Rancho Los Amigos National Rehabilitation Center
OUTPATIENT SERVICES: MOBILE CLINIC POLICY AND PROCEDURE

SUBJECT:	**Wound Care Procedure: Unna Boot Application**	**Policy No.:**	**400.2**
		Supersedes:	**New**
		Revision Date:	**February 9, 2022**
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1. **PURPOSE**

1.1 To provide guidance and describe the workflow process in performing Unna Boot Application Procedure in the mobile clinic according to DHS – LA County Standard of Care.

2. **POLICY**

2.1 Medical Provider will give the order for the Unna Boot application procedure.
2.2 RNs, LVNs & CMA will perform the procedure of Unna Boot application procedure.
2.3 Provide instructions and answers all patients' questions before the procedure is perform.

3. DEFINITION

3.1 The Unna Boot application procedure is a common procedure treatment of venous stasis ulcers and other disorders (see "conditions" below). Used primarily when semi-immobilizing, soft-pressure or gradient pressure dressing over a join, extremity, or even scalp is needed.

3.1.1 A 3–4-inch roll or bandage is impregnated with calamine-gelatin-zinc oxide compound.
3.1.2 Soothing and antipruritic
3.1.3 Dressing changes every 3-11 days instead of 1-3x per day.

3.2 **Conditions**

3.2.1 Phlebitis and thrombophlebitis of the lower extremity
3.2.2 Chronic venous disease with or without venous stasis ulcers
3.2.3 Post phlebitis syndrome
3.2.4 Lymphedema
3.2.5 Split- and full-thickness skin graft sites
3.2.6 Split- and full-thickness skin graft donor sites
3.2.7 Acute and chronic tendonitis (acts as a soft immobilizer)
3.2.8 Acute ankle sprains without fracture

4. **INDICATION**

4.1 Helps reduce venous hypertension, control edema, counteract delayed venous return.
4.2 Debridement, if indicated, should be carried out before application and covered with permeable dressing like Tegaderm prior to application of Unna Boot.

5. CONTRAINDICATION

5.1 Arterial insufficiency

Note: Circulatory compromise and necrosis have been reported when compression dressing is used in the presence of arterial insufficiency. The ratio of systolic pressure at the posterior tibial or dorsalis pedis artery divided by the brachial artery pressure should be equal to or greater than 1. If the ratio is 0.7 or less, significant arterial insufficiency is present and Unna Boot or compression is contraindicated.

6. EQUIPMENT & SUPPLIES

6.1 Gauze sponges.
6.2 Prescribed cleaning agent.
6.3 Normal saline solution.
6.4 Commercially prepared paste bandage impregnated with zinc oxide, glycerin, gelatin, and calamine.
6.5 Gloves.
6.6 Elastic bandage or self-adherent wrap to cover the Unna boot.
6.7 Tape or clip.
6.8 Pillow.
6.9 Disposable wound-measuring device.

Optional: Roller gauze for excessive drainage, bandage scissors, Doppler ultrasound equipment
Unna Paste Boot dressing is a trade name, and more than 25 companies make these dressings. Check with your local medical supply company or contact one of the following:

Aquaphor Gauze
- Beiersdorf

Dome-Paste medicated bandage (4-inch × 10-yard)
- Miles, Inc. (Pharmaceutical Division)

Medicopaste bandage
- Graham-Field, Inc.

Unna's Boot Elastic Paste Bandage
- Surgical Supply Service

Unna-Flex bandage
- ConvaTec (division of Bristol-Myers Squibb)

7. PROCEDURE/TECHNIQUE/IMPLEMENTATION

7.1 Gather and prepare the necessary equipment and supplies.
7.2 Perform hand hygiene.
7.3 Confirm the patient's identity using at least two patient identifiers.
7.4 Provide privacy.
7.5 Raise the bed to waist level before providing care *to prevent caregiver back strain*.
7.6 Perform hand hygiene.

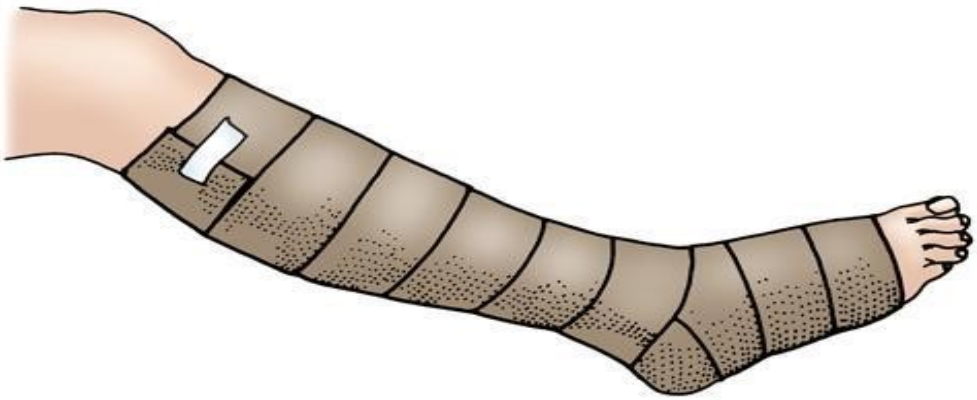
7.7 Put on gloves.
7.8 Assess the ulcer and the surrounding skin. Measure ulcer size with the disposable wound-measuring device and evaluate the ulcer's drainage and appearance.
7.9 Perform a neurovascular assessment of the affected foot *to ensure adequate circulation.* If you don't detect a dorsalis-pedis or posterior tibial pulse in the foot by palpation, Doppler ultrasound, or ankle-brachial index, report the finding before applying the Unna boot.
7.10 Place the patient in the supine position, elevating the leg on which you're going to place the Unna boot.
7.11 Open all of the bandage wrappers. Make sure that you have enough supplies to cover the extremity.
7.12 Have the patient dorsiflex the foot 90 degrees.
7.13 Rinse the affected area with normal saline solution and dry it thoroughly with a gauze sponge. If the skin is dry, petroleum jelly can be used as a moisturizer. Avoid topical antibiotics, povidone, and hexachlorophene, which can be topically sensitizing and cause a contact dermatitis. Topical steroids can be applied after washing if dermatitis is present.

- For venous stasis ulcers, debride the ulcer. Hydrocolloid dressings such as DuoDerm can aid in healing. Some experts recommend extending the DuoDerm 1 inch past the edge of the ulcer. It is normal for these moist dressings to develop an anaerobic odor that does not necessarily indicate an infection. Alternatively, the ulcer can be covered with a permeable dressing like Tegaderm.
- A smooth, snug layer of Kling or Kerlix can be used as an under wrap if desired. This may prevent chafing of the skin as the Unna paste dries.

7.14 Remove and discard your gloves.
7.15 Perform hand hygiene. Put on new gloves.
7.16 Have the patient flex the knee.
7.17 Apply first layer of Unna paste boot with zinc oxide–impregnated gauze. For the lower extremity, keep the ankle at a right angle. Starting with the foot positioned at a right angle to the leg, wrap the impregnated gauze bandage in a spiral motion, beginning just above the toes. Wrap the bandage twice without tension around the area just above the toes. Continue wrapping upward, overlapping the dressing 50% or more with each turn. Make sure that the dressing covers the heel. Smooth the boot with your free hand as you go (as shown below).

7.18 It is important to avoid ridges, which can cause discomfort. Cover the heel completely. Alternate a horizontal wrap to cover the Achilles tendon with an oblique turn to cover the posterior aspect of the heel. Cut the dressing and start another wrap around the heel. Wrap snugly and cut the dressing frequently during the wrap. Avoid applying the edge of the dressing on the joint line, instead crossing the ankle with the full width of the wrap. This helps prevent constriction bands and the tourniquet effect. *Do not reverse directions* as with plaster casting material; wrap only in one direction (clockwise or counterclockwise) to prevent ridges.

- Wrap the Unna paste dressing in three layers and proceed all the way to the tibial tuberosity. Stop wrapping about 1″ (2.5 cm) below the knee and popliteal fossa (as shown below) *to prevent irritation when the knee is bent.* Ensure that the wrap is snug but not tight. Mold the boot with your free hand as you apply the bandage *to make it smooth and even.* If necessary, make a 2″ (5-cm) slit in the boot with bandage scissors just below the knee *to relieve constriction that may develop as the dressing hardens.*



7.19 Application of second layer if Unna paste boot with Ace, Coban, Kling, or gauze wrap. Several options for covering the Unna paste dressing include elastic bandage, Coban, Kling, or stockinette.
Both the elastic bandage and Coban dressing help with needed compression.

7.20 Complete Unna paste boot application of layers. The final boot will consist of two or three distinct layers in addition to the specialized wound dressing if a venous leg ulcer is present.

7.21 If drainage is excessive, consider wrapping a roller gauze dressing over the Unna boot.

- For wounds that are moist and draining, the dressing may need to be changed more frequently, as often as every 3 days.
- If moist discharge is minimal, the dressing can be changed about every 7 days and up to 11 days for patients on protracted therapeutic regimens.
- For patients with new applications of the Unna boot, it is wise to examine the patient and change the dressings more frequently to ensure that there are no complications.
- The Unna "cap" for a skin graft donor site on the scalp is applied with an initial layer of Aquaphor gauze followed with an Unna paste dressing. Excellent results with no "concrete scalp" complications were achieved with dressing changes every 3 days in one small study.

7.22 As a final layer, cover the boot with an elastic bandage, wrapping it in a figure-eight pattern *to provide external compression.* Secure it in place using a clip or tape.

7.23 Instruct the patient to remain in bed with the leg outstretched and elevated on a pillow until the paste dries (approximately 30 minutes).

7.24 Monitor the patient's foot for signs and symptoms of neurovascular impairment, such as cyanosis, loss of sensation and swelling. *These findings indicate that the bandage is too tight and must be removed.*

7.25 Remove and discard your gloves.

7.26 Return the bed to the lowest position *to prevent falls and maintain patient safety*.

7.27 Perform hand hygiene.

7.28 Document the procedure.

8. PATIENT EDUCATION/TEACHING

8.1 The dressing must be kept dry.

8.2 Patients should cover the entire dressing with a plastic bag or other impermeable covering to bathe.

8.3 Remove the boot with a pair of large bandage scissors. Lifting the bandage away from the skin and applying a thin film of petroleum jelly on the scissors can prevent discomfort or inadvertent injury during removal.

8.4 Cleanse and dry the skin thoroughly. When the boot is used for stasis ulcers, inspect the area carefully for the presence of infection and debride again, if necessary, before applying a second boot. Venous stasis ulcers can take 2 to 3 months or more to heal.

8.5 For best results, the patient must comply with all other aspects of medical therapy.

8.6 As the swelling subsides in sprains, the compression advantage will be lost. Instruct the patient to return in 2 or 3 days or when the Unna paste dressing becomes loose or develops wrinkles because these can cause pressure sores. A second boot will need to be applied, or more appropriate therapy, such as an inflated splint, must be used.

8.7 Teach the patient to check for signs of impaired circulation and to report any paresthesia, discoloration, or worsening discomfort promptly.

REFERENCES

1. Fowler, G. C. (2020). *Pfenninger & Fowler's Procedures for Primary Care* (Third edition.). Philadelphia, PA: Elsevier.

2. Lippincott (2021, February. 19). *UNNA Boot Application.* Retrieved on December 9, 2021, from https://procedures.lww.com/lnp/view.do?pId=6606847&hits=boot,unna,boots&a=true&ad=false&q=unna%20boot

RANCHO LOS AMIGOS NATIONAL REHABILITATION CENTER

MOBILE CLINIC SKILLS VALIDATION CHECKLIST

Unna Boot	Met √	Not Met √	Comments
1. Gather Supplies			
2. Perform hand hygiene and explain the procedure			
3. Don PPE			
4. Assess ulcer and surrounding skin.			
5. Perform neurovascular assessment			
6. Place patient in supine position elevating the affected leg.			
7. Have patient dorsiflex the foot 90 degrees			
8. Clean the affected area with a gauze sponge and prescribed cleaning agent.			
9. Rinse the area with normal saline solution and dry it thoroughly with a gauze sponge.			
10. Remove and discard your gloves and perform hand hygiene.			
11. Put on new gloves			
12. Have the patient flex the knee.			
13. Starting with the foot positioned at a right angle to the leg, wrap the impregnated gauze bandage in a spiral motion, beginning just above the toes. Wrap the bandage twice without tension around the area just above the toes. Continue wrapping upward, overlapping the dressing 50% or more with each turn. Make sure that the dressing covers the heel. Smooth the boot with your free hand as you go.			
14. Stop wrapping about 1″ (2.5 cm) below the knee and popliteal fossa; ensure that the wrap is snug but not tight. Mold the boot with your free hand as you apply the bandage.			
15. As a final layer, cover the boot with an elastic bandage. Wrap it in a figure-eight pattern and secure it in place using a clip or tape.			
16. Instruct the patient to remain in bed with the leg outstretched and elevated on a pillow until the paste dries.			
17. Monitor the patient's foot for signs and symptoms of neurovascular impairment.			
18. Remove and discard your gloves.			
19. Perform hand hygiene and document the procedure			

_____ Employee has met the requirements for competency. Date: _____
Evaluator Initials

Employee Name: _____Employee #: _____Employee Signature: _____
Print Name

Evaluator Name: _____Employee#: _____Evaluator Signature: _____
Print Name

_____Employee has NOT met the requirements for competency. Date: _____
Evaluator Initials

Remediation Provided: Date: _____ Instructor: _____