DRAFT Medical Coverage Policy | Surgical Treatments for Lymphedema and Lipedema

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OVERVIEW

Lymphedema is an accumulation of fluid due to disruption of lymphatic drainage. Lymphedema can be caused by congenital or inherited abnormalities in the lymphatic system (primary lymphedema) but is most often caused by acquired damage to the lymphatic system (secondary lymphedema).

Lipedema is a disorder characterized by a large amount of subcutaneous fat in the extremities, typically the legs and thighs. The adipose tissue may be painful. In contrast, lymphedema is the accumulation of interstitial fluid due to impaired lymphatic flow. This increase in interstitial fluid may lead to the accumulation and hypertrophy of fat cells. Liposuction, consisting of the removal of fat cells with a cannula and tumescent anesthesia is being investigated as a treatment option for both lipedema and lymphedema. Lipedema may also involve the trunk (eg, lower abdomen, flanks, hips).

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MEDICAL CRITERIA

Medicare Advantage Plans and Commercial Products

TREATMENT OF LYMPHEDEMA

The following procedures may be considered medically necessary as treatment for Lymphedema when filed with the appropriate ICD-10 diagnosis codes for Lymphedema or Postmastectomy lymphedema syndrome (see Coding section), AND when medical criteria are met:

- **Lymph Node Transplant**
- **Lymphovenous Bypass**
- **Lipectomy or Liposuction for Lymphedema**

Lymph Node Transplant

Lymph node transplant may be considered **medically necessary** when criteria 1-4 are met:

1. Individual meets **ALL** of the following diagnostic criteria:
    a. Signs and symptoms consistent with lymphedema as determined by a certified lymphedema therapist **AND** a diagnosis of stage ≥ II lymphedema ISL (International Society of Lymphology)*
    b. At least **one** of the following positive quantitative measurements:
        i. For unilateral disease
            1. Volumetry differential (circumferential measurements and/or perometry differential) >10% (if affected extremity dominant extremity) or >7% (affected extremity is non-dominant extremity), **OR**
            2. Lymphoscintigraphy findings must show a minimum of a one-hour delayed transit time to first-level lymph nodes, axillary lymph nodes (upper extremity lymphedema) or inguinal lymph nodes (lower extremity lymphedema), **OR** a dermal back flow pattern
        ii. For bilateral disease
            1. lymphoscintigraphy findings must show a minimum of a one-hour delayed transit time to first-level lymph nodes, axillary lymph nodes (upper extremity lymphedema) or inguinal lymph nodes (lower extremity lymphedema), **OR** dermal back flow.
2. Individual meets **ALL** of the following medical criteria:
    a. Individual has BMI ≤ 35kg/m2
    b. Individual has completed a course of conservative treatment defined as lymphedema therapy for a minimum of 20 hours/week for 6 months.
        i. Lymphedema therapy includes compression therapy (bandaging/garment/gauntlet) **AND** any of the following treatment modalities:
            - manual lymphatic drainage, OR,
            - complete decongestive therapy, OR,
            - use of pneumatic compression pump, OR,
            - targeted exercises for lymphedema treatment
    c. Individual has demonstrated the ability to tolerate post-surgical compression therapy and physical therapy sessions per treating lymphedema provider.
3. Individual has **NONE** of the following:
    a. Transient lymphedema: any swelling that meets threshold for lymphedema criteria and occurs up to six months post last oncologic treatment
    b. Lipidema without lymphatic dysfunction
    c. Any of the following uncontrolled comorbidities:
        i. Venous disease (DVT, superior vena cava syndrome)
        ii. Congestive heart failure (CHF)
        iii. Medication-induced swelling
        iv. Liver disease including but not limited to cirrhosis, hypoproteinemia

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v. Nephropathy including end-stage renal disease
d. Pregnancy
e. Dye anaphylaxis
f. Active infection of the affected extremity (cellulitis/erysipelas).
4. Surgical treatment is performed by a hospital credentialed, board certified plastic surgeon.

Lymphovenous Bypass
Lymphovenous bypass may be considered **medically necessary** when criteria 1-4 are met:
1. Individual meets **ALL** of the following diagnostic criteria:
a. Signs and symptoms consistent with lymphedema as determined by a certified lymphedema therapist **AND** a diagnosis of stage ≥ I lymphedema (ISL)*
b. At least one of the following positive quantitative measurements:
i. For unilateral disease
1. Volumetry differential (circumferential measurements and/or perometry differential) >10% (if affected extremity dominant extremity) or >7% (affected extremity is non-dominant extremity), **OR**
2. Bioimpedance (L-Dex) differential of at least 10 units, **OR**
3. Lymphoscintigraphy findings must show a minimum of a one-hour delayed transit time to first-level lymph nodes, axillary lymph nodes (upper extremity lymphedema) or inguinal lymph nodes (lower extremity lymphedema), **OR** dermal back flow
ii. For bilateral disease
1. lymphoscintigraphy findings must show a minimum of a one-hour delayed transit time to first-level lymph nodes, axillary lymph nodes (upper extremity lymphedema) or inguinal lymph nodes (lower extremity lymphedema), **OR** dermal back flow.
2. Individual meets **ALL** of the following medical criteria:
a. Individual has BMI ≤ 35kg/m2
b. Indocyanine green (ICG) lymphangiography findings demonstrate the presence of lymphatic channels
c. Individual has completed a course of conservative treatment defined as lymphedema therapy for a minimum of 20 hours/week for 6 months.
i. Lymphedema therapy includes compression therapy (bandaging/garment/gauntlet) **AND** any of the following treatment modalities:
- manual lymphatic drainage, **OR**,
- complete decongestive therapy, **OR**,
- use of pneumatic compression pump, **OR**,
- targeted exercises for lymphedema treatment
d. Individual has demonstrated the ability to tolerate post-surgical compression therapy and physical therapy sessions per treating lymphedema provider.
3. Individual has **NONE** of the following:
a. Transient lymphedema: any swelling that meets threshold for lymphedema criteria and occurs up to six months post last oncologic treatment
b. Lipidema without lymphatic dysfunction
c. Any of the following uncontrolled comorbidities:
i. Venous disease (DVT, superior vena cava syndrome)
ii. Congestive heart failure (CHF)
iii. Medication-induced swelling
iv. Liver disease including but not limited to cirrhosis, hypoptoteinemia
v. Nephropathy including end-stage renal disease
d. Pregnancy
e. Dye anaphylaxis
f. Active infection of the affected extremity (cellulitis/erysipelas).
4. Surgical treatment is performed by a hospital credentialed, board certified plastic surgeon.

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Lipectomy or Liposuction for Lymphedema

Lipectomy or liposuction may be considered medically necessary in individuals with documented lymphedema when **ALL** of the following criteria are met (1 through 6):

1. Signs and symptoms have not responded to at least 3 consecutive months of optimal conservative medical management, including **ONE OR MORE** of the following:
    a. Compression garments; **OR**
    b. Manual lymphatic drainage; **OR**
    c. Complex/complete decongestive therapy (CDT); **OR**
    d. Conservative management is not feasible due to the presence of contraindicating complications (eg, active infection); **AND**
2. For each anatomical region being considered for treatment, EITHER of the following criteria are met:
    a. There is documented significant functional impairment as a direct result of change in limb volume; **OR**
    b. There are documented medical complication(s) as a result of lymphedema (eg, severe recurrent infection or neurological dysfunction); **AND**
3. Lipectomy or liposuction is reasonably expected to improve the functional impairment; **AND**
4. The plan of care includes the use of compression garments as instructed and to continue conservative treatment postoperatively to maintain benefits; **AND**
5. Photographic documentation is consistent with the diagnosis of lymphedema in the affected extremities, including limb asymmetry; **AND**
6. Surgical treatment is performed by a hospital credentialed, board certified plastic surgeon.

*Table 1 lists International Society of Lymphology guidance for staging lymphedema based on "softness" or "firmness" of the limb and the changes with an elevation of the limb.

Table 1. Recommendations for Staging Lymphedema Stage Description	**Description**
Stage 0 (subclinical)	Swelling is not evident and most individuals are asymptomatic despite impaired lymphatic transport
Stage I (mild)	Accumulation of fluid that subsides (usually within 24 hours) with limb elevation; soft edema that may pit, without evidence of dermal fibrosis
Stage II (moderate)	Does not resolve with limb elevation alone; limb may no longer pit on examination
Stage III (severe)	Lymphostatic elephantiasis; pitting can be absent; skin has trophic changes

TREATMENT OF LIPEDEMA

Lipedema - Extremities

Lipectomy or liposuction for the treatment of lipedema of the extremities may be considered medically necessary when **ALL** of the following criteria are met (1 through 7):

1. A diagnosis of lipedema has been documented, including **ALL** of the following:
    a. Bilateral and symmetrical manifestation with minimal involvement of the feet, unless concomitant lymphedema is present; **AND**
    b. Disproportionate adipocyte hypertrophy of the affected extremity; **AND**
    c. Photographs of the area to be treated documenting disproportional adipose distribution consistent with diagnosis; **AND**
    d. Pressure-induced pain and tenderness on palpation; **AND**

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e. Failure of the limb adipose hypertrophy to respond to recommended medically supervised weight loss modalities or bariatric surgery, in concomitant class II or III obesity; **AND**
f. Extent of fibrotic tissue, if present, is expected to be amenable to liposuction; **AND**

2. Signs and symptoms have not responded to at least 3 consecutive months of optimal conservative medical management, including one or more of the following:
   a. Compression garments; **OR**
   b. Manual therapy; **OR**
   c. Conservative management is not feasible due to the presence of contraindicating complications (eg, active infection); **AND**
3. For each anatomical region being considered for treatment, **EITHER** of the following criteria are met:
   a. There is documented significant functional impairment as a direct result of change in limb volume from lipedema; **OR**
   b. There are documented medical complication(s) as a result of lipedema (eg, severe aching discomfort, pain or tenderness, severe maceration, severe recurrent skin infection, or severe venous insufficiency); **AND**
4. Lipectomy or liposuction is reasonably expected to improve the functional impairment or medical complications; **AND**
5. The plan of care includes the use of compression garments as instructed and to continue conservative treatment postoperatively to maintain benefits; **AND**
6. Photographic documentation is consistent with the diagnosis of lipedema in the affected extremities, including limb symmetry; **AND**
7. Surgical treatment is performed by a hospital credentialed, board certified plastic surgeon.

Lipedema - Trunk

Lipectomy or liposuction for the treatment of truncal lipedema may be considered medically necessary when **ALL** of the following criteria are met (1 through 7):

1. A diagnosis of truncal lipedema has been documented, including **ALL** of the following:
   a. Documented bilateral, symmetrical lower extremity lipedema with minimal involvement of the feet, unless concomitant lymphedema is present. Truncal lipedema is associated with, and typically develops in conjunction with, bilateral lower extremity lipedema and is not recognized as an isolated condition; **AND**
   b. Bilateral and symmetrical truncal involvement (eg, lower abdomen, flanks, hips); **AND**
   c. Disproportionate adipocyte hypertrophy of the affected truncal region; **AND**
   d. Photographs of the trunk and lower extremities documenting disproportional adipose distribution consistent with diagnosis; **AND**
   e. Pressure-induced pain and tenderness on palpation of the affected truncal region; **AND**
   f. Failure of the truncal adipose hypertrophy to respond to recommended medically supervised weight loss modalities or bariatric surgery, in concomitant class II or III obesity; **AND**
   g. Extent of fibrotic tissue, if present, is expected to be amenable to liposuction; **AND**
2. Signs and symptoms have not responded to at least 3 consecutive months of optimal conservative medical management, including one or more of the following:
   a. Compression garments covering the trunk (eg, abdominal binder or truncal compression garment); **OR**
   b. Manual therapy; **OR**
   c. Conservative management is not feasible due to the presence of contraindicating complications (eg, active infection); **AND**
3. For each anatomical region being considered for treatment, **EITHER** of the following criteria are met:
   a. There is documented significant functional impairment as a direct result of increased truncal volume from lipedema; **OR**
   b. There are documented medical complication(s) of the trunk as a result of lipedema (eg, severe aching discomfort, pain or tenderness, severe maceration of skin folds, or severe recurrent skin infection; **AND**

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4. Lipectomy or liposuction is reasonably expected to improve the functional impairment or medical complications; **AND**
5. The plan of care includes the use of truncal compression garments as instructed and to continue conservative treatment postoperatively to maintain benefits; **AND**
6. Photographic documentation is consistent with the diagnosis of lipedema of the trunk and bilateral lower extremities, including symmetry; **AND**
7. Surgical treatment is performed by a hospital credentialed, board certified plastic surgeon.

PRIOR AUTHORIZATION

Prior authorization is required for Medicare Advantage Plans and recommended for Commercial Products. Refer to the Coding section for details.

POLICY STATEMENT

TREATMENT OF LYMPHEDEMA

Medicare Advantage Plans and Commercial Products

The following procedures may be considered medically necessary as treatment for Lymphedema when filed with the appropriate ICD-10 diagnosis codes for Lymphedema or Postmastectomy lymphedema syndrome (see Coding section), **AND** when medical criteria above are met:

- Lymph node transplant
- Lymphovenous bypass
- Lipectomy or Liposuction for Lymphedema

The above procedures **may** be considered not covered for Medicare Advantage Plans and not medically necessary for Commercial Products when the above criteria are not met and when not filed with the specified diagnosis codes. Refer to the Related Policies section below.

The following procedures are not covered for Medicare Advantage Plans and not medically necessary for Commercial products as the evidence is insufficient to determine the effects of the technology on health outcomes:

- Lymphatico-lymphatic bypass
- Lymphaticovenous anastomosis
- Lymphatic physiologic microsurgery performed during nodal dissection or breast reconstruction to prevent lymphedema (including, but not limited to, the Lymphatic Microsurgical Preventing Healing Approach)

Lipectomy for lipedema may need to be completed in stages when the total volume of liposuction exceeds clinical standards of 5000cc total aspirate during the initial procedure. Repeat procedures may also need to be considered on an individual basis as surgical intervention, including liposuction, is not considered curative. Correction of lymphedema (for example, related to surgical mastectomy or lymph node dissection) or lipedema using lipectomy or liposuction is considered reconstructive when done to address a significant variation from normal. Advanced disease may present with significant fibrotic tissue; in such cases, debulking surgery may yield better outcomes and liposuction may be less feasible. Indocyanine green (ICG) lymphography is an imaging method that can assess lymphatic flow across the anatomy and guide liposuction treatment planning, prioritizing preservation of functioning lymphatics.

TREATMENT OF LIPEDEMA

Medicare Advantage Plans and Commercial Products

Lipectomy or liposuction for the treatment of lipedema may be considered medically necessary when filed with the appropriate ICD-10 diagnosis codes for Adiposity or Lipomatosis (see Coding Section), AND when all of the medical criteria for lipedema, above, are met.

Lipectomy or liposuction for the treatment of lipedema when the medical criteria above are not met; when performed for cosmetic purposes (i.e., procedures or services that change or improve appearance without significantly improving Functional Impairment); is considered not covered for Medicare Advantage Plans and Commercial Products. Refer to the Coverage section, below.

Liposuction for lipedema may need to be completed in stages when the total volume of liposuction exceeds clinical standards of 5000cc total aspirate during the initial procedure. Repeat procedures may also need to be considered on an individual basis as surgical intervention, including liposuction, is not considered curative. Correction of lymphedema (for example, related to surgical mastectomy or lymph node dissection) or lipedema using lipectomy or liposuction is considered reconstructive when done to address a significant variation from normal. Advanced disease may present with significant fibrotic tissue; in such cases, debulking surgery may yield better outcomes and liposuction may be less feasible. Indocyanine green (ICG) lymphography is an imaging method that can assess lymphatic flow across the anatomy and guide liposuction treatment planning, prioritizing preservation of functioning lymphatics.

COVERAGE

Benefits may vary between groups and contracts. Please refer to the appropriate section of the Benefit Booklet, Evidence of Coverage, or Subscriber Agreement for applicable surgery or not medically necessary/not covered benefits/coverage.

BACKGROUND

LYMPHEDEMA

Lymphedema is an accumulation of fluid due to disruption of lymphatic drainage. It is characterized by nonpitting swelling of an extremity or trunk, and is associated with wound healing impairment, recurrent skin infections, and decreased quality of life. Lymphedema can be caused by congenital or inherited abnormalities in the lymphatic system (primary lymphedema) but is most often caused by acquired damage to the lymphatic system (secondary lymphedema). Breast cancer treatment (surgical removal of lymph nodes and radiotherapy) is one of the most common causes of secondary lymphedema. In a systematic review of 72 studies (N=29,612 women), DiSipio et al (2013) reported that nearly 20% of breast cancer survivors will develop arm lymphedema.

The risk factors with robust evidence for the development of lymphedema included extensive surgical procedures (such as axillary lymph node dissection, a higher number of lymph nodes removed, and mastectomy) as well as being overweight or obese. A diagnosis of secondary lymphedema is based on history (e.g., cancer treatment, trauma) and physical examination (localized, progressive edema and asymmetric limb measurements) when other causes of edema can be excluded. Imaging, such as magnetic resonance imaging (MRI), computed tomography, ultrasound, or lymphoscintigraphy, may be used to differentiate lymphedema from other causes of edema in diagnostically challenging cases. The International Society of Lymphology (ISL) has provided guidance for staging lymphedema (2023) based on "softness" or "firmness" of the limb and the changes with an elevation of the limb.

TREATMENT OF LYMPHEDEMA

Initial conservative therapy includes exercise and weight loss, compression garments, and manual lymphatic drainage. Complete decongestive therapy involves health professionals who address skin and nail care, therapeutic exercise, manual lymphatic drainage, and limb compression, which is performed daily for 5 days per week. The maintenance phase is intended to conserve the benefit in the first phase, and is self-administered. For those who have failed conservative measures, pneumatic compression pumps, and, occasionally, surgery are used as treatment options.

Patients with chronic lymphedema inevitably undergo adipose hypertrophy within the affected limb(s). This component of the disease ultimately becomes the predominant component of the edema and the associated symptoms. Suction-assisted lipectomy in these settings provides relief from the edema that is otherwise not addressed by conservative strategies and can represent a route to relief of pain and enhancement in mobility that cannot otherwise be achieved.

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Liposuction or Lipectomy for Lipedema
Liposuction is very helpful in patients with advanced lymphedema characterized by fibroadipose tissue deposition. Lymphatic fluid promotes proliferation and accumulation of fatty acids in adipocytes. Thus, as the disease progresses, fat is deposited in the limb/tissues. Often, fat is deposited in the posterior arm and dorsal forearm. This fat is resistant to compression and conservative management (the goal of which is to push fluid out of the limb). Localized liposuction is very effective for managing this problem by removing fibroadipose tissues using small incisions. Liposuction is well tolerated and is usually performed as an outpatient procedure.

A 2021 consensus document sponsored by the American Association of Plastic Surgeons evaluated the evidence on surgical treatment of lymphedema. The conference recommended, based on grade 1C (very low quality) evidence, that there is a role for debulking procedures such as liposuction and for liposuction combined with physiologic procedures in reducing the nonfluid component in lymphedema. The American Venous Forum, American Vein and Lymphatic Society, and the Society for Vascular Medicine published an expert opinion consensus on lymphedema diagnosis and treatment in 2022. For the statement "surgery should be considered for patients with failed conservative treatment in higher than the second ISL stage", the panelists were split nearly 50-50 on this statement, resulting in no consensus. In 2023, ISL updated a consensus document on the diagnosis and treatment of peripheral lymphedema. The consensus of the panel was that liposuction has been shown to completely reduce non-pitting lymphedema due to excess fat deposition, but long-term management requires strict patient adherence to compression garments. National Institute for Health and Care Excellence (NICE) issued clinical guidance addressing the use of liposuction for chronic lymphedema in 2022. The guidance reviewed the evidence and concluded that current evidence on the safety and efficacy of liposuction for chronic lymphedema is adequate to support the use of this procedure provided that standard arrangements are in place for clinical governance, consent, and audit. The evidence on safety shows that the potential risks include venous thromboembolism, fat embolism, and fluid overload. Patient selection should only be done by a multidisciplinary team with expertise in managing lymphedema. The procedure should only be done in specialist centers by clinicians with training and expertise in liposuction for lymphedema following agreed perioperative protocols.

For individuals with lymphedema with progressive disease who failed to respond to conservative therapy, clinical input supports that use of liposuction is consistent with generally accepted medical practice and its use is expected to provide a clinically meaningful improvement in the net health outcome. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

Lymph Node Transplant
Vascularized lymph node transplant (VLNT) is a surgical procedure where autologous healthy tissue and lymph nodes are transferred to the affected limb. Different theories exist regarding the mechanism of action of VLNT. One theory posits that the transplanted lymph nodes produce growth factors to produce and bridge lymphatic pathways. Another theory proposes that the VLNT acts as a pump to move lymphatic fluid away from the affected limb and into central circulation. Thus far, despite its treatment success, no definitive mechanism has been elucidated. This treatment option has been used for individuals with BCRL and others with chronic lymphedema of both the upper and lower extremity. There are various donor sites (where the autologous tissue and lymph nodes are harvested) that have been described including the groin, omentum, submental region, supraclavicular region, and thoracic area. Recipient sites (where the autologous tissue and lymph nodes are transferred) also vary and include the axilla, elbow, wrist, ankle, groin, and knee. Complications include donor site lymphedema, seroma, lymphocele, donor-site pain/paresthesia, and infection. These vary depending on area of intervention (harvest), harvest technique, and transfer location.

Primary outcomes include change in limb circumference (compared to the contralateral extremity), symptom reduction, individual-reported quality of life, and complications. The current available evidence in conjunction with expert opinion demonstrates improved clinical outcomes for individuals who are appropriately diagnosed with lymphatic disease and who do not respond to conservative treatments.

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Available literature for VLNT includes 3 systematic reviews and meta-analyses, 1 systematic review, 1 randomized control trial, and one cross-sectional study. Studies report on individuals with both upper and lower extremity lymphedema. Varying types of flaps and flap harvesting techniques were described. Mean overall reduction in limb volume was observed in all studies assessing this outcome. We acknowledge that there was heterogeneity in measurement modality. Notable findings included reduction in infection incidence, functional improvement, and improved quality of life measures. In the largest study by Ozturk et al including 305 individuals, there was no incidence of donor-site lymphedema. In the RCT (randomized controlled trial) conducted by Dionyssiou et al., the authors conclude that improvement in the abovementioned 3 parameters suggest clear superiority of surgical intervention over conservative management. In three studies, the authors reported on reduction in hours of therapy. In these studies, 78%, 60%, and 53% of individuals, respectively, were able to discontinue therapy after undergoing VLNT. Subjective improvement was observed in 84%-100% of all individuals undergoing this procedure. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

Lymphovenous Bypass

Lymphovenous anastomosis (LVA) or lymphovenous bypass is a physiologic surgical procedure for the treatment of primary and/or secondary lymphedema. In this procedure, lymphatic fluid is diverted into the venous system through one or more anastomoses of lymphatic channels to venous drainage. This would create a physiological bypass of lymphatic fluid before it reached an area of obstruction in the affected extremity. In individuals with chronic lymphedema, the accumulation of lymphatic fluid increases lymphatic pressure and causes dilation of the vessel. The pressure differential promotes flow from the lymphatic vessel to the recipient vein. There have been multiple techniques described. Compared to VLNT, this surgical option has been associated with fewer risks and a is considered less invasive.

Primary outcomes include change in limb circumference (compared to the contralateral extremity), symptom reduction, individual-reported quality of life, and complications. The current available evidence in conjunction with expert opinion demonstrates improved clinical outcomes for individuals who are appropriately diagnosed with lymphatic disease and who do not respond to conservative treatments.

Available literature evaluating lymphovenous bypass as a surgical intervention for the treatment of chronic lymphedema includes three systematic reviews, two literature reviews, and one prospective cohort study. A total of 6066 individuals were included in analysis; with some existing overlap between systematic and literature reviews. Studies demonstrated a consistent trend in reduction of limb volume and circumferential measurements. Furthermore, individual quality of life was exclusively assessed in the study by Salgarello et al. which utilized a validated tool, the LYMQOL (lymphedema quality of life questionnaire) in individuals at multiple time points after LVA. The study supports that LVA improved health-related quality of life in individuals with both UE and LE lymphedema across all four LYMQOL domains, and overall quality of life. In the systematic review by Scaglioni et al, 50-100% of all individuals reported symptomatic reduction; however, only one study used a validated tool (SF-36). The study by Leung et al. consisted exclusively of a BCRL individual population and found an overall 26% mean volumetric reduction at one year. The excess volume reduction ranged from 2% to 61%. Infection was a commonly reported outcome and all studies reported a mean decrease in the number of infections individuals reported post-operatively. Furthermore, 56.3% to 85% of individuals were able to discontinue or decrease the class of compression post-operatively. One study by Chang et al. supports that volumetric reduction may be more robust in individuals with earlier staged lymphedema (MD I-II) who had a 61% overall reduction compared to those with later-stage lymphedema (MD III-IV) who had a mean 17% reduction. Differences in assessment modality compromised the ability to compare results across studies. However, consistent modes of limb assessments were used pre-operatively and post-operatively in all studies and often consisted of either circumferential measurements or water displacement. In studies where LVA with compression was compared to compression only, more pronounced objective and subjective improvement was seen in the LVA+compression group. Complications were infrequently reported across studies. Basta et al. reported an overall rate of infection of 3.9% and lymphorrhea of 4.1%. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

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Lymphatico-Lymphatic Bypass and Lymphaticovenous Anastomosis
Leung et al (2015) reported on a systematic review of the surgical management of BCRL. The search included studies reporting on the efficacy of surgical techniques used for the prevention or treatment of BCRL published between 2000 and 2014. Only 1 study on lymphatico-lymphatic bypass was identified and published since 2000. The study included 7 patients followed for 2.6 years. One patient had "complete recovery" as measured by the circumference of the affected limb and the remaining 6 patients had a "reasonable outcome". Postsurgery complications were cellulitis, donor-site lymphorrhea, and transient edema of the donor leg. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have breast cancer-related secondary lymphedema who receive physiologic microsurgery to treat lymphedema along with continued conservative therapy, the evidence includes RCTs, observational studies, and systematic reviews. Relevant outcomes are symptoms, morbid events, functional outcomes, health status measures, quality of life, resource utilization, and treatment-related morbidity. Several physiologic microsurgeries have been developed, such as lymphaticovenular anastomosis (LVA). Recent systematic reviews have examined microsurgical interventions for lymphedema, including LVA. These reviews emphasize the need for higher-quality, standardized research to better assess surgical efficacy in lymphedema treatment. An ongoing RCT of LVA was identified, but analyses of comparative outcomes between groups are limited at this time. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Lymphatic Physiologic Microsurgery to Prevent Lymphedema
For individuals who are undergoing lymphadenectomy for breast cancer who receive physiologic microsurgery to prevent lymphedema, the evidence includes a RCT, an ongoing RCT, observational studies, and systematic reviews. Relevant outcomes are symptoms, change in disease status, morbid events, quality of life, and treatment-related morbidity. Lymphatic Microsurgical Preventing Healing Approach (LYMPHA) is a preventive lymphaticovenular anastomosis performed during nodal dissection. Two recent systematic reviews have examined microsurgical interventions for lymphedema prevention. These reviews show that immediate lymphatic reconstruction has a protective effect on breast cancer-related lymphedema rates in patients undergoing autologous lymph node transplantation. However, a notable absence of rigorous clinical trials and studies with extended follow-up limits the strength of these findings. The risk of bias assessment underscores this concern; selection and reporting bias remain prevalent across much of the current literature. One RCT including 46 women has been conducted. The trial reported that lymphedema developed in 4% of women in the LYMPHA group and 30% in the control group by 18 months of follow-up. However, because the cumulative incidence of lymphedema after breast cancer treatment approximates 30% at 3 years, longer follow-up is needed to assess the durability of the procedure. The trial methods of randomization and allocation concealment were not described and there was no blinding, potentially introducing bias. The remaining evidence consists of uncontrolled studies and systematic reviews of these studies. An ongoing RCT indicated improved lymphedema at 24 months (n=40) with immediate lymphatic reconstruction compared with controls (9.5% vs. 32%; p=.014), but conclusions based on this RCT are pending final analysis. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

LIPEDEMA
Lipedema, also known as lipoedema, is a rare disorder characterized by a large amount of subcutaneous fat in the extremities. The cause is unknown but is most frequently seen in women with a family history. The exact prevalence is uncertain as it does not have a diagnosis in the International Classification of Diseases (ICD-10). Lipedema is often misdiagnosed as obesity or lymphedema. Lipedema is typically observed in the legs and thighs without affecting the feet, and the adipose tissue is painful. The arms may also be affected without edema of the hands. Symptoms include heaviness, pain (particularly with pressure), loss of strength, easy bruising, and a reduction in daily activity levels that affects the health and quality of life of the individual. The excessive fat deposits are typically unresponsive to traditional weight loss interventions and there is no cure. Untreated lipedema may result in secondary problems including osteoarthritis and reduced mobility. Over time, the weight of the excessive fat build-up can impair the ability to walk. Initially, the lymphatic system can cope with the increased amount of interstitial fluid, but in the later stages, secondary lymphedema

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(lipolymphoedema) can occur if the fatty deposits compromise the lymphatic system. These individuals may not have a negative Stemmer sign or absence of pitting edema.

TREATMENT OF LIPEDEMA

There is no cure for lipedema. The goal of therapy is to reduce symptoms, disability, and functional limitations, and prevent disease progression. Conservative treatment includes manual lymphatic drainage, compression stockings, intermittent pneumatic compression, skin care, and exercise. Individuals with lipedema may have obesity as a comorbidity, and diet is frequently prescribed. Conservative care may alleviate symptoms but treatments are short-lived and may require repeat treatment within days. For individuals who do not respond to conservative treatment, liposuction may be recommended. The purpose of liposuction in individuals who have lipedema is to provide a treatment option that is an alternative to or an improvement on existing therapies.

Liposuction for lipedema may need to be completed in stages when the total volume of liposuction exceeds the clinical standard of 5000 cc total aspirate during the initial procedure. Repeat procedures may also need to be considered on an individual basis as surgical intervention, including liposuction, is not considered curative. Correction of lymphedema (for example, related to surgical mastectomy or lymph node dissection) or lipedema using lipectomy or liposuction is considered reconstructive when done to address a significant variation from normal. Advanced disease may present with significant fibrotic tissue; in such cases, debulking surgery may yield better outcomes and liposuction may be less feasible. Indocyanine green (ICG) lymphography is an imaging method that can assess lymphatic flow across the anatomy and guide liposuction treatment planning, prioritizing preservation of functioning lymphatics.

A 2017 international consensus conference on lipedema identified studies from Germany that reported long-term benefits for up to 8 years following liposuction, concluding that lymph-sparing liposuction is the only effective treatment for lipedema. National Institute for Health and Care Excellence (NICE) issued guidance for liposuction in lipedema in 2022. They recommend liposuction for lipedema should be used only in the research setting because the safety data for liposuction in lipedema is inadequate but concerning.

Liposuction is most heavily supported in patients with lipedema at Stage 3 who manifest unresolved pain and/or impairment of mobility that is directly attributable to the weight and conformation of the affected limbs. Liposuction can provide meaningful benefit.

For individuals with lipedema with progressive disease who failed to respond to conservative therapy, clinical input supports that use of liposuction is consistent with generally accepted medical practice and its use is expected to provide a clinically meaningful improvement in the net health outcome.

Truncal Lipedema

Lipedema initially spares the trunk (Wright and Herbst, 2021). As the disease progresses, the bilateral, symmetrical buildup of adipose tissue in the legs may also extend to the lower trunk (Lipedema Foundation), including the area between the umbilicus and the hips (Cleveland Clinic, 2023). The U.S. Standard of Care for lipedema describes abnormal fat deposition of the buttocks, hips, and limbs, a pattern centered on the lower body (Herbst et al., 2021). Truncal (abdominal) lipedema refers to symmetrical, disproportionate, and often painful adipose tissue of the lower abdomen, flanks, and hips occurring in an individual with lipedema.

Truncal lipedema is associated with, and typically develops in conjunction with, bilateral lower extremity lipedema. In a retrospective review of 327 patients treated for lipedema, abdominal involvement increased with disease severity and was present in 31% of patients with stage II and 70% of patients with stage III lipedema; the authors described an ascending pattern of progression from the legs to the abdomen and proposed diagnostic criteria for abdominal lipedema that include symmetrical fat deposits (Bruno and Cilluffo, 2025). Although sources differ on whether the trunk is involved, none describe truncal lipedema in the absence of lower extremity lipedema. Truncal lipedema is therefore not recognized as an isolated condition.

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For individuals who have truncal lipedema in conjunction with bilateral lower extremity lipedema who receive lipectomy or liposuction, the evidence includes a multicenter randomized controlled trial, a systematic review and meta-analysis, and observational studies. Relevant outcomes are symptoms, functional outcomes, quality of life, and treatment-related morbidity. Truncal lipedema is not recognized as an isolated condition; in a retrospective review of 327 patients, abdominal involvement increased with disease severity and was present in 31% of patients with stage II and 70% of patients with stage III lipedema. In a multicenter randomized controlled trial of 410 women, 68.3% of patients treated with liposuction achieved a clinically relevant reduction in pain at 12 months compared with 7.6% of patients receiving conservative therapy, with additional improvements in quality of life and physical functioning; adverse events were more frequent with liposuction but were mostly mild to moderate. A meta-analysis of 10 studies (901 patients) and observational follow-up of up to 12 years support sustained improvements in pain and quality of life after liposuction. Although evidence specific to the trunk is limited to observational studies, truncal lipedema shares the same underlying pathology as lower extremity lipedema, and the benefits of liposuction are reasonably expected to extend to the affected truncal region when the medical criteria are met. The evidence is sufficient to determine the effects of the technology on health outcomes.

NOTABLE DIFFERENCES BETWEEN LIPEDEMA AND LYMPHEDEMA

Characteristics of Lipedema and Lymphedema

Characteristics	Lipedema	Lymphedema
Pathophysiology	Genetic, primary	Defects in lymph vessels, primary or secondary
Age of onset	Puberty	Any age
Sex	Female	Both sexes
Involvement	Bilateral, mainly legs	Unilateral or bilateral, mainly arms and legs
Symmetry	Symmetric	May be asymmetric
Disproportion	Yes	No
Involvement of feet or hands	No	Yes
Easy bruising	Yes	No

Adapted from Schavit et al (2018)

CODING

TREATMENT OF LYMPHEDEMA

Medicare Advantage Plans and Commercial Products

The following code(s) for lipectomy are medically necessary when the criteria above have been met and must be filed with one of the ICD-10 CM Diagnosis Codes* listed below. Claims filed with all other diagnosis code(s) **may** deny as not covered. Please see Related Policies below when service is being performed for Gender Affirming Care.

CPT Code(s) that may be used for Lipectomy or Liposuction:

15877 Suction assisted lipectomy; trunk
15878 Suction assisted lipectomy; upper extremity
15879 Suction assisted lipectomy; lower extremity

ICD-10 CM Diagnosis Codes for Lipectomy or Liposuction:

I89.0 Lymphedema, not elsewhere classified
I97.2 Postmastectomy lymphedema syndrome

The following code(s) are medically necessary when the medical criteria above has been met:

1019T Lymphovenous bypass, including robotic assistance, when performed, per extremity

There are no specific CPT code(s) for **Lymph Node Transplant.** Therefore, for this procedure, the following Unlisted CPT code should be reported:
38999 Unlisted procedure, hemic or lymphatic system

There are no specific CPT code(s) for the following procedures. Please use the Unlisted CPT code 38999 (Unlisted procedure, hemic or lymphatic system):

- Lymphatico-lymphatic bypass
- Lymphaticovenous anastomosis
- Lymphatic physiologic microsurgery performed during nodal dissection or breast reconstruction to prevent lymphedema (including, but not limited to, the Lymphatic Microsurgical Preventing Healing Approach)

TREATMENT OF LIPEDEMA

Medicare Advantage Plans and Commercial Products

The following CPT code(s) are medically necessary when the medical criteria above have been met and must be filed with one of the ICD-10-CM Diagnosis Codes** in the primary position listed below. Claims filed with all other diagnosis code(s) **may** deny as not covered. Please see Related Policies below when service is being performed for Gender Affirming Care.

15832 Excision, excessive skin and subcutaneous tissue (includes lipectomy); thigh
15833 Excision, excessive skin and subcutaneous tissue (includes lipectomy); leg
15834 Excision, excessive skin and subcutaneous tissue (includes lipectomy); hip
15835 Excision, excessive skin and subcutaneous tissue (includes lipectomy); buttock
15836 Excision, excessive skin and subcutaneous tissue (includes lipectomy); arm
15877 Suction assisted lipectomy; trunk
15878 Suction assisted lipectomy; upper extremity
15879 Suction assisted lipectomy; lower extremity

**ICD-10-CM Diagnosis Codes – must be filed as primary diagnosis
E65 Localized adiposity
E88.2 Lipomatosis, not elsewhere classified

RELATED POLICIES

Cosmetic Services and Procedures
Gender Affirming Care
Prior Authorization of Services, Treatments or Procedures
Unlisted Procedures

PUBLISHED

Provider Update, January 2027
Provider Update, November 2025
Provider Update, July 2024
Provider Update, October 2023
Provider Update, September 2022

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