# Cardiac Computed Tomography (CT) and Coronary CT Angiography

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<tr>
<th>Type:</th>
<th>Policy Specific Section:</th>
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<tbody>
<tr>
<td>Medical Necessity and Investigational / Experimental</td>
<td>Radiology (Diagnostic/Therapeutic)</td>
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<th>Original Policy Date:</th>
<th>Effective Date:</th>
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<tr>
<td>April 03, 2009</td>
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## Definitions of Decision Determinations

**Medically Necessary:** A treatment, procedure or drug is medically necessary only when it has been established as safe and effective for the particular symptoms or diagnosis, is not investigational or experimental, is not being provided primarily for the convenience of the patient or the provider, and is provided at the most appropriate level to treat the condition.

**Investigational/Experimental:** A treatment, procedure or drug is investigational when it has not been recognized as safe and effective for use in treating the particular condition in accordance with generally accepted professional medical standards. This includes services where approval by the federal or state governmental is required prior to use, but has not yet been granted.

**Split Evaluation:** Blue Shield policy review can result in a Split Evaluation, where a treatment, procedure or drug will be considered to be investigational for certain indications or conditions, but will be deemed safe and effective for other indications or conditions, and therefore potentially medically necessary in those instances.

## Description

Cardiac computed tomography (CT) is an evolving technology with various examinations that may employ electrocardiogram (ECG) gating along with image post processing to assess the anatomy and pathology of the heart, central great vessels, pericardium, coronary vessels and intracardiac structures. This policy will address unenhanced cardiac CT, contrast-enhanced cardiac CT, and CT angiography (CTA) of the coronary arteries (coronary CTA or CCTA).

Unenhanced cardiac CT scans, electron beam CT (EBCT) or multi-detector row CT (MDCT), are primary methods used for measurement of calcium artery calcification (CAC). These scans
have very high speeds of image acquisition, allowing unique imaging of the moving heart, and visualization of CAC. Electron beam CT software permits quantification of calcium area and density which are then translated into calcium scores. Calcium scores have been investigated as a technique for detecting CAC, both as a diagnostic technique in symptomatic patients to rule out an atherosclerotic etiology of symptoms, or in asymptomatic patients as an adjunctive method for risk stratification for coronary artery disease.

Contrasted-enhanced cardiac CT also involves rapid imaging with a MDCT, but is performed after intravenous administration of iodinated contrast to allow evaluation of the cardiac chambers, myocardium, valves, pericardium, and central great vessels. Coronary CTA permits imaging of the coronary arteries and/or bypass grafts (arteriography) for the assessment of stenosis and/or atherosclerotic plaque formation, and assessment of the cardiac or pulmonary veins (venography). Coronary CTA has been studied extensively as a non-invasive alternative for the assessment of coronary artery disease in asymptomatic and symptomatic patients. Other proposed applications include evaluation of anomalous coronary circulation and postoperative assessment for re-occlusion following bypass grafting or stent placement.

Research is on-going in many of these areas and there is still considerable debate as to the definitive role of cardiac CT imaging in diagnosis and treatment planning for coronary heart disease.

Policy

Unenhanced Cardiac CT for Coronary Artery Calcium (CAC) Assessment
(CPT code 75571, HCPCS code S8092)

The use of unenhanced cardiac computed tomography (CT) (e.g., electron beam CT (EBCT) or multi-detector CT (MDCT)) to detect coronary artery calcification is considered investigational.

Contrast-Enhanced Cardiac CT
(CPT code 75572 or 75573)

Contrast-enhanced cardiac CT may be considered medically necessary for any of the following indications:

- Characterization of native or prosthetic cardiac valves with suspected clinically significant valvular dysfunction and inadequate images from other non-invasive methods
- Evaluation of cardiac mass (suspected tumor or thrombus) for patients with technically limited images from echocardiogram, magnetic resonance imaging (MRI), or transesophageal echocardiogram (TEE)
- Evaluation of congenital heart disease
- Evaluation of pericardial conditions (pericardial mass, constrictive pericarditis, or complications of cardiac surgery) for patients with technically limited images from echocardiogram, MRI, or TEE
- Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation
- Non-invasive coronary vein mapping prior to placement of biventricular pacemaker
- Non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization

**Coronary CT Angiography (CCTA)**
(CPT code 75574)

Contrast-enhanced coronary CT angiography (coronary CTA or CCTA) may be considered **medically necessary** for either of the following indications:

- Evaluation of anomalous (native) coronary arteries when both of the following are met:
  - Patient is symptomatic
  - Results will impact treatment

- Evaluation of a patient in the emergency department setting when both of the following are met:
  - Patient presents with acute chest pain
  - Patient has no known history of coronary artery disease

Contrast-enhanced coronary CTA (CCTA) is considered **investigational** for all other indications.

**Policy Guideline**

When quantitative calcium assessment is performed as part of the same encounter as contrast-enhanced cardiac CT (CPT codes 75572 or 75573), or CCTA (CPT code 75574); it is included in the service. If CPT code 75572, or 75573, or 75574 is only requested for a quantitative calcium assessment and not the medically necessary indications listed above, the request would be considered investigational.

Note: If CT imaging of blood vessels is done; it is not necessarily a CCTA (CPT code 75574). A CCTA must include reconstruction post-processing of the angiographic images and interpretations, a key distinction between a CTA and conventional CT. If the reconstruction post-processing is not done, it is not a CCTA study.

**Documentation Required for Clinical Review**

- History and physical, office or progress notes, and/or cardiac consultation notes including:
  - Current symptoms and clinical findings
  - Reason for the procedure and how results will impact treatment
- Diagnostic radiology reports pertaining to request (e.g., echocardiogram, transesophageal echocardiogram, MRI)

Post Service
- Radiology procedure report(s) (e.g., cardiac CT, coronary CT angiography)
The materials provided to you are guidelines used by this plan to authorize, modify, or deny care for persons with similar illness or conditions. Specific care and treatment may vary depending on individual need and the benefits covered under your contract. These Policies are subject to change as new information becomes available.