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.

The main systems for the quantification of the CAC score are the Agatston method, determination of the volume of calcium and determination of the calcium mass score. The first two are the most widely used, especially the Agatston method, which is used as a reference for most population databases and publications involving risk stratification and is therefore the method most often used in clinical practice. The calcium volume score and calcium mass score have shown better reproducibility. The CAC score plays a relevant role in the stratification of cardiovascular risk. Several studies have shown that the CAC score is significantly associated with the occurrence of major cardiovascular events (all-cause mortality, cardiac mortality, and nonfatal myocardial infarction) in the medium and long-term follow-up (Neves, et al 2017).

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:

- 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:
    - embers 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:

Coverage for the radiology services referenced in this guideline performed and billed in an outpatient or office location will be handled through the BCBSF Radiology Management program for select products. The National Imaging Associates (NIA) will determine coverage for these services for select products. Refer to member's contract benefits.

Federal Employee Plan (FEP): FEP is excluded from the National Imaging Associates (NIA) review; follow FEP guidelines.

Medicare Advantage products:

The following Local Coverage Determination (LCD) was reviewed on the last guideline reviewed date: Computed Tomographic Angiography of the Chest, Heart and Coronary Artery, (L33282) located at fcso.com.

DEFINITIONS:

No guideline specific definitions apply.

RELATED GUIDELINES:

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

OTHER:

Other names used to report coronary artery calcium scoring of the heart:

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 & Coverage Committee on 09/24/20.

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.