

Cardio Policy:

Coronary and/or Cardiac Computed Tomographic Angiography

POLICY NUMBER UM CARDIO_1115	SUBJECT Coronary and/or Cardiac Computed Tomographic Angiography		DEPT/PROGRAM UM Dept	PAGE 1 OF 6
DATES COMMITTEE REVIEWED 07/22/11, 12/12/12, 12/17/13, 02/19/15, 08/12/15, 11/28/16, 12/21/16, 10/31/17, 02/13/19, 02/21/19, 05/08/19, 12/11/19, 07/08/20, 01/13/21, 05/12/21, 08/11/21, 09/14/22, 02/01/23, 05/10/23, 12/20/23	APPROVAL DATE December 20, 2023	EFFECTIVE DATE December 22, 2023	COMMITTEE APPROVAL DATES 07/22/11, 12/12/12, 12/17/13, 02/19/15, 08/12/15, 11/28/16, 12/21/16, 10/31/17, 02/13/19, 02/21/19, 05/08/19, 12/11/19, 07/08/20, 01/13/21, 05/12/21, 08/11/21, 09/14/22, 02/01/23, 05/10/23, 12/20/23	
PRIMARY BUSINESS OWNER: UM		COMMITTEE/BOARD APPROVAL Utilization Management Committee		
URAC STANDARDS HUM v8: UM 1-2; UM 2-1	NCQA STANDARDS UM 2		ADDITIONAL AREAS OF IMPACT	
CMS REQUIREMENTS	STATE/FEDERAL REQUIREMENTS		APPLICABLE LINES OF BUSINESS Commercial, Exchange, Medicaid	

I. PURPOSE

Indications for determining medical necessity for Coronary and/or Cardiac Computed Tomographic Angiography (CCTA).

II. DEFINITIONS

A coronary computerized tomography angiogram (CCTA) is an imaging test for coronary heart disease. Unlike a traditional coronary angiogram, CT angiograms do not use catheters threaded to the arteries of the heart.

Instead, a CT angiogram relies on computerized tomographic x-ray to produce images of the heart and heart vessels after injection of contrast material through a peripheral vein.

An appropriate diagnostic or therapeutic procedure is one in which the expected clinical benefit exceeds the risks or negative consequences of the procedure by a sufficiently wide margin such that the procedure is generally considered acceptable or reasonable care. The ultimate objective of AUC is to improve patient care and health outcomes in a cost-effective manner but is not intended to ignore ambiguity and nuance intrinsic to clinical decision making.

Appropriate Care - Median Score 7-9

May be Appropriate Care - Median Score 4-6

Rarely Appropriate Care - Median Score 1-3

Guideline directed medical therapy (GDMT) are outlined by joint American College of Cardiology (ACC)/American Heart Association (AHA) in cardiovascular clinical practice guidelines as Class I

recommendation. These are maximally tolerated medications for a cardiovascular condition, when prescribed, have shown to improve healthcare outcomes such as survival along with significant reduction in major adverse cardiovascular events and hospitalization. For all recommended drug treatment regimens, the prescriber should confirm the dosage with product insert material and carefully evaluate for contraindications and interactions^{9,10,11,12,13}.

In asymptomatic patients without established atherosclerotic cardiovascular disease (ASCVD), the presence of coronary artery calcification (CAC) on computed tomography (CT) scans is a well-validated measure of subclinical atherosclerosis. Indeed, the presence of CAC should prompt consideration of aggressive risk factor modification for primary prevention of ASCVD events (including myocardial infarction [MI], stroke, and death from coronary heart disease [CHD]).

Two primary uses of screening for CAC include prediction of atherosclerotic cardiovascular disease (ASCVD) and selection of patients for treatment with aggressive ASCVD risk factor modification (ie, statin therapy). Coronary Artery Calcium Score are usually interpreted in conjunction with other ASCVD risk scoring to guide therapeutic decisions.

Categories of ASCVD are:

Low-risk – Less than 5 percent 10-year ASCVD risk

Borderline elevated risk – 5 to 7.4 percent 10-year ASCVD risk

Intermediate risk – 7.5 to 10 percent 10-year ASCVD risk

High-risk – 10 percent or greater 10-year ASCVD risk

Multi-Ethnic Study of Atherosclerosis (MESA) calculator can be used in people 45 to 84 years of age who do not have diabetes or known CVD to evaluate for need to screen with CAC. MESA calculator can be accessed using online calculator- <https://www.mesa-nhlbi.org/Calcium/input.aspx>

Framingham risk score for 10-year cardiovascular risk assessment include Age, systolic BP, Total cholesterol, HDL, BP medications, h/o smoking, h/o DM. Calculator can be accessed using online calculator- https://qxmd.com/calculate/calculator_252/framingham-risk-score-2008

Limitations - Patients at low (less than 5 percent 10-year risk) or very high (greater than or equal to 20 percent 10-year risk) ASCVD risk should not be screened with CAC.

Intermediate pre-test probability of CAD risk will correlate with a 10-year absolute Coronary Heart Disease risk between 10% and 90%.

III. POLICY

Patients should be on maximally tolerated GDMT, when applicable. Indications for approving a request for medical necessity are:

- A. CCTA is being performed to avoid performing cardiac catheterization in patients with chest pain syndrome with intermediate pre-test probability of CAD, uninterpretable ECG and are not able to exercise with no prior CCTA done within the last 12 months. **(AUC Score 8)**^{1,2,3,4,5,7,8}
- B. Symptomatic patient with or without prior CABG, with new onset or persistent angina on exertion or at rest, interfering in performing daily activities, despite being on guideline directed medical therapy, and with an equivocal stress test results with no prior CCTA done within the last 12 months. **(AUC Score 8)**^{1,2,3,4,5,7,8}

- C. Chest pain of uncertain etiology, when non-invasive tests are negative, but symptoms are severe, and management requires that significant coronary artery disease be excluded. **(AUC Score 8)**^{1,2,3,4,5, 7}
- D. Pulmonary vein mapping prior to Atrial Fibrillation Ablation or prior to placement of biventricular device with no prior CCTA done within the last 12 months. **(AUC Score 8)**^{1,2,3,4,5,7}
- E. Congenital heart disease -Initial or follow up assessment of complex congenital heart disease including anomalies of coronary circulation, great vessels, and cardiac chambers and valves with no prior CCTA done within the last 12 months and other forms of imaging within the last 12 months are non-diagnostic or equivocal. **(AUC Score 7)**^{1,2,3,4,5,7}
- F. Evaluation of cardiac mass, pericardial disease, with technically limited images from prior imaging studies other than Cardiac Computed Tomographic Angiography with no prior CCTA done within the last 12 months. **(AUC Score 7)**^{1,2,3,4,5,6}
- G. Evaluation of suspected aortic dissection or thoracic aortic aneurysm and suspected pulmonary embolism. **(AUC Score 8)**^{1,2,3,4,5,7,8}
- H. Evaluation of ventricular morphology and systolic function in heart failure patients when prior non-invasive images have been inadequate with no prior CCTA done within the last 12 months. **(AUC Score 7)**^{1,2,3,4,5,7,8}
- I. Evaluation of right ventricular morphology and systolic function in suspected Arrhythmogenic right ventricular dysplasia with no prior CCTA done within the last 12 months. **(AUC Score 7)**^{1,2,3,4,5,7,8}
- J. Detecting CAD in asymptomatic patients with prior calcium score 100-400 with contrast coronary CT with no prior CCTA done within the last 12 months. **(AUC Score 8)**^{1,2,3,4,5,7,8}
- K. CCTA may be performed in patients who cannot tolerate moderate sedation that is required during TEE, for pre procedural evaluation for Left Atrial Appendage Occlusion to look for LA/LAA thrombus, spontaneous contrast, LAA morphology and dimensions. **(AUC Score 7)**⁴. TEE however remains the preferred choice of modality for this procedure.
- L. Evaluation of the aortic root and aortic valve calcium burden in patients being evaluated for TAVR. **(AUC Score 8)**⁸
- M. Screening for atherosclerotic coronary artery disease using coronary artery CT calcium scoring may be performed in adult patients and all diabetic patients age greater than or equal to 40 years old who are asymptomatic for ASCAD who are considered at intermediate Framingham risk **OR** are at low Framingham risk but have a strong family history of premature ASCAD, for whom the addition of statins and other forms of primary prevention may be of benefit **(AUC Score 6)**^{5,6}

The following is a list of exclusion criteria for CCTA:

- A. Atrial fibrillation (unless the CCTA is being used for pulmonary vein mapping prior to an atrial fibrillation ablation).
- B. Multifocal Atrial Tachycardia (MAT)
- C. Frequent Atrial Premature Contractions
- D. More than 50 premature ventricular contractions per hour
- E. Inability to lie flat
- F. Body mass index greater than 40

- G. Inability to obtain a heart rate less than 65 beats per minute after beta blockers
- H. Calcium (Agatston) score of 1,000 or more
- I. Normal coronary angiogram less than one year ago
- J. Inability to hold breath for greater than 8 seconds

Limitations

- A. Requests for services that are part of a surveillance protocol for patients who are involved in a clinical trial are considered out of scope (OOS) for New Century Health and cannot be reviewed.
- B. Patients at low (less than 5 percent 10-year risk) or very high (greater than or equal to 20 percent 10-year risk) ASCVD risk should not be screened with CAC.
- C. Before CCTA can be performed in a patient with CAD the following must be considered:
Predicted or observed lack of adequate response to maximally tolerated GDMT^{9,10,11,12,13}

IV. PROCEDURE

- A. In order to review a request for medical necessity, the following items must be submitted for review
 - 1. Progress note that prompted request
 - 2. Recent EKG (within 10 days)
 - 3. Stress test and/or prior cardiac catheterization report (if applicable)
 - 4. Most recent Echocardiogram
- B. Primary codes appropriate for this service: 75571 (Calcium scoring only)
75572 (Including 3D image processing, assessment of cardiac function, and evaluation of venous structures)
75573 (Including 3D image processing, assessment of LV function, RV structure & function, and evaluation of vascular structures)
75574 (Evaluation of cardiac structure and morphology, assessment of cardiac function, and evaluation of venous structures)

V. APPROVAL AUTHORITY

- A. Review – Utilization Management Department
- B. Final Approval – Utilization Management Committee

VI. ATTACHMENTS

- A. None

VII. REFERENCES

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