04-70450-02

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Subject: Computed Tomography to Detect Coronary Artery Calcification

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DESCRIPTION:

Several types of fast computed tomography (CT) imaging, including electron-beam computed tomography (EBCT) and spiral CT, allow the quantification of calcium in coronary arteries. Coronary artery calcium (CAC) is examined through electron beam computed tomography or multislice computed tomography (CT). Coronary artery calcium (CAC) is associated with coronary artery disease (CAD). The use of CAC scores has been studied in the prediction of future risk of CAD and in the diagnosis of CAD in symptomatic patients.

EBCT software permits quantification of calcium area and density, which are translated into calcium scores. Calcium scores have been investigated as a technique for detecting coronary artery calcification, both as a diagnostic technique in symptomatic patients to rule out an atherosclerotic etiology of symptoms or, in asymptomatic patients, as an adjunctive method for risk stratification for CAD. This guideline addresses the use of coronary artery calcium (CAC) testing in the outpatient setting.

Summary and Analysis of Evidence: In an UpToDate review on "Coronary artery calcium scoring (CAC): Overview and clinical utilization" (Kramer) states that "The association between vascular calcification and cardiovascular disease (CVD) is well established. 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. 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]). Advantages of CAC imaging compared with invasive coronary angiography or coronary CT angiography (CCTA) include minimal requirements for patient preparation, no requirement for iodinated intravenous contrast, and relatively low effective radiation doses. 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 (i.e., statin therapy). These suggested uses of CAC scoring, including any therapy based on the results of the CAC scan, are generally in agreement with those of professional societies. CAC scores are usually interpreted in conjunction with other ASCVD risk scoring to guide therapeutic decisions."

Coronary artery calcium scoring has superior discrimination and risk reclassification as compared with other subclinical imaging markers or biomarkers. In the MultiEthnic 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 may even refine ASCVD risk estimates among lower-risk women (<7.5% 10-year risk), younger adults (<45 years of age), and older adults (≥75 years of age), but more data are needed to support its use in these subgroups. A coronary artery calcium score of zero identifies individuals at lower risk of ASCVD events and death over a ≥10-year period, who appear to derive little or no benefit from statins for ASCVD risk reduction.Thus, the absence of coronary artery calcium could reclassify a patient downward into a lower risk group in which preventive interventions (e.g., statins) could be postponed. Note that the absence of coronary artery calcium does not rule out noncalcified plaque, and clinical judgment about risk should prevail. Coronary artery calcium might also be considered in refining risk for selected low-risk adults (<5% 10-year risk), such as those with a strong family history of premature coronary heart disease (CHD). MESA and Astronaut Cardiovascular Health and Risk Modification (Astro-CHARM) are risk estimation tools that incorporate both risk factors and coronary artery calcium for estimating 10-year CHD and ASCVD risk, respectively. 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 (Arnett, 2019).

POSITION STATEMENT:

Coronary artery calcium (CAC) testing (e.g., electron beam computed tomography (EBCT), ultrafast CT, spiral CT (helical CT)) **meets the definition of medical necessity** for the following indications:

- In the context of shared decision making for members aged 40 to 75 (without clinical atherosclerotic cardiovascular disease), with intermediate-to-low 10-year risk (5 - 20%), with documentation that the coronary artery calcium (CAC) score is necessary to adjust management, such as statin therapy.
- Members who are over 75 or younger than 40 years old can be considered for CAC testing when there is documented evidence that the results could alter management:
    - Members with estimated 10-year risk of less than 5%, but are suspected to be at elevated atherosclerotic cardiovascular disease (ASCVD) risk because of a major risk factor not accounted for in the global risk equations, such as family history of premature coronary artery disease (CAD)
    - Members in whom statin therapy is indicated but have intolerable adverse effects from statin therapy or are reluctant to take statin medication, in order to guide the need for alternative lipid-lowering strategies

- CAC testing may be repeated for risk re-assessment after a minimum of 5 years, if documentation indicates it will alter management. It should not be repeated if the member already has two CAC scores of zero 5 years apart or has a score ≥ 400.

Online cardiac risk calculator and assessment tools

The links for the online cardiac risk calculator and assessment tools are to an outside source and is provided for your convenience. Use of the links and related calculator and assessment tools are subject to the terms and conditions of the website and is not warranted, maintained or affiliated with Florida Blue.

Framingham Risk Score Calculator

http://www.medcalc.com/heartrisk.html

Reynolds Risk Score

http://www.reynoldsriskscore.org/

Pooled Cohort Risk Assessment Equations

http://clincalc.com/Cardiology/ASCVD/PooledCohort.aspx

ACC/AHA Risk Calculator

http://tools.acc.org/ASCVD-Risk-Estimator-Plus/#!/calculate/estimate/

MESA Risk Calculator (With addition of coronary artery calcium score, for CAD-only risk.)

https://www.mesa-nhlbi.org/MESACHDRisk/MesaRiskScore/RiskScore.aspx

CAD Risk

Low < 10%
Moderate 10%-20%
High risk ≥ 20%

BILLING/CODING INFORMATION:

CPT Coding:

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

HCPCS Coding:

S8092	Electron beam computed tomography (also known as ultrafast CT, cine CT)

REIMBURSEMENT INFORMATION:

Refer to section entitled **POSITION STATEMENT**.

PROGRAM EXCEPTIONS:

Federal Employee Plan (FEP): Follow FEP guidelines.

Medicare Advantage products: No National Coverage Determination (NCD) and/or Local Coverage Determination (LCD) were found at the time of the last guideline reviewed date.

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at Coverage Protocol Exemption Request.

DEFINITIONS:

No guideline specific definitions apply.

RELATED GUIDELINES:

Computed Tomographic Angiography (CTA) Heart, 04-70450-03

OTHER:

Note: The use of specific product names is illustrative only. It is not intended to be a recommendation of one product over another, and is not intended to represent a complete listing of all products available.

Cine Computed X-ray Tomography

Computed X-ray Tomography

Coronary Calcium Scan

Coronary Artery Calcium Scoring (CACS)

Electron Beam Computed Tomography (EBCT)

Electron Beam CT

Electron Beam Tomography (EBT)

HeartScan

High-Speed Rapid Acquisition X-ray Computed Tomography

Spiral Computed Tomography (Spiral CT) (Helical Computed Tomography Scanning)

Ultrafast Computed Tomography (Ultrafast CT)

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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 05/22/25.

GUIDELINE UPDATE INFORMATION:

03/15/04	New Medical Coverage Guideline.
03/15/05	Scheduled review, no change in coverage statement, and updated references.
01/15/06	HCPCS update, added 0144T. Updated references.
03/15/06	Updated references.
03/15/07	Scheduled review, no change in coverage statement, and updated references.
06/15/07	Reformatted guideline.
07/01/07	Updated Program Exceptions.
01/21/08	Updated Program Exceptions.
03/15/08	Scheduled review; no change in position statement. Revised 0144T code descriptor. Added coronary calcium scan to other section, and updated references.
03/15/09	Scheduled review. No change in position statement (experimental or investigational), and updated references.
05/21/09	Removed Federal Employee Plan (FEP) from BCBSF Radiology Management program exception statement. Added FEP program exception statement: FEP is excluded from the National Imaging Associates (NIA) review; follow FEP guidelines.
07/01/09	Updated BCBSF Radiology Management program exception; added BlueSelect.
01/01/10	Annual HCPCS coding update: deleted 0144T. Added 75571. Revised BCBSF Radiology Management program exception section.
03/15/10	Scheduled review. No change in position statement (experimental or investigational), and updated references.
03/15/12	Scheduled review. No change in position statement. Updated references.
12/15/12	Added Medicare program exception. Added Computed Tomographic Angiography (CTA), 04-70450-03 to related guidelines section.
05/11/14	Revision: Program Exceptions section updated.
02/15/15	Annual review. No change in position statement.
11/01/15	Revision: ICD-9 Codes deleted.
06/15/18	Review; revised position statement. Updated description and references.
10/15/20	Review; revised position statement. Added indications and criteria for coronary artery calcium (CAC) testing. Updated description and references.

05/15/22	Review; no change in position statement. Updated description, program exception, and references.
07/01/22	Revision to Program Exceptions section.
06/10/23	Review; no change in position statement. Updated references
08/21/23	Update to Program Exceptions section.
06/15/24	Review; no change in position statement. Updated program exceptions and references.
06/15/25	Review; no change in position statement.