Lung Volume Reduction

The policy is final. No further literature review is scheduled.

Description

Lung volume reduction surgery (LVRS) (also known as reduction pneumoplasty, lung shaving, or lung contouring) is a surgical treatment for patients with severe emphysema involving the excision of peripheral emphysematous lung tissue, generally from both upper lobes, but may be from upper and lower lobes. The exact mechanism of clinical improvement for patients undergoing lung reduction surgery has not been established. However, it is believed that elastic recoil and diaphragmatic function are improved by reducing the volume of the diseased lung. In addition to changes in chest wall and respiratory mechanics, the surgery is purported to correct ventilation perfusion mismatch and improve right ventricular filling.

The treatment is palliative, not curative, and is intended to relieve dyspnea and improve functional status and quality of life in patients severe emphysema. Patients continue to have severe emphysema and most patients will show further progression of their disease over time.

Lung volume reduction surgery is typically used for patients with:

- CT scan showing evidence of severe upper lobe predominant emphysema OR severe non-upper lobe emphysema with low exercise capacity; and
- BMI < 31.1 kg/m² for men; < 32.3 kg/m² for women; and
- forced expiratory volume in one second (FEV-1) ≤ 45% of predicted > 15% of predicted if age ≥ 70 years; and
- total lung capacity > 100% predicted post-bronchodilator and have a residual volume ≥ 150% predicted post-bronchodilator; and
- PCO-2 ≤ 60 mm Hg (< 55 mm Hg if one mile above sea level); and
- PO-2 ≥ 45 mm Hg on room air (> 30 mm Hg if one mile above sea level); and
- at least a 4 month abstinence from smoking; and
- low exercise capacity (post-rehabilitation 6 minute walk of ≥ 140 meters; able to complete 3 minute unloaded pedaling in exercise tolerance test [pre- and post-rehabilitation]); and
- all existing medical conditions have been considered and in the judgment of the treating clinicians, do not pose an unacceptable risk.

Medical Criteria:

None, as this is a reimbursement policy.

Policy:

Lung volume reduction surgery is covered for patients with severe emphysema.

Coverage:

Benefits may vary among groups. Please refer to the appropriate member certificate/subscriber agreement/Rite Care contract for applicable surgery benefits/coverage.

Coding:

32491

G0302 Pre-operative pulmonary surgery services for preparation for LVRS, complete course of services, to include a minimum of 16 days of services
G0303 Pre-operative pulmonary surgery services for preparation for LVRS, 10 to 15 days of services

G0304 Pre-operative pulmonary surgery services for preparation for LVRS, 1 to 9 days of services

G0305 Post-discharge pulmonary surgery services after LVRS, minimum of 6 days of services

Published:

Policy Update, July 1997
Provider Update, June 2008

References:

Blue Cross Blue Shield Association (BCBSA), Technology Evaluation Center (TEC). Lung volume reduction surgery for severe emphysema. TEC Assessment Program. Chicago, IL: BCBSA; December 2003; 18 (17).


National Emphysema Treatment Trial Research Group, "Cost Effectiveness of Lung-Volume Reduction Surgery for Patients with Severe Emphysema, New England Journal of Medicine, 2003 0: NEMJsa030448


This medical policy is made available to you for informational purposes only. It is not a guarantee of payment or a substitute for your medical judgement in the treatment of your patients. Benefits and eligibility are determined by the member's subscriber agreement or member certificate and/or the employer agreement, and those documents will supersede the provisions of this medical policy. For information on member-specific benefits, call the provider call center. If you provide services to a member which are determined to not be medically necessary (or in some cases medically necessary services which are non-covered benefits), you may not charge the member for the services unless you have informed the member and they have agreed in writing in advance to continue with the treatment at their own expense. Please refer to your participation agreement(s) for the applicable provisions.

This policy is current at the time of publication; however, medical practices, technology, and knowledge are constantly changing. BCBSRI reserves the right to review and revise this policy for any reason and at any time, with or without notice.