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Subject: Partial Left Ventriculectomy and Surgical Ventricular Restoration

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DESCRIPTION:

Partial left ventriculectomy (also known as PLV, the Batista procedure, ventricular remodeling, heart reduction surgery, and wedge resection of the heart) is a surgical procedure aimed at improving the hemodynamic status of individuals with end-stage congestive heart failure (CHF) by directly reducing left ventricular size. This surgical approach to the treatment of CHF is primarily directed at individuals with an underlying dilated cardiomyopathy awaiting cardiac transplantation.

Surgical ventricular restoration [also known as SVR, the Dor procedure, left ventricular reconstruction, and surgical anterior ventricular endocardial restoration (SAVER)] is usually performed after coronary artery bypass grafting and may precede or be followed by mitral valve repair or replacement and other procedures such as endocardectomy and cryoablation for treatment of ventricular tachycardia.

Summary and Analysis of Evidence: There is insufficient published clinical evidence to support the safety and effectiveness of partial left ventriculectomy and surgical ventricular restoration. The National Institute of Clinical Excellence (NICE, 2004) concluded that "current evidence on the safety and efficacy of partial left ventriculectomy (PLV) does not appear adequate to support the use of this procedure without special arrangements for consent and for audit or research." A 2009 study (Jones et al) reported on the results of the Hypothesis 2 substudy of the Surgical Treatment for Ischemic Heart Failure (STICH) trial, the landmark study of the role of CABG and SVR in patients with ischemic heart disease and heart failure. The authors compared CABG alone with the combined procedure of CABG with surgical ventricular reconstruction in 1,000 patients with coronary artery disease. "Between September 2002 and January 2006, a total of 1000 patients with an ejection fraction of 35% or less, coronary artery disease that was amenable to CABG, and dominant anterior left ventricular dysfunction that was amenable to surgical ventricular reconstruction were randomly assigned to undergo either CABG alone (499 patients) or CABG with surgical ventricular reconstruction (501 patients). The primary outcome was

a composite of death from any cause and hospitalization for cardiac causes. The median follow-up was 48 months. Surgical ventricular reconstruction reduced the end-systolic volume index by 19%, as compared with a reduction of 6% with CABG alone. Cardiac symptoms and exercise tolerance improved from baseline to a similar degree in the two study groups. However, no significant difference was observed in the primary outcome, which occurred in 292 patients (59%) who were assigned to undergo CABG alone and in 289 patients (58%) who were assigned to undergo CABG with surgical ventricular reconstruction. Adding surgical ventricular reconstruction to CABG reduced the left ventricular volume, as compared with CABG alone. However, this anatomical change was not associated with a greater improvement in symptoms or exercise tolerance or with a reduction in the rate of death or hospitalization for cardiac causes.”

POSITION STATEMENT:

Partial left ventriculectomy is considered **experimental or investigational**. Data in published medical literature are inadequate to permit scientific conclusions on long-term and net health outcomes.

Surgical ventricular restoration is considered **experimental or investigational**. The available clinical evidence is insufficient to permit conclusions on safety and net health outcomes.

BILLING/CODING INFORMATION:

CPT Coding:

33542	Myocardial resection (e.g., ventricular aneurysmectomy) (noncovered if used to report partial left ventriculectomy/Batista procedure)
33548	Surgical ventricular restoration procedure, includes prosthetic patch, when performed (e.g., ventricular remodeling, SVR, SAVER, DOR procedures) (investigational)

NOTE: There is no specific code for partial left ventriculectomy (Batista procedure). CPT 33542 is sometimes reported for this procedure.

REIMBURSEMENT INFORMATION:

Refer to section entitled [POSITION STATEMENT](#).

PROGRAM EXCEPTIONS:

Federal Employee Program (FEP): Follow FEP guidelines.

State Account Organization (SAO): Follow SAO guidelines.

Medicare Advantage products: The following National Coverage Determination (NCD) was reviewed on the last guideline reviewed date: Partial Ventriculectomy (20.26) located at [cms.gov](https://www.cms.gov).

If this Medical Coverage Guideline contains a step therapy requirement, in compliance with Florida law 627.42393, members or providers may request a step therapy protocol exemption to this requirement if based on medical necessity. The process for requesting a protocol exemption can be found at [Coverage Protocol Exemption Request](#).

DEFINITIONS:

No guideline specific definitions apply.

RELATED GUIDELINES:

None applicable.

OTHER:

None applicable.

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COMMITTEE APPROVAL:

This Medical Coverage Guideline (MCG) was approved by the Florida Blue Medical Policy and Coverage Committee on 03/28/24.

GUIDELINE UPDATE INFORMATION:

12/15/02	Reformat, review & revision of original Medical Coverage Guideline (11/96).
12/15/03	Review and revision of guideline; consisting of updated references and maintaining investigational status.
12/15/04	Review and revision of guideline; consisting of updated references and maintaining investigational status.
01/01/06	Review and revision of guideline; consisting of updated references. Annual HCPCS coding update consisting of the addition of 33548.
11/15/06	Review and revision of guideline consisting of updated references and maintaining investigational status.
07/15/07	Review and revision of guideline consisting of updated references and reformatted guideline.
11/15/08	Review and revision of guideline consisting of updated references and changing name of MCG from "Partial Left Ventriculectomy" to "Partial Left Ventriculectomy and Surgical Ventricular Restoration".
11/15/09	Scheduled review; position statement unchanged, and updated references.
11/15/11	Scheduled review; position statement unchanged; coding section updated; references updated.
01/15/13	Annual review: position statement for partial left ventriculectomy revised; references updated.
05/11/14	Revision: Program Exceptions section updated.
09/15/18	Scheduled review. Revised description section, Maintain position statement. Updated program exceptions and references.

09/15/20	Scheduled review. Revised description. Maintained position statement and updated references.
06/15/22	Scheduled review. Maintained position statement and updated references.
05/23/23	Update to Program Exceptions section.
04/15/24	Scheduled review. Revised description, maintained position statement and updated references.