Medical Policy
Heart Transplant

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Policy Number: 197
BCBSA Reference Number: 7.03.09

Related Policies
- Heart-Lung Transplant, #269
- Total Artificial Hearts and Ventricular Assist Devices, #280
- Laboratory Tests for Heart Transplant Rejection, #530
- Immune Cell Function Assay in Solid Organ Transplantation, #182

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

Human heart transplantation may be considered MEDICALLY NECESSARY for selected adults and children with end-stage heart failure when any one of the following criteria are met:

Adult Patients
1. Accepted Indications for Transplantation
   a. Hemodynamic compromise due to heart failure demonstrated by any of the following 3 bulleted items:
      - Maximal Vo₂ (oxygen consumption) <10 mL/kg/min with achievement of anaerobic metabolism
      - Refractory cardiogenic shock
      - Documented dependence on intravenous inotropic support to maintain adequate organ perfusion
      or
   b. Severe ischemia consistently limiting routine activity not amenable to bypass surgery or angioplasty, or
   c. Recurrent symptomatic ventricular arrhythmias refractory to ALL accepted therapeutic modalities.
2. Probable Indications for Cardiac Transplantation
   a. Maximal Vo₂ <14 mL/kg/min and major limitation of the patient’s activities, or
b. Recurrent unstable ischemia not amenable to bypass surgery or angioplasty, or
c. Instability of fluid balance/renal function not due to patient noncompliance with regimen of weight
monitoring, flexible use of diuretic drugs, and salt restriction.

3. The following conditions are inadequate indications for transplantation unless other factors as listed
above are present:
a. Ejection fraction <20%
b. History of functional class III or IV symptoms of heart failure
c. Previous ventricular arrhythmias
d. Maximal $V_{O_2} > 15 \text{ mL/kg/min.}$

**Pediatric Patients**

Patients with heart failure with persistent symptoms at rest who require one or more of the following:
- Continuous infusion of intravenous inotropic agents, or
- Mechanical ventilatory support, or
- Mechanical circulatory support, or

Patients with pediatric heart disease with symptoms of heart failure who do not meet the above criteria
but who have:
- Severe limitation of exercise and activity (if measurable, such patients would have a peak maximum
  oxygen consumption <50% predicted for age and sex); or
- Cardiomyopathies or previously repaired or palliated congenital heart disease and growth failure
  attributable to the heart disease; or
- Near sudden death and/or life-threatening arrhythmias untreatable with medications or an implantable
defibrillator; or
- Restrictive cardiomyopathy with reactive pulmonary hypertension; or
- Reactive pulmonary hypertension and risk of developing fixed, irreversible elevation of pulmonary
  vascular resistance that could preclude orthotopic heart transplantation in the future; or
- Anatomical and physiological conditions that lead to heart transplantation without systemic ventricular
dysfunction.

Heart retransplantation after a failed primary heart transplant may be considered **MEDICALLY NECESSARY**
in patients who meet criteria for heart transplantation.

Heart transplantation is **INVESTIGATIONAL** in all other situations.

In addition to the above information, we do not cover heart transplantation when any of the following
conditions are present:
- Known current malignancy, including metastatic cancer
- Recent malignancy with high risk of recurrence
  o Note: The assessment of risk of recurrence for a previously treated malignancy is made by the
    transplant team; providers must submit a statement with an explanation of why the patient with a
    recently treated malignancy is an appropriate candidate for a transplant.
- Untreated systemic infection making immunosuppression unsafe, including chronic infection
- Other irreversible end-stage disease not attributed to heart or lung disease
- History of cancer with a moderate risk of recurrence
- Systemic disease that could be exacerbated by immunosuppression
- Psychosocial conditions or chemical dependency affecting ability to adhere to therapy
- Pulmonary hypertension that is fixed as evidenced by pulmonary vascular resistance (PVR) greater
  than 5 Wood units, or transpulmonary gradient (TPG) greater than or equal to 16 mm/Hg despite
  treatment*
• Severe pulmonary disease despite optimal medical therapy, not expected to improve with heart transplantation*

*Some patients may be candidates for combined heart-lung transplantation (See policy #269).

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 for outpatient services. 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>
<th></th>
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</thead>
<tbody>
<tr>
<td>Commercial Managed Care (HMO and POS)</td>
<td>N/A</td>
</tr>
<tr>
<td>Commercial PPO and Indemnity</td>
<td>N/A</td>
</tr>
<tr>
<td>Medicare HMO Blue*SM</td>
<td>N/A</td>
</tr>
<tr>
<td>Medicare PPO Blue*SM</td>
<td>N/A</td>
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</tbody>
</table>

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>33945</td>
<td>Heart transplant, with or without recipient cardiectomy</td>
</tr>
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</table>

ICD-9 Procedure Codes

<table>
<thead>
<tr>
<th>ICD-9-CM procedure codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.51</td>
<td>Heart transplantation</td>
</tr>
</tbody>
</table>

ICD-10 Procedure Codes

<table>
<thead>
<tr>
<th>ICD-10-PCS procedure codes</th>
<th>Code Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02YA0Z0</td>
<td>Transplantation of Heart, Allogeneic, Open Approach</td>
</tr>
<tr>
<td>02YA0Z1</td>
<td>Transplantation of Heart, Syngeneic, Open Approach</td>
</tr>
</tbody>
</table>
Description
A heart transplant consists of replacing a diseased heart with a healthy donor heart. Transplantation is used for patients with refractory end-stage cardiac disease.

Heart failure may be the consequence of a number of differing etiologies, including ischemic heart disease, cardiomyopathy, or congenital heart defects. The reduction of cardiac output is considered to be severe when systemic circulation cannot meet the body’s needs under minimal exertion.

Summary
The literature, consisting of case series and registry data, continues to demonstrate that heart transplantation provides a survival benefit in appropriately selected patients, compared to the exceedingly poor expected survival without transplantation. Despite an improvement in prognosis for many patients with advanced heart disease, heart transplant remains a viable treatment for those who have exhausted other medical or surgical remedies, yet remain in end-stage disease. Heart transplantation is contraindicated in patients in whom the procedure is expected to be futile due to comorbid disease or in whom post-transplantation care is expected to significantly worsen comorbid conditions.

Policy History

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
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<tbody>
<tr>
<td>1/2016</td>
<td>New references added from BCBSA National medical policy.</td>
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<tr>
<td>11/2015</td>
<td>Added coding language.</td>
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<tr>
<td>12/2014</td>
<td>New references added to BCBSA National medical policy.</td>
</tr>
<tr>
<td>6/2014</td>
<td>Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.</td>
</tr>
<tr>
<td>12/2013</td>
<td>Removed ICD-9 diagnosis codes as this policy requires prior authorization</td>
</tr>
<tr>
<td>3/22/2011</td>
<td>Clarified medical necessity criteria based on revision of the BCBSA policy.</td>
</tr>
<tr>
<td>5/20/2010</td>
<td>Updated to clarify and reword when services are not covered section. No changes to policy statement.</td>
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<tr>
<td>3/2010</td>
<td>National Policy Review # 7.03.09. Revision to policy statement.</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
1. United Network for Organ Sharing (UNOS). Organ distribution: allocation of thoracic organs. UNOS Policies and Bylaws. 2009 (June 26);