MEDICAL POLICY

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Medical Policy Title	**Computed Tomography (CT) for Coronary Calcium Scoring**
Policy Number	**6.01.13**
Current Effective Date	**October 15, 2025**
Next Review Date	**September 2026**

Our medical policies are based on the assessment of evidence based, peer-reviewed literature, and professional guidelines. Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract. (Link to Product Disclaimer)

POLICY STATEMENT(S)

I. CT for coronary calcium scoring for asymptomatic and coronary artery disease (CAD) screening is considered **medically appropriate** for individuals when **ALL** of the following criteria are met:

- A. Results will impact risk-based decisions for preventive interventions;
- B. An LDL-C level is greater or equal to 70 mg/dl (1.8 mmol/L) AND <190 mg/dl (4.9 mmol/L);
- C. Individual is an adult age 40-75;
- D. 10-year Atherosclerotic Cardiovascular Disease (ASCVD) risk including pooled cohort equation is between 5.0% to 19.9%;
- E. There is no documented coronary artery disease (CAD);
- F. Individual is not currently on a statin medication;
- G. Individual is not a smoker;
- H. There is no history of diabetes;
- I. There is no family history of premature CAD (occurring before age 56 in males or before age 66 in females);
- J. There has been no calcium score performed in the previous five (5) years;
- K. There has been no prior calcium score greater than zero (0).

II. Coronary artery calcium scoring is considered **medically appropriate** in low gradient aortic stenosis when symptomatic, severe aortic stenosis is suspected (see policy guidelines).

III. CT calcium scoring is considered **medically necessary** to evaluate for radiation induced CAD when **ALL** of the following conditions indications are met:

- A. Individual does not have symptoms suspicious for ischemia, including but not limited to:
  1. Chest discomfort located retrosternal, epigastric;
  2. Referred pain (pain that is felt in a place different than the source) in the neck, shoulder, arm, or jaw described as pain, pressure, constricting;
  3. Tightness occurring with exertion or emotional stress and relieved by rest, nitroglycerin or both;

B. Individual has no clinical history of CAD;

C. Individual as no prior cardiac imaging documenting CAD;

D. Greater or equal to 5 years since the last radiotherapy/radiation therapy for the initial study or at least 5 years since the last CT calcium scoring for subsequent testing.

IV. Coronary artery calcium score is considered **not medically appropriate** for **ANY** of the following:

A. For the evaluations of CAD in symptomatic individuals;

B. Individuals with known CAD.

RELATED POLICIES

Corporate Medical Policy

6.01.34 Cardiac Computed Tomography (CCT)/Coronary Computed Tomographic Angiography (CCTA)

11.01.03 Experimental or Investigational Services

POLICY GUIDELINE(S)

I. Coronary calcium scoring (CPT: 75571) should not be reported in conjunction with any of the contrast CT/CTA codes (CPT: 75572-75574).

II. Family history of premature CAD is defined as having a primary relative who had been diagnosed with CAD prior to the age of 55 years in a male relative or 65 years in a female relative.

III. The 10-year ASCVD Risk Estimator is a calculation of a person's 10-year risk of having a cardiovascular problem, such as a heart attack or stroke. This risk estimator considers a person's age, sex, race, cholesterol levels, blood pressure, medication use, diabetic status, and smoking status. The ASCVD risk score is given as a percentage:

A. Low risk (less than 5%)

B. Borderline risk (5% to 7.4%)

C. Intermediate risk (7.5% to 19.9%)

D. High risk (greater than or equal to 20%)

E. The calculated risk score is used to determine risk lowering interventions and treatment recommendations.

IV. Low gradient aortic stenosis is defined as an aortic valve area (AVA) less than one (1) and a mean gradient less than 40 mmHg.

DESCRIPTION

Atherosclerosis of the arteries is caused by a build-up of plaque, which consists of fat, cholesterol, calcium and other substances. In the coronary arteries, the calcium deposits can be measured by

computed tomography (CT) which is reported as a coronary artery calcification score (CAC) score. The CAC score can reflect coronary artery disease (CAD) severity and can be used to assess an individual's cardiovascular risk. The higher the CAC score, the more advanced the coronary artery disease, and the higher the risk for major adverse cardiovascular risks (MACE). For individuals classified as intermediate risk based on established models (e.g., ATP or Framingham risk factors), the CAC score may allow the individual to be reclassified as high- or low-risk. For those individuals reclassified as high-risk, treatment may be changed. A CAC score of 400 or more is suggested as a reasonable definition of advanced CAD. CAC scoring is an integral part of CTA to determine the risk-benefit of dye infusion.

The Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) (2002) summarizes the NCEP's clinical guidelines for cholesterol testing and management. The first step in management is the classification of an individual's 10-year risk or probability for CAD. Age, gender, total cholesterol, HDL cholesterol, smoking status, and systolic blood pressure are a few of the factors that are considered when determining risk based on established models.

SUPPORTIVE LITERATURE

Lui et al (2024) conducted a single institution retrospective review on 509 patients with non-small cell lung cancer (NSCLC) treated with radiation therapy with or without chemotherapy. The study aimed to characterize the association between coronary artery calcification (CAC) and major adverse cardiovascular events (MACE) and assess the utility of semiquantitative assessment of CAC. Out of 137 patients, 39 patients had no CAC, and 98 patients had any CAC (38 with mild CAC, 34 with moderate CAC, and 26 with severe CAC). There was 1 MACE event in the no CAC group and 11 in patients with any CAC. The presence of CAC was associated with increased MACE compared to no CAC. Semiquantitative CAC analysis correlated with formal CAC scoring. The authors found that semiquantitative CAC scoring maybe a useful proxy when formal CAC scoring is unavailable. Limitations include limited follow-up period and a single center.

Polomski et al (2023) conducted a cross-sectional matched cohort study comparing 97 Hodgkin Lymphoma (HL) patients and 97 non-cancer patients. The study aimed to evaluate the presence of CAC score in relation to cardiovascular events in HL patients treated with thoracic radiotherapy compared to a non-cancer group. Consecutive patients that underwent evaluation for asymptomatic coronary artery disease (CAD) with coronary CT angiography (CCTA) greater than 10 years after thoracic irradiation were included. CACS was elevated (defined as >0) in 49 (50.5%) HL patients and 30 (30.9%) control patients. HL survivors had an odds ratio of 2.28 [95% CI: 1.22–4.28] for having a CACS > 0 compared to the matched population. Prevalence of CACS > 90th percentile differed significantly: 17.1% in HL survivors vs. 4.6% in the matched population. Non-obstructive coronary artery stenosis was more prevalent in the HL population than in the control population (45.7% vs. 28.4%). During follow-up of 8.5 years, nine HL patients experienced an event including two patients with a CACS of zero. No events occurred in the control population. The authors concluded that HL patients with a CAC score of zero still have an increased risk of future cardiovascular events compared to healthy study populations concluding that performing only calcium score may not be sufficient in this population.

Ezeigwe et al (2022) conducted an observational study evaluating multi-ethnic study of atherosclerosis (MESA) participants. The study included 3,454 females who are free of cardiovascular disease (CVD) but had data on parity and inflammatory markers. Parity was categorized as 0 (reference), 1–2, 3–4, or ≥5. Linear regression was used to evaluate the association between parity and natural log-transformed levels of fibrinogen, D-dimer, GlycA, high sensitivity C-reactive protein (hsCRP), and interleukin-6 (IL-6). Mean age was 62 ± 10 years. The proportion of women with nulliparity, 1–2, 3–4, and ≥5 live births were 18, 39, 29, and 14%, respectively. There was no association between parity and fibrinogen. Women with grand multiparity (≥5 live births) had 28, 10, and 18% higher levels of hsCRP, IL-6 and D-dimer, respectively, compared to nulliparous women, after adjustment for demographic factors. After additional adjustment for CVD risk factors, women with 1–2 and 3–4 live births had higher hsCRP and women with 1–2 live births had higher GlycA. The authors stated that additional studies are needed to evaluate how inflammation may influence the link between parity and CVD and whether healthy lifestyle/pharmacotherapies targeting inflammation can reduce CVD risk among multiparous women.

PROFESSIONAL GUIDELINE(S)

A scientific statement was published in October 2006 by the American Heart Association (AHA) Committee on Cardiovascular Imaging and Intervention, Council on Cardiovascular Radiology and Intervention, Committee on Cardiac Imaging, and Council on Clinical Cardiology. The scientific statement, entitled Assessment of Coronary Artery Disease by Cardiac Computed Tomography, recommended coronary calcium assessment for:

- Patients with chest pain, with equivocal or normal ECGs, and with negative cardiac enzyme studies.
- Evaluation of symptomatic patients, especially in the setting of equivocal treadmill or functional testing.
- Measurement of atherosclerosis burden in clinically selected patients at intermediate CAD risk (e.g., those with a 10-20% Framingham 10-year risk assessment), to refine clinical risk prediction and to select patients for more aggressive target values for lipid-lowering therapies.
- This statement did not recommend coronary calcium assessment to establish the presence of obstructive disease for subsequent revascularization or for serial imaging for assessment of progression of coronary calcification.

The 2010 American College of Cardiology Foundation (ACCF)/AHA Guideline for Assessment of Cardiovascular Risk in Asymptomatic Adults regarding calcium scoring methods state:

- Measurement of CAC is reasonable for cardiovascular risk assessment in asymptomatic adults at intermediate risk (10% to 20% 10-year risk). (Level of Evidence: B, IIa Recommendations).
- Measurement of CAC may be reasonable for cardiovascular risk assessment in persons at low-to-intermediate risk (6% to 10% 10-year risk). (Level of Evidence: B, IIb recommendation).
- No benefit was found for persons at low risk (less than 6% 10-year risk).

In July 2018, the U.S. Preventative Services task Force (USPSTF) recommendation statement for risk

assessment for cardiovascular disease with nontraditional risk factors state:

- There is insufficient evidence to determine the balance of benefits and harms of adding the ABI, hs-CRP level, or CAC score to traditional risk assessment for cardiovascular disease (CVD) in asymptomatic adults to prevent CVD events.
- Harms of testing for CAC score include exposure to radiation and incidental findings on CT of the chest, such as pulmonary nodules, which may lead to further invasive testing and procedures.
- Abnormal test results may lead to further testing, procedures, and lifelong medication use without proof of benefit but with expense and potential adverse effects for the patient.
- Psychological harms may result from reclassification into a higher-risk category for CVD events.

In 2018 (updated 2019), ACC/AHA Task Force issued a report, jointly supported by multiple professional organizations, entitled Guideline on the Management of Blood Cholesterol. The report recommended the following for intermediate-risk adults or selected borderline-risk adults, in whom a coronary artery calcium (CAC) score is measured for the purpose of making a treatment decision:

In adults 40-75 years of age without diabetes and with LDL-C levels ≥70 mg/dL-189 mg/dL (≥1.8-4.9 mmol/L), at a 10-year ASCVD risk of ≥7.5% to 19.9%, if a decision about statin therapy is uncertain, consider measuring CAC or if risk is uncertain consider measuring CAC in the following individuals:

- If the CAC score is zero, it is reasonable to withhold statin therapy and reassess in five to 10 years, as long as higher-risk conditions are absent (diabetes mellitus, family history of premature CHD, cigarette smoking);
- If the CAC score is one to 99, it is reasonable to initiate statin therapy for patients greater than or equal to aged 55 years or older and;
- If CAC score is 100 or higher or in the 75th percentile or higher, it is reasonable to initiate statin therapy.

The ACC/AHA 2019 Guideline on the Primary Prevention of Cardiovascular Disease recommended:

- That coronary artery calcium measurement can be a useful tool in refining risk assessment for preventive interventions (e.g., statin therapy) for individuals with intermediate predicted risk (greater than or equal to 7.5% to or less than 20%) by the pooled cohort equations (PCE) or for select adults with borderline (5% to <7.5%) predicted risk.

In these groups, coronary artery calcium measurement can reclassify risk upward (particularly if coronary artery calcium score is greater than or equal to 100 Agatston units (AU) or greater than or equal to 75th age/sex/race percentile) or downward (if coronary artery calcium is zero) in a considerable proportion of individuals. The extent of reclassification is sufficient to provide confidence that borderline- or intermediate-risk patients with elevated coronary artery calcium will have event rates that clearly exceed benefit thresholds (i.e., greater than or equal to 7.5% in 10 years) and those with coronary artery calcium scores of zero will have event rates less than 7.5%, which can help guide shared decision-making about statins or potentially even aspirin. In the Multi-Ethnic Study of Atherosclerosis (MESA) trial, the coronary artery calcium score was strongly associated with 10-year atherosclerotic cardiovascular disease (ASCVD) risk in a graded manner across age, sex, and

racial/ethnic groups, independent of traditional risk factors.

- Coronary artery calcium measurement is not intended as a "screening" test for all but rather may be used as a decision aid in select adults to facilitate the clinician-patient risk discussion. (Recommendation: IIa; Level of Evidence: B).

The AHA/ACC (2021) Guideline on Evaluation and Diagnosis of Chest Pain includes a recommendation for CAC:

- For patients with stable chest pain and no known CAD categorized as low risk, CAC testing is reasonable as a first-line test for excluding calcified plaque and identifying patients with a low likelihood of obstructive CAC (2a recommendation).
- For intermediate-high risk patients with stable chest pain and no known CAD undergoing stress testing, the addition of CAC testing can be useful (2a recommendation).

REGULATORY STATUS

Not Applicable

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

CPT Codes

Code	Description
75571	Computed tomography, heart, without contrast material, with quantitative evaluation of coronary calcium

HCPCS Codes

Code	Description
Not Applicable	

ICD10 Codes

Code	Description
I25.10 - I25.119	Atherosclerotic heart disease of native coronary artery (code range)

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SEARCH TERMS

Not Applicable

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

LCD - Cardiac Computed Tomography (CCT) and Coronary Computed Tomography Angiography (CCTA) (LCD L33559) [accessed 2025 Apr 17]

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.
- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION

Committee Approval Dates

10/15/99, 02/21/02, 06/19/03, 05/19/04, 04/21/05, 02/16/06, 01/18/07, 01/17/08, 12/18/08, 01/21/10, 01/20/11, 01/19/12, 03/21/13, 01/16/14, 02/19/15, 03/17/16, 03/16/17, 02/15/18, 02/21/19, 02/20/20, 02/18/21, 09/16/21, 02/17/22, 04/21/22, 04/20/23, 12/21/23, 12/19/24, 09/18/25

Date	Summary of Changes
09/18/25	• Annual review. Added medically necessary statement for CT calcium scoring to evaluate for radiation induced CAD.
01/01/25	• Summary of changes tracking implemented.
12/15/16	• Original effective date