

Use of an All-in-One Dressing and Negative Pressure Wound Therapy on Hard to Heal Wounds

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Introduction

- Negative pressure wound therapy (NPWT) is widely utilized in wound management.¹⁻³
- However, challenges exist with its use such as maintaining a seal in difficult anatomical locations, controlling exudate, periwound skin management, and pain upon dressing removal.
- A new all-in-one, multilayer peel and place dressing (MPPD*) for NPWT has been developed that contains a foam dressing and a hybrid-silicone drape.

Purpose

- Assess the use of NPWT with MPPD in 3 patients with complex, hard to heal wounds.

Methods

- Patients and wounds were assessed.
- The MPPD was applied to the wound followed by NPWT† initiation.
- Dressing changes occurred every 7 days in 2 patients.
- Dressing changes occurred every 3-4 days due to skin maceration and patient non-compliance with off-loading in the third patient.
- Wounds and periwound skin were reassessed at each dressing change.

Results

- Three patients (age range 56-63 years) presented for care with a diabetic foot ulcer (DFU), a stage 3 pressure injury (PI), and surgical wounds (**Table 1, Figures 1-4**).
- Previous medical histories included diabetes, transmetatarsal amputation, hypertension, peripheral vascular disease, and Charcot foot.

Cases

Surgical wounds on the plantar surface and lateral ankle of the left lower extremity. After 7 days, frequency of dressing changes was increased to every 3-4 days due to maceration and patient non-compliance with off-loading. Maceration was resolved without further complications with the increased dressing change frequency.



Figure 1A. Plantar wound at presentation (3 x 1 x 2 cm)



Figure 1B. Application of MPPD dressing

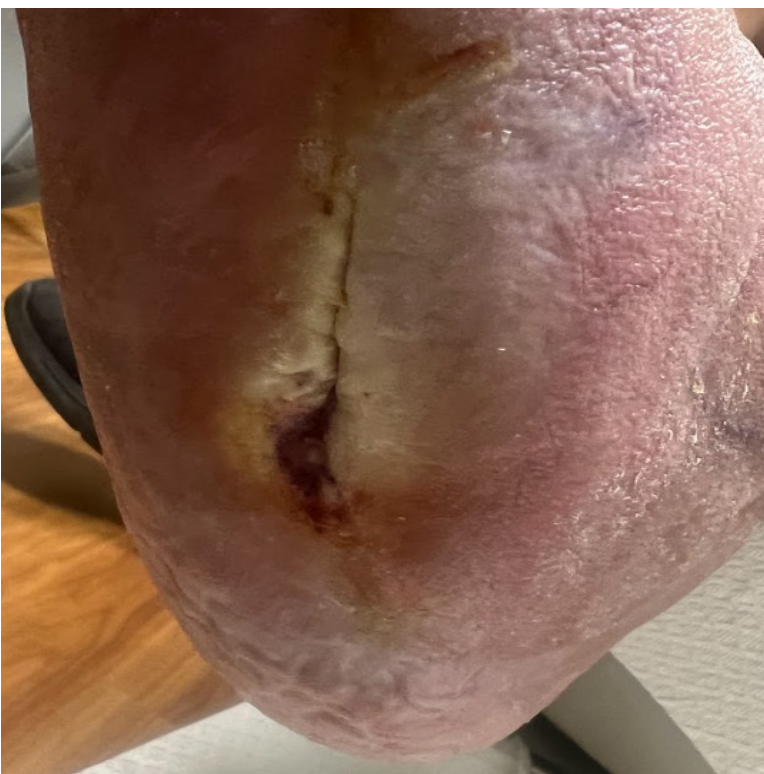


Figure 1C. Plantar wound at 7 days (3 x 1 x 2 cm)



Figure 1D. Plantar wound at 18 days (2 x 0.5 x 1 cm)



Figure 2A. Lateral ankle wound at presentation (2 x 1 x 0.2 cm)



Figure 2B. Application of MPPD dressing



Figure 2C. Lateral ankle wound at 7 days (2 x 1 x 0.2 cm)



Figure 2D. Lateral ankle wound at 18 days (0.4 x 1 x 0.1 cm)

DFU on the plantar surface of the right foot. The wound was fully healed after 7 days.



Figure 3A. Wound at presentation (0.3 x 0.3 x 2 cm)



Figure 3B. Application of MPPD dressing



Figure 3C. Wound closed after 7 days



Figure 3D. Wound remained closed at 14-day follow-up

Left buttock Stage 3 PI. Re-epithelialization observed after 14 days.



Figure 4A. Wound at presentation (9.8 x 10 cm)



Figure 4B. Wound at 14 days (10 x 6.4 cm)



Figure 4C. Wound at 21 days (8.5 x 5 cm)



Figure 4D. Wound at 35 days (7 x 3.5 cm)

Results (Cont'd)

Table 1. Patient demographics

Case	Age	Sex	Comorbidities	Wound Type
1	59	Male	Charcot Foot	Surgical Wounds
2	56	Male	Diabetes; Previous Transmetatarsal Amputation	DFU
3	63	Male	Diabetes; Dialysis; PAD/ PVD; Hypertension	Stage 3 PI

DFU= Diabetic foot ulcer; PAD= Peripheral arterial disease; PI= Pressure injury; PVD= Peripheral vascular disease

- Dressing applications were quick and easy, taking ≤ 2 minutes.
- The negative pressure seal remained intact in all patients.
- Dressing removal was painless for all patients.
- Periwound skin remained healthy without any complications in 2/3 patients.
- Maceration was resolved without further complications following increased dressing change frequency in 1 patient.
- The DFU was fully healed after 7 days of NPWT and MPPD use.
- Wound size reduction and healthy granulation tissue development were observed in the remaining patients.

Conclusions

- MPPD and NPWT use resulted in improved healing outcomes in all 3 patients.
- Additionally, use of the new MPPD for NPWT helped reduce common challenges with dressing application, dressing removal, and periwound skin management.

References

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NOTE: Specific indications, contraindications, warnings, precautions and safety information exist for these products and therapies. Please consult a clinician and product instructions for use prior to application. Rx only.

*Solventum™ V.A.C.® Peel and Place Dressing; †Solventum™ ActiV.A.C.™ Therapy System (Solventum Corporation, Maplewood, MN)

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