

Lung Volume Reduction Surgery (Reduction Pneumoplasty) (NCD 240.1)

Policy Number	240.1	Approved By	UnitedHealthcare Medicare Reimbursement Policy Committee	Current Approval Date	05/14/2014
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IMPORTANT NOTE ABOUT THIS REIMBURSEMENT POLICY

This policy is applicable to UnitedHealthcare Medicare Advantage Plans offered by UnitedHealthcare and its affiliates.

You are responsible for submission of accurate claims. This reimbursement policy is intended to ensure that you are reimbursed based on the code or codes that correctly describe the health care services provided. UnitedHealthcare reimbursement policies use Current Procedural Terminology (CPT®*), Centers for Medicare and Medicaid Services (CMS), or other coding guidelines. References to CPT or other sources are for definitional purposes only and do not imply any right to reimbursement.

This reimbursement policy applies to all health care services billed on CMS 1500 forms and, when specified, to those billed on UB04 forms (CMS 1450). Coding methodology, industry-standard reimbursement logic, regulatory requirements, benefits design and other factors are considered in developing reimbursement policy.

This information is intended to serve only as a general resource regarding UnitedHealthcare's reimbursement policy for the services described and is not intended to address every aspect of a reimbursement situation. Accordingly, UnitedHealthcare may use reasonable discretion in interpreting and applying this policy to health care services provided in a particular case. Further, the policy does not address all issues related to reimbursement for health care services provided to UnitedHealthcare enrollees. Other factors affecting reimbursement may supplement, modify or, in some cases, supersede this policy. These factors may include, but are not limited to: legislative mandates, the physician or other provider contracts, and/or the enrollee's benefit coverage documents. Finally, this policy may not be implemented exactly the same way on the different electronic claims processing systems used by UnitedHealthcare due to programming or other constraints; however, UnitedHealthcare strives to minimize these variations.

UnitedHealthcare may modify this reimbursement policy at any time by publishing a new version of the policy on this Website. However, the information presented in this policy is accurate and current as of the date of publication.

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Application

This reimbursement policy applies to services reported using the Health Insurance Claim Form CMS-1500 or its electronic equivalent or its successor form, and services reported using facility claim form CMS-1450 or its

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electronic equivalent or its successor form. This policy applies to all products, all network and non-network physicians, and other health care professionals.

The HCPCS/CPT code(s) may be subject to Correct Coding Initiative (CCI) edits. This policy does not take precedence over CCI edits. Please refer to the CCI for correct coding guidelines and specific applicable code combinations prior to billing UnitedHealthcare. It is not enough to link the procedure code to a correct, payable ICD-9-CM diagnosis code. The diagnosis must be present for the procedure to be paid. Compliance with the provisions in this policy is subject to monitoring by pre-payment review and/or post-payment data analysis and subsequent medical review. The effective date of changes/additions/deletions to this policy is the committee meeting date unless otherwise indicated. CPT codes and descriptions are copyright 2010 American Medical Association (or such other date of publication of CPT). All rights reserved. CPT is a registered trademark of the American Medical Association. Applicable FARS/DFARS restrictions apply to Government use. Fee schedules, relative value units, conversion factors, and/or related components are not assigned by the AMA, are not part of CPT, and the AMA is not recommending their use. The AMA does not directly or indirectly practice medicine or dispense medical services. The AMA assumes no liability for data contained or not contained herein. Current Dental Terminology (CDT), including procedure codes, nomenclature, descriptors, and other data contained therein, is copyright by the American Dental Association, 2002, 2004. All rights reserved. CDT is a registered trademark of the American Dental Association. Applicable FARS/DFARS apply.

Summary

Overview

Lung volume reduction surgery (LVRS) or reduction pneumoplasty, also referred to as lung shaving or lung contouring, is performed on patients with severe emphysema in order to allow the remaining compressed lung to expand, and thus, improve respiratory function. Medicare-covered LVRS approaches are limited to bilateral excision of a damaged lung with stapling performed via median sternotomy or video-assisted thoracoscopic surgery.

Reimbursement Guidelines

Nationally Covered Indications

Effective for services performed on or after January 1, 2004 Medicare will only consider LVRS reasonable and necessary when all of the following requirements are met (note varying dates for facility criteria in section 3. below):

1. The patient satisfies all the criteria outlined below:

Assessment Criteria

History and physical examination:

Consistent with emphysema

BMI, ≤ 31.1 kg/m² (men) or ≤ 32.3 kg/m² (women)

Stable with ≤ 20 mg prednisone (or equivalent) qd

Radiographic:

High Resolution Computer Tomography (HRCT) scan evidence of bilateral emphysema

Pulmonary function (pre-rehabilitation):

Forced expiratory volume in one second (FEV₁) $\leq 45\%$ predicted $\geq 15\%$ predicted if age ≥ 70 years)

Total lung capacity (TLC) $\geq 100\%$ predicted post-bronchodilator

Residual volume (RV) $\geq 150\%$ predicted post-bronchodilator

Arterial blood gas level (pre-rehabilitation):

PCO₂, ≤ 60 mm Hg (PCO₂, ≤ 55 mm Hg if 1-mile above sea level)

PO₂, ≥ 45 mm Hg on room air (PO₂, ≥ 30 mm Hg if 1-mile above sea level)

Cardiac assessment:

Approval for surgery by cardiologist if any of the following are present: Unstable angina; left-ventricular ejection fraction (LVEF) cannot be estimated from the echocardiogram; LVEF $< 45\%$; dobutamine-radionuclide cardiac scan indicates coronary artery disease or ventricular dysfunction; arrhythmia (> 5

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premature ventricular contractions per minute; cardiac rhythm other than sinus; premature ventricular contractions on EKG at rest)

Surgical assessment:

Approval for surgery by pulmonary physician, thoracic surgeon, and anesthesiologist post-rehabilitation

Exercise:

Post-rehabilitation 6-min walk of ≥ 140 m; able to complete 3 min unloaded pedaling in exercise tolerance test (pre- and post-rehabilitation)

Consent:

Signed consents for screening and rehabilitation

Smoking:

Plasma cotinine level ≤ 13.7 ng/mL (or arterial carboxyhemoglobin $\leq 2.5\%$ if using nicotine products)

Nonsmoking for 4 months prior to initial interview and throughout evaluation for surgery

Preoperative diagnostic and therapeutic program adherence:

Must complete assessment for and program of preoperative services in preparation for surgery

2. In addition, the patient must have:

- Severe upper lobe predominant emphysema (as defined by radiologist assessment of upper lobe predominance on CT scan), or
- Severe non-upper lobe emphysema with low exercise capacity.

Patients with low exercise capacity are those whose maximal exercise capacity is at or below 25 watts for women and 40 watts (w) for men after completion of the preoperative therapeutic program in preparation for LVRS. Exercise capacity is measured by incremental, maximal, symptom-limited exercise with a cycle ergometer utilizing 5 or 10 watt/minute ramp on 30% oxygen after 3 minutes of unloaded pedaling.

3. Effective for services performed on or after November 17, 2005, CMS determines that LVRS is reasonable and necessary when performed at facilities that are:

(1) certified by the Joint Commission on Accreditation of Healthcare Organizations (Joint Commission) under the LVRS Disease Specific Care Certification Program (program standards and requirements as printed in the Joint Commission's October 25, 2004, Disease Specific Care Certification Program packet); or (2) approved as Medicare lung or heart-lung transplantation hospitals.

In addition, LVRS performed between January 1, 2004, and May 17, 2007, is reasonable and necessary when performed at facilities that: (1) were approved by the National Heart Lung and Blood Institute to participate in the National Emphysema Treatment Trial (NETT); or (2) are approved as Medicare lung or heart-lung transplantation hospitals.

A list of approved facilities and their approval dates will be listed and maintained on the CMS Web site at http://www.cms.gov/MedicareApprovedFacilitie/04_lvrs.asp#TopOfPage.

The surgery must be preceded and followed by a program of diagnostic and therapeutic services consistent with those provided in the NETT and designed to maximize the patient's potential to successfully undergo and recover from surgery. The program must include a 6- to 10-week series of at least 16, and no more than 20, preoperative sessions, each lasting a minimum of 2 hours. It must also include at least 6, and no more than 10, postoperative sessions, each lasting a minimum of 2 hours, within 8 to 9 weeks of the LVRS. This program must be consistent with the care plan developed by the treating physician following performance of a comprehensive evaluation of the patient's medical, psychosocial and nutritional needs, be consistent with the preoperative and postoperative services provided in the NETT, and arranged, monitored, and performed under the coordination of the facility where the surgery takes place.

Nationally Non-covered Indications

1. LVRS is not covered in any of the following clinical circumstances:

- a. Patient characteristics carry a high risk for perioperative morbidity and/or mortality;
- b. The disease is unsuitable for LVRS;
- c. Medical conditions or other circumstances make it likely that the patient will be unable to complete the preoperative and postoperative pulmonary diagnostic and therapeutic program required for surgery;

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- d. The patient presents with $FEV1 \leq 20\%$ of predicted value, and either homogeneous distribution of emphysema on CT scan, or carbon monoxide diffusing capacity of $\leq 20\%$ of predicted value (high-risk group identified October 2001 by the NETT); or
 - e. The patient satisfies the criteria outlined above in section B (1), and has severe, non-upper lobe emphysema with high exercise capacity. High exercise capacity is defined as a maximal workload at the completion of the preoperative diagnostic and therapeutic program that is above 25 w for women and 40 w for men (under the measurement conditions for cycle ergometry specified above).
2. All other indications for LVRS not otherwise specified remain noncovered.

CPT/HCPCS Codes

Code	Description
32491	Removal of lung, other than pneumonectomy; with resection-plication of emphysematous lung(s) (bullous or non-bullous) for lung volume reduction, sternal split or transthoracic approach, includes any pleural procedure, when performed
G0302	Preoperative pulmonary surgery services for preparation for LVRS, complete course of services, to include a minimum of 16 days of services
G0303	Preoperative pulmonary surgery services for preparation for LVRS, 10 to 15 days of services
G0304	Preoperative 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

ICP/PCS Codes

ICP Code	Description	PCS Code	Description
32.22	Lung volume reduction surgery	0B5K0ZZ	Destruction of Right Lung, Open Approach
		0B5K3ZZ	Destruction of Right Lung, Percutaneous Approach
		0B5K7ZZ	Destruction of Right Lung, Via Natural or Artificial Opening
		0B5L0ZZ	Destruction of Left Lung, Open Approach
		0B5L3ZZ	Destruction of Left Lung, Percutaneous Approach
		0B5L7ZZ	Destruction of Left Lung, Via Natural or Artificial Opening
		0B5M0ZZ	Destruction of Bilateral Lungs, Open Approach
		0B5M3ZZ	Destruction of Bilateral Lungs, Percutaneous Approach
		0B5M7ZZ	Destruction of Bilateral Lungs, Via Natural or Artificial Opening
		0BBK0ZZ	Excision of Right Lung, Open Approach
		0BBK3ZZ	Excision of Right Lung, Percutaneous Approach
		0BBK7ZZ	Excision of Right Lung, Via Natural or Artificial Opening
		0BBL0ZZ	Excision of Left Lung, Open Approach

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		0BBL3ZZ	Excision of Left Lung, Percutaneous Approach
		0BBL7ZZ	Excision of Left Lung, Via Natural or Artificial Opening
		0BBM0ZZ	Excision of Bilateral Lungs, Open Approach
		0BBM3ZZ	Excision of Bilateral Lungs, Percutaneous Approach
		0BBM7ZZ	Excision of Bilateral Lungs, Via Natural or Artificial Opening

References Included (but not limited to):

CMS NCD

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CMS LCD(s)

Numerous LCDs

CMS Article

One Article

CMS Claims Processing Manual

Chapter 3; § 100.7 Lung Volume Reduction Surgery

Chapter 4; § 310 Lung Volume Reduction Surgery

CMS Transmittals

Transmittal 768, Change Request 4149, Dated 12/02/2005 (Lung Volume Reduction Surgery)

Transmittal 44, Change Request 4149, Dated 12/02/2005 (Lung Volume Reduction Surgery)

Transmittal 3, Change Request 2688, Dated 11/04/2003 (Lung Volume Reduction Surgery)

UnitedHealthcare Medicare Advantage Coverage Summaries

Lung Volume Reduction Surgery (LVRS)

UnitedHealthcare Medical Policies

Omnibus Codes

History

Date	Revisions
05/14/2014	<ul style="list-style-type: none"> Annual review No changes
04/10/2013	Administrative updates
09/14/2011	Administrative updates