



MEDICAL POLICY

Date Reviewed: 03/24/06, 11/16/07, 02/15/08, 01/23/09, 02/05/10, 01/14/11

Subject: Coronary Computed Tomographic Angiography (CCTA, Computed Tomographic Angiography, CTA, Multidetector-row computed tomography, MDCT)

Description: Computed tomographic angiography (CTA) is an imaging technique that uses a CT scanner to create images of arteries and veins. A contrast agent may be injected through a peripheral vein to increase visualization of blood flow in the arteries and veins being evaluated. Coronary CTA (CCTA) is a less invasive technique for evaluating coronary artery disease when compared to standard catheter angiography.

NOTE: This guideline does not address the use of computed tomography (CT) to evaluate coronary artery calcification. See Coronary Calcium Screening guideline.

Indications of Coverage:

CCTA is considered medically necessary for any of the following conditions:

As an alternative to cardiac catheterization when planning a repeat coronary artery bypass graft (CABG) surgery or heart valve surgery

For preoperative evaluation of individuals scheduled to undergo high-risk emergency or prolonged non-cardiac procedures (for example, surgery of the abdomen, aorta, or peripheral vasculature) when a stress test (either stress or pharmacological) or catheter angiography is contraindicated

For evaluation of chest pain in an individual with a low probability of coronary artery disease when a stress test (exercise, pharmacological, and nuclear) is contraindicated (for example, due to bronchospasm, acute (within the past 48 hours) myocardial infarction, uncontrolled cardiac arrhythmias, cardiac conduction abnormalities (sick sinus syndrome or bundle branch blocks), or individuals who are unable to eliminate the use of medications such as digoxin)

For evaluation of chest pain in an individual when all of the following are documented:

The patient is a candidate for catheter angiography (there are no contraindications to catheter angiography)

The CCTA is ordered by a cardiologist (or internist if a cardiologist is not available) after a patient evaluation has been completed.

Coronary artery surgery (bypass grafting) is not being considered.

One of the following situations is described:

CCTA is ordered as an alternative to catheter angiography following an inconclusive stress test.

CCTA is ordered to evaluate suspected congenital anomalies of the coronary circulation.

CCTA is ordered to evaluate coronary or pulmonary vein anatomy prior to placement of a pacemaker or cardiac defibrillator or prior to pulmonary vein catheter ablation for the treatment of atrial fibrillation.

Limitations of Coverage:

Review contract and endorsements for exclusions and prior authorization or benefit requirements.

If used for a condition/diagnosis other than is listed in the Indications of Coverage, deny as experimental or investigative.

If used for a condition/diagnosis that is listed in the Indications of Coverage, but the criteria are not met, deny as not medically necessary.

CCTA is considered not medically necessary for screening asymptomatic patients.

CCTA is considered not medically necessary when ordered by a physician who is not a cardiologist (for example, internal medicine physician, emergency room physician)

CCTA is considered not medically necessary when ordered without an evaluation by a cardiologist (or internist if a cardiologist is not available).

CCTA is considered not medically necessary for patients that require admission or angiography. (If the patient requires admission for monitoring severe symptoms, or will require angiography during the inpatient admission, CCTA is not necessary.)

CCTA is considered not medically necessary when performed on equipment that does not have a minimum capability of 64 slices per rotation.

Nuclear imaging scans following CCTA are considered not medically necessary.

The administration of medications during the study is considered a component of the procedure and is not reimbursed separately.

Documentation required:

Evaluation notes

CCTA report

Rationale: Literature regarding the effectiveness of CCTA for diagnosing coronary artery disease is limited but promising. In limited situations, CCTA may be comparable to results from catheter angiography and the increased availability of CT scanners increases the likelihood of a rapid and accurate assessment. Currently, the negative predictive value of CCTA is generally considered to be high. In other words, a negative CCTA can rule out the presence of significant coronary artery disease, thus eliminating the need for invasive catheter angiography.

Controversy remains, however, regarding the usefulness of CCTA in other situations. In individuals where the need for a catheter-based angiogram is high, CCTA provides no additional clinical information that cannot be obtained from the catheter-based angiogram. Recent studies have compared the findings from catheter angiography with CCTA but have not shown improved management or outcomes with the use of CCTA.

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Approved by the Medical Director