

**Contractor's Policy Number**

00-06

**Contractor Name**

CareFirst of Maryland Inc., Medicare Part A

**Contractor Number**

00190

**Contractor Type**

Fiscal Intermediary

**LMRP Title**

Myocardial Perfusion Imaging

**AMA CPT Copyright Statement**

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**CMS National Coverage Policy**

- Establishment of national policy supercedes all previous contractor policy statements, including Local Medical Policy coverage guidelines.
- Title XVIII of the Social Security Act, section 1862 (a) (7). This section excludes routine physical examinations.
- Title XVIII of the Social Security Act, section 1862 (a) (1) (A). This section allows coverage and payment for only those services that are considered to be medically reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.

**Primary Geographic Jurisdiction**

Maryland

Washington, DC

## **Secondary Geographic Jurisdiction**

Alabama, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Missouri, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Wisconsin, Washington state, and Wyoming

## **CMS Region**

Region III

## **CMS Consortium**

Northeast

## **Original Policy Effective Date**

06/26/2000

## **Original Policy Ending Date**

Not applicable at this time.

## **LMRP Description**

Myocardial perfusion imaging is a non-invasive and safe method of recognizing coronary blood flow and may also be useful in some situations for assessing left ventricular muscle function.

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

Many different radionuclides are used most often including:

- Technetium-99m tetrofosmin (Myoview™),
- Technetium-99m sestamibi (Cardiolite™),
- Technetium-99m teboroxime (Cardiotech™), or;
- Thallium-201

When these compounds are injected intravenously and a radiation detector is placed over the heart, an image of the heart reflecting relative myocardial perfusion can be generated and electronically, as well as photographically, recorded.

Thallium-201, Tc-99m sestamibi, technetium-99m tetrofosmin, and Tc-99m teboroxime are used to assess myocardial perfusion at rest and during stress testing. Most commonly, there is no evidence of ischemia (diminished blood flow to the myocardium) during the resting state. When stressed, however, evidence of myocardial ischemia may become quite obvious. Usually a standard treadmill exercise tolerance test is used to determine this. However, under certain situations as listed under the clinical indications, standard exercise stress testing is unable to accurately diagnose the presence or absence of myocardial ischemia. Scintigraphic stress testing, utilizing one of these agents, can be utilized in conjunction with stress testing under these circumstances. Comparing the scintigraphic imaging associated with the stress test to a rest scintigraphic study, myocardial scarring from prior infarction can be differentiated from exercise-induced ischemia.

When exercise testing is not advisable, or the patient is unable to exercise to a level adequate to stress the heart, dipyridamole (Persantine™) pharmacologic stress testing (in conjunction with nuclear myocardial perfusion scanning) can be substituted for exercise stress testing. Persantine™ is a potent coronary vasodilator that inhibits the cellular uptake of endogenous adenosine and thus potentiates the vasodilating effects of adenosine, which results in preferential uptake of the scintigraphic agent by the best perfused areas.

The FDA has approved other drugs (e.g., Adenoscan™), that can also be used to accomplish the same goal by increasing the amount of adenosine available to cause coronary dilatation. Single Photon Emission Computed Tomography (SPECT) has been utilized to generate multiple reconstructed images utilizing tomographic techniques, thus allowing images of “slices” of the heart to be imaged in multiple planes.

Clinical indications for myocardial perfusion include:

- Evaluation for past and recent infarction when there is uncertainty after careful electrocardiographic review,
- Evaluation of patients with suspected angina and non-interpretable EKG changes (Examples: caused by drugs, bundle branch block, left ventricular hypertrophy, or intrinsic baseline abnormalities involving the resting EKG),
- Evaluation for acute myocardial infarction in patients with chest pain,
- As part of the decision-making process following coronary angiography, regarding coronary artery bypass surgery or percutaneous transluminal coronary angioplasty,
- Evaluation of the effectiveness of either medical or surgical reperfusion therapy,
- Evaluation of patients with an abnormal resting EKG, unexplained cardiomegaly, syncope, ventricular arrhythmia, or cardiomyopathy where the etiology is suspected to be coronary insufficiency, or;
- Evaluation of myocardial perfusion before vascular surgical procedures (e.g., repair of abdominal aortic aneurysm carotid endarterectomy) may be appropriate if reasonable and necessary for the diagnosis and the treatment of the patient's condition.

## **HCPCS Section(s) & Benefit Category**

Radiology/Cardiovascular System

## **Type(s) of Bill**

11X, 12X, 13X, 14X, 18X, 21X, 22X, 23X,

## **Revenue Code(s)**

32X, 333, 34X, 35X, 40X

## **CPT/HCPCS Code(s)**

78460                    *Myocardial perfusion imaging, (planar) single study, at rest or stress (exercise and/or pharmacologic), with or without quantification*

78461                    *multiple studies, (planar) at rest and/or*

*stress (exercise and/or pharmacologic), and redistribution and/or rest injection, with or without quantification*

78464 *tomographic (SPECT), single study at rest or stress (exercise and/or pharmacologic), with or without quantification*

78465 *tomographic (SPECT), multiple studies, at rest and/or stress (exercise and/or pharmacologic) and redistribution and/or rest injection, with or without quantification*

### **Not Otherwise Classified (NOC)**

N/A

### **ICD-9-CM Codes That Support Medical Necessity**

Medicare is establishing the following limited coverage for codes 78460, 78461, 78464, and 78465:

#### **Covered for:**

|               |  |
|---------------|--|
| 402.00-402.01 | Malignant hypertensive heart disease                       |
| 410.00-410.02 | Acute myocardial infarction of the anterolateral wall      |
| 410.10-410.12 | Acute myocardial infarction of other anterior wall         |
| 410.20-410.22 | Acute myocardial infarction of inferolateral wall          |
| 410.30-410.32 | Acute myocardial infarction of inferoposterior wall        |
| 410.40-410.42 | Acute myocardial infarction of other inferior wall         |
| 410.50-410.52 | Acute myocardial infarction of other lateral wall          |
| 410.60-410.62 | Acute myocardial infarction true posterior wall infarction |
| 410.70-410.72 | Acute myocardial infarction subendocardial infarction      |
| 410.80-410.82 | Acute myocardial infarction of other specified sites       |
| 410.90-410.92 | Acute myocardial infarction unspecified site               |
| 411.0-411.1   | Other acute and subacute forms of ischemic heart disease   |
| 411.81        | Coronary occlusion without myocardial infarction           |
| 411.89        | Other acute and subacute form of ischemic heart disease    |
| 413.0-413.1   | Angina pectoris; decubitus or Prinzmetal                   |
| 413.9         | Other and unspecified angina pectoris                      |
| 414.00-414.03 | Coronary atherosclerosis                                   |

|               |   |
|---------------|---|
| 414.10        | Aneurysm of heart (wall)  |
| 414.8         | Other specified forms of chronic ischemic heart disease                                   |
| 424.1         | Aortic valve disorders  |
| 425.0-425.5   | Cardiomyopathy  |
| 425.7-425.9   |   |
| 426.0         | Atrioventricular block, complete  |
| 426.2-426.4   | Bundle branch block; left hemiblock, right, other   |
| 426.50-426.53 |   |
| 427.1         | Paroxysmal ventricular tachycardia  |
| 427.31        | Atrial fibrillation   |
| 427.32        | Atrial flutter  |
| 427.41 427.42 | Ventricular fibrillation and flutter  |
| 427.69        | Premature beats, other  |
| 428.0-428.1   | Heart failure; congestive, left   |
| 428.9         |   |
| 429.2         | Cardiovascular disease, unspecified   |
| 780.2         | Syncope and collapse  |
| 786.02        | Orthopnea   |
| 786.09        | Symptoms involving respiratory system and other chest symptoms, other                     |
| 786.50        | Chest pain, unspecified   |
| 786.51        | Precordial chest pain   |
| 794.31        | Abnormal electrocardiogram  |
| V45.81        | Post surgical aortocoronary bypass status   |
| V45.82        | Post surgical percutaneous transluminal coronary angioplasty status                       |
| V67.0         | Follow-up examination; following surgery  |
| V72.81        | Pre-operative cardiovascular examination  |
|               | <b>Note:</b> Use this diagnosis code only for high-risk patients and high-risk surgeries. |

### **Diagnosis that Support Medical Necessity**

N/A

## **ICD-9 Codes that DO NOT Support Medical Necessity**

N/A

## **Diagnosis that DO NOT Support Medical Necessity**

N/A

## **Reasons for Denial**

- The medical record does not verify that the service described by the HCPCS code was provided.
- The service was not documented in the medical record.
- The service was performed for a diagnosis other than those identified under “ICD-9-CM Codes That Support Medical Necessity.”
- The service was not medically necessary.
- The service does not follow the guidelines for this policy.

## **Non-covered ICD-9-CM Code(s)**

All diagnoses not listed in the “ICD-9-CM Codes That Support Medical Necessity” section of this policy.

## **Noncovered Diagnosis**

N/A

## **Coding Guidelines**

- To report this service, use the appropriate HCPCS codes.
- All of the coverage criteria must be met before Medicare can reimburse this service.
- Diagnosis must be present on any claim submitted.
- The diagnosis code must be representative of the patient’s condition.

## **Documentation Requirements**

Documentation supporting the medical necessity should be legible, maintained in the patient’s medical record, and available to Medicare upon request.

## **Utilization Guidelines**

N/A

## **Other Comments**

If codes 78461 and 78465 are billed on the same date of service, only code 78465 will be reimbursed.

## **Sources of Information**

- TrailBlazer Medicare Part B Newsletters: No. 026, June 26, 1998, No. 030, February 10, 1999.

## **Advisory Committee Notes**

This policy does not reflect the sole opinion of the contractor or Contractor Medical Director. Although the final decision rests with the contractor, this policy was developed in cooperation with advisory groups, which includes representatives from the appropriate specialty (ies).

Advisory Committee meeting date:

## **Start Date of Comment Period**

04/5/2000

## **End Date of Comment Period**

05/22/2000

## **Start Date of Notice Period**

05/26/2000.

## **Revision History**

| <u>Number</u> | <u>Date</u> | <u>Changes</u> |
|---------------|-------------|----------------|
|---------------|-------------|----------------|

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