Coronary Artery Calcium Scoring and Coronary Computed Tomography Angiography

Medical Coverage Policy

Effective Date: 04/24/2014
Revision Date: 04/24/2014
Review Date: 04/24/2014
Policy Number: CLPD-0350-008

Change Summary: Updated Description, Coverage Determination, Coverage Limitations, Provider Claims Codes, References

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Description
Coronary artery calcium (CAC) scoring is a noninvasive test that has been reported to detect the presence of subclinical coronary artery disease (CAD) by measuring the location and extent of calcium in the coronary arteries. Purportedly, the presence of (CAC) has been shown to be strongly correlated with the extent of atherosclerotic plaque as well as the severity of CAD. Test to determine CAC scoring include:

- Electron beam computed tomography (EBCT), also known as ultrafast computed tomography (UFCT) (Refer to Coverage Limitations section)
- Multi-slice CT (Refer to Coverage Limitations section)
Coronary computed tomography angiography (CCTA) is a noninvasive imaging modality designed to be an alternative to invasive cardiac angiography (cardiac catheterization) for diagnosing CAD by visualizing the blood flow in arterial and venous vessels. The gold standard for diagnosing coronary artery stenosis is cardiac catheterization.

**Coverage Determination**

Humana members may be eligible under the Plan for **CCTA** when the following criteria are met:

- All studies must be approved by a treating physician or a qualified non-physician practitioner; **AND**

- Coverage of this modality for coronary artery assessment is limited to scanners that process thin, high resolution slices (1 mm or less). The multi-detector row scanner must have at least 64 slices per rotation capability (collimations of at least 32x2 or 64x1) and with gantry rotation times of 420 milliseconds or less should be utilized; **AND**

- As an alternative to stress echocardiography or stress radionuclide scanning in select patients with chest pain who have an equivocal or suspected inaccurate stress electrocardiogram (EKG); **OR**

- If stress echocardiography or stress radionuclide scanning is equivocal or indeterminate or has artifact; **OR**

- Assessment of right ventricular function and morphology in patients of suspected arrhythmogenic right ventricular dysplasia (ARVD); **OR**

- Evaluation in the emergency department (ED) of patients with acute chest pain who are without known CAD; **OR**

- Evaluation of cardiac anatomy in preparation for electrophysiological procedures including electrophysiological testing, ablation and intervention; **OR**

- Evaluation of native or prosthetic cardiac valvular mass and pericardial dysfunction and inadequate visualization with other noninvasive methods; **OR**

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• Evaluation of patients in an outpatient setting with chest pain who are without known CAD; OR

• Evaluation of the cause of chest pain or other symptoms that may be related to an angina equivalent (such as dyspnea) in patients with prior bypass surgery or intracoronary artery stent placement; OR

• Left bundle branch block, congestive heart failure or myocardial systolic or diastolic dysfunction to exclude significant CAD as a cause of these presentations; OR

• Suspected congenital anomalies of the coronary circulation

**Note:** The criteria for CCTA are not consistent with the Medicare National Coverage Policy and therefore may not be applicable to Medicare members. Refer to the CMS website at [http://www.cms.gov](http://www.cms.gov) for additional information.

**Coverage Limitations**

Humana members may **NOT** be eligible under the Plan for **coronary artery calcium scoring tests**. These technologies are considered experimental/investigational as they are not identified as widely used and generally accepted for the proposed uses as reported in nationally recognized peer-reviewed medical literature published in the English language.

Humana members may **NOT** be eligible under the Plan for **CCTA** for the following:

• The test is never covered for screening; **AND**

• The selection of the test should be made within the context of other testing modalities such as stress myocardial perfusion images or cardiac ultrasound results so that the resulting information facilitates the management decision and does not merely add a new layer of testing; **AND**

• If there is pre-test knowledge of sufficiently extensive coronary artery calcification, which would diminish the interpretive value or the presence of arrhythmia; **OR**

• Patients with an allergy or intolerance to iodinated contrast material

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Humana members may **NOT** be eligible under the Plan for CCTA for any indications other than those listed above. This technology is considered not medically necessary as defined in the member’s individual certificate. Please refer to the member’s individual certificate for the specific definition.

**Background**

Additional information about CAD may be found from the following websites:

- American Heart Association - [http://www.heart.org](http://www.heart.org)

**Medical Alternatives**

Alternatives to coronary artery calcium scoring or CCTA include, but may not be limited to, the following:

- Coronary angiogram
- Stress echocardiography
- Stress EKG
- Stress radionuclide myocardial perfusion imaging (SPECT or PET)

To make the best health decision for the patient’s individual needs, the patient should consult his/her physician.

**Provider Claims Codes**

Any CPT, HCPCS or ICD codes listed on this medical coverage policy are for informational purposes only. Do not rely on the accuracy and inclusion of specific codes. Inclusion of a code does not guarantee coverage and or reimbursement for a service or procedure.

<table>
<thead>
<tr>
<th>CPT® Code(s)</th>
<th>Description</th>
<th>Comments</th>
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<tbody>
<tr>
<td>75571</td>
<td>Computed tomography, heart, without contrast material, with quantitative evaluation of coronary calcium</td>
<td>Not Covered</td>
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<table>
<thead>
<tr>
<th>CPT® Category III Code(s)</th>
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<th>Comments</th>
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<tbody>
<tr>
<td>75572</td>
<td>Computed tomography, heart, with contrast material, for evaluation of cardiac structure and morphology (including 3D image postprocessing, assessment of cardiac function, and evaluation of venous structures, if performed)</td>
<td>Not Covered if used to report CCTA performed as a screening test</td>
</tr>
<tr>
<td>75573</td>
<td>Computed tomography, heart, with contrast material, for evaluation of cardiac structure and morphology in the setting of congenital heart disease (including 3D image postprocessing, assessment of LV cardiac function, RV structure and function and evaluation of venous structures, if performed)</td>
<td>Not Covered if used to report CCTA performed as a screening test</td>
</tr>
<tr>
<td>75574</td>
<td>Computed tomographic angiography, heart, coronary arteries and bypass grafts (when present), with contrast material, including 3D image postprocessing (including evaluation of cardiac structure and morphology, assessment of cardiac function, and evaluation of venous structures, if performed)</td>
<td>Not Covered if used to report CCTA performed as a screening test</td>
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### CPT® Category III Code(s) Description

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<th>HCPCS Code(s)</th>
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<tr>
<td>S8092</td>
<td>Electron beam computed tomography (also known as ultrafast CT, cine CT)</td>
<td>Not Covered</td>
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### ICD-9 Procedure Code(s) Description

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<tbody>
<tr>
<td>87.41</td>
<td>Computerized axial tomography of thorax</td>
<td>Not Covered if used to report CCTA performed as a screening test</td>
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</tbody>
</table>

### Medical Terms

**Angina Pectoris** - Syndrome characterized by paroxysmal, constricting pain in the chest associated with an insufficient supply of blood to the heart.

**Angiography** - Radiographic technique where a radio-opaque (shows up on X-ray) contrast material is injected into a blood vessel for the purpose of identifying its...

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anatomy on X-ray. This technique is used to image arteries in the brain, heart, kidneys, gastrointestinal tract, aorta, neck, chest, limbs and pulmonary circulation.

**Beta Blocker** - Class of drug that blocks the action of adrenaline and can relieve stress to the heart muscle; often used to slow the heart rate and lower blood pressure.

**Biventricular** - Pertaining to both the left and right ventricles of the heart.

**Cardiac Catheterization** - Passage of a small catheter through a vein in an arm, leg or the neck, into the heart, permitting the securing of blood samples, determination of Intracardiac pressure, detection of cardiac anomalies, planning of operative approaches and determination, implementation or evaluation of appropriate therapy.

**Congenital Anomaly** - Malformation (birth defect) that occurs during fetal development (before a baby is born).

**Echocardiography** - Diagnostic test that uses ultrasound waves to make images of the heart chambers, valves and surrounding structures, as well as the flow of blood through the heart.

**Electrocardiogram (ECG, EKG)** - A graphic recording of the electrical activity of the heart; used to evaluate cardiac function and to diagnose arrhythmias and other cardiac disorders.

**Equivocal** - Uncertain as a sign or indication.

**Myocardial Perfusion Imaging** - Test that uses a radioactive agent to evaluate the heart’s blood flow and function. Since blood flow to the heart is best evaluated when the work of the heart is increased, this test is usually performed along with exercise. If the patient is unable to exercise, a drug that increases the work of the heart can be administered to mimic the effects of exercise.

**Stenosis** - Narrowing or stricture of a duct, canal or blood vessel.

**Stress Radionuclide** - Procedure that involves injecting a radioactive isotope, typically thallium or cardiolyte, into the patient's vein after which an image of the patient's heart becomes visible with a special camera. Nuclear images are obtained in the
resting condition and again immediately following exercise. The two sets of images are then compared to discern differences that may be attributed to pathologies such as inducible ischemia.

References


American Heart Association (AHA) Website. ACCF/ACR/AHA/NASCI/SAIP/SCAI/SCCT

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American Heart Association (AHA) Website. Noninvasive coronary artery imaging: magnetic resonance angiography and multidetector computed tomography angiography: a scientific statement from the American Heart Association Committee on Cardiovascular Imaging and Intervention of the Council on Cardiovascular Imaging.


Institute for Clinical Systems Improvement (ICSI) Website. Health care guideline:

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UpToDate Website. Radiation dose and risk of malignancy from cardiovascular...
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