

Clinical Policy: Ventriculectomy and Cardiomyoplasty

Reference Number: LA.CP.MP.56

Last Review Date: 08/20

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Description

Guidelines to determine medical necessity for ventriculectomy and cardiomyoplasty procedures as a treatment for severe chronic heart failure.

Policy/Criteria

It is the policy of Louisiana Healthcare Connections that ventriculectomy (Batista procedure) and cardiomyoplasty procedures are considered experimental and/or investigational and are therefore not medically necessary.

Background

Heart failure is the final common path of myocardial dysfunction in most types of cardiac disease. Treatment options for heart failure include both medical and surgical therapy and surgical treatment, including ventricular assist devices (VADs), coronary revascularization, valve repair or replacement, total artificial heart, and heart transplantation. Heart transplantation has become the standard treatment for eligible patients with severe, irreversible biventricular failure unresponsive to medical or surgical treatment. Several surgical approaches have been explored as alternative treatments for patients with end-stage heart failure.

Surgical options to reduce the size of the enlarged left ventricle and improve cardiac function include partial left ventriculectomy, also known as the Batista procedure. Partial left ventriculectomy involves removing an elliptical section of the ventricle to improve cardiac output in patients who have severe chronic heart failure. Multiple studies have found minor improvements in measures of heart function and clinical status in the short term, with high mortality rates, high recurrences of symptomatic heart failure, and fatal arrhythmias (Stolf et al., 1998; Startling et al., 2000; Franco-Cereceda et al., 2001). As such, this procedure has fallen out of use (Fang, 2015).

Dynamic cardiomyoplasty is a surgical procedure in which a latissimus dorsi muscle flap is transposed into the chest and wrapped around the ventricles of the failing heart. This skeletal muscle flap is then electrically stimulated to contract in synchrony with ventricular systole. Over time, pacing of the skeletal muscle may produce morphologic, molecular and functional changes in the skeletal muscle, including notable reduction in muscle fatigue with repeated stimulation. Cardiomyoplasty has been found to be of some benefit to stage III heart failure patients; however, these patients could be well-managed with other interventions with less risk. Additionally, stage IV patients who have fewer effective interventions available had unacceptably high post-operative mortality risk (Leier, 1996) after cardiomyoplasty. Due to these considerations, this operation is very rarely used (Fang, 2015).

Coding Implications

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CPT® Codes	Description
33426	Valvuloplasty, mitral valve, with cardiopulmonary bypass; with prosthetic ring
33542	Myocardial resection (e.g., ventricular aneurysmectomy)
33548	Surgical ventricular restoration procedure, includes prosthetic patch, when performed (e.g., ventricular remodeling, SVR, SAVER, Dor procedures)

Reviews, Revisions, and Approvals	Date	Approval Date
Converted corporate to local policy.	08/15/2020	

References

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4. Hayes Health Technology Brief. Surgical Ventricular Restoration for Heart Failure. Lansdale, PA: Hayes, Inc.; 2014 Winifred S. Hayes, Inc. Dec 28, 2010. Archived Jan 28, 2014.
5. Leier CV. Cardiomyoplasty: is it time to wrap it up? *J Am Coll Cardiol.* 1996;28(5):1181.
6. National Institute for Clinical Excellence (NICE). "Partial left ventriculectomy (the Batista procedure)." *Interventional procedure guidance* 41. 25 February 2004
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8. Stolf NA, Moreira LF, Bocchi EA, et al. Determinants of midterm outcome of partial left ventriculectomy in dilated cardiomyopathy. *Ann Thorac Surg.* 1998; 66 (5):1585
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Important Reminder

This clinical policy has been developed by appropriately experienced and licensed health care professionals based on a review and consideration of currently available generally accepted standards of medical practice; peer-reviewed medical literature; government agency/program approval status; evidence-based guidelines and positions of leading national health professional organizations; views of physicians practicing in relevant clinical areas affected by this clinical policy; and other available clinical information. LHCC makes no representations and accepts no liability with respect to the content of any external information used or relied upon in developing this clinical policy. This clinical policy is consistent with standards of medical practice current at the time that this clinical policy was approved.

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