Policy Number	**MED202.060**
Policy Effective Date	**5/7/2026**

Compression Pumps for Treatment of Lymphedema and Venous Ulcers

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Related Policies (if applicable)
DME101.000: Durable Medical Equipment Reference List

Disclaimer

Carefully check state regulations and/or the member contract.
Each benefit plan, summary plan description or contract defines which services are covered, which services are excluded, and which services are subject to dollar caps or other limitations, conditions or exclusions. Members and their providers have the responsibility for consulting the member's benefit plan, summary plan description or contract to determine if there are any exclusions or other benefit limitations applicable to this service or supply. **If there is a discrepancy between a Medical Policy and a member's benefit plan, summary plan description or contract, the benefit plan, summary plan description or contract will govern.**

Coverage

ALERT: Refer to Medical Policy DME101.000 (DME Introduction) for important information about DME coverage.

NOTE 1: Coverage of DME items is for home/place of residence use only. DME items utilized in a facility setting (hospital, outpatient surgery, physician office, other) are not separately billable and are considered part of the facility/office charge.

Treatment of Lymphedema

Single-compartment or multi-chamber *nonprogrammable* pneumatic compression pumps applied to the limbs **may be considered medically necessary** for the treatment of lymphedema that has failed to respond to conservative measures, such as elevation of the limb and use of compression garments.

Single-compartment or multi-chamber *programmable* pneumatic compression pumps applied to the limbs **may be considered medically necessary** for the treatment of lymphedema when:

1. The individual is otherwise eligible for nonprogrammable pumps; and
2. There is documentation that the individual has unique characteristics (e.g., significant scarring, recent surgery) that prevent satisfactory compression with single-compartment or multi-chamber nonprogrammable compression pumps; or
3. The individual has had an inadequate response to an initial course of treatment with a nonprogrammable pneumatic compression pump applied to the limbs. (See Policy Guidelines)

Single-compartment or multi-chamber *nonprogrammable* pneumatic compression pumps applied to the chest or trunk in addition to the limbs **may be considered medically necessary**
for the treatment of lymphedema that has failed to adequately respond to both conservative measures and nonprogrammable pneumatic compression to the limbs only.

Single-compartment or multi-chamber *programmable* pneumatic compression pumps applied to the chest or trunk in addition to the limbs **may be considered medically necessary** for the treatment of lymphedema when:

1. The individual is otherwise eligible for *nonprogrammable* pneumatic pumps applied to the chest or trunk in addition to the limbs; and
2. There is documentation that the individual has unique characteristics (e.g., significant scarring, recent surgery) that prevent satisfactory pneumatic compression with single-compartment or multi-chamber *nonprogrammable* compression pumps; or
3. The individual has had an inadequate response to an initial course of treatment with a *nonprogrammable* pneumatic compression pump applied to the chest or trunk in addition to the limbs. (see Policy Guidelines)

Single-compartment or multi-chamber compression pumps **are considered experimental, investigational and/or unproven** in all situations other than those specified above, including when applied to the head or neck.

Programmable, wearable non-pneumatic compression pumps (e.g., Koya Dayspring) applied to the limbs **may be considered medically necessary** for the treatment of lymphedema when:

1. The individual is otherwise eligible for a *programmable* pneumatic compression pump; and
2. There is documentation that the individual has lifestyle considerations or mobility requirements where treatment compliance with a traditional *programmable*, pneumatic compression system is expected to be insufficient.

Programmable, wearable non-pneumatic compression pumps **are considered experimental, investigational and/or unproven** in all other situations not specified above.

Chronic Limb-Threatening Ischemia (CLTI)
For individuals with chronic limb-threatening ischemia (CLTI) for whom revascularization is not an option, the use of an intermittent pneumatic compression device **may be considered medically necessary** to augment wound healing or ameliorate ischemic rest pain.

Treatment of Venous Ulcers
Use of pneumatic compression pumps to treat venous ulcers caused by chronic venous insufficiency which have failed to heal after a six-month trial of conservative physician-directed medical therapy **may be considered medically necessary.** (See Note 2)

NOTE 2: Conservative therapy must include the use of a compression bandage system or garment (garment must provide adequate graduated compression), exercise and elevation of the limb. The garment may be prefabricated or custom-fabricated but must provide graduated compression.

Policy Guidelines

Medically necessary positions for treatment of lymphedema at body sites other than the limbs are based on clinical input. Individuals who fail to respond to an initial trial of a nonprogrammable pump may benefit from programmable pumps with pulsatile features that can be tailored to address individual lymphatic flow dysfunction patterns. Clinical input supports the use of non-pneumatic compression pumps on the basis of the evidence and clinical experience, emphasizing the importance of compliance with treatment. Clinical input was mixed on the use of compression pumps for the treatment of head and neck lymphedema. Ongoing evidence generation in head and neck cancer populations is expected to elucidate clinical benefit.

Description

Compression pumps are proposed as a treatment for patients with lymphedema who have failed conservative measures. They are also proposed to supplement standard care for

patients with venous ulcers. A variety of pumps are available; they can be single chamber (nonsegmented) or multi-chamber (segmented) and have varying designs and complexity. Non-pneumatic, programmable, wearable devices are also available.

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, pain, 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. (9) 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.

Diagnosis and Staging

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 (CT), ultrasound, or lymphoscintigraphy, may be used to differentiate lymphedema from other causes of edema in diagnostically challenging cases.

Table 1 lists International Society of Lymphology guidance for staging lymphedema (2023) based on "softness" or "firmness" of the limb and the changes with an elevation of the limb. (10)

Table 1. Recommendations for Staging Lymphedema

Stage	Description
Stage 0 (latent or subclinical)	Swelling is not yet evident despite impaired lymph transport, subtle alterations in tissue fluid/composition, and changes in subjective symptoms. It can be transitory and may exist months or years before overt edema occurs (Stages I-lll).
Stage I (mild)	Early accumulation of fluid relatively high in protein content (e.g., in comparison with "venous" edema) which subsides with limb elevation. Pitting may occur. An increase in various types of proliferating cells may also be seen.
Stage II (moderate)	Involves the permanent accumulation of pathologic solids such as fat and proteins and limb elevation alone rarely reduces tissue swelling,

	and pitting is manifest. Later in this stage, the limb may not pit as excess subcutaneous fat and fibrosis develop.
Stage III (severe)	Encompasses lymphostatic elephantiasis where pitting can be absent and trophic skin changes such as acanthosis, alterations in skin character and thickness, further deposition of fat and fibrosis, and warty overgrowths have developed. It should be noted that a limb may exhibit more than one stage, which may reflect alterations in different lymphatic territories.

Management and Treatment

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

Venous Ulcers

Venous ulcers, which occur most commonly on the medial distal leg, can develop in patients with chronic venous insufficiency when leg veins become blocked. Standard treatment for venous ulcers includes compression bandages or hosiery supplemented by conservative measures such as leg elevation.

Chronic Limb-Threatening Ischemia (CLTI)

Chronic limb-threatening ischemia is a condition characterized by chronic (>2 wk) ischemic rest pain, nonhealing wounds and ulcers, or gangrene attributable to objectively proven arterial occlusive disease. Current nomenclature has evolved from the previous commonly used term of chronic limb ischemia (CLI) to reflect the chronic nature of this condition and its potentially limb-threatening nature with associated risk for amputation and to distinguish it from acute limb ischemia (ALI). Acute (≤2 wk) hypoperfusion of the limb that may be characterized by pain, pallor, pulselessness, poikilothermia (inability to maintain core temperature), paresthesias, and/or paralysis.

Compression Pumps

Pneumatic compression pumps may be used in lymphedema or wound care clinics, purchased, or rented for home use; home use is addressed herein. PCPs consist of pneumatic cuffs connected to a pump. These pumps use compressed air to apply pressure to the affected limb. The intention is to force excess lymph fluid out of the limb and into central body compartments in which lymphatic drainage should be preserved. Many PCPs are available, with varying materials, designs, degrees of pressure, and complexity. There are 3 primary types of pumps. Single chamber nonprogrammable pumps are the simplest pumps, consisting of a single chamber that is inflated at 1 time to apply uniform pressure. Multi-chamber nonprogrammable pumps have multiple chambers ranging from 2 to 12 or more. The chambers are inflated sequentially and have a fixed pressure in each compartment. They can either have the same pressure in each compartment or a pressure gradient, but they do not include the ability to adjust the pressure manually in individual compartments. Single- or multi-chamber programmable pumps are similar to the pumps described above except that it is possible to adjust the pressure manually in the individual compartments and/or the length and frequency of the inflation cycles. In some situations, including patients with scarring, contractures, or highly sensitive skin, programmable pumps are generally considered the preferred option. PCPs are also proposed to supplement standard care for patients with venous ulcers. Recently, non-pneumatic, wearable compression pumps have become available. These garments can be programmed to provide graduated sequential compression therapy while providing patients with a functional range of motion and mobility.

Regulatory

Several pneumatic compression pumps indicated for the primary or adjunctive treatment of primary or secondary (e.g., postmastectomy) lymphedema have been cleared for marketing by the U.S. Food and Drug Administration (FDA) through the 510(k) process. Examples of devices with these indications intended for home or clinic/hospital use include:

- Compression Pump, Model GS-128 (Medmark Technologies);
- Sequential Circulator® (Bio Compression Systems);
- Lympha-Press® and Lympha-Press Optimal (Mego Afek);
- Flexitouch® and Flexitouch Plus systems (Tactile Medical, formerly Tactile Systems Technology);
- PowerPress Unit Sequential Circulator (Neomedic); and
- EzLymph and EzLymph M (EEZCare Medical).

Several pneumatic compression devices have been cleared by the FDA for treatment of venous stasis ulcers. Examples include:

1. Model GS-128;
2. Lympha-Press;
3. Flexitouch and Flexitouch Plus;
4. Powerpress Unit (listed above);

5. NanoTherm™ (ThermoTek);
6. CTU676 devices (Compression Technologies); and
7. Recovery+™ (Pulsar Scientific).

In 2024, the FDA cleared the Dayspring (Koya Medical, Inc.) non-pneumatic, wearable limb compression system. The device is intended for use in a clinic or home setting by medical professionals and patients who are under medical supervision to increase lymphatic flow in the treatment of various conditions, including lymphedema and venous insufficiency.

FDA product code: JOW.

A list of current FDA-cleared pneumatic compression pumps is available at: fda.gov.

Rationale

This policy is based on review of relevant professional guidelines and position statements, and a review of coverage guidance from the Centers for Medicare and Medicaid Services (CMS) specific to pneumatic compression devices.

Practice Guidelines and Position Statements

American Academy of Family Physicians

In 2019, the American Academy of Family Physicians published recommendations for diagnosis and treatment of venous ulcers. (1) The following statements were issued regarding use of intermittent pneumatic compression.

"Intermittent pneumatic compression may be considered when there is generalized, refractory edema from venous insufficiency; lymphatic obstruction; and significant ulceration of the lower extremity. Although intermittent pneumatic compression is more effective than no compression, its effectiveness compared with other forms of compression is unclear. Intermittent pneumatic compression may improve ulcer healing when added to layered compression."

American Venous Forum et al.

In 2022, the American Venous Forum, American Vein and Lymphatic Society, and the Society for Vascular Medicine published an expert opinion consensus statement on lymphedema diagnosis and treatment. (2) The following statements were issued regarding use of pneumatic compression:

- "Sequential pneumatic compression should be recommended for lymphedema patients." (92% panel agreement; 32% strongly agree)
- "Sequential pneumatic compression should be used for treatment of early stages of lymphedema." (62% panel agreement - consensus not reached; 38% panel disagreement; 2% strongly disagreed)

International Union of Phlebology

A 2013 consensus statement from the International Union of Phlebology indicated that primary lymphedema could be managed effectively by a sequenced and targeted management program based on a combination of decongestive lymphatic therapy and compression therapy. (3) Treatment should include compression garments, self-massage, skin care, exercises, and, if desired, pneumatic compression therapy applied in the home.

National Comprehensive Cancer Network

The National Comprehensive Cancer Network (NCCN) guidelines on survivorship (v.2.2025) recommend that survivors at risk for lymphedema be referred to a certified lymphedema specialist for consideration of the following compression treatments: "fit for compression garments, review use of garments, pneumatic compression for ongoing home management, and review use of multilayered bandage wrapping." (4)

Society for Vascular Surgery and American Venous Forum

The 2014 joint guidelines from the Society for Vascular Surgery and the American Venous Forum on the management of venous ulcers included the following statement on pneumatic compression (5): “We suggest use of intermittent pneumatic compression when other compression options are not available, cannot be used, or have failed to aid in venous leg ulcer healing after prolonged compression therapy. [GRADE - 2; LEVEL OF EVIDENCE - C]”

Wound Healing Society

A 2015 guideline from the Wound Healing Society states that for patients with venous ulcers, intermittent pneumatic pressure can be used with or without compression dressings and can provide another option in patients who cannot or will not use an adequate compression dressing system. (6)

American College of Cardiology, American Heart Association, et al.

The 2024 Guideline for the Management of Lower Extremity Peripheral Artery Disease: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines includes the following recommendation on pneumatic compression for chronic limb-threatening ischemia (CLTI): “In patients with CLTI for whom revascularization is not an option, arterial intermittent pneumatic compression devices may be considered to augment wound healing or ameliorate ischemic rest pain.” (Strength of Recommendation: 2B [weak, benefit ≥ risk]; Level of Evidence B-NR [Nonrandomized: Moderate-quality evidence from 1 or more well-designed, well-executed nonrandomized studies, observational studies, or registry studies. Meta-analyses of such studies.]) (7)

Medicare National Coverage

A 2002 national coverage determination for pneumatic compression devices by the Centers for Medicare & Medicaid Services has stated the following (8):

A. "Lymphedema

….Pneumatic compression devices are covered in the home setting for the treatment of lymphedema if the patient has undergone a four-week trial of conservative therapy and the treating physician determines that there has been no significant improvement or if significant symptoms remain after the trial. The trial of conservative therapy must include use of an appropriate compression bandage system or compression garment, exercise, and elevation of the limb. The garment may be prefabricated or custom-fabricated but must provide adequate graduated compression."

B. "Chronic Venous Insufficiency with Venous Stasis Ulcers

Chronic venous insufficiency (CVI) of the lower extremities is a condition caused by abnormalities of the venous wall and valves, leading to obstruction or reflux of blood flow in the veins. Signs of CVI include hyperpigmentation, stasis dermatitis, chronic edema, and venous ulcers."

"Pneumatic compression devices are covered in the home setting for the treatment of CVI of the lower extremities only if the patient has one or more venous stasis ulcer(s) which have failed to heal after a 6-month trial of conservative therapy directed by the treating physician. The trial of conservative therapy must include a compression bandage system or compression garment, appropriate dressings for the wound, exercise, and elevation of the limb."

Ongoing and Unpublished Clinical Trials

Some currently ongoing and/or unpublished trials that might influence this policy are listed in Table 2.

Table 2. Summary of Key Trials

NCT Number	Trial Name	Planned Enrollment	Completion Date
Ongoing			
NCT06418282[a]	An Open-label, Multi-center, Prospective VA Study to Evaluate the Effectiveness and Health Economics of a Novel Portable Non-Pneumatic Active Compression Device (NPCD) for Lymphedema/ Phlebolymphedema	50	Jan 2025
Unpublished			
NCT04797390[a]	A Randomized Trial of an Advanced Pneumatic Compression Device vs. Usual Care for Head and Neck Lymphedema	250	Jan 2025

NCT05659394[a]	Intermittent Pneumatic Compression of the Thigh for the Treatment of Lower Limb Wounds: a Randomised Control Trial	136	Mar 2024

NCT: national clinical trial.
[a] Denotes industry-sponsored or cosponsored trial.

Coding

Procedure codes on Medical Policy documents are included **only** as a general reference tool for each policy. **They may not be all-inclusive.**

The presence or absence of procedure, service, supply, or device codes in a Medical Policy document has no relevance for determination of benefit coverage for members or reimbursement for providers. **Only the written coverage position in a Medical Policy should be used for such determinations.**

Benefit coverage determinations based on written Medical Policy coverage positions must include review of the member's benefit contract or Summary Plan Description (SPD) for defined coverage vs. non-coverage, benefit exclusions, and benefit limitations such as dollar or duration caps.

CPT Codes	None
HCPCS Codes	A4600, E0650, E0651, E0652, E0655, E0656, E0657, E0658, E0659, E0660, E0665, E0666, E0667, E0668, E0669, E0670, E0671, E0672, E0673, E0675, E0676, E0677, E0678, E0679, E0680, E0681, E0682, E0683 [Deleted 1/2024: K1024, K1025, K1031, K1032, K1033]

*Current Procedural Terminology (CPT®) ©2025 American Medical Association: Chicago, IL.

References

Practice Guidelines and Position Statements:

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3. Lee BB, Andrade M, Antignani PL, et al. Diagnosis and treatment of primary lymphedema. Consensus document of the International Union of Phlebology (IUP)-2013. Int Angiol. Dec 2013; 32(6):541-574. PMID 24212289

4. National Comprehensive Cancer Network. NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines). Survivorship. Version 2.2025. May 23, 2025. Available at: nccn.org (accessed June 16, 2025).
5. O'Donnell TF, Jr., Passman MA, Marston WA, et al. Management of venous leg ulcers: clinical practice guidelines of the Society for Vascular Surgery® and the American Venous Forum. J Vasc Surg. Aug 2014; 60(2 Suppl):3s-59s. PMID 24974070
6. Marston W, Tang J, Kirsner RS, et al. Wound Healing Society 2015 update on guidelines for venous ulcers. Wound Repair Regen. 2016; 24(1):136-144. PMID 26663616
7. Gornik HL, Aronow HD, Goodney PP, et al. 2024 ACC/AHA/AACVPR/APMA/ABC/SCAI/SVM/SVN/SVS/SIR/VESS guideline for the management of lower extremity peripheral artery disease: a report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines. Circulation. 2024; 149:e1313–e1410. PMID 38743805
8. Centers for Medicare and Medicaid Services. National Coverage Determination for Pneumatic Compression Devices (280.6) (2002). Available at cms.gov (accessed September 1, 2025).

Other:

9. DiSipio T, Rye S, Newman B, et al. Incidence of unilateral arm lymphoedema after breast cancer: a systematic review and meta-analysis. Lancet Oncol. May 2013; 14(6):500-515. PMID 23540561
10. International Society of Lymphology Executive Committee. The Diagnosis and Treatment of Peripheral Lymphedema: 2023 Consensus Document of the International Society of Lymphology. 2023; Available at: journals.edu (accessed November 25, 2024).

Centers for Medicare and Medicaid Services

The information contained in this section is for informational purposes only. HCSC makes no representation as to the accuracy of this information. It is not to be used for claims adjudication for HCSC Plans.

The Centers for Medicare and Medicaid Services does have a national Medicare coverage position. Coverage may be subject to local carrier discretion.

A national coverage position for Medicare may have been changed since this medical policy document was written. See Medicare's National Coverage at cms.hhs.gov.

Policy History/Revision	
Date	**Description of Change**
5/7/2026	New medical document. Pneumatic compression pumps for lymphedema of the extremities, truck or chest; for chronic limb-threatening ischemia or for the treatment of venous ulcers, may be considered medically necessary when the criteria in Coverage for each indication are met. Compression pumps are considered experimental, investigational and/or unproven for all other situations as noted in Coverage.