



UM-CDG-036 Cardiac Catheterization and Coronary
Angiography

Approved By:
Director, Health Services

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This Policy applies to all SECUR affiliates, associates, and subsidiaries.

Approved by Courtney Gonzales, Director of Health Services on behalf of the Utilization Management Committee.

PURPOSE

This coverage determination guideline serves to address cardiac catheterization and coronary angiography.

For SECUR Health Plan members, National Coverage Determinations (NCD) and Local Coverage Determinations (LCD) will be applied to requests when applicable. SECUR Health Plan Coverage Determination Guidelines (CDG) will be utilized in the absence of an appropriate NCD and/or LCD.

DEFINITIONS

Cardiac Catheterization: invasive procedure used to diagnose certain cardiovascular conditions involving a catheter inserted into the body through a blood vessel in the arm, groin, or neck that is guided to the heart

Aortography: x-ray images of the aorta and branches

Bypass Graft Angiography: x-ray images obtained of surgically created coronary artery bypass grafts to evaluate patency.

Coronary Angiography: catheter inserted from an artery in the arm, groin, or wrist and into one of more of the coronary arteries to obtain x-ray images using an injection of contrast dye

Intravascular (Endoluminal) Imaging and Intracoronary Hemodynamic Studies: adjuncts to coronary angiography that allow direct visualization of the coronary artery wall and lumen during a diagnostic or therapeutic cardiac catheterization procedure

Intravascular Ultrasound (IVUS): allows visualization of the coronary artery wall and lumen by utilizing ultrasound to delineate plaque morphology and distribution, determine the severity of obstruction with plaque, and provide guidance and assess results for transcatheter coronary intervention

Optical Coherence Tomography (OCT): uses reflection of light to obtain cross sectional detailed images of the coronary artery

Intracoronary Hemodynamic Studies (Pressure Based Tools): measures coronary pressure, flow, and resistance often performed following coronary angiography in coronary obstructions with unclear hemodynamic significance

Left Heart Catheterization: catheter is inserted into an artery in the arm, groin, or wrist and guided to the left ventricle to measure pressures and/or obtain an angiogram

Right Heart Catheterization: catheter is inserted into a vein in the arm, groin, or neck and guided to the right sided chambers of the heart and pulmonary artery

Trans-septal Catheterization: catheter inserted into the left atrium from the right atrium by puncturing through the septum

Venography (Venogram): contrast dye visible on x-ray is used to evaluate congenital venous malformations

POLICY

Cardiac catheterization and coronary angiography will have medical necessity determined based on the following:

Right Heart Catheterization

Right heart catheterization will be considered medically necessary by SECUR Health Plan when one or more of the following are met:

1. Assessment of unexplained dyspnea or possible cardiac chest pain when coronary angiography is nondiagnostic, or
2. Congenital heart disease, known or suspected with direct measurement of cardiac chamber pressures or oxygen saturations needed, or invasive cardiovascular procedure is planned and preoperative or postoperative catheterization or angiographic imaging is needed, and/or noninvasive imaging is nondiagnostic or discordant with physical exam findings, or
3. Cor pulmonale, or
4. Endocarditis requiring valvular repair surgery, or
5. Evaluation of heart failure either newly diagnosed or with persistent or worsening symptoms despite optimal guideline directed medical therapy (GDMT) when hemodynamic information will be used to guide treatment, or
6. Evaluation for heart failure for preoperative planning before cardiac transplantation or mechanical circulatory support, or
7. Intracardiac shunts and extracardiac vascular shunts, or
8. Pulmonary hypertension, or
9. Suspected cardiomyopathy or myocarditis, or
10. Suspected rejection of heart transplant, or
11. Valvular disease known or suspected when noninvasive testing is inconclusive with symptoms or valvular surgery or intervention is planned

Left Heart Catheterization

Left heart catheterization will be considered medically necessary by SECUR Health Plan when one or more of the following are met:

1. Congenital heart disease, known or suspected with direct measurement of cardiac chamber pressures or oxygen saturations needed, or invasive cardiovascular procedure is planned and preoperative or postoperative catheterization or angiographic imaging is needed, and/or noninvasive imaging is nondiagnostic or discordant with physical exam findings, or
2. Diagnosis of and/or treatment of cardiac trauma, intracardiac shunts, myocardial abnormalities or dysfunction, or pericardial tamponade, or
3. Left ventriculography indicated for global or regional left ventricular function, identification and/or quantification of mitral regurgitation, or suspected ventricular septal defect, or
4. Measurement of left ventricular pressure for the determination of left ventricular end diastolic pressure (LVEDP) for the diagnosis and treatment planning of cardiomyopathy, known or suspected heart failure syndromes, stable ischemic heart disease, unexplained dyspnea, or valvular heart disease

Coronary and Bypass Angiography

SECUR Health Plan will consider coronary and bypass angiography medically necessary when one or more of the following are met:

1. Acute cardiac or possible cardiac chest pain with coronary artery disease, known or suspected, or noninvasive stress imaging contraindicated or is equivocal and/or nondiagnostic, or
2. Cardiac chest pain despite GDMT with moderate to severe ischemia and results will guide therapy, or

3. Possible cardiac chest pain and high risk findings on noninvasive testing with one or more of the following:
 - Duke Treadmill Score being less than or equal to -11, or
 - Echocardiographic wall motion abnormality involving greater than two (2) segments, developing at a dobutamine dose of less than 10 mcg/kg/min or heart rate less than 120 beats per minute, or
 - Left ventricular ejection fraction (LVEF) of 40% or less at rest, or
 - Perfusion imaging showing evidence of global ischemia, ischemia involving multiple territories, or a single large territory of myocardium at risk, or
 - Stress electrocardiogram findings of ST segment elevation, ventricular arrhythmia, or greater than or equal to 1 mm of ST segment horizontal depression, or
 - Stress induced large perfusion defect or multiple moderate perfusion defects, or
 - Stress induced left ventricular dysfunction, or
 - Cardiac or possible cardiac chest pain and high risk cardiac computed tomography angiography (CCTA) results including fractional flow reserve by computed tomography (FFR-CT) less than or equal to 0.80, greater than or equal to 50% stenosis in the left main coronary artery defined by CCTA, or stenosis greater than or equal to 70% in the left main and right coronary arteries and left anterior descending artery as defined by CCTA, or
4. Following myocardial infarction (MI) and during risk stratification phase at the time of initial presentation, or
5. Congenital heart disease, known or suspected, as defined by one or more of the following:
 - Direct measurement of cardiac chamber pressures or oxygen saturations needed, or
 - Invasive cardiovascular procedure planned, and preoperative or postoperative catheterization or angiographic imaging is needed, or
 - Noninvasive imaging is nondiagnostic or discordant with physical exam findings, or
6. Diagnosis of and/or treatment planning for any of the following:
 - Cardiac trauma
 - Coronary shunts and fistulae
 - Following cardiac arrest thought to be due to ischemia or infarction
 - Ischemic evaluation needed for acute or chronic diastolic or systolic heart failure
 - Known atherosclerotic or other coronary disease
 - Prinzmetal angina
 - Suspected graft or stent/PCTA closure, or
7. Treatment planning in a high risk member undergoing high risk non-cardiac surgical procedures, or
8. Treatment planning for a member undergoing a cardiac surgical procedure or transcatheter structural heart procedure

Intracoronary Ultrasound (Intravascular Ultrasound) or Optical Coherence Tomography

SECUR Health Plan will consider intracoronary ultrasound or optical coherence tomography as medically necessary for any of the following:

1. Assessment of any of the following:
 - Ambiguous findings if unclear on angiography, or
 - Coronary intervention results including but not limited to lumen size, stent apposition and expansion, complications, or
 - Extent of coronary stenosis if equivocal on angiography, or
 - Lesion severity in an individual with intermediate stenosis of the left main artery, or
 - Patency and integrity of a coronary artery post-intervention, or
 - Prior to coronary intervention of lesion/plaque characteristics to determine the need for atherectomy or

lithotripsy or vessel size and lesion length

Doppler Functional Flow Reserve Studies

SECUR Health Plan will consider doppler functional flow reserve studies as medically necessary when used to assess the degree of stenosis within a vessel.

Intracoronary Hemodynamic Studies

SECUR Health Plan will consider intracoronary hemodynamic studies medically necessary when used to assess the hemodynamic significance of stenosis within a coronary vessel.

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