
4. 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 ordering 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. Documentation must be maintained by the referring physician in the beneficiary's medical record that the required conditions (as indicated in the "Coverage Indications, Limitations and/or Medical Necessity" section of the LCD) for the stress test performed have been met.

### Utilization Guidelines

In accordance with CMS Ruling 95-1 (V), utilization of these services should be consistent with locally acceptable standards of practice.

Compliance with the provisions in LCD L38396, Cardiology Non-emergent Outpatient Stress Testing may be monitored and addressed through post payment data analysis and subsequent medical review audits.

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## Coding Information

### CPT/HCPCS Codes

#### Group 1 Paragraph:

Cardiovascular stress test; exercise and/or pharmacological stress

#### Group 1 Codes:

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

CODE	DESCRIPTION
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:**

Echocardiography rest and stress

**Group 2 Codes:**

CODE	DESCRIPTION
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:**

Myocardial perfusion imaging, single photon emission computed tomography (MPI, SPECT) rest and/or stress

**Group 3 Codes:**

CODE	DESCRIPTION
78451	MYOCARDIAL PERFUSION IMAGING, TOMOGRAPHIC (SPECT) (INCLUDING ATTENUATION CORRECTION, QUALITATIVE OR QUANTITATIVE WALL MOTION, EJECTION FRACTION BY FIRST PASS OR GATED TECHNIQUE, ADDITIONAL

CODE	DESCRIPTION
	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:**

Myocardial imaging, positron emission tomography (PET)

**Group 4 Codes:**

CODE	DESCRIPTION
78429	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), METABOLIC EVALUATION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED), SINGLE STUDY; WITH CONCURRENTLY ACQUIRED COMPUTED TOMOGRAPHY TRANSMISSION SCAN
78430	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), PERFUSION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED); SINGLE STUDY, AT REST OR STRESS (EXERCISE OR PHARMACOLOGIC), WITH CONCURRENTLY ACQUIRED COMPUTED TOMOGRAPHY TRANSMISSION SCAN
78431	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), PERFUSION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED); MULTIPLE STUDIES AT REST AND STRESS (EXERCISE OR PHARMACOLOGIC), WITH CONCURRENTLY ACQUIRED COMPUTED TOMOGRAPHY TRANSMISSION SCAN
78432	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), COMBINED PERFUSION WITH METABOLIC EVALUATION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED), DUAL RADIOTRACER (EG, MYOCARDIAL VIABILITY);



CODE	DESCRIPTION
78433	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), COMBINED PERFUSION WITH METABOLIC EVALUATION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED), DUAL RADIOTRACER (EG, MYOCARDIAL VIABILITY); WITH CONCURRENTLY ACQUIRED COMPUTED TOMOGRAPHY TRANSMISSION SCAN
78434	ABSOLUTE QUANTITATION OF MYOCARDIAL BLOOD FLOW (AQMBF), POSITRON EMISSION TOMOGRAPHY (PET), REST AND PHARMACOLOGIC STRESS (LIST SEPARATELY IN ADDITION TO CODE FOR PRIMARY PROCEDURE)
78459	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), METABOLIC EVALUATION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED), SINGLE STUDY;
78491	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), PERFUSION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED); SINGLE STUDY, AT REST OR STRESS (EXERCISE OR PHARMACOLOGIC)
78492	MYOCARDIAL IMAGING, POSITRON EMISSION TOMOGRAPHY (PET), PERFUSION STUDY (INCLUDING VENTRICULAR WALL MOTION[S] AND/OR EJECTION FRACTION[S], WHEN PERFORMED); MULTIPLE STUDIES AT REST AND STRESS (EXERCISE OR PHARMACOLOGIC)

**Group 5 Paragraph:**

Cardiac magnetic resonance imaging with stress imaging

**Group 5 Codes:**

CODE	DESCRIPTION
75559	CARDIAC MAGNETIC RESONANCE IMAGING FOR MORPHOLOGY AND FUNCTION WITHOUT CONTRAST MATERIAL; WITH STRESS IMAGING
75563	CARDIAC MAGNETIC RESONANCE IMAGING FOR MORPHOLOGY AND FUNCTION WITHOUT CONTRAST MATERIAL(S), FOLLOWED BY CONTRAST MATERIAL(S) AND FURTHER SEQUENCES; WITH STRESS IMAGING

**CPT/HCPCS Modifiers**

N/A

**ICD-10 Codes that Support Medical Necessity**

**Group 1 Paragraph:**

The following ICD-10-CM codes support medical necessity and provide limited coverage for CPT codes: **93015, 93016, 93017, and 93018**

It is the provider's responsibility to select codes carried out to the highest level of specificity and selected from the ICD-10-CM code book appropriate to the year in which the service is rendered for the claim(s) submitted.

**Group 1 Codes:**

ICD-10 CODE	DESCRIPTION
I09.81*	Rheumatic heart failure
I11.0*	Hypertensive heart disease with heart failure
I11.9	Hypertensive heart disease without heart failure
I12.0*	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9*	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0*	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10*	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11*	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2*	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction

ICD-10 CODE	DESCRIPTION
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.8	Other forms of acute ischemic heart disease
I25.10*	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable

ICD-10 CODE	DESCRIPTION
	angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina

ICD-10 CODE	DESCRIPTION
	pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I50.1	Left ventricular failure, unspecified
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure
I50.23	Acute on chronic systolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure
I50.32	Chronic diastolic (congestive) heart failure
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.810	Right heart failure, unspecified
I50.811	Acute right heart failure
I50.812	Chronic right heart failure
I50.813	Acute on chronic right heart failure
I50.814	Right heart failure due to left heart failure
I50.82	Biventricular heart failure
I50.83	High output heart failure
I50.84	End stage heart failure
I50.89	Other heart failure
I51.81	Takotsubo syndrome
I65.01	Occlusion and stenosis of right vertebral artery

ICD-10 CODE	DESCRIPTION
I65.02	Occlusion and stenosis of left vertebral artery
I65.03	Occlusion and stenosis of bilateral vertebral arteries
I65.1	Occlusion and stenosis of basilar artery
I65.21	Occlusion and stenosis of right carotid artery
I65.22	Occlusion and stenosis of left carotid artery
I65.23	Occlusion and stenosis of bilateral carotid arteries
I65.8	Occlusion and stenosis of other precerebral arteries
ICD-10 CODE	DESCRIPTION
I66.01	Occlusion and stenosis of right middle cerebral artery
I66.02	Occlusion and stenosis of left middle cerebral artery
I66.03	Occlusion and stenosis of bilateral middle cerebral arteries
I66.11	Occlusion and stenosis of right anterior cerebral artery
I66.12	Occlusion and stenosis of left anterior cerebral artery
I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries
I66.21	Occlusion and stenosis of right posterior cerebral artery
I66.22	Occlusion and stenosis of left posterior cerebral artery
I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries
I66.3	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I67.2	Cerebral atherosclerosis
I70.0	Atherosclerosis of aorta
I70.1	Atherosclerosis of renal artery
I70.211	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg
I70.212	Atherosclerosis of native arteries of extremities with intermittent claudication, left leg
I70.213	Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs
I70.218	Atherosclerosis of native arteries of extremities with intermittent claudication, other extremity
I70.221	Atherosclerosis of native arteries of extremities with rest pain, right leg
I70.222	Atherosclerosis of native arteries of extremities with rest pain, left leg
I70.223	Atherosclerosis of native arteries of extremities with rest pain, bilateral legs

ICD-10 CODE	DESCRIPTION
I70.228	Atherosclerosis of native arteries of extremities with rest pain, other extremity
I70.231	Atherosclerosis of native arteries of right leg with ulceration of thigh
I70.232	Atherosclerosis of native arteries of right leg with ulceration of calf
I70.233	Atherosclerosis of native arteries of right leg with ulceration of ankle
I70.234	Atherosclerosis of native arteries of right leg with ulceration of heel and midfoot
I70.235	Atherosclerosis of native arteries of right leg with ulceration of other part of foot
I70.238	Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
I70.241	Atherosclerosis of native arteries of left leg with ulceration of thigh
I70.242	Atherosclerosis of native arteries of left leg with ulceration of calf
I70.243	Atherosclerosis of native arteries of left leg with ulceration of ankle
I70.244	Atherosclerosis of native arteries of left leg with ulceration of heel and midfoot
I70.245	Atherosclerosis of native arteries of left leg with ulceration of other part of foot
I70.248	Atherosclerosis of native arteries of left leg with ulceration of other part of lower leg
I70.25	Atherosclerosis of native arteries of other extremities with ulceration
I70.261	Atherosclerosis of native arteries of extremities with gangrene, right leg
I70.262	Atherosclerosis of native arteries of extremities with gangrene, left leg
I70.263	Atherosclerosis of native arteries of extremities with gangrene, bilateral legs
I70.268	Atherosclerosis of native arteries of extremities with gangrene, other extremity
I70.291	Other atherosclerosis of native arteries of extremities, right leg
I70.292	Other atherosclerosis of native arteries of extremities, left leg
I70.293	Other atherosclerosis of native arteries of extremities, bilateral legs
I70.298	Other atherosclerosis of native arteries of extremities, other extremity
I70.411	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, right leg
I70.412	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, left leg
I70.413	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.418	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.421	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, right leg

ICD-10 CODE	DESCRIPTION
I70.422	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, left leg
I70.423	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, bilateral legs
I70.428	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, other extremity
I70.431	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of thigh
I70.432	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of calf
I70.433	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of ankle
I70.434	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.435	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of foot
I70.438	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.441	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of thigh
I70.442	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of calf
I70.443	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of ankle
I70.444	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.445	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of foot
I70.448	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.45	Atherosclerosis of autologous vein bypass graft(s) of other extremity with ulceration
I70.461	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, right leg
I70.462	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, left leg
I70.463	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, bilateral legs



ICD-10 CODE	DESCRIPTION
I70.468	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, other extremity
I70.491	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, right leg
I70.492	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, left leg
I70.493	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, bilateral legs
I70.498	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, other extremity
I70.511	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.512	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.513	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.518	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.521	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, right leg
I70.522	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, left leg
I70.523	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.528	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, other extremity
I70.531	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of thigh
I70.532	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of calf
I70.533	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of ankle
I70.534	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.535	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of foot
I70.538	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.541	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with

ICD-10 CODE	DESCRIPTION
	ulceration of thigh
I70.542	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of calf
I70.543	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of ankle
I70.544	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.545	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of foot
I70.548	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.55	Atherosclerosis of nonautologous biological bypass graft(s) of other extremity with ulceration
I70.561	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, right leg
I70.562	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, left leg
I70.563	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.568	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, other extremity
I70.591	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, right leg
I70.592	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, left leg
I70.593	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, bilateral legs
ICD-10 CODE	DESCRIPTION
I70.598	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, other extremity
I70.611	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.612	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.613	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.618	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent

ICD-10 CODE	DESCRIPTION
	claudication, other extremity
I70.621	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, right leg
I70.622	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, left leg
I70.623	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.628	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, other extremity
I70.631	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of thigh
I70.632	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of calf
I70.633	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of ankle
I70.634	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.635	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of foot
I70.638	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.641	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of thigh
I70.642	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of calf
I70.643	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of ankle
I70.644	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.645	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of foot
I70.648	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.65	Atherosclerosis of nonbiological bypass graft(s) of other extremity with ulceration
I70.661	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, right leg
I70.662	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, left leg

ICD-10 CODE	DESCRIPTION
I70.663	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.668	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, other extremity
I70.691	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, right leg
I70.692	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, left leg
I70.693	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, bilateral legs
I70.698	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, other extremity
I70.711	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, right leg
I70.712	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, left leg
I70.713	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.718	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.721	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, right leg
I70.722	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, left leg
I70.723	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.728	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, other extremity
I70.731	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of thigh
I70.732	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of calf
I70.733	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of ankle
I70.734	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.735	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of foot
I70.738	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of

ICD-10 CODE	DESCRIPTION
	other part of lower leg
I70.741	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of thigh
I70.742	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of calf
I70.743	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of ankle
I70.744	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.745	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.748	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.75	Atherosclerosis of other type of bypass graft(s) of other extremity with ulceration
I70.761	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, right leg
I70.762	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, left leg
I70.763	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.768	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, other extremity
I70.791	Other atherosclerosis of other type of bypass graft(s) of the extremities, right leg
I70.792	Other atherosclerosis of other type of bypass graft(s) of the extremities, left leg
I70.793	Other atherosclerosis of other type of bypass graft(s) of the extremities, bilateral legs
I70.798	Other atherosclerosis of other type of bypass graft(s) of the extremities, other extremity
I70.8	Atherosclerosis of other arteries
I70.92	Chronic total occlusion of artery of the extremities
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)
N18.3	Chronic kidney disease, stage 3 (moderate)
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease

ICD-10 CODE	DESCRIPTION
R06.01	Orthopnea
R06.02	Shortness of breath
R06.09	Other forms of dyspnea
R07.2	Precordial pain
R07.81	Pleurodynia
R07.82	Intercostal pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R55	Syncope and collapse
R79.89*	Other specified abnormal findings of blood chemistry
R93.1*	Abnormal findings on diagnostic imaging of heart and coronary circulation
T45.1X1A	Poisoning by antineoplastic and immunosuppressive drugs, accidental (unintentional), initial encounter
T45.1X1D	Poisoning by antineoplastic and immunosuppressive drugs, accidental (unintentional), subsequent encounter
T45.1X1S	Poisoning by antineoplastic and immunosuppressive drugs, accidental (unintentional), sequela
T45.1X2A	Poisoning by antineoplastic and immunosuppressive drugs, intentional self-harm, initial encounter
T45.1X2D	Poisoning by antineoplastic and immunosuppressive drugs, intentional self-harm, subsequent encounter
T45.1X2S	Poisoning by antineoplastic and immunosuppressive drugs, intentional self-harm, sequela
T45.1X3A	Poisoning by antineoplastic and immunosuppressive drugs, assault, initial encounter
T45.1X3D	Poisoning by antineoplastic and immunosuppressive drugs, assault, subsequent encounter
T45.1X3S	Poisoning by antineoplastic and immunosuppressive drugs, assault, sequela
T45.1X4A	Poisoning by antineoplastic and immunosuppressive drugs, undetermined, initial encounter
T45.1X4D	Poisoning by antineoplastic and immunosuppressive drugs, undetermined, subsequent encounter
T45.1X4S	Poisoning by antineoplastic and immunosuppressive drugs, undetermined, sequela
T45.1X5A	Adverse effect of antineoplastic and immunosuppressive drugs, initial encounter
T45.1X5D	Adverse effect of antineoplastic and immunosuppressive drugs, subsequent encounter

ICD-10 CODE	DESCRIPTION
T45.1X5S	Adverse effect of antineoplastic and immunosuppressive drugs, sequela
T82.855A	Stenosis of coronary artery stent, initial encounter
T82.855D	Stenosis of coronary artery stent, subsequent encounter
T82.855S	Stenosis of coronary artery stent, sequela
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter
T82.857D	Stenosis of other cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.857S	Stenosis of other cardiac prosthetic devices, implants and grafts, sequela
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter
ICD-10 CODE	DESCRIPTION
T82.867D	Thrombosis due to cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.867S	Thrombosis due to cardiac prosthetic devices, implants and grafts, sequela
T86.19	Other complication of kidney transplant
T86.290	Cardiac allograft vasculopathy
T86.298	Other complications of heart transplant
T86.39	Other complications of heart-lung transplant
Z01.810	Encounter for preprocedural cardiovascular examination
Z48.21	Encounter for aftercare following heart transplant
Z48.22	Encounter for aftercare following kidney transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z76.82	Awaiting organ transplant status
Z79.899*	Other long term (current) drug therapy
Z94.0	Kidney transplant status
Z94.1	Heart transplant status
Z94.3	Heart and lungs transplant status
Z95.1*	Presence of aortocoronary bypass graft
Z95.5*	Presence of coronary angioplasty implant and graft
Z98.61*	Coronary angioplasty status

**Group 1 Medical Necessity ICD-10 Codes Asterisk Explanation:**

\*For ICD-10-CM codes I12.0, I13.11, and I13.2, use an additional ICD-10-CM code N18.5 or N18.6 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I12.9, I13.0, and I13.10, use an additional ICD-10-CM code N18.1, N18.2, N18.3, or N18.4 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I09.81, I11.0, I13.0 and I13.2, use an additional ICD-10-CM code I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, or I50.89 to identify type of heart failure.

\* For ICD-10-CM code I25.10, use an additional ICD-10-CM code Z95.1, Z95.5, or Z98.61 to indicate post PCI or post CABG status.

\*Use ICD-10-CM code R79.89 for an elevated cardiac troponin.

\*Use ICD-10-CM code R93.1 for recently demonstrated coronary stenosis of uncertain functional significance on a coronary angiogram or CCTA and for coronary calcium Agatston score >400.

\*For ICD-10-CM code Z79.899, use an additional ICD-10-CM code T45.1X1A, T45.1X1D, T45.1X1S, T45.1X2A, T45.1X2D, T45.1X2S, T45.1X3A, T45.1X3D, T45.1X3S, T45.1X4A, T45.1X4D, T45.1X4S, T45.1X5A, T45.1X5D, or T45.1X5S to indicate the patient is being treated with an interleukin 2 product.

**Group 2 Paragraph:**

The following ICD-10-CM codes support medical necessity and provide limited coverage for CPT codes: **93350, 93351, and 93352**

It is the provider’s responsibility to select codes carried out to the highest level of specificity and selected from the ICD-10-CM code book appropriate to the year in which the service is rendered for the claim(s) submitted.

**Group 2 Codes:**

ICD-10 CODE	DESCRIPTION
I05.0	Rheumatic mitral stenosis
I05.1	Rheumatic mitral insufficiency
I05.2	Rheumatic mitral stenosis with insufficiency
I05.8	Other rheumatic mitral valve diseases
I06.0	Rheumatic aortic stenosis
I06.1	Rheumatic aortic insufficiency
I06.2	Rheumatic aortic stenosis with insufficiency
I06.8	Other rheumatic aortic valve diseases
I07.0	Rheumatic tricuspid stenosis
I07.1	Rheumatic tricuspid insufficiency
I07.2	Rheumatic tricuspid stenosis and insufficiency
I07.8	Other rheumatic tricuspid valve diseases



ICD-10 CODE	DESCRIPTION
I08.0	Rheumatic disorders of both mitral and aortic valves
I08.1	Rheumatic disorders of both mitral and tricuspid valves
I08.2	Rheumatic disorders of both aortic and tricuspid valves
I08.3	Combined rheumatic disorders of mitral, aortic and tricuspid valves
I08.8	Other rheumatic multiple valve diseases
I09.81*	Rheumatic heart failure
I09.89*	Other specified rheumatic heart diseases
I11.0*	Hypertensive heart disease with heart failure
I11.9	Hypertensive heart disease without heart failure
I12.0*	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9*	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0*	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10*	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11*	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2*	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery

ICD-10 CODE	DESCRIPTION
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.8	Other forms of acute ischemic heart disease
I25.10*	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris

ICD-10 CODE	DESCRIPTION
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm

ICD-10 CODE	DESCRIPTION
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I27.0	Primary pulmonary hypertension
I27.21	Secondary pulmonary arterial hypertension
I27.22	Pulmonary hypertension due to left heart disease
I27.23	Pulmonary hypertension due to lung diseases and hypoxia
I27.24	Chronic thromboembolic pulmonary hypertension
I27.29	Other secondary pulmonary hypertension
I27.81	Cor pulmonale (chronic)
I27.82	Chronic pulmonary embolism
I27.83	Eisenmenger's syndrome
I27.89	Other specified pulmonary heart diseases
I34.0	Nonrheumatic mitral (valve) insufficiency
I34.1	Nonrheumatic mitral (valve) prolapse
I34.2	Nonrheumatic mitral (valve) stenosis
I34.8	Other nonrheumatic mitral valve disorders
I35.0	Nonrheumatic aortic (valve) stenosis
ICD-10 CODE	DESCRIPTION
I35.1	Nonrheumatic aortic (valve) insufficiency
I35.2	Nonrheumatic aortic (valve) stenosis with insufficiency
I35.8	Other nonrheumatic aortic valve disorders
I36.0	Nonrheumatic tricuspid (valve) stenosis
I36.1	Nonrheumatic tricuspid (valve) insufficiency
I36.2	Nonrheumatic tricuspid (valve) stenosis with insufficiency
I36.8	Other nonrheumatic tricuspid valve disorders
I37.0	Nonrheumatic pulmonary valve stenosis

ICD-10 CODE	DESCRIPTION
I37.1	Nonrheumatic pulmonary valve insufficiency
I37.2	Nonrheumatic pulmonary valve stenosis with insufficiency
I37.8	Other nonrheumatic pulmonary valve disorders
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I44.7	Left bundle-branch block, unspecified
I45.6	Pre-excitation syndrome
I47.0	Re-entry ventricular arrhythmia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.8*	Other specified cardiac arrhythmias
I50.1	Left ventricular failure, unspecified
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure
I50.23	Acute on chronic systolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure
I50.32	Chronic diastolic (congestive) heart failure
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.810	Right heart failure, unspecified
I50.811	Acute right heart failure
I50.812	Chronic right heart failure
I50.813	Acute on chronic right heart failure
I50.814	Right heart failure due to left heart failure

ICD-10 CODE	DESCRIPTION
I50.82	Biventricular heart failure
I50.83	High output heart failure
I50.84	End stage heart failure
I50.89	Other heart failure
I51.81	Takotsubo syndrome
I65.01	Occlusion and stenosis of right vertebral artery
I65.02	Occlusion and stenosis of left vertebral artery
I65.03	Occlusion and stenosis of bilateral vertebral arteries
I65.1	Occlusion and stenosis of basilar artery
I65.21	Occlusion and stenosis of right carotid artery
I65.22	Occlusion and stenosis of left carotid artery
I65.23	Occlusion and stenosis of bilateral carotid arteries
I65.8	Occlusion and stenosis of other precerebral arteries
I66.01	Occlusion and stenosis of right middle cerebral artery
I66.02	Occlusion and stenosis of left middle cerebral artery
I66.03	Occlusion and stenosis of bilateral middle cerebral arteries
I66.11	Occlusion and stenosis of right anterior cerebral artery
I66.12	Occlusion and stenosis of left anterior cerebral artery
I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries
I66.21	Occlusion and stenosis of right posterior cerebral artery
I66.22	Occlusion and stenosis of left posterior cerebral artery
I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries
I66.3	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I67.2	Cerebral atherosclerosis
I70.0	Atherosclerosis of aorta
I70.1	Atherosclerosis of renal artery
I70.211	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg
I70.212	Atherosclerosis of native arteries of extremities with intermittent claudication, left leg
I70.213	Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs

ICD-10 CODE	DESCRIPTION
I70.218	Atherosclerosis of native arteries of extremities with intermittent claudication, other extremity
I70.221	Atherosclerosis of native arteries of extremities with rest pain, right leg
I70.222	Atherosclerosis of native arteries of extremities with rest pain, left leg
I70.223	Atherosclerosis of native arteries of extremities with rest pain, bilateral legs
I70.228	Atherosclerosis of native arteries of extremities with rest pain, other extremity
I70.231	Atherosclerosis of native arteries of right leg with ulceration of thigh
I70.232	Atherosclerosis of native arteries of right leg with ulceration of calf
I70.233	Atherosclerosis of native arteries of right leg with ulceration of ankle
I70.234	Atherosclerosis of native arteries of right leg with ulceration of heel and midfoot
I70.235	Atherosclerosis of native arteries of right leg with ulceration of other part of foot
I70.238	Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
I70.241	Atherosclerosis of native arteries of left leg with ulceration of thigh
I70.242	Atherosclerosis of native arteries of left leg with ulceration of calf
I70.243	Atherosclerosis of native arteries of left leg with ulceration of ankle
I70.244	Atherosclerosis of native arteries of left leg with ulceration of heel and midfoot
I70.245	Atherosclerosis of native arteries of left leg with ulceration of other part of foot
I70.248	Atherosclerosis of native arteries of left leg with ulceration of other part of lower leg
I70.25	Atherosclerosis of native arteries of other extremities with ulceration
I70.261	Atherosclerosis of native arteries of extremities with gangrene, right leg
I70.262	Atherosclerosis of native arteries of extremities with gangrene, left leg
I70.263	Atherosclerosis of native arteries of extremities with gangrene, bilateral legs
I70.268	Atherosclerosis of native arteries of extremities with gangrene, other extremity
I70.291	Other atherosclerosis of native arteries of extremities, right leg
I70.292	Other atherosclerosis of native arteries of extremities, left leg
I70.293	Other atherosclerosis of native arteries of extremities, bilateral legs
I70.298	Other atherosclerosis of native arteries of extremities, other extremity
I70.411	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, right leg
I70.412	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, left leg
I70.413	Atherosclerosis of autologous vein bypass graft(s) of the extremities with

ICD-10 CODE	DESCRIPTION
	intermittent claudication, bilateral legs
I70.418	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.421	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, right leg
ICD-10 CODE	DESCRIPTION
I70.422	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, left leg
I70.423	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, bilateral legs
I70.428	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, other extremity
I70.431	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of thigh
I70.432	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of calf
I70.433	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of ankle
I70.434	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.435	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of foot
I70.438	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.441	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of thigh
I70.442	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of calf
I70.443	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of ankle
I70.444	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.445	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of foot
I70.448	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.45	Atherosclerosis of autologous vein bypass graft(s) of other extremity with ulceration



ICD-10 CODE	DESCRIPTION
I70.461	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, right leg
I70.462	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, left leg
I70.463	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, bilateral legs
I70.468	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, other extremity
I70.491	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, right leg
I70.492	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, left leg
I70.493	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, bilateral legs
I70.498	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, other extremity
I70.511	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.512	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.513	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.518	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.521	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, right leg
I70.522	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, left leg
I70.523	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.528	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, other extremity
I70.531	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of thigh
I70.532	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of calf
I70.533	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of ankle
I70.534	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with

ICD-10 CODE	DESCRIPTION
	ulceration of heel and midfoot
I70.535	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of foot
I70.538	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.541	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of thigh
I70.542	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of calf
I70.543	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of ankle
I70.544	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.545	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of foot
I70.548	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.55	Atherosclerosis of nonautologous biological bypass graft(s) of other extremity with ulceration
I70.561	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, right leg
I70.562	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, left leg
I70.563	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.568	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, other extremity
I70.591	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, right leg
I70.592	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, left leg
I70.593	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, bilateral legs
I70.598	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, other extremity
I70.611	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, right leg

ICD-10 CODE	DESCRIPTION
I70.612	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.613	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.618	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.621	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, right leg
I70.622	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, left leg
I70.623	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.628	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, other extremity
I70.631	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of thigh
I70.632	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of calf
I70.633	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of ankle
I70.634	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.635	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of foot
I70.638	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.641	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of thigh
I70.642	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of calf
I70.643	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of ankle
I70.644	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.645	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of foot
I70.648	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of lower leg

ICD-10 CODE	DESCRIPTION
I70.65	Atherosclerosis of nonbiological bypass graft(s) of other extremity with ulceration
I70.661	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, right leg
I70.662	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, left leg
I70.663	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.668	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, other extremity
I70.691	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, right leg
I70.692	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, left leg
I70.693	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, bilateral legs
I70.698	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, other extremity
I70.711	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, right leg
I70.712	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, left leg
I70.713	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.718	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.721	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, right leg
I70.722	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, left leg
I70.723	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.728	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, other extremity
I70.731	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of thigh
I70.732	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of calf
I70.733	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of ankle

ICD-10 CODE	DESCRIPTION
I70.734	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.735	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of foot
I70.738	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.741	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of thigh
I70.742	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of calf
I70.743	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of ankle
I70.744	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of heel and midfoot
ICD-10 CODE	DESCRIPTION
I70.745	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.748	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.75	Atherosclerosis of other type of bypass graft(s) of other extremity with ulceration
I70.761	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, right leg
I70.762	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, left leg
I70.763	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.768	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, other extremity
I70.791	Other atherosclerosis of other type of bypass graft(s) of the extremities, right leg
I70.792	Other atherosclerosis of other type of bypass graft(s) of the extremities, left leg
I70.793	Other atherosclerosis of other type of bypass graft(s) of the extremities, bilateral legs
I70.798	Other atherosclerosis of other type of bypass graft(s) of the extremities, other extremity
I70.8	Atherosclerosis of other arteries
I70.92	Chronic total occlusion of artery of the extremities
N18.1	Chronic kidney disease, stage 1

ICD-10 CODE	DESCRIPTION
N18.2	Chronic kidney disease, stage 2 (mild)
N18.3	Chronic kidney disease, stage 3 (moderate)
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
R06.01	Orthopnea
R06.02	Shortness of breath
R06.09	Other forms of dyspnea
R07.2	Precordial pain
R07.81	Pleurodynia
R07.82	Intercostal pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R55	Syncope and collapse
R79.89*	Other specified abnormal findings of blood chemistry
R93.1*	Abnormal findings on diagnostic imaging of heart and coronary circulation
R94.31*	Abnormal electrocardiogram [ECG] [EKG]
R94.39*	Abnormal result of other cardiovascular function study
T82.855A	Stenosis of coronary artery stent, initial encounter
T82.855D	Stenosis of coronary artery stent, subsequent encounter
T82.855S	Stenosis of coronary artery stent, sequela
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter
T82.857D	Stenosis of other cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.857S	Stenosis of other cardiac prosthetic devices, implants and grafts, sequela
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter
T82.867D	Thrombosis due to cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.867S	Thrombosis due to cardiac prosthetic devices, implants and grafts, sequela
T86.19	Other complication of kidney transplant
T86.290	Cardiac allograft vasculopathy
T86.298	Other complications of heart transplant

ICD-10 CODE	DESCRIPTION
T86.39	Other complications of heart-lung transplant
Z01.810	Encounter for preprocedural cardiovascular examination
Z48.21	Encounter for aftercare following heart transplant
Z48.22	Encounter for aftercare following kidney transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z76.82	Awaiting organ transplant status
Z79.899*	Other long term (current) drug therapy
Z94.0	Kidney transplant status
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 Medical Necessity ICD-10 Codes Asterisk Explanation:**

\*For ICD-10-CM codes I12.0, I13.11, and I13.2, use an additional ICD-10-CM code N18.5 or N18.6 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I12.9, I13.0, and I13.10, use an additional ICD-10-CM code N18.1, N18.2, N18.3, or N18.4 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I09.81, I11.0, I13.0 and I13.2, use an additional ICD-10-CM code I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, or I50.89 to identify type of heart failure.

\*Use ICD-10-CM code I09.89 for rheumatic disease of the pulmonary valve.

\*For ICD-10-CM code I25.10, use an additional ICD-10-CM code Z95.1, Z95.5, or Z98.61 to indicate post PCI or post CABG status.

\*Use ICD-10-CM code I49.8 for Brugada Syndrome.

\*Use ICD-10-CM code R79.89 for an elevated cardiac troponin.

\*Use ICD-10-CM code R93.1 for recently demonstrated coronary stenosis of uncertain functional significance on a coronary angiogram or CCTA and for coronary calcium Agatston score >400.

\*Use ICD-10-CM code R94.31 for > 1 mm ST segment depression or LVH with repolarization abnormalities.

\*Use ICD-10-CM code R94.39 when an abnormal or non-diagnostic stress test is the reason cardiac imaging is being performed.

\*For ICD-10-CM code Z79.899, use an additional ICD-10-CM code T45.1X1A, T45.1X1D, T45.1X1S, T45.1X2A, T45.1X2D, T45.1X2S, T45.1X3A, T45.1X3D, T45.1X3S, T45.1X4A, T45.1X4D, T45.1X4S, T45.1X5A, T45.1X5D, or T45.1X5S to indicate the patient is being treated with an interleukin 2 product.

\*Use ICD-10-CM code Z79.899 with an appropriate ICD-10-CM Poisoning by, adverse effects of and underdosing of drugs, medicaments and biological substances (T36.0X1A-T50.996S) for imaging indications digoxin, beta blocker, calcium channel blocker and/or other antiarrhythmic medication therapy.

### Group 3 Paragraph:

The following ICD-10-CM codes support medical necessity and provide limited coverage for CPT codes: **78451, 78452, 78453, and 78454**

It is the provider's responsibility to select codes carried out to the highest level of specificity and selected from the ICD-10-CM code book appropriate to the year in which the service is rendered for the claim(s) submitted.

### Group 3 Codes:

ICD-10 CODE	DESCRIPTION
I09.81*	Rheumatic heart failure
I11.0*	Hypertensive heart disease with heart failure
I11.9	Hypertensive heart disease without heart failure
I12.0*	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9*	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0*	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10*	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11*	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2*	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris



ICD-10 CODE	DESCRIPTION
I20.9	Angina pectoris, unspecified
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.8	Other forms of acute ischemic heart disease
I25.10*	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris

ICD-10 CODE	DESCRIPTION
	with documented spasm
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with

ICD-10 CODE	DESCRIPTION
	unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I44.7	Left bundle-branch block, unspecified
I45.6	Pre-excitation syndrome
I47.0	Re-entry ventricular arrhythmia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.8*	Other specified cardiac arrhythmias
I50.1	Left ventricular failure, unspecified
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure

<b>ICD-10 CODE</b>	<b>DESCRIPTION</b>
I50.23	Acute on chronic systolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure
I50.32	Chronic diastolic (congestive) heart failure
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.810	Right heart failure, unspecified
I50.811	Acute right heart failure
I50.812	Chronic right heart failure
I50.813	Acute on chronic right heart failure
I50.814	Right heart failure due to left heart failure
I50.82	Biventricular heart failure
I50.83	High output heart failure
I50.84	End stage heart failure
I50.89	Other heart failure
I51.81	Takotsubo syndrome
<b>ICD-10 CODE</b>	<b>DESCRIPTION</b>
I65.01	Occlusion and stenosis of right vertebral artery
I65.02	Occlusion and stenosis of left vertebral artery
I65.03	Occlusion and stenosis of bilateral vertebral arteries
I65.1	Occlusion and stenosis of basilar artery
I65.21	Occlusion and stenosis of right carotid artery
I65.22	Occlusion and stenosis of left carotid artery
I65.23	Occlusion and stenosis of bilateral carotid arteries
I65.8	Occlusion and stenosis of other precerebral arteries
I66.01	Occlusion and stenosis of right middle cerebral artery
I66.02	Occlusion and stenosis of left middle cerebral artery
I66.03	Occlusion and stenosis of bilateral middle cerebral arteries

ICD-10 CODE	DESCRIPTION
I66.11	Occlusion and stenosis of right anterior cerebral artery
I66.12	Occlusion and stenosis of left anterior cerebral artery
I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries
I66.21	Occlusion and stenosis of right posterior cerebral artery
I66.22	Occlusion and stenosis of left posterior cerebral artery
I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries
I66.3	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I67.2	Cerebral atherosclerosis
I70.0	Atherosclerosis of aorta
I70.1	Atherosclerosis of renal artery
I70.211	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg
I70.212	Atherosclerosis of native arteries of extremities with intermittent claudication, left leg
I70.213	Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs
I70.218	Atherosclerosis of native arteries of extremities with intermittent claudication, other extremity
I70.221	Atherosclerosis of native arteries of extremities with rest pain, right leg
I70.222	Atherosclerosis of native arteries of extremities with rest pain, left leg
I70.223	Atherosclerosis of native arteries of extremities with rest pain, bilateral legs
I70.228	Atherosclerosis of native arteries of extremities with rest pain, other extremity
I70.231	Atherosclerosis of native arteries of right leg with ulceration of thigh
I70.232	Atherosclerosis of native arteries of right leg with ulceration of calf
I70.233	Atherosclerosis of native arteries of right leg with ulceration of ankle
I70.234	Atherosclerosis of native arteries of right leg with ulceration of heel and midfoot
I70.235	Atherosclerosis of native arteries of right leg with ulceration of other part of foot
I70.238	Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
I70.241	Atherosclerosis of native arteries of left leg with ulceration of thigh
I70.242	Atherosclerosis of native arteries of left leg with ulceration of calf
I70.243	Atherosclerosis of native arteries of left leg with ulceration of ankle

ICD-10 CODE	DESCRIPTION
I70.244	Atherosclerosis of native arteries of left leg with ulceration of heel and midfoot
I70.245	Atherosclerosis of native arteries of left leg with ulceration of other part of foot
I70.248	Atherosclerosis of native arteries of left leg with ulceration of other part of lower leg
I70.25	Atherosclerosis of native arteries of other extremities with ulceration
I70.261	Atherosclerosis of native arteries of extremities with gangrene, right leg
I70.262	Atherosclerosis of native arteries of extremities with gangrene, left leg
I70.263	Atherosclerosis of native arteries of extremities with gangrene, bilateral legs
I70.268	Atherosclerosis of native arteries of extremities with gangrene, other extremity
I70.291	Other atherosclerosis of native arteries of extremities, right leg
I70.292	Other atherosclerosis of native arteries of extremities, left leg
I70.293	Other atherosclerosis of native arteries of extremities, bilateral legs
I70.298	Other atherosclerosis of native arteries of extremities, other extremity
I70.411	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, right leg
I70.412	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, left leg
I70.413	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.418	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.421	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, right leg
I70.422	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, left leg
I70.423	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, bilateral legs
I70.428	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, other extremity
I70.431	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of thigh
I70.432	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of calf
I70.433	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of ankle
I70.434	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of

ICD-10 CODE	DESCRIPTION
	heel and midfoot
I70.435	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of foot
I70.438	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.441	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of thigh
I70.442	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of calf
I70.443	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of ankle
I70.444	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.445	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of foot
I70.448	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.45	Atherosclerosis of autologous vein bypass graft(s) of other extremity with ulceration
I70.461	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, right leg
I70.462	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, left leg
I70.463	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, bilateral legs
I70.468	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, other extremity
I70.491	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, right leg
I70.492	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, left leg
I70.493	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, bilateral legs
I70.498	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, other extremity
I70.511	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.512	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, left leg

ICD-10 CODE	DESCRIPTION
I70.513	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.518	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.521	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, right leg
I70.522	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, left leg
I70.523	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.528	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, other extremity
I70.531	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of thigh
I70.532	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of calf
I70.533	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of ankle
I70.534	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.535	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of foot
I70.538	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.541	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of thigh
I70.542	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of calf
I70.543	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of ankle
I70.544	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.545	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of foot
I70.548	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of lower leg



ICD-10 CODE	DESCRIPTION
I70.55	Atherosclerosis of nonautologous biological bypass graft(s) of other extremity with ulceration
I70.561	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, right leg
I70.562	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, left leg
I70.563	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.568	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, other extremity
I70.591	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, right leg
I70.592	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, left leg
I70.593	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, bilateral legs
I70.598	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, other extremity
I70.611	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.612	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.613	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.618	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.621	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, right leg
I70.622	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, left leg
I70.623	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.628	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, other extremity
I70.631	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of thigh
I70.632	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of

ICD-10 CODE	DESCRIPTION
	calf
I70.633	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of ankle
I70.634	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.635	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of foot
I70.638	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.641	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of thigh
I70.642	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of calf
I70.643	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of ankle
I70.644	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.645	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of foot
I70.648	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.65	Atherosclerosis of nonbiological bypass graft(s) of other extremity with ulceration
I70.661	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, right leg
I70.662	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, left leg
I70.663	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.668	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, other extremity
I70.691	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, right leg
I70.692	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, left leg
I70.693	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, bilateral legs
I70.698	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, other extremity
I70.711	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent

ICD-10 CODE	DESCRIPTION
	claudication, right leg
I70.712	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, left leg
I70.713	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.718	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.721	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, right leg
I70.722	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, left leg
I70.723	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.728	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, other extremity
I70.731	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of thigh
I70.732	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of calf
I70.733	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of ankle
I70.734	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.735	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of foot
I70.738	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.741	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of thigh
I70.742	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of calf
I70.743	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of ankle
I70.744	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.745	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.748	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of

ICD-10 CODE	DESCRIPTION
	other part of lower leg
I70.75	Atherosclerosis of other type of bypass graft(s) of other extremity with ulceration
I70.761	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, right leg
I70.762	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, left leg
I70.763	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.768	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, other extremity
I70.791	Other atherosclerosis of other type of bypass graft(s) of the extremities, right leg
I70.792	Other atherosclerosis of other type of bypass graft(s) of the extremities, left leg
I70.793	Other atherosclerosis of other type of bypass graft(s) of the extremities, bilateral legs
I70.798	Other atherosclerosis of other type of bypass graft(s) of the extremities, other extremity
I70.8	Atherosclerosis of other arteries
I70.92	Chronic total occlusion of artery of the extremities
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)
N18.3	Chronic kidney disease, stage 3 (moderate)
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
R06.01	Orthopnea
R06.02	Shortness of breath
R06.09	Other forms of dyspnea
R07.2	Precordial pain
R07.81	Pleurodynia
R07.82	Intercostal pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R55	Syncope and collapse

ICD-10 CODE	DESCRIPTION
R79.89*	Other specified abnormal findings of blood chemistry
R93.1*	Abnormal findings on diagnostic imaging of heart and coronary circulation
R94.31*	Abnormal electrocardiogram [ECG] [EKG]
R94.39*	Abnormal result of other cardiovascular function study
T82.855A	Stenosis of coronary artery stent, initial encounter
T82.855D	Stenosis of coronary artery stent, subsequent encounter
T82.855S	Stenosis of coronary artery stent, sequela
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter
T82.857D	Stenosis of other cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.857S	Stenosis of other cardiac prosthetic devices, implants and grafts, sequela
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter
T82.867D	Thrombosis due to cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.867S	Thrombosis due to cardiac prosthetic devices, implants and grafts, sequela
T86.19	Other complication of kidney transplant
T86.290	Cardiac allograft vasculopathy
T86.298	Other complications of heart transplant
ICD-10 CODE	DESCRIPTION
T86.39	Other complications of heart-lung transplant
Z01.810	Encounter for preprocedural cardiovascular examination
Z48.21	Encounter for aftercare following heart transplant
Z48.22	Encounter for aftercare following kidney transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z76.82	Awaiting organ transplant status
Z79.899*	Other long term (current) drug therapy
Z94.0	Kidney transplant status
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

ICD-10 CODE	DESCRIPTION
Z98.61*	Coronary angioplasty status

**Group 3 Medical Necessity ICD-10 Codes Asterisk Explanation:**

\*For ICD-10-CM codes I12.0, I13.11, and I13.2, use an additional ICD-10-CM code N18.5 or N18.6 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I12.9, I13.0, and I13.10, use an additional ICD-10-CM code N18.1, N18.2, N18.3, or N18.4 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I09.81, I11.0, I13.0 and I13.2, use an additional ICD-10-CM code I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, or I50.89 to identify type of heart failure.

\* For ICD-10-CM code I25.10, use an additional ICD-10-CM code Z95.1, Z95.5, or Z98.61 to indicate post PCI or post CABG status.

\*Use ICD-10-CM code I49.8 for Brugada Syndrome.

\*Use ICD-10-CM code R79.89 for an elevated cardiac troponin.

\*Use ICD-10-CM code R93.1 for recently demonstrated coronary stenosis of uncertain functional significance on a coronary angiogram or CCTA and for coronary calcium Agatston score >400.

\*Use ICD-10-CM code R94.31 for > 1 mm ST segment depression or LVH with repolarization abnormalities.

\*Use ICD-10-CM code R94.39 when an abnormal or non-diagnostic stress test is the reason cardiac imaging is being performed.

\*For ICD-10-CM code Z79.899, use an additional ICD-10-CM code T45.1X1A, T45.1X1D, T45.1X1S, T45.1X2A, T45.1X2D, T45.1X2S, T45.1X3A, T45.1X3D, T45.1X3S, T45.1X4A, T45.1X4D, T45.1X4S, T45.1X5A, T45.1X5D, or T45.1X5S to indicate the patient is being treated with an interleukin 2 product.

\*Use ICD-10-CM code Z79.899 with an appropriate ICD-10-CM Poisoning by, adverse effects of and underdosing of drugs, medicaments and biological substances (T36.0X1A-T50.996S) for imaging indications digoxin, beta blocker, calcium channel blocker and/or other antiarrhythmic medication therapy.

**Group 4 Paragraph:**

The following ICD-10-CM codes support medical necessity and provide limited coverage for CPT codes: **78429, 78430, 78431, 78432, 78433, 78434, 78459, 78491, and 78492 only.**

It is the provider's responsibility to select codes carried out to the highest level of specificity and selected from the ICD-10-CM code book appropriate to the year in which the service is rendered for the claim(s) submitted.

**Group 4 Codes:**

ICD-10 CODE	DESCRIPTION
D86.0*	Sarcoidosis of lung
D86.1*	Sarcoidosis of lymph nodes
D86.2*	Sarcoidosis of lung with sarcoidosis of lymph nodes
D86.3*	Sarcoidosis of skin
D86.81*	Sarcoid meningitis
D86.82*	Multiple cranial nerve palsies in sarcoidosis
D86.83*	Sarcoid iridocyclitis
D86.84*	Sarcoid pyelonephritis
D86.85*	Sarcoid myocarditis
D86.86*	Sarcoid arthropathy
D86.87*	Sarcoid myositis
I09.81*	Rheumatic heart failure
I11.0*	Hypertensive heart disease with heart failure
I11.9	Hypertensive heart disease without heart failure
I12.0*	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9*	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0*	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10*	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11*	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2*	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of

ICD-10 CODE	DESCRIPTION
	anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.8	Other forms of acute ischemic heart disease
I25.10*	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris



ICD-10 CODE	DESCRIPTION
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris

ICD-10 CODE	DESCRIPTION
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I42.1	Obstructive hypertrophic cardiomyopathy
I42.2	Other hypertrophic cardiomyopathy
I43*	Cardiomyopathy in diseases classified elsewhere
I44.7	Left bundle-branch block, unspecified
I45.6	Pre-excitation syndrome
I47.0	Re-entry ventricular arrhythmia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.8*	Other specified cardiac arrhythmias
I50.1	Left ventricular failure, unspecified
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure
I50.23	Acute on chronic systolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure
I50.32	Chronic diastolic (congestive) heart failure

ICD-10 CODE	DESCRIPTION
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
ICD-10 CODE	DESCRIPTION
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.810	Right heart failure, unspecified
I50.811	Acute right heart failure
I50.812	Chronic right heart failure
I50.813	Acute on chronic right heart failure
I50.814	Right heart failure due to left heart failure
I50.82	Biventricular heart failure
I50.83	High output heart failure
I50.84	End stage heart failure
I50.89	Other heart failure
I51.81	Takotsubo syndrome
I65.01	Occlusion and stenosis of right vertebral artery
I65.02	Occlusion and stenosis of left vertebral artery
I65.03	Occlusion and stenosis of bilateral vertebral arteries
I65.1	Occlusion and stenosis of basilar artery
I65.21	Occlusion and stenosis of right carotid artery
I65.22	Occlusion and stenosis of left carotid artery
I65.23	Occlusion and stenosis of bilateral carotid arteries
I65.8	Occlusion and stenosis of other precerebral arteries
I66.01	Occlusion and stenosis of right middle cerebral artery
I66.02	Occlusion and stenosis of left middle cerebral artery
I66.03	Occlusion and stenosis of bilateral middle cerebral arteries
I66.11	Occlusion and stenosis of right anterior cerebral artery
I66.12	Occlusion and stenosis of left anterior cerebral artery
I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries
I66.21	Occlusion and stenosis of right posterior cerebral artery

ICD-10 CODE	DESCRIPTION
I66.22	Occlusion and stenosis of left posterior cerebral artery
I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries
I66.3	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I67.2	Cerebral atherosclerosis
I70.0	Atherosclerosis of aorta
I70.1	Atherosclerosis of renal artery
I70.211	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg
I70.212	Atherosclerosis of native arteries of extremities with intermittent claudication, left leg
I70.213	Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs
I70.218	Atherosclerosis of native arteries of extremities with intermittent claudication, other extremity
I70.221	Atherosclerosis of native arteries of extremities with rest pain, right leg
I70.222	Atherosclerosis of native arteries of extremities with rest pain, left leg
I70.223	Atherosclerosis of native arteries of extremities with rest pain, bilateral legs
I70.228	Atherosclerosis of native arteries of extremities with rest pain, other extremity
I70.231	Atherosclerosis of native arteries of right leg with ulceration of thigh
I70.232	Atherosclerosis of native arteries of right leg with ulceration of calf
I70.233	Atherosclerosis of native arteries of right leg with ulceration of ankle
I70.234	Atherosclerosis of native arteries of right leg with ulceration of heel and midfoot
I70.235	Atherosclerosis of native arteries of right leg with ulceration of other part of foot
I70.238	Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
I70.241	Atherosclerosis of native arteries of left leg with ulceration of thigh
I70.242	Atherosclerosis of native arteries of left leg with ulceration of calf
I70.243	Atherosclerosis of native arteries of left leg with ulceration of ankle
I70.244	Atherosclerosis of native arteries of left leg with ulceration of heel and midfoot
I70.245	Atherosclerosis of native arteries of left leg with ulceration of other part of foot
I70.248	Atherosclerosis of native arteries of left leg with ulceration of other part of lower leg
I70.25	Atherosclerosis of native arteries of other extremities with ulceration

ICD-10 CODE	DESCRIPTION
I70.261	Atherosclerosis of native arteries of extremities with gangrene, right leg
I70.262	Atherosclerosis of native arteries of extremities with gangrene, left leg
I70.263	Atherosclerosis of native arteries of extremities with gangrene, bilateral legs
I70.268	Atherosclerosis of native arteries of extremities with gangrene, other extremity
I70.291	Other atherosclerosis of native arteries of extremities, right leg
I70.292	Other atherosclerosis of native arteries of extremities, left leg
I70.293	Other atherosclerosis of native arteries of extremities, bilateral legs
I70.298	Other atherosclerosis of native arteries of extremities, other extremity
I70.411	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, right leg
I70.412	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, left leg
I70.413	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.418	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.421	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, right leg
I70.422	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, left leg
I70.423	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, bilateral legs
I70.428	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, other extremity
I70.431	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of thigh
I70.432	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of calf
I70.433	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of ankle
I70.434	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.435	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of foot
I70.438	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of lower leg

ICD-10 CODE	DESCRIPTION
I70.441	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of thigh
I70.442	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of calf
I70.443	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of ankle
I70.444	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.445	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of foot
I70.448	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.45	Atherosclerosis of autologous vein bypass graft(s) of other extremity with ulceration
I70.461	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, right leg
I70.462	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, left leg
I70.463	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, bilateral legs
I70.468	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, other extremity
I70.491	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, right leg
I70.492	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, left leg
I70.493	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, bilateral legs
I70.498	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, other extremity
I70.511	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.512	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.513	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.518	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.521	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, right leg

ICD-10 CODE	DESCRIPTION
I70.522	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, left leg
I70.523	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.528	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, other extremity
ICD-10 CODE	DESCRIPTION
I70.531	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of thigh
I70.532	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of calf
I70.533	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of ankle
I70.534	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.535	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of foot
I70.538	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.541	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of thigh
I70.542	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of calf
I70.543	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of ankle
I70.544	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.545	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of foot
I70.548	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.55	Atherosclerosis of nonautologous biological bypass graft(s) of other extremity with ulceration
I70.561	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, right leg
I70.562	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, left leg

ICD-10 CODE	DESCRIPTION
I70.563	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.568	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, other extremity
I70.591	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, right leg
I70.592	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, left leg
I70.593	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, bilateral legs
I70.598	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, other extremity
I70.611	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.612	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.613	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.618	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.621	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, right leg
I70.622	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, left leg
I70.623	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.628	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, other extremity
I70.631	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of thigh
I70.632	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of calf
I70.633	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of ankle
I70.634	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.635	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of



ICD-10 CODE	DESCRIPTION
	other part of foot
I70.638	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.641	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of thigh
I70.642	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of calf
I70.643	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of ankle
I70.644	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.645	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of foot
I70.648	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.65	Atherosclerosis of nonbiological bypass graft(s) of other extremity with ulceration
I70.661	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, right leg
I70.662	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, left leg
I70.663	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.668	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, other extremity
I70.691	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, right leg
I70.692	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, left leg
I70.693	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, bilateral legs
I70.698	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, other extremity
I70.711	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, right leg
I70.712	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, left leg
I70.713	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.718	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent

ICD-10 CODE	DESCRIPTION
	claudication, other extremity
I70.721	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, right leg
I70.722	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, left leg
I70.723	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.728	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, other extremity
I70.731	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of thigh
I70.732	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of calf
I70.733	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of ankle
I70.734	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.735	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of foot
I70.738	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.741	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of thigh
I70.742	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of calf
I70.743	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of ankle
I70.744	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.745	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.748	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.75	Atherosclerosis of other type of bypass graft(s) of other extremity with ulceration
I70.761	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, right leg
I70.762	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, left leg

ICD-10 CODE	DESCRIPTION
I70.763	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.768	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, other extremity
I70.791	Other atherosclerosis of other type of bypass graft(s) of the extremities, right leg
I70.792	Other atherosclerosis of other type of bypass graft(s) of the extremities, left leg
I70.793	Other atherosclerosis of other type of bypass graft(s) of the extremities, bilateral legs
I70.798	Other atherosclerosis of other type of bypass graft(s) of the extremities, other extremity
I70.8	Atherosclerosis of other arteries
I70.92	Chronic total occlusion of artery of the extremities
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)
N18.3	Chronic kidney disease, stage 3 (moderate)
N18.4	Chronic kidney disease, stage 4 (severe)
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
R06.01	Orthopnea
R06.02	Shortness of breath
R06.09	Other forms of dyspnea
R07.2	Precordial pain
R07.81	Pleurodynia
R07.82	Intercostal pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R55	Syncope and collapse
R79.89*	Other specified abnormal findings of blood chemistry
R93.1*	Abnormal findings on diagnostic imaging of heart and coronary circulation
R94.31*	Abnormal electrocardiogram [ECG] [EKG]
R94.39*	Abnormal result of other cardiovascular function study
ICD-10 CODE	DESCRIPTION
T82.855A	Stenosis of coronary artery stent, initial encounter

ICD-10 CODE	DESCRIPTION
T82.855D	Stenosis of coronary artery stent, subsequent encounter
T82.855S	Stenosis of coronary artery stent, sequela
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter
T82.857D	Stenosis of other cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.857S	Stenosis of other cardiac prosthetic devices, implants and grafts, sequela
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter
T82.867D	Thrombosis due to cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.867S	Thrombosis due to cardiac prosthetic devices, implants and grafts, sequela
T86.19	Other complication of kidney transplant
T86.290	Cardiac allograft vasculopathy
T86.298	Other complications of heart transplant
T86.39	Other complications of heart-lung transplant
Z01.810	Encounter for preprocedural cardiovascular examination
Z48.21	Encounter for aftercare following heart transplant
Z48.22	Encounter for aftercare following kidney transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z76.82	Awaiting organ transplant status
Z79.899*	Other long term (current) drug therapy
Z94.0	Kidney transplant status
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 4 Medical Necessity ICD-10 Codes Asterisk Explanation:**

\*For ICD-10-CM codes I12.0, I13.11, and I13.2, use an additional ICD-10-CM code N18.5 or N18.6 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I12.9, I13.0, and I13.10, use an additional ICD-10-CM code N18.1, N18.2, N18.3, or N18.4 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I09.81, I11.0, I13.0 and I13.2, use an additional ICD-10-CM code I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, or I50.89 to identify type of heart failure.

\* For ICD-10-CM code I25.10, use an additional ICD-10-CM code Z95.1, Z95.5, or Z98.61 to indicate post PCI or post CABG status.

\*Use ICD-10-CM code I49.8 for Brugada Syndrome.

\* The billing for the evaluation for cardiac sarcoidosis requires dual diagnoses. Use ICD-10- CM code I43 with an appropriate ICD-10-CM code D86.0, D86.1, D86.2, D86.3, D86.81, D86.82, D86.83, D86.84, D86.85, D86.86, or D86.87. The claim must be submitted with CPT code, 78429, 78432, or 78433 or 78459.

\*Use ICD-10-CM code R79.89 for an elevated cardiac troponin.

\*Use ICD-10-CM code R93.1 for recently demonstrated coronary stenosis of uncertain functional significance on a coronary angiogram or CCTA and for coronary calcium Agatston score >400.

\*Use ICD-10-CM code R94.31 for > 1 mm ST segment depression or LVH with repolarization abnormalities.

\*Use ICD-10-CM code R94.39 when an abnormal or non-diagnostic stress test is the reason cardiac imaging is being performed.

\*For ICD-10-CM code Z79.899, use an additional ICD-10-CM code T45.1X1A, T45.1X1D, T45.1X1S, T45.1X2A, T45.1X2D, T45.1X2S, T45.1X3A, T45.1X3D, T45.1X3S, T45.1X4A, T45.1X4D, T45.1X4S, T45.1X5A, T45.1X5D, or T45.1X5S to indicate the patient is being treated with an interleukin 2 product.

\*Use ICD-10-CM code Z79.899 with an appropriate ICD-10-CM Poisoning by, adverse effects of and underdosing of drugs, medicaments and biological substances (T36.0X1A-T50.996S) for imaging indications digoxin, beta blocker, calcium channel blocker and/or other antiarrhythmic medication therapy.

#### **Group 5 Paragraph:**

The following ICD-10-CM codes support medical necessity and provide limited coverage for CPT codes: **75559 and 75563**

It is the provider's responsibility to select codes carried out to the highest level of specificity and selected from the ICD-10-CM code book appropriate to the year in which the service is rendered for the claim(s) submitted.

#### **Group 5 Codes:**

ICD-10 CODE	DESCRIPTION
I09.81*	Rheumatic heart failure
I11.0*	Hypertensive heart disease with heart failure
I11.9	Hypertensive heart disease without heart failure

ICD-10 CODE	DESCRIPTION
I12.0*	Hypertensive chronic kidney disease with stage 5 chronic kidney disease or end stage renal disease
I12.9*	Hypertensive chronic kidney disease with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.0*	Hypertensive heart and chronic kidney disease with heart failure and stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.10*	Hypertensive heart and chronic kidney disease without heart failure, with stage 1 through stage 4 chronic kidney disease, or unspecified chronic kidney disease
I13.11*	Hypertensive heart and chronic kidney disease without heart failure, with stage 5 chronic kidney disease, or end stage renal disease
I13.2*	Hypertensive heart and chronic kidney disease with heart failure and with stage 5 chronic kidney disease, or end stage renal disease
I20.0	Unstable angina
I20.1	Angina pectoris with documented spasm
I20.8	Other forms of angina pectoris
I20.9	Angina pectoris, unspecified
I21.01	ST elevation (STEMI) myocardial infarction involving left main coronary artery
I21.02	ST elevation (STEMI) myocardial infarction involving left anterior descending coronary artery
I21.09	ST elevation (STEMI) myocardial infarction involving other coronary artery of anterior wall
I21.11	ST elevation (STEMI) myocardial infarction involving right coronary artery
I21.19	ST elevation (STEMI) myocardial infarction involving other coronary artery of inferior wall
I21.21	ST elevation (STEMI) myocardial infarction involving left circumflex coronary artery
I21.29	ST elevation (STEMI) myocardial infarction involving other sites
I21.3	ST elevation (STEMI) myocardial infarction of unspecified site
I21.4	Non-ST elevation (NSTEMI) myocardial infarction
I21.A1	Myocardial infarction type 2
I21.A9	Other myocardial infarction type
I22.0	Subsequent ST elevation (STEMI) myocardial infarction of anterior wall
I22.1	Subsequent ST elevation (STEMI) myocardial infarction of inferior wall
I22.2	Subsequent non-ST elevation (NSTEMI) myocardial infarction
I22.8	Subsequent ST elevation (STEMI) myocardial infarction of other sites

ICD-10 CODE	DESCRIPTION
I22.9	Subsequent ST elevation (STEMI) myocardial infarction of unspecified site
I23.7	Postinfarction angina
I24.0	Acute coronary thrombosis not resulting in myocardial infarction
I24.8	Other forms of acute ischemic heart disease
I25.10*	Atherosclerotic heart disease of native coronary artery without angina pectoris
I25.110	Atherosclerotic heart disease of native coronary artery with unstable angina pectoris
I25.111	Atherosclerotic heart disease of native coronary artery with angina pectoris with documented spasm
I25.118	Atherosclerotic heart disease of native coronary artery with other forms of angina pectoris
I25.119	Atherosclerotic heart disease of native coronary artery with unspecified angina pectoris
I25.700	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unstable angina pectoris
I25.701	Atherosclerosis of coronary artery bypass graft(s), unspecified, with angina pectoris with documented spasm
I25.708	Atherosclerosis of coronary artery bypass graft(s), unspecified, with other forms of angina pectoris
I25.709	Atherosclerosis of coronary artery bypass graft(s), unspecified, with unspecified angina pectoris
I25.710	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unstable angina pectoris
I25.711	Atherosclerosis of autologous vein coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.718	Atherosclerosis of autologous vein coronary artery bypass graft(s) with other forms of angina pectoris
I25.719	Atherosclerosis of autologous vein coronary artery bypass graft(s) with unspecified angina pectoris
I25.720	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unstable angina pectoris
I25.721	Atherosclerosis of autologous artery coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.728	Atherosclerosis of autologous artery coronary artery bypass graft(s) with other forms of angina pectoris
I25.729	Atherosclerosis of autologous artery coronary artery bypass graft(s) with unspecified angina pectoris

ICD-10 CODE	DESCRIPTION
I25.730	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unstable angina pectoris
I25.731	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.738	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with other forms of angina pectoris
I25.739	Atherosclerosis of nonautologous biological coronary artery bypass graft(s) with unspecified angina pectoris
I25.750	Atherosclerosis of native coronary artery of transplanted heart with unstable angina
I25.751	Atherosclerosis of native coronary artery of transplanted heart with angina pectoris with documented spasm
I25.758	Atherosclerosis of native coronary artery of transplanted heart with other forms of angina pectoris
I25.759	Atherosclerosis of native coronary artery of transplanted heart with unspecified angina pectoris
I25.760	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unstable angina
I25.761	Atherosclerosis of bypass graft of coronary artery of transplanted heart with angina pectoris with documented spasm
I25.768	Atherosclerosis of bypass graft of coronary artery of transplanted heart with other forms of angina pectoris
I25.769	Atherosclerosis of bypass graft of coronary artery of transplanted heart with unspecified angina pectoris
I25.790	Atherosclerosis of other coronary artery bypass graft(s) with unstable angina pectoris
I25.791	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris with documented spasm
I25.798	Atherosclerosis of other coronary artery bypass graft(s) with other forms of angina pectoris
I25.799	Atherosclerosis of other coronary artery bypass graft(s) with unspecified angina pectoris
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I25.811	Atherosclerosis of native coronary artery of transplanted heart without angina pectoris
I25.812	Atherosclerosis of bypass graft of coronary artery of transplanted heart without angina pectoris
I42.1	Obstructive hypertrophic cardiomyopathy



ICD-10 CODE	DESCRIPTION
I42.2	Other hypertrophic cardiomyopathy
I44.7	Left bundle-branch block, unspecified
I45.6	Pre-excitation syndrome
I47.0	Re-entry ventricular arrhythmia
I47.2	Ventricular tachycardia
I47.9	Paroxysmal tachycardia, unspecified
I49.01	Ventricular fibrillation
I49.02	Ventricular flutter
I49.8*	Other specified cardiac arrhythmias
I50.1	Left ventricular failure, unspecified
I50.20	Unspecified systolic (congestive) heart failure
I50.21	Acute systolic (congestive) heart failure
I50.22	Chronic systolic (congestive) heart failure
I50.23	Acute on chronic systolic (congestive) heart failure
I50.30	Unspecified diastolic (congestive) heart failure
I50.31	Acute diastolic (congestive) heart failure
I50.32	Chronic diastolic (congestive) heart failure
I50.33	Acute on chronic diastolic (congestive) heart failure
I50.40	Unspecified combined systolic (congestive) and diastolic (congestive) heart failure
I50.41	Acute combined systolic (congestive) and diastolic (congestive) heart failure
I50.42	Chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.43	Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure
I50.810	Right heart failure, unspecified
I50.811	Acute right heart failure
I50.812	Chronic right heart failure
I50.813	Acute on chronic right heart failure
I50.814	Right heart failure due to left heart failure
I50.82	Biventricular heart failure
I50.83	High output heart failure
I50.84	End stage heart failure
I50.89	Other heart failure

ICD-10 CODE	DESCRIPTION
I51.81	Takotsubo syndrome
ICD-10 CODE	DESCRIPTION
I65.01	Occlusion and stenosis of right vertebral artery
I65.02	Occlusion and stenosis of left vertebral artery
I65.03	Occlusion and stenosis of bilateral vertebral arteries
I65.1	Occlusion and stenosis of basilar artery
I65.21	Occlusion and stenosis of right carotid artery
I65.22	Occlusion and stenosis of left carotid artery
I65.23	Occlusion and stenosis of bilateral carotid arteries
I65.8	Occlusion and stenosis of other precerebral arteries
I66.01	Occlusion and stenosis of right middle cerebral artery
I66.02	Occlusion and stenosis of left middle cerebral artery
I66.03	Occlusion and stenosis of bilateral middle cerebral arteries
I66.11	Occlusion and stenosis of right anterior cerebral artery
I66.12	Occlusion and stenosis of left anterior cerebral artery
I66.13	Occlusion and stenosis of bilateral anterior cerebral arteries
I66.21	Occlusion and stenosis of right posterior cerebral artery
I66.22	Occlusion and stenosis of left posterior cerebral artery
I66.23	Occlusion and stenosis of bilateral posterior cerebral arteries
I66.3	Occlusion and stenosis of cerebellar arteries
I66.8	Occlusion and stenosis of other cerebral arteries
I67.2	Cerebral atherosclerosis
I70.0	Atherosclerosis of aorta
I70.1	Atherosclerosis of renal artery
I70.211	Atherosclerosis of native arteries of extremities with intermittent claudication, right leg
I70.212	Atherosclerosis of native arteries of extremities with intermittent claudication, left leg
I70.213	Atherosclerosis of native arteries of extremities with intermittent claudication, bilateral legs
I70.218	Atherosclerosis of native arteries of extremities with intermittent claudication, other extremity
I70.221	Atherosclerosis of native arteries of extremities with rest pain, right leg

ICD-10 CODE	DESCRIPTION
I70.222	Atherosclerosis of native arteries of extremities with rest pain, left leg
I70.223	Atherosclerosis of native arteries of extremities with rest pain, bilateral legs
I70.228	Atherosclerosis of native arteries of extremities with rest pain, other extremity
I70.231	Atherosclerosis of native arteries of right leg with ulceration of thigh
I70.232	Atherosclerosis of native arteries of right leg with ulceration of calf
I70.233	Atherosclerosis of native arteries of right leg with ulceration of ankle
I70.234	Atherosclerosis of native arteries of right leg with ulceration of heel and midfoot
I70.235	Atherosclerosis of native arteries of right leg with ulceration of other part of foot
I70.238	Atherosclerosis of native arteries of right leg with ulceration of other part of lower leg
I70.241	Atherosclerosis of native arteries of left leg with ulceration of thigh
I70.242	Atherosclerosis of native arteries of left leg with ulceration of calf
I70.243	Atherosclerosis of native arteries of left leg with ulceration of ankle
I70.244	Atherosclerosis of native arteries of left leg with ulceration of heel and midfoot
I70.245	Atherosclerosis of native arteries of left leg with ulceration of other part of foot
I70.248	Atherosclerosis of native arteries of left leg with ulceration of other part of lower leg
I70.25	Atherosclerosis of native arteries of other extremities with ulceration
I70.261	Atherosclerosis of native arteries of extremities with gangrene, right leg
I70.262	Atherosclerosis of native arteries of extremities with gangrene, left leg
I70.263	Atherosclerosis of native arteries of extremities with gangrene, bilateral legs
I70.268	Atherosclerosis of native arteries of extremities with gangrene, other extremity
I70.291	Other atherosclerosis of native arteries of extremities, right leg
I70.292	Other atherosclerosis of native arteries of extremities, left leg
I70.293	Other atherosclerosis of native arteries of extremities, bilateral legs
I70.298	Other atherosclerosis of native arteries of extremities, other extremity
I70.411	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, right leg
I70.412	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, left leg
I70.413	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.418	Atherosclerosis of autologous vein bypass graft(s) of the extremities with intermittent claudication, other extremity

ICD-10 CODE	DESCRIPTION
I70.421	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, right leg
I70.422	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, left leg
I70.423	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, bilateral legs
I70.428	Atherosclerosis of autologous vein bypass graft(s) of the extremities with rest pain, other extremity
I70.431	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of thigh
I70.432	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of calf
I70.433	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of ankle
I70.434	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.435	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of foot
I70.438	Atherosclerosis of autologous vein bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.441	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of thigh
I70.442	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of calf
I70.443	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of ankle
I70.444	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.445	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of foot
I70.448	Atherosclerosis of autologous vein bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.45	Atherosclerosis of autologous vein bypass graft(s) of other extremity with ulceration
I70.461	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, right leg
I70.462	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, left leg

ICD-10 CODE	DESCRIPTION
I70.463	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, bilateral legs
I70.468	Atherosclerosis of autologous vein bypass graft(s) of the extremities with gangrene, other extremity
I70.491	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, right leg
I70.492	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, left leg
I70.493	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, bilateral legs
I70.498	Other atherosclerosis of autologous vein bypass graft(s) of the extremities, other extremity
I70.511	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.512	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.513	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.518	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.521	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, right leg
I70.522	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, left leg
I70.523	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.528	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with rest pain, other extremity
I70.531	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of thigh
I70.532	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of calf
I70.533	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of ankle
I70.534	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.535	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with ulceration of other part of foot
I70.538	Atherosclerosis of nonautologous biological bypass graft(s) of the right leg with

ICD-10 CODE	DESCRIPTION
	ulceration of other part of lower leg
I70.541	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of thigh
I70.542	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of calf
I70.543	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of ankle
I70.544	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.545	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of foot
I70.548	Atherosclerosis of nonautologous biological bypass graft(s) of the left leg with ulceration of other part of lower leg
ICD-10 CODE	DESCRIPTION
I70.55	Atherosclerosis of nonautologous biological bypass graft(s) of other extremity with ulceration
I70.561	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, right leg
I70.562	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, left leg
I70.563	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.568	Atherosclerosis of nonautologous biological bypass graft(s) of the extremities with gangrene, other extremity
I70.591	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, right leg
I70.592	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, left leg
I70.593	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, bilateral legs
I70.598	Other atherosclerosis of nonautologous biological bypass graft(s) of the extremities, other extremity
I70.611	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, right leg
I70.612	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, left leg
I70.613	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent

ICD-10 CODE	DESCRIPTION
	claudication, bilateral legs
I70.618	Atherosclerosis of nonbiological bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.621	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, right leg
I70.622	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, left leg
I70.623	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, bilateral legs
I70.628	Atherosclerosis of nonbiological bypass graft(s) of the extremities with rest pain, other extremity
I70.631	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of thigh
I70.632	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of calf
I70.633	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of ankle
I70.634	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.635	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of foot
I70.638	Atherosclerosis of nonbiological bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.641	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of thigh
I70.642	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of calf
I70.643	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of ankle
I70.644	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.645	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of foot
I70.648	Atherosclerosis of nonbiological bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.65	Atherosclerosis of nonbiological bypass graft(s) of other extremity with ulceration
I70.661	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, right leg

ICD-10 CODE	DESCRIPTION
I70.662	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, left leg
I70.663	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, bilateral legs
I70.668	Atherosclerosis of nonbiological bypass graft(s) of the extremities with gangrene, other extremity
I70.691	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, right leg
I70.692	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, left leg
I70.693	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, bilateral legs
I70.698	Other atherosclerosis of nonbiological bypass graft(s) of the extremities, other extremity
I70.711	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, right leg
I70.712	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, left leg
I70.713	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, bilateral legs
I70.718	Atherosclerosis of other type of bypass graft(s) of the extremities with intermittent claudication, other extremity
I70.721	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, right leg
I70.722	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, left leg
I70.723	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, bilateral legs
I70.728	Atherosclerosis of other type of bypass graft(s) of the extremities with rest pain, other extremity
I70.731	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of thigh
I70.732	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of calf
I70.733	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of ankle
I70.734	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of heel and midfoot
I70.735	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of



ICD-10 CODE	DESCRIPTION
	other part of foot
I70.738	Atherosclerosis of other type of bypass graft(s) of the right leg with ulceration of other part of lower leg
I70.741	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of thigh
I70.742	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of calf
I70.743	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of ankle
I70.744	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of heel and midfoot
I70.745	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of foot
I70.748	Atherosclerosis of other type of bypass graft(s) of the left leg with ulceration of other part of lower leg
I70.75	Atherosclerosis of other type of bypass graft(s) of other extremity with ulceration
I70.761	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, right leg
I70.762	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, left leg
I70.763	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, bilateral legs
I70.768	Atherosclerosis of other type of bypass graft(s) of the extremities with gangrene, other extremity
I70.791	Other atherosclerosis of other type of bypass graft(s) of the extremities, right leg
I70.792	Other atherosclerosis of other type of bypass graft(s) of the extremities, left leg
I70.793	Other atherosclerosis of other type of bypass graft(s) of the extremities, bilateral legs
I70.798	Other atherosclerosis of other type of bypass graft(s) of the extremities, other extremity
I70.8	Atherosclerosis of other arteries
I70.92	Chronic total occlusion of artery of the extremities
N18.1	Chronic kidney disease, stage 1
N18.2	Chronic kidney disease, stage 2 (mild)
N18.3	Chronic kidney disease, stage 3 (moderate)
N18.4	Chronic kidney disease, stage 4 (severe)

ICD-10 CODE	DESCRIPTION
N18.5	Chronic kidney disease, stage 5
N18.6	End stage renal disease
R06.01	Orthopnea
R06.02	Shortness of breath
R06.09	Other forms of dyspnea
R07.2	Precordial pain
R07.81	Pleurodynia
R07.82	Intercostal pain
R07.89	Other chest pain
R07.9	Chest pain, unspecified
R55	Syncope and collapse
R79.89*	Other specified abnormal findings of blood chemistry
R93.1*	Abnormal findings on diagnostic imaging of heart and coronary circulation
R94.31*	Abnormal electrocardiogram [ECG] [EKG]
R94.39*	Abnormal result of other cardiovascular function study
T82.855A	Stenosis of coronary artery stent, initial encounter
T82.855D	Stenosis of coronary artery stent, subsequent encounter
T82.855S	Stenosis of coronary artery stent, sequela
T82.857A	Stenosis of other cardiac prosthetic devices, implants and grafts, initial encounter
T82.857D	Stenosis of other cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.857S	Stenosis of other cardiac prosthetic devices, implants and grafts, sequela
T82.867A	Thrombosis due to cardiac prosthetic devices, implants and grafts, initial encounter
T82.867D	Thrombosis due to cardiac prosthetic devices, implants and grafts, subsequent encounter
T82.867S	Thrombosis due to cardiac prosthetic devices, implants and grafts, sequela
T86.19	Other complication of kidney transplant
T86.290	Cardiac allograft vasculopathy
T86.298	Other complications of heart transplant
ICD-10 CODE	DESCRIPTION
T86.39	Other complications of heart-lung transplant
Z01.810	Encounter for preprocedural cardiovascular examination

ICD-10 CODE	DESCRIPTION
Z48.21	Encounter for aftercare following heart transplant
Z48.22	Encounter for aftercare following kidney transplant
Z48.280	Encounter for aftercare following heart-lung transplant
Z76.82	Awaiting organ transplant status
Z79.899*	Other long term (current) drug therapy
Z94.0	Kidney transplant status
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 5 Medical Necessity ICD-10 Codes Asterisk Explanation:**

\*For ICD-10-CM codes I12.0, I13.11, and I13.2, use an additional ICD-10-CM code N18.5 or N18.6 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I12.9, I13.0, and I13.10, use an additional ICD-10-CM code N18.1, N18.2, N18.3, or N18.4 to identify the stage of chronic kidney disease.

\*For ICD-10-CM codes I09.81, I11.0, I13.0 and I13.2, use an additional ICD-10-CM code I50.1, I50.20, I50.21, I50.22, I50.23, I50.30, I50.31, I50.32, I50.33, I50.40, I50.41, I50.42, I50.43, I50.810, I50.811, I50.812, I50.813, I50.814, I50.82, I50.83, I50.84, or I50.89 to identify type of heart failure.

\* For ICD-10-CM code I25.10, use an additional ICD-10-CM code Z95.1, Z95.5, or Z98.61 to indicate post PCI or post CABG status.

\*Use ICD-10-CM code I49.8 for Brugada Syndrome.

\*Use ICD-10-CM code R79.89 for an elevated cardiac troponin.

\*Use ICD-10-CM code R93.1 for recently demonstrated coronary stenosis of uncertain functional significance on a coronary angiogram or CCTA and for coronary calcium Agatston score >400.

\*Use ICD-10-CM code R94.31 for > 1 mm ST segment depression or LVH with repolarization abnormalities.

\*Use ICD-10-CM code R94.39 when an abnormal or non-diagnostic stress test is the reason cardiac imaging is being performed.

\*For ICD-10-CM code Z79.899, use an additional ICD-10-CM code T45.1X1A, T45.1X1D, T45.1X1S, T45.1X2A, T45.1X2D, T45.1X2S, T45.1X3A, T45.1X3D, T45.1X3S, T45.1X4A, T45.1X4D, T45.1X4S, T45.1X5A, T45.1X5D, or T45.1X5S to indicate the patient is being treated with an interleukin 2 product.

\*Use ICD-10-CM code Z79.899 with an appropriate ICD-10-CM Poisoning by, adverse effects of and underdosing of drugs, medicaments and biological substances (T36.0X1A-T50.996S) for imaging indications digoxin, beta blocker, calcium channel blocker and/or other antiarrhythmic medication therapy.

### ICD-10 Codes that DO NOT Support Medical Necessity

#### Group 1 Paragraph:

All those not listed under the "ICD-10 Codes that Support Medical Necessity" section of this article.

#### Group 1 Codes:

ICD-10 CODE	DESCRIPTION
XX000	Not Applicable

### Additional ICD-10 Information

N/A

#### 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.

CODE	DESCRIPTION
999x	Not Applicable

#### 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.

CODE	DESCRIPTION
99999	Not Applicable

## Other Coding Information

N/A

## Revision History Information

REVISION HISTORY DATE	REVISION HISTORY NUMBER	REVISION HISTORY EXPLANATION
03/16/2020	R1	This billing and coding article for L38396 Cardiology Non-emergent Outpatient Stress Testing has been released for the Final Notice period 01/30/2020 - 03/14/2020.

## Associated Documents

### Related Local Coverage Document(s)

LCD(s)

L38396 - Cardiology Non-emergent Outpatient Stress Testing

### Related National Coverage Document(s)

N/A

### Statutory Requirements URL(s)

N/A

### Rules and Regulations URL(s)

N/A

### CMS Manual Explanations URL(s)

N/A

### Other URL(s)

N/A

### Public Version(s)

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## Keywords

- Cardiology
- Stress testing
- Non-emergent