# Pneumatic Compression Devices

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| **Policy ID:** | HHO-DE-MP-1144 |
| **Approved By:** | Highmark Health Options – Market Leadership |
| **Provider Notice Date:** | 12/15/2021; 03/01/2023 |
| **Original Effective Date:** | 01/15/2022; 04/01/2023 |
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| **Last Revision Date:** | 10/27/2021; 10/26/2022 |
| **Products:** | Medicaid |
| **Application:** | All participating hospitals and providers |
| **Page Number(s):** | 1 of 6 |

## Disclaimer

Highmark Health Options medical policy is intended to serve only as a general reference resource regarding coverage for the services described. This policy does not constitute medical advice and is not intended to govern or otherwise influence medical decisions.

### POLICY STATEMENT

Highmark Health Options may provide coverage under medical surgical benefits of the Company's Medicaid products for medically necessary pneumatic compression devices.

This policy is designed to address medical necessity guidelines that are appropriate for the majority of individuals with a particular disease, illness, or condition. Each person's unique clinical circumstances warrant individual consideration, based upon review of applicable medical records.

The qualifications of the policy will meet the standards of the National Committee for Quality Assurance (NCQA) and the Delaware Department of Health and Social Services (DHSS) and all applicable state and federal regulations.

### DEFINITIONS

**Highmark Health Options (HHO)** – Managed care organization serving vulnerable populations that have complex needs and qualify for Medicaid. Highmark Health Options members include individuals and families with low income, expecting mothers, children, and people with disabilities. Members pay nothing to very little for their health coverage. Highmark Health Options currently services Delaware Medicaid: Delaware Healthy Children Program (DHCP) and Diamond State Health Plan Plus members.

**Pneumatic Compression Therapy Device** – Functions as a pump to improve circulation. The device consists of an inflatable garment, usually for the arm, leg, and/or ankle, and an electric pump. The inflatable garment is intermittently inflated and deflated in a cycle of time and pressure. Pneumatic compression therapy devices are classified as non-segmented or segmented, with or without calibrated gradient pressure.

### PROCEDURES

A prior authorization is required.

Pneumatic compression devices/lymphedema pumps and appliances for in-home use may be considered medically necessary when ALL of the following are met:

- When prescribed by a physician; and
- Has appropriate physician oversight (i.e., physician evaluation of the individual's condition to determine medical necessity of the device, suitable instruction in the operation of the machine as to the pressure to be used and the frequency and duration of use, and ongoing monitoring of use and response to treatment).

Segmented or non-segmented pneumatic compression devices without calibrated gradient pressure for in-home use may be considered medically necessary for the treatment of ANY ONE of the following:

- Lymphedema treatment (pumps and appliances) of the arm or leg that has failed a four (4) 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 ALL of the following:
    - A compression bandage system or compression garment; and
    - Exercise; and
    - Elevation of the limb; OR

- Chronic venous insufficiency (CVI) of the lower extremities with nonhealing venous stasis ulcer(s) after a six (6) month trial of conservative therapy directed by the treating physician. The trial of conservative therapy must include ALL of the following:
    - A compression bandage system or compression garment; and
    - Appropriate dressings for the wound; and
    - Exercise; and
    - Elevation of the limb; OR

In-home use of limb compression devices for the following indications may be considered medically necessary for ANY ONE of the following:

- Prevention of post-thrombotic syndrome; or
- Venous thromboembolism (VTE) prophylaxis after major orthopedic surgery (e.g., total hip arthroplasty, total knee arthroplasty, hip fracture surgery) in individuals with a contraindication to pharmacological agents, i.e., at high risk for bleeding; or
- VTE prophylaxis after major non-orthopedic surgery or nonmajor orthopedic surgery in patients who are at moderate or high risk of VTE (see Professional Statements and Societal Positions) with a contraindication to pharmacological agents, i.e., at high risk for bleeding.

In-home use of limb compression devices for VTE prophylaxis for the following conditions, are considered experimental/investigational and therefore noncovered because the safety and/or effectiveness of this service cannot be established by the available published peer-reviewed literature:

- After major orthopedic surgery for individuals without a contraindication to pharmacological prophylaxis; or
- After major non-orthopedic surgery or nonmajor orthopedic surgery, for individuals who are at moderate or high risk of VTE without a contraindication to pharmacological prophylaxis and in patients who are at low risk of VTE; or
- After all other surgeries.

A portable, intermittent, limb compression device (i.e., Vena Pro) is considered experimental/investigational and therefore noncovered because the safety and/or effectiveness of this service cannot be established by the available published peer-reviewed literature.

In-home use of limb compression devices for VTE prophylaxis for periods longer than 30 days post-surgery is not medically necessary.

Pneumatic compression devices not meeting any of the above criteria are considered not medically necessary.

Segmented pneumatic compression therapy devices with calibrated gradient pressure may be considered medically necessary for in-home use when the following medical necessity criteria are met:

- The individual's medical condition has failed to respond to therapy using a segmented pneumatic compressor without calibrated gradient pressure with clear documentation that the individual has unique characteristics that prevent satisfactory pneumatic compression treatment using a non-segmented device with a segmented appliance/sleeve or a segmented device without manual control of the pressure in each chamber.

Segmented pneumatic compression therapy devices with calibrated gradient pressure not meeting the above criteria are considered not medically necessary.

The use of pneumatic compression devices for the treatment of lymphedema of the head, neck, chest, or trunk, and/or the treatment of arterial insufficiency, is considered experimental/investigational and therefore noncovered because the safety and/or effectiveness of this service cannot be established by the available published peer-reviewed literature.

**POST-PAYMENT AUDIT STATEMENT**

The medical record must include documentation that reflects the medical necessity criteria and is subject to audit by Highmark Health Options at any time pursuant to the terms of your provider agreement.

**PLACE OF SERVICE: OUTPATIENT**

Experimental/investigational (E/I) services are not covered regardless of place of service.

Pneumatic Compression Devices are typically an outpatient service which is only eligible for coverage as an inpatient service in special circumstances including, but not limited to the presence of a comorbid condition that would require monitoring in a more controlled environment such as the inpatient setting.

**CODING REQUIREMENTS**

| CPT code | Description |
|---|---|
| E0650 | Pneumatic compressor, nonsegmental home model. |
| E0651 | Pneumatic compressor, segmental home model without calibrated D gradient pressure. |
| E0652 | Pneumatic compressor, segmental home model with calibrated gradient pressure. |
| E0655 | Nonsegmental pneumatic appliance for use with pneumatic compressor, half arm. |
| E0657 | Segmental pneumatic appliance for use with pneumatic compressor, chest. |
| 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. |

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| 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. |
| E0670 | Segmental pneumatic appliance for use with pneumatic compressor, integrated, 2 full legs and trunk. |
| E0675 | Pneumatic compression device, high pressure, rapid inflation/deflation cycle, for arterial insufficiency (unilateral or bilateral system). |
| E0676 | Intermittent limb compression device (includes all accessories), not otherwise specified. |

**COVERED DIAGNOSIS CODES FOR PROCEDURE CODES**: **E0650, E0651, E0652, E0655, E0660, E0665, E0666, E0667, E0668, E0669**

| Codes | | | | | | |
|---|---|---|---|---|---|---|
| I87.2 | I87.011 | I87.012 | I87.013 | I87.021 | I87.022 | I87.023 |
| I87.031 | I87.032 | I87.033 | I87.091 | I87.092 | I87.093 | I87.2 |
| I89.0 | I97.2 | L97.111 | L97.112 | L97.113 | L97.114 | L97.115 |
| L97.116 | L97.118 | L97.119 | L97.121 | L97.122 | L97.123 | L97.124 |
| L97.125 | L97.126 | L97.128 | L97.129 | L97.211 | L97.212 | L97.213 |
| L97.214 | L97.215 | L97.216 | L97.218 | L97.219 | L97.221 | L97.222 |
| L97.223 | L97.224 | L97.225 | L97.226 | L97.228 | L97.229 | L97.311 |
| L97.312 | L97.313 | L97.314 | L97.315 | L97.316 | L97.318 | L97.319 |
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| L97.329 | L97.411 | L97.412 | L97.413 | L97.414 | L97.415 | L97.416 |
| L97.418 | L97.419 | L97.421 | L97.422 | L97.423 | L97.424 | L97.425 |
| L97.426 | L97.428 | L97.429 | L97.505 | L97.506 | L97.508 | L97.511 |
| L97.512 | L97.513 | L97.514 | L97.515 | L97.516 | L97.518 | L97.519 |
| L97.521 | L97.522 | L97.523 | L97.524 | L97.525 | L97.526 | L97.528 |
| L97.529 | L97.811 | L97.812 | L97.813 | L97.814 | L97.815 | L97.816 |
| L97.818 | L97.819 | L97.821 | L97.822 | L97.823 | L97.824 | L97.825 |
| L97.826 | L97.828 | L97.829 | L97.911 | L97.912 | L97.913 | L97.914 |
| L97.915 | L97.916 | L97.918 | L97.919 | L97.921 | L97.922 | L97.923 |
| L97.924 | L97.925 | L97.926 | L97.928 | L97.929 | L98.415 | L98.416 |
| L98.418 | L98.425 | L98.426 | L98.428 | L98.495 | L98.496 | L98.498 |
| Q82.0 | | | | | | |

**REIMBURSEMENT**

Participating facilities will be reimbursed per their Highmark Health Options contract.

**POLICY SOURCES**

**Guidance on Determining High Risk for Bleeding**

American College of Chest Physicians (ACCP) 2012 guidelines on prevention of VTE in orthopedic surgery patients list the following general risk factors for bleeding:

- Previous major bleeding (and previous bleeding risk similar to current risk).
- Severe renal failure.
- Concomitant antiplatelet agent.
- Surgical factors: history of or difficult-to-control surgical bleeding during the current operative procedure, extensive surgical dissection, and revision surgery.

The guidelines note, however, that "specific thresholds for using mechanical compression devices or no prophylaxis instead of anticoagulant thromboprophylaxis have not been established."

**Guidance on Risk Level for Patients Undergoing Non-Orthopedic Surgery**

The 2012 ACCP guidelines on prevention of VTE in non-orthopedic surgery patients included the following discussion of risk levels: "In patients undergoing general and abdominal-pelvic surgery, the risk of VTE varies depending on both patient-specific and procedure-specific factors. Examples of relatively low-risk procedures include laparoscopic cholecystectomy, appendectomy, transurethral prostatectomy, inguinal herniorrhaphy, and unilateral or bilateral mastectomy. Open-abdominal and open-pelvic procedures are associated with a higher risk of VTE. VTE risk appears to be highest for patients undergoing abdominal or pelvic surgery for cancer…"

"Independent risk factors include age at least 60 years, prior VTE, and cancer; age greater than or equal to 60 years, prior VTE, anesthesia greater than or equal to 2 hours, and bed rest greater than or equal to 4 days; older age, male sex, longer length of hospital stay, and higher Charlson comorbidity score; and sepsis, pregnancy or postpartum state, central venous access, malignancy, prior VTE, and inpatient hospital stay more than 2 days. In another study, most of the moderate to strong independent risk factors for VTE were surgical complications, including urinary tract infection, acute renal insufficiency, postoperative transfusion, perioperative myocardial infarction, and pneumonia".

The American College of Obstetricians and Gynecologists (ACOG, 2007, reaffirmed 2012) proposed the following risk classification for VTE in patients undergoing major gynecological surgery:

- **Low**: Surgery lasting less than 30 minutes in patients younger than 40 years with no additional risk factors.
- **Moderate:** Surgery lasting less than 30 minutes in patients with additional risk factors; surgery lasting less than 30 minutes in patients aged 40 to 60 years with no additional risk factors; major surgery in patients younger than 40 years with no additional risk factors.
- **High:** Surgery lasting less than 30 minutes in patients older than 60 years or with additional risk factors; major surgery in patients older than 40 years or with additional risk factors.
- **Highest:** Major surgery in patients older than 60 years plus prior venous thromboembolism, cancer, or molecular hypercoagulable state.

## Reference

CMS Manual System, Pub. 100-03, Medicare National Coverage Determinations Manual, Chapter 1, Section 280.6.

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Ridner, S.H., Dietrich, M.S., 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 29, 795–803 (2021).

**POLICY UPDATE HISTORY**

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|---|---|
| 10/27/2021 | Approved in Medical Policy Committee |
| 11/2021 | Approved in QI/UM |
| 10/26/2022 | Annual review; approved in Medical Policy Committee |
| 11/2022 | Approved in QI/UM |