CTA Coronary Arteries (CCTA)

Diagnostic Imaging / Cardiology Services
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Coronary Computer Tomography Angiography (CCTA)

Guideline

**NOTICE**
Individuals at intermediate to high risk, with stable chest pain, and no known coronary artery disease (CAD) are recommended to use CCTA in CAD diagnosis, risk stratification, and treatment planning, per the 2021AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain as a grade 1A recommendation. [14]

A coronary computer tomography angiography (CCTA) may be considered medically appropriate for **ANY** of the following:

- Chest pain, chronic or anginal equivalent that is stable**NOTE:** *First-line testing* [14][3][6][1]
- Coronary anomalies present **NOTE:** *First-line testing*[5][8]
- Coronary stents with **ANY** of the following: [5]
  - Stents 3.0 mm or larger and symptomatic
  - Proximal, non-bifurcation thin strut stents less than 3.0 mm
- Dissection of aorta suspected [12] [10] [3] [6]
- Functional test (eg, EKG, ECHO) was inconclusive
- Non-ischemic cardiomyopathy suspected [11]
- Periprocedure for **ANY** of the following:
  - Preoperative to revascularization to guide treatment planning**NOTE:** *First-line testing* [2] [2021Practical utilization of cardiac computed tomography for the success in complex coronary intervention][7]
  - Post procedure for **ANY** of the following:
    - Cardiac catheterization with findings of coronary artery stenosis
    - Cardiac revascularization surgery to evaluate structure/guide treatment plan
    - CABG to evaluate graft patency**NOTE:** *First-line testing*
Percutaneous coronary intervention (PCI Angioplasty/Stent) was performed in last 3 months or less

- Symptoms include chest pain or shortness of breath and **ALL** of the following: [13]
  - **NO** significant arrhythmia, or tachycardia (heart rate (HR) more than 100 BPM)
  - **ANY TWO** or more of the following:
    - Diabetes mellitus (DM)
    - ECG uninterpretable or with significant changes
    - Family history of coronary artery disease
    - Hypertension
    - Hypercholesterolemia
    - Male over 50
    - Tobacco use history

References


[2] "Cardiac CT Angiography (CCTA) predicts left atrial appendage occluder device size and procedure outcome." Goitein, O; Fink, N; et. al. The International Journal of Cardiovascular Imaging 33; pp: 739-47.2017


[8] "Diagnosis and Management of Anomalous Coronary Arteries with a Malignant Course." Graniti, C; Kaufmann, P; et. al. Interventional Cardiology Reviews. 14(2); pp: 83-88 May 2019


[10] "Intra-arterial catheter-directed CT angiography for assessment of endovascular aortic aneurysm repair." Usai, M; Gerwing, M; et. al. PLOS ONE 14(9); 2019


[12] "Multimodality Imaging of Aortic Disease." Unlu, O; Singh, P; et. al. Current Treatment Options in Cardiovascular Medicine 22(34); 2020


## Procedure Codes

### Table 1. Associated Procedure Codes

<table>
<thead>
<tr>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>75571</td>
<td>Computed tomography, heart, without contrast material, with quantitative evaluation of coronary calcium</td>
</tr>
<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>
</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 left ventricular [LV] cardiac function, right ventricular [RV] structure and function and evaluation of vascular structures, if performed)</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>
</tr>
</tbody>
</table>
Definitions/Key Terms

Angina

- Atypical Angina is chest pain or discomfort that lacks 1 of the characteristics of typical angina and is described as sharp or stabbing, or burning brought on by deep breathing or coughing, or movement of arms or torso, and lasting for seconds.

- Typical Angina is (defined as 1) substernal/retrosternal chest pain, pressure, tightness or squeezing, described as dull, heavy, or crushing, and /or radiating to the mid-sternal or anterior chest; 2) provoked by exertion or emotional stress and 3) relieved by rest and/or nitroglycerin)

- Unstable Angina is defined as angina that is new onset or occurring at rest or with minimal exertion and worsening from a previously stable pattern of pain occurrence in terms of frequency or duration of attacks, resistance to previously effective medications, or provocation with decreasing levels of exertion or stress.

Anginal/Ischemic Equivalents (IE) are symptoms of myocardial ischemia that may arise without chest discomfort, alone or in combination, as a presenting pattern of known ischemic coronary disease. Symptoms include dyspnea at rest or exertion, diaphoresis, fatigue, light-headedness/dizziness, nausea, emesis or gastric eructation, shoulder, arm or jaw discomfort, reduced/worsening effort tolerance. Chest pain with ST segment depression or T-wave inversion, or chest pain with a new bundle branch block also represent anginal/ischemic equivalent. Pleuritic, musculoskeletal-type pain, non-exertional pain, and nocturnal pains have been reported as anginal equivalents in women. [5]

Anginal equivalent symptom presentation, regardless of coronary revascularization history, should result in efforts to rule-out the related organ systems (eg, anemia causing fatigue, lung disease causing dyspnea). Efforts may include diagnostic imaging, laboratory tests, oximetry, d-dimer, lung exam, etc., that are incorporated (like chest pain) into the coronary artery disease evaluation. Syncope is usually not considered an anginal equivalent.

Coronary Computed Tomography Angiography (CCTA) uses an injection of iodine-containing contrast material and CT scanning to examine the arteries that supply blood to the heart and determine whether they have been narrowed. The images generated during a CT scan can be reformatted to create three-dimensional (3D) images that may be viewed on a monitor, printed on film or by a 3D printer, or transferred to electronic media.
Disclaimer

Purpose

The purpose of the clinical guidelines is to assist healthcare professionals in selecting the medical service that may be appropriate and supported by evidence to improve patient outcomes. These clinical guidelines neither preempt clinical judgment of trained professionals nor advise anyone on how to practice medicine. Healthcare professionals using these clinical guidelines are responsible for all clinical decisions based on their assessment.

Medical Evidence and Clinical Review

Medical information is constantly evolving, and HealthHelp reserves the right to review and update these clinical guidelines periodically. All Clinical Reviewers are instructed to apply clinical indications based on individual patient assessment and documentation, within the scope of their clinical license.

Payment Disclaimer

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