



Rancho Los Amigos National Rehabilitation Center

DEPARTMENT OF NURSING

CLINICAL

POLICY AND PROCEDURE

SUBJECT: ANTI-EMBOLISM STOCKINGS:
MEASUREMENT AND APPLICATION

Policy No.: C141.10
Effective Date: 02/1987
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PURPOSE OF PROCEDURE: To ensure appropriate measurement for correct size of anti-embolism stockings and correct application for maximum benefit.

PHYSICIAN ORDER REQUIRED: Yes

PERFORMED BY: RN, LVN, (NA, RA, SNW – application only), Affiliating Nursing Students under the supervision of an RN/Affiliate Instructor.

PROCEDURAL STEPS:

I. MEASUREMENT

- A. Measure both legs because if the right and left leg measure differently, two different stocking sizes may need to be ordered.
- B. For thigh length style: First, measure upper thigh circumference at the gluteal fold, then the calf circumference at the greatest dimension, and lastly, the leg length from the gluteal fold to the base of the heel.
Key Point: If possible, measure in a standing position. If in bed, make sure patient is supine.
- B. For knee length style: Measure the circumference of the calf at the greatest dimension and the leg length from the bend of the knee to the base of the heel.
- C. For both styles: Measure calf at the greatest circumference.

II. IMPLEMENTATION

- A. Verify the practitioner's order.
- B. Ensure that the provider's VTE Risk Assessment is complete so that a VTE score is assigned to the patient.
- C. Review the patient's medical record for contraindications to anti-embolism stocking use or for an allergy to material used by manufacturer.
- D. Explain the rationale for use of anti-embolism stocking.
- E. Perform hand hygiene and don gloves.
- F. Provide privacy and expose one leg at a time.
- G. Assess the condition of the patient's leg including the skin. If you suspect arterial disease, notify the practitioner before applying the stockings.

III. APPLICATION

- A. Always begin with stocking turned inside out (they should come inside out in the package).
- B. Grasp each side firmly and pull onto foot and heel, then pull evenly over ankle and calf.
Key Point: Patient's heel should be centered in the heel pocket.
- C. Pull toe section forward, smoothing out ankle and instep area. Center toe opening so the toes are exposed for inspection.

- D. Pull body of stocking up around ankle and calf.
Key Points:
1) In the knee length style, the top of the stocking is 1-2 inches below the knee cap. No portion of the knee should be covered.
2) In the thigh length style, the stitch changes (change in fabric sheerness) should fall between 1-2 inches below the bend of the knee.
- E. For stockings with a gusset, center gusset (thigh length style) over femoral artery. Do NOT turn down top of stocking or allow stocking to roll down.
Key Point: the gusset is the tightly woven insert in the thigh length style. When centered on the femoral artery, it causes increased compression and prevents pooling of blood in the thigh. The top band rests in the gluteal fold.

IV. INDICATIONS

- A. Anti-embolic stockings are used for the management of patients with chronic venous disease.
- B. Patients with edema, weeping, or skin changes in the absence of any pressure injuries also benefit.
- C. The use of anti-embolism stockings reduces the risk of DVT for post-op and surgical patients.
- D. Anti-embolism stockings support blood circulation in individuals with spinal cord injury in rehabilitation management.

V. CONTRAINDICATIONS

- A. Peripheral artery disease.
- B. Massive lower extremity edema.
- C. Anti-embolism stockings should not be used in the setting of suspected or known acute lower extremity venous thrombosis.
- D. Care should be exercised with stockings in patients with acute and chronic heart failure as it may lead to fluid volume shifts affecting cardiac output.
- E. Compression therapy should not be used in the setting of skin infections of the lower extremities, acute cellulitis and/or the presence of necrotic tissue.

VI. PATIENT CARE

- A. Remove every shift during assessment and PRN (preferably when the patient is resting to avoid pooling of blood in the extremity).
Key Point: This time is used to check for any skin changes (e.g. redness, edema, or calf tenderness) and assess the skin underneath the stockings to identify early signs of pressure.
- B. Compression stockings over pressure points (such as the bony prominences of the toes) can lead to the development of pressure injuries so these areas must be thoroughly inspected and assessed.

VII. PATIENT/FAMILY EDUCATION

- A. Teach the family about purpose, appropriate application and removal, and stocking care/maintenance. Have them provide a return demonstration.

- B. Teach the patient/family about signs and symptoms to watch for related to skin changes (e.g. redness, edema).
- C. Alert the patient/family to report any calf tenderness immediately.
- D. If the patient will require anti-embolism stockings after discharge, teach patient/family correct application and explain importance of compliance, which maximizes the effectiveness of treatment.
- E. Compression stocking should be immediately removed, if patient experience any numbness/discoloration of foot/toe.
- F. Inform patient and family member that with proper care, stockings commonly last for 2 to 3 months before needing replacing.

VIII. DOCUMENTATION

- A. Record stocking application, stocking style and size, and any complications resulting from stocking use.
- B. Document stocking removal and the appearance of the patient's skin.
- C. Document patient/family teaching, patient's understanding of teaching and return demonstration on the patient's electronic education medical record.
- D. Record your assessment of the patient's circulatory status and skin assessment of lower extremities in the electronic medical record.

Reviewed by: Harmeet Kaur, BSN, RN, CRRN**References:**

Armstrong, D.G., Mills, J.L. & Collins, K.A. (2022). Compression therapy for the treatment of chronic venous insufficiency. Retrieved from <https://www.uptodate.com/contents/compression-therapy-for-the-treatment-of-chronic-venous-insufficiency>.

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02/87 – Revised
11/88 – Revised
11/90 – Reviewed
03/97 – Revised
10/99 – Revised
12/02 – Reviewed
06/05 – Reviewed
06/08 – Reviewed
05/11 – Revised
06/14 – Revised
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