



MASSACHUSETTS

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Medical Policy

Heart/Lung Transplant

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Policy Number: 269

BCBSA Reference Number: 7.03.08 (For Plan internal use only)

NCD/LCD: N/A

Related Policies

- Heart Transplant, #[197](#)
- Lung and Lobar Lung Transplantation, #[015](#)

Policy

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

Heart-lung transplantation may be **MEDICALLY NECESSARY** for carefully selected individuals with end-stage cardiac and pulmonary disease including, but not limited to, one of the following diagnoses:

- Irreversible primary pulmonary hypertension with heart failure **OR**
- Non-specific severe pulmonary fibrosis **OR**
- Eisenmenger complex with irreversible pulmonary hypertension and heart failure **OR**
- Cystic fibrosis with severe heart failure **OR**
- Chronic obstructive pulmonary disease with heart failure **OR**
- Emphysema with severe heart failure, **OR**
- Pulmonary fibrosis with uncontrollable pulmonary hypertension or heart failure.

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

Heart/lung transplantation is considered **INVESTIGATIONAL** in all other situations.

In addition to the above information, we do not cover heart/lung transplantation when any of the following conditions are present:

- Known current malignancy, including metastatic cancer
- Recent malignancy with high risk of recurrence
 - 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

Harvesting of the donor's organ is **MEDICALLY NECESSARY** when the donor is not a member, as long as the recipient is a member. Harvesting is defined to include the surgical removal of the donor's organ and related medically necessary services and/or tests that are required to perform the transplant itself.

Prior Authorization Information

Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

| | Outpatient |
|--|---|
| Commercial Managed Care (HMO and POS) | This procedure is performed in the inpatient setting. |
| Commercial PPO and Indemnity | This procedure is performed in the inpatient setting. |
| Medicare HMO BlueSM | This procedure is performed in the inpatient setting. |
| Medicare PPO BlueSM | This procedure is performed in the inpatient setting. |

Medicare Managed Care and Medicare PPO members, who meet the coverage criteria for heart-lung transplantation, must be referred to a Medicare certified transplant facility.

Medicare Certified Transplant Facilities:

<http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandCompliance/downloads/ApprovedTransplantPrograms.pdf>

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.

CPT Codes

| CPT codes: | Code Description |
|------------|--|
| 33935 | Heart-lung transplant with recipient cardiectomy-pneumonectomy |

ICD-10 Procedure Codes

| ICD-10-PCS procedure codes: | Code Description |
|-----------------------------|---|
| 0BYK0Z0 | Transplantation of Right Lung, Allogeneic, Open Approach |
| 02YA0Z0 | Transplantation of Heart, Allogeneic, Open Approach |
| 02YA0Z1 | Transplantation of Heart, Syngeneic, Open Approach |
| 0BYL0Z0 | Transplantation of Left Lung, Allogeneic, Open Approach |
| 0BYM0Z0 | Transplantation of Bilateral Lungs, Allogeneic, Open Approach |
| 0BYM0Z1 | Transplantation of Bilateral Lungs, Syngeneic, Open Approach |

Description

Solid organ transplantation offers a treatment option for patients with different types of end-stage organ failure that can be lifesaving or provide significant improvements to a patient's quality of life.¹ Many advances have been made in the last several decades to reduce perioperative complications. Available data supports improvement in long-term survival as well as improved quality of life particularly for liver, kidney, pancreas, heart, and lung transplants. Allograft rejection remains a key early and late complication risk for any organ transplantation. Transplant recipients require life-long immunosuppression to prevent rejection. Patients are prioritized for transplant by mortality risk and severity of illness criteria developed by Organ Procurement and Transplantation Network and United Network of Organ Sharing.

Most heart/lung transplant recipients have Eisenmenger syndrome (37%), followed by idiopathic pulmonary artery hypertension (28%) and cystic fibrosis (14%). Eisenmenger syndrome is a form of congenital heart disease in which systemic-to-pulmonary shunting leads to pulmonary vascular resistance. It is possible that pulmonary hypertension could lead to a reversal of the intracardiac shunting and inadequate peripheral oxygenation or cyanosis.²

Heart/Lung Transplant

Combined heart/lung transplantation is intended to prolong survival and improve function in patients with end-stage cardiac and pulmonary diseases. Due to corrective surgical techniques and improved medical management of pulmonary hypertension, the total number of patients with Eisenmenger syndrome has seen a decline in recent years. Additionally, heart/lung transplants have not increased appreciably, but for other indications, it has become more common to transplant a single or double lung and maximize medical therapy for heart failure, rather than perform a combined transplant. For those indications, patient survival rates following heart/lung transplantations are similar to lung transplant rates. Bronchiolitis obliterans syndrome is a major complication. One-, 5-, and 10-year patient survival rates for heart/lung transplants performed between 1982 and 2014 were estimated at 63%, 45%, and 32%, respectively.³

In 2022, 42,889 transplants were performed in the United States procured from 36,421 deceased donors and 6468 living donors.⁴ Of these 42,889 transplants, 51 individuals received heart/lung transplants in the US in 2022 (total 1486 heart-lung transplants done to date in US). As of June 2023, 36 patients were on the waiting list for heart/lung transplants.

Summary

Heart/lung transplantation involves a coordinated triple operative procedure consisting of procurement of a donor heart/lung block, excision of the heart and lungs of the recipient, and implantation of the heart and lungs into the recipient. Heart/lung transplantation refers to the transplantation of 1 or both lungs and heart from a single cadaver donor.

Summary of Evidence

For individuals who have end-stage cardiac and pulmonary disease who receive combined heart/lung transplant, the evidence includes case series and registry data. Relevant outcomes are overall survival, symptoms, morbid events, and treatment-related morbidity and mortality. The available literature reports on outcomes after heart/lung transplantation. Given the exceedingly poor expected survival rates without transplantation, this evidence is sufficient to demonstrate that heart/lung transplantation provides a survival benefit in appropriately selected patients. A transplant may be the only option for some patients with end-stage cardiopulmonary disease. Heart/lung transplant is contraindicated for patients in whom the procedure is expected to be futile due to comorbid disease or for whom post-transplantation care is expected to worsen comorbid conditions significantly. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have a combined heart/lung transplant complicated by graft failure or severe dysfunction of the heart/lung and who receive a combined heart/lung retransplant, the evidence includes case series and registry data. Relevant outcomes are overall survival, symptoms, morbid events, and treatment-related morbidity and mortality. A very limited amount of data has suggested that, after controlling for confounding variables, survival rates after primary and repeat heart/lung transplants are similar. Findings are inconclusive due to the small number of cases of repeat heart/lung transplants

reported in the published literature. Repeat heart/lung transplantation is, however, likely to improve outcomes in patients with a prior failed transplant who meet the clinical criteria for heart/lung transplantation. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

Policy History

| Date | Action |
|----------------|--|
| 10/2023 | Annual policy review. Description, summary, and references updated. Policy statements unchanged. |
| 10/2022 | Annual policy review. Reference added. Minor editorial refinements to policy statements; intent unchanged. |
| 9/2021 | Annual policy review. Policy statements unchanged. |
| 10/2020 | Annual policy review. Description, summary, and references updated. Policy statements unchanged. |
| 10/2019 | Annual policy review. Description, summary, and references updated. Policy statements unchanged. |
| 10/2018 | Annual policy review. Description, summary, and references updated. Policy statements unchanged. |
| 11/2017 | Annual policy review. New references added. |
| 1/2016 | Annual policy review. New references added. |
| 12/2014 | Annual policy review. New references added. |
| 10/2014 | Medical policy remediation: New indications for non-coverage. Clarified coding information. Effective 10/1/2014. |
| 6/2014 | Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015. |
| 4/2014 | Annual policy review. New medically necessary and investigational indications described. Effective 4/1/2014. |
| 11/2011-4/2012 | Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements. |
| 10/2011 | Reviewed - Medical Policy Group – Gastroenterology, Nutrition, and Organ Transplantation. No changes to policy statements. |
| 3/22/2011 | Annual policy review. No changes to policy statement. |
| 11/2010 | Reviewed - Medical Policy Group – Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements. |
| 11/2009 | Reviewed - Medical Policy Group – Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements. |
| 9/2009 | Annual policy review. No changes to policy statements. |
| 11/2008 | Reviewed - Medical Policy Group – Gastroenterology, Nutrition, Organ Transplantation No changes to policy statements. |
| 8/2008 | Annual policy review. No changes to policy statements. |
| 11/2007 | Reviewed - Medical Policy Group – Gastroenterology, Nutrition, Organ Transplantation. No changes to policy statements. |
| 11/2006 | Reviewed - Medical Policy Group – Gastroenterology, Nutrition, Organ Transplantation. No changes to policy statements. |

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](#)

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