CIGNA HEALTHCARE COVERAGE POSITION

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Subject **Cardiovascular Magnetic Resonance (CMR)**

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Coverage Position

CIGNA HealthCare covers cardiovascular magnetic resonance (CMR) imaging as medically necessary for ANY of the following indications:

- evaluation of suspected coronary artery disease (CAD) in a symptomatic patient when the electrocardiogram (ECG) is uninterpretable or the individual is unable to exercise
- risk assessment when coronary angiography demonstrates stenosis of unclear significance
- evaluation of left ventricular (LV) function when the individual has technically limited images on echocardiogram or nuclear study for any of the following:
  - acute myocardial infarction
  - heart failure
  - cardiotoxic therapies
  - myocarditis
  - conditions where other imaging studies yielded inconclusive or conflicting results
- evaluation of a individual with positive cardiac enzymes and a negative angiogram (i.e., normal coronary arteries, no obstructive atherosclerosis) but a strong suspicion of a cardiac condition (e.g., myocarditis, myocardial infarction, coronary artery spasm, coronary embolism) remains
- evaluation of myocardial viability
- detection of myocardial scar

- questionable or indeterminate findings on echocardiogram for ANY of the following:
  - cardiomyopathies (e.g., dilated cardiomyopathy, hypertrophic cardiomyopathy, arrhythmogenic right ventricular cardiomyopathy [ARVC])
  - valvular heart disease (e.g., valvular regurgitation, valve stenosis)
  - diseases of the pericardium (e.g., pericardial mass, constrictive pericarditis, complications of cardiac surgery)
  - cardiac tumors (e.g., suspected tumor or thrombus)
  - congenital heart disease (e.g., anomalies of coronary circulation, great vessels, and cardiac chambers and valves)
- evaluation of disorders or diseases of the major vessels (e.g., aortic or pulmonary aneurysms, dissections, and follow-up)
- evaluation of pulmonary veins and left atrium prior to radiofrequency ablation for atrial fibrillation or supraventricular tachycardia

CIGNA HealthCare does not cover CMR for any other indication, including but not limited to, screening for coronary artery disease (CAD) in an asymptomatic individual because it is considered experimental, investigational or unproven.

General Background

Magnetic resonance imaging (MRI) is a multiplanar image method based on the interaction between radiofrequency electromagnetic fields and certain atomic nuclei in the body (usually hydrogen), after the body has been placed in a strong magnetic field. It is particularly useful in detecting soft tissue damage or disease. MRI is unique in that it can also create detailed images of blood vessels without the use of contrast material, although there is a trend toward the use of special noniodinated MRI contrast material (e.g., gadolinium). In cardiac gating, image acquisition is triggered by a start pulse derived from an electrocardiogram (ECG) taken from the individual while imaging. ECG gating techniques are useful whenever data acquisition is too slow to occur during a short fraction of the cardiac cycle.

The accurate name for the discipline of magnetic resonance applied to the cardiovascular system is cardiovascular magnetic resonance (CMR), whether it is applied to the heart alone (including the coronary arteries) or the heart and the peripheral blood vessels. Use of CMR imaging represents the specialized application of MRI to the cardiovascular system, employing specialized receiver coils, pulse sequences, and gating methods.

Advantages of CMR over established cardiac imaging techniques (e.g., cardiac catheterization, echocardiography, nuclear studies) include its noninvasive nature, lack of ionizing radiation, better spatial resolution, unlimited anatomic visualization and potential for tissue characterization. Most metallic implants are MR compatible, including all prosthetic cardiac valves, vascular stents, and orthopedic implants. For CMR, the main implants in question are pacemakers and cardioverter-defibrillators, and their presence is a strong relative contraindication for CMR. Following correct protocols, CMR is very safe for the cardiovascular patient, and no short- or long-term ill effects have been demonstrated at current field strengths. Echocardiography is the faster and more portable modality, whereas CMR typically provides superior image quality. Echocardiography and CMR are used as complementary modalities. Although there is overlap with other cardiac imaging modalities, CMR often works in a complementary fashion to these other techniques or resolves residual diagnostic dilemmas. The strengths of CMR lie in its ability to comprehensively image cardiac anatomy, function, perfusion, viability, physiology, and put this information in the context of the wide field of view of surrounding vascular and non-cardiac anatomy (Bandettini, et al., 2008).

U.S. Food and Drug Administration (FDA)
MRI systems are regulated by the U.S. Food and Drug Administration (FDA) as Class II devices, and a large number of these systems have been approved via the FDA 510(k) process.

Literature Review

Evidence in the published peer-reviewed scientific literature, textbooks, as well as current clinical practice indicates that CMR is useful in patients for the following indications:

Coronary Artery Disease (CAD)
CMR is well-validated for quantifying the volumes and mass of the ventricles, and it has become the clinical gold standard against which other techniques are measured because of its three-dimensional nature, which is not reliant on geometric assumptions. The accuracy of CMR for measurement of global left ventricular volume has been established. CMR can detect the presence of subclinical atherosclerotic disease in high-risk patient subgroups. The excellent soft-tissue characterizing capabilities of MRI permit depiction of various components of atherothrombotic plaque, including lipid, fibrous tissue, calcium, and thrombus formation. Perfusion MRI can be used for CAD detection employing bolus injection of gadolinium after dipyridamole or adenosine administration. Dobutamine CMR is used to identify wall motion abnormalities of the left ventricle, indicative for myocardial ischemia in patients with proven or suspected CAD. Stress CMR using dobutamine is clinically established for diagnosing obstructive CAD in patients who are unsuitable for dobutamine echocardiography. CMR has been used for the assessment of acute chest pain. CMR showed a sensitivity of 84% and a specificity of 85%, was the strongest predictor of an acute coronary syndrome, and added diagnostic value over the usual clinical parameters, including the electrocardiogram, troponin, and Thrombolysis in Myocardial Infarction Trial (TIMI) risk score. Myocardial infarction (MI) can be detected with high resolution using a protocol known as late gadolinium enhancement CMR. Late gadolinium enhancement CMR reveals a permanent record of MI (both acute and chronic) and is useful clinically for the diagnosis of MI in cases of doubt or when other techniques for detection are inconclusive. CMR can be used to identify microvascular obstruction in cases of acute MI. CMR is useful in optimizing and following therapy in individual patients.

Cardiomyopathy
CMR is useful in patients with known or suspected cardiomyopathies. CMR clearly demonstrates the functional abnormalities associated with dilated cardiomyopathy (DCM), and ventricular volumetric analysis is useful for follow-up. CMR is effective in the diagnosis and assessment of hypertrophic cardiomyopathy (HCM), with ideal image quality covering both ventricles completely for localization of hypertrophy. CMR is used when echocardiography is questionable, particularly with apical hypertrophy. CMR is useful in differentiating causes of hypertrophy, which can mimic HCM. Other differential diagnoses, including amyloidosis and athletic heart, can be distinguished by CMR. CMR is useful in iron overload, or siderotic cardiomyopathy and arrhythmogenic right ventricular cardiomyopathy. In heart-transplant patients, CMR can assess medical treatment on the remodeling process associated with long-term use of cyclosporine. CMR shows promise in myocardial sarcoidosis and myocarditis.

Valvular Heart Disease
Although CMR often plays a secondary role to echocardiography, it is useful in patients with known or suspected valvular heart disease. However, in cases of difficulty in obtaining adequate echocardiography examinations, and for valvular regurgitation in particular, CMR has significant clinical utility. In valve stenosis, echocardiography is the first-line clinical test. CMR is used when acoustic windows are poor or when discordant imaging and invasive results occur. Improved left ventricular and microvascular function and reduced hypertrophy, as well as myocardial metabolism and diastolic function, have been shown by CMR after aortic valve replacement for stenosis.

Diseases of the Pericardium
In patients with known or suspected pericardial disease, CMR is frequently used when echocardiography yields incomplete information to define functional and anatomical abnormalities associated with the pericardium.

Cardiac Tumors
CMR is useful for characterization in patients with known or suspected cardiac tumors, if information obtained by echocardiography is incomplete.

Congenital Heart Disease
CMR is ideally suited to the evaluation of congenital heart disease (e.g., coarctation of great vessels, atrioventricular and ventriculoarterial connection abnormalities, septal defects, valvular abnormalities, Tetralogy of Fallot, coronary artery anomalies) for several reasons: three-dimensional contiguous data

sets are very effective for the complete depiction of anatomy; functional assessments are readily combined with the anatomical data; and CMR is less operator-dependent than echocardiography. In addition, long-term follow-up is greatly facilitated by good reproducibility, noninvasiveness, access to relatively unrestricted fields of view, and freedom from ionizing radiation. The combination of CMR with transesophageal echocardiography has been particularly effective in patient evaluation because the two investigations yield complementary information.

Diseases of the Major Arteries
CMR is valuable in patients with known or suspected disorders or disease of the major vessels; it accurately depicts aortic aneurysms showing cross-sectional diameter, the relation to branch vessels, and associated thrombus. Inflammatory abdominal aortic aneurysms show enhancement with gadolinium. CMR can be used for stent planning and follow-up. Aortic dissection is a well-established indication for CMR. Pulmonary artery aneurysms and dissections are well-evaluated by CMR. The associated complications of dissection, such as extent, aortic regurgitation, pericardial effusion, and branch vessel involvement are all readily assessed by CMR.

Magnet strength
Cheng et al. (2007) compared 1.5 Tesla (T) and 3.0 T CMR to coronary angiography and determined that the diagnostic performance of 3 T perfusion imaging was significantly greater than that of 1.5 T in identifying both single-vessel disease (area under receiver operating characteristic [ROC] curve: 0.89 ± 0.05 vs. 0.70 ± 0.08; $p < 0.05$) and multivessel disease (area under ROC curve: 0.95 ± 0.03 vs. 0.82 ± 0.06; $p < 0.05$). However, there was no statistical difference between field strengths for the overall detection of coronary disease (area under ROC curve: 0.87 ± 0.05 vs. 0.78 ± 0.06; $p = 0.23$).

Contraindications
Marcu et al. (2006) list pacemakers and implanted cardioverter-defibrillators as contraindications for cardiac MRI. However, Nazarian et al. (2006) states that “given appropriate precautions, noncardiac and cardiac MRI can potentially be safely performed in patients with selected implantable pacemaker and defibrillator systems.”

Professional Societies/Organizations

American College of Cardiology (ACC)
The American College of Cardiology Foundation in conjunction with the American College of Radiology (ACR), Society of Cardiovascular Computed Tomography, Society for Cardiovascular Magnetic Resonance, American Society of Nuclear Cardiology (ASNC), North American Society for Cardiac Imaging, Society for Cardiovascular Angiography and Interventions and the Society of Interventional Radiology, assessed the risks and benefits of CT, CT angiography, CMR and MR angiography for several cardiac indications or clinical scenarios (Hendel, et al., 2006). They were rated as follows:

- “Appropriate” test for specific indication (test is generally acceptable and is a reasonable approach for the indication).
- “Uncertain” for specific indication (test may be generally acceptable and may be a reasonable approach for the indication; however, critical data were lacking or significant differences of opinion exist among Panel members regarding the value of the method for that particular indication. Uncertainty also implies that more research and/or patient information is needed to classify the indication definitively.)
- “Inappropriate” test for that indication (test is not generally acceptable and is not a reasonable approach for the indication). The CMR indications or clinical scenarios are as follows:

For the detection of CAD in symptomatic patients, evaluation of chest pain syndrome (Use of Vasodilator Perfusion CMR or Dobutamine Stress Function CMR), MRI is:

- Appropriate for intermediate pretest probability of CAD and ECG uninterpretable or unable to exercise
- Uncertain for intermediate pretest probability of CAD and ECG interpretable and able to exercise
- Uncertain for high pretest probability of CAD
- Inappropriate for low pretest probability of CAD and ECG interpretable and able to exercise

For the detection of CAD in symptomatic patients, acute chest pain (Use of Vasodilator Perfusion CMR or Dobutamine Stress Function CMR), MRI is:

- Uncertain for intermediate pretest probability of CAD and no ECG changes and serial cardiac enzymes negative
- Inappropriate for high pretest probability of CAD and ECG—ST-segment elevation and/or positive cardiac enzymes

Note: It should be noted that there is no evaluation of CMR for risk assessment of the general population, but there is for CT.

Risk Assessment with prior test results (Use of Vasodilator Perfusion CMR or Dobutamine Stress Function CMR), MRI is:

- Appropriate for coronary angiography (catheterization or CT) and stenosis of unclear significance
- Uncertain for equivocal stress test (exercise, stress SPECT, or stress echo) and intermediate CHD risk (Framingham)
- Inappropriate for normal prior stress test (exercise, nuclear, echo, MRI) and high CHD risk (Framingham) and within one year of prior stress test

Risk Assessment: Preoperative Evaluation for Non-Cardiac Surgery, Low-Risk Surgery (Use of Vasodilator Perfusion CMR or Dobutamine Stress Function CMR) MRI is:

- Inappropriate for intermediate perioperative risk predictor

Risk Assessment: Preoperative Evaluation for Non-Cardiac Surgery, Intermediate- or High-Risk Surgery (Use of Vasodilator Perfusion CMR or Dobutamine Stress Function CMR), MRI is:

- Uncertain for intermediate perioperative risk predictor

Evaluation of Ventricular and Valvular Function, procedures may include LV/RV mass and volumes, MR angiography, quantification of valvular disease, and delayed contrast enhancement, MRI/MRA is:

- Appropriate for assessment of complex congenital heart disease, including anomalies of coronary circulation, great vessels, and cardiac chambers and valves, and procedures may include LV/RV mass and volumes, MR angiography, quantification of valvular disease, and contrast enhancement
- Appropriate for evaluation of LV function following myocardial infarction or in heart failure patients and patients with technically limited images from echocardiogram
- Appropriate for quantification of LV function and discordant information that is clinically significant from prior tests
- Appropriate for evaluation of specific cardiomyopathies (infiltrative [amyloid, sarcoid], HCM, or due to cardiotoxic therapies, and use of delayed enhancement
- Appropriate for characterization of native and prosthetic cardiac valves—including planimetry of stenotic disease and quantification of regurgitant disease and patients with technically limited images from echocardiogram or TEE
- Appropriate for evaluation for arrhythmogenic right ventricular cardiomyopathy (ARVC) and patients presenting with syncope or ventricular arrhythmia
- Appropriate for evaluation of myocarditis or myocardial infarction with normal coronary arteries and positive cardiac enzymes without obstructive atherosclerosis on angiography
- Uncertain for evaluation of LV function following myocardial infarction or in heart failure patients

For structure and function, evaluation of intra- and extra-cardiac structures, LV/RV mass and volumes, MRA, quantification of valvular disease, and delayed contrast enhancement, MRI/MRA is:

- Appropriate for evaluation of cardiac mass (suspected tumor or thrombus) and use of contrast for perfusion and enhancement
- Appropriate for evaluation of pericardial conditions (pericardial mass, constrictive pericarditis)
- Appropriate for evaluation for aortic dissection
- Appropriate for evaluation of pulmonary veins prior to radiofrequency ablation for atrial fibrillation and left atrial and pulmonary venous anatomy, including dimensions of veins for mapping purposes

Detection of Myocardial Scar and Viability, Evaluation of Myocardial Scar (Use of Late Gadolinium Enhancement), MRI is:

- Appropriate to determine the location and extent of myocardial necrosis including 'no reflow' regions and post-acute myocardial infarction
- Appropriate to determine viability prior to revascularization and establish likelihood of recovery of function with revascularization (percutaneous coronary intervention [PCI] or coronary artery bypass graft [CABG]) or medical therapy
- Appropriate to determine viability prior to revascularization and viability assessment by SPECT or dobutamine echo has provided "equivocal or indeterminate" results
- Uncertain to detect post-PCI myocardial necrosis (Hendel, et al., 2006).

American College of Cardiology/American Heart Association (ACC/AHA)
ACC/AHA 2006 guidelines for the management of patients with valvular heart disease (Bonow, et al., 2006) note that, depending on the specific clinical circumstances, transesophageal echocardiography, cardiac magnetic resonance, or cardiac catheterization may be indicated for better characterization of the valvular lesion.

Diagnosis and Initial Evaluation recommendations that address CMR include:
- Class I: Radionuclide angiography or magnetic resonance imaging is indicated for the initial and serial assessment of LV volume and function at rest in patients with aortic regurgitation (AR) and suboptimal echocardiograms.
- Class IIa: Magnetic resonance imaging is reasonable for the estimation of AR severity in patients with unsatisfactory echocardiograms.

Bicuspid Aortic Valve with Dilated Ascending Aorta recommendations regarding CMR include:
- Class I: Cardiac magnetic resonance imaging or cardiac computed tomography is indicated in patients with bicuspid aortic valves when morphology of the aortic root or ascending aorta cannot be assessed accurately by echocardiography.
- Class I: Patients with bicuspid aortic valves and dilatation of the aortic root or ascending aorta (diameter greater than 4.0 cm) should undergo serial evaluation of aortic root/ascending aorta size and morphology by echocardiography, cardiac magnetic resonance, or computed tomography on a yearly basis.
- Class IIa: Cardiac magnetic resonance imaging or cardiac computed tomography is reasonable in patients with bicuspid aortic valves when aortic root dilatation is detected by echocardiography to further quantify severity of dilatation and involvement of the ascending aorta (Bonow, et al., 2006).

Society for Cardiovascular Magnetic Resonance (SCMR)/European Society of Cardiology
The European Society of Cardiology published Clinical Indications for CMR: Consensus Panel report (Pennell, et al., 2004). Some of the key cardiac areas discussed include:

- Congenital heart disease: Indications may include initial evaluation and follow-up of adult congenital heart disease, assessment of shunt size, and anomalies (e.g., anomalies of the viscero-atrial situs, atria and venous return, atrioventricular valve, ventricles, semilunar valves and arteries).

- Acquired vascular disease: Indications may include vascular lumen imaging features of vessel wall (e.g., hematoma/thrombus, inflammation, and atherosclerotic plaque). "In addition to morphologic imaging of blood vessels, velocity mapping can be used to assess and measure the blood flow. Blood velocity and flow can be integrated across the cardiac cycle and the vessel lumen for reliable volume flow measurements."

- For coronary artery disease (CAD), indications may include:
  - assessment of global ventricular (left and right) function and mass:
    "CMR is accurate, reproducible and well validated for measuring left ventricular (LV) and right ventricular (RV) volumes and mass; this makes it valuable for the assessment of fundamental parameters of cardiac function as well as longitudinal follow-up of patients over time."
  - detection of coronary artery disease (e.g., regional left ventricular function at rest and during dobutamine stress, assessment of myocardial perfusion):
    "There are several approaches to detecting CAD using CMR. These include the visualization of the effects of induced ischemia (wall motion, perfusion) and direct visualization of coronary

arteries (coronary angiography and flow). Early detection of atherosclerosis and endothelial dysfunction is also possible (arterial wall imaging, brachial artery reactivity)."

- assessment of chronic coronary syndromes:
  "Myocardial infarction (MI) can be detected with high accuracy and sensitivity using late gadolinium-enhanced CMR." In addition, "in the assessment of myocardial viability for the clinical scenario of consideration of bypass surgery for improvement of LV function, CMR has been shown to be very useful."
- evaluation of acute coronary syndromes:
  "CMR has been used in the emergency room in the assessment of chest pain. CMR showed a sensitivity and specificity of 84% and 85% for identifying patients with CAD, and multi-variate analysis including standard clinical tests (electrocardiogram, troponin, thrombolysis in myocardial infarction [TIMI] risk score) showed that CMR was the strongest predictor of CAD and added diagnostic value over clinical parameters, including identification of enzyme-negative unstable angina. This promising data needs to be confirmed in other centers." "CMR is effective in demonstrating the complications of acute MI including ventricular aneurysm, pseudoaneurysms, ventricular septum perforation, and mitral regurgitation."

- Cardiomyopathies and cardiac transplantation: Indications may include "constrictive pericarditis, detection and characterization of cardiac and pericardiac tumors, ventricular thrombus, hypertrophic cardiomyopathy, dilated cardiomyopathy, differentiation from dysfunction related to coronary artery disease, arrhythmogenic right ventricular cardiomyopathy (dysplasia), restrictive cardiomyopathy, siderotic cardiomyopathy (in particular thalassemia), and noncompaction."

- Pericardial disease: "Both CMR and computed tomography (CT) are well suited to define anatomic abnormalities of the pericardium including pericardial thickening and effusions. CMR has the advantage of being able to depict and quantify the functional abnormalities which may be associated with pericardial disease."

- Cardiac tumors: "Transthoracic echocardiography is the usual technique which detects intracardiac tumors. However, in many cases the characterization is incomplete, and CMR is particularly helpful in determining the relationship to normal intracardiac structures and tumor extension to adjacent vascular and mediastinal structures, infiltration into the pericardium, and surgical planning."

- Valvular heart disease: "CMR may play a complementary role when transthoracic acoustic windows are poor and a transesophageal echocardiography (TEE) approach is undesirable, or when results of echocardiography and catheterization are conflicting" (Pennell, et al., 2004).

American College of Radiology (ACR)
The ACR Practice Guideline for the Performance and Interpretation of Cardiac MRI (2006) states primary indications for cardiac MRI include, but are not limited to, assessment of the following: Acquired Heart Disease and Congenital Heart Disease.
The ACR discusses the following topics under 'acquired':

- dynamic cardiac anatomy and ventricular function
- assessment of cardiomyopathies, myocardial fibrosis, and infarction
- myocardial ischemia and viability assessed through the use of pharmacologic agents
- characterization of cardiac masses
- pericardial disease
- valvular disease
- coronary artery disease

The ACR discussed the following under 'congenital':

- congenital shunts
- complex congenital anomalies
- pericardial anomalies
- congenital valve disease
- coronary artery anomalies

ACCF/AHA: Clinical Competence Statement on Cardiac Imaging With Computed Tomography and Magnetic Resonance (Budoff, et al., 2005) states that "a comprehensive review of the clinical indications for CMR is beyond the scope of this report. Interested readers are referred elsewhere." Pennell et al. (2004) are cited for reference. Next, the document states, "a brief overview of broad clinical indications is presented in the text. These are intended to serve as a general guide for CMR training to include a broad spectrum of pathologic cases inclusive of these indications." General indications addressed include:

- ischemic heart disease: regional and global function, perfusion, viability, and coronary angiography
- non-ischemic cardiomyopathies
- pericardial disease
- valvular heart disease
- congenital heart disease

ACR: Clinical statement on noninvasive cardiac imaging (Weinreb, et al., 2005) states that cardiac MRI represents the specialized application of MR to imaging the heart to help diagnose both acquired and congenital disease. Applications of cardiac MR include, but are not limited to, the following:

- assessment of myocardial scar, infiltrative processes, and inflammation
- assessment of myocardial ischemia
- assessment of ventricular function
- characterization of cardiac chamber morphology and function
- detection and characterization of congenital heart disease
- characterization of cardiac masses
- diagnosis of pericardial disease
- quantification of valvular disease and shunt physiology
- detection of coronary artery atherosclerosis
- detection and characterization of coronary artery anomalies
- detection and characterization of coronary artery aneurysms

ACC/AHA/ASNC: Guidelines for the Clinical Use of Cardiac Radionuclide Imaging state that "MRI has emerged as an alternative noninvasive imaging approach for discrimination of fixed scar versus viable but dysfunctional myocardium. Reports indicate that infarct-avid imaging analogous to that formerly performed with Tc-99m pyrophosphate can be performed by using MRI and a conventional gadolinium-based contrast agent. Potential advantages include the improved resolution now available with MRI and an ability to image chronic and acute infarctions. Additional clinical experience will be needed to place this approach in proper context" (Klocke, et al., 2003).

ACC: Chronic Heart Failure guidelines state that "magnetic resonance imaging or computed tomography may be useful in evaluating chamber size and ventricular mass, detecting right ventricular dysplasia, or recognizing the presence of pericardial disease, as well as in assessing cardiac function and wall motion. Magnetic resonance imaging may also be used to identify myocardial viability and scar tissue" (Hunt, et al., 2005).

Summary
Evidence in the published peer-reviewed scientific literature, textbooks, as well as current clinical practice indicates that cardiovascular magnetic resonance (CMR) is an established imaging modality, well-recognized for its value in the initial assessment and monitoring of a wide range of diseases of the heart, great vessels and surrounding related structures. Studies are ongoing that compare various state-of-the-art imaging technologies to one another for use in the cardiac patient. Additional studies are needed to determine the effectiveness of CMR for screening or suspected atherosclerosis of coronary vessels, and for CMR use in endocarditis.

Coding/Billing Information

Note: This list of codes may not be all-inclusive.

Covered when medically necessary:

CPT®* Codes	Description
75557	Cardiac MRI for morphology and function without contrast materials
75558	Cardiac MRI for morphology and function without contrast materials; with flow/velocity quantification;
75559	Cardiac MRI for morphology and function without contrast materials; with stress imaging;
75560	Cardiac MRI for morphology and function without contrast materials; with flow/velocity quantification and stress;
75561	Cardiac MRI for morphology and function without contrast materials, followed by contrast material(s) and further sequences.
75562	Cardiac MRI for morphology and function without contrast materials, followed by contrast material(s) and further sequences; with flow/velocity quantification.
75563	Cardiac MRI for morphology and function without contrast materials, followed by contrast material(s) and further sequences; with stress imaging.
75564	Cardiac MRI for morphology and function without contrast materials, followed by contrast material(s) and further sequences; with flow/velocity quantification and stress;

ICD-9-CM Diagnosis Codes	Description
	Multiple/varied codes

Experimental/Investigational/Unproven

ICD-9-CM Diagnosis Codes	Description
V81.0	Screening for ischemic heart disease

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