Medical Policy

Nuclear Cardiology: Cardiac Blood Pool Imaging
Blood Pool Imaging includes MUGA (Multi-Gated Acquisition) & First Pass Radionuclide Ventriculography

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Policy Number: 830
BCBSA Reference Number: N/A
NCD/LCD: N/A

Related Policies
- Nuclear Cardiology Infarct Imaging, #834
- Nuclear Cardiology Myocardial Perfusion Imaging, #836

Policy¹
Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity
Medicare HMO BlueSM and Medicare PPO BlueSM Members

Cardiac Blood Pool Imaging Blood Pool Imaging includes MUGA (Multi-Gated Acquisition) & First Pass Radionuclide Ventriculography are considered MEDICALLY NECESSARY for the following conditions:

Evaluation of left ventricular function
Note: It is assumed that left ventricular function will be evaluated using a single imaging modality. Thus, if left ventricular function has been evaluated recently by echocardiography reevaluation using blood pool imaging is not necessary
- Initial evaluation of known or suspected heart failure; OR
- Reevaluation of patients with known LV dysfunction (systolic or diastolic) in a patient with a deterioration in clinical status; OR
- Evaluation of patients with resting EKG abnormalities (LBBB, RBBB with left anterior or posterior hemiblock, LVH, RVH, Q waves suggestive of prior infarction); OR
- Reevaluation of patients with known heart failure (systolic or diastolic) in a patient with a change in clinical status; OR
- Baseline and serial reevaluation in patients undergoing, planning to undergo or who have undergone therapy with cardiotoxic agents (examples including but not limited to some chemotherapeutic agents for cancer, Novantrone [mitoxantrone] for multiple sclerosis); OR
• Screening study for left ventricular dysfunction every two (2) years in clinically stable and first-degree relatives of patients with inherited cardiomyopathy; OR
• Evaluation of suspected restrictive, infiltrative or genetic cardiomyopathy; OR
• Evaluation of patients with diagnosed or suspected myocarditis; OR
• Evaluation of LV function in a patient with known cardiomyopathy being considered for cardiac resynchronization therapy (CRT), implantable defibrillator (AICD) or ventricular assist device (VAD); OR
• Initial evaluation for cardiac resynchronization therapy (CRT) device optimization following implantation; OR
• Evaluation of a patient being treated with cardiac resynchronization therapy (CRT) with new or persistent signs or symptoms of heart failure for device optimization; OR
• Blood pool imaging is indicated for optimization of device settings in patients with ventricular assist device (VAD); OR
• When left ventricular dysfunction is suggested by other testing (chest x-ray, elevated BNP) and LV function has not been evaluated by another modality since that testing was performed; OR
• Where a clinically significant discrepancy that might influence patient management exists in the evaluation of left ventricular dysfunction by two other imaging modalities, MUGA/First Pass can be used as an arbiter; OR
• Pre and post cardiac transplantation

Evaluation of right ventricular function
• In patients suspected of having right ventricular dysfunction based on history and/or physical examination; OR
• Reevaluation of patients with established right ventricular dysfunction in patients with a change in clinical status; OR
• Evaluation of right ventricular function in patients with pulmonary hypertension; OR
• Evaluation of right ventricular function in patients with diagnoses known to cause right ventricular dysfunction including but not limited to coronary artery disease, valvular heart disease, left ventricular dysfunction, congenital heart disease, morbid obesity, sleep apnea syndrome, advanced lung disease, pulmonary thromboembolic disease, and right ventricular dysplasia; OR
• Evaluation of right ventricular function in patients with myocardial infarction where right ventricular involvement is suspected; OR
• Evaluation of right ventricular function in patients who are being evaluated for or have undergone cardiac or lung Transplantation

Coronary artery disease (CAD) (applies to patients with established coronary artery disease)
• Recent (less than 3 weeks) acute coronary syndrome (myocardial infarction or unstable angina) for initial assessment of LV function
  o This study is usually done prior to discharge
  o Not required if left ventricular function has been assessed using another imaging modality; OR
• Prior acute coronary syndrome (myocardial infarction or unstable angina) for reevaluation of ventricular function during recovery phase (up to six [6] months following acute coronary syndrome); OR
• Prior acute coronary syndrome (myocardial infarction or unstable angina) for reevaluation of ventricular function after the recovery phase (more than six [6] months) in patients who develop new signs or symptoms suggestive of heart failure; OR
• Prior myocardial infarction for reevaluation of LV function in patients being considered for AICD or cardiac resynchronization therapy (CRT)

Congenital heart disease
• For detection and localization of shunts (ventricular septal defect [VSD], atrial septal defect [ASD], patent ductus arteriosus [PDA], anomalous pulmonary venous drainage)
Echocardiography is generally considered to be a preferable imaging modality in this clinical situation

- For evaluation of RV and/or LV function in a patient with established complex congenital heart disease

**Valvular heart disease**

- Established valvular heart disease in patients with new or worsening signs or symptoms
  - In patients with suspected valvular heart disease echocardiography is the appropriate initial imaging modality; OR
- Patients with severe asymptomatic aortic regurgitation to assist in optimal timing of aortic valve replacement
  - Rest and stress studies are appropriate in this clinical situation

**Prior Authorization Information**

Pre-service approval is required for all inpatient services for all products. See below for situations where prior authorization may be required or may not be required. Yes indicates that prior authorization is required. No indicates that prior authorization is not required. N/A indicates that this service is primarily performed in an inpatient setting.

<table>
<thead>
<tr>
<th>Outpatient</th>
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<tbody>
<tr>
<td><strong>Commercial Managed Care (HMO and POS)</strong></td>
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| Commercial PPO and Indemnity | The requirements of BCBSMA Radiology Management Program may require a precertification/prior authorization via AIM Specialty Health. |
|------------------------------| These requirements are member-specific: please verify member eligibility and requirements through Online Services by logging onto Provider Central (www.bluecrossma.com/provider). Refer to our Quick Tip to learn how to use technologies to determine if pre-certification or prior authorization applies. |
|------------------------------| Ordering clinicians should request pre-certification from AIM Specialty Health at www.aimspecialtyhealth.com or call 1-866-745-1783 (when applicable). |

| Medicare HMO BlueSM | The requirements of BCBSMA Radiology Management Program may require a precertification/prior authorization via AIM Specialty Health. |
|---------------------| These requirements are member-specific: please verify member eligibility and requirements through Online Services by logging onto Provider Central (www.bluecrossma.com/provider). Refer to our Quick Tip to learn how to use technologies to determine if pre-certification or prior authorization applies. |
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<tr>
<th>Medicare PPO BlueSM</th>
<th>No</th>
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CPT Codes / HCPCS Codes / ICD Codes

Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member’s contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

The following codes are included below for informational purposes only; this is not an all-inclusive list.

The above medical necessity criteria MUST be met for the following codes to be covered for Commercial Members: Managed Care (HMO and POS), PPO, Indemnity, Medicare HMO Blue and Medicare PPO Blue:

CPT Codes

<table>
<thead>
<tr>
<th>CPT codes:</th>
<th>Code Description</th>
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<tbody>
<tr>
<td>78472</td>
<td>Gated equilibrium; planar, single study, wall motion plus ejection fraction</td>
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<tr>
<td>78473</td>
<td>Gated equilibrium; planar, multiple studies, wall motion study plus ejection fraction</td>
</tr>
<tr>
<td>78481</td>
<td>First pass technique; single study, wall motion study plus ejection fraction</td>
</tr>
<tr>
<td>78483</td>
<td>First pass technique; multiple studies, wall motion study plus ejection fraction</td>
</tr>
<tr>
<td>78494</td>
<td>Gated equilibrium: SPECT, at rest, wall motion study plus ejection fraction</td>
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<tr>
<td>78496</td>
<td>Cardiac blood pool imaging, gated equilibrium, single study, at rest, with right ventricular ejection fraction by first pass technique (List separately in addition to code for primary procedure) This code is an add-on code to be used in conjunction with 78472. As such, this code does not require separate review</td>
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Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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<tr>
<td>5/2017</td>
<td>Prior Authorization Information clarified, 5/1/2017</td>
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Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

Medical Policy Terms of Use
Managed Care Guidelines
Indemnity/PPO Guidelines
Clinical Exception Process
Medical Technology Assessment Guidelines

References

N/A

Endnotes

1 Based on AIM Clinical Appropriateness Guidelines: Advanced Imaging: Cardiac Imaging. Effective Date: February 20, 2017.