Surgical Treatment of Lymphedema

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DESCRIPTION

Lymphedema

Lymphedema is an accumulation of fluid due to disruption of lymphatic drainage. It can result in pain, recurrent infections, and functional impairment. Lymphedema is divided into two broad classes according to etiology, primary and secondary.

- Primary lymphedema is congenital or inherited abnormalities in the lymphatic system and further divided into three categories of primary causes for lymphedema, which vary by their age at onset.
- Secondary lymphedema results from the destruction of or damage to formerly functioning lymphatic channels, which is more common than primary lymphedema. The goal of treatment is to control limb swelling since the underlying disease cannot usually be corrected. Examples of secondary lymphedema include but are not limited to the following:
    - Lymph node dissection
    - Radiation
    - Malignant obstruction of the lymphatics

- Infection

Lymphedema is usually staged by observing an individual's physical condition.

(2020) The International Society of Lymphology (ISL) uses the following clinical classification scale of a lymphedematous limb based on "softness" or firmness" of the limb and the changes with an elevation of the limb. (*Accessed September 2022*):

Stage	Definition
Stage 0	A subclinical or latent condition where swelling is not evident despite impaired lymphatic transport. May exist for months or years before the onset of overt lymphedema.
Stage I	Early or mild accumulation (>5 < 20% increase) of fluid relatively high in protein content (e.g., in comparison with "venous" edema) that subsides with limb elevation. Soft edema and pitting may occur. • Some clinics prefer to use >5-10% as minimal and >10-<20% as mild.
Stage II	Moderate accumulation (20-40% increase). Limb elevation alone rarely reduces tissue swelling and pitting may or may not occur as tissue fibrosis develops.
Stage III	Severe accumulation (>40% increase). Lymphostatic elephantiasis. Pitting is absent and trophic skin changes such as acanthosis, fat deposits, and warty overgrowths develop.

Management and Treatment
Early and ongoing treatment of lymphedema is necessary. Conservative therapy may consist of several features depending on the severity of the lymphedema. Patients are educated on the importance of self-care including hygiene practices to prevent infection, maintaining ideal body weight through diet and exercise, and limb elevation. Compression therapy consists of repeatedly applying padding and bandages or compression garments. Manual lymphatic drainage is a light pressure massage performed by trained physical therapists or by patients designed to move fluid from obstructed areas into functioning lymph vessels and lymph nodes. Complete decongestive therapy is a multiphase treatment program involving all of the previously mentioned conservative treatment components at different intensities. Pneumatic compression pumps may also be considered as an adjunct to conservative therapy or as an alternative to self-manual lymphatic drainage in patients who have difficulty performing self-manual lymphatic drainage. In patients with more advanced lymphedema after fat deposition and tissue fibrosis has occurred, palliative surgery using reductive techniques such as liposuction may be performed.

Operations for lymphedema are classified in two main categories: excisional operations and lymphatic reconstruction. Surgical management of lymphedema is categorized into two general approaches: physiologic techniques and reductive/ablative techniques. Physiologic procedures are proposed for individuals with early-stage lymphedema prior to deposition of excess fat and extensive tissue fibrosis. Reductive/ablative techniques are proposed for individuals who present with more advanced lymphedema after fat deposition and tissue fibrosis has occurred. Individuals with more advanced lymphedema have been treated with physiologic techniques, however, the results are variable, and only limited numbers of patients have been analyzed. Surgery may be used as an adjunct to conservative therapy. Conservative therapy is multimodal. It involves meticulous skin hygiene and care, exercise, compression therapy, and physical therapy (manual lymphatic drainage). Complete decongestive therapy and pneumatic compression pumps are also used as adjuncts to conservative therapy. There is no consensus regarding the role of surgery, the optimal surgical approach, or the timing of an operative procedure for extremity lymphedema.

Lymph Node Transfer
In this approach, the surgeon "harvests" lymph nodes and their attached blood vessels from another area of the body — such as the abdomen or groin — and then connects them to the lymph vessels and blood vessels under the arm. Another technique involves implanting the nodes into the wrist of the arm affected by lymphedema. Some small, early studies have found that the procedure can offer relief from severe swelling, heaviness in the limb, and infections, although it doesn’t cure the lymphedema. There is some concern that the procedure could cause lymphedema in the other area of the body from which the lymph nodes were taken.

Lymphatic Microsurgical Preventing Healing Approach [LYMPHA]
The purpose of lymphatic physiologic microsurgery simultaneous to lymphadenectomy for breast cancer (ie, the Lymphatic Microsurgical Preventing Healing Approach [LYMPHA]) is to *prevent* lymphedema in individuals who are being treated for breast cancer. LYMPHA is a preventive LVA procedure performed during nodal dissection or reconstructive surgery that involves anastomosing arm lymphatics to a collateral branch of an axillary vein to enable lymphatic drainage.

Microsurgical Lymphatico-Venous Anastomosis (LVA)
This procedure uses microsurgery to build tiny bridges between the lymphatic vessels and the veins, so that the lymph fluid has a new pathway out of the arm. However, it hasn’t been proven effective in the small research studies available.

Omental Lymph Node Flap
The greater omentum is supplied by the right, middle, and left omental arteries, which arise from the right and left gastroepiploic arteries. All or part of the greater omentum can be harvested based on this blood supply for free tissue transfer. It has stimulated new interest in its use as the donor site in the treatment of lymphedema.

Suction Assisted Liposuction/Suction Assisted Lipectomy/ SALCESE
Suction-assisted lipectomy in combination with excision of skin excess (SALCESE) is a procedure that combines the benefits of bulk reduction from lipectomy with the benefits of facilitated wound healing from the skin excision.

Clinical Context and Therapy Purpose
The purpose of physiologic microsurgery treatments for lymphedema in patients who have been treated for breast cancer is to provide a treatment option that is an improvement on existing therapies such as conservative therapy with compression garments or bandages, manual lymph drainage or pneumatic pumps, and decongestive therapy. Both surgical treatment and radiotherapy for breast cancer can lead to lymphedema and are some of the most common causes of secondary peripheral lymphedema.

The question addressed in this evidence review is: Does lymphatic physiologic microsurgery for the treatment of breast cancer–related lymphedema improve the net health outcome?

The following PICO was used to select literature to inform this review.

Patients
The relevant population of interest is individuals who have developed primary or secondary lymphedema, and who have insufficient symptom reduction with conservative therapy, who have recurrent cellulitis or lymphangitis, or who are dissatisfied with conservative therapy. Lymphedema in its late chronic phase is irreversible. The surgical techniques of interest in this review are those performed in individuals who have not reached the irreversible stage, ie, those who have functioning lymphatic channels (stage I, II or early stage III).

Interventions
This review focuses surgical interventions for lymphedema.

Comparators
Surgery may be used as an adjunct to conservative therapy. Conservative therapy is multimodal. It involves meticulous skin hygiene and care, exercise, compression therapy, and physical therapy (manual lymphatic drainage). Complete decongestive therapy and pneumatic compression pumps are also used as adjuncts to conservative therapy.

Outcomes
Objective outcomes of interest include a reduction in limb circumference and/or volume and reduction in the rates of infections (e.g., cellulitis, lymphangitis). Volume is measured using different methods, e.g., tape measurements with geometry formulas,

perometry, and water displacement. Bioimpedance spectroscopy may be used to detect changes in tissue fluid accumulation.

Patient-reported outcomes (PROs) of interest include symptoms, quality of life, and functional measures. A systematic review of PRO instruments and outcomes used to assess quality of life in breast cancer patients with lymphedema, Pusic et al (2013) found that most studies included generic PRO instruments or oncology PRO instruments. Lymphedema-specific instruments are occasionally used; specifically, the Upper Limb Lymphedema was found to have strong psychometric properties. An additional systematic review of PROs by Coriddi et al (2020) identified the most commonly used validated scale across 32 studies was the lymph quality of life measure for limb lymphedema (LYMQOL); however, non-validated instruments were used in half of all studies.

There does not appear to be a consensus on minimally clinically important change for either objective outcomes such as changes in arm volume or subjective measures such as changes to patient symptoms or quality of life.

Review of Evidence
(2021) Chang et al. completed a systemic review and meta-analysis to examine both the benefits and risks of surgical treatment and surgical prevention of upper and lower extremity lymphedema. There is evidence to support that lymphovenous anastomosis can be effective in reducing severity of lymphedema (grade 1C). There is evidence to support that vascular lymph node transplantation can be effective in reducing severity of lymphedema (grade 1B). Currently, there is no consensus on which procedure (lymphovenous bypass versus vascular lymph node transplantation) is more effective (grade 2C). A few studies show that prophylactic lymphovenous bypass in patients undergoing extremity lymphadenectomy may reduce the incidence of lymphedema (grade 1B). More studies with longer follow-up are required to confirm this benefit. Debulking procedures such as liposuction are effective in addressing a nonfluid component such as fat involving lymphedema (grade 1C). There is a role for liposuction combined with physiologic procedures although the timing of each procedure is currently unresolved (grade 1C). The authors concluded any studies seem to support some efficacy of lymphovenous bypass and vascular lymph node transplantation. Many studies show the important role of lymphedema therapy and other procedures such as liposuction and debulking. The management of lymphedema is a challenging field with many promising advances. However, many questions remain unanswered.

Lymphatic Microsurgical Preventing Healing Approach [LYMPHA]
The findings included one systematic review (SR) with meta-analysis and 3 additional studies assessed LYMPHA for preventing lymphedema in patients with cancer.

- LYMPHA in patients with breast cancer: One systematic review SR with meta-analysis (Johnson et al. 2019; 3 of 19 studies assessed LYMPHA, and 16 assessed ALND alone) reported lower lymphedema incidence for ALND plus LYMPHA (2.1%; 1/48) than for ALND alone (14.1%; 200/1,419; p = 0.029). Pooled

lymphedema incidence was lower after ALND, regional lymph node radiation (RLNR) and LYMPHA than ALND and RLNR without LYMPHA (10.3% [6/58] versus 33.4% [504/1,510]; p = 0.004, respectively) at 25.7-month median follow-up (range: 6.0 to 118.8 months).

- One case series (Schwarz et al. 2016) reported 2 of 50 patients who underwent ALND plus LYMPHA experienced lymphedema at 1-year follow-up. One prospective, nonrandomized comparative study (Ozmen et al. 2018) reported lower lymphedema rates for ALND plus S-LYMPHA (a modified version of the procedure) (3%, 2 of 74 patients) than for ALND alone (19%, 58 of 308 patients); odds ratio 0.12 [0.03-0.5]). The S-LYMPHA procedure failed in 8 patients.
- LYMPHA for patients with other cancers: One case series (Boccardo et al. 2016) reported that 1 of 16 patients (6.25%) with melanoma of the trunk and 1 of 11 patients (9%) with vulvar cancer who underwent LYMPHA experienced lower-extremity lymphedema, and no complications occurred.

Evidence includes search dates of January 1, 2015, to May 29, 2020. Full text of 1 SR, 3 other clinical studies, and 1 cost-effectiveness study reporting on 3,500 patients were reviewed.

- 1 SR with meta-analysis (Johnson et al., 2019; 19 studies, n = 3,035) compared lymphedema incidence in patients with breast cancer who underwent ALND alone (with or without RLNR) (16 studies, n = 2,929) or ALND with LYMPHA (with or without RLNR) (3 nonrandomized studies, n = 106).
- 1 single-center, prospective, nonrandomized study (Ozmen et al., n = 380) compared lymphedema rates in patients with breast cancer who underwent ALND with LYMPHA (n = 74) or ALND alone (n = 306).
- 1 single-center, retrospective case series (Schwarz et al., n = 58, n = 58) assessed LYMPHA with axillary reverse mapping for preventing lymphedema in patients with breast cancer who underwent ALND and reported on lymphedema incidence at 12-month follow-up.
- 1 single-center, retrospective case series (Boccardo et al., n = 27) assessed LYMPHA in patients with vulvar cancer or melanoma of the trunk and reported on lymphedema occurrence and complications.
- 1 cost-effectiveness study (Johnson et al. 2019b) compared the incremental cost-utility ratios and quality- adjusted life-years of ALND and RLNR with and without LYMPHA.

Evidence limitations: No identified randomized controlled trials. Most included studies in the SR were case series, and all studies had high risk of bias. Three additional studies not in the SR (two case series and one nonrandomized comparison study) are also at high risk of bias. Reasons for bias include three or more of the following: single-center focus, retrospective design, small size, and lack of randomization, blinding, and parallel controls. Only 3 of 19 studies included in the meta-analysis reported on LYMPHA, resulting in a large difference in patient group sizes compared to ALND alone. One

noncomparative study assessed LYMPHA for patients with melanoma and vulvar cancer but included too few patients to permit conclusions.

Summary of Evidence: Lymphatic Microsurgical Preventing Healing Approach [LYMPHA]
LYMPHA procedures performed during ALND reduce lymphedema rates compared to ALND alone in patients with breast cancer, based on low-quality but consistent evidence from one systematic review (SR) with meta-analysis and one additional nonrandomized comparative study. Larger, prospective controlled studies are needed to verify LYMPHA's effectiveness for preventing lymphedema in patients with breast cancer who undergo ALND and to determine whether it improves outcomes for patients with other cancer types who undergo lymph node dissection.

Omental Lymph Node Transfer
(2019) Forte et al. conducted a systematic review of vascularized omentum lymph node transfer (VOLT) in patients with lymphedema to provide more information about this increasingly common procedure. Lymph node transfer is a surgical treatment that is becoming more prevalent. The lymph nodes from the groin and neck are most frequently used. Iatrogenic lymphedema can be a consequence of the dissection of the groin nodes; thus, some surgeons prefer to use the neck as a donor site. Literature reporting surgical algorithms for the treatment of lymphedema is scarce. We hypothesize that the analyzed studies will show that VOLT has positive outcomes. Eligibility criteria included publications evaluating patients with lymphedema in the upper extremity and lower extremity, who underwent VOLT. Our search yielded 35 potential papers in the literature, but only six studies fulfilled the study eligibility criteria. The total number of patients was 137. Three studies described single VOLT, two studies described double VOLT and one study described two cohort patients, one that was treated with single VOLT and another one that was treated with double VOLT. Postoperative reduction of arm circumference, arm volume, and symptoms of the upper extremity were reported in all patients. Nonetheless, in one study, seven patients did not notice any extremity circumference reduction during the follow-up period and four patients noticed an increase in arm volume. Flap loss was reported by two authors in a total of two patients. Overall, patients experienced successful lymphedema treatment with VOLT. All authors presented results with reduced circumferential size of the affected upper and lower limbs, as well as reduction of the infectious intercurrences, such as cellulitis, with a small incidence of associated complications. The authors concluded we recognize the presence of several limitations to our study.

(2017) Nguyen et al. reported, 42 patients overall, underwent a free omental lymphatic flap and had a mean follow-up of 14 (3-32) months. Subjective improvements were noted in 83% of patients. Mean volumetric improvement was 22%. Complications occurred in 16% (n = 7) of patients; this included one episode of pancreatitis and one flap loss. Postoperative imaging revealed viable lymphatic transfers. Cellulitis history was present in 74% (n = 31) patients with post-operative cellulitis occurring in 5% (n = 2) patients.

Summary of Evidence
The minimally invasive free vascularized omental lymphatic flap provides a safe donor site, a durable and versatile flap, and an efficacious therapy against lymphedema and lymphedema-related cellulitis. There is a small number of studies and, consequently, a small cohort. There is a noted lack of prospective randomized studies and the nonstandardization of the obtained results make it difficult to establish protocols and the absence of objective measurement of arm circumference and volume, as well as cellulitis rate reduction, impeded a quantitative evaluation of outcomes. In addition, the follow-up duration in the studies is too little to evaluate the persistent benefit of these procedures. However, despite these limitations, the authors believe that VOLT is a promising technique with good results. Future retrospective and prospective studies to enrich the evidence to support this practice is suggested. The evidence is insufficient to determine the effects on net health outcomes.

Surgeries That Reconstruct or Bypass Using the Venous System
Systematic Reviews
Three systematic reviews specifically evaluating microsurgical procedures using the venous system (lymphaticovenular anastomosis [LVA], lymphovenous bypass) have been reported. Two broader systematic reviews of treatments for lymphedema including several microsurgical procedures have also been reported. Corneilissen et al (2018) and Leung et al (2015) were limited to studies of breast cancer-related lymphedema but the remaining reviews were not. Forty publications on LVA and lymphovenous bypass were included across the 5 systematic reviews.

(2020) Coriddi et al. reported on a systematic review of PROs following surgical treatment of lymphedema, including lymphovenous bypass and vascularized lymph node transfer (VLNT). Overall, 32 studies were identified (details regarding study design were not reported) with follow-up ranging from approximately 4 months to 43 months. The number of patients with breast cancer-related lymphedema was not described. The study reported findings for both validated and non-validated instruments assessing quality of life; however, only 18 studies (n=717 patients) reported individual patient data to permit quantitative assessment of the proportion of patients experiencing quality of life improvements.

(2020) Forte et al. reported lymphedema is an accumulation of protein-rich fluid in the interstitial spaces resulting from impairment in the lymphatic circulation that could impair QOL and cause considerable morbidity. Lower extremity lymphedema (LEL) has an overall incidence rate of 20 %. Conservative therapies are the 1st step in treatment of LEL; however, they do not provide a cure because they fail to address the underlying physiologic dysfunction of the lymphatic system. Among several surgical alternatives, LVA has gained popularity due to its improved outcomes and less invasive approach. These investigators examined the published literature on LVA for the treatment of LEL and analyzed the surgical outcomes. PubMed database was used to carry out a comprehensive literature review of all articles describing LVA for the treatment of LEL from November 1985 to June 2019. Search terms included "lymphovenous" OR

"lymphaticovenous" AND "bypass" OR "anastomosis" OR "shunt" AND "lower extremity lymphedema". A total of 95 articles were identified in the initial query, out of which 58 individual articles were deemed eligible. The studies included in this review described notable variations in surgical techniques, number of anastomoses, and supplementary interventions. All, except 1 study, reported positive outcomes based on limb circumference and volume changes or subjective clinical improvement. The largest reduction rate in limb circumference and volume was 63.8 %. The authors concluded that LVA demonstrated a considerable reduction in limb volume and improvement in subjective findings of lymphedema in the majority of patients. The maintained effectiveness of this treatment modality in long-term follow-up suggested great efficacy of LVA in the treatment of LEL. Moreover, these investigators stated that larger, randomized, multi-center studies are needed to validate the findings of this systematic review. The authors noted as with all systematic reviews, this study had several drawbacks. Due to the general lack of large volume studies addressing LVA in the LE, these researchers were restricted to a limited range of reported data; thus, a thorough statistical analysis was not possible. Considerable heterogeneity exists among the reported outcomes in each study; therefore, there is a potential for bias in interpreting data, as it was possible that not all studies captured reliable co-morbidity data or outcomes over a long-period of time. A risk of selective reporting bias could also be encountered when documentation of subjective patient symptoms was involved

(2018) Cornelissen et al. reported on a systematic review assessing the effect of LVA in breast cancer-related lymphedema. Fifteen observational studies were identified (11 prospective, 4 retrospective) with follow-up times ranging from 2 months to 8 years. Although LVA surgery was performed in the included studies, the technical procedure differed among studies: 6 studies used only end-to-end anastomoses; 4 studies used both end-to-end and end-to-side anastomoses; 1 study used the ‘‘Octopus technique"; and 4 studies did not report the LVA technique used. Only 2 studies included a control group (bandaging, decongestive therapy).

(2017) Scaglioni et al reported on a systematic review of LVA for the treatment of lymphedema. Reviewers noted significant variations in surgical techniques, numbers of anastomoses, and supplementary interventions (ie, compressive therapy, additional debulking surgery). Nine studies included secondary lymphedema alone, while 8 studies included patients with both primary and secondary lymphedemas. The number of patients with breast cancer-related lymphedema was not described. As mentioned, the Carl (2017) and Leung (2015) reviews included multiple surgical techniques. Leung (2015) was limited to breast cancer-related lymphedema while Carl (2017) was not. The evidence is insufficient to determine the effects on net health outcomes.

Summary of Evidence

Studies had high risk of bias including the following considerations single-center focus, retrospective design, small size, and lack of randomization, blinding, and parallel controls. Although some early results are promising and the changes to quality of life have been documented, surgery is considered investigational and isn’t widely available or

considered standard of care. High-quality RCTs are required to further clarify the effectiveness of surgical interventions in the prevention and treatment of lymphedema. Surgery is not curative, and the long-term efficacy cannot be proven with the available literature at this time. Future retrospective and prospective studies to enrich the evidence to support this practice is suggested.

Practice Guidelines and Position Statements

National Comprehensive Cancer Network (NCCN)
The NCCN Guidelines on Survivorship: Lymphedema (Version 1.2022) does not specifically mention surgical treatments for lymphedema. The guideline has recommendations on education, monitoring, and symptom management lymphedema, as needed. (*Accessed September 2022*)

National Cancer Institute (NCI)
The 2019 NCI Health Professional Version [Physician Data Query (PDQ®)] on lymphedema states "Surgery is rarely performed on patients who have cancer-related lymphedema. The primary surgical method for treating lymphedema consists of removing the subcutaneous fat and fibrous tissue with or without creation of a dermal flap within the muscle to encourage superficial-to-deep lymphatic anastomoses. These methods have not been evaluated in prospective trials, with adequate results for only 30% of patients in one retrospective review. In addition, many patients face complications such as skin necrosis, infection, and sensory abnormalities. The oncology patient is usually not a candidate for these procedures. Other surgical options include the following: Microsurgical lymphaticovenous anastomoses in which the lymph is drained into the venous circulation or the lymphatic collectors above the area of lymphatic obstruction; liposuction; superficial lymphangiectomy; fasciotomy". (*Accessed September 2022*)

International Society of Lymphology (ISL)
(2020) Microsurgical Procedures
This operative approach is designed to augment the rate of return of lymph to the blood circulation. The surgeon should be well-schooled in both microsurgery and lymphology and utilize appropriate imaging tools to document efficacy short and longer term. In general, microsurgical procedures must be performed with special caution in children and some forms of primary lymphedema. Experience with these procedures suggests that improved and longer lasting benefit is forthcoming if performed early in the course of lymphedema before damage to the lymphatic wall and impaired lymphatic contractility have occurred.

a. Derivative methods. Lymphatic-venous (or lymphovenous) anastomoses (LVA) are currently in use at many centers around the world. These procedures have undergone confirmation of long-term patency (in some cases more than 25 years) and demonstration of improved lymphatic transport (by objective physiologic measurements of long-term efficacy). Multiple lymphatic-venous anastomoses in a single surgical site, with both the superficial and deep lymphatics, allow the

creation of a positive pressure gradient (lymphatic-venous) and evade the phenomenon of gravitational reflux without interrupting the distal peripheral superficial lymphatic pathways. Some centers particularly in areas of endemic filariasis also practice lymph nodal-venous shunts as a derivative method. Multiple centers are using LVA (LYMPHA) as a preventative measure in high-risk patients.

Liposuction for lymphedema does not alter the need for compression therapy beyond appropriate garment after surgery. Rather, continued patient compliance with conservative treatment and compression both before and after lymphedema liposuction are essential for successful results. Lymphedema surgery options may now include the possibility of combining microsurgery with lymph vessel sparing liposuction in an effort to decrease the need for continual compression. (Accessed September 2021)

Regulatory Status
U.S. Food and Drug Administration (FDA) The FDA does not regulate surgical procedures. Any medical devices, drugs, biologics, or tests used as a part of this procedure may be subject to FDA regulation.

PRIOR APPROVAL

Not applicable.

POLICY

See Related Medical Policies

- 01.01.17 Pneumatic Compression Devices in the Home Setting
- 10.01.02 Cosmetic and Reconstructive Services

Medically Necessary
Lymphatic physiologic microsurgery is considered **medically necessary** to treat lymphedema in individuals who have been treated for breast cancer.

Note: See Policy Guidelines.

Investigational
Lymphatic physiologic microsurgery performed during nodal dissection or breast reconstruction to *prevent* lymphedema (including, but not limited to, the Lymphatic Microsurgical Preventing Healing Approach) in individuals who are being treated for breast cancer is considered **investigational** as the evidence is insufficient to determine the effects of this technology on net health outcomes.

In an individual with diagnosed lymphedema, surgical treatment is considered **investigational** alone or in combination with another procedure, including but not limited

to the following as the evidence is insufficient to determine the effects of this technology on net health outcomes:

- Lymphatic physiologic microsurgery; **or**
- Suction-Assisted Protein Lipectomy (SAPL); **or**
- Tissue transfer (e.g., omental)

Policy Guidelines

Breast Reconstruction Following Mastectomy

- Covered breast reconstruction following mastectomy includes reconstruction of the breast on which a mastectomy was performed, surgery and reconstruction of the other breast to produce a symmetrical appearance, prostheses, and treatment of complications of the mastectomy, including lymphedema.

PROCEDURE CODES AND BILLING GUIDELINES

To report provider services, use appropriate CPT* codes, Alpha Numeric (HCPCS level 2) codes, Revenue codes, and/or ICD diagnosis codes.

- 38900 Intraoperative identification (eg, mapping) of sentinel lymph node(s) includes injection of non-radioactive dye, when performed (List separately in addition to code for primary procedure)
- 38999 Unlisted procedure, hemic or lymphatic system

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POLICY HISTORY		
Date	**Reason**	**Action**
September 2022	Annual Review	Policy Revised
September 2021	Annual Review	Policy Revised
September 2020	Annual Review	Policy Revised
September 2019	Annual Review	Policy Revised
September 2018	Annual Review	Policy Revised
September 2017		New Policy

New information or technology that would be relevant for Wellmark to consider when this policy is next reviewed may be submitted to:

Wellmark Blue Cross and Blue Shield
Medical Policy Analyst
PO Box 9232
Des Moines, IA 50306-9232

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