

3M Skin & Wound Care

# Lower Extremity Venous Disease (LEVD)



Innovative Solutions  
Improving Patients' Lives



# Lower Extremity Venous Disease (LEVD) Wounds

## Etiology

Lower extremity venous leg ulcers are caused by chronic venous hypertension. Failure of valves in the veins or faulty calf muscle pump action in the legs results in inadequate fluid return from the legs. Fluid extravasations, tissue ischemia and, eventually, ulceration is the common course of the condition.



# LEVD Ulcer Clinical Presentation

- Location
  - *Malleolus*
  - *Medial aspect of leg superior to medial malleolus*
  
- Appearance:
  - *Wound depth – usually shallow, superficial crater*
  - *Wound edges – irregular*
  - *Wound bed – ruddy red, may have yellow adherent or loose slough*
  - *Amount of exudate – moderate to high*



# LEVD Ulcer Clinical Presentation

- Pain – variable; dull aching, heaviness, or cramping
- Edema – generalized, often worsens during the day
- Skin Conditions
  - *Periwound margin: macerated, crusty*
  - *Dermatitis – inflammatory process due to extravasation of proteolytic enzymes and metabolic waste into tissues*
  - *Scaling*
  - *Hemosiderin staining*
  - *Fibrotic tissue*
  - *Atrophe blanche, white, fragile tissue with tiny, tortuous blood vessels*
  - *Ankle flare*
  - *Scarring from previous ulcers*

# LEVD Ulcer Treatment Recommendations

- Review Health History
  - *Risk factors*
- Assess Wound History
  - *Description of wound*
  - *Onset*
  - *Duration*
  - *Causative factors*
  - *Response to previous treatment modalities*
  - *Compression*
  - *Recurrences*

# LEVD Ulcer Treatment Recommendations



- Assessment of ulcer

- *Location*
- *Size*
- *Appearance*
  - *Wound bed tissue and depth*
  - *Color*
  - *Amount of drainage*
  - *Periwound skin appearance*
- *Pain*



# LEVD Ulcer Treatment Recommendations

- Determine perfusion status of affected leg
  - *Skin temperature, color, absence or presence of pedal pulses, venous filling time*
  - *Complete ankle-brachial pressure index (ABPI)*
- Observe for presence of edema
- Presence of infection or other factors that may impede healing
- Nutritional status

# LEVD Ulcer Treatment Recommendations

- Provide topical therapy based upon assessment
  - *Cleanse wound with each dressing change per facility protocol*
  - *Provide debridement of nonviable tissue as needed*
  - *Select a topical dressing to fill depth, manage exudate, and promote moist wound healing*
  - *Consult physician or wound care specialist to evaluate wounds that show signs of infection or fail to progress*
  - *Consider use of topical antimicrobial dressing if high bioburden suspected*
  - *Protect wound margins from maceration using an alcohol-free skin barrier or white petroleum ointment*
  - *If periwound skin is fragile or weeping, avoid the use of adhesive dressings or tape*





# LEVD Ulcer Treatment Recommendations

- Control edema using sustained compression therapy

- *Consult physician or wound care specialist when considering compression therapy*
- *Select compression based on careful assessment*
- *Compression therapy is not indicated for use on patients with an ABPI <0.5*
- *Individuals in which mixed arterial/venous disease is suspected or the patient's ABPI is >0.5 to <0.8 may benefit when using reduced compression bandaging*






# LEVD Ulcer Treatment Recommendations

- Patient Education
  - *Prevention is critical to manage reoccurrence*
  - *Reoccurrence rates 26% to 69% following ulcer healing\**
- Principles of Venous Leg Ulcer Prevention
  - *Wear bandages or stockings*
  - *Elevate legs for 15+ minutes several times a day*
  - *Exercise – walk, cycle*
  - *Avoid standing in one position*
  - *Don't wear constricting clothing*
  - *Protect legs from trauma*
  - *Pay attention to legs*

\*Carmel, J. 2012. Venous Ulcers. In Bryant R, Nix D, editors, Acute & Chronic Wounds: Current Management Concepts, Fourth Edition, (pg 211). St. Louis, MO: Elsevier Mosby

# 3M Wound Product Guide for Lower Extremity Wounds

Lower Extremity Venous Ulcer	Lower Extremity Arterial Ulcer	Neuropathic Ulcer/ Diabetic Ulcers
<p>Lower extremity venous leg ulcers are caused by chronic venous hypertension. Failure of valves in the veins or faulty calf muscle pump action in the legs results in inadequate fluid return from the legs. Fluid extravasation, tissue ischemia and, eventually, ulceration is the common course of this condition.</p>	<p>Lower extremity arterial ulcers are caused by lower extremity vascular arterial disease.</p>	<p>Neuropathic ulcers result from neurologic and musculoskeletal changes leading to a lack of protective sensation and altered weight-bearing. Tissue damage most often results from trauma and/or repetitive pressure. Inadequate arterial perfusion may also be a factor.</p>
		
<p><b>CLEAN:</b> 3M™ Wound Cleanser</p> <p><b>PROTECT:</b> Cavilon No Sting Barrier Film</p> <p><b>FILL:</b> 3M™ Tegaderm™ Non-Adherent Contact Layer (fragile/painful wound bed) Tegaderm™ Alginate Dressing</p> <p><b>COVER:</b> Tegaderm™ Foam Dressing (nonadhesive)</p> <p><b>COMPRESS:</b> 3M™ Colban™ 2 Layer Compression System (ABPI ≥ 0.8) 3M™ Colban™ 2 Layer Lite Compression System (ABPI ≥ 0.5)</p>	<p><b>CLEAN:</b> 3M™ Wound Cleanser</p> <p><b>PROTECT:</b> Cavilon No Sting Barrier Film</p> <p><b>FILL:</b> <u>Non-Draining to Minimal Drainage</u> Tegaderm™ Contact Layer (fragile/painful wound bed) Tegaderm™ Hydrogel Wound Filler</p> <p><u>Moderate to Heavy Drainage</u> Tegaderm™ Alginate Dressing</p> <p><b>COVER:</b> <u>Non-Draining to Minimal Drainage</u> Tegaderm™ +Pad Dressing Medipore™ +Pad Dressing</p> <p><u>Moderate to Heavy Drainage</u> Tegaderm™ High Performance Foam Adhesive Dressing Tegaderm™ Foam Dressing (nonadhesive)</p>	<p><b>CLEAN:</b> 3M™ Wound Cleanser</p> <p><b>PROTECT:</b> Cavilon No Sting Barrier Film</p> <p><b>FILL:</b> <u>Non-Draining to Minimal Drainage</u> Tegaderm™ Contact Layer (fragile/painful wound bed) Tegaderm™ Hydrogel Wound Filler</p> <p><u>Moderate to Heavy Drainage</u> Tegaderm™ Alginate Dressing</p> <p><b>COVER:</b> <u>Non-Draining to Minimal Drainage</u> Tegaderm™ +Pad Dressing Medipore™ +Pad Dressing</p> <p><u>Moderate to Heavy Drainage</u> Tegaderm™ High Performance Foam Adhesive Dressing Tegaderm™ Foam Dressing (nonadhesive)</p>



# 3M Resources

- For further information on 3M Advance Wound Care products and solutions contact:
  - *Your 3M Skin Health Representative*
  - *3M Health Care Customer Help Line*
    - *1-800-228-3957*
  - *3M Website*
    - *[www.3M.com/skinhealth](http://www.3M.com/skinhealth)*

# LEVD Reference List

- AAWC Guideline [www.aawcone.org](http://www.aawcone.org)
- Wound Care Guidelines of the Wound Healing Society, Wound Rep Reg (2006) 14 645-674
- AHRQ Guideline [www.guideline.gov](http://www.guideline.gov)
- WOCN Clinical Fact Sheets
- WOCN Clinical Practice Guidelines:
  - *Guideline for the Management of Wounds in Patients with Lower Extremity Arterial Disease (2002)*