



## MASSACHUSETTS

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### Medical Policy

## End-Diastolic Pneumatic Compression Boot as a Treatment of Peripheral Vascular Disease or Lymphedema

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### Policy Number: 648

BCBSA Reference Number: 2.02.17A

NCD/LCD: NA

### Related Policies

- Non-Contact Ultrasound Treatment for Wounds, #[657](#)
- Enhanced External Counterpulsation (EECP) for Chronic Stable Angina or Congestive Heart Failure, #[649](#)

### Policy

#### Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO Blue<sup>SM</sup> and Medicare PPO Blue<sup>SM</sup> Members

End-diastolic pneumatic compression boots are **INVESTIGATIONAL** as a treatment of peripheral vascular disease or lymphedema and its associated complications, including but not limited to, ischemic lesions, claudication pain, necrotizing cellulitis, venous stasis ulcers, stasis dermatitis, chronic lymphedema, or thrombophlebitis.

### Prior Authorization Information

#### Inpatient

- For services described in this policy, precertification/preauthorization **IS REQUIRED** for all products if the procedure is performed **inpatient**.

#### Outpatient

- For services described in this policy, see below for products where prior authorization **might be required** if the procedure is performed **outpatient**.

	Outpatient
Commercial Managed Care (HMO and POS)	This is <b>not</b> a covered service.
Commercial PPO and Indemnity	This is <b>not</b> a covered service.
Medicare HMO Blue <sup>SM</sup>	This is <b>not</b> a covered service.
Medicare PPO Blue <sup>SM</sup>	This is <b>not</b> a covered service.

## CPT Codes / HCPCS Codes / ICD Codes

*Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member.*

*Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.*

### CPT Codes

There is no specific CPT code for this service.

### Description

Poor lower extremity circulation can be associated with compromised arterial flow, impaired venous return or both. When oxygen demand exceeds the supply to the lower extremity, such as during physical activity, claudication pain can result. Small amounts of oxygen deprivation over a chronic period will lead to skin breakdown and poor healing capacity. Venous stasis and lymphedema compress small arterioles and shunt blood from these areas.

End-diastolic pneumatic compression has been investigated in the treatment of peripheral vascular disease, venous stasis, and lymphedema. The end-diastolic pneumatic compression boot includes the following components: a heart monitor to detect the QRS complex of the electrocardiogram (EKG) and to appropriately time boot compressions in the end portion of the heart cycle; a rapid action valve assembly capable of both pressurizing and exhausting the boots; rigid, adjustable long boots to enclose the leg from groin to toes; and double-walled plastic bags to enclose the treated portion of the leg and to contain the compressed air. Timed, sequential inflation during the end-diastolic portion of the cardiac cycle is applied to the boot and is designed both to allow maximal arterial flow into the leg and to expel venous blood and lymphatic fluid.

Examples of pneumatic compression boots for treatment of leg vascular diseases and congestive heart failure include The Circulator Boot™, The Miniboot and The Multicrus Circulator Boot™ from Circulator Boot Corporation and. All pneumatic compression boots for treatment of peripheral vascular disease and lymphedema are considered investigational regardless of the commercial name, the manufacturer or FDA approval status except when used for the medically necessary indications that are consistent with the policy statement.

### Summary

The available evidence is insufficient to determine if there is a role for end-diastolic pneumatic compression therapy in the treatment of peripheral vascular disease or lymphedema and its associated complications. Randomized controlled trials comparing outcomes with currently available treatments are required. Therefore, the treatment is considered investigational.

### Policy History

Date	Action
2/2020	Policy updated with literature review through February 1, 2020, references added. Policy statements unchanged.
12/2013	Removed reference to LCD L11503 as it does not meet the intent of this policy.
11/2013	Removed HCPCS codes E0650, E0651, E0652, E0660, E0666, E0667, E0669, E0671, E0673, E0675 and ICD-9 diagnosis codes 454.0, 454.2, 457.1, 459.81 as they do not meet the intent of the policy.
2/2013	New references from BCBSA National medical policy.
11/2011-4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
4/2011	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.

4/2010	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
4/2010	BCBSA National medical policy review. No changes to policy statements.
4/2009	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
1/2009	BCBSA National medical policy review. No changes to policy statements.
4/2008	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.
10/2007	BCBSA National medical policy review. No changes to policy statements.
4/2007	Reviewed - Medical Policy Group - Cardiology and Pulmonology. No changes to policy statements.

## Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

## References

1. Dillon RS. Fifteen years of experience in treating 2177 episodes of foot and leg lesions with the circulator boot. *Angiology* 1997; 48(5 pt 2):S17-34.
2. Dillon RS. Improved hemodynamics shown by continuous monitoring of electrical impedance during external counterpulsation with the end-diastolic pneumatic boot and improved ambulatory EKG monitoring after 3 weeks of therapy. *Angiology* 1998; 49(7):523-35.
3. Dillon RS. Effect of therapy with the pneumatic end-diastolic leg compression boot on peripheral vascular test and on the clinical course of peripheral vascular disease. *Angiology* 1980; 31(9):614-38.
4. Dillon RS. Treatment of resistant venous stasis ulcers and dermatitis with the end diastolic pneumatic compression boot. *Angiology* 1986; 37(1):47-56.
5. Dillon RS. Successful treatment of osteomyelitis and soft tissue infections in ischemic diabetic legs by local antibiotic injections and the end-diastolic pneumatic compression boot. *Ann Surg* 1986; 204(6):643-9.
6. Filp JR, Dillon RS. Treatment of end-stage "trash feet" with the end-diastolic pneumatic boot. *Angiology* 2008; 59(2):214-9.