

Pneumatic Compression Devices

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Approved By:	Highmark Health Options – Market Leadership
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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 nonsegmented or segmented, with or without calibrated gradient pressure.

PROCEDURES

1. A prior authorization is required.

2. 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 nonsegmented 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
3. 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.

4. 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 nonsegmented 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.

5. 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.

6. 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.
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.
E1399	Durable medical equipment, miscellaneous.

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
L97.321	L97.322	L97.323	L97.324	L97.325	L97.326	L97.328
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 age 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.

Hayes, Inc. Hayes Medical Technology Directory. Pneumatic Compression for Prevention of Deep Vein Thrombosis Following Total Knee Arthroplasty. Lansdale, PA: Hays, Inc.: Published November 2018. Accessed 5/31/2019.

Hayes, Inc., Hayes Health Technology Brief. Flexitouch System (tactile Systems Technology Inc.) for Lymphedema. Lansdale, PA: Hayes, Inc.: November 2018. Accessed May 31, 2019.

Karaca-Mandic P, Hirsch AT, Rockson SG, et al. The cutaneous, net clinical, and health economic benefits of advanced pneumatic compression devices in patients with lymphedema. *JAMA Dermatol.* 2015;151(11):1187-1193.

Kulkarni A, Salvi R, Haik N. Effect of intermittent pneumatic compression device (IPCD) versus graduated compression stockings (GCS) for venous thromboembolism prophylaxis (VTE) in high risk surgical patient. *Ind J Pub Health Res & Dev.* 2019; 11:11.

Moran P, Teljeur C, Harrington P, Ryan M. A systematic review of intermittent pneumatic compression for critical limb ischemia. *Vascular Medicine.* 2015;20(1):41-50.

Noridian Healthcare Solutions, LCD L33829. Revised 01/01/2019.

Takahashi Y, Takahira N, Shibuya S, et. al. A portable pneumatic compression device to prevent venous thromboembolism in orthopedic patients with the highest risk of both venous thrombosis and bleeding: A case series study. *J Ortho Surg.* 2020; 28(1): 1-6.

Wang D, Bao F, Li Q, Teng Y, Li J. Semiautomatic intermittent pneumatic compression device applied to deep vein thrombosis in major orthopedic surgery. *BioMed Eng OnLine.* 2018:17:28.

POLICY UPDATE HISTORY

<Date>	<Event>
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