



GroupHealth®

## Clinical Review Criteria

### Lymphatic Venous Anastomosis (LVA) for the Treatment of Lymphedema

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#### Criteria

##### For Medicare Members

There is no special policy or code for this procedure.

##### For Non-Medicare Members

There is insufficient evidence in the published medical literature to show that this service/therapy is as safe as standard services/therapies and/or provides better long-term outcomes than current standard services/therapies.

The following information was used in the development of this document and is provided as background only. It is not to be used as coverage criteria. Please only refer to the criteria listed above for coverage determinations.

#### Background

Lymphedema is a condition of localized fluid retention and tissue swelling caused by impairment of the lymphatic transport capacity. Primary lymphedema occurs in patients with a congenital dysfunction or abnormality of the lymphatic system, while secondary lymphedema is an acquired condition that results from disruption or obstruction of the normal lymphatic system. The most common cause of secondary lymphedema in the U.S. is malignancies and their related treatment. The overall incidence of arm lymphedema can range from 8% to 56% within 2 years following surgery for breast cancer, depending on the extent of axillary node dissection and the use of radiotherapy. Breast cancer-related lymphedema (BCRL) is characterized by an abnormal accumulation of lymph in the interstitial spaces leading to swelling in the affected arm, shoulder, neck, breast, thoracic area, or any combination of these. The condition may develop gradually or suddenly, and can cause physical discomfort, pain, impaired function, and emotional distress (Damstra 2009, Fu 2009, Haghighat 2010).

There is no cure for lymphedema in terms of total subsidence of edema and restoration of the shape of the extremity. It may however, be controlled by a combination of conservative treatments that include meticulous skin care, manual lymph drainage, multilayer compression bandage, elastic compression garments, specialized massages, and physical therapy. The goal of these treatment modalities is to reduce capillary filtration, and improve drainage of interstitial fluid and macromolecules, which in turn reduces swelling, inflammation, and improves the quality of life. The effectiveness of conservative therapies is dependent on strict patient compliance, which is often poor due to the complex treatment regimens, and the life-long use of uncomfortable compressive garments that is required to prevent progression of the lymphedema (Olszewski 1988, Damstra 2009).

Surgical management of lymphedema is usually reserved for patients who are refractory to conventional measures. Traditional surgical management of lymphedema is divided into two categories: excisional and physiologic. Excisional or debulking surgery decreases the limb volume by resection. Complications associated with this type of surgery include poor wound healing, extensive scarring, ulceration, poor cosmetic outcome, sensory nerve damage, and worsening of edema. Surgical techniques that aim at restoring physiologic lymphatic function include lympho-venous-lymphatic (LVL) transplant, lymph vessels transplantation, and lymphovenous anastomosis (LVA) which is the most commonly used technique (Damstra 2009, Avraham 2010).

Lymphaticovenous shunt was first described for the surgical treatment of lymphedema by Nielubowicz and Olszewski in 1968. Since then, several modifications have been made, and different microsurgical techniques of the lymphatic venous anastomosis (LVA) were described. LVA involves anatomizing lymphatic vessels to a collateral branch of the main vein. The technique described by Campisi and colleagues (2010) involves performing multiple microsurgical LVA, by directly introducing healthy appearing lymphatics (at the site of the surgical operation) together into the vein by a U shaped stitch, then fixing them to the cut end of the vein by means of additional stitches between the vein border and the perilymphatic adipose tissue. With the use of Patent Blue dye, properly functioning lymphatics appear blue, and the passage of blue lymph into the vein branch verifies the

patency of the LVA under the operating microscope when the anastomosis is completed. For upper limb lymphedema, LVA is performed at the medium third of the flexor surface of the arm, using both superficial and deep lymphatic collectors, evidenced by the blue dye (Campisi 2001, 2010 Avraham 2010).

## Medical Technology Assessment Committee (MTAC)

### Lymphatic Venous Anastomosis

#### 06/20/2011: MTAC REVIEW

**Evidence Conclusion:** There is insufficient published evidence to determine the efficacy and safety of lymphatic venous anastomosis in the treatment breast cancer-related lymphedema.

**Articles:** The literature on the on lymphatic venous anastomosis (LVA) for the treatment of breast cancer-related lymphedema (BCRL) is very limited; the search did not reveal any meta-analyses or randomized controlled trials that evaluated efficacy or safety of the procedure. The empirical study published on the LVA for the treatment (BCRL) was a small case series with ten patients.

The use of lymphatic venous anastomosis (LVA) for the treatment of post-breast cancer lymphedema does not meet the *Group Health Medical Technology Assessment Criteria*.

Date Created	Date Reviewed	Date Last Revised
07/05/2011	07/05/2011 <sup>MDCRPC</sup> , 07/07/2015 <sup>MPC</sup>	07/05/2011

<sup>MDCRPC</sup> Medical Director Clinical Review and Policy Committee

<sup>MPC</sup> Medical Policy Committee

Revision History	Description
07/07/2015	MS: N

## Codes

There is no specific code for this procedure