Introduction

An angiogram is a test that uses a special dye and a type of x-ray called fluoroscopy. A coronary angiogram is specifically for the heart. After injecting the dye, a series of x-rays are taken to look at how the blood is flowing through the arteries within the heart. The goal is to find out if these arteries are narrowed or blocked. Information about the locations and extent of narrowing or blockage helps determine whether treatment is needed and what type it should be. This policy discusses when coronary angiography may be medically necessary.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

We will review for medical necessity this elective surgical procedure.
We also will review the site of service for medical necessity. Site of service is defined as the location where the surgical procedure is performed, such as an off campus-outpatient hospital or medical center, an on campus-outpatient hospital or medical center, an ambulatory surgical center, or an inpatient hospital or medical center.

<table>
<thead>
<tr>
<th>Site of Service for Elective Surgical Procedures</th>
<th>Medical Necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Medically necessary sites of service:</strong></td>
<td>Certain elective surgical procedures will be covered in the most appropriate, safe, and cost effective site. These are the preferred medically necessary sites of service for certain elective surgical procedures.</td>
</tr>
<tr>
<td>• Off campus-outpatient hospital/medical center</td>
<td></td>
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<tr>
<td>• On campus-outpatient hospital/medical center</td>
<td></td>
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<tr>
<td>• Ambulatory Surgical Center</td>
<td></td>
</tr>
</tbody>
</table>

**Inpatient hospital/medical center**

Certain elective surgical procedures will be covered in the most appropriate, safe, and cost-effective site. This site is considered medically necessary only when the patient has a clinical condition which puts him or her at increased risk for complications including any of the following (this list may not be all inclusive):

- **Anesthesia Risk**
  - ASA classification III or higher (see definition)
  - Personal history of complication of anesthesia
  - Documentation of alcohol dependence or history of cocaine use
  - Prolonged surgery (>3 hours)

- **Cardiovascular Risk**
  - Uncompensated chronic heart failure (NYHA class III or IV)
  - Recent history of myocardial infarction (MI) (<3 months)
  - Poorly controlled, resistant hypertension*
  - Recent history of cerebrovascular accident (< 3 months)
  - Increased risk for cardiac ischemia (drug eluting stent placed < 1 year or angioplasty <90 days)
  - Symptomatic cardiac arrhythmia despite medication
  - Significant valvular heart disease

- **Liver Risk**
Site of Service for Elective Surgical Procedures | Medical Necessity
--- | ---
|  | 
|  | o Advance liver disease (MELD Score > 8)**
|  | • Pulmonary Risk
|  | o Chronic obstructive pulmonary disease (COPD) (FEV1 <50%)
|  | o Poorly controlled asthma (FEV1 <80% despite treatment)
|  | o Moderate to severe obstructive sleep apnea (OSA)***
|  | • Renal Risk
|  | o End stage renal disease (on dialysis)
|  | • Other
|  | o Morbid obesity (BMI ≥ 50)
|  | o Pregnancy
|  | o Bleeding disorder (requiring replacement factor, blood products, or special infusion product [DDAVP**** does not meet this criteria])
|  | o Anticipated need for transfusion(s)

* 3 or more drugs to control blood pressure  
*** Moderate-AHI≥15 and ≤ 30, Severe-AHI ≥30  
****DDAVP-Deamino-Delta-D-Arginine Vasopressin (Desmopressin)

Inpatient hospital/medical center | This site of service is considered NOT medically necessary for certain elective surgical procedures when the site of service criteria listed above in this policy are not met.

**Condition** | **Medical Necessity**
--- | ---
**Conditions that do not require medical review** | Coronary angiography may be considered medically necessary for the following conditions that do not require medical review:
|  | • Congenital heart disease
|  | • Heart failure
|  | • Hypertrophic cardiomyopathy
|  | • Kawasaki disease
|  | • Pulmonary artery extrinsic compressions of left main coronary
<table>
<thead>
<tr>
<th>Condition</th>
<th>Medical Necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Coronary angiography for known or suspected coronary artery disease (CAD) may be considered medically necessary only for the following conditions when criteria are met:</strong></td>
</tr>
<tr>
<td><strong>Coronary artery disease, known or suspected</strong></td>
<td><strong>Angina</strong></td>
</tr>
<tr>
<td></td>
<td>• Stable angina in any of the following situations:</td>
</tr>
<tr>
<td></td>
<td>o Recurrent angina within 9 months of percutaneous coronary intervention (PCI)</td>
</tr>
<tr>
<td></td>
<td>o Canadian Cardiovascular Society (CCS) class I or II classification of angina (see table in Related Information section) with intolerance of or failure to respond to medical treatment</td>
</tr>
<tr>
<td></td>
<td>o CCS class III or IV classification of angina despite optimal medical treatment</td>
</tr>
<tr>
<td></td>
<td>• Unstable angina or non-ST-elevation myocardial infarction, and high or intermediate risk for adverse outcome, as indicated by any of the following:</td>
</tr>
<tr>
<td></td>
<td>o Elevated troponin levels</td>
</tr>
<tr>
<td></td>
<td>o Ischemia related heart failure</td>
</tr>
<tr>
<td></td>
<td>o Persistent hemodynamic or electrical instability</td>
</tr>
<tr>
<td></td>
<td>o Left ventricular ejection fraction (LVEF) &lt; 40%</td>
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<tr>
<td></td>
<td>o Prior PCI* in past 6 months or prior CABG** in past 12 months</td>
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<tr>
<td></td>
<td>o Suspected or confirmed new ST segment depression</td>
</tr>
<tr>
<td></td>
<td>o Sustained ventricular arrhythmia</td>
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<tr>
<td></td>
<td>o Recurrent angina or ischemia at rest or low activity for &gt; 20 minutes despite optimal medical treatment</td>
</tr>
<tr>
<td></td>
<td>• Suspected Prinzmetal’s angina (also known as variant angina)</td>
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<tr>
<td></td>
<td><strong>OR</strong></td>
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<tr>
<td></td>
<td><strong>High Risk for CAD based on Non-Invasive Findings</strong></td>
</tr>
</tbody>
</table>
Condition | Medical Necessity
--- | ---
• High risk for CAD is suspected based on findings from non-invasive testing, as indicated by any of the following:
  o Echocardiographic wall motion abnormality involving greater than 2 segments
  o High-risk Duke Treadmill Score (≤ -11) (see table in Related Information section)
  o Left ventricular ejection fraction (LVEF) of 35% or less at rest
  o Stress electrocardiogram findings of ST-segment elevation, or ventricular arrhythmia, or at least 2 mm of ST-segment depression
  o Stress-induced large perfusion defect (particularly if anterior) or multiple moderate size perfusion defects
  o Stress-induced left ventricular dysfunction (exercise LVEF < 35%)

OR
High Risk for CAD as evidenced on myocardial perfusion imaging
• Other evidence of high risk on myocardial perfusion imaging, as indicated by any of the following:
  o A large fixed perfusion defect with left ventricular dilatation or increased lung uptake of radioisotope
  o A stress-induced moderate perfusion defect with left ventricular dilatation or increased lung uptake of radioisotope
  o Left ventricular enlargement or transient post-stress ischemic left ventricular dilatation

OR
After acute myocardial infarction
• After acute myocardial infarction, for risk-stratification when any of the following are present:
  o Clinically significant heart failure during hospital course
  o Ischemia provoked by minimal exercise on noninvasive testing
  o Left ventricular ejection fraction of 45% or less, and patient unable to undergo noninvasive testing

OR
Other high risk factors
<table>
<thead>
<tr>
<th>Condition</th>
<th>Medical Necessity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Ischemia that recurs (verified by clinical or noninvasive testing) within 12 months of coronary artery bypass graft (CABG)</td>
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<td></td>
<td>• Suspected pericarditis (acute) when signs and symptoms, troponin levels, and pattern of ST elevation cannot definitively rule out acute infarction</td>
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<tr>
<td></td>
<td>• Patient survived sudden cardiac arrest or has a sustained ventricular tachycardia</td>
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<tr>
<td></td>
<td>• Cardiac risk assessment needed prior to high-risk non-cardiac surgery, for a patient with disability, illness, or physical challenge that precludes non-invasive testing</td>
</tr>
<tr>
<td></td>
<td>• Suspected stent thrombosis, either abrupt closure or subacute, following percutaneous coronary intervention</td>
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<td></td>
<td>• Reevaluation of a specific area or structure with same imaging modality, as indicated by 1 or more of the following:</td>
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<tr>
<td></td>
<td>o Change in clinical status (eg, worsening symptoms or new associated symptoms)</td>
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<tr>
<td></td>
<td>o Need for re-imaging either prior to or after performance of invasive procedure</td>
</tr>
<tr>
<td></td>
<td>o Need for interval reassessment that may impact treatment plan</td>
</tr>
</tbody>
</table>

**Coronary angiography for known or suspected coronary artery disease is considered not medically necessary in the absence of the above criteria.**

* PCI: Percutaneous Coronary Intervention  
** CABG: Coronary Artery Bypass Graft

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**Documentation Requirements**

The patient’s medical records submitted for review should document that medical necessity criteria are met. The record should include clinical documentation of:

- Diagnosis/condition
- History and physical examination documenting the severity of the condition
- Results and/or reports from prior imaging or testing completed
- Any prior procedures
- Other high risk factors
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>93454</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation;</td>
</tr>
<tr>
<td>93455</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) including intraprocedural injection(s) for bypass graft angiography</td>
</tr>
<tr>
<td>93456</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with right heart catheterization</td>
</tr>
<tr>
<td>93457</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed</td>
</tr>
<tr>
<td>93458</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed, catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) with bypass graft angiography</td>
</tr>
<tr>
<td>93459</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with right and left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed</td>
</tr>
<tr>
<td>93460</td>
<td>Catheter placement in coronary artery(s) for coronary angiography, including intraprocedural injection(s) for coronary angiography, imaging supervision and interpretation; with right and left heart catheterization including intraprocedural injection(s) for left ventriculography, when performed, catheter placement(s) in bypass graft(s) (internal mammary, free arterial, venous grafts) with bypass graft angiography</td>
</tr>
</tbody>
</table>
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**Related Information**

**Definition of Terms**

**American Society of Anesthesiologists (ASA) Score:**
- **ASA 1** A normal healthy patient.
- **ASA 2** A patient with mild systemic disease.
- **ASA 3** A patient with severe systemic disease.
- **ASA 4** A patient with severe systemic disease that is a constant threat to life.
- **ASA 5** A moribund patient who is not expected to survive

**New York Heart Association (NYHA) Classification:**
- **Class I** No symptoms and no limitation in ordinary physical activity, eg, shortness of breath when walking, climbing stairs etc.
- **Class II** Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity.
- **Class III** Marked limitation in activity due to symptoms, even during less-than-ordinary activity, eg, walking short distances (20–100 m). Comfortable only at rest.
- **Class IV** Severe limitations. Experiences symptoms even while at rest. Mostly bedbound patients

**Angina and Heart Failure Classification Tools**

- The Canadian Cardiovascular Society (CCS) grading of angina, sometimes referred to as the CCS Functional Classification of Angina, is commonly used for classifying the severity of angina.

**CCS Functional Classification of Angina**

**Class I.** Ordinary physical activity does not cause angina, such as walking and climbing stairs. Angina with strenuous or rapid or prolonged exertion at work or recreation.
**CCS Functional Classification of Angina**

**Class II.** Slight limitation of ordinary activity. Walking or climbing stairs rapidly, walking uphill, walking or stair climbing after meals, or in cold, or in wind, or under emotional stress or only during the few hours after awakening. Walking more than two blocks on the level and climbing more than one flight of ordinary stairs at a normal pace and in normal conditions.

**Class III.** Marked limitation of ordinary physical activity. Walking one or two blocks on the level and climbing one flight of stairs in normal conditions and at normal pace.

**Class IV.** Inability to carry on any physical activity without discomfort – anginal syndrome may be present at rest.

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**Duke Treadmill Score (DTS)**

The DTS is a point system that incorporates the results from exercise duration on the treadmill, the magnitude of ST segment deviation on EKG, and exercise-induced angina. The test identifies patients with a high probability of severe coronary artery disease (triple vessel or left main coronary artery disease) that may be found at angiography and who have a higher mortality risk.

The Duke Treadmill Score is calculated as:

\[
DTS = \text{Exercise time (minutes)} - (5 \times \text{ST deviation in mm}) - (4 \times \text{angina index})
\]

<table>
<thead>
<tr>
<th>Risk level</th>
<th>Score</th>
<th>5-year mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>score ≥ to +5</td>
<td>3%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>score between +5 and -11</td>
<td>10%</td>
</tr>
<tr>
<td>High risk</td>
<td>score ≤ -11</td>
<td>35%</td>
</tr>
</tbody>
</table>

**Evidence Review**

For coronary artery disease, cardiac angiography may be indicated for evaluation of stable angina when symptoms cannot be medically controlled, are disabling, and when interventional treatment has been proposed as the next form of therapy. Qayyum and colleagues performed a systematic review to evaluate whether routine invasive strategy improves cardiovascular outcomes more than a selective invasive strategies for acute coronary syndrome. They evaluated 10 trials with a total of 10,648 patients and found that a routine invasive strategy cannot be proven to reduce deaths or nonfatal myocardial infarction.
Cardiac angiography use is discouraged in patients who have mild angina that is responsive to medication, with no evidence of ischemia on noninvasive testing. One major study is the Clinical Outcomes Utilizing Revascularization and Aggressive Drug Evaluation (COURAGE) trial. This study looked at 2,287 patients with stable coronary artery disease who were randomized to optimal medical therapy (OMT) with or without percutaneous coronary intervention (PCI). During a median 4.6-year follow-up, the study revealed no significant differences in the primary end point of all-cause mortality or nonfatal myocardial infarction (MI) or major secondary end points (composites of death/MI/stroke; hospitalization for acute coronary syndromes [ACSs]). There were no significant differences between treatment arms for the composite of cardiac death or MI or in any of the major pre-specified composite cardiovascular events during long-term follow-up, even after excluding peri-procedural MI as an outcome of interest. Overall, cause-specific cardiovascular outcomes paralleled closely the primary and secondary composite outcomes of the trial as a whole. Compared with an initial management strategy of OMT alone, addition of PCI did not decrease the incidence of major cardiovascular outcomes including cardiac death or the composite of cardiac death/MI/ACS/stroke in patients with stable coronary artery disease.

The National Institute for Health and Care Excellence (NICE) recommends coronary angiography for patients with stable angina only when symptoms are not satisfactorily controlled with optimal medical treatment.

Specialty society guidelines recommend cardiac angiography for risk assessment in patients with stable ischemic heart disease when clinical characteristics and the results of noninvasive testing suggest a high likelihood of severe disease. For example, cardiac angiography is indicated when noninvasive imaging suggests the possibility of left main coronary artery stenosis or severe multi-vessel disease, or to guide percutaneous interventions.

**Description**

Cardiac angiography is an invasive procedure that includes fluoroscopy after injection of contrast material via catheter into the great vessels, chambers, and coronary vessels of the heart, as well as venous and arterial bypass grafts or other arterial conduits such as the mammary arteries. In addition to demonstrating areas of impeded, regurgitant, or otherwise abnormal blood flow, cardiac angiography with right heart catheterization or left ventriculography enables quantitative assessment of myocardial function, such as left ventricular ejection fraction, cardiac output, or degree of shunting. It also enables quantitative assessment of coronary blood flow.
If a blockage is found, a percutaneous coronary intervention (PCI) such as angioplasty may be done to open the blockage. This may be done during the same procedure or at a later time. If there are many blockages or blockages in certain areas, a coronary artery bypass may be indicated.

Risks of coronary angiography include cardiac tamponade, arrhythmias, injury to a catheterized artery, low blood pressure, allergic reaction to contrast dye, excessive bleeding, kidney damage, stroke or heart attack.

Coronary angiography refers specifically to the imaging of the coronary arteries to investigate coronary artery disease.

ACCF / AHA/ ACP / AATS / PCNA / SCAI / STS Guideline

The 2012 ACCF/AHA/ACP/AATS/PCNA/SCAI/STS guideline for the diagnosis and management of patients with stable ischemic heart disease (SIHD)\(^\text{12}\) lists detailed indications for coronary angiography.

### 3.2.1. Coronary Angiography as an Initial Testing Strategy to Assess Risk:

**Recommendations**

- Patients with SIHD who have survived sudden cardiac death or potentially life-threatening ventricular arrhythmia should undergo coronary angiography to assess cardiac risk. (Level of Evidence: B – Single RCT or nonrandomized studies)

- Patients with SIHD who develop symptoms and signs of heart failure should be evaluated to determine whether coronary angiography should be performed for risk assessment. (Level of Evidence: B – Single RCT or nonrandomized studies)
3.2.2. Coronary Angiography to Assess Risk After Initial Workup With Noninvasive Testing: Recommendations

Class I (Should be performed)

- Coronary arteriography is recommended for patients with SIHD whose clinical characteristics and results of noninvasive testing indicate a high likelihood of severe IHD and when the benefits are deemed to exceed risk. (Level of Evidence: C – Consensus opinion, case studies or standard of care)

Class IIa (It is reasonable to perform)

- Coronary angiography is reasonable to further assess risk in patients with SIHD who have depressed LV function (EF <50%) and moderate risk criteria on noninvasive testing with demonstrable ischemia (Level of Evidence: C - Consensus opinion, case studies or standard of care)

- Coronary angiography is reasonable to further assess risk in patients with SIHD and inconclusive prognostic information after noninvasive testing or in patients for whom noninvasive testing is contraindicated or inadequate. (Level of Evidence: C - Consensus opinion, case studies or standard of care)

- Coronary angiography for risk assessment is reasonable for patients with SIHD who have unsatisfactory quality of life due to angina, have preserved LV function (EF >50%), and have intermediate risk criteria on noninvasive testing. (Level of Evidence: C - Consensus opinion, case studies or standard of care)

Class III: (No benefit)

- Coronary angiography for risk assessment is not recommended in patients with SIHD who elect not to undergo revascularization or who are not candidates for revascularization because of comorbidities or individual preferences. (Level of Evidence: B – Single RCT or nonrandomized studies)

- Coronary angiography is not recommended to further assess risk in patients with SIHD who have preserved LV function (EF >50%) and low-risk criteria on noninvasive testing. (Level of Evidence: B – single RCT or nonrandomized studies)

- Coronary angiography is not recommended to assess risk in patients who are at low risk according to clinical criteria and who have not undergone noninvasive risk testing. (Level of Evidence: C - Consensus opinion, case studies or standard of care)
Coronary angiography is not recommended to assess risk in asymptomatic patients with no evidence of ischemia on noninvasive testing. (Level of Evidence: C - Consensus opinion, case studies or standard of care)

The 2014 ACC/AHA/AATS/PCNA/SCAI/STS Focused Update of the Guideline for the Diagnosis and Management of Patients With Stable Ischemic Heart Disease specifies a Class I recommendation for coronary angiography as useful in patients with presumed stable ischemic heart disease who have unacceptable ischemic symptoms despite guideline-directed medical treatment and who are amenable to, and candidates for, coronary revascularization.

The ACC/AHA/ESC 2006 guidelines for management of patients with ventricular arrhythmias and the prevention of sudden cardiac death suggest it may be the only diagnostic tool available for a patient unable to have exercise treadmill testing or stress imaging due to intolerance to pharmacologic stress or other technical reasons (eg, obesity, severe pulmonary disease). It also is indicated in patients resuscitated from cardiac arrest or premonitory death rhythms, such as polymorphic ventricular tachycardia or sustained ventricular tachycardia.

Several different risk scoring systems and clinical prediction tools (such as SYNTAX and ACUITY) have been created to help differentiate patients who are likely to have significant obstructive disease on coronary angiography from those who are not, as well as to help determine optimal revascularization strategy and clinical outcomes. Specialty society guidelines state that calculation of the Society of Thoracic Surgeons (STS) and SYNTAX scores is reasonable in patients who have unprotected left main coronary artery lesions and complex coronary artery disease.

Occupation of Patient that Involves Safety of Others

Abnormal results on noninvasive testing help determine cardiac risk regardless of occupation. Indications for proceeding directly to coronary angiography, without non-invasive risk stratifying studies, do not change based on occupation. Factors such as age or sedentary lifestyle alone, in absence of other diagnoses listed in the policy statement; do not convey risk sufficient to proceed directly with coronary angiography. Thus the occupation of the patient, coupled with a factor such as sedentary lifestyle, does not, by itself, convey risk and coronary angiography would be considered not medically necessary.

References


**History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/10/13</td>
<td>New policy. Add to Cardiology section. This policy is approved with a 90-day hold for provider notification and will be effective on October 1, 2013.</td>
</tr>
<tr>
<td>08/15/13</td>
<td>Update Related Policies. Change title to policy 2.02.508.</td>
</tr>
<tr>
<td>10/17/13</td>
<td>Update Related Policies. Change title to policy 2.02.508.</td>
</tr>
<tr>
<td>10/13/14</td>
<td>Annual Review. Policy extensively re-written. Policy statements reorganized but intent is unchanged. Reference to using MCG as a tool to guide determinations is removed. References added. Diagnosis codes (both ICD-9 and ICD-10) removed from the policy.</td>
</tr>
<tr>
<td>12/22/14</td>
<td>Interim Review. Reference #1 removed. Related Policies 6.01.03 and 6.01.43 archived and removed.</td>
</tr>
<tr>
<td>Date</td>
<td>Comments</td>
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<td>------------</td>
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</tr>
<tr>
<td>08/11/15</td>
<td>Annual Review. Policy updated with literature search. Reference added. Investigational statement on Coronary Artery Calcium Scoring deleted because this technology is reviewed by AIM and the policy has been archived. Remainder of policy statement unchanged.</td>
</tr>
<tr>
<td>01/12/16</td>
<td>Annual Review. Policy reviewed. Literature search did not prompt adding new references. Policy statements unchanged.</td>
</tr>
<tr>
<td>03/01/17</td>
<td>Annual Review, approved February 14, 2017. Policy reviewed with literature search, no references added. Policy statements unchanged.</td>
</tr>
<tr>
<td>04/11/17</td>
<td>Policy moved into new format; no change to policy statements. Evidence Review section reformatted.</td>
</tr>
<tr>
<td>03/01/18</td>
<td>Annual Review, approved February 27, 2018. Minor edits for clarity. Otherwise, no change to policy statements. Reference added. Note added that this policy has been revised. Added Surgery Site of Service criteria, which becomes effective June 1, 2018.</td>
</tr>
<tr>
<td>06/01/18</td>
<td>Minor update; removed note and link to updated policy. Surgery Site of Service criteria becomes effective.</td>
</tr>
<tr>
<td>03/01/19</td>
<td>Annual Review, approved February 5, 2019. Reference added. Added indication of post cardiac transplant when criteria are met.</td>
</tr>
<tr>
<td>05/01/19</td>
<td>Minor update, clarified Site of Service requirements.</td>
</tr>
</tbody>
</table>

**Disclaimer:** This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2019 Premera All Rights Reserved.

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  - Written information in other formats (large print, audio, accessible electronic formats, other formats)
- Provides free language services to people whose primary language is not English, such as:
  - Qualified interpreters
  - Information written in other languages

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- Civil Rights Coordinator - Complaints and Appeals PO Box 91102, Seattle, WA 98111 Toll free 855-332-4535, Fax 425-918-5952. TTY 800-842-5357

You can file a grievance in person or by mail, fax, or email. If you need help filing a grievance, the Civil Rights Coordinator is available to help you.

You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights, electronically through the Office for Civil Rights Complaint Portal, available at https://oocrportal.hhs.gov/oocr/portal/lobby.jsf, or by mail or phone at: U.S. Department of Health and Human Services 200 Independence Avenue SW, Room S09F, HHH Building Washington, D.C. 20201, 1-800-368-1019, 800-537-7697 (TDD) Complaint forms are available at:


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This Notice has Important Information. This notice may have important information about your application or coverage through Premera Blue Cross. There may be key dates in this notice. You may need to take action by certain deadlines to keep your health coverage or help with costs. You have the right to get this information and help in your language at no cost. Call 800-722-1471 (TTY: 800-842-5357).

Arabic (Arabic):
لا يوجد هذا الإشعار معلومات هامة. قد يوجد هذه المعلومات مكملة في حملة طب دليل التغطية. هذه المعلومات هي عامة ويجب أن تكون هذه الرسالة متعلقة بحالة حالة الاعتراف بحالة مساعدة في هذه الإشعار. قد تحتاج إلى إشعار حالة في تأكيده بالإضافة على الذي يحمل هذا المحتوى الذي يكون باللغة العربية لكلمة. 800-722-1471 (TTY: 800-842-5357)

中文 (Chinese):
本通知有重要的訊息。本通知可能有關於您透過 Premera Blue Cross 提交的申請或保費的重要訊息。本通知可能有關於重要日期。您可能需要在截止日期之前採取行動。以保留您的健康保險或費用補貼。您有權利免費以您的母語得到本訊息和幫助。請撥電話 800-722-1471 (TTY: 800-842-5357).

Oromoo (Cushite):

Français (French):

Deutsche (German):

Hmoob (Hmong):

Illokoy (Ilocano):
Daytoy a pakdaar mabalini nga adda ket naglaon iti Napateg nga Impormasion. Daytoy a pakdaar mabalini nga adda ket naglaon iti Napateg nga impormasion maipanggepi iti aplikasyono yowo coverage babaen iti Premera Blue Cross. Daytoy ket mabalini dagiti importante a pelta iti daytoy a pakdaar. Mabalini nga adda rumbeng nga aramidenyo nga addang sakbay dagiti partikular a naituding nga aldaw tapno mapagtalinaedyo ti coverage ti salun-ayo yowo tulong kadagit gastos. Adda karbenganyo a mangala iti daytoy nga impormasion ken tulong iti bukodyo a pagasao nga awan ti bayadanyo. Tumawag ti numero nga 800-722-1471 (TTY: 800-842-5357).

Italiano (Italian):