

## Evidence Based Guideline

# Chronic Pulmonary Thromboendarterectomy

**File Name:** chronic\_pulmonary\_thromboendarterectomy

**Guideline Number:** EBG.SUR6127

**Origination:** 12/2000

**Last Review:** 11/2003

**Active guideline, no longer scheduled for routine literature review.**

### Description of Procedure or Service

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Chronic obstruction of the large [pulmonary](#) arteries by persistent (> 6 months) emboli is a potentially treatable cause of pulmonary hypertension and right-sided heart failure. Fibrotic masses in major pulmonary arteries may result when a pulmonary [thrombus](#) fail to resolve normally, ultimately leading to pulmonary hypertension or elevated arterial blood pressure. Other factors such as age of the [embolus](#) or defects in the fibrinolytic system may also be important. In many cases there is no documented history of embolization. Early diagnosis is difficult since the patients are rarely symptomatic until the development of pulmonary hypertension and right-sided heart failure. Even then diagnosis can be difficult and depends on a high index of suspicion, ventilation/perfusion scans, and careful and experienced interpretation of pulmonary angiograms.

Over the last 2 decades, Moser and colleagues at the University of California at San Diego (UCSD) have developed a technique for surgical removal of the obstructing thromboemboli, as a curative alternative to lung transplantation. The surgery involves cardiopulmonary bypass, and since the obstruction is typically bilateral, the surgical approach requires a median sternotomy. A vena cava filter is usually placed to prevent recurrence of emboli.

### Evidence Based Guideline for Chronic Pulmonary Thromboendarterectomy

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Pulmonary Thromboendarterectomy may be appropriate for the treatment of chronic thromboembolic obstruction due to fibrosed pulmonary emboli involving the pulmonary arteries.

Typical patient selection criteria for this procedure include New York Heart Association Class III or IV, a mean pulmonary artery pressure above 30 mm Hg, or a pulmonary vascular resistance of greater than 300 hynes/sec/cm<sup>2</sup>.

#### New York Heart Association (NYHA) Functional Classification

Class I	Ordinary physical activity does not cause symptoms
Class II	Comfortable at rest, ordinary physical activity causes symptoms
Class III	Comfortable at rest, less than ordinary activity causes symptoms
Class IV	Symptoms at rest

## Policy: Chronic Pulmonary Thromboendarterectomy

### Medical Evidence regarding Chronic Pulmonary Thromboendarterectomy indicates it is not recommended in the following situations:

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When the criteria noted above are not met.

### Benefits Application

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Please refer to certificate for availability of benefit. This guideline relates only to the services or supplies described herein. Benefits may vary according to benefit design; therefore certificate language should be reviewed before applying the terms of the policy.

### Billing/Coding/Physician Documentation Information

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This policy may apply to the following codes. Inclusion of a code in this section does not guarantee that it will be reimbursed. For further information on reimbursement guidelines, please see Administrative Policies on the Blue Cross Blue Shield of North Carolina web site at [www.bcbsnc.com](http://www.bcbsnc.com). They are listed in the Category Search on the Medical Policy search page.

*Applicable codes: 33910, 33915, 33916*

### Medical Term Definitions

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#### **Embolus**

material, usually a blood clot, but it may be fat, bone, air, or a fragment, that travels through the circulation. It is forced into a smaller vessel and obstructs the blood flow in that vessel.

#### **Pulmonary**

pertains to the lungs.

#### **Thrombus**

a clot, frequently causing obstruction in a blood vessel at the point where it formed.

### Scientific Background and Reference Sources

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BCBSA Medical Policy Reference Manual; 4/1/98

World Journal of Surgery 1999, Nov;23 (11):1137-47; "Surgery for chronic thromboembolic pulmonary hypertension"; Hartz RS, Department of Surgery, Division of Cardiothoracic Surgery, Tulane University Medical School, 1430 Tulane Avenue, New Orleans, Louisiana 70112, USA.

Medline Search 2000 - "Indications for and the results of pulmonary thromboendarterectomy for thromboembolic pulmonary hypertension"; Seminar Vascular Surgery 2000, Sep; 13 (3): 226-44; Jamieson SW, Nomura K; Division of Cardiothoracic Surgery, UCSD Medical Center, San Diego, CA 92103, USA.

Specialty Matched Consultant Advisory Panel - 12/2001

BCBSA Medical Policy Reference Manual, 7.01.65, 4/15/02

Specialty Matched Consultant Advisory Panel - 11/2003

BCBSA Medical Policy Reference Manual [Electronic Version]. 7.01.65, 10/09/03

## Policy: Chronic Pulmonary Thromboendarterectomy

### Policy Implementation/Update Information

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- 12/2000 Original policy issued.
- 04/01 Changes in formatting.
- 12/01 Specialty Matched Consultant Advisory Panel review. Removed section from description describing the need for hypothermia. No change to criteria. New York Heart Association (NYHA) Functional Classification table added for clarification.
- 11/03 Specialty Matched Consultant Advisory Panel review. No change to policy criteria. Formatting changes for consistency. Status changed to Active policy, no longer scheduled for routine literature review."
- 8/28/06 Medical Policy changed to Evidence Based Guideline.

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Medical policy is not an authorization, certification, explanation of benefits or a contract. Benefits and eligibility are determined before medical guidelines and payment guidelines are applied. Benefits are determined by the group contract and subscriber certificate that is in effect at the time services are rendered. This document is solely provided for informational purposes only and is based on research of current medical literature and review of common medical practices in the treatment and diagnosis of disease. Medical practices and knowledge are constantly changing and BCBSNC reserves the right to review and revise its medical policies periodically.