UM-CDG-008 Computed Tomographic Angiography of the Chest-Heart-and Coronary Arteries	Approved By: Director, Health Services	Effective Date: 11/10/2025

This Policy applies to all SECUR affiliates, associates, and subsidiaries.

Approved by Courtney Gonzales, Director of Health Services on behalf of the Utilization Management Committee.

PURPOSE

This coverage determination guideline serves to address computed tomographic angiography (CTA) of the chest, heart, and coronary arteries. Multislice or multidetector computed tomography (MDCT) angiography with its advanced spatial and temporal resolution has provided possibilities in imaging of the major vessels of the chest including the aorta, pulmonary arteries, and coronary arteries.

For SECUR Health Plan members, National Coverage Determinations (NCD) and Local Coverage Determinations (LCD) will be applied to requests when applicable. SECUR Health Plan Coverage Determination Guidelines (CDG) will be utilized in the absence of an appropriate NCD and/or LCD.

DEFINITIONS

None

POLICY

Multislice or Multidetector Computed Tomography (MDCT)
SECUR Health Plan considers the following indications for MDCT angiography of the chest for non-cardiac assessment medically necessary for the following signs and/or symptoms of disease:

1. Assessment of a symptomatic member when presentation is suspicious for pulmonary emboli
2. Abnormalities of the thoracic vasculature such as aortic dissection, aortic aneurysm, pulmonary arteriovenous malformation, and/or other abnormalities of the systemic circulation, excluding the heart itself
3. Assessment of suspected congenital anomalies of the heart and/or great vessels, and
4. Assessment of cardiac, mediastinal, and/or lung parenchymal lesions, the vascularity of which is unknown or poorly defined, but is critical to the diagnosis.

SECUR Health Plan considers the following indications for MDCT angiography of the chest for cardiac assessment medically necessary for the following signs and/or symptoms of disease:

1. Cardiac evaluation of a member with chest pain syndrome, who is at low to moderate risk of developing coronary artery disease (CAD), if use of MDCT is expected to avoid performance of diagnostic cardiac catheterization. MDCT and coronary angiography are not expected to be performed on the same member for diagnostic purposes prior to the application of anticipated therapy.
2. Assessment of suspected congenital anomalies of coronary circulation
3. Assessment of symptomatic members with equivocal stress test results, with or without cardiac imaging, if MDCT is expected to avoid performance of diagnostic cardiac angiography.
4. Evaluation of pulmonary veins prior to arrhythmia ablation procedures, and

5. Evaluation of cardiac veins prior to insertion of a biventricular pacemaker.

Coverage of MDCT for coronary artery assessment is limited to devices that process thin, high resolution slices of 0.75 mm or less. A multidetector scanner must have a row of at least 32 detectors.

For non-cardiac thoracic assessment, the multidetector may have a capability of less than 16 slices or less.

The rotational gantry speeds for cardiac evaluation must be 420 milliseconds or less.

SECUR Health Plan considers the following to be not medically necessary:
1. Screening purposes only in absence of signs, symptoms, or disease.
2. Testing for members with stable coronary artery disease without significant changes in signs and/or symptoms.
3. Testing is used for cardiac evaluation of a member with extensive disease where there is pre-test knowledge of extensive calcification that would diminish interpretative value.
4. Testing used merely as an additional layer to other testing modalities.
5. CTA of the heart when performed with an Electron Beam Technology (EBT) scanner.

Coronary Computed Tomography Angiography (CCTA)
SECUR Health Plan considers the following indications to be medically necessary for CCTA:
1. CCTA used as an alternative to invasive angiography and stress testing. For members with anginal symptoms , unclear stress test results, members where the stress test contradicts the clinical assessment, to determine patency of coronary artery bypass graft(s), as an alternative when cardiac catheterization is not possible or carries a high risk to the member, to rule out stenosis prior to non-coronary cardiac surgery, and clarifying unclear finding(s) following invasive angiography.
2. CCTA used to assess members suspected of having a congenital coronary artery anomaly of great vessels, cardiac chambers, and valves.
3. CCTA used to evaluate acute chest pain in the emergency department.
4. CCTA used to assess coronary or pulmonary venous anatomy.
5. CCTA used to assess etiology with new onset heart failure for evaluation of coronary arteries.

SECUR Health Plan considers the following as not medically necessary:
1. CCTA for screening in the absence of clinical signs or symptoms or disease.
2. CCTA if anticipated results are not expected to provide new, additional information to that previously obtained from other testing.
3. CCTA if past evaluation indicates the member would require invasive cardiac angiography for further diagnosis or therapeutic intervention.
4. Quantitative calcium scoring.

Cardiac Computed Tomography (CCT)
SECUR Health Plan considers the following indications medically necessary for CCT:
1. Member presents with chest pain syndrome.
2. Facilitate the management decision of a member with an equivocal stress test.
3. Recurrence of symptoms in members with known coronary artery disease may be related to progression and/or exacerbation of underlying disease.
4. Members with prior bypass surgery or intracoronary artery stent placement present with chest pain or dyspnea.
5. Suspected congenital anomalies of the coronary circulation.

6. Assessment of coronary or pulmonary venous anatomy.
7. Member is undergoing non-coronary artery cardiac surgery
8. Members with cardiac ischemia or complaints of cardiac ischemia without diagnostic electrocardiography, enzymes, or with recurrent symptoms not clearly identified as ischemia.

SECUR Health Plan considers the following not medically necessary for CCT:

1. Screening in the absence of symptoms or known disease.
2. Anticipated results are not expected to provide new, additional information to that previously obtained from other testing.
3. Past evaluation indicates the member would require invasive cardiac angiography for further diagnosis or therapeutic intervention.
4. Quantitative calcium scoring.

References:

1. ACC/AHA/ Guideline for the Management of Patients with Valvular Heart Disease: A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol*. 2014;63:e73
2. ACC/AHA Clinical Competence statement on Cardiac Imaging with Computed Tomography and Magnetic Resonance. *J Am Coll Cardiol*. 2005;46(2):383-402.
3. ACR Practice Guideline for the performance and interpretation of CT angiography (CTA).
4. American Medical Association. *Clin Examples in Radiol*. 2(1).
5. American Society of Cardiology Foundation. Task force 12: Training in Advanced Cardiovascular imaging (Computed Tomography). *J Am Coll Cardiol*. 2006;47(4).
6. Budoff M, Achenbach S, Duerinckx A. Clinical utility of computed tomography and magnetic resonance techniques for noninvasive coronary angiography. *J Am Coll Cardiol*. 2003;42(11):1867-1878.
7. Funabashi N, Kobayashi Y, Perlroth M, Rubin GD. Coronary artery: quantitative evaluation of normal diameter determined with electron-beam CT compared with cine coronary angiography-initial experience. 2003;226:263-271.
8. Giacomo L, Cademartiri F, Dake MD, Larini P, Pavne P. Value of three-dimensional reconstructions in evaluating thoracic aortic aneurysms. *Images in Cardiovasc Med*. 2003;107:e34.
9. Gibbons RJ, Eckel RH, Jacobs AK. The utilization of cardiac imaging. Accessed April 11, 2006.
10. Hoffman MH, Schmitz BL, Lieberknecht M, et al. Noninvasive coronary angiography with multislice computed tomography. *JAMA*. 2005;293:2471-2478.
11. Kuettner A, Schroeder S, Feyer A, et al. Noninvasive detection of coronary lesions using 16-detector multislice spiral computed tomography technology: initial clinical results. *J Am Coll Cardiol*. 2004;44:1230-1237.
12. Mollet NR, Niemanm K, Lemos PA, et al. Multislice spiral computed tomography coronary angiography in patients with stable angina pectoris. *J Am Coll Cardiol*. 2004;43:2265-2270.
13. Qaseem A, Snow V, Barry P, et al. Current diagnosis of venous thromboembolism in primary care: a clinical practice guideline from the American Academy of Family Physicians and the American College of Physicians. *Ann Fam Med*. 2007;5(1):57-62.
14. Sato Y, Matsumoto N, Kato M, et al. Noninvasive assessment of coronary artery disease by multislice spiral computed tomography using a new retrospectively ECG-gated image reconstruction technique. Comparison with angiographic results. *Circ J*. 2003;67(5):401-405.
15. Schoenhagen P, Halliburton, SS, Stillman AE, et al. Noninvasive imaging of coronary arteries: Current and future role of Multi-detector row CT. *Radiol*. 2004;232(1):7-17.
16. Schoepf UJ, Becker CR, Ohnesorge BM, Yucel EK. CT of coronary artery disease. *Radiol.* 2004;232:18-

37.
17. Singh J, Houser S, Heist E, Ruskin J. The coronary venous anatomy: a segmental approach. *J Am Coll Cardiol*. 2005;46(1):68-74.
18. Stein P, Woodard P, Weg J, et al. Diagnostic pathways in acute pulmonary embolism: recommendations of the PIOPED II investigators. *Am J Med*. 2006;119(12):1048-1055.
19. Weinreb JC, Larson PA, Woodard PK, et al. American College of Radiology Clinical Statement on Noninvasive Cardiac Imaging. *J Am Coll Radiol*. 2005;2(6)471-477
20. White R, Setser R. Integrated approach to evaluating coronary artery and ischemic heart disease. *Am J Cardiol*. 2002;90(10):L49-L55.
21. Yamamuro M, Tadamura E, Kubo S, et al. Cardiac functional analysis with multi-detector row CT and segmented reconstruction algorithm: comparison with echocardiography, SPECT, and MR imaging. *Radiol*. 2005;234(2):381-390.
22. Local Coverage Determination (LCD) L33559, Cardiac Computed Tomography (CCT) and Coronary Computed Tomography Angiography (CCTA), 3/31/2022 https://www.cms.gov/medicare-coverage-database/view/lcd.aspx?lcdid=33559