

Evidence Based Guideline

Partial Left Ventriculectomy

File Name: partial_left_ventriculectomy
Origination: 5/1999
Last CAP Review: 11/2005
Next CAP Review: 6/2012
Last Review: 4/2012

Description of Procedure or Service

Partial left ventriculectomy (PLV) is a surgical procedure aimed at improving the hemodynamic status of patients with end-stage congestive heart failure (CHF) by directly reducing left ventricular size, and thereby improving the pump function of the left ventricle (LV).

This surgical approach to the treatment of CHF (also known as the Batista procedure, cardio-reduction, or left ventricular remodeling surgery) is primarily directed at patients with an underlying non-ischemic dilated cardiomyopathy. Initially, the procedure was intended for patients awaiting cardiac transplantation, either as a “bridge” to transplantation or as an alternative to transplantation. The theoretical rationale for this procedure is that by reducing left ventricular wall volume, LV wall tension is reduced and LV pumping function will be improved.

Treatment of heart failure is generally through lifestyle modifications and medications. Medications are effective for controlling the symptoms of heart failure, but progression of disease can still occur. For end-stage heart failure, consideration of cardiac transplantation is the main alternative. Ventricular assist devices (VADs) have been tested for this purpose, and total artificial hearts are also in development.

The original PLV procedure, as developed by Batista, involves a wide excision of the postero-lateral wall and apex of the heart and removal of a wedge-shaped portion of the left ventricle. PLV may be accompanied by repair of the mitral valve, either through valvuloplasty or annuloplasty. A variety of complications of PLV have been reported, including sudden death, progressive heart failure, arrhythmias, bleeding, renal failure, respiratory failure and infection. More recently, modifications have been suggested that remove the septal-anterior wall preferentially, also called anterior PLV. The decision on the optimal approach may be determined by the degree of fibrosis seen in the apex and lateral walls.

*****Note: This Evidence Based Guideline is complex and technical. For questions concerning the technical language and/or specific clinical indications for its use, please consult your physician.**

Evidence Based Guideline for Partial Left Ventriculectomy

The available evidence does not permit conclusions regarding the effect of partial left ventriculectomy on health outcomes. Therefore, this procedure is not recommended.

Medical Evidence regarding Partial Left Ventriculectomy indicates it is not recommended in the following situations

Some clinical series have reported improvement in ejection fraction and symptoms following PLV, however there is a lack of controlled trials comparing this procedure to alternative treatments. Perioperative mortality and complications are high and the improvements reported in symptoms may not

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be a result of the surgical procedure. The high rates of perioperative morbidity and mortality, the lack of demonstrated long-term outcome benefits, and the high relapse rates, have led to diminished enthusiasm for this procedure. As a result of the lack of evidence on benefits from the procedure, and the possibility of harms, PLV is not recommended.

Benefits Application

This guideline relates only to the services or supplies described herein. Please refer to the Member's Benefit Booklet for availability of benefits. Member's benefits may vary according to benefit design; therefore member benefit language should be reviewed before applying the terms of this medical guideline.

Billing/Coding/Physician Documentation Information

This guideline 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. They are listed in the Category Search on the Medical Policy search page.

Applicable codes: 33542

Scientific Background and Reference Sources

Technology Trends - April 1997

Technology Evaluation Center (TEC) Assessment Program, Volume 13, No. 4. April 1998

McCarthy JF, McCarthy PM, Starling RC. Partial left ventriculectomy and mitral valve repair for end stage congestive heart failure. *Eur J Cardiothorac Surg.* 1998;13(4):337-43.

Stolf NA, Moreira LF, Bocchi EA. Determinants of midterm outcome of partial left ventriculectomy in dilated cardiomyopathy. *Ann Thorac Surg.* 1998;66(5):1585-91.

Izzat MB, Yim AP, Wan S. A survey on partial left ventriculectomy in the Asia-Pacific region. *Ann Thorac Surg.* 1999;67(2):387-91.

Specialty Matched Consultant Advisory Panel 11/1999

Medical Policy Advisory Group 12/2/1999

Specialty Matched Consultant Advisory Panel - 12/2001

BCBSA Medical Policy Reference Manual, 2:2003, 7.01.66

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Centers for Medicare & Medicaid Services. National Coverage Determination 20.26. Retrieved 8/29/05 from http://www.cms.hhs.gov/mcd/viewncd.asp?ncd_id=20.26

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Hunt SA, Abraham WT, Chin MH, Feldman AM, Francis GS, Ganiats TG, et al. ACC/AHA 2005 guideline update for the diagnosis and management of chronic heart failure in the adult--summary article: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure). *Circulation*. 2005;112:1825-1852

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Medical Director review 3/2012

Policy Implementation/Update Information

- 5/99 Initial local policy written based on Literature review and TEC assessment.
- 7/99 Reformatted, Medical Term Definitions added.
- 12/99 Reaffirmed, Medical Policy Advisory Group
- 10/00 System coding changes.
- 12/01 Specialty Matched Consultant Advisory Panel review. No change in criteria.
- 11/03 Biannual policy review. Specialty Matched Consultant Advisory Panel review. No change to criteria. Format change for consistency.
- 8/26/04 CPT code 33416 deleted. CPT code 33542 added as consistent with BCBSA policy. No change to policy criteria. Code 33542 to be denied as investigational if determined, by operative report, to be a partial left ventriculectomy. Notification 8/26/2004. Effective 10/28/2004.
- 11/17/05 Biennial policy review. Specialty Matched Consultant Advisory Panel review 11/07/05. Added "Dynamic Cardiomyoplasty, Ventricular Reduction Surgery, Surgical Ventricular Restoration" to Key Words. Policy status changed to: "Active policy, no longer scheduled for routine literature review."
- 1/05/06 Added CPT code 33999 to Billing/Coding section.
- 9/18/06 Added CPT Code 33548 to Billing/Coding section. (adn)
- 10/30/06 References updated. Medical Policy reformatted and changed to Evidence Based Guideline. (adn)
- 4/27/10 Removed Policy Guideline number. Deleted CPT code 33548. New policy titled "Surgical Ventricular Restoration" initiated that is inclusive of CPT code 33548 (mco)
- 5/1/12 Guideline status revised to "active" and will undergo routine literature review. "Description" section updated. "Not Recommended" section updated. References updated. Medical Director review 4/2012. (mco)

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