07.01.93 Surgical Treatment for Lipedema*

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Related Policies:

- 02.01.64 Gender Affirming Services
- 07.01.76 Surgical Treatment of Lymphedema
- 10.01.02 Cosmetic and Reconstructive Services

Summary

Description

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. Surgical procedures such as lipectomy or liposuction are being investigated as treatment options for lipedema.

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Summary of Evidence

For individuals with lipedema who receive liposuction, the evidence includes systematic reviews and meta-analyses of observational studies. Relevant outcomes are symptoms, change in disease status, functional outcomes, and quality of life (QOL). The latest meta-analysis of 9 studies (N=635 patients) investigating the impact of various liposuction techniques for individuals with lipedema revealed improvements in the QOL, pain, pressure sensitivity, bruising, cosmetic impairment, heaviness, walking difficulty, and itching among lipedema patients who underwent liposuction. This analysis was based on prospective cohort studies, which introduces a risk of publication bias. Insufficient detail in some reports contributed to potential data inconsistencies. All studies included in the meta-analysis originated from Germany, highlighting a significant geographical bias. The durability of the procedure is uncertain and no studies were identified that compared liposuction to continued decongestive therapy. To address these limitations, future investigations must prioritize randomized controlled trials (RCTs) to assess the safety and efficacy of various liposuction techniques. One such trial is currently in progress and will provide needed information on the benefits and harms of this procedure. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome. However, based on society guidelines it is now generally accepted that suction assisted lipectomy is a second line treatment for lipedema, see Practice Guideline and Position Statements. Therefore, suction assisted lipectomy will be considered medically necessary for the treatment of lipedema when the criteria below are met, see Policy.

Additional Information

2025 Input

Clinical input was sought to help determine whether the use of liposuction for individuals with lipedema or lymphedema would provide a clinically meaningful improvement in net health outcome and represents generally accepted medical practice in selected patients. In response to requests, clinical input was received from 3 respondents identified by the National Commission on Lymphatic Diseases (NCLD) or an academic medical center. In addition to this request, a plastic surgeon specializing in lymphedema research and reconstruction at a major academic medical center was interviewed.

For individuals with lipedema or 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.

Further details from clinical input are included in the Appendix.

OBJECTIVE

The objective of this evidence review is to evaluate whether surgical treatments improve the net health outcome for individuals with lipedema.

PRIOR APPROVAL

Prior approval is required.

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POLICY

Refer to Wellmark Medical Policy 10.01.02 Cosmetic and Reconstructive Services for information regarding abdominoplasty.

Refer to Wellmark Authorization Table for the prior approvement requirements and the applicable InterQual® Evidence-based criteria regarding Panniculectomy.

Suction Assisted Lipectomy

Suction assisted lipectomy for the treatment of lipedema of the upper extremities, lower extremities and lower abdomen (below the umbilicus) may be considered **medically necessary** to treat functional impairment when **ALL** criteria (sections 1-3) are met:

1. Diagnosis of lipedema confirmed by meeting ALL the following criteria:

    a. History of easy bruising without cause in lipedema affected areas;
    b. Absence of pitting edema;
    c. Negative Stemmer Sign;
    d. Bilateral and symmetrical, nodular fat deposition (dimpled or orange peel texture) with minimal to no involvement of hands and feet;
    e. Evidence of "cuffing" (tissue enlargement ends abruptly at ankles or wrists with sparing of hands and feet;
    f. Tissue in affected areas is tender to palpation and/or hypersensitive to touch;
    g. There is significant physical functional impairment such as difficulty ambulating or performing; activities of daily living or medical complication such as recurrent cellulitis.

2. Lack of improvement of limb adipose hypertrophy and symptoms after 3 months or more of consecutive, conservative treatment including **ALL** of the following:

    a. Leg elevation;
    b. Medical grade compression garments;
    c. Intermittent sequential pneumatic compression;
    d. Manual Lymph Drainage from physical therapy and compliance with home exercise program;
    e. Weight loss;
        i. Individuals who have underwent bariatric surgery, at least 18 months have passed after successful bariatric surgery with appropriate weight loss and clinical documents indicate the member's weight has remained stable in the most recent six (6) months; or
        ii. Individuals with morbid obesity (BMI of ≥ 30) must first complete formal weight loss program.

3. Treatment plan includes **ALL** of the following:

    a. Assessment by specialist in vascular surgery (different from the treating surgeon) confirms that lipedema is an independent cause of the functional impairment and not chronic venous insufficiency or peripheral arterial disease;
    b. Treatment for each extremity will take place within 12-month period following initial treatment;
    c. Color photographs of each area to be treated that documents disproportional fat distribution consistent with lipedema;
    d. Treatment request is not for re-treatment of previously treated area;
    e. Postoperative plan of care is to continue to wear compression garments and continue conservative care.

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Suction assisted lipectomy for the treatment of lipedema is considered **investigational** for **ALL** of the following because the evidence is insufficient to determine that the technology results in an improvement in net health outcome:

1. When not meeting the above criteria.
2. All areas of trunk and back except as indicated above regarding lower abdomen (below umbilicus).
3. For use in head and neck areas.
4. Re-treatment of a previously treated area.

Reverse lymphatic mapping used during liposuction for lipedema is considered **investigational.** The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Cosmetic and Not a Contract Benefit

Refer to Wellmark Medical Policy 10.01.02 Cosmetic and Reconstructive Services

Excision of excessive skin and subcutaneous tissues in any area for treatment of lipedema is considered **cosmetic and not a contract benefit.**

Subsequent injection of the suction assisted lipectomy-harvested lipedema fat into another anatomic area or suction assisted lipectomy for lipedema performed to enhance or otherwise alter physical appearance without correcting or improving a physiological function are considered **cosmetic and not a contract benefit.**

POLICY GUIDELINES

Documentation Requirements:

Documentation must detail all of the above diagnostic criteria, conservative care and treatment plan.

Physician documentation: Please return **ALL** the following medical notes documenting the following, when applicable:

1. Diagnosis.
2. Specific procedure requested and treatment plan, including post-operative plan of care.
3. History of the medical condition(s) requiring treatment.
4. Level of functional impairment.
5. Physical exam including evidence of lipedema.
6. High-quality color photographs: all photos must be labeled with the date taken and the applicable case number obtained at time of notification, or member's name and ID number on the photograph(s).
7. Relevant medical history.
8. Treatments tried, failed, or contraindicated; include the dates and reason for discontinuation, including failure of the limb adipose hypertrophy to respond to recommended bariatric surgery or other medically supervised weight loss modalities.
9. Relevant surgical history, including dates.
10. Assessment of the cause of functional impairment by primary care provider or specialist in vascular conditions other than treating surgeon.

Definitions

Cosmetic Services: (Not Covered): Cosmetic Services, supplies, or drugs if provided primarily to improve physical appearance. A service, supply or drug that results in an incidental improvement in appearance may be covered if it is provided primarily to restore function lost or impaired as the result of

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an illness, accidental injury, or a birth defect. Treatment for any complications resulting from a noncovered cosmetic procedure are also not covered.

- The American Society of Plastic Surgeons defines Cosmetic Procedures as the following: Cosmetic plastic surgery includes surgical and nonsurgical procedures that enhance and reshape structures of the body to improve appearance and confidence.

Excisional lipectomy: Invasive surgical removal of the accumulated excess subcutaneous adipose tissue.

Functional Impairment: A functional impairment causes deviation from the normal function of a tissue or organ. This results in a significantly limited, impaired, or delayed capacity to move, coordinate actions or perform physical activities and is exhibited by difficulties in one or more of the following areas: physical and motor tasks; independent movement; performing basic life functions (e.g., eating, bathing, dressing).

Lipedema: Also known as lipoedema, it is a rare disorder of unknown cause which is characterized by a large amount of subcutaneous fat in the extremities that can be painful and result in functional impairment. It is most frequently seen in women.

Liposuction: Also known as lipoplasty or suction-assisted lipectomy, it is a surgical technique consisting of the removal of fat cells with a cannula and tumescent anesthesia.

Reconstructive Surgery: Reconstructive surgery primarily intended to restore function lost or impaired as a result of an illness, injury or birth defect (even if there is incidental improvement in physical appearance) including breast reconstructive surgery following mastectomy. Breast reconstructive surgery includes the following:

- Reconstruction of the breast on which the mastectomy has been performed.
- Surgery and reconstruction of the other breast to produce a symmetrical appearance.
- Prostheses.

The American Society of Plastic Surgeons defines Reconstructive Procedures as the following:

- Reconstructive surgery is performed to treat structures of the body affected aesthetically or functionally by congenital defects, developmental abnormalities, trauma, infection, tumors, or disease. Reconstructive surgery is generally done to improve function and ability but may also be performed to achieve a more typical appearance of the affected structure.

Reverse lymphatic mapping: Injection of radioactive tracer and/or indocyanine green (ICG) fluorescence lymphography into surgical site surrounding areas guide the surgeon in visualizing and preserving lymphatic drainage pathways.

Coding

See the Codes table for details.

BACKGROUND

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

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Diseases (ICD-10). Lipedema is often misdiagnosed as obesity or lymphedema (see table 1 below for comparison).

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 (lipolymphoedema) can occur if the fatty deposits compromise the lymphatic system.

Table 1. 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)

Treatment

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.

Liposuction and lipectomy have also been proposed as treatment options for lipedema. Liposuction (also knowns as suction-assisted lipectomy) consists of the removal of fat cells with a cannula and tumescent anesthesia. Tumescent infused in the subcutaneous tissues causes the fat cells to swell and vessels to constrict; micro-cannulas are then used to suction the fat. Procedures use local anesthetics in the tumescent fluid and do not require general anesthesia. Specialized techniques for liposuction may include power-assisted, which uses a variable speed motor for reciprocating motion, laser-assisted, ultrasound-assisted, radiofrequency-assisted, and water-assisted. Water-assisted liposuction (WAL) is a technique that uses pulsating jets of tumescent solution to dislodge fatty tissue with simultaneous suction of the fat and tumescent fluid. A small, randomized trial from 2007 on cosmetic indications suggests a reduction in pain and ecchymosis with WAL compared to traditional liposuction.

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Liposuction reduces the amount of fatty tissue but does not eliminate it, and multiple sessions may be needed.

Excisional lipectomy involves the invasive surgical removal of the accumulated excess subcutaneous adipose tissue.

Reverse lymphatic mapping uses radioactive tracer and/or indocyanine green (ICG) fluorescence lymphography injection into the areas adjacent to the surgical site to allow visualization and guide the surgeon in the preservation of lymphatic drainage pathways.

Regulatory Status

Liposuction and lipectomy are surgical procedures and, as such, are not subject to regulation by the U.S. Food and Drug Administration (FDA).

RATIONALE

This evidence review was created in November 2023 with a search of the PubMed database. The most recent literature update was performed through September 2025.

Evidence reviews assess the clinical evidence to determine whether the use of technology improves the net health outcome. Broadly defined, health outcomes are length of life, quality of life, and ability to function, including benefits and harms. Every clinical condition has specific outcomes that are important to patients and managing the course of that condition. Validated outcome measures are necessary to ascertain whether a condition improves or worsens; and whether the magnitude of that change is clinically significant. The net health outcome is a balance of benefits and harms.

To assess whether the evidence is sufficient to draw conclusions about the net health outcome of technology, 2 domains are examined: the relevance, and quality and credibility. To be relevant, studies must represent 1 or more intended clinical use of the technology in the intended population and compare an effective and appropriate alternative at a comparable intensity. For some conditions, the alternative will be supportive care or surveillance. The quality and credibility of the evidence depend on study design and conduct, minimizing bias and confounding that can generate incorrect findings. The randomized controlled trial (RCT) is preferred to assess efficacy; however, in some circumstances, nonrandomized studies may be adequate. RCTs are rarely large enough or long enough to capture less common adverse events and long-term effects. Other types of studies can be used for these purposes and to assess generalizability to broader clinical populations and settings of clinical practice.

Therapy

Clinical Context and Therapy Purpose

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 with lipedema who do not respond to conservative treatment, surgical treatment may be recommended.

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The purpose of surgical treatments in individuals who have lipedema is to provide a treatment option that is an alternative to or an improvement on existing therapies.

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

Populations

The relevant population of interest is individuals with lipedema/lipoedema or lipolymphedema who have failed to respond to conservative therapy.

In stage I lipedema the skin is smooth and the subcutaneous layer is thickened, soft, and with an even structure. In stage II lipedema the skin becomes uneven and subcutaneous nodules develop. In stage III lipedema there are bulging protrusions of fat along with tender subcutaneous tissue. In an advanced stage, sometimes referred to as stage IV lipedema, the excess fat can impair lymphatic vessel function leading to secondary lymphedema (lipolymphedema).

Interventions

The therapy being considered is surgical treatments, such as liposuction or lipectomy, with or without reverse lymphatic mapping.

Comparators

Conservative treatment (decongestive therapy) consists of manual lymphatic drainage, compression garments, intermittent pneumatic compression, skin care, and exercise. Diet is also used to prevent or treat obesity associated with lipedema.

Outcomes

The general outcomes of interest are symptoms, change in disease status, functional outcomes, and QOL.

Reported outcomes for lipedema are reduction in size of extremities, circumferential measurement, restriction of movement, spontaneous pain or discomfort, sensitivity to pressure, edema/swelling, bruising, trophic skin changes, and quality of life.

Study Selection Criteria

Methodologically credible studies were selected using the following principles:

- To assess efficacy outcomes, comparative controlled prospective trials were sought, with a preference for RCTs;
- In the absence of such trials, comparative observational studies were sought, with a preference for prospective studies;
- To assess long-term outcomes and adverse events, single-arm studies that capture longer periods of follow-up and/or larger populations were sought;
- Studies with duplicative or overlapping populations were excluded

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Review of Evidence

Systematic Reviews

Hayes (2025) updated an evolving evidence review on liposuction for the treatment of lipedema that summarized findings from 3 very poor-quality, retrospective pretest and posttest studies. This updated evidence review did not change previous findings. Although findings suggest that liposuction may lead to clinically significant improvements in quality of life, disability, and pain, and reduced need for conservative treatment in women with lipedema at 2 to 3 years of follow-up, complications such as bruising, and post operative bleeding were common. However, due to the high potential for bias due to the lack of control groups and the retrospective design, Hayes concluded that this evidence provides minimal support for using liposuction for lipedema.

Amato et al (2024) conducted meta-analysis of 7 noncomparative studies (n=451) conducted primarily in Germany and published between 2012 and 2023. Analyses indicated that liposuction significantly improved spontaneous pain, edema, bruising, mobility, and quality of life; however, conservative therapy was required after surgery in over half of the patients.

The Canadian Agency for Drugs and Technologies in Health (2019) conducted a qualitative systematic review of liposuction for the treatment of lipedema. The authors identified 5 uncontrolled before-and-after studies in the English language that suggested that liposuction may be effective in reducing the size of the extremities, symptoms, and functional limitations of lipedema. One of the publications was a follow-up to an earlier study, and no reports were identified outside of Germany. Limitations of the evidence included the lack of controlled trials and patient's self-assessment with scales that had not been validated for use in patients with lipedema. A 2022 update confirmed no recent studies in individuals with lipedema comparing the clinical effectiveness of liposuction to other alternative treatments or no treatment.

Mortada et al (2024) performed a systematic review and meta-analysis to assess the efficacy and safety of liposuction for individuals with lipedema. The review included 20 studies (N=1785 patients) published up to March 2023. The selected studies comprised 14 prospective cohort studies, 3 retrospective studies, 2 case series, and 1 cross-sectional study. Based on data from 14 studies, the majority of patients were classified as stage 2 (503 individuals), followed by stage 3 (467 individuals), and a smaller number at stage 1 (64 individuals). There were no cases classified as advanced (Stage IV) disease. The most commonly reported comorbidities were hypothyroidism and allergies, followed by conditions such as depression, migraine, sleep disorders, arterial hypertension, asthma, and bowel disorders. Lipedema was most frequently observed in the outer and inner legs, as well as the arms. The most commonly utilized technique was tumescent liposuction (81%), followed by power-assisted liposuction (35%) and WAL (29%). The data analysis showed an average of 2.88 (± 1.30) treatment sessions per patient, with a mean aspirate volume of 4,429 mL per session. Liposuction sessions varied from 1 to 2.5 hours, and 11 (of 20) studies reported postoperative use of compression garments. A meta-analysis of 9 studies revealed improvements in the quality of life (standardized mean difference (SMD) 2.48, p<.0001), pain (SMD 2.04, p<.0001), pressure sensitivity (SMD 2.2, p<.0001), bruising (SMD 1.61, p<.0001), cosmetic impairment (SMD 2.07, p<.0001), heaviness (SMD 2.01, p<.0001), walking difficulty (SMD, 1.34, p<.00001), and itching among lipedema patients who underwent liposuction. Although complications such as inflammation, thrombosis, seroma, hematoma, and lymphedema-related skin changes were reported, severe complications were rare. No instances of shock, recurrence, or mortality were reported. The mean follow-up duration for the patients across studies was 15 months, (range, 1 to 96 months).

The above systematic review by Mortada et al (2024) was based on prospective cohort studies, which introduces a risk of publication bias. Insufficient detail in some reports contributed to potential data

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inconsistencies. Moreover, 70% (14 of 20) of the studies originated from Germany, highlighting the possibility of important differences in the approach to clinical care that may limit generalizability. Studies are ongoing with one RCT (with estimated enrollment of 450 patients) currently being conducted across multiple German centers, comparing wet liposuction techniques with decongestive therapy alone, with results expected by 2026 (NCT05284266).

A meta-analysis by Fijany et al (2024) aimed to evaluate the efficacy and safety of different liposuction techniques in patients with lipedema, incorporating 10 studies with post-operative outcomes and complication data. The studies comprised of two using traditional tumescent liposuction (TTL), five utilizing power-assisted liposuction (PAL), one employing WAL, and two studies featuring both PAL and WAL. In total, 2,542 procedures performed on 906 patients were analyzed. Consistent with the findings of Mortada et al. (2024), the combined outcomes for all techniques showed significant improvements in pain relief, reduction of bruising and edema, decreased tension, reduced pressure sensitivity, and enhanced cosmetic and general impairment (all $p<0.00001$). TTL, PAL, and WAL each significantly contributed to reducing pain, bruising, swelling, pressure sensitivity, and cosmetic impairment (all $p<0.05$). WAL was particularly effective in alleviating tension and general impairment (all $p<0.005$); however, the heterogeneity for these outcomes was high. The overall complication rates reported were low, with TTL at 1.5%, PAL at 4.0%, WAL at 0%, and studies using both PAL and WAL at 2.3%.

Section Summary

The evidence on liposuction for lipedema includes systematic reviews and meta-analyses of observational studies. The latest meta-analysis of 9 studies (N=635 patients) investigating the impact of various liposuction techniques for individuals with lipedema revealed improvements in the quality of life, pain, pressure sensitivity, bruising, cosmetic impairment, heaviness, walking difficulty, and itching among lipedema patients who underwent liposuction. This analysis was based on prospective cohort studies, which introduces a risk of publication bias. Insufficient detail in some reports contributed to potential data inconsistencies. All studies included in the meta-analysis originated from Germany, Generalizability to other clinical care settings may be limited. The durability of the procedure is uncertain and no studies were identified that compared liposuction to continued decongestive therapy.

SUPPLEMENTAL INFORMATION

The purpose of the following information is to provide reference material. Inclusion does not imply endorsement or alignment with the evidence review conclusions.

Clinical Input From Physician Specialty Societies and Academic Medical Centers

While the various physician specialty societies and academic medical centers may collaborate with and make recommendations during this process, through the provision of appropriate reviewers, input received does not represent an endorsement or position statement by the physician specialty societies or academic medical centers, unless otherwise stated.

2025 Input

In response to requests, clinical input was received from 3 respondents identified by the National Commission on Lymphatic Diseases (NCLD) or an academic medical center. Respondents affirmed that the use of liposuction in individuals with lymphedema or lipedema who failed to respond to conservative

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treatment provides a clinically meaningful improvement in net health outcome and represents generally accepted medical practice. Additional details are available in the Appendix.

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

Fat Disorders Resource Society Annual Meeting

In 2021, Herbst et al. published the Fat Disorders Resource Society's standards of care for lipedema in the United States (Accessed March 2025). This publication includes 85 consensus statements written by a US committee following the Delphi Method and rated for strength using the GRADE system. The Surgical Treatment section (4.0), include the following key standards:

- 4.1. "Lipedema reduction surgery is currently the only available technique for removing abnormal lipedema tissue such as adipocytes, nodules, fibrotic extracellular matrix, and other non-adipocyte components. It is also the only treatment that slows progression of lipedema and ideally would be performed before complications and disabilities from lipedema develop.
- 4.2. Lipedema reduction surgery utilizes suction lipectomy (liposuction), excision and manual extraction that spares blood and lymphatic vessels.
- 4.3. Candidates for lipedema reduction surgery should generally be in good health
- 4.4. There is no age limit for which people will benefit from lipedema reduction surgery.
- 4.5. Indications for lipedema reduction surgery include a diagnosis of lipedema with demonstrated compliance and adherence to or failure of conservative therapies
- 4.6. Lipedema reduction surgery does not fit traditional volume limits for liposuction
- 4.8. If the patient has lipolymphedema, complete decongestive therapy performed prior to surgery should include an intensive volume reduction phase, ideally 3–4 treatments per week.
- 4.11. A Pre-surgical venous duplex ultrasound and/or treatment of chronic venous disease should be considered especially in patients with lipolymphedema prior to lipedema reduction surgery.
- 4.12. Lipedema reduction surgery can be safely accomplished in an outpatient setting."

Hayes

Hayes (April, 2022) published a review of clinical practice guidelines and positions statements as part of their Evolving Evidence Review on Liposuction for the Treatment of Lipedema (updated May 2025). Based on their review of full-text clinical practice guidelines and position statements, Hayes found that identified guidelines consistently recommend the technology. Thus, Hayes concluded that guidance appears to confer strong support for liposuction to treat lipedema. (Accessed September 2025)

International Consensus Conference on Lipedema

A 2020 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. (Accessed September 2025)

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National Institute for Health and Care Excellence (NICE)

NICE (2022) published an interventional procedures guidance document (IPG721), stating that the evidence on the safety of liposuction for chronic lipedema is inadequate but raises concerns of major adverse events such as fluid imbalance, fat embolism, deep vein thrombosis, and toxicity from local anesthetic agents. Because the evidence consists of mainly retrospective studies with methodological limitations, NICE recommends this procedure should only be used in the context of research. Additional recommendations are that patient selection should be done by a multidisciplinary team, including clinicians with expertise in managing lipedema and the procedure should only be done in specialist centers by surgeons experienced in this procedure.

Ongoing and Unpublished Clinical Trials

Some currently ongoing and unpublished trials that might influence this review can be located at clinicaltrials.gov.

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CODES

To report provider services, use appropriate CPT codes, HCPCS codes, Revenue codes, and/or ICD diagnosis codes.

Codes	Number	Description
CPT		
	15877	Suction assisted lipectomy; trunk
	15878	Suction assisted lipectomy; upper extremity
	15879	Suction assisted lipectomy; lower extremity
HCPCS		

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	No Code	
Type of Service	Surgery	
Place of Service	Outpatient/Inpatient	

POLICY HISTORY

Date	**Action**	**Action**
September 2025	Annual Review	Policy Renewed
March 2025	Annual Review	Policy Renewed
September 2024	Annual Review	Policy Revised
November 2023	Inquiry	New Medical Policy Created

Appendix

2025 Clinical Input

Objective

Clinical input was sought to help determine whether the use of liposuction in individuals with lymphedema or lipedema who have failed conservative therapy provides a clinically meaningful improvement in net health outcome and represents generally accepted medical practice in selected patients. In response to requests, clinical input was received from 3 respondents identified by the National Commission on Lymphatic Diseases (NCLD) or an academic medical center. In addition to this request, Dr. Wei Chen, MD, FACS, professor and attending of plastic surgery and Co-Director of the Center for Lymphedema Research and Reconstruction at Cleveland Clinic, was interviewed.

Respondents

Clinical input was provided by the following specialty societies and physician members identified by a specialty society or clinical health system:

- Stanley G. Rockson, MD, identified by the National Commission on Lymphatic Diseases (NCLD)
- Babak Mehrara, MD, identified by the NCLD
- David W. Chang, MD, University of Chicago Medicine

Ratings

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			Confidence Level That Clinical Use is Expected to Provide a Clinically Meaningful Improvement in Net Health Outcome (Low – Intermediate – High)						Confidence Level That Clinical Use Is Consistent with Generally Accepted Medical Practice (Low – Intermediate – High)					
Clinical Indication	**Respondent**	**Identified by**	**Yes or No**	**1**	**2**	**3**	**4**	**5**	**Yes or No**	**1**	**2**	**3**	**4**	**5**
Use of liposuction in individuals with lymphedema	Dr. Rockson*	NCLD	Yes						Yes					
	Dr. Mehrara*		Yes						Yes					
	Dr. Chang*	University of Chicago	Yes						Yes					
Use of liposuction in individuals with lipedema	Dr. Rockson*	NCLD	Yes						No					
	Dr. Mehrara*		NR						NR					
	Dr. Chang*	University of Chicago	Yes						Yes					

NCLD: National Commission on Lymphatic Diseases; NR: no response.
*Indicates that conflicts of interest related to the topic where clinical input is being sought were identified by this respondent (see Appendix).

Respondent Profile

#	Respondent	Clinical Specialty	Board Certification
1	Stanley G. Rockson, MD, Stanford University	Cardiovascular Medicine	Diplomate, Internal Medicine; Cardiovascular Medicine
2	Babak Mehrara, MD, Memorial Sloan Kettering Cancer Center	Plastic Surgery	Plastic Surgery; Microsurgery
3	David W. Chang, MD, University of Chicago Medicine	Plastic & Reconstructive Surgery	Plastic & Reconstructive Surgery; Microsurgery; Hand Surgery

Respondent Conflict of Interest Disclosure

#	1) Research support related to the topic where clinical input is being sought		2) Positions, paid or unpaid, related to the topic where clinical input is being sought		3) Reportable, more than $1,000, health care–related assets or sources of income for myself, my spouse, or my dependent children related to the topic where clinical input is being sought		4) Reportable, more than $350, gifts or travel reimbursements for myself, my spouse, or my dependent children related to the topic where clinical input is being sought	
	YES/NO	Explanation	YES/NO	Explanation	YES/NO	Explanation	YES/NO	Explanation
1	Yes	Clinical trials sponsored by Stanford University and Celltaxis LLC	Yes	I am have an endowed chair and serve as the Allan and	Yes	I serve as a consultant for Koya, Inc.	No	

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#	1) Research support related to the topic where clinical input is being sought		2) Positions, paid or unpaid, related to the topic where clinical input is being sought		3) Reportable, more than $1,000, health care–related assets or sources of income for myself, my spouse, or my dependent children related to the topic where clinical input is being sought		4) Reportable, more than $350, gifts or travel reimbursements for myself, my spouse, or my dependent children related to the topic where clinical input is being sought	
				Tina Neill Professor of Lymphatic Research and Medicine at Stanford; this is a salaried position.				
2	Yes	I have grant funding from the NIH.	No		No		No	
3	Yes	I have an ongoing prospective randomized trial regarding the use of biobridge nanofibrils with vascularized lymph-node transplants; was an NCI and now industry(Firbrolign) sponsored	No		No		No	

Specialty Society respondents provided aggregate information that may be relevant to the group of clinicians who provided input to the Society-level response.

Clinical Input Responses

Question 1: We are seeking your rationale on whether using liposuction in individuals with lymphedema provides a clinically meaningful improvement in net health outcome.

#	Rationale
1	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.
2	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

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#	Rationale
	outpatient procedure. Dr. Brorson has the largest experience in this procedure and has shown excellent long-term outcomes. Similar results have been presented more recently by other authors.
3	When lymphedema develops, this leads to extra deposition of fat in the tissue. The only way to reduce this extra fat deposition is by removing it either directly or with liposuction. Liposuction can be useful in many patients with lymphedema.

Question 2: Do you agree with the following patient eligibility criteria for liposuction in individuals with lymphedema?

- Documentation by the referring primary care provider or vascular specialist (different from the treating surgeon) confirming that lymphedema is an independent cause of physical functional impairment
- Failure to respond to three consecutive months of conservative medical management (e.g., compression garments, manual lymphatic drainage)
- Patient consents to wear compression garments postoperatively as prescribed to maintain treatment effects

#	Yes/No	Rationale
1	Yes	There is no explanation for the rationale. This is empirically logical.
2	No	This criteria does not address the question of fat deposition in the limb. Generally, if there is pitting edema, additional conservative measures should be done in order to assess the amount of fatty tissues in the limb. Alternatively, imaging studies can be used to analyze the degree of fibrofatty tissue deposition.
3	Yes	I believe these are all reasonable criteria.

Question 3: Are there scenarios where a clinical benefit is observed from excisional procedures such as debulking or liposuction when performed to sites other than the upper or lower extremities in individuals with lymphedema (e.g., trunk, chest, waist, hip, buttocks, back, head, neck)?

#	Yes/No	Rationale
1	Yes	Yes, patients with lymphedema are prone to massive localized lymphedema, otherwise known as pseudosarcoma. The only meaningful solution is surgical debulking.
2	Yes	Liposuction can be used for truncal and chest lymphedema and is effective. Most surgeons do not use this approach for head and neck lymphedema.
3	Yes	While we are most familiar with lymphedema of arm/leg, lymphedema can occur in all areas of our body (including areas stated in the question and also genitals) and may be best managed by debulking or liposuction.

Question 4: Please describe clinical scenarios (e.g., clinical signs and symptoms) used to determine whether microsurgical treatment (e.g., microsurgical lymphatico-venous anastomosis, lymphathic-capsular-venous anastomosis, lymphovenous bypass) or vascularized lymph node transfer supports a treatment benefit in individuals with lymphedema. Examples may include pain or weakness in the affected extremity or a history of skin conditions.

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#	Rationale
1	The chief rationale for these procedures is to provide greater responsiveness to conservative strategies to minimize lymphedema.
2	LVB is useful in patients early stage disease often manifesting as pitting edema when not wearing garments, hand swelling, recurrent infections, BIS abnormalities, or significant volume changes (e.g. >7.5% difference from normal limb). Most surgeons also assess the potential for LVB with imaging studies using indocyanine green lymphography. Lymph node transplantation (LNT) is useful for patients who are not candidates for LVB (more advanced disease; no functional lymphatics on lymphography) and in patient with radiation or surgical induced fibrosis. Often, these patients have significant skin scarring in the axilla or groin that limits range of motion, can be painful, or compresses the veins (thus increasing fluid accumulation). LNT is also very helpful in patient with a history of recurrent infections with some studies showing a >85% decrease in the incidence of infections (see PMID 35837897).
3	Most stages of lymphedema can be managed by physiologic procedures stated above to help reduce the severity of lymphedema by reducing the fluid component of the lymphedema, stopping/slowing down the progression of lymphedema, rebuilding the lymphatic structure/system or broken lymphatic system. Patients may benefit reduction in the size of the affected area, improvement in pain/discomfort/heaviness, reduction in cellulitis/infection etc. Another key benefit is slowing down the progression of lymphedema that further damages the lymphatic system.

Question 5: Please describe any quantitative measurements or thresholds used to determine whether microsurgical treatment (e.g., microsurgical lymphatico-venous anastomosis, lymphathic-capsular-venous anastomosis, lymphovenous bypass) or vascularized lymph node transfer supports a treatment benefit in individuals with lymphedema. Examples may include thresholds for volumetry differentials in the affected limb or the role of preoperative lymphoscintigraphy.

#	Rationale
1	The prospective indications for surgical intervention rest upon the patient's clinical presentation without the need for supporting documentation as requested here.
2	Volume changes >5% from the contralateral limb or BIS>6.5 are frequently used for diagnosis. Preop lymphoscintigraphy is helpful to determine if functional lymph nodes are present in which case the surgical plan may be altered.
3	Lymphoscingraphy: to assess lymphatic function ICGN lymphography to evaluate and map out functioning lymphatic vessels Volume (circumferential) measurements, QOL scores, bioimpedance measurements to evaluate the severity of lymphedema.

Question 6: Are there any lymphatic physiologic microsurgery techniques for lymphedema that are currently not supported by the evidence?

#	Rationale
1	I believe that the support for vein-to-lymph node bypass as not as well supported by outcomes studies as are the other approaches.
2	There is less evidence of lymphatic-capsular-venous anastomosis. Although additional studies are underway.
3	All physiologic procedures that you have mentioned have been found to have scientific support in the literature.

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Question 7: Is there a role for lymphatic physiologic microsurgery performed during nodal dissection or breast reconstruction to prevent lymphedema?

#	Rationale
1	Yes, the efficacy of the LYMPHA procedure is well-described in the medical literature.
2	Yes. Immediate lymphatic reconstruction (AKA LYMPHA) has been shown to decrease the incidence of lymphedema in the upper and lower extremity in multiple studies including a recent randomized control study. see pmid 37314177
3	Once a patient develops lymphedema, there is no intervention that reverse the process and provide the cure. Thus, prevention is critical to minimize the development of lymphedema. Most leading institutions are now routinely performing prophylactic/preventative lymphatic reconstruction with LVB in high risk situations. There have been many publications to support this including a prospective/randomized study which are very difficult to do for surgical procedures.

Question 8: What are some clinical characteristics distinguishing lymphedema from obesity? Does bioimpedance spectroscopy aid in this differential?

#	Rationale
1	Obesity does not result in abnormal bioimpedance spectroscopy, provided that the instrument is able to specifically detect the extracellular fluid component.
2	Decreased lymphatic transport on lymphoscintigraphy or ICG lymphography is the most important distinguishing characteristic. Obesity typically does not show abnormalities on these tests (in contrast to lymphedema).
3	Lymphedema is damage to the lymphatic system and this can/will lead to deposition of extra fat. Obesity has been shown to be one of the risk factors for developing lymphedema but it is not always due to lymphedema. Bioimpedance can be helpful in differentiating.

Question 9: We are seeking your rationale on whether using liposuction in individuals with lipedema provides a clinically meaningful improvement in net health outcome.

#	Rationale
1	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.
2	NR
3	Lipedema is abnormal deposition of fat in patients who do not have lymphedema. Liposuction can provide meaningful benefit.

Question 10: Do you agree with the following patient selection criteria for excisional surgery (e.g., liposuction, excision, debulking, lipectomy) in individuals with lipedema?

- A diagnosis of lipedema meeting all of the following criteria:
- Absence of pitting edema
- Bilateral and symmetrical manifestation with minimal involvement of the feet
- Disproportionate adipocyte hypertrophy of the affected extremity
- Photographs of the area to be treated documenting disproportional adipose distribution consistent with diagnosis
- Negative Stemmer sign
- Pressure-induced pain and tenderness on palpation

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- 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

- Failure to respond to at least 3 consecutive months of conservative medical management (e.g., compression or manual therapy)
- Documentation by the referring primary care provider or vascular specialist (different from the treating surgeon) confirming that lipedema is an independent cause of physical functional impairment
- Patient consents to wear compression garments postoperatively as prescribed to maintain treatment effects
- Surgical treatment is performed by a hospital credentialed, board-certified plastic surgeon

#	Yes/No	Rationale
1	No	I agree with most of the content of the statement, but the manifestations attributable to concomitant lymphedema (positive Stemmer sign, pitting edema) do not represent contraindications to the appropriate diagnosis or the application of the treatment strategy. Secondary lymphedema can represent a component of the natural history of lipedema.
2	NR	NR
3	Yes	Above are reasonable.

Question 11: Do you agree with the following statement?
Liposuction for lipedema may need to be completed in stages when the total volume of liposuction exceeds clinical standard of 5000cc total aspirate during the initial procedure and may be considered medically necessary when expected to be completed within a 12-month period.

#	Yes/No	Rationale
1	Yes	This is safety rationale.
2	Yes	Large volume liposuction can cause significant shifts and morbidity. Therefore, liposuction excess of 3-4 liters should be staged.
3	Yes	Too much liposuction in a single setting can be hazardous to patient.

Question 12: Are there clinical scenarios where repeat treatment of lipedema with liposuction in areas that have been previously fully treated is clinically appropriate?

#	Rationale
1	This would need to be decided on an individual basis, related to clinical presentation and context.
2	Yes. See above for example. Sometimes, we perform liposuction in the upper arm/leg and if necessary at a later date in the other regions of the limb.
3	If the initial liposuction was insufficient or resulted in uneven deformity.

Question 13: Are there scenarios where a clinical benefit is observed from excision (with lipectomy) or liposuction when performed at sites other than the upper or lower extremities in individuals with lipedema (e.g., abdomen, trunk, head, neck, chin)?

#	Rationale

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1	In my experience, no.
2	Yes. The trunk and axilla are common sites where fibroadipose tissue deposition can occur with lymphedema. This approach may also be helpful in the head and neck area for localized fat deposition.
3	Yes. Lipedema can occur in all areas of the body.

Question 14: Please describe clinical characteristics distinguishing lipedema from obesity. Should weight loss interventions be trialed prior to treatment escalations in individuals with concomitant class II or III obesity?

#	Rationale
1	In classic lipedema without concomitant obesity, the waist/hip ratio should be < 0.8 I agree with optimizing the weight loss strategies for constitutional obesity prior to attempting surgical intervention for lipedema.
2	Lipedema is often nodular, can result in easy bruising, has localized fat deposition that is resistant to weight loss. Usually, lymphatic vessels in lipedema are normal on ICG lymphography. Most cases of lipedema do not respond completely to weight loss.
3	If patients had BMI that indicates obesity then a trial of weight loss should be considered first.

Question 15: Please describe contraindications to liposuction and excisional surgeries.

#	Rationale
1	The contraindication would by high risk status for elective surgery or a BMI >40 that, in itself, raises the risk for the surgical intervention.
2	Active infections, recurrent local disease, non-compliance with compression, severe neuropathy, bleeding diathesis or active use of blood thinners, cardiopulmonary compromise.
3	When the cause is obesity and not lymphedema/lipedema; patient should seek solutions for weight loss. Medical condition that may make surgical interventions hazardous to patient's wellbeing.

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

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