MEDICAL POLICY

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MEDICAL POLICY DETAILS	
Medical Policy Title	**Limb Pneumatic Compression Devices for Venous Thromboembolism Prophylaxis**
Policy Number	**1.01.51**
Category	**Technology Assessment**
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Product Disclaimer	• *If a product excludes coverage for a service, it is not covered, and medical policy criteria do not apply.* • *If a commercial product (including an Essential Plan or Child Health Plus product), medical policy criteria apply to the benefit.* • *If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.* • *If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.* • *If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.*

POLICY STATEMENT

I. Based on our criteria and assessment of the peer-reviewed literature, pneumatic compression devices have been medically proven to be effective and, therefore, are considered **medically appropriate** when used in the home for deep vein thrombosis (DVT) prophylaxis after major surgery, including major orthopedic surgery, in patients when pharmacological prophylaxis is contraindicated. Use of a pneumatic compression device is allowed for up to 30 days post-operatively.

II. Based upon our criteria and assessment of the peer-reviewed literature, use of pneumatic compression devices for prevention of deep vein thrombosis, other than as described in Policy Statement I, is considered **not medically necessary**.

Refer to Corporate Medical Policy #1.01.17 Powered Compression Devices/Lymphedema Pumps

Refer to Corporate Medical Policy #11.01.15 Medically Necessary Services

POLICY GUIDELINES

I. Major orthopedic surgery includes total hip arthroplasty (THA), total knee arthroplasty (TKA), or hip fracture surgery (HFS).

II. The American College of Chest Physicians (ACCP) guidelines on prevention of venous thromboembolism (VTE) in orthopedic surgery patients list the following general risk factors for bleeding:
   A. Previous major bleeding (and previous bleeding risk similar to current risk),
   B. Severe renal failure,
   C. Concomitant antiplatelet agent, and
   D. Surgical factors: history of, or difficult-to-control, surgical bleeding during the current operative procedure, extensive surgical dissection, and revision surgery.

DESCRIPTION

Pneumatic compression devices have been utilized in the post-operative period for prevention of DVT. The devices include various types of wraps for the arms or legs and a programmable control module. The wraps of some of these devices are capable of providing cooling or heating to the extremity. Examples of devices that can be used in the home after discharge include the VascuTherm2 (Thermotek, Inc) and the Triple Play VT (Compression Solutions, Inc).

RATIONALE

Anticoagulation is the mainstay of DVT prophylaxis after major surgery and is sometimes continued into the outpatient setting. Treatment with a pneumatic compression device may offer an additional benefit when used in conjunction with anticoagulation in the inpatient setting, but is not commonly used in the outpatient setting. Studies involving the use of compression devices post-operatively are limited; the studies are often small and non-randomized, with considerable variation in the comparison studies by type of compression stocking and intermittent compression device used, patient group, DVT detection method, and prophylaxis protocol. Many of the studies are in the setting of the hospital, rather than outpatient; consequently, conclusions from the hospital setting may not be able to be applied to the outpatient setting. This is due to differences in the levels of mobility in the hospital versus the outpatient setting, which may change the risk for DVT. Also, the use of pneumatic compression devices in the hospital can be more highly controlled and monitored. In the outpatient setting, there are questions about the degree of compliance with the devices, including the ability to correctly use them in the absence of professional supervision.

In 2011, the American Academy of Orthopaedic Surgeons (AAOS) published an updated guideline on prevention of VTE in patients undergoing elective hip and knee arthroplasty. The work group recommended the use of pharmacologic agents and/or mechanical compressive devices for the prevention of VTE in patients undergoing elective hip or knee arthroplasty, who are not at elevated risk(beyond that of the surgery, itself) for VTE or bleeding (moderate recommendation), and who have also had a previous VTE (consensus recommendation). For those patients undergoing elective hip or knee arthroplasty, who also have a known bleeding disorder (e.g., hemophilia) and/or active liver disease, mechanical compressive devices for preventing VTE is recommended (consensus recommendation).

In 2012, the American College of Chest Physicians (ACCP) recommended the use of limb compression devices in non-orthopedic general and abdominal-pelvic surgical patients, in patients who were classified as low-risk or moderate-risk for VTE and high-risk for bleeding, rather than no prophylaxis, and as an option (in addition to pharmacologic prophylaxis) for those individuals with moderate- or high-risk for VTE who were not at high risk for bleeding.

In 2007, the American College of Obstetricians-Gynecologists (ACOG) published a practice bulletin on prevention of DVT and pulmonary embolism (PE) after gynecologic surgery. As with the ACCP recommendations, described above, prophylaxis recommendations varied according to patient risk level. For patients at moderate and high risk of DVT, intermittent pneumatic compression was one of the recommended options for DVT prophylaxis. For patients at highest risk i.e.,those who are older than 60 years with prior VTE, cancer, or molecular hypercoaguable state, intermittent pneumoatic copressoin (IPC) or graduated compression stockings (GCS), plus low-dose unfractionated heparin (LDUH) or low-molecular-weight heparin (LMWH), was recommended as a prophylaxis option. The devices should be used continuously until ambulation and discontinued only at the time of hospital discharge, except for the highest-risk patients, who should consider prophylaxis for two to four weeks after discharge.

A Cochrane review by Naccarato, et al. (2010), identified two clinical trials and two small studies using GCS or IPC devices for DVT prophylaxis in stroke patients. The authors concluded that evidence from randomized trials does not support the routine use of GCS to reduce the risk of DVT after acute stroke. There is insufficient evidence to support the routine use of IPC to reduce the risk of DVT in acute stroke; further larger, randomized studies of IPC are needed, to reliably assess the balance of risks and benefits of this intervention.

CODES

- *Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract.*

- *CODES MAY NOT BE COVERED UNDER ALL CIRCUMSTANCES. PLEASE READ THE POLICY AND GUIDELINES STATEMENTS CAREFULLY.*
- *Codes may not be all inclusive as the AMA and CMS code updates may occur more frequently than policy updates.*
- *Code Key: Experimental/Investigational = (E/I), Not medically necessary/ appropriate = (NMN).*

CPT Codes

Code	Description
No Codes	

HCPCS Codes

Code	Description
E0650	Pneumatic Compressor, nonsegmental home model
E0651	Pneumatic compressor, segmental home model without calibrated gradient pressure
E0652	Pneumatic Compressor, segmental home model with calibrated gradient pressure
E0660	Nonsegmental pneumatic appliance for use with pneumatic compressor, full leg
E0666	Nonsegmental pneumatic appliance for use with pneumatic compressor, half leg
E0667	Segmental pneumatic appliance for use with pneumatic compressor, full leg
E0669	Segmental pneumatic appliance for use with pneumatic compressor, half leg
E0671	Segmental gradient pressure pneumatic appliance, full leg
E0673	Segmental gradient pressure pneumatic appliance, half leg
E0676	Intermittent limb compression device (includes all accessories), not otherwise specified

ICD10 Codes

Code	Description
M05.00-M05.09	Felty's syndrome (code range)
M05.20-M05.29	Rheumatoid vasculitis with rheumatoid arthritis (code range)
M05.30-M05.39	Rheumatoid heart disease with rheumatoid arthritis (code range)
M05.40-M05.49	Rheumatoid myopathy with rheumatoid arthritis (code range)
M05.50-M05.579	Rheumatoid polyneuropathy with rheumatoid arthritis (code range)
M05.60-M05.79	Rheumatoid arthritis of unspecified site with or without involvement of other organs and systems (code range)
M05.80-M06.09	Rheumatoid arthritis with or without rheumatoid factor (code range)
M06.1	Adult-onset Still's disease
M06.20-M06.29	Rheumatoid bursitis (code range)
M06.30-M06.39	Rheumatoid nodule (code range)

Code	Description
M06.4	Inflammatory polyarthropathy
M06.80-M06.9	Other specified rheumatoid arthritis (code range)
M08.00-M08.29	Unspecified juvenile rheumatoid arthritis (code range)
M08.3	Juvenile rheumatoid polyarthritis (seronegative)
M08.40-M08.48	Pauciarticular juvenile rheumatoid arthritis (code range)
M08.80-M08.99	Other juvenile arthritis (code range)
M12.00-M12.59	Chronic postrheumatic arthropathy (Jaccoud) (code range)
M15.0-M19.93	Polyosteoarthritis (code range)
M80.051A-M80.859A	Osteoporosis (code range)
M84.451A-M84.659A	Pathological fracture, hip or femur, initial encounter for fracture (code range; A codes only)
S72.001A-S79.099A	Fracture of lower extremity, initial encounter for fracture type (code range; A codes only)
Z47.1	Aftercare following joint replacement surgery
Z96.641-Z96.659	Presence of artificial lower extremity joint (code range)

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*Key Article

KEY WORDS

Venodyne, VascuTherm2, Triple Play VT®

CMS COVERAGE FOR MEDICARE PRODUCT MEMBERS

There is currently a National Coverage Determination (NCD) and a Local Coverage Determination (LCD) for Pneumatic Compression Devices. Please refer to the following websites for Medicare Members:NCD SITE:Pneumatic Compression Devices 280.6 http://www.cms.gov/medicare-coverage-database/details/ncd-details.aspx?NCDId=225&ncdver=1&bc=AgAAgAAAAAAA& accessed 08/09/23.

LCD SITE Pneumatic Compression Devices L33829
https://localcoverage.cms.gov/mcd_archive/view/lcd.aspx?lcdInfo=33829:42 accessed 08/09/23.