

# Negative Pressure Wound Therapy With an All-in-One Dressing Use Over Skin Grafts

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### Background

- Traditional negative pressure wound therapy (NPWT) has been utilized for both wound bed preparation and as a bolster over grafts.
- A new multilayer peel and place dressing (MPPD\*) has been developed that incorporates a fenestrated, non-adherent layer and negative pressure drape into the dressing, allowing for longer dressing wear time up to 7 days of wear.
- However, data are limited on the use of MPPD over grafts.

### Purpose

- A small 5 patient case series assessed the use of NPWT with MPPD over skin grafts.

### Methods

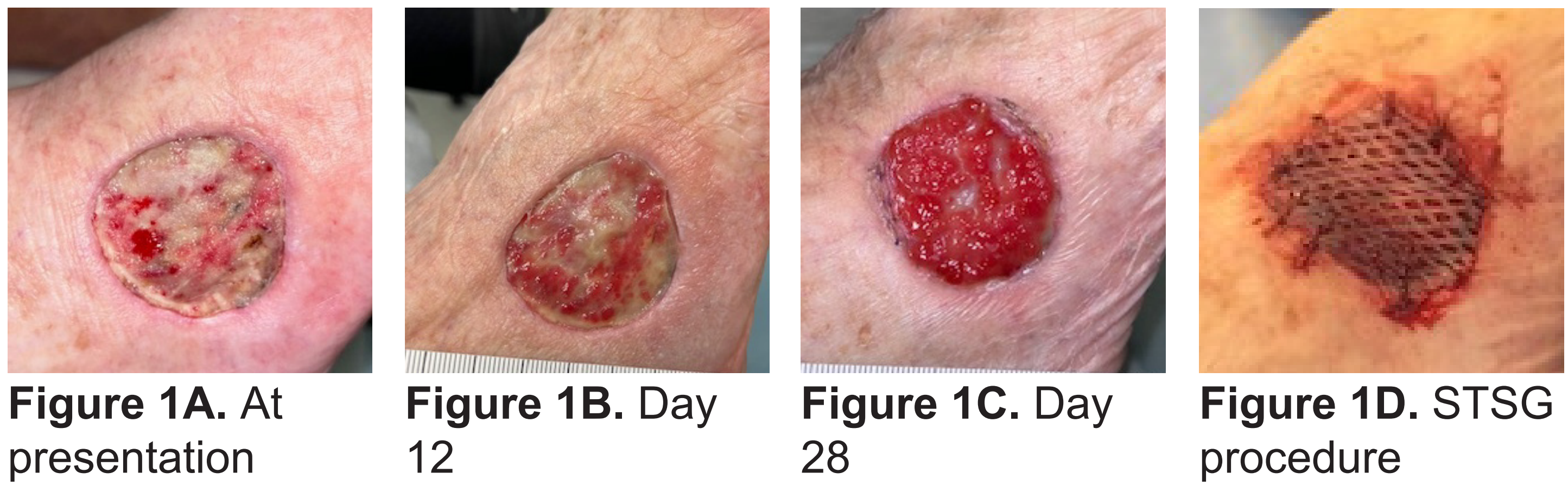
- Patients received systemic antibiotics and sharp debridement.
- Patients underwent wound bed preparation using either NPWT or NPWT with instillation and dwell (NPWTi-d, normal saline, 2 minute dwell time, 2 hours negative pressure, dressing changes every 2-3 days).
- A graft procedure was performed once the wound bed was fully covered with healthy granulation tissue and had no wound depth.
- NPWT with MPPD was applied over the graft in the surgical suite.
- The dressing remained in place for 5-6 days followed by removal and discontinuation of NPWT for a non-adherent dressing.
- Upon dressing removal, all wounds were cleansed using a hypochlorous acid solution and gently patted dry.

### Results

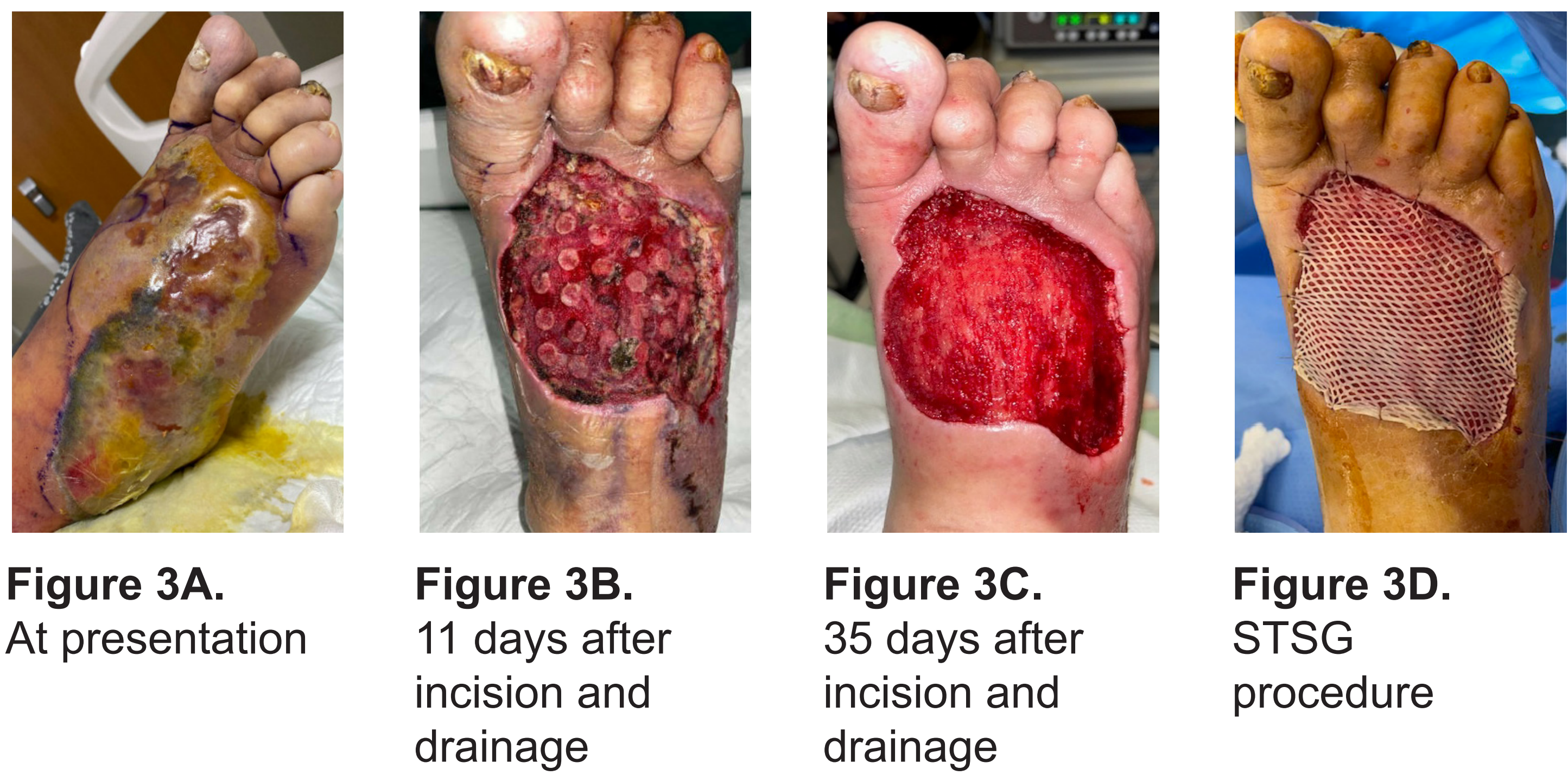
- Five patients (age range 41-75 years) with lower extremity wounds presented for care.
- Wound types included surgical wound, diabetic foot infection, or surgical dehiscence (Table 1).
- Previous medical history included diabetes, hypertension, peripheral vascular disease, poor nutrition, and neuropathy (Table 1).

### Representative Cases

**Surgical wound.** Right foot wound present for 33 days following Moh’s surgery. MPPD dressing was used for 28 days followed by a split-thickness skin graft (STSG) procedure with NPWT using MPPD as a bolster for 5 days.



**Surgical wound.** Right dorsal foot surgical wound following incision and draining for necrotizing foot infection. NPWT with instillation (11 days), NPWT with MPPD (27 days), and foam dressing (8 days) were used prior to STSG procedure. NPWT with MPPD was used as a bolster following grafting for 6 days. A hydrocolloid dressing was used around the toes to help maintain a negative pressure seal.



**Diabetic foot infection.** Right foot diabetic foot infection. NPWTi-d utilized for 2 days followed by NPWT for 5 weeks. An STSG was performed. NPWT with MPPD was used as a bolster for 5 days.



### Results (Cont’d)

Table 1. Patient Demographics and Wound Types

Characteristic	n=5
Age (years ± SD)	68.6 ± 16.2
Comorbidity	
Diabetes	4 (80.0%)
Hypertension	3 (60.0%)
Hyperlipidemia	2 (40.0%)
Neuropathy	2 (40.0%)
Tobacco Use	2 (40.0%)
PVD	2 (40.0%)
Poor Nutrition	2 (40.0%)
Cancer	1 (20.0%)
Chronic Kidney Disease	1 (20.0%)
Obesity	1 (20.0%)
Wound Types	
Surgical	3 (60.0%)
Diabetic Foot Infection	1 (20.0%)
Surgical Dehiscence	1 (20.0%)

PVD= Peripheral Vascular Disease; SD= Standard Deviation

- Representative cases are shown in Figures 1-3.
- NPWT with MPPD application was quick and easy, taking ~2 minutes to apply without the need for dressing or drape trimming.
- No negative pressure seal leaks occurred during therapy.
- At dressing removal, all grafts remained intact.
- No complications, periwound skin irritation, or pain at dressing removal were observed.
- All wounds remained closed at the follow-up visits.

### Conclusions

- In these patients, NPWT with MPPD was an effective bolster over grafts.
- The all-in-one MPPD dressing design resulted in a simplified application process with less time needed for dressing placement and increased patient comfort during dressing removal.