Cardiac computed tomographic angiography (CCTA), also known as computed tomography of the heart and coronary arteries, or multidetector computed cardiac tomography (MDCT) is considered reasonable and necessary for the evaluation of suspected symptomatic coronary artery disease (CAD) and for the detection of structural and morphologic intracardiac and extra-cardiac conditions.

Use of a CCTA is expected to avoid diagnostic cardiac catheterization. If high pre-test probability of CAD exists, Palmetto expects the patient to undergo invasive coronary angiography with appropriate percutaneous coronary intervention.

To establish CCTA medical necessity, your case must meet at least one indication in the following two categories:

**Symptomatic Coronary Artery Disease (CAD)**

1. Evaluation of Acute Chest Pain, unexplained dyspnea or symptoms suggesting angina pectoris (such as jaw pain) when there is:
   - Intermediate pre-test probability of CAD*, **and**
   - No EKG changes to suggest acute myocardial injury or ischemia, **and**
   - Normal initial cardiac markers.

2. Evaluation of Chest Pain Syndrome, when there is:
   - Intermediate pre-test probability of CAD*, **and**
   - Uninterpretable EKG** or patient is unable to exercise, **or**
   - Uninterpretable or equivocal stress test (exercise, perfusion or stress echo)

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**FOR CMS (MEDICARE) MEMBERS ONLY**

Coverage Indications, Limitations, and/or Medical Necessity

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Intermediate pretest probability of CAD by age, gender and symptoms is between 10 and 90% as referenced in the ACCF/ACR 2006 Appropriateness Criteria for Cardiac Computed Tomography and Cardiac Magnetic Resonance Imaging.

** Uninterpretable EKG refers to EKGs with resting ST segment depression greater than or equal to 0.10mV, complete left bundle branch block, pre-excitation, or paced rhythm.


**Suspected Cardiac Structural/Morphologic Anomalies**

1. Detection of intracardiac and extracardiac structures in:
   - Evaluation of cardiac mass (suspected tumor or thrombus) or
   - Evaluation of pericardial conditions (mass, constrictive pericarditis, or complications of cardiac surgery), or
   - Patients with technically limited images from echocardiogram, MRI or TEE.

2. Detection of morphologic intracardiac and extracardiac structures for:
   - Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation. While data is limited for 3D reconstruction of the left atrium for ablations, there is broad consensus among cardiologists that these images, which are integrated and used in real-time in the procedure room to shorten procedure time, improve therapeutic success and enhance patient safety, or
   - Non-invasive coronary vein mapping prior to placement of biventricular pacemaker, or
   - Non-invasive coronary arterial mapping, including internal mammary artery, prior to repeat cardiac surgical revascularization, or
   - Detection of complex congenital heart disease including anomalies of coronary circulation, great vessels, and cardiac chamber and valves, or
   - Evaluation of coronary arteries in patients with new onset heart failure to assess etiology.

**Limitations:**

1. Coverage of CCTA is limited to CT devices that process thin, high resolution slices. Decreased resolution and slower rotation speeds result in a higher number of non-evaluable segments. At the current time, Medicare requires the multidetector scanner to have collimation of 0.625 mm or less, and a rotational speed of 375 msec or less, or to have at least 64 slice detector design. Do not submit studies from scanners that do not meet these requirements.

2. Medicare does not cover a screening CCTA for asymptomatic patients, for risk stratification or for quantitative evaluation of coronary calcium.
Ultrafast CT scan of the heart (electron-beam tomography [EBT] or electron-beam computed tomography [EBCT]) is not a covered service.

3. Simultaneous exclusion of obstructive CAD, pulmonary embolism, and aortic dissection (“triple rule-out”) in the emergency department is not covered. In order to optimize imaging of the right coronary artery (RCA), contrast must be cleared from the right sided chambers during acquisition, a process that leads to suboptimal contrast timing in the pulmonary arteries. Simultaneous rule-out of aortic pathology (at the low pitch needed to properly image the coronaries) mandates thicker slices in order to capture the total volume required in a reasonable breath hold. The increased slice thickness degrades coronary image quality.

4. CCTA patients must be able to lie still, follow breathing instructions, take nitroglycerine for coronary dilatation and take a beta-blocker or calcium blocker to achieve heart rates less than 70 BPM.

5. Prior to the initiation of a CCTA, there must be an imaging assessment of coronary calcification (calcium scoring). The physician must make an assessment of the anatomic location, degree and intensity of calcification and impact of calcification on the utility of the test results. CCTAs performed on patients with elevated quantitative calcium scores that preclude accurate assessment of coronary anatomy are not covered by Medicare.

CPT/HCPCS Codes

Group 1 Paragraph: CPT Codes

Group 1 Codes:
75571 Ct hrt w/o dye w/ca test
75572 Ct hrt w/3d image
75573 Ct hrt w/3d image congen
75574 Ct angio hrt w/3d image

Please refer to the CMS website for the ICD-10 Codes that Support Medical Necessity.

Documentation Requirements

Medical record documentation should be legible, relevant and sufficient to justify services billed. This documentation should be maintained in the patient’s medical record, and must be made available to the A/B MAC upon request.

When patient records are requested, Palmetto GBA expects the cardiac CT angiogram to be performed for indications listed in this policy.
**Utilization Guidelines**

Palmetto GBA expects that CCTA is performed under the direct supervision of a physician with appropriate training in CT coronary angiography and cardiac CT imaging equivalent to guidelines set forth by the ACC or ACR (Circulation. 2005;112(4):598-617; J Am Coll Cardiol. 2005;46(2):383-402.)

Reviewed/Approved by Michael Pentecost, MD, Chief Medical Officer