# MEDICAL POLICY

Excellus

| SUBJECT: CORONARY CALCIUM SCORING | EFFECTIVE DATE: 10/15/99<br>REVISED DATE: 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 |
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| POLICY NUMBER: 6.01.13<br>CATEGORY: Technology Assessment | PAGE: 1 OF: 5 |

- ***If the member's subscriber contract excludes coverage for a specific service it is not covered under that contract. In such cases, medical policy criteria are not applied.***
- ***Medical policies apply to commercial and Medicaid products only when a contract benefit for the specific service exists.***
- ***Medical policies only apply to Medicare products when a contract benefit exists and where there are no National or Local Medicare coverage decisions for the specific service.***

## POLICY STATEMENT:

I. As a screening technique for asymptomatic patients:

Based on our criteria and review of the peer reviewed literature, coronary calcium scoring is considered **medically appropriate** when:

**A.** Coronary artery disease has not been documented by prior abnormal imaging stress test; or coronary revascularization; or prior catheterization; or cardiac CT angiogram; AND

B. Low cardiovascular risk based on the Adult Treatment Panel III (ATP) risk calculation score (less than 10%); and
   1. Father or brother with coronary heart disease diagnosed at age 55 or less; or
   2. Mother or sister with coronary heart disease diagnosed at age 65 or less; OR

C. Intermediate cardiovascular risk (10-19%) based on the Adult Treatment Panel III (ATP) risk calculation score and there are no symptoms of chest pain or shortness of breath.

II. As a diagnostic study in symptomatic patients:

Based on our criteria and review of the peer reviewed literature, it is **medically appropriate** for patients who are candidates for cardiac computed tomographic angiography (CTA) to have calcium scoring performed as part of a CTA procedure, since pre-test knowledge of extensive calcification of the coronary segment in question may diminish the interpretive value of cardiac CTA.

*Refer to Corporate Medical Policy #6.01.19 regarding Spiral Computed Tomography in Lung Cancer Screening*

*Refer to Corporate Medical Policy #6.01.34 regarding Cardiac Computed Tomographic Angiography (Cardiac CTA): Contrast-enhanced.*

## DESCRIPTION:

Atherosclerosis of the arteries is caused by a build -up of plaque that consists of fat, cholesterol, calcium and other substances. In the coronary arteries, the calcium deposits can be measured by CT which is reported as a coronary artery calcification score (CAC). The CAC score can reflect coronary artery disease 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) are likely to occur. For individuals classified as intermediate risk based on established models (e.g., ATP or Framingham risk factors), the CT calcium score may allow the individual to be reclassified to high or low-risk. For those individuals reclassified as high-risk, treatment may be changed. A CAC of 400 or more is suggested as a reasonable definition of advanced CAD. Calcium scoring is considered 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) summarizes the National Cholesterol Education Program's (NCEP's) updated clinical guidelines for cholesterol testing and management. The first step in management is the classification of an individual's risk 10 year risk or probability for coronary artery disease. Age, gender, total cholesterol, HDL cholesterol, smoking status, and systolic blood pressure are a few of the factors that are

taken into account when determining risk based on ATP. Calculation of ATP risk can be determined using the following tool: http://cvdrisk.nhlbi.nih.gov/calculator.asp.

**RATIONALE:**

Published clinical evidence does not establish a clear role for detection of coronary artery calcification by CT in coronary disease *risk stratification* in asymptomatic or symptomatic patients. Studies have not shown that clinical outcomes can be improved by the use of CT-based determination of coronary artery calcification in *screening* for coronary artery disease. There is little available data to determine whether the added predictive value of calcium scores, in addition to conventional risk factors for detection of coronary artery disease, improves health outcomes.

Some studies show similar relationships between coronary artery calcification and coronary disease events. These studies are qualitatively similar to previous studies, showing some independent predictive capability of coronary artery calcium score. However, the impact of this predictive information on clinical outcomes is not known. The essential issue still remains, how to properly integrate such predictive capability into a practice guideline which can be expected to improve patient outcomes.

A Scientific Statement was published October 2006 by the American Heart Association Committee on Cardiovascular Imaging and Intervention, Council on Cardiovascular Radiology and Intervention, and Committee on Cardiac Imaging, Council on Clinical Cardiology: Assessment of Coronary Artery Disease by Cardiac Computed Tomography. This statement recommends coronary calcium assessment for: patients with chest pain, with equivocal or normal ECG's and negative cardiac enzyme studies; assessment of symptomatic patients, especially in the setting of equivocal treadmill or functional testing; and to measure atherosclerosis burden in clinically selected intermediate CD risk patients (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 does not recommend coronary calcium assessment: to establish the presence of obstructive disease for subsequent revascularization; or serial imaging for assessment of progression of coronary calcification.

The 2010 ACCF/AHA Guideline for Assessment of Cardiovascular Risk in Asymptomatic Adults; IIa recommendations for calcium scoring methods state that 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). The IIb recommendation states that 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). No benefit was found for persons at low risk (less than 6% 10-year risk).

The U.S. Preventive Services Task Force (USPSTF), October 2012, found there is insufficient evidence to determine the percentage of persons with an intermediate CHD risk who would be reclassified by screening with nontraditional risk factors (e.g., high-sensitivity C-reactive protein (hs-CRP), ankle–brachial index (ABI), leukocyte count, fasting blood glucose level, periodontal disease, carotid intima–media thickness (carotid IMT), coronary artery calcification (CAC) score on electron-beam computed tomography (EBCT), homocysteine level, and lipoprotein(a) level. The evidence is insufficient to determine the percentage of intermediate-risk individuals who would be reclassified by screening with nontraditional risk factors, other than hs-CRP and ABI. Little evidence is available to determine the harms of using nontraditional risk factors in screening. Potential harms include lifelong use of medications without proven benefit and psychological and other harms from being misclassified in a higher risk category.

Pre-test knowledge of extensive calcification of the coronary segment in question may diminish the interpretive value of cardiac CT angiography.

| **CODES:** | Number | Description |
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*Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*

CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.

Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.

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| **CPT:** | 75571 | Computed tomography, heart, without contrast material, with quantitative evaluation of coronary calcium |



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| **HCPCS:** | No specific code(s) | |
| **ICD9:** | 414.0 | Coronary atherosclerosis |
| | 414.01 | Coronary atherosclerosis of native coronary artery |
| **ICD10:** | I25.10-I25.119 | Atherosclerotic heart disease of native coronary artery (code range) |

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*key article

**KEY WORDS:**

Calcium scoring, helical CT, multidetector row CT, ultrafast CT.

## CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a Local Coverage Determination (LCD) for Cardiac Computed Tomography (CCT) and Coronary Computed Tomography Angiography (CCTA). Please refer to the following LCD website for Medicare Members: http://www.cms.gov/medicare-coverage-database/details/lcd-details.aspx?LCDId=25907&ContrId=181&ver=48&ContrVer=1&CntrctrSelected=181*1&Cntrctr=181&name=National+Government+Services%2c+Inc.+(13202%2c+MAC+-+Part+B)&s=41&bc=AggAAAIAAAAA&