UNNA BOOT APPLICATION

SUMMARY
This skill describes the steps for applying an Unna boot and for educating the patient about potential complications

ALERT
The Unna boot is contraindicated in patients with cellulitis, phlebitis, arterial insufficiency, uncompensated heart failure, deep vein thrombosis (DVT) or a known allergy to any of the ingredients impregnated in the compression material

Use the Unna boot with caution on a patient who has decreased leg sensation, including those with uncontrolled diabetes mellitus.

OVERVIEW
The Unna boot is a type of inelastic, compression wrap that is used to treat venous stasis ulcers, venous insufficiency, stasis dermatitis, and ankle sprains. The possibility of coexisting arterial vascular insufficiency, DVT, cellulitis or infected wound(s), uncompensated or unstable heart failure, and allergies to any ingredients of the compression dressing (e.g., glycerin, zinc, gelatin, or calamine) must be excluded before compression is initiated. The Unna boot is most effective in patients who are actively ambulating because it provides very little pressure at rest and higher pressure with calf muscle contraction. When used correctly, the Unna boot promotes venous return, decreases superficial venous distention, and decreases pain.

In the home setting, the Unna boot should be applied by an appropriately trained nurse and should be changed according to the practitioner's orders. Generally, an Unna boot should be applied by an appropriately trained nurse and should be changed according to the practitioner's orders. Generally, an Unna boot is changed once or twice weekly and as indicated for leakage, slippage, hygiene, wound care, complaint of numbness, or anticipated decrease in edema. An inadequate compression level does not achieve the desired increase in venous return, and compression levels that are too high may impede arterial blood flow to the distal extremity. The Unna boot may require more frequent change in cases of increased exudate or severe edema.

Expected Outcomes
- Patient circulation is improved
- Patient understands how to identify and report changes in circulation
- Patient increases ambulation
- Evidence of wound healing and decreased edema

Unexpected Outcomes
- Decreased circulation to the wrapped extremity
- Pain
- Increased edema
- Wound infection
- Contact dermatitis

Documentation
- Number and appearance of ulcers
    - Location

    - Wound bed appearance
    - Wound measurements
    - Presence of tunneling or undermining
    - Quality, amount, and odor drainage
- Wound cleansing performed and application of any creams, ointments, or gels
- Circulatory status of the affected extremity
    - Presence of palpable pedal pulse
    - Capillary refill
    - Temperature of the leg, foot and toes
- Patient's nutritional status
- Patient's pain level before and after application of the Unna boot
- Patient's tolerance to procedure
- Patient and caregiver teaching
- Contact with the practitioner, supervisor, or other team members
- Complications and related nursing interventions
- Patient's progress toward goals
- Assessment of pain, treatment if necessary, and reassessment

Gerontological Considerations

- Older adult patients are more susceptible to skin breakdown because of the frailty of their skin, so wounds may take longer to heal
- A diet high in protein promotes wound healing. An older adult patient who has limited finances and requires assistance to obtain and prepare appropriate meals should be referred to community resources as necessary

EQUIPMENT

Ensure that all necessary supplies are available before the home visit

- Gloves
- Tape measure (to measure wounds)
- Unna boot (paste wrap)
- Cleaning solution
- Gauze
- Topical creams and ointments as ordered by practitioner
- Gauze wrap
- Elastic wrap
- Hypoallergenic tape
- Scissors
- Plastic trash bag

PROCEDURE

1. Perform hand hygiene
2. Introduce yourself to the patient
3. Verify the correct patient using two identifiers
4. Explain the procedure to the patient and ensure that he or she agrees to treatment
5. Verify the practitioner's order and assess the patient for pain
6. Prepare an area in a clean, convenient location and assemble the necessary supplies
7. Position the patient with affected leg(s) elevated and not in dependent position
8. Perform hand hygiene and don gloves
9. Remove old dressing and discard it in a plastic trash bag

10. Remove gloves, perform hand hygiene, and don clean gloves
11. Asses the ulcer(s) and surrounding skin. Assess for pedal pulse to ensure adequate circulation. If no pulse is detected, notify the practitioner.
12. Clean and dry the patient's leg, foot, and toes per the practitioner's orders and apply any protective creams or dressings, as ordered
13. Maintain flexion of the patient's foot at a right (90 degree) angle during the procedure
14. Wrap the first layer of the Unna boot (paste wrap) around the foot starting at base of the toes (wrap twice around the base of toes without using tension), around the heel and ankle, and upward around the leg using a circular technique, with each strip overlapping the previous strip by approximately 50% to 80% to just below the knee. Do not apply pressure to the first layer of the wrap.
15. Cut and smooth the bandage during wrapping, as necessary, to avoid creases or pleats. Ensure that the bandage is smooth and even, and do not use reverse turns.
    Rationale: creases and reverse turns may increase pressure
16. Wrap the entire area per the manufacturer's guidelines. Cut off any excess bandage to avoid wrapping down the patient's leg
17. Cover the paste wrap with clean gauze wrap, followed by an elastic bandage (using recommend amount of tension, per manufacturer's guidelines, i.e., 50% stretch), and secure it with tape
18. Instruct the patient to remain in bed with his or her leg outstretched and elevated on a pillow until the paste dries
19. Assess the patient's capillary refill
20. Discard supplies, remove gloves, and perform hand hygiene
21. Document the procedure in the patient's record

PATIENT AND FAMILY TEACHING

- Instruct the patient and caregiver to notify the practitioner if any of the following occur:
    - New onset of diabetes
    - Decreased leg sensation
    - New onset of allergies to dressing material
    - New onset of arterial insufficiency
    - Difficulty with ambulation
- Teach the patient and caregiver that the patient must ambulate frequently after Unna boot application. Instruct the patient not to walk long distances until the boot dries
- Inform the patient that he or she may need a slipper or shoe that is one or two sizes larger than normal
- instruct the patient to keep the leg elevated above the level of the heart when lying down or reclining
- instruct the patient to keep the Unna boot dry. Teach the patient and caregiver to put a heavy plastic bag over the boot, taping it above and below the boot, when showering to keep it dry and to keep the Unna boot out of the tub when taking a bath
- Instruct the patient not to insert any object into the Unna boot or under the dressing to relive itching
- Instruct the patient to avoid sitting for prolonged periods of time because this affects circulation
- Instruct the patient and caregiver to notify the nurse or practitioner of any continuing or increasing pain in the wrapped extremity
- Instruct the patient to remove the Unna boot and contact his or her practitioner or nurse if experiencing signs of compromised circulation (toes discolored or blue, decreased sensation to the toes, inability to move the toes, or increased or sever pain)

- Instruct the patient to notify the nurse or practitioner for any signs of wound infection, such as fever, increased drainage on the dressing, or a foul odor to the dressing
- Instruct the patient about increasing protein intake to promote healing of venous ulcers
- Encourage questions and answer them as they arise

REFERENCES

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Luz, B.S. and others 2013
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ADDITIONAL READINGS

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