

Use of Super-Absorbent Dressings and Two-Layer Compression Wrap in the Management of Lower Extremity Wounds

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Background

- Up to 3/1000 people are estimated to have leg ulcers with prevalence increasing to 20/1000 for people >80 years old.¹
- These lower extremity wounds are often chronic, highly exudated, and associated with venous insufficiency.
- Management of these wounds involves advanced wound dressings designed to absorb large amounts of wound exudate and compression therapy.

Purpose

- The use of advanced wound dressings, super-absorbent secondary dressings, and two-layer compression in 4 patients with lower extremity wounds is presented.

Methods

- Wounds were assessed and managed with advanced wound dressings (oxidized regenerated cellulose [ORC]/collagen/silver-ORC* or hydrofiber with silver[†] dressings) along with super-absorbent dressing[‡] and two-layer compression wrap.[§]
- Dressing changes occurred twice per week to weekly, depending on the level of exudate present.
- One patient received an advanced elastomeric skin protectant** prior to dressing and compression application.

Results

- Four patients presented for care (age range 41-88 years, Table 1).
- Wound types included skin breakdown secondary to skin blistering from lymphedema (n=1), venous leg ulcers (VLUs, n=2), and vasculitis (n=1).
- Previous medical history included VLU, lymphedema, obesity, diabetes, vascular insufficiency, and endovenous ablation.

Cases

Case 1. Skin breakdown secondary to blistering and not wearing compression. Advanced elastomeric skin protectant, ORC/collagen/silver-ORC dressings, super-absorbent dressing, and two-layer compression wrap was applied. Weekly dressing changes were performed. The wound was healed 21 days after presentation.



Figure 1A. At presentation (4.0 × 9.0 cm², superficial depth)



Figure 1B. After 7 days (3.0 × 9.0 cm², superficial depth)



Figure 1C. After 14 days, the area was dried over



Figure 1D. Area healed 21 days after presentation

Case 2. VLU present for 1 month. ORC/collagen/silver-ORC dressings, petrolatum gauze dressings, super-absorbent dressing, and two-layer compression wrap was applied. Weekly dressing changes were performed. The wound was healed 42 days after presentation.



Figure 2A. At presentation (8.0 × 6.0 × 0.1 cm³)



Figure 2B. After 14 days (6.0 × 3.5 × 0.1 cm³)

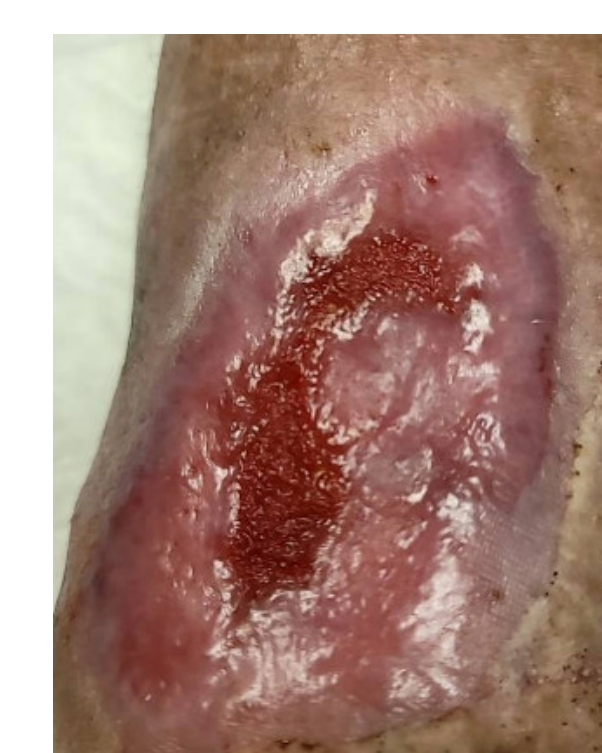


Figure 2C. After 28 days (4.5 × 1.0 × 0.1 cm³)



Figure 2D. Area healed 42 days after presentation

Case 3. VLU with significant drainage from his right calf. Hydrofiber with silver dressing, super-absorbent dressing, and two-layer compression wrap was applied. Dressings were changed twice a week. After 14 days, therapy was transitioned to use of topical steroid cream, super-absorbent dressing, and two-layer compression wrap. Dressings were changed weekly. The area was healed 35 days after presentation.



Figure 3A. At presentation



Figure 3B. After 7 days



Figure 3C. After 14 days



Figure 3D. Area healed 35 days after presentation

Case 4. Vasculitis present for 9 weeks. Hydrofiber with silver dressing, super-absorbent dressing, and two-layer compression wrap were applied. Weekly dressing changes were performed. The wound showed increased granulation tissue development and reduced slough 14 days after presentation.



Figure 4A. At presentation



Figure 4B. After 7 days



Figure 4C. After 14 days

Results (Cont'd)

Table. Patient demographics

Case	Age	Sex	Cormorbidities	Wound Type
1	66	Male	VLU; Lymphadema; Obesity; Diabetes	Skin Breakdown Secondary to Blistering
2	41	Male	Venous Insufficiency	VLU
3	88	Male	VLU; GSV Ablation	VLU
4	65	Male	Venous Insufficiency	Vasculitis

GSV= Great Saphenous Vein; VLU= Venous Leg Ulcer

- In all 4 patients, increased granulation tissue development along with reduction of wound area and exudate volume was observed after treatment for 14-28 days (**Figures 1-4**).
- Complete wound healing was noted in 3 patients within 42 days of presentation.
- Granulation tissue development and decreased slough were observed in the wound bed of the remaining patient.
 - Hydrofiber with silver dressing and super-absorbent dressing use was continued.

Conclusions

- A care plan consisting of advanced wound dressings, super-absorbent dressing, and two-layer compression wrap for wound management contributed to complete wound healing in 3 patients.
- This wound management plan resulted in increased granulation tissue development and reduced slough observed in the remaining patient.

References

1. Nelson EA, Adderly U. Venous leg ulcers. *BMJ Clin Evid.* 2016;1-36.