

Covered Indications

BCBS Plans

Policy No. 230, Cardiac Computed Tomography, Cardiac Computed Tomography Angiography (CPT 75574, 75573, 75572) Last reviewed January 2017

Cardiac Computed Tomography (CCT), Cardiac Computed Tomography Angiography (CCTA) using a 64-slice or greater CT scanner meets Blue Cross and Blue Shield of Alabama's medical criteria for coverage for any of the following conditions:

Detection of CAD symptomatic evaluation of chest pain syndrome:

- Intermediate pre-test probability of CAD and ECG uninterpretable or unable to exercise
- Evaluation of intra-cardiac structures
- Evaluation of suspected coronary anomalies
- Acute chest pain intermediate pre-test probability of CAD and no ECG changes and serial enzymes negative

Detection of CAD with prior test results:

- Evaluation of chest pain syndrome uninterpretable or equivocal stress test (exercise, perfusion, or stress echo)

Evaluation of acute chest pain in the Emergency Room/Emergency Department of the hospital:

patients with low to moderate pre-test probability of CAD that meet all of the following criteria:

- No known coronary artery disease. No elevated serum biomarkers including creatine kinase-myocardial band, myoglobin and/or troponin I
- No ischemic EKG changes such as ST-segment elevation or depression $\geq 1\text{mm}$ in 2 or more contiguous leads, and or T-wave inversion $\geq 2\text{mm}$
- No previously known cardiomyopathy with an estimated ejection fraction $\leq 45\%$.

Structure and Function

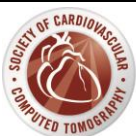
- Assessment of complex congenital heart disease including anomalies of coronary circulation, great vessels, and cardiac chambers and valves
- Evaluation of coronary arteries in patients with new onset heart failure to assess etiology
- Evaluation of intra- and extra-cardiac structures
- Evaluation of cardiac mass (suspected tumor or thrombus) and patients with technically limited images from echocardiogram, MRI or TEE
- Evaluation of pericardial conditions (pericardial mass, constrictive pericarditis, or complications of cardiac surgery) and patients with technically limited images from echocardiogram, MRI or TEE
- Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation (e.g., pulmonary vein isolation)
- Non-invasive coronary vein mapping prior to placement of biventricular pacemaker or placement of automatic implantable cardioverter defibrillator (AICD)
- Non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization
- Evaluation of aortic and pulmonary disease

Alabama
1/18



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	<ul style="list-style-type: none"> • Evaluation of suspected aortic dissection or thoracic aortic aneurysm ii. Evaluation of suspected pulmonary embolism <p>Computed tomography, heart, without contrast material including image post-processing and quantitative evaluation of coronary calcium meets Blue Cross and Blue Shield of Alabama's medical criteria for coverage when a CCT or CCTA meets the coverage criteria noted above, but when a review of the initial non-contrast CT images is reviewed it is determined that based on the calcium volume the patient is not a candidate for the arterial phase component of the study. (In this case only code 75571 should be reported.)</p> <p>Policy No. 645, Noninvasive Fractional Flow Reserve by Coronary Computed Tomographic Angiography; Last reviewed August 2017 (CPT 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve following a positive coronary computed tomography angiography meets Blue Cross and Blue Shield of Alabama's medical criteria for coverage when used to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of coronary artery disease (i.e. suspected or presumed stable ischemic heart disease).</p> <p>The use of noninvasive fractional flow reserve does not meet Blue Cross and Blue Shield of Alabama's medical criteria for coverage when the criteria outlined above is not met and is considered investigational.</p> <p>Policy No. 646, Computed Tomography to Detect Coronary Artery Calcification; Last reviewed October 2017 (CPT 75571)</p> <p>Computed tomography, heart, without contrast material including image post-processing and quantitative evaluation of coronary calcium meets Blue Cross and Blue Shield of Alabama's medical criteria for coverage when a CCT or CCTA meets the coverage criteria, but when a review of the initial non-contrast CT images is reviewed it is determined that based on the calcium volume the patient is not a candidate for the arterial phase component of the study. (In this case only code 75571 should be reported.)</p> <p>The use of computed tomography to detect coronary artery calcification as a stand-alone test does not meet Blue Cross and Blue Shield of Alabama's medical criteria for coverage and is considered investigational.</p>
<p>Alaska (Premera) 1/18</p>	<p>No current policy listed for cardiac CT or calcium score.</p>
<p>Arizona 1/18</p>	<p>Contrast Enhanced Coronary Computed Tomography Angiography for Coronary Artery Evaluation; Last reviewed October 10, 2017 (CPT 75574, 75573,75572)</p> <p>Evaluation of a suspected anatomical coronary artery anomaly is considered medically necessary with documentation of ALL of the following:</p> <ul style="list-style-type: none"> • Unexplained dyspnea, chest pain, palpitations, recurrent syncope, arrhythmia or cardiac arrest • Current diagnostic tests, including chest X-ray, treadmill stress test, holter and/or event monitor, are inconclusive or normal, or images from MRI or TEE are technically limited. <p>Emergency evaluation of individuals with acute chest pain and without known coronary artery disease is considered medically necessary.</p> <p>Evaluation of congenital heart defects, including cardiac chambers, valves, great vessels and</p>



Arkansas 1/18	<p>vasculature is considered medically necessary as part of the pre-and post-operative assessment for cardiac surgery with documentation of ANY of the following:</p> <ul style="list-style-type: none"> • Contraindications to cardiac MRI (e.g., pacemaker) • Evaluation of coronary heart abnormalities with respect to origin and distribution (e.g., anomalous coronary artery arising from the pulmonary artery, left coronary artery from the right sinus of Valsalva) • Following coronary artery implantation after aortic root replacement or after transposition of the great artery repair • Primary evaluation of vascular ring or pulmonary artery sling lesions • Evaluation of the pulmonary artery in an individual with pulmonary atresia, hypoplasia or agenesis of the pulmonary artery • Following stent implantation in the pulmonary artery or aortic arch • Suspected aortic arch abnormality • Need to visualize extracardiac structures related to the congenital heart defect (e.g., tracheobronchial tree, esophagus, lung parenchyma) • Complex congenital heart defect to evaluate ventricular function <p>Contrast-enhanced coronary CT angiography for coronary artery evaluation for all indications not previously listed or if above criteria not met is considered experimental examples include, but are not limited to:</p> <ul style="list-style-type: none"> • Coronary artery bypass graft patency • Coronary artery stenosis • Measurement of cardiac perfusion • Evaluation of coronary artery disease or atherosclerosis in an asymptomatic or symptomatic individual • Screening for coronary artery disease or atherosclerosis in an asymptomatic individual. <p>Coronary Computed Tomography Angiography with Selective Noninvasive Fractional Flow Reserve; Last reviewed July 18, 2017 (CPT 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve following a positive coronary computed tomography angiography to guide decisions about the use of invasive coronary angiography in individuals with stable chest pain at intermediate risk of coronary artery disease (i.e., suspected or presumed stable ischemic heart disease) is considered medically necessary.</p> <p>The use of noninvasive fractional flow reserve for all other indications not previously listed or if above criteria not met is considered experimental or investigational</p> <p>Computed Tomography to Detect Coronary Artery Calcification; Last reviewed October 24, 2017 (CPT 75571)</p> <p>No CAC coverage</p>
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<p>California (Blue Shield) 1/18</p>	<p>Policy 6.01.43, Contrast Enhanced Coronary Computed Tomography Angiography for Coronary Artery Evaluation; effective November 1, 2017 ((CPT 75574, 75573,75572)</p> <ul style="list-style-type: none"> • may be considered medically necessary for evaluation of patients without known coronary artery disease and acute chest pain in the emergency department setting. • may be considered medically necessary for evaluation of patients with stable chest pain and meeting guideline criteria for a noninvasive test in the outpatient setting. • may be considered medically necessary for evaluation of anomalous (native) coronary arteries in patients in whom they are suspected. • (CCTA) for coronary artery evaluation is considered investigational for all other indications. <p>Policy 6.01.03, Computed Tomography to Detect Coronary Artery Calcification; effective November 1, 2017 (CPT 75571)</p> <p>No CAC coverage – investigational.</p> <p>Policy 6.01.59, Coronary Computed Tomography Angiography with Selective Noninvasive Fractional Flow Reserve; effective August 1, 2017(CPT 0501T,0502T, 0503T,054T)</p> <p>following a positive coronary computed tomography angiography may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of coronary artery disease (i.e., suspected or presumed stable ischemic heart disease). The use of noninvasive fractional flow reserve not meeting the criteria outlined above is considered investigational.</p>
<p>California (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not



	<p>medically necessary for all other indications when the above criteria are not met.</p> <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals; • in conjunction with a coronary CT angiography (CCTA).
<p>Colorado (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals; • in conjunction with a coronary CT angiography (CCTA).
<p>Connecticu</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve</p>



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Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)

Medically Necessary:

Contrast-enhanced coronary computed tomography angiography (CCTA), is considered **medically necessary** for the evaluation of suspected anomalous coronary arteries:

- In pediatric individuals (age less than 18 years), either before or after conventional angiography
- In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment.

Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered **medically necessary** for the evaluation of **stable chest pain in individuals at intermediate risk of coronary artery disease** as an alternative to invasive coronary angiography.

Not Medically Necessary: (CPT 75572, 75573,)

- Coronary computed tomography angiography (CCTA) is considered **not medically necessary** for all other indications, including, but not limited to, the following:
- Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation
- Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; **or**
- As a technique to evaluate cardiac function.
- Fractional flow reserve derived from computed tomography (FFRCT) is considered **not medically necessary** for all other indications when the above criteria are not met.

RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)

The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered **investigational and not medically necessary** for the detection of coronary artery calcium, including, but not limited to, the following indications:

- as part of a cardiac risk assessment in asymptomatic or symptomatic individuals;
- as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive;
- as a diagnostic test in symptomatic individuals;
- in conjunction with a coronary CT angiography (CCTA).

Delaware
(Highmark)
1/18

Policy X-116-01 Last reviewed November 2017 (CPT 75572, 75573)

Adult Congenital Heart Disease

- * Assessment of anomalies of coronary arterial and other thoracic arteriovenous vessels (*for "anomalies of coronary arterial vessels" coronary computed tomographic angiography (CCTA) preferred and for "other thoracic arteriovenous vessels" Heart CT preferred)
- * For evaluation of structural heart disease, such as transposition of the great arteries (TGA), when magnetic resonance imaging (MRI) might be preferable but cannot be performed.
- *Further assessment of complex adult congenital heart disease after confirmation by transthoracic echocardiogram (TTE).

Evaluation of left ventricular function.

- Following acute myocardial infarction (MI) or in heart failure (HF) patients.
- Inadequate images from other noninvasive methods.

Quantitative evaluation of right ventricular function.

- Assessment of right ventricular morphology.
- Suspected arrhythmogenic right ventricular dysplasia.



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Assessment of myocardial viability.

- Prior to myocardial revascularization for ischemic left ventricular systolic dysfunction.
- Other imaging modalities are inadequate or contraindicated.

Evaluation of Intra and Extra Cardiac Structures

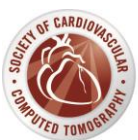
Characterization of native cardiac valves.

- Suspected clinically significant valvular dysfunction.
- Inadequate images from other noninvasive methods.
- Re-evaluation (less than one (1) year) of the size and morphology of the aortic sinuses and ascending aorta in patients with a bicuspid aortic valve (AV) and an ascending aortic diameter greater than 4 cm with **ONE** of the following: vAortic diameter greater than 4.5 cm; **or** Rapid rate of change in aortic diameter; **or** Family history (first-degree relative) of aortic dissection.
- Alternative imaging modality: CMR A (8), TTE A (7).
- Characterization of prosthetic cardiac valves.
- For assessment of prosthetic valve thrombosis for suspected clinically significant valvular dysfunction.
- Inadequate images from other noninvasive method.
- Severe tricuspid regurgitation (TR) and suboptimal TTE images, for assessment of RV systolic function and systolic and diastolic volumes.
- Alternative imaging modality is cardiac magnetic resonance (CMR) A (8)
- Evaluation of cardiac mass (suspected tumor or thrombus).
- Inadequate images from other noninvasive methods.
- Evaluation of pericardial anatomy.
- Evaluation of pulmonary vein anatomy.
- Prior to radiofrequency ablation for atrial fibrillation.
- Noninvasive coronary vein mapping.
- Prior to placement of biventricular pacemaker.
- Localization of coronary bypass grafts and other retrosternal anatomy (for "localization of coronary bypass grafts" CCTA preferred and for "other retrosternal anatomy" Heart CT preferred)
- Prior to preoperative chest or cardiac surgery.

Policy X-54-008, CTA Coronary Arteries and Fractional Flow Reserve CT; Last reviewed October 2017 (CPT 75574, 0501T, 0502T, 0503T, 054T)

FFR-CT may be considered medically necessary when **ALL** of the following are met:

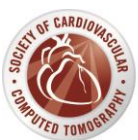
1. Prior to CCTA, the patient was stable with a pre-test probability between 20% and 80% of significant, ischemia-producing CAD, based upon reliable calculations, (i.e., Diamond Forrester, ESC Consortium, University of Washington, or similar calculators.); **and**
2. The patient had **at least ONE** of the following scenarios:
 - A pretest probability of 20-50% (low-to-moderate) prior to CCTA and was selected for evaluation with CCTA as a non-invasive test for significant CAD. The CCTA result shows lesions of greater than or equal to 50%; **or**
 - A pretest probability of 51-80% (moderate or high moderate) prior to CCTA and was selected for evaluation with CCTA as a non-invasive test for significant CAD. The CCTA



	<p>result shows lesions of 30-50%.</p>
<p>Florida 1/18</p>	<p>Policy 04-70450-03, Computed Tomographic Angiography Heart; Last revised January 2014 (CPT 75574, 75572,75573)</p> <p>meets the definition of medical necessity for the following indications:</p> <ul style="list-style-type: none"> • Evaluation of chest pain in individuals with an intermediate pre-test probability of coronary artery disease (CAD) by the American College of Cardiology criteria for pretest probability of coronary artery disease • Electrocardiogram (ECG) uninterpretable and contraindications to exercise and pharmacological stress test; • Uninterpretable, inconclusive, or equivocal stress test (e.g., exercise treadmill, stress echo, nuclear stress test [myocardial perfusion imaging]), CTA will be performed in lieu of an angiography or there is a suspicion that the results are falsely positive. • Evaluation of acute chest pain for Intermediate pre-test probability of coronary artery disease • Evaluation of anomalous coronary arteries when conventional angiography is unsuccessful or equivocal and when the results of CTA will impact treatment. • Assessment of complex congenital heart disease, including, but not limited to anomalies of great vessels, cardiac chambers and valves. • Evaluation of coronary arteries in members with new onset heart failure to assess etiology. • Evaluation of suspected aortic dissection or thoracic aortic aneurysm. • The following indications meet the definition of medical necessity for new or changing signs or symptoms: <ul style="list-style-type: none"> • Evaluation of bypass grafts • Evaluation of coronary anatomy • Evaluation of stent occlusion or in-stent restenosis • Evaluation of coronary anatomy after percutaneous coronary intervention (e.g., angioplasty, percutaneous transluminal coronary angioplasty [PTCA], balloon angioplasty) • Detection of coronary artery disease post-revascularization procedures (e.g., percutaneous coronary intervention, coronary artery bypass grafting surgery). • Computed tomographic angiography (CTA Assessment of complex congenital heart disease (e.g., anomalies of great vessels, cardiac chambers and valves) • Evaluation of coronary arteries in patients with new onset heart failure to assess etiology • Evaluation of suspected aortic dissection or thoracic aortic aneurysm. <p>experimental or investigational for the following indications, including but not limited to:</p> <ul style="list-style-type: none"> • Screening for coronary artery disease • Screening asymptomatic members for coronary artery disease • Screening members at low risk for coronary artery disease. <p>04-70450-02, Computed Tomography to Detect Coronary Artery Calcification (CPT 75571) Last revised November 2015</p> <ul style="list-style-type: none"> • No CAC coverage.
<p>Georgia 1/18 (follows Anthem and uses AIM)</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography



	<ul style="list-style-type: none"> In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or As a technique to evaluate cardiac function. Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; as a diagnostic test in symptomatic individuals; in conjunction with a coronary CT angiography (CCTA).
Hawaii 1/18	Uses NIA/Magellan indications/pre-certification
Idaho (Blue Cross) 1/18	<p>Policy 6.01.59, Coronary Computed Tomography Angiography with Selective Noninvasive Fractional Flow Reserve; Last reviewed June 2017 (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve following a positive coronary computed tomography angiography may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of coronary artery disease (suspected or presumed stable ischemic heart disease).</p> <p>The use of noninvasive fractional flow reserve not meeting the criteria outlined above is considered investigational.</p> <p>NOTE: No stand alone policy found for CCTA</p> <p>Policy 6.01.03 – Computed Tomography to Detect Coronary Artery Calcification; Last reviewed September 28, 2017 (CPT 75571)</p> <p>No CAC coverage – investigational</p>



<p>Idaho (Regence) 1/18</p>	<p>Indications as of Nov 2015; no Coronary CTA current policy published on website as of 1/18 (CPT 75573, CPT 75574)</p> <ul style="list-style-type: none"> • Anomalous coronary artery mapping • ED evaluation of CAD in patients with acute chest pain without known CAD <p>Policy No. 6, Computed Tomography to Detect Coronary Artery Calcification; Last reviewed October 2017, next review October 2018 (CPT 75571)</p> <p>No CAC coverage</p>
<p>Illinois 1/18</p>	<p>RAD 604.007 Coronary Computed Tomography Angiography, Including Noninvasive Fractional Flow Reserve; Last reviewed December 2017 (CPT 75574, 75573,75572)</p> <p>Evaluation of individuals without known coronary artery disease (CAD) who present with acute chest pain in the emergency room or emergency department setting may be considered medically necessary.</p> <p>Evaluation of symptomatic individuals with suspected ischemic heart disease, who meet guideline criteria for a noninvasive test in the outpatient setting may be considered medically necessary</p> <p>The choice of test will depend on:</p> <ol style="list-style-type: none"> 1. Interpretability of the electrocardiogram; and 2. Ability to exercise; and 3. Presence of comorbidities. <p>Evaluation of anomalous (native) coronary arteries in individuals in whom abnormal coronary arteries are suspected may be considered medically necessary.</p> <p>CCTA, <u>with or without contrast enhancement</u>, as an adjunct to other testing, may be considered medically necessary for the <u>evaluation of cardiac structure and function</u> to:</p> <ul style="list-style-type: none"> • Assess complex congenital heart disease, including anomalies of coronary circulation, great vessels, and cardiac chambers and valves; • Assess suspected arrhythmogenic right dysplasia, left ventricular function when cardiomyopathy is suspected or established, and right ventricular function when right ventricular dysfunction is suspected in individuals with technically limited images from echocardiography (ECG), magnetic resonance imaging (MRI), or transesophageal echocardiography (TEE); • Assess suspected or established dysfunction of prosthetic cardiac valves in individuals with technically limited images from ECG, MRI, or TEE; • Assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned; • Assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from ECG, MRI, or TEE; • Assess a pericardial condition (such as, pericardial mass, constrictive pericarditis, pericardial effusion, or complications of cardiac surgery in patients) with technically limited images from ECG, MRI, or TEE; • Perform non-invasive coronary vein mapping prior to placement of a biventricular pacemaker; • Perform non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization • Evaluate pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial



	<p>fibrillation;</p> <ul style="list-style-type: none"> • Evaluate cardiac aneurysm and pseudoaneurysm • Evaluate thoracic aortic aneurysm (TAA) (such as suspected aneurysm in individuals who have not undergone computed tomography (CT) or MRI within the preceding 60 days, confirmed TAA in individuals with new or worsening symptoms, or suspected aortic dissection (with or without worsening symptoms or pre-operative planning); • Assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography. <p>considered experimental, investigational and/or unproven for all other indications, including but not limited to:</p> <ul style="list-style-type: none"> • Screening asymptomatic individuals for CAD • Evaluating asymptomatic individuals with cardiac risk factors in lieu of cardiac evaluation and standard non-invasive cardiac testing; • Evaluating individuals for any other indication not listed above, including but not limited to high or low pretest probability (low risk defined as <10% and high risk as >90%) of CAD • CCTA performed using a multi-detector row CT scanner with <u>less than 64-slice scanner</u> is considered experimental, investigational and/or unproven. <p>Noninvasive Fractional Flow Reserve Computed Tomography (CPT 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve (FFR) following a positive CCTA may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of CAD (i.e., suspected or presumed stable ischemic heart disease).</p> <p>The use of noninvasive FFR computed tomography (FFR_{CT}) simulation not meeting the criteria above is considered experimental, investigational and/or unproven.</p> <p><i>NOTE 2: If CT imaging is done of the blood vessels it is not necessarily a CCTA. A CCTA must include reconstruction post-processing of the angiographic images and interpretations, which is a key distinction between a CCTA and conventional CT. If the reconstruction post-processing is not done, it is not considered a CCTA study.</i></p> <p>RAD 604.009, Computed Tomography to Detect Coronary Artery Calcification, Last reviewed March 2017 (CPT 75571) No CAC coverage (except for Texas contracts)</p>
<p>Indiana (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a



	<p>preoperative evaluation</p> <ul style="list-style-type: none"> • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals; • in conjunction with a coronary CT angiography (CCTA).
<p>Iowa (Wellmark) 1/18</p>	<p>Policy 06.01.20 – Computed Tomography Angiography of the Coronary Arteries, Last reviewed April 2016; (no longer listed on the web as of January 10, 2018). Policy likely under revision now. (CPT 75574, 75573,75572)</p> <p>May be considered medically necessary for the following indications:</p> <p>Evaluation of suspected cardiac chest pain when all of the following are met:</p> <ul style="list-style-type: none"> • No known history of coronary artery disease (CAD); • Low or intermediate pre-test probability of coronary artery disease (CAD) (using Framingham risk score calculation); • ECG normal/non-diagnostic for etiology of chest pain <p>Evaluation of suspected coronary artery disease (CAD) including those individuals with prior abnormal cardiac testing (myocardial perfusion imaging (MPI) or stress echo)</p> <ul style="list-style-type: none"> • Individual with abnormal MPI or stress echo within the preceding 90 days suspected to be false positive on the basis of low coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation). • Individual with an equivocal MPI or stress echo within the preceding 90 days who have low or intermediate coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation). <p>Individuals with congestive heart failure/cardiomyopathy/left ventricular dysfunction</p> <ul style="list-style-type: none"> • For exclusion of coronary artery disease in patients with left ventricular ejection fraction <55% and intermediate coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation) in whom coronary artery disease has not been excluded as the etiology of the cardiomyopathy. <p>Evaluation for non-coronary artery cardiac surgery</p> <ul style="list-style-type: none"> • Individual with intermediate coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation) and being evaluated for non-coronary artery cardiac surgery (including valvular and ascending aortic surgery) to avoid an invasive angiogram. All the necessary pre-operative information can be obtained using cardiac CT. <p>Congenital coronary artery anomalies</p> <ul style="list-style-type: none"> • For evaluation of suspected congenital anomalies of the coronary arteries



	<p>Medical Policy 06.01.06, Coronary Artery Calcium Scoring; Last reviewed July 2017 (CPT 75571) Coronary artery calcium scoring by means of computed tomography is considered investigational for all indications.</p>
<p>Kansas 1/18</p>	<p>Cardiac Computed Tomography; Last revised October 2017 (CPT 75574,75573, 0501T,0502T, 0503T,054T)</p> <ol style="list-style-type: none"> 1. Evaluation of patients with symptoms of stable ischemic heart disease and meeting guideline criteria for a noninvasive test in the outpatient setting is considered medically necessary. 2. Evaluation of patients without known coronary artery disease and acute chest pain in the emergency room/emergency department setting is considered medically necessary. 3. Evaluation of anomalous (native) coronary arteries in patients in whom they are suspected may be considered medically necessary. <p>Evaluation is considered experimental / investigational for all other indications.</p> <p>CCTA with Selective Noninvasive Fractional Flow Reserve; Last revised January 2018</p> <p>The use of noninvasive fractional flow reserve following a positive coronary computed tomography angiography may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of coronary artery disease (ie, suspected or presumed stable ischemic heart disease).</p> <p>B. The use of noninvasive fractional flow reserve not meeting the criteria outlined above is considered experimental / investigational.</p> <p>CT to Detect Coronary Artery Calcification; Last reviewed November 2017 (CPT 75571)</p> <p>No CAC coverage.</p>
<p>Kentucky (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4,</p>



	<p>2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals; • in conjunction with a coronary CT angiography (CCTA).
<p>Louisiana 1/18</p>	<p>Policy No. 00153, Contrast Enhanced Computed Tomography for Coronary Artery Evaluation; Effective May 2017 (CPT 75574, 75573,75572)</p> <p>May consider to be eligible for coverage when using at least a 64-slice multidetector row helical computed tomographic scanner for ANY of the following conditions:</p> <ul style="list-style-type: none"> • Evaluation of anomalous (native) coronary arteries in symptomatic patients when conventional angiography is unsuccessful or equivocal and when the results will impact treatment • Assessment of complex congenital heart disease including anomalies of coronary circulation, great vessels and cardiac chambers and valves • Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation • Evaluation of patients with chest pain who do not have known coronary artery disease (CAD) in the emergency room/emergency department setting • For exclusion of coronary artery disease (CAD) in patients with left ventricular ejection fraction < 55% and low or intermediate coronary heart disease risk in patients whom coronary artery disease (CAD) has not been excluded as the etiology of the cardiomyopathy • Patients at intermediate coronary heart disease risk being evaluated for non-coronary artery cardiac surgery (including valvular and ascending aortic surgery) to avoid an invasive angiogram, where all of the necessary preoperative information can be obtained using cardiac computed tomography (CT) • Evaluate patients with suspected coronary artery disease (CAD) who have low or intermediate coronary heart disease risk and have had an equivocal myocardial perfusion imaging (MPI) or stress echo within the preceding 60 days • Evaluate patients with suspected coronary artery disease (CAD) who have a low coronary heart disease risk who have had an abnormal myocardial perfusion imaging (MPI) or stress echo within the preceding 60 days suspected to be a false positive. • Contrast enhanced coronary computed tomographic angiography for evaluation of patients with symptoms consistent with myocardial ischemia, is considered medically necessary as an alternative to myocardial perfusion imaging (MPI) or stress echocardiography (SE) when guideline criteria for MPI are met. <p>Based on review of available data, the Company considers contrast-enhanced coronary computed tomographic angiography (CCTA) for coronary artery evaluation to be investigational for all other indications.</p> <p>Policy No. 00031, Computed Tomography to Detect Coronary Artery Calcification; Last reviewed January</p>



	<p>2018 (CPT 75571)</p> <p>No CAC coverage – investigational</p> <p>Policy No. 00537, CCTA with Selective Noninvasive Fractional Flow Reserve; effective October 2017 (CPT 0501T,0502T, 0503T,054T)</p> <p>Based on review of available data, the Company may consider the use of noninvasive fractional flow reserve (FFR) following a positive coronary computed tomography angiography (CCTA) to guide decisions about the use of invasive coronary angiography (ICA) in patients with stable chest pain at intermediate risk of coronary artery disease (CAD i.e., suspected or presumed stable ischemic heart disease [SIHD]) to be eligible for coverage.</p> <p>The use of noninvasive fractional flow reserve (FFR) not meeting the criteria outlined above is considered to be investigational.</p>
<p>Maine (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals in conjunction with a coronary CT angiography (CCTA).



CAM 60143; Contrast Enhanced Computed Tomography Angiography for Coronary Artery Evaluation; Last reviewed December 2017; next review December 2018 (CPT 75574,75573,75572)

MAY BE CONSIDERED MEDICALLY NECESSARY for any of the following indications:

A. Detection of coronary artery disease (CAD) in:

Symptomatic individuals (such as, chest pain syndrome as described by the American College of Cardiology [ACC]) who:

1. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines) AND
2. Had a non-diagnostic stress electrocardiograph (ECG or EKG) (as defined by the ACC guidelines) AND
3. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate

Symptomatic individuals with unexplained chest pain or anginal equivalent symptoms (as described by the ACC) who:

1. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines); AND
2. Had no ECG changes suggestive of ischemia or infarction; AND
3. Had negative cardiac enzymes and cardiac marker results; AND
4. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate.

B. Evaluation of cardiac structure and function:

1. To assess complex congenital heart disease, including anomalies of coronary circulation, great vessels and cardiac chambers and valves; OR
2. To assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned; OR
3. To assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from echocardiography, magnetic resonance imaging (MRI) or transesophageal echocardiography (TEE); OR
4. To assess a pericardial condition (such as, pericardial mass, constrictive pericarditis or complications of cardiac surgery in patients) with technically limited images from echocardiography, MRI or TEE; OR
5. For non-invasive coronary vein mapping prior to placement of a biventricular pacemaker; OR
6. For non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization; OR
7. For evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation; OR
8. To assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.

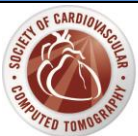
Evaluation of Chest pain in the Emergency Department:

CTA, with or without contrast enhancement or media, utilizing **64-slice or greater MDCT** scanner : acute chest pain **and** without known CAD in the emergency room or emergency department **MAY BE CONSIDERED MEDICALLY NECESSARY.**

CAM 60103; Computed Tomography to Detect Coronary Artery Calcification; Last reviewed July 2017; Next review July 2018 (CPT 75571)

CAC is investigational.

CAM 175; Fractional Flow Reserve CT; Last reviewed December 2017; Next review October 2018 (CPT



0501T,0502T, 0503T,054T

All requirements for **MEDICALLY NECESSITY** below must be met:

The patient was selected for evaluation with coronary computed tomography angiography (CCTA) as a non-invasive test for significant coronary artery disease:

1. Is stable, and
2. Has a pre-test probability of significant, ischemia-producing coronary artery disease between 20% and 50% (low to moderate probability) based on a reliable calculator prior to the CCTA, and
3. The CCTA result demonstrates lesions \geq 50% **OR**

The patient was selected for evaluation with CCTA as a non-invasive test for significant coronary artery disease:

1. Is stable, and
2. Has a pre-test probability of significant, ischemia-producing coronary artery disease between 51% and 80% (moderate to high moderate probability based on a reliable calculator prior to CCTA, and
3. CCTA result demonstrates lesions between 30% and 50%

None of the following clinical scenarios apply since FFR-CT has not been adequately validated due to inapplicability of computational dynamics, artifacts, and/or clinical circumstances; These indications will be considered **NOT MEDICALLY NECESSARY**:

- Suspicion of, or current presentation of, an acute coronary syndrome, unless the patient has unstable angina, myocardial infarction was excluded, and ICA would not be recommended if FFR-CT were negative
- Known ischemic coronary artery disease that has not been revascularized, and there has been no change in patient status or in the CCTA images
- Recent myocardial infarction within 30 days
- Prior coronary artery bypass graft surgery
- Patients who require emergent or urgent ICA or have any evidence of ongoing or active clinical instability, including acute chest pain (sudden onset), cardiogenic shock, unstable blood pressure with systolic blood pressure $<$ 90 mmHg, severe congestive heart failure (New York Heart Association [NYHA] III or IV) or acute pulmonary edema
- Complex congenital heart disease or VSD with Qp/Qs $>$ 1.4
- BMI $>$ 35
- Metallic stents in the coronary system
- Coronary vessels with extensive or heavy calcification
- Coronary lesions needing evaluation in which vessel diameter $<$ 1.8 mm
- Cardiac Implanted Electrical Devices (CIEDs)
- Prosthetic Heart Valves
- Severe wall motion abnormality on CCTA results•
- Severe myocardial hypertrophy
- High risk indicators on stress test
- ICA within the past 90 days
- Marginal quality of the submitted imaging data, due to motion, blooming, misalignment, arrhythmia, etc.

Massachusetts
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Policy 831, CCTA and CT Derived Fractional Flow Reserve (CPT 75574, CPT 0501T,0502T, 0503T,054T)

Chest pain



SOCIETY OF
CARDIOVASCULAR
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- With intermediate or high pretest probability of CAD; OR
- With low or very low pretest probability of CAD and high risk of CAD (SCORE)

Atypical symptoms: syncope, shortness of breath (dyspnea), neck, jaw, arm, epigastric or back pain, 2 or sweating (diaphoresis)

- With moderate or high risk of CAD (SCORE)

Other symptoms: palpitation, dizziness, lightheadedness, near syncope, nausea, vomiting, anxiety, weakness, fatigue, etc.

- With high risk of CAD (SCORE)

Patients with any cardiac symptom who have diseases/conditions with which CAD commonly coexists, such as:

- Abdominal aortic aneurysm; OR
- Chronic renal insufficiency or renal failure; OR
- Diabetes mellitus; OR
- Established and symptomatic peripheral vascular disease; OR
- Prior history of cerebrovascular accident (CVA), transient ischemic attack (TIA) or carotid endarterectomy (CEA) or high-grade carotid stenosis (>70%)

FFR-CT not required

Congenital Coronary arteries:

For evaluation of suspected congenital anomalies of the coronary arteries

FFR-CT may be appropriate but is not a required capability of the performing imaging facility.

Congestive Heart failure/ cardiomyopathy/ left ventricular dysfunction

- For exclusion of CAD in patients with LVEF <55% and low to moderate coronary heart disease risk, in whom CAD has not been excluded as the etiology of the cardiomyopathy.

Preoperative evaluation for patients undergoing non-coronary cardiac surgery

- Evaluation of symptomatic or asymptomatic patients at moderate coronary heart disease risk to avoid an invasive angiogram, where all the necessary preoperative information can be obtained using cardiac CT
- Procedures include open and percutaneous valvular procedures or ascending aortic surgery

Suspected coronary artery disease in patients who have had abnormal exercise EKG test (performed without imaging) within the past 60 days (When both of the following apply)

- Patient is symptomatic
- During testing the patient had exercise-induced chest pain, ST segment change, abnormal BP response or complex ventricular arrhythmias

Suspected coronary artery disease in patients who have had equivocal MPI or SE within the past 60 days (When both of the following apply)

- Patient is symptomatic
- The imaging portion of the study is neither clearly normal nor clearly abnormal

Suspected coronary artery disease in patients who have had abnormal MPI or SE within the past 60 days (When both of the following apply)

- Patient is symptomatic
- The imaging portion of the study is abnormal

FFR-CT may be appropriate and is required capability of the imaging facility.

Suspected coronary artery disease in symptomatic patients who have abnormal resting EKG

- When resting EKG abnormalities (left bundle branch block, electronically paced ventricular rhythm, left ventricular hypertrophy with repolarization abnormalities, resting ST segment depression 1 mm or more, digoxin effect or pre-excitation syndrome) would render an exercise treadmill test (without imaging) uninterpretable

Suspected coronary artery disease in symptomatic patients who have not had recent CAD evaluation

- When no CAD imaging evaluation (MPI, cardiac PET, stress echo, CCTA or coronary angiography) has been performed within the preceding sixty (60) days



	<p>Policy 832, Cardiac CT for Quantitative Evaluation of Coronary Calcification (CPT 75571) No coverage of CAC – investigational. Follows AIM Guidelines for Advanced Cardiac Imaging.</p>
<p>Michigan 1/18</p>	<p>CCT/CCTA; effective May 2017 (CPT 75574,75573,75572)</p> <p>Coronary computed tomography-angiography (CCTA) is an established procedure. CCTA may be done in an inpatient, outpatient or emergency room setting</p> <p>The following patients are considered appropriate candidates for CT angiography by the American College of Cardiology:</p> <ul style="list-style-type: none"> • Stress test results that are equivocal or discordant with other clinical evidence, in lieu of invasive coronary angiography • Low-intermediate risk acute chest pain in order to exclude coronary artery disease in the emergency department or inpatient setting • New onset chest pain in low-intermediate risk patients in the outpatient setting • Evaluation of coronary bypass graft or coronary stent patency, in order to facilitate decision making for invasive angiography • Suspected coronary anomalies • Cardiac or major thoracic surgery, such as aortic valve replacement or aortic aneurysm repair, in order to exclude coronary artery disease, as an alternative to invasive coronary angiography • Incomplete invasive catheterization results as an alternative to repeat invasive catheterization • Patients anticipating cardiac surgery who require an assessment of coronary or pulmonary venous anatomy: This application of CTA for the coronary and pulmonary veins is primarily for pre-surgical planning. • Evaluation of coronary venous anatomy to place a pacemaker lead in the lateral coronary vein in order to resynchronize cardiac contraction in patients with heart failure. This may be helpful to guide biventricular pacemaker placement. • Pulmonary vein catheter ablation can isolate electrical activity from the pulmonary veins and allow for the elimination of recurrent atrial fibrillation. • Assessment of complex congenital heart disease including anomalies of coronary circulation, great vessels, and cardiac chambers and valves: <ol style="list-style-type: none"> a. Anomalous pulmonary venous drainage b. Other complex congenital heart diseases c. Sinus venosum atrial septal defect d. Kawasaki’s disease e. Consideration for surgical repair of tetralogy of Fallot or other congenital heart disease. f. Pulmonary outflow tract obstruction • Evaluation of cardiac mass (suspected tumor or thrombus) and patients with technically limited images from echocardiogram, MRI or TEE. • Evaluation of pericardial conditions (pericardial mass, constrictive pericarditis, or complications of cardiac surgery) and patients with technically limited images from echocardiogram, MRI or TEE. • Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation (e.g., pulmonary vein isolation). • Non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization. • Evaluation of suspected aortic dissection or thoracic aortic aneurysm.



	<ul style="list-style-type: none"> • Evaluation of suspected pulmonary embolism. <p>Exclusions: • Those individuals who do not meet the criteria stated above. • For screening purposes • Multidetector CT scanners that have fewer than 64 detectors • Computed tomography of the heart, without contrast material, with quantitative evaluation of coronary calcium. Calcium scoring reported in isolation is considered a screening service. See JUMP policy “Computed Tomography to Detect Coronary Artery Calcification.”</p> <p>CPT 75571</p> <p>No CAC coverage – investigational.</p>
<p>Minnesota 1/18</p>	<p>V 14 002; Last reviewed October 2017</p> <p>I. The use of computed tomography angiography (CTA) for evaluation of coronary arteries may be considered MEDICALLY NECESSARY AND APPROPRIATE for ANY of the following indications (CPT 75574, 75573,75572)</p> <ul style="list-style-type: none"> • As an alternative to invasive angiography, following a stress test that is equivocal or suspected to be inaccurate; OR • Evaluation of suspected congenital anomalies of the coronary circulation; OR • Evaluation of acute chest pain or symptoms consistent with acute cardiac ischemia; OR • Assessment of coronary or pulmonary venous or arterial anatomy for pre-surgical planning. Examples of pre-surgical assessment include: <ul style="list-style-type: none"> • Coronary vein mapping prior to placement of biventricular pacemaker, • Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation, • Coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization. <p>II. All other applications of computed tomography angiography (CTA) of the coronary arteries are considered EXPERIMENTAL/INVESTIGATIVE, including, but not limited to:</p> <ul style="list-style-type: none"> • Screening for coronary artery disease (i.e., absence of signs or symptoms of disease) <p>V 09 003; Last reviewed September 2017 (CPT 75571)</p> <p>No CAC coverage - investigational.</p>
<p>Mississippi 1/18</p>	<p>Policy L6.01.415, CCTA; Last reviewed June 2016 (CPT 75574,75573,75572)</p> <p>Providers must be accredited by IAC or ACR. A diagnosis of chest pain (acute or non-acute) is not in itself an eligible indication for performing CCTA. CCTA using a 64-slice or greater CT scanner is considered medically necessary for the following:</p> <p><u>Detection of CAD in Symptomatic Patients</u></p>



Evaluation of chest pain syndrome

- Intermediate pre-test probability of CAD (see Table A below) and electrocardiogram (ECG) (EKG) uninterpretable or unable to exercise

Evaluation of intra-cardiac structures

- Evaluation of suspected coronary anomalies

Acute chest pain

- Intermediate pre-test probability of CAD (see Table A below) and no electrocardiogram (ECG) (EKG) changes and serial enzymes negative

Abnormal electrocardiogram (ECG) (EKG)

- Left bundle branch block/left ventricle hypertrophy with ST segment changes

Detection of CAD with Prior Test Results

Evaluation of chest pain syndrome

- Un-interpretable or equivocal stress test (exercise, perfusion, or stress echo)
- Conventional angiography is unsuccessful or equivocal

Evaluation of Acute Chest Pain in the Emergency Room/Emergency Department

Patients with intermediate pre-test probability of CAD (see Table A) that meet ALL of the following criteria:

- No known coronary artery disease
- Normal or equivocal serum biomarkers such as creatine kinase-myocardial band, myoglobin and/or troponin I
- Normal or equivocal ischemic electrocardiogram (ECG) (EKG) changes such as ST-segment elevation or depression $\geq 1\text{mm}$ in 2 or more contiguous leads, and or T-wave inversion $\geq 2\text{mm}$

Evaluation of Cardiac Structure and Function

- Assessment of congenital heart disease including anomalies of coronary circulation, great vessels, and cardiac chambers and valves
- Evaluation of coronary arteries in patients with new onset heart failure to assess etiology
- Evaluation of intra- and extra-cardiac structures
- Evaluation of cardiac mass (suspected tumor or thrombus) and patients with technically limited images from echocardiogram, MRI or TEE
- Evaluation of pericardial conditions (pericardial mass, constrictive pericarditis, or complications of cardiac surgery) and patients with technically limited images from echocardiogram, MRI or TEE
- Evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation (e.g., pulmonary vein isolation)
- Non-invasive coronary vein mapping prior to placement of biventricular pacemaker or, placement of automatic implantable cardioverter defibrillator (AICD)
- Non-invasive coronary arterial and venous bypass mapping, including internal mammary artery and bypass grafts prior to repeat cardiac vascularization
- Evaluation of aortic and pulmonary disease
- Evaluation of suspected aortic dissection or thoracic aortic aneurysm
- Evaluation of suspected pulmonary embolism

Policy a.6.01.03; Last reviewed October 2016 (CPT 75571)

No CAC coverage.



<p>Missouri (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals in conjunction with a coronary CT angiography (CCTA).
<p>Missouri BCBS of Kansas City 1/18</p>	<p>No policy listed for CCT/CCTA or calcium score or FFR</p>
<p>Montana 1/18</p>	<p>RAD 604.007 Coronary Computed Tomography Angiography, Including Noninvasive Fractional Flow Reserve; Last reviewed December 2017 (CPT 75574, 75573,75572)</p> <p>Evaluation of individuals without known coronary artery disease (CAD) who present with acute chest pain in the emergency room or emergency department setting may be considered medically necessary.</p> <p>Evaluation of symptomatic individuals with suspected ischemic heart disease, who meet guideline criteria for a noninvasive test in the outpatient setting may be considered medically necessary</p> <p>The choice of test will depend on:</p>



1. Interpretability of the electrocardiogram; and
2. Ability to exercise; and
3. Presence of comorbidities.

Evaluation of anomalous (native) coronary arteries in individuals in whom abnormal coronary arteries are suspected **may be considered medically necessary**.

CCTA, with or without contrast enhancement, as an adjunct to other testing, **may be considered medically necessary** for the evaluation of cardiac structure and function to:

- Assess complex congenital heart disease, including anomalies of coronary circulation, great vessels, and cardiac chambers and valves;
- Assess suspected arrhythmogenic right dysplasia, left ventricular function when cardiomyopathy is suspected or established, and right ventricular function when right ventricular dysfunction is suspected in individuals with technically limited images from echocardiography (ECG), magnetic resonance imaging (MRI), or transesophageal echocardiography (TEE);
- Assess suspected or established dysfunction of prosthetic cardiac valves in individuals with technically limited images from ECG, MRI, or TEE;
- Assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned;
- Assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from ECG, MRI, or TEE;
- Assess a pericardial condition (such as, pericardial mass, constrictive pericarditis, pericardial effusion, or complications of cardiac surgery in patients) with technically limited images from ECG, MRI, or TEE;
- Perform non-invasive coronary vein mapping prior to placement of a biventricular pacemaker;
- Perform non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization
- Evaluate pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation;
- Evaluate cardiac aneurysm and pseudoaneurysm
- Evaluate thoracic aortic aneurysm (TAA) (such as suspected aneurysm in individuals who have not undergone computed tomography (CT) or MRI within the preceding 60 days, confirmed TAA in individuals with new or worsening symptoms, or suspected aortic dissection (with or without worsening symptoms or pre-operative planning);
- Assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.

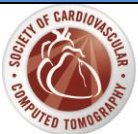
considered **experimental, investigational and/or unproven** for all other indications, including but not limited to:

- Screening asymptomatic individuals for CAD
- Evaluating asymptomatic individuals with cardiac risk factors in lieu of cardiac evaluation and standard non-invasive cardiac testing;
- Evaluating individuals for any other indication not listed above, including but not limited to high or low pretest probability (low risk defined as <10% and high risk as >90%) of CAD
- CCTA performed using a multi-detector row CT scanner with less than 64-slice scanner is considered **experimental, investigational and/or unproven**.

Noninvasive Fractional Flow Reserve Computed Tomography (CPT 0501T,0502T, 0503T,054T)

The use of noninvasive fractional flow reserve (FFR) following a positive CCTA **may be considered medically necessary** to guide decisions about the use of invasive coronary angiography in patients with **stable chest pain at intermediate risk** of CAD (i.e., suspected or presumed stable ischemic heart disease).

The use of noninvasive FFR computed tomography (FFR_{CT}) simulation not meeting the criteria above



	<p>is considered experimental, investigational and/or unproven.</p> <p><i>NOTE 2: If CT imaging is done of the blood vessels it is not necessarily a CCTA. A CCTA must include reconstruction post-processing of the angiographic images and interpretations, which is a key distinction between a CCTA and conventional CT. If the reconstruction post-processing is not done, it is not considered a CCTA study.</i></p> <p>RAD 604.009, Computed Tomography to Detect Coronary Artery Calcification, Last reviewed March 2017 (CPT 75571) No CAC coverage (except for Texas contracts)</p>
<p>Nebraska 1/18</p>	<p>Medical Policy IV.62 CCTA; Last review August 2017; Next review August 20, 2018 (CPT 75574,75573,75572)</p> <p>Computed tomography angiography (CTA) of the coronary arteries may be considered medically necessary for ANY of the following indications:</p> <p>Evaluation of a member with no known CAD, who presents with suspected cardiac chest pain and has a low to intermediate pretest probability of CAD based on Framingham risk scoring or American College of Cardiology (ACC) criteria.</p> <p>Evaluation of a member with no known CAD, who is asymptomatic and has an intermediate pretest probability of CAD based on Framingham risk scoring or American College of Cardiology (ACC) criteria.</p> <p>Evaluation of a member with or without CAD in whom exercise stress testing, stress echo or stress nuclear scan (including SPECT) is equivocal or indeterminate.</p> <p>Evaluation of a member with suspected cardiac chest pain or angina equivalent e.g. dyspnea, who has a history of coronary artery bypass graft surgery (CABG) or coronary artery stent placement.</p> <p>Evaluation of a member to exclude CAD as the cause of ANY of the following clinical presentations:</p> <ol style="list-style-type: none"> 1. Left bundle branch block (LBBB) OR 2. congestive heart failure (CHF) OR 3. systolic or diastolic myocardial dysfunction. <p>Evaluation of suspected congenital anomalies of the coronary arteries.</p> <p>Evaluation of a member with suspected arrhythmogenic Right ventricular dysplasia (ARVD) to assess right ventricular function and morphology.</p> <p>Pre-operative evaluation of a member scheduled to undergo surgery for ANY of the following conditions:</p> <ol style="list-style-type: none"> 1. valvular heart disease OR 2. congenital heart disease OR 3. pericardial disease. <p>Pre-operative evaluation of a member scheduled to undergo surgery that is considered to be “high risk” due to ANY of the following:</p> <ol style="list-style-type: none"> 1. member is elderly OR 2. emergency operation OR 3. major vascular surgery such as aorta or other large vessels OR 4. major surgery involving the chest or abdomen 5. Pre-operative evaluation of the aortic valve annulus prior to transcatheter aortic valve replacement (TAVR). <p>Computed tomography angiography (CTA) of the coronary arteries for all other indications not listed</p>



	<p>above is considered Investigational as its effectiveness for other indications has not been established.</p> <p>Heart flow fractional flow reserve calculation (HeartFlow FFRCT) following CTA coronary may be considered medically necessary to guide decisions about the use of invasive coronary angiography (CPT 0501T,0502T, 0503T,054T)</p>
<p>Nevada (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals;in conjunction with a coronary CT angiography (CCTA).
<p>New Hampshire (Anthem) 1/18</p>	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided



	<p>equivocal results and the results could impact treatment.</p> <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573,)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals in conjunction with a coronary CT angiography (CCTA).in conjunction with a coronary CT angiography (CCTA).
<p>New Jersey (Horizon) 1/18</p>	<p>Policy 149, CCTA; Last reviewed March 2017 (CPT 75574,75573, 75572)</p> <p><u>Symptomatic individuals who have a 'very low', 'low', or 'intermediate' pretest probability of CAD*, CCTA may be used in the following situations:</u></p> <ul style="list-style-type: none"> • Unable to perform either an exercise or pharmacologic imaging stress test • Stress test (treadmill or imaging stress test) is uninterpretable, equivocal, or a false positive is suspected • Replace performance of invasive coronary angiogram <p>For symptomatic individuals, evaluate post-CABG graft patency when <i>only</i> graft patency is a concern and imaging of the native coronary artery anatomy is not needed, such as in early graft failure.</p> <p>For symptomatic individuals with unsuccessful conventional coronary angiography.</p> <p><u>Re-do CABG</u></p> <p>To identify whether bypass grafts are located directly beneath the sternum, so that alternative ways to enter the chest can be planned.</p> <p><u>Evaluate coronary artery anomalies and other complex congenital heart disease of cardiac chambers or great vessels</u></p> <p>To evaluate the great vessels, Chest CTA (71275) can be performed instead of CCTA <u>or</u> in addition to</p>



CCTA

For anomalous pulmonary venous return, can add CT abdomen and pelvis with contrast (CPT4177)

Anomalous coronary artery(ies) suspected for diagnosis or to plan treatment and less than age 40 with a history that includes one or more of the following

- Persistent exertional chest pain and normal stress test
- Full sibling(s) with history of sudden death syndrome before age 30 or with documented anomalous coronary artery
- Resuscitated sudden death and contraindications for conventional coronary angiography

Unexplained new onset of heart failure

- Evaluation of newly diagnosed congestive heart failure or cardiomyopathy
- No prior history of coronary artery disease, the ejection fraction is less than 50 percent, and low or intermediate risk on the pre-test probability assessment AND
- No exclusions to cardiac CT angiography
- No cardiac catheterization, SPECT, cardiac PET, or stress echocardiogram has been performed since the diagnosis of congestive heart failure or cardiomyopathy
- Ventricular tachycardia (6 beat runs or greater) if CCTA will replace conventional invasive coronary angiography
- Equivocal coronary artery anatomy on conventional cardiac catheterization.
- Newly diagnosed dilated cardiomyopathy

Preoperative Assessment

- Preoperative assessment of the coronary arteries in patients who are going to undergo surgery for aortic dissection, aortic aneurysm, or valvular surgery if CCTA will replace conventional invasive coronary angiography"
- Vasculitis/Takayasu's/Kawasaki's disease

No. 176, CCTA with FFR; Last review July 2017 (CPT 0501T,0502T, 0503T,054T)

- The use of noninvasive fractional flow reserve following a positive coronary computed tomography angiography is considered **medically necessary** to guide decisions about the use of invasive coronary angiography in members with stable chest pain at intermediate risk of coronary artery disease (i.e., suspected or presumed stable ischemic heart disease).
- The use of noninvasive fractional flow reserve not meeting the criteria outlined above is considered **investigational**.

No. 149, CAC Policy; Last review 3/14/17 (CPT 75571)

Computed tomography of the heart for **calcium scoring** (75571) is considered **medically necessary** based on the following criteria when there is no coronary calcium scoring in the last 5 years, no prior abnormal imaging stress test, coronary revascularization or prior catheterization or cardiac CT angiogram documenting coronary artery disease:

1. ATP* risk less than 10 percent and either of the following:

- a. Father or brother with coronary heart disease diagnosed at age 55 years or less; OR
- b. Mother or sister with coronary heart disease diagnosed at age 65 years or less

2. ATP* risk 10-19 percent AND the member has no symptoms of chest pain or shortness of breath.



RAD 604.007 Coronary Computed Tomography Angiography, Including Noninvasive Fractional Flow Reserve; Last reviewed December 2017 (CPT 75574, 75573,75572)

Evaluation of individuals without known coronary artery disease (CAD) who present with acute chest pain in the emergency room or emergency department setting **may be considered medically necessary**.

Evaluation of symptomatic individuals with suspected ischemic heart disease, who meet guideline criteria for a noninvasive test in the outpatient setting **may be considered medically necessary**

The choice of test will depend on:

1. Interpretability of the electrocardiogram; and
2. Ability to exercise; and
3. Presence of comorbidities.

Evaluation of anomalous (native) coronary arteries in individuals in whom abnormal coronary arteries are suspected **may be considered medically necessary**.

CCTA, with or without contrast enhancement, as an adjunct to other testing, **may be considered medically necessary** for the evaluation of cardiac structure and function to:

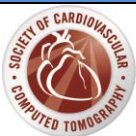
- Assess complex congenital heart disease, including anomalies of coronary circulation, great vessels, and cardiac chambers and valves;
- Assess suspected arrhythmogenic right dysplasia, left ventricular function when cardiomyopathy is suspected or established, and right ventricular function when right ventricular dysfunction is suspected in individuals with technically limited images from echocardiography (ECG), magnetic resonance imaging (MRI), or transesophageal echocardiography (TEE);
- Assess suspected or established dysfunction of prosthetic cardiac valves in individuals with technically limited images from ECG, MRI, or TEE;
- Assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned;
- Assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from ECG, MRI, or TEE;
- Assess a pericardial condition (such as, pericardial mass, constrictive pericarditis, pericardial effusion, or complications of cardiac surgery in patients) with technically limited images from ECG, MRI, or TEE;
- Perform non-invasive coronary vein mapping prior to placement of a biventricular pacemaker;
- Perform non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization
- Evaluate pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation;
- Evaluate cardiac aneurysm and pseudoaneurysm
- Evaluate thoracic aortic aneurysm (TAA) (such as suspected aneurysm in individuals who have not undergone computed tomography (CT) or MRI within the preceding 60 days, confirmed TAA in individuals with new or worsening symptoms, or suspected aortic dissection (with or without worsening symptoms or pre-operative planning);
- Assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.

considered experimental, investigational and/or unproven for all other indications, including but not limited to:

- Screening asymptomatic individuals for CAD
- Evaluating asymptomatic individuals with cardiac risk factors in lieu of cardiac evaluation and standard non-invasive cardiac testing;
- Evaluating individuals for any other indication not listed above, including but not limited to high or low pretest probability (low risk defined as <10% and high risk as >90%) of CAD



	<ul style="list-style-type: none"> • CCTA performed using a multi-detector row CT scanner with <u>less than 64-slice scanner</u> is considered experimental, investigational and/or unproven. <p>Noninvasive Fractional Flow Reserve Computed Tomography (CPT 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve (FFR) following a positive CCTA may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of CAD (i.e., suspected or presumed stable ischemic heart disease).</p> <p>The use of noninvasive FFR computed tomography (FFR_{CT}) simulation not meeting the criteria above is considered experimental, investigational and/or unproven.</p> <p><i>NOTE 2: If CT imaging is done of the blood vessels it is not necessarily a CCTA. A CCTA must include reconstruction post-processing of the angiographic images and interpretations, which is a key distinction between a CCTA and conventional CT. If the reconstruction post-processing is not done, it is not considered a CCTA study.</i></p> <p>RAD 604.009, Computed Tomography to Detect Coronary Artery Calcification, Last reviewed March 2017 (CPT 75571) No CAC coverage (except for Texas contracts)</p>
New York (Empire) 1/18	<p>No current policy for CCTA. Uses AIM Guidelines.</p> <p>RAD 0001; Last reviewed May 2017 No CAC coverage.</p>
BCBS Western NY 1/18	<p>No published policies found for CCT/CCTA or calcium score or FFR</p>
Excellus BCBS 1/18	<p>Policy 06.01.34, CCTA; Last reviewed June 2017 (CPT 75574,75573,75572)</p> <p>Medically appropriate for any of the following:</p> <p>Evaluation of known coronary artery disease (CAD) documented by prior imaging stress test, cardiac catheterization, cardiac CT angiogram, coronary revascularization, carotid stenosis or stroke, peripheral artery disease or aortic aneurysm:</p> <ul style="list-style-type: none"> • Prior coronary bypass grafting in the setting of new chest pain or shortness of breath and/or to evaluate graft patency and no exclusions to cardiac CT angiography; To identify whether bypass grafts are located directly beneath the sternum, so that alternative ways to enter the chest can be planned. • Evaluation of known coronary artery disease (CAD) documented by a prior calcium scores less than 400 <p>Evaluation of new chest pain or dyspnea, no imaging stress test is planned, and there are no exclusions to cardiac CT angiography.</p> <p>Evaluation of suspected coronary artery disease with new or changed chest pain or shortness of breath.</p>



	<p>For symptomatic individuals who have a very low, low, or intermediate pretest probability of CAD and:</p> <ul style="list-style-type: none"> • Unable to perform either an exercise or pharmacologic imaging stress test. • Stress test (treadmill or imaging stress test) is normal, uninterpretable, equivocal, or a false positive is suspected. • Replace performance of invasive coronary angiogram or for unsuccessful conventional angiogram. <p>Left ventricular function evaluation: unexplained new onset of heart failure or dilated cardiomyopathy</p> <p>Evaluation of suspected coronary artery disease with suspected anomalous coronary artery; and</p> <ul style="list-style-type: none"> • Cardiac catheterization was performed, all coronary arteries were not identified, and no exclusion to cardiac CT angiography. <p>New onset of congestive heart failure without known coronary artery disease to assess coronary arteries and:</p> <ul style="list-style-type: none"> • Low or intermediate risk on the pre-test probability assessment, the ejection fraction is less than 50%; and • No exclusion to cardiac CT angiography; and • No cardiac catheterization, SPECT, cardiac PET, or stress echocardiogram has been performed since the diagnosis of congestive heart failure or cardiomyopathy. <p>Ventricular tachycardia (6 beat runs or greater) if CCTA will replace conventional invasive coronary angiography.</p> <p>Equivocal coronary artery anatomy on conventional cardiac catheterization</p> <p>Preoperative assessment of the coronary arteries in patients who are going to undergo surgery for aortic dissection, aortic aneurysm, or valvular surgery if CCTA will replace conventional invasive coronary angiography</p> <p>Vasculitis/Takayasu's/Kawasaki's disease.</p> <p>Cardiac Trauma: to detect aortic and coronary injury and can help in the evaluation of myocardial and pericardial injury.</p> <p>Based upon our criteria and review of the peer-reviewed literature, cardiac computed tomographic angiography is considered investigational for all other indications.</p> <p>3D Imaging is considered inclusive when performed as part of the Cardiac Computed Tomographic Angiography</p> <p>Policy 6.01.13; Last reviewed March 2017 (CPT 75571)</p> <ul style="list-style-type: none"> • coronary calcium scoring is considered investigational as a screening technique for asymptomatic patients. • 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
<p>North Carolina 1/18</p>	<p>No current policy for CCTA.</p> <p>CT to Detect Coronary Artery Calcification; Last updated September 2017</p> <p>No coverage for CAC – investigational</p>
<p>North</p>	<p>Contrast Enhanced Coronary Computed Tomography Angiography for Coronary Artery Evaluation; Last</p>



Dakota 1/18	<p>updated July 2017 (CPT 75574, 75573)</p> <ul style="list-style-type: none"> • Evaluation of patients without known coronary artery disease and acute chest pain in the emergency department setting is considered medically necessary. • Evaluation of patients with stable chest pain and meeting guideline criteria for a noninvasive test in the outpatient setting (see Policy Guidelines) is considered medically necessary. • Evaluation of anomalous (native) coronary arteries in patients in whom they are suspected may be considered medically necessary. • Contrast-enhanced coronary computed tomography angiography for coronary artery evaluation is considered investigational for all other indications. <p>Computed Tomography to Detect Coronary Artery Calcification; Last updated July 2017 (CPT 75571) No coverage for CAC - investigational</p>
Ohio (Anthem) 1/18	<p>CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)</p> <p>Medically Necessary: Contrast-enhanced coronary computed tomography angiography (CCTA), is considered medically necessary for the evaluation of suspected anomalous coronary arteries:</p> <ul style="list-style-type: none"> • In pediatric individuals (age less than 18 years), either before or after conventional angiography • In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment. <p>Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered medically necessary for the evaluation of stable chest pain in individuals at intermediate risk of coronary artery disease as an alternative to invasive coronary angiography.</p> <p>Not Medically Necessary: (CPT 75572, 75573)</p> <ul style="list-style-type: none"> • Coronary computed tomography angiography (CCTA) is considered not medically necessary for all other indications, including, but not limited to, the following: • Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals in conjunction with a coronary CT angiography



(CCTA).

RAD 604.007 Coronary Computed Tomography Angiography, Including Noninvasive Fractional Flow Reserve; Last reviewed December 2017 (CPT 75574, 75573,75572)

Evaluation of individuals without known coronary artery disease (CAD) who present with acute chest pain in the emergency room or emergency department setting **may be considered medically necessary**.

Evaluation of symptomatic individuals with suspected ischemic heart disease, who meet guideline criteria for a noninvasive test in the outpatient setting **may be considered medically necessary**

The choice of test will depend on:

1. Interpretability of the electrocardiogram; and
2. Ability to exercise; and
3. Presence of comorbidities.

Evaluation of anomalous (native) coronary arteries in individuals in whom abnormal coronary arteries are suspected **may be considered medically necessary**.

CCTA, with or without contrast enhancement, as an adjunct to other testing, **may be considered medically necessary** for the evaluation of cardiac structure and function to:

- Assess complex congenital heart disease, including anomalies of coronary circulation, great vessels, and cardiac chambers and valves;
- Assess suspected arrhythmogenic right dysplasia, left ventricular function when cardiomyopathy is suspected or established, and right ventricular function when right ventricular dysfunction is suspected in individuals with technically limited images from echocardiography (ECG), magnetic resonance imaging (MRI), or transesophageal echocardiography (TEE);
- Assess suspected or established dysfunction of prosthetic cardiac valves in individuals with technically limited images from ECG, MRI, or TEE;
- Assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned;
- Assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from ECG, MRI, or TEE;
- Assess a pericardial condition (such as, pericardial mass, constrictive pericarditis, pericardial effusion, or complications of cardiac surgery in patients) with technically limited images from ECG, MRI, or TEE;
- Perform non-invasive coronary vein mapping prior to placement of a biventricular pacemaker;
- Perform non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization
- Evaluate pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation;
- Evaluate cardiac aneurysm and pseudoaneurysm
- Evaluate thoracic aortic aneurysm (TAA) (such as suspected aneurysm in individuals who have not undergone computed tomography (CT) or MRI within the preceding 60 days, confirmed TAA in individuals with new or worsening symptoms, or suspected aortic dissection (with or without worsening symptoms or pre-operative planning);
- Assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.

considered experimental, investigational and/or unproven for all other indications, including but not limited to:

- Screening asymptomatic individuals for CAD
- Evaluating asymptomatic individuals with cardiac risk factors in lieu of cardiac evaluation and standard non-invasive cardiac testing;

Oklahoma
1/18



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	<ul style="list-style-type: none"> Evaluating individuals for any other indication not listed above, including but not limited to high or low pretest probability (low risk defined as <10% and high risk as >90%) of CAD CCTA performed using a multi-detector row CT scanner with <u>less than 64-slice scanner</u> is considered experimental, investigational and/or unproven. <p>Noninvasive Fractional Flow Reserve Computed Tomography (CPT 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve (FFR) following a positive CCTA may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of CAD (i.e., suspected or presumed stable ischemic heart disease).</p> <p>The use of noninvasive FFR computed tomography (FFR_{CT}) simulation not meeting the criteria above is considered experimental, investigational and/or unproven.</p> <p><i>NOTE 2: If CT imaging is done of the blood vessels it is not necessarily a CCTA. A CCTA must include reconstruction post-processing of the angiographic images and interpretations, which is a key distinction between a CCTA and conventional CT. If the reconstruction post-processing is not done, it is not considered a CCTA study.</i></p> <p>RAD 604.009, Computed Tomography to Detect Coronary Artery Calcification, Last reviewed March 2017 (CPT 75571) No CAC coverage (except for Texas contracts)</p>
<p>Oregon (Regence) 1/18</p>	<p>Indications as of Nov 2015; no Coronary CTA current policy published on website as of 1/18. (CPT 75574)</p> <ol style="list-style-type: none"> Anomalous coronary artery mapping ED evaluation of CAD in patients with acute chest pain without known CAD <p>Policy No. 6, Computed Tomography to Detect Coronary Artery Calcification; Last reviewed October 2017, next review October 2018 (CPT 75571)</p> <p>No CAC coverage.</p>
<p>Pennsylvania Highmark Blue Shield 1/18</p>	<p>Policy X-116-01 Last reviewed November 2017 (CPT 75572, 75573)</p> <p><u>Adult Congenital Heart Disease</u></p> <ul style="list-style-type: none"> * Assessment of anomalies of coronary arterial and other thoracic arteriovenous vessels (*for “anomalies of coronary arterial vessels” coronary computed tomographic angiography (CCTA) preferred and for “other thoracic arteriovenous vessels” Heart CT preferred) * For evaluation of structural heart disease, such as transposition of the great arteries (TGA), when magnetic resonance imaging (MRI) might be preferable but cannot be performed. *Further assessment of complex adult congenital heart disease after confirmation by transthoracic echocardiogram (TTE). <p><u>Evaluation of left ventricular function.</u></p> <ul style="list-style-type: none"> Following acute myocardial infarction (MI) or in heart failure (HF) patients. Inadequate images from other noninvasive methods. <p><u>Quantitative evaluation of right ventricular function.</u></p> <ul style="list-style-type: none"> Assessment of right ventricular morphology. Suspected arrhythmogenic right ventricular dysplasia. <p><u>Assessment of myocardial viability.</u></p>



- Prior to myocardial revascularization for ischemic left ventricular systolic dysfunction.
- Other imaging modalities are inadequate or contraindicated.

Evaluation of Intra and Extra Cardiac Structures

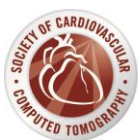
Characterization of native cardiac valves.

- Suspected clinically significant valvular dysfunction.
- Inadequate images from other noninvasive methods.
- Re-evaluation (less than one (1) year) of the size and morphology of the aortic sinuses and ascending aorta in patients with a bicuspid aortic valve (AV) and an ascending aortic diameter greater than 4 cm with **ONE** of the following: vAortic diameter greater than 4.5 cm; **or** Rapid rate of change in aortic diameter; **or** Family history (first-degree relative) of aortic dissection.
- Alternative imaging modality: CMR A (8), TTE A (7).
- Characterization of prosthetic cardiac valves.
- For assessment of prosthetic valve thrombosis for suspected clinically significant valvular dysfunction.
- Inadequate images from other noninvasive method.
- Severe tricuspid regurgitation (TR) and suboptimal TTE images, for assessment of RV systolic function and systolic and diastolic volumes.
- Alternative imaging modality is cardiac magnetic resonance (CMR) A (8)
- Evaluation of cardiac mass (suspected tumor or thrombus).
- Inadequate images from other noninvasive methods.
- Evaluation of pericardial anatomy.
- Evaluation of pulmonary vein anatomy.
- Prior to radiofrequency ablation for atrial fibrillation.
- Noninvasive coronary vein mapping.
- Prior to placement of biventricular pacemaker.
- Localization of coronary bypass grafts and other retrosternal anatomy (for "localization of coronary bypass grafts" CCTA preferred and for "other retrosternal anatomy" Heart CT preferred)
- Prior to preoperative chest or cardiac surgery.

Policy X-54-008, CTA Coronary Arteries and Fractional Flow Reserve CT; Last reviewed October 2017 (CPT 75574,0501T,0502T, 0503T,054T)

FFR-CT may be considered medically necessary when **ALL** of the following are met:

- A. Prior to CCTA, the patient was stable with a pre-test probability between 20% and 80% of significant, ischemia-producing CAD, based upon reliable calculations, (i.e., Diamond Forrester, ESC Consortium, University of Washington, or similar calculators.); **and**
- B. The patient had **at least ONE** of the following scenarios:
 - A pretest probability of 20-50% (low-to-moderate) prior to CCTA and was selected for evaluation with CCTA as a non-invasive test for significant CAD. The CCTA result shows lesions of greater than or equal to 50%; **or**
 - A pretest probability of 51-80% (moderate or high moderate) prior to CCTA and was selected for evaluation with CCTA as a non-invasive test for significant CAD. The CCTA result shows lesions of 30-50%.



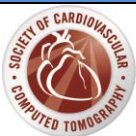
Pennsylvania Capital Blue Cross 1/18	No policy posted for calcium score or CCTA.
Independence (Philadelphia) 1/18	No policy posted for calcium score or CCTA.
Rhode Island 1/18	No coverage policy listed for CCTA or CAC.
South Carolina 1/18	<p>CAM 60143; Contrast Enhanced Computed Tomography Angiography for Coronary Artery Evaluation; Last reviewed December 2017; next review December 2018 (CPT 75574,75573,75572)</p> <p>MAY BE CONSIDERED MEDICALLY NECESSARY for any of the following indications:</p> <p>A. Detection of coronary artery disease (CAD) in:</p> <p>Symptomatic individuals (such as, chest pain syndrome as described by the American College of Cardiology [ACC]) who:</p> <ul style="list-style-type: none"> 4. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines) AND 5. Had a non-diagnostic stress electrocardiograph (ECG or EKG) (as defined by the ACC guidelines) AND 6. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate <p>Symptomatic individuals with unexplained chest pain or anginal equivalent symptoms (as described by the ACC) who:</p> <ul style="list-style-type: none"> 5. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines); AND 6. Had no ECG changes suggestive of ischemia or infarction; AND 7. Had negative cardiac enzymes and cardiac marker results; AND 8. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate. <p>B. Evaluation of cardiac structure and function:</p> <ul style="list-style-type: none"> 9. To assess complex congenital heart disease, including anomalies of coronary circulation, great vessels and cardiac chambers and valves; OR 10. To assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned; OR 11. To assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from echocardiography, magnetic resonance imaging (MRI) or transesophageal echocardiography (TEE); OR 12. To assess a pericardial condition (such as, pericardial mass, constrictive pericarditis or complications of cardiac surgery in patients) with technically limited images from



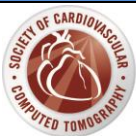
	<p>echocardiography, MRI or TEE; OR</p> <ol style="list-style-type: none"> 13. For non-invasive coronary vein mapping prior to placement of a biventricular pacemaker; OR 14. For non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization; OR 15. For evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation; OR 16. To assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography. <p>Evaluation of Chest pain in the Emergency Department:</p> <p>CTA, with or without contrast enhancement or media, utilizing 64-slice or greater MDCT scanner : acute chest pain and without known CAD in the emergency room or emergency department MAY BE CONSIDERED MEDICALLY NECESSARY.</p> <p>CAM 60103; Computed Tomography to Detect Coronary Artery Calcification; Last reviewed July 2017; Next review July 2018 (CPT 75571) CAC is investigational.</p>
<p>South Dakota (Wellmark) 1/18</p>	<p>Policy 06.01.20 – Computed Tomography Angiography of the Coronary Arteries; Last reviewed April 2016 (no longer listed on the web as of January 10, 2018). Policy likely under revision now. (CPT 75574)</p> <p>The use of CCTA is considered not medically necessary as a screening study for asymptomatic individuals because its effectiveness for this indication has not been established.</p> <p>Computerized Tomographic Angiography Coronary Arteries (CCTA) may be considered medically necessary for the following indications:</p> <p>Evaluation of suspected cardiac chest pain when all of the following are met:</p> <ul style="list-style-type: none"> • No known history of coronary artery disease (CAD); and • Low or intermediate pre-test probability of coronary artery disease (CAD) (using Framingham risk score calculation); and • ECG normal/non-diagnostic for etiology of chest pain <p>Evaluation of suspected coronary artery disease (CAD) including those individuals with prior abnormal cardiac testing (myocardial perfusion imaging (MPI) or stress echo)</p> <ul style="list-style-type: none"> • Individual with abnormal MPI or stress echo within the preceding 90 days suspected to be false positive on the basis of low coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation). • Individual with an equivocal MPI or stress echo within the preceding 90 days who have low or intermediate coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation). <p>Individuals with congestive heart failure/cardiomyopathy/left ventricular dysfunction</p> <ul style="list-style-type: none"> • For exclusion of coronary artery disease in patients with left ventricular ejection fraction <55% and intermediate coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation) in whom coronary artery disease has not been excluded as the etiology of the cardiomyopathy. <p>Evaluation for non-coronary artery cardiac surgery</p> <ul style="list-style-type: none"> • Individual with intermediate coronary heart disease risk (using standard methods of risk assessment such as the SCORE risk calculation) and being evaluated for non coronary artery cardiac surgery (including valvular and ascending aortic surgery) to avoid an invasive angiogram. All the necessary pre-operative information can be obtained using cardiac CT. <p>Congenital coronary artery anomalies</p> <ul style="list-style-type: none"> • For evaluation of suspected congenital anomalies of the coronary arteries



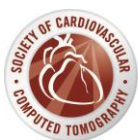
	<p>Medical Policy 06.01.06, Coronary Artery Calcium Scoring; Last reviewed July 2017 (CPT 75571)</p> <p>Coronary artery calcium scoring by means of computed tomography is considered investigational for all indications.</p>
<p>Tennessee 1/18</p>	<p>Medical Policy Manual: CCTA, Last reviewed February 2017 (update pending as of December 2017) (CPT 75574)</p> <p>MEDICAL APPROPRIATENESS</p> <p>Contrast-enhanced computed tomographic angiography is considered medically appropriate with ANY ONE of the following</p> <p>Evaluation of known coronary artery disease (CAD) with ALL of the following:</p> <ul style="list-style-type: none"> • CAD documented by prior imaging stress test, cardiac catheterization, cardiac CT angiogram, coronary revascularization, carotid stenosis, stroke, peripheral artery disease, or aortic aneurysm with ANY ONE of the following: <ul style="list-style-type: none"> ○ New chest pain or shortness of breath with prior coronary artery bypass grafting ○ No new chest pain or SOB with a left main stent of 3 mm or more is present <p>Coronary artery disease documented by a prior calcium score < 400 with ALL of the following:</p> <ul style="list-style-type: none"> • Evaluation of new chest pain or dyspnea • No imaging stress test is planned <p>Evaluation of newly diagnosed CHF or cardiomyopathy with ALL of the following:</p> <ul style="list-style-type: none"> • No prior history of CAD • Ejection fraction is < 50% • Low or intermediate risk on the pre-test probability assessment (see below) <p>Evaluation of suspected CAD with ANY ONE of the following:</p> <ul style="list-style-type: none"> • New or changed chest pain or shortness of breath with ANY ONE of the following: <ul style="list-style-type: none"> ○ Contraindication to a routine exercise stress test (inability to exercise, diabetes, digoxin use, poor heart rate response, Wolff-Parkinson-White syndrome, complete left bundle branch block, 1 mm or more ST-J depression with horizontal or downsloping ST segments 80 msec after the J point, or ventricular paced rhythm) ○ Low or intermediate risk on the pre-test probability assessment • No contraindications to a routine exercise stress test with ANY ONE of the following: <ul style="list-style-type: none"> ○ Normal routine exercise stress with new or worsening chest pain or SOB, and cardiac cath is not planned ○ Routine exercise stress test abnormal or not performed and individual is intermediate risk on the pre-test probability assessment (see below) • Prior imaging stress test with ANY ONE of the following: <ul style="list-style-type: none"> ○ Normal imaging stress test with ALL of the following: <ul style="list-style-type: none"> ▪ New or worsening chest pain or SOB ▪ Cardiac catheterization is not planned ○ Abnormal imaging stress test documenting ANY of the following with ANY ONE of the following met: <ul style="list-style-type: none"> ▪ Normal treadmill with reversible perfusion abnormality or wall motion abnormality including transient ischemic dilatation ▪ Equivocal ▪ Abnormal treadmill with normal imaging <p>Evaluation for non-coronary cardiac surgery with intermediate risk on the pre-test probability assessment</p> <p>Suspected anomalous coronary artery with ALL of the following met:</p> <ul style="list-style-type: none"> • Cardiac cath was performed • All coronary arteries were not identified



	<ul style="list-style-type: none"> o Contrast-enhanced CTA used to evaluate coronary arteries with no known disease/anomalies and ALL of the following are met: <ul style="list-style-type: none"> ▪ individual is in the emergency room/emergency department setting ▪ Individual is symptomatic (acute chest pain) <p>CPT 75571 No coverage for CAC. Last reviewed April 2017.</p>
Texas 1/18	<p>RAD 604.007 Coronary Computed Tomography Angiography, Including Noninvasive Fractional Flow Reserve; Last reviewed December 2017 (CPT 75574, 75573,75572)</p> <p>Evaluation of individuals without known coronary artery disease (CAD) who present with acute chest pain in the emergency room or emergency department setting may be considered medically necessary.</p> <p>Evaluation of symptomatic individuals with suspected ischemic heart disease, who meet guideline criteria for a noninvasive test in the outpatient setting may be considered medically necessary</p> <p>The choice of test will depend on:</p> <ol style="list-style-type: none"> 1. Interpretability of the electrocardiogram; and 2. Ability to exercise; and 3. Presence of comorbidities. <p>Evaluation of anomalous (native) coronary arteries in individuals in whom abnormal coronary arteries are suspected may be considered medically necessary.</p> <p>CCTA, <u>with or without contrast enhancement</u>, as an adjunct to other testing, may be considered medically necessary for the <u>evaluation of cardiac structure and function</u> to:</p> <ul style="list-style-type: none"> • Assess complex congenital heart disease, including anomalies of coronary circulation, great vessels, and cardiac chambers and valves; • Assess suspected arrhythmogenic right dysplasia, left ventricular function when cardiomyopathy is suspected or established, and right ventricular function when right ventricular dysfunction is suspected in individuals with technically limited images from echocardiography (ECG), magnetic resonance imaging (MRI), or transesophageal echocardiography (TEE); • Assess suspected or established dysfunction of prosthetic cardiac valves in individuals with technically limited images from ECG, MRI, or TEE; • Assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned; • Assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from ECG, MRI, or TEE; • Assess a pericardial condition (such as, pericardial mass, constrictive pericarditis, pericardial effusion, or complications of cardiac surgery in patients) with technically limited images from ECG, MRI, or TEE; • Perform non-invasive coronary vein mapping prior to placement of a biventricular pacemaker; • Perform non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization • Evaluate pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation; • Evaluate cardiac aneurysm and pseudoaneurysm • Evaluate thoracic aortic aneurysm (TAA) (such as suspected aneurysm in individuals who have not undergone computed tomography (CT) or MRI within the preceding 60 days, confirmed TAA in individuals with new or worsening symptoms, or suspected aortic dissection (with or without worsening symptoms or pre-operative planning); • Assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.



	<p>considered experimental, investigational and/or unproven for all other indications, including but not limited to:</p> <ul style="list-style-type: none"> • Screening asymptomatic individuals for CAD • Evaluating asymptomatic individuals with cardiac risk factors in lieu of cardiac evaluation and standard non-invasive cardiac testing; • Evaluating individuals for any other indication not listed above, including but not limited to high or low pretest probability (low risk defined as <10% and high risk as >90%) of CAD • CCTA performed using a multi-detector row CT scanner with <u>less than 64-slice scanner</u> is considered experimental, investigational and/or unproven. <p>Noninvasive Fractional Flow Reserve Computed Tomography (CPT 0501T,0502T, 0503T,054T)</p> <p>The use of noninvasive fractional flow reserve (FFR) following a positive CCTA may be considered medically necessary to guide decisions about the use of invasive coronary angiography in patients with stable chest pain at intermediate risk of CAD (i.e., suspected or presumed stable ischemic heart disease).</p> <p>The use of noninvasive FFR computed tomography (FFR_{CT}) simulation not meeting the criteria above is considered experimental, investigational and/or unproven.</p> <p><i>NOTE 2: If CT imaging is done of the blood vessels it is not necessarily a CCTA. A CCTA must include reconstruction post-processing of the angiographic images and interpretations, which is a key distinction between a CCTA and conventional CT. If the reconstruction post-processing is not done, it is not considered a CCTA study.</i></p> <p>RAD 604.009, Computed Tomography to Detect Coronary Artery Calcification, Last reviewed March 2017 (CPT 75571) CAC coverage</p>
<p>Utah (Regence) 1/18</p>	<p>Indications as of Nov 2015; no Coronary CTA current policy published on website as of 1/18. (CPT 75574)</p> <ul style="list-style-type: none"> a. Anomalous coronary artery mapping c. ED evaluation of CAD in patients with acute chest pain without known CAD <p>Policy No. 6, Computed Tomography to Detect Coronary Artery Calcification; Last reviewed October 2017, next review October 2018 (CPT 75571)</p> <p>No CAC coverage.</p>
<p>Vermont 1/18</p>	<p>Uses AIM Specialty Health Clinical Appropriateness Guidelines: Advanced Imaging of the Heart. Updated January 1, 2018.</p>



CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)

Medically Necessary:

Contrast-enhanced coronary computed tomography angiography (CCTA), is considered **medically necessary** for the evaluation of suspected anomalous coronary arteries:

- In pediatric individuals (age less than 18 years), either before or after conventional angiography
- In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment.

Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered **medically necessary** for the evaluation of **stable chest pain in individuals at intermediate risk of coronary artery disease** as an alternative to invasive coronary angiography.

Not Medically Necessary: (CPT 75572, 75573,)

- Coronary computed tomography angiography (CCTA) is considered **not medically necessary** for all other indications, including, but not limited to, the following:
- Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation
- Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; **or**
- As a technique to evaluate cardiac function.
- Fractional flow reserve derived from computed tomography (FFRCT) is considered **not medically necessary** for all other indications when the above criteria are not met.

RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)

The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered **investigational and not medically necessary** for the detection of coronary artery calcium, including, but not limited to, the following indications:

- as part of a cardiac risk assessment in asymptomatic or symptomatic individuals;
- as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive;
- as a diagnostic test in symptomatic individuals in conjunction with a coronary CT angiography (CCTA).



CAM 60143; Contrast Enhanced Computed Tomography Angiography for Coronary Artery Evaluation; Last reviewed December 2017; next review December 2018 (CPT 75574,75573,75572)

MAY BE CONSIDERED MEDICALLY NECESSARY for any of the following indications:

A. Detection of coronary artery disease (CAD) in:

Symptomatic individuals (such as, chest pain syndrome as described by the American College of Cardiology [ACC]) who:

7. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines) AND
8. Had a non-diagnostic stress electrocardiograph (ECG or EKG) (as defined by the ACC guidelines) AND
9. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate

Symptomatic individuals with unexplained chest pain or anginal equivalent symptoms (as described by the ACC) who:

9. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines); AND
10. Had no ECG changes suggestive of ischemia or infarction; AND
11. Had negative cardiac enzymes and cardiac marker results; AND
12. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate.

B. Evaluation of cardiac structure and function:

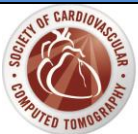
17. To assess complex congenital heart disease, including anomalies of coronary circulation, great vessels and cardiac chambers and valves; OR
18. To assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned; OR
19. To assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from echocardiography, magnetic resonance imaging (MRI) or transesophageal echocardiography (TEE); OR
20. To assess a pericardial condition (such as, pericardial mass, constrictive pericarditis or complications of cardiac surgery in patients) with technically limited images from echocardiography, MRI or TEE; OR
21. For non-invasive coronary vein mapping prior to placement of a biventricular pacemaker; OR
22. For non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization; OR
23. For evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation; OR
24. To assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.

Evaluation of Chest pain in the Emergency Department:

CTA, **with or without** contrast enhancement or media, utilizing **64-slice or greater MDCT** scanner : acute chest pain **and** without known CAD in the emergency room or emergency department **MAY BE CONSIDERED MEDICALLY NECESSARY.**

CAM 60103; Computed Tomography to Detect Coronary Artery Calcification; Last reviewed July 2017; Next review July 2018 (CPT 75571)

CAC is investigational.



CAM 175; Fractional Flow Reserve CT; Last reviewed December 2017; Next review October 2018 (CPT 0501T,0502T, 0503T,054T)

All requirements for **MEDICALLY NECESSITY** below must be met:

The patient was selected for evaluation with coronary computed tomography angiography (CCTA) as a non-invasive test for significant coronary artery disease:

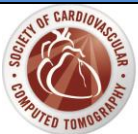
4. Is stable, and
5. Has a pre-test probability of significant, ischemia-producing coronary artery disease between 20% and 50% (low to moderate probability) based on a reliable calculator prior to the CCTA, and
6. The CCTA result demonstrates lesions \geq 50% **OR**

The patient was selected for evaluation with CCTA as a non-invasive test for significant coronary artery disease:

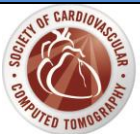
4. Is stable, and
5. Has a pre-test probability of significant, ischemia-producing coronary artery disease between 51% and 80% (moderate to high moderate probability based on a reliable calculator prior to CCTA, and
6. CCTA result demonstrates lesions between 30% and 50%

None of the following clinical scenarios apply since FFR-CT has not been adequately validated due to inapplicability of computational dynamics, artifacts, and/or clinical circumstances; These indications will be considered **NOT MEDICALLY NECESSARY**:

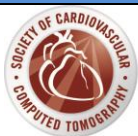
- Suspicion of, or current presentation of, an acute coronary syndrome, unless the patient has unstable angina, myocardial infarction was excluded, and ICA would not be recommended if FFR-CT were negative
- Known ischemic coronary artery disease that has not been revascularized, and there has been no change in patient status or in the CCTA images
- Recent myocardial infarction within 30 days
- Prior coronary artery bypass graft surgery
- Patients who require emergent or urgent ICA or have any evidence of ongoing or active clinical instability, including acute chest pain (sudden onset), cardiogenic shock, unstable blood pressure with systolic blood pressure <90 mmHg, severe congestive heart failure (New York Heart Association [NYHA] III or IV) or acute pulmonary edema
- Complex congenital heart disease or VSD with Qp/Qs > 1.4
- BMI > 35
- Metallic stents in the coronary system
- Coronary vessels with extensive or heavy calcification
- Coronary lesions needing evaluation in which vessel diameter < 1.8 mm
- Cardiac Implanted Electrical Devices (CIEDs)
- Prosthetic Heart Valves
- Severe wall motion abnormality on CCTA results•
- Severe myocardial hypertrophy
- High risk indicators on stress test
- ICA within the past 90 days
- Marginal quality of the submitted imaging data, due to motion, blooming, misalignment,



arrhythmia, etc.



Washington (Premera) 1/18	No current policy listed for cardiac CT or calcium score.
Washington Regence BCBS 1/18	<p>Indications as of Nov 2015; no Coronary CTA current policy published on website as of 1/18. (CPT 75574)</p> <p>b. Anomalous coronary artery mapping d. ED evaluation of CAD in patients with acute chest pain without known CAD</p> <p>Policy No. 6, Computed Tomography to Detect Coronary Artery Calcification; Last reviewed October 2017, next review October 2018 (CPT 75571)</p> <p>No CAC coverage.</p>
West Virginia (Highmark) 1/18	<p>Policy X-116-01 Last reviewed November 2017 (CPT 75572, 75573)</p> <p><u>Adult Congenital Heart Disease</u></p> <ul style="list-style-type: none"> * Assessment of anomalies of coronary arterial and other thoracic arteriovenous vessels (*for “anomalies of coronary arterial vessels” coronary computed tomographic angiography (CCTA) preferred and for “other thoracic arteriovenous vessels” Heart CT preferred) * For evaluation of structural heart disease, such as transposition of the great arteries (TGA), when magnetic resonance imaging (MRI) might be preferable but cannot be performed. *Further assessment of complex adult congenital heart disease after confirmation by transthoracic echocardiogram (TTE). <p><u>Evaluation of left ventricular function.</u></p> <ul style="list-style-type: none"> • Following acute myocardial infarction (MI) or in heart failure (HF) patients. • Inadequate images from other noninvasive methods. <p><u>Quantitative evaluation of right ventricular function.</u></p> <ul style="list-style-type: none"> • Assessment of right ventricular morphology. • Suspected arrhythmogenic right ventricular dysplasia. <p><u>Assessment of myocardial viability.</u></p> <ul style="list-style-type: none"> • Prior to myocardial revascularization for ischemic left ventricular systolic dysfunction. • Other imaging modalities are inadequate or contraindicated. <p><u>Evaluation of Intra and Extra Cardiac Structures</u></p> <p>Characterization of native cardiac valves.</p> <ul style="list-style-type: none"> • Suspected clinically significant valvular dysfunction. • Inadequate images from other noninvasive methods. • Re-evaluation (less than one (1) year) of the size and morphology of the aortic sinuses and ascending aorta in patients with a bicuspid aortic valve (AV) and an ascending aortic diameter greater than 4 cm with ONE of the following: vAortic diameter greater than 4.5 cm; or Rapid rate of change in aortic diameter; or Family history (first-degree relative) of aortic dissection. • Alternative imaging modality: CMR A (8), TTE A (7). • Characterization of prosthetic cardiac valves. • For assessment of prosthetic valve thrombosis for suspected clinically significant valvular dysfunction.



- Inadequate images from other noninvasive method.
- Severe tricuspid regurgitation (TR) and suboptimal TTE images, for assessment of RV systolic function and systolic and diastolic volumes.
- Alternative imaging modality is cardiac magnetic resonance (CMR) A (8
- Evaluation of cardiac mass (suspected tumor or thrombus).
- Inadequate images from other noninvasive methods.
- Evaluation of pericardial anatomy.
- Evaluation of pulmonary vein anatomy.
- Prior to radiofrequency ablation for atrial fibrillation.
- Noninvasive coronary vein mapping.
- Prior to placement of biventricular pacemaker.
- Localization of coronary bypass grafts and other retrosternal anatomy (for “localization of coronary bypass grafts” CCTA preferred and for “other retrosternal anatomy” Heart CT preferred)
- Prior to preoperative chest or cardiac surgery.

Policy X-54-008, CTA Coronary Arteries and Fractional Flow Reserve CT; Last reviewed October 2017 (CPT 0501T,0502T, 0503T,054T)

FFR-CT may be considered medically necessary when **ALL** of the following are met:

- C. Prior to CCTA, the patient was stable with a pre-test probability between 20% and 80% of significant, ischemia-producing CAD, based upon reliable calculations, (i.e., Diamond Forrester, ESC Consortium, University of Washington, or similar calculators.); **and**
- D. The patient had **at least ONE** of the following scenarios:

- A pretest probability of 20-50% (low-to-moderate) prior to CCTA and was selected for evaluation with CCTA as a non-invasive test for significant CAD. The CCTA result shows lesions of greater than or equal to 50%; **or**
- A pretest probability of 51-80% (moderate or high moderate) prior to CCTA and was selected for evaluation with CCTA as a non-invasive test for significant CAD. The CCTA result shows lesions of 30-50%.

Wisconsin
(Anthem)
1/18

CG-MED-58, Coronary Artery Imaging: Contrast Enhanced CT Angiography, Fractional Flow Reserve Derived from CT (CPT 75574, 0501T,0502T, 0503T,054T)

Medically Necessary:

Contrast-enhanced coronary computed tomography angiography (CCTA), is considered **medically necessary** for the evaluation of suspected anomalous coronary arteries:

- In pediatric individuals (age less than 18 years), either before or after conventional angiography
- In adults (age 18 and over) when conventional angiography has been unsuccessful or has provided equivocal results and the results could impact treatment.

Fractional Flow Reserve derived from Computed Tomography (FFRCT) is considered **medically necessary** for the evaluation of **stable chest pain in individuals at intermediate risk of coronary artery disease** as an alternative to invasive coronary angiography.

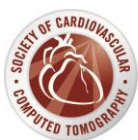
Not Medically Necessary: (CPT 75572, 75573,)

- Coronary computed tomography angiography (CCTA) is considered **not medically necessary** for all other indications, including, but not limited to, the following:
- Screening for coronary artery disease (CAD), either in asymptomatic individuals or as part of a preoperative evaluation



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	<ul style="list-style-type: none"> • Diagnosis of CAD, in individuals with acute or non-acute symptoms, or after a coronary intervention; or • As a technique to evaluate cardiac function. • Fractional flow reserve derived from computed tomography (FFRCT) is considered not medically necessary for all other indications when the above criteria are not met. <p>RAD 00001, Computed Tomography to Detect Coronary Artery Calcification; Last review date: May 4, 2017 (CPT 75571)</p> <p>The use of electron beam computed tomography (EBCT), helical CT or multi-slice spiral (also known as multi-row detector) CT (MSCT) is considered investigational and not medically necessary for the detection of coronary artery calcium, including, but not limited to, the following indications:</p> <ul style="list-style-type: none"> • as part of a cardiac risk assessment in asymptomatic or symptomatic individuals; • as a diagnostic test in individuals considered at intermediate risk for coronary artery disease, where other cardiac tests have been inconclusive; • as a diagnostic test in symptomatic individuals; <p>in conjunction with a coronary CT angiography (CCTA).</p>
<p>Wyoming 1/18</p>	<p>Policy 601430, Contrast Enhanced Computed Tomography for Coronary Artery Evaluation; Last review date September 2017; next review date September 2018 (CPT 75574)</p> <ul style="list-style-type: none"> • Evaluation of patients without known coronary artery disease and acute chest pain in the emergency department setting is considered medically necessary. • Evaluation of patients with stable chest pain and meeting guideline criteria for a noninvasive test in the outpatient setting (see Policy Guidelines) is considered medically necessary. • Evaluation of anomalous (native) coronary arteries in patients in whom they are suspected may be considered medically necessary. <p>CCTA is considered investigational for all other indications</p> <p>Policy 601030, Computed Tomography to Detect Coronary Artery Calcification; Last review date September 2017; next review date September 2018 (CPT 75571)</p> <p>CAC is investigational.</p>
<p>District of Columbia (Care First) 1/18</p>	<p>CAM 60143; Contrast Enhanced Computed Tomography Angiography for Coronary Artery Evaluation; Last reviewed December 2017; next review December 2018 (CPT 75574,75573,75572)</p> <p>MAY BE CONSIDERED MEDICALLY NECESSARY for any of the following indications:</p> <p>A. Detection of coronary artery disease (CAD) in:</p> <p>Symptomatic individuals (such as, chest pain syndrome as described by the American College of Cardiology [ACC]) who:</p> <ol style="list-style-type: none"> 10. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines) AND 11. Had a non-diagnostic stress electrocardiograph (ECG or EKG) (as defined by the ACC guidelines) AND 12. Have a contraindication to an exercise stress test or for whom the results are equivocal or



suspected to be inaccurate

Symptomatic individuals with unexplained chest pain or anginal equivalent symptoms (as described by the ACC) who:

13. Have intermediate pre-test probability of CAD (as identified by the ACC guidelines); AND
14. Had no ECG changes suggestive of ischemia or infarction; AND
15. Had negative cardiac enzymes and cardiac marker results; AND
16. Have a contraindication to an exercise stress test or for whom the results are equivocal or suspected to be inaccurate.

B. Evaluation of cardiac structure and function:

25. To assess complex congenital heart disease, including anomalies of coronary circulation, great vessels and cardiac chambers and valves; OR
26. To assess coronary arteries in individuals with new onset heart failure when ischemia is the suspected etiology and cardiac catheterization and nuclear stress test are not planned; OR
27. To assess a cardiac mass (suspected tumor or thrombus) in individuals with technically limited images from echocardiography, magnetic resonance imaging (MRI) or transesophageal echocardiography (TEE); OR
28. To assess a pericardial condition (such as, pericardial mass, constrictive pericarditis or complications of cardiac surgery in patients) with technically limited images from echocardiography, MRI or TEE; OR
29. For non-invasive coronary vein mapping prior to placement of a biventricular pacemaker; OR
30. For non-invasive coronary arterial mapping, including internal mammary artery prior to repeat cardiac surgical revascularization; OR
31. For evaluation of pulmonary vein anatomy prior to invasive radiofrequency ablation for atrial fibrillation; OR
32. To assess coronary arteries in asymptomatic patients scheduled for open heart surgery for valvular heart disease in lieu of invasive coronary arteriography.

Evaluation of Chest pain in the Emergency Department:

CTA, **with or without** contrast enhancement or media, utilizing **64-slice or greater MDCT** scanner : acute chest pain **and** without known CAD in the emergency room or emergency department **MAY BE CONSIDERED MEDICALLY NECESSARY.**

CAM 60103; Computed Tomography to Detect Coronary Artery Calcification; Last reviewed July 2017; Next review July 2018 (CPT 75571)
CAC is investigational.

CAM 175; Fractional Flow Reserve CT; Last reviewed December 2017; Next review October 2018 (CPT 0501T,0502T, 0503T,054T)

All requirements for **MEDICALLY NECESSITY** below must be met:

The patient was selected for evaluation with coronary computed tomography angiography (CCTA) as a non-invasive test for significant coronary artery disease:

7. Is stable, and
8. Has a pre-test probability of significant, ischemia-producing coronary artery disease between 20% and 50% (low to moderate probability) based on a reliable calculator prior to the CCTA, and



9. The CCTA result demonstrates lesions \geq 50% **OR**

The patient was selected for evaluation with CCTA as a non-invasive test for significant coronary artery disease:

7. Is stable, and
8. Has a pre-test probability of significant, ischemia-producing coronary artery disease between 51% and 80% (moderate to high moderate probability based on a reliable calculator prior to CCTA, and
9. CCTA result demonstrates lesions between 30% and 50%

None of the following clinical scenarios apply since FFR-CT has not been adequately validated due to inapplicability of computational dynamics, artifacts, and/or clinical circumstances; These indications will be considered **NOT MEDICALLY NECESSARY**:

- Suspicion of, or current presentation of, an acute coronary syndrome, unless the patient has unstable angina, myocardial infarction was excluded, and ICA would not be recommended if FFR-CT were negative
- Known ischemic coronary artery disease that has not been revascularized, and there has been no change in patient status or in the CCTA images
- Recent myocardial infarction within 30 days
- Prior coronary artery bypass graft surgery
- Patients who require emergent or urgent ICA or have any evidence of ongoing or active clinical instability, including acute chest pain (sudden onset), cardiogenic shock, unstable blood pressure with systolic blood pressure <90 mmHg, severe congestive heart failure (New York Heart Association [NYHA] III or IV) or acute pulmonary edema
- Complex congenital heart disease or VSD with Qp/Qs > 1.4
- BMI > 35
- Metallic stents in the coronary system
- Coronary vessels with extensive or heavy calcification
- Coronary lesions needing evaluation in which vessel diameter < 1.8 mm
- Cardiac Implanted Electrical Devices (CIEDs)
- Prosthetic Heart Valves
- Severe wall motion abnormality on CCTA results•
- Severe myocardial hypertrophy
- High risk indicators on stress test
- ICA within the past 90 days
- Marginal quality of the submitted imaging data, due to motion, blooming, misalignment, arrhythmia, etc.

