

MEDICAL POLICY – 1.01.18

Pneumatic Compression Pumps for Treatment of Lymphedema and Venous Ulcers

BCBSA Ref. Policy: 1.01.18

Effective Date: Apr. 1, 2025

Last Revised: Mar. 10, 2025

Replaces: N/A

RELATED MEDICAL POLICIES:


1.01.525 Postsurgical Home Use of Limb Compression Devices for Venous

Thromboembolism Prophylaxis

7.01.567 Surgical Treatments for Lymphedema and Lipedema

Select a hyperlink below to be directed to that section.

[POLICY CRITERIA](#) | [DOCUMENTATION REQUIREMENTS](#) | [CODING](#)
[RELATED INFORMATION](#) | [EVIDENCE REVIEW](#) | [REFERENCES](#) | [HISTORY](#)

 Clicking this icon returns you to the hyperlinks menu above.

Introduction

Swelling due to too much fluid in the arm or leg is called lymphedema. The usual treatment is raising the arm or leg or wearing an elastic compression garment, which applies gentle pressure to the limb. If the usual treatments don't work, wearing an inflatable garment attached to a pump may be medically necessary. There are basically three kinds of garments and pumps. One type of garment consists of a single chamber and the pump pushes in a pre-set, non-calibrated amount of pressure. Another type of garment contains several chambers, and the pressure is non-calibrated but can be set to a single pressure that is sequentially sent to each of those chambers. The last type of garment and pump contains several chambers, and the pump can be calibrated to send each chamber a different amount of pressure. This policy describes when each of these different types of lymphedema pumps may be medically necessary.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.

Policy Coverage Criteria

If coverage is available for Durable Medical Equipment (DME) then the following conditions apply.

Medically necessary DME may be rented up to a period of 10 months up to the purchase price of an equivalent item and in accordance with the member benefit as described in the member contract (see [Benefit Application](#) below).

Type of Pump	Medical Necessity
<p>Single-compartment lymphedema pumps</p> <ul style="list-style-type: none"> • Nonprogrammable • Programmable <p>Multi-chamber lymphedema pumps</p> <ul style="list-style-type: none"> • Nonprogrammable • Programmable 	<p><u>Nonprogrammable</u></p> <p>Single-compartment (non-segmented/E0650) or multi-chamber (segmented/E0651) lymphedema pumps applied to the limb 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.</p> <p><u>Programmable (e.g., calibrated gradient pressure)</u></p> <p>Single-compartment or multi-chamber (E0652) lymphedema pumps applied to the limb may be considered medically necessary for the treatment of lymphedema when:</p> <ul style="list-style-type: none"> • The individual is otherwise eligible for nonprogrammable pumps, and • There is documentation that the individual has unique characteristics that prevent satisfactory pneumatic compression with single-compartment (non-segmented/E0650) or multi-chamber (segmented/E0651) nonprogrammable lymphedema pumps (e.g., significant scarring, contractures) <p>Single-compartment or multi-chamber lymphedema pumps applied to the limb are considered investigational in all situations other than those specified above.</p>



Type of Pump	Investigational
Lymphedema pumps to treat other areas or other conditions (E0656, E0657, E0670)	<p>The use of lymphedema pumps to treat the trunk or chest in individuals with lymphedema with or without involvement of the upper and/or lower limbs is considered investigational.</p> <p>The use of lymphedema pumps applied to the head and neck to treat lymphedema is considered investigational.</p> <p>The use of pneumatic compression pumps to treat venous ulcers is considered investigational</p>

Documentation Requirements
<p>For a nonprogrammable pump, the medical records submitted for review should include:</p> <ul style="list-style-type: none"> • Clinical documentation supporting that member has lymphedema which has failed to respond to conservative treatment such as limb elevation and use of compression garments <p>For a programmable pump, the medical records submitted for review should include:</p> <ul style="list-style-type: none"> • Clinical documentation supporting that member has lymphedema which has failed to respond to conservative treatment such as limb elevation and use of compression garments <p>AND</p> <ul style="list-style-type: none"> • Documentation that member has tried the nonprogrammable pump and it was not effective in relieving member’s symptoms OR documentation indicating member has unique characteristics that prevent standard nonprogrammable pump from being effective (e.g., significant scarring)

Coding

Claims for lymphedema pumps are coded with 2 HCPCS codes:

- One to describe the actual pump
- One to describe the appliance (i.e., sleeve) that is put on the affected body part



Note: Pneumatic compression pumps may be used in lymphedema clinics or purchased or rented for home use. This policy addresses the home use of pneumatic compression pumps. For other indications see [Related Policies](#).

Code	Description
HPCS	
Medically Necessary	
Single Compartment Nonprogrammable Pumps	
E0650	Pneumatic compressor, nonsegmental home model
Single Compartment Nonprogrammable Appliances (used in conjunction with E0650)	
E0655	Nonsegmental pneumatic appliance for use with pneumatic compressor, half arm
E0660	Nonsegmental pneumatic appliance for use with pneumatic compressor, full leg
E0665	Nonsegmental pneumatic appliance for use with pneumatic compressor, full arm
E0666	Nonsegmental pneumatic appliance for use with pneumatic compressor, half leg
Multichamber Nonprogrammable Pumps	
E0651	Pneumatic compressor, segmental home model without calibrated gradient pressure
Multichamber Nonprogrammable Appliances (used in conjunction with E0651)	
E0667	Segmental pneumatic appliance for use with pneumatic compressor, full leg
E0668	Segmental pneumatic appliance for use with pneumatic compressor, full arm
E0669	Segmental pneumatic appliance for use with pneumatic compressor, half leg
Multichamber Programmable Pumps	
E0652	Pneumatic compressor, segmental home model with calibrated gradient pressure
Multichamber Programmable Appliances (used in conjunction with E0652)	
E0671	Segmental gradient pressure pneumatic appliance, full leg
E0672	Segmental gradient pressure pneumatic appliance, full arm
E0673	Segmental gradient pressure pneumatic appliance, half leg
Investigational	
E0656	Segmental pneumatic appliance for use with pneumatic compressor, trunk
E0657	Segmental pneumatic appliance for use with pneumatic compressor, chest



Code	Description
E0670	Segmental pneumatic appliance for use with pneumatic compressor, integrated, 2 full legs and trunk

Note: CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). HCPCS codes, descriptions and materials are copyrighted by Centers for Medicare Services (CMS).

Related Information

Benefit Application

Coverage for DME depends on the member benefit as described in the member contract.

When DME is purchased, the total benefits available cannot exceed the contracted fee schedule for the item.

When DME is rented, the benefits cannot exceed the total of the cost to purchase the DME or the contracted fee schedule for the item.

Evidence Review

Description

Pneumatic compression pumps are proposed as a treatment for individuals with lymphedema who have failed conservative measures. They are also proposed to supplement standard care for individuals with venous ulcers. A variety of pumps are available; they can be single chamber (non-segmented) or multi-chamber (segmented) and have varying designs and complexity.



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, 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.¹ 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 MRI, computed tomography, 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.²

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 1-III).



Stage	Description
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 of the previously mentioned conservative treatment components at different intensities. Pneumatic compression pumps may also be considered as an adjunct to conservative therapy or as an alternative to self-manual lymphatic drainage in 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.

Pneumatic 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. Pneumatic compression pumps 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 pneumatic compression pumps are available, with varying materials, designs, degree of pressure, and complexity. There are 3 primary types of pumps:

- **Single-chamber (non-segmented) nonprogrammable pumps:** These are the simplest pumps, consisting of a single chamber that is inflated at the same time to apply uniform pressure.
- **Multichamber (segmented) nonprogrammable pumps:** These 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 manually adjust the pressure in individual compartments.
- **Single-chamber or multichamber programmable or self-calibrating pumps:** These 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 individuals 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.

Summary of Evidence

For individuals who have lymphedema who failed to respond to conservative therapy who receive pneumatic compression pumps applied to the limb only, the evidence includes randomized controlled trials (RCTs) and systematic reviews primarily focusing on upper-limb



lymphedema secondary to breast cancer. The relevant outcomes are symptoms, change in disease status, functional outcomes, and quality of life. Most RCTs were rated as moderate-to-high quality by the Agency for Healthcare Research and Quality review, and about half reported significant improvements with pumps compared with conservative care. Recent meta-analyses indicate that incorporating intermittent pneumatic compression (IPC) with complete decongestive therapy can further enhance lymphedema management within four weeks post-treatment. Similar findings are observed when IPC is combined with decongestive lymphatic therapy compared to decongestive lymphatic therapy alone in managing upper limb lymphedema after breast cancer surgery, with the former combined regimen showing improved external rotation joint mobility. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have lymphedema who failed to respond to conservative therapy who receive pneumatic compression pumps applied to limb and chest and/or trunk, the evidence includes two RCTs of the Flexitouch system (Tactile Medical), published in 2012, comparing treatment with and without truncal involvement. Relevant outcomes are symptoms, change in disease status, functional outcomes, and quality of life. In one RCT, two (of 4) key outcomes were significantly better with truncal involvement than without. This trial was limited by small sample size, failure to adjust statistically for multiple primary outcomes, and use of intermediate outcomes (e.g., amount of fluid removed) rather than health outcomes (e.g., functional status, quality of life). The second RCT did not find statistically significant differences between groups for any of the efficacy outcomes. The available evidence does not demonstrate that pumps treating the trunk or chest provide incremental improvement beyond that provided by pumps treating the affected limb only. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have lymphedema who failed to respond to conservative therapy who receive pneumatic compression pumps applied to the head and neck, the evidence includes one RCT and a systematic review to assess the use of pneumatic compression treatment for head and neck lymphedema. Relevant outcomes are symptoms, change in disease status, functional outcomes, and quality of life. The RCT, comparing treatment with a pneumatic compression pump along with lymphedema self-management compared to self-management alone, examined the feasibility, adherence, and safety of the Flexitouch advanced pneumatic compression device (APCD) by Tactile Medical. The findings showed some improvements in patient-reported outcomes and swelling, although adherence was low, with only one patient using the device twice daily as prescribed. The systematic review also suggested benefits from using the APCD, and it was considered safe and feasible according to the observational studies



that reported adverse events. Most studies included participants who had completed or were concurrently undergoing complete decongestive therapy. Out of the 5 observational studies included in the systematic review, four (80%) had potential conflicts of interest related to the funding source. The only study not sponsored by the industry highlighted difficulties in obtaining the APCD, with fewer than half of the patients receiving the device as prescribed. Further research with larger sample sizes and comparisons against the criterion standard of complete decongestive therapy is necessary to establish the efficacy of this treatment approach. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have venous ulcers who receive pneumatic compression pumps, the evidence includes RCTs and one systematic review. Relevant outcomes are symptoms, change in disease status, morbid events, and quality of life. A meta-analysis of 3 trials found significantly higher healing rates with lymphedema pumps plus continuous compression than with continuous compression alone; however, 2 of the 3 trials were judged to be at high risk of bias. A 2020 RCT compared lymphedema pumps with continuous compression did not find significant between-group differences in healing rates or durability of pain relief. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Ongoing and Unpublished Clinical Trials

Some currently ongoing trials that might influence this review are listed in [Table 2](#).

Table 2. Summary of Key Trials

NCT No.	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



NCT No.	Trial Name	Planned Enrollment	Completion Date
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 (IPCOTT)	136	Sep 2024

NCT: national clinical trial.

^a Denotes industry-sponsored or cosponsored trial.

Practice Guidelines and Position Statements

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

Guidelines or position statements will be considered for inclusion 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.

American Academy of Family Physicians

In 2019, the American Academy of Family Physicians published recommendations for diagnosis and treatment of venous ulcers.¹⁸ 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.¹⁹ 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.²⁰ Treatment should include compression garments, self-massage, skin care, exercises, and, if desired, pneumatic compression therapy applied in the home.

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 compression²¹:

"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.²²

Medicare National Coverage

A 2002 national coverage determination for pneumatic compression devices by the Centers for Medicare & Medicaid Services has stated the following²³:

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 six-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."



Regulatory Status

Several pneumatic compression pumps, indicated for the primary or adjunctive treatment of primary or secondary (e.g., post-mastectomy) lymphedema, have been cleared for marketing by the US 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)
- The Sequential Circulator (Bio Compression Systems)
- The Lympha-Press and Lympha-Press Optimal (Mego Afek)
- The Flexitouch and Flexitouch Plus systems (Tactile Medical, formerly Tactile Systems Technology)
- The PowerPress Unit Sequential Circulator (Neomedic)
- EzLymph and EzLymph M (EEZCare Medical)

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

- The Model GS-128
- The Lympha-Press
- The Flexitouch and Flexitouch Plus
- The PowerPress Unit
- Nanotherm (ThermoTek)
- CTU676 devices (Compression Technologies)
- Recovery+ (Pulsar Scientific)

FDA product code: JOW

References



1. 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): 500-15. PMID 23540561
2. International Society of Lymphology Executive Committee. The Diagnosis and Treatment of Peripheral Lymphedema: 2023 Consensus Document of the International Society of Lymphology. 2023; <https://journals.librarypublishing.arizona.edu/lymph/article/id/6372/>. Accessed February 10, 2025.
3. Oremus M, Walker K, Dayes I, et al. Technology Assessment: Diagnosis and Treatment of Secondary Lymphedema (Project ID: LYMT0908). Rockville, MD: Agency for Healthcare Research and Quality; 2010.
4. Oremus M, Dayes I, Walker K, et al. Systematic review: conservative treatments for secondary lymphedema. *BMC Cancer*. Jan 04 2012; 12: 6. PMID 22216837
5. Shao Y, Qi K, Zhou QH, et al. Intermittent pneumatic compression pump for breast cancer-related lymphedema: a systematic review and meta-analysis of randomized controlled trials. *Oncol Res Treat*. 2014; 37(4): 170-4. PMID 24732640
6. Hou S, Li Y, Lu W, et al. Efficacy of intermittent pneumatic compression on breast cancer-related upper limb lymphedema: a systematic review and meta-analysis in clinical studies. *Gland Surg*. Aug 31 2024; 13(8): 1358-1369. PMID 39282029
7. Yao M, Peng P, Ding X, et al. Comparison of Intermittent Pneumatic Compression Pump as Adjunct to Decongestive Lymphatic Therapy against Decongestive Therapy Alone for Upper Limb Lymphedema after Breast Cancer Surgery: A Systematic Review and Meta-Analysis. *Breast Care (Basel)*. Jun 2024; 19(3): 155-164. PMID 38894955
8. Fife CE, Davey S, Maus EA, et al. A randomized controlled trial comparing two types of pneumatic compression for breast cancer-related lymphedema treatment in the home. *Support Care Cancer*. Dec 2012; 20(12): 3279-86. PMID 22549506
9. Ridner SH, Murphy B, Deng J, et al. A randomized clinical trial comparing advanced pneumatic truncal, chest, and arm treatment to arm treatment only in self-care of arm lymphedema. *Breast Cancer Res Treat*. Jan 2012; 131(1): 147-58. PMID 21960113
10. Cheng JT, Leite VF, Tennison JM, et al. Rehabilitation Interventions for Head and Neck Cancer-Associated Lymphedema: A Systematic Review. *JAMA Otolaryngol Head Neck Surg*. Aug 01 2023; 149(8): 743-753. PMID 37382963
11. Shires CB, Harris P, Dewan K. Feasibility of machine-delivered sequential massage for the management of lymphedema in the head and neck cancer survivor. *Laryngoscope Investig Otolaryngol*. Jun 2022; 7(3): 774-778. PMID 35734055
12. Gutiérrez C, Mayrovitz HN, Naqvi SHS, et al. Longitudinal effects of a novel advanced pneumatic compression device on patient-reported outcomes in the management of cancer-related head and neck lymphedema: A preliminary report. *Head Neck*. Aug 2020; 42(8): 1791-1799. PMID 32187788
13. Ridner SH, Dietrich MS, Deng J, et al. Advanced pneumatic compression for treatment of lymphedema of the head and neck: a randomized wait-list controlled trial. *Support Care Cancer*. Feb 2021; 29(2): 795-803. PMID 32488435
14. Nelson EA, Hillman A, Thomas K. Intermittent pneumatic compression for treating venous leg ulcers. *Cochrane Database Syst Rev*. May 12 2014; 2014(5): CD001899. PMID 24820100
15. Dolibog P, Franek A, Taradaj J, et al. A comparative clinical study on five types of compression therapy in patients with venous leg ulcers. *Int J Med Sci*. 2014; 11(1): 34-43. PMID 24396284
16. Dolibog P, Franek A, Taradaj J, et al. A randomized, controlled clinical pilot study comparing three types of compression therapy to treat venous leg ulcers in patients with superficial and/or segmental deep venous reflux. *Ostomy Wound Manage*. Aug 2013; 59(8): 22-30. PMID 23934375
17. Alvarez OM, Markowitz L, Parker R, et al. Faster Healing and a Lower Rate of Recurrence of Venous Ulcers Treated With Intermittent Pneumatic Compression: Results of a Randomized Controlled Trial. *Eplasty*. 2020; 20: e6. PMID 32636985
18. Bonkemeyer Millan S, Gan R, Townsend PE. Venous Ulcers: Diagnosis and Treatment. *Am Fam Physician*. Sep 01 2019; 100(5): 298-305. PMID 31478635



19. Lurie F, Malgor RD, Carman T, et al. The American Venous Forum, American Vein and Lymphatic Society and the Society for Vascular Medicine expert opinion consensus on lymphedema diagnosis and treatment. *Phlebology*. May 2022; 37(4): 252-266. PMID 35258350
20. 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): 541-74. PMID 24212289
21. O'Donnell TF, 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
22. Marston W, Tang J, Kirsner RS, et al. Wound Healing Society 2015 update on guidelines for venous ulcers. *Wound Repair Regen*. 2016; 24(1): 136-44. PMID 26663616
23. Centers for Medicare and Medicaid Services (CMS). National Coverage Determination (NCD) for Pneumatic Compression Devices (280.6). 2002; <https://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=225>. Accessed February 10, 2025.

History

Date	Comments
09/01/98	Add to Durable Medical Equipment Section - New medical policy.
04/04/00	Replace Policy - Scheduled review; no criteria changes
10/08/02	Replace Policy - Policy reviewed without literature review; new review date only.
08/12/03	Replace Policy - Policy reviewed; Medicare language added; no criteria changes.
05/26/06	Update Scope and Disclaimer - No other changes.
04/10/07	Replace Policy - Policy updated with literature review; no change in policy statement. Codes updated.
05/13/08	Replace Policy - Policy updated with literature search; no change in policy statement. Rationale and References updated; status changed from AR to BC.
01/13/09	Replace Policy - Policy updated with literature search; no change to the policy statement. References added; codes added (E0656 and E0657, effective 1/1/09).
09/14/10	Replace Policy - Policy updated with literature review through May 2010; references 2-8 added. Title changed to "Pneumatic Compression Pumps for Lymphedema" (previously entitled, "Lymphedema Pumps.") "Non-programmable" has been added to the first policy statement and "elastic garments" has been changed to "compression garments". Programmable pumps have been changed to medically necessary if criteria are met; a new policy statement has been added that two-phase multi-chamber pumps are investigational.



Date	Comments
05/10/11	Replace Policy - Policy reviewed with literature search on pneumatic compression pumps for treating truncal areas. No change in policy statements. Reference 2 has been added; others renumbered. Coding of pumps clarified.
08/24/12	Update Coding Section – ICD-10 codes are now effective 10/01/14.
12/11/12	Replace Policy. Policy reviewed with literature search through August 2012. Title changed to Pneumatic Compression Pumps for Treatment of Lymphedema and Venous Ulcers. Statement on two-phase pumps deleted. Clarification added to first policy statement (when other conservative measures, have been tried but have failed to improve the patient’s condition. Statement added that use of lymphedema pumps to treat the trunk or chest in patients with lymphedema limited to the upper and/or lower limbs is considered investigational. The use of lymphedema pumps to treat venous ulcers is considered investigational. References 1, 4, 8-10 and 13 added; other references renumbered or removed. HCPCS code E0665 and ICD-10 codes added.
01/10/13	Coding update. HCPCS code E0670, effective 1/1/13, added to policy.
03/15/13	Update Related Policies. Add 1.01.525.
12/09/13	Replace policy. The words “Applied to the limb” added to the first 3 policy statements for clarification. In the statement on venous ulcers, “lymphedema pumps” changed to “pneumatic compression pumps”. Policy reviewed with literature search through August 16, 2013. References 7 and 11 added; other references renumbered/removed. Policy statements revised as noted. HCPCS codes E0655 – E0673 removed from policy (minus E0656, E0657 & E0670); these address the sleeves and the policy addresses the pumps only.
01/30/14	Update Related Policies. Change title to 2.01.82.
02/13/14	Update Related Policies. Change title to 1.01.525.
05/19/14	Update Related policies. Remove 2.02.17 as it was archived.
11/20/14	Annual Review. Added Benefit Application statement that The Company may require rental before purchase to ensure compliance with use of the device. Policy reviewed with literature review through July 25, 2014. References 4 and 11-13 added; others renumbered/removed. Policy statements unchanged. HCPCS codes E0650, E0651, E0655, E0665-E0669, E0671-E0673 removed; these relate to another policy.
11/10/15	Annual Review. Policy updated with literature review through August 10, 2015; references 5 and 11 added. Policy statements unchanged.
02/01/16	Coding update. Added E0650 and E0651.
08/01/16	Annual Review, approved July 12, 2016. Policy updated with literature review. No change in policy statement.
03/24/17	Policy moved into new format; no change to policy statements.



Date	Comments
06/01/17	Annual Review, approved May 2, 2017. Policy updated with literature review through January 25, 2017; reference 11 added. Policy statements unchanged.
04/01/18	Updated Related Policies; removed 2.01.82 as it has been archived.
05/01/18	Annual Review, approved April 18, 2018. Policy updated with literature review through January 2018; no references added. Policy statements unchanged.
06/01/19	Annual Review, approved May 7, 2019. Policy updated with literature review through January 2019; no references added. Policy statements unchanged. Added procedure codes E0655, E0660, E0665-E0669, E0671-E0673 to accommodate policy coverage criteria. Policy addresses upper and lower limbs.
04/01/20	Delete policy, approved March 10, 2020. This policy will be deleted effective July 2, 2020, and replaced with InterQual criteria for dates of service on or after July 2, 2020.
07/02/20	Delete policy.
11/01/20	Policy reinstated effective February 5, 2021; approved October 13, 2020. Policy updated with literature review through January, 2020; no references added. Policy statements unchanged.
06/01/21	Annual Review, approved May 4, 2021. Policy updated with literature review through January 22, 2021; references added and updated. Policy statements unchanged.
11/01/21	Interim Review, approved October 12, 2021. Policy updated with literature review through June 17, 2021; references added. Policy statement added that use of lymphedema pumps applied to the head and neck to treat lymphedema is considered investigational. Updates are effective February 4, 2022, following 90-day provider notification.
06/01/22	Annual Review, approved May 9, 2022. Policy updated with literature review through January 27, 2022; no references added. Policy statements unchanged.
06/01/23	Annual Review, approved May 5, 2023. Policy updated with literature review through January 30, 2023; references added. Investigational policy statement regarding the use of lymphedema pumps to treat the trunk or chest in patients with lymphedema was clarified to apply regardless of the involvement of the upper and/or lower limbs; intent unchanged. Changed the wording from "patient" to "individual" throughout the policy for standardization. Coding table reformatted for greater ease of understanding. Removed HCPC code E0676.
09/07/23	Minor correction. Updated Related Policies, policy 1.01.28 was replaced with 1.01.525 Postsurgical Home Use of Limb Compression Devices for Venous Thromboembolism Prophylaxis.
06/01/24	Annual Review, approved May 13, 2024. Policy updated with literature review through January 30, 2024; reference added. Policy statements unchanged.



Date	Comments
04/01/25	Annual Review, approved March 10, 2025. Policy updated with literature review through November 25, 2024; references added. Policy statements unchanged.

Disclaimer: This medical policy is a guide in evaluating the medical necessity of a particular service or treatment. The Company adopts policies after careful review of published peer-reviewed scientific literature, national guidelines and local standards of practice. Since medical technology is constantly changing, the Company reserves the right to review and update policies as appropriate. Member contracts differ in their benefits. Always consult the member benefit booklet or contact a member service representative to determine coverage for a specific medical service or supply. CPT codes, descriptions and materials are copyrighted by the American Medical Association (AMA). ©2025 Premera All Rights Reserved.

Scope: Medical policies are systematically developed guidelines that serve as a resource for Company staff when determining coverage for specific medical procedures, drugs or devices. Coverage for medical services is subject to the limits and conditions of the member benefit plan. Members and their providers should consult the member benefit booklet or contact a customer service representative to determine whether there are any benefit limitations applicable to this service or supply. This medical policy does not apply to Medicare Advantage.

