Working against gravity in leg ulcer exudate management: Evaluation of a novel silicone foam dressing

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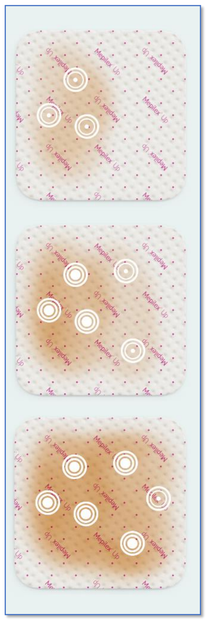
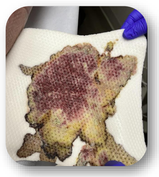
Background

- Clinicians often face complex wounds that have moved in a reasonable trajectory, but then stall when needing epithelial migration, indicating a need for improved wound bed preparation.[1]
- Reasonable interventions may include debridement, improved wound hygiene, protease sequestration, and bioburden reduction, all while continuing to manage exudate, and provide compression for lower extremity wounds.[2]
- High exudate risks maceration of periwound skin. Moreover, exudate leakage from a dressing causes patient distress, embarrassment, and often withdrawal from social activities[3].
- This is a six patient case series from two outpatient wound centers evaluating the use of a **new, silicone-based, non-bordered foam dressing*** on venous leg ulcers (VLUs) which had stalled at the epithelialization stage. The dressing has a **unique dimpled surface that has the capability of spreading fluids evenly in all directions**, reportedly even against the effects of gravity[4,5], reducing likelihood of leakage and maceration.



Novel non-bordered foam dressing*

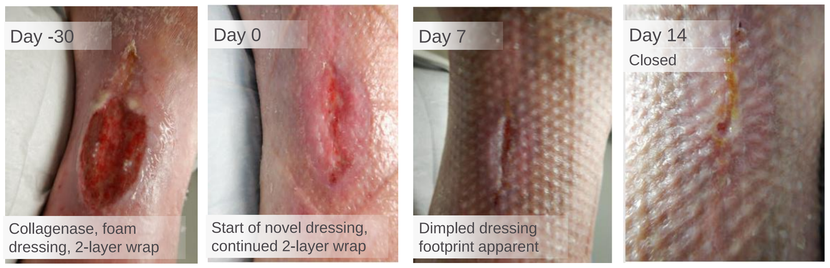
- ✓ Unique dimpling facilitates dispersal of exudate throughout dressing, rather than pooling in one area.
- ✓ High moisture-vapor transfer capabilities enable absorbed fluid evaporation
- ✓ Silicone-based interface to minimize pain at dressing change



*Mepilex Up, Mölnlycke Health Care

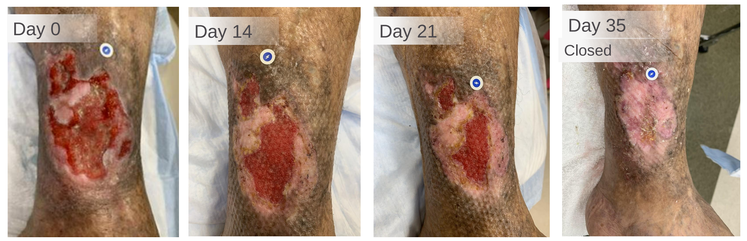
Cases: Highly exudating leg ulcers that had stalled at epithelialization stage

66-year-old female, ulcer started as blister from boot rub, present for 2 months. Had not been managed with compression, extremity was well perfused. No other significant past medical history.



Initial healing was rapid but then exudate began to erode the edges causing burning and stinging. Began novel dressing with significant improvement in first week and closure by second week.

71-year-old female, diabetes-related VLU, hypertension, venous disease. Prior wound treatment for 14-days to address necrotic tissue and infection. Exudate volume was high and peri-wound skin fragile.

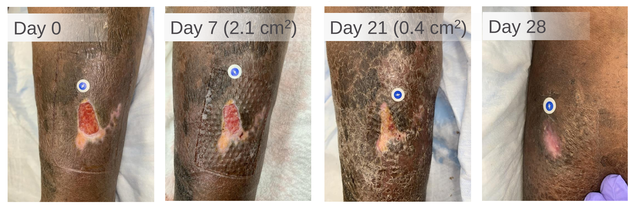


At start of novel dressing, maintaining compression, patient rated pain a 10 (prescribed analgesia continued), limiting sharp debridement. Clinical signs of infection had cleared, exudate levels remained high. Pain rating reduced to a 6 after day 7 and to a 3 after day 14. Wound size reduced throughout study period and peri-wound skin was healthy by day 14.

73-year-old female with PMH of hypertension, aortic aneurysm, right lower extremity paraparesis, spinal stenosis, who is wheelchair bound with dependent edema, poor perfusion, seen 5 days after motor vehicle accident with significant avulsive injury.

After initial debridement, wound was managed with collagenase ointment covered with foam dressing and tubular bandage for edema management. Progress was painstakingly slow until implementation of novel dressing which resulted in rapid improvement in granulation tissue and epithelialization.

63-year-old male, mixed aetiology leg ulcer, diabetes, hypertension, kidney and peripheral artery disease, had undergone revascularization. At baseline wound duration was 77 days (4 cm², depth 0.2cm).



Rapid progression from start of study period with epithelialization from wound edges, improvement in peri-wound condition, no pain. Healed in 28 days.

Key Findings & Discussion

- The dressing, under compression, **prevented leakage in each VLU case with no maceration observed.**
- An interesting observation was **the patterning or stippling noted on the wound bed that consistently improved the wound surface; in 1 or 2 dressing changes, epithelialization was noted to begin from the wound edges.**
- The difference seems to be in the "footprint" created by the dressing. The reason for wound appearance improvement is still elusive. As the dressing was designed for exudate management the improvement may be simply due to that, however we speculate that other interactions may be involved, such as cellular stretch coupled with fluid movement, and gentle interaction with lymphatics.

1. Murphy CA, et al. 'Granulitis': defining a common, biofilm-induced, hyperinflammatory wound pathology. J Wound Care. 2023. 2. Murphy C, et al. International consensus document. Defying hard-to-heal wounds with an early antibiofilm intervention strategy: wound hygiene. J Wound Care 2020. 3. Weir, D. The impact of venous leg ulcers on a patient's quality of life: considerations for dressing selection. Wounds International 2023. 4. Aviles, F. et al. Evaluation of a non-bordered soft silicone foam dressing on exuding hard-to-heal wounds. Poster presented at: SAWC Spring 2023. 5. Molnlycke Health Care. Test report PD-701546. Data on file.

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