

Elastomeric Skin Protectant Use on Periwound Skin Reduces Pain and Itchiness: A 10 Patient Survey

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Background

- Fragile periwound skin is prone to breakdown and can contribute to patient discomfort during care.^{1,2}
- As periwound skin health can contribute to wound integrity and patient comfort, it should be assessed throughout wound care and protected from potential damage.

Purpose

- Ten consecutive patients rated periwound skin pain and itchiness before and after the initial application of an advanced elastomeric skin protectant.*

Methods

- Ten consecutive patients presented for care and provided written, informed consent.
- Patients and wounds were assessed.
- Antibiotics were given, if necessary.
- Patients reported periwound skin pain and itchiness on a 10 point scale prior to and after the first application of the advanced elastomeric skin protectant.
- Wound care dressings with or without compression socks or wraps were used.
- Dressing changes ranged every 1-7 days.
- If needed, the advanced elastomeric skin protectant was reapplied every 3-7 days.

Results

- The average patient age was 56.1 ± 18.4 years old (Table 1).
- Wound types included traumatic (n=3), venous leg ulcer (VLU, n=3), arterial ulcer (n=1), diabetic foot ulcer (DFU, n=1), surgical dehiscence (n=1), or abscess (n=1).
- Prior to the application of the advanced elastomeric skin protectant, periwound pain averaged 5.6 ± 1.1, while itchiness averaged 6.6 ± 1.6.

Results (Cont'd)

Table 1. Patient demographics and periwound pain and itchiness scores

Case	Age	Sex	Wound Type	Periwound Pain Score		Periwound Itchiness Score	
				Before	After	Before	After
1	42	F	Traumatic	6	5	8	4
2	49	M	Traumatic	5	3	6	3
3	86	M	VLU	5	3	8	3
4	69	M	Arterial Ulcer	6	5	6	5
5	72	M	DFU/Traumatic	5	4	7	3
6	29	F	Abscess	4	4	4	4
7	34	F	Traumatic	6	4	7	4
8	49	F	Surgical	5	3	4	2
9	62	F	VLU	6	5	9	4
10	69	F	VLU	8	6	7	5

DFU= Diabetic foot ulcer; F= Female; M= Male; Surgical = Surgical dehiscence; VLU= Venous Leg Ulcer

- Following the application of the advanced elastomeric skin protectant:
 - Periwound pain was significantly reduced in 9/10 patients (4.2 ± 1.0 , $p=0.0001$, Figure 1A)
 - Itchiness was significantly reduced in all 10 patients (3.6 ± 1.0 , $p=0.0001$, Figure 1B).

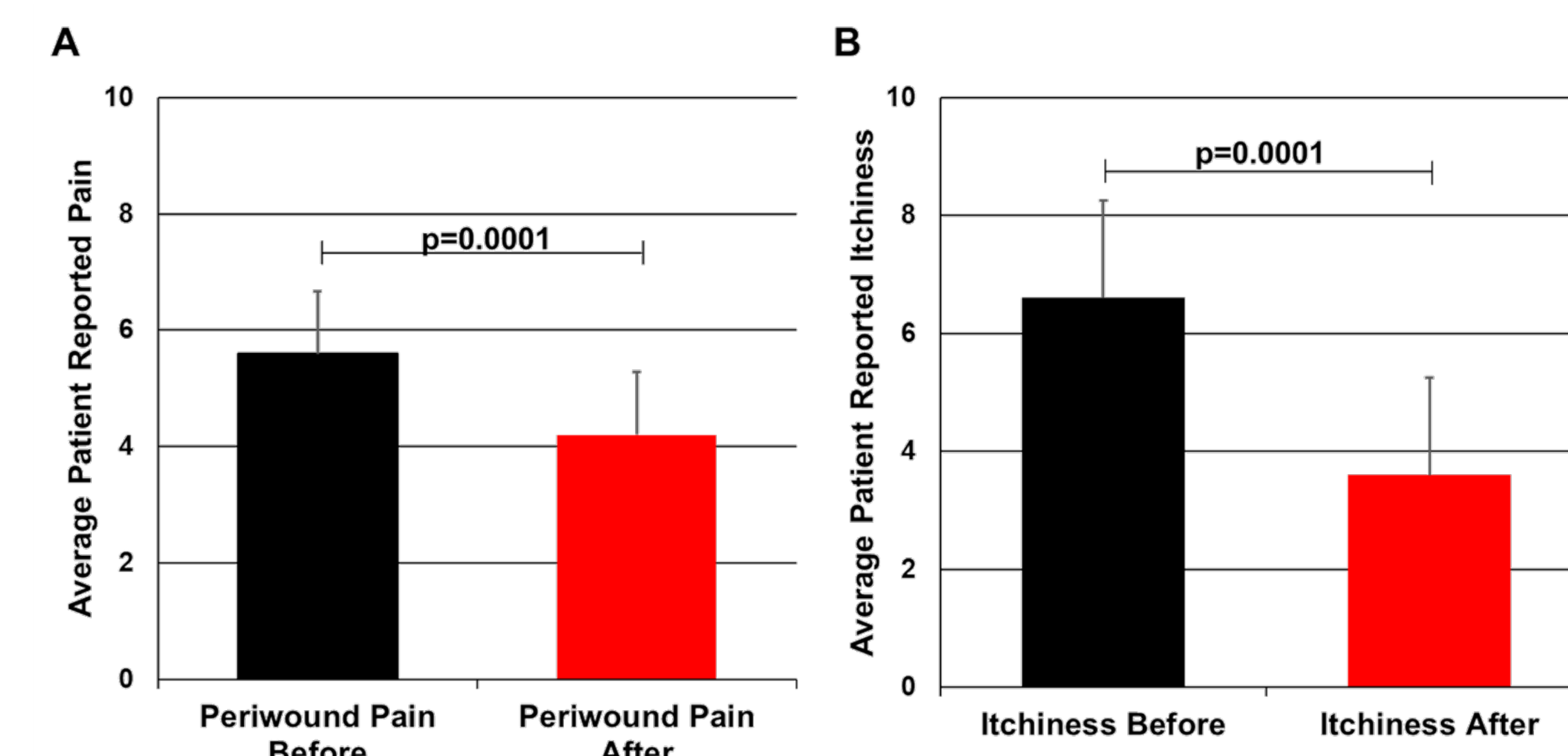


Figure 1. Average patient-reported periwound pain and itchiness scores before and after advanced elastomeric skin protectant application. A. Periwound pain scores; B. Periwound itchiness scores.

Results (Cont'd)

- All patients showed periwound skin improvement after elastomeric skin protectant use was initiated (Figures 2-4).

Representative Cases

- **DFU/Traumatic Wound (Case 5).** Right medial malleolus ulcer following a traumatic injury. Advanced elastomeric skin protectant, hydrofiber with silver dressing, foam border dressing, and 20-30 mmHg compression stockings were utilized. Dressings were changed every other day and advanced elastomeric skin protectant was applied weekly.



Figure 2A. Wound at presentation Figure 2B. Wound after 7 days Figure 2C. Wound after 14 days Figure 2D. Wound after 21 days

- **Traumatic Wound (Case 7).** Degloving injury of the right thigh. Advanced elastomeric skin protectant, collagen dressing, hydrofiber with silver dressing, and foam border dressing were utilized. Dressings were changed every other day and advanced elastomeric skin protectant was applied weekly.



Figure 3A. Wound at presentation Figure 3B. Wound at after 14 days Figure 3C. Wound after 28 days

Representative Cases (Cont'd)

- **VLU (Case 9).** VLU of the right lower extremity. Advanced elastomeric skin protectant, honey calcium alginate, and foam border dressing were utilized. Dressings were changed every other day and advanced elastomeric skin protectant was applied weekly.



Figure 4A. Wound at presentation Figure 4B. Wound after 14 days Figure 4C. Wound after 28 days

Conclusions

- In these 10 patients, advanced elastomeric skin protectant use under wound dressings with and without compression resulted in improved periwound skin and a reduction in pain and itchiness.
- Pain reduction was likely due to increased patient comfort, from reduced erythema and swelling associated with wound healing, as the advanced elastomeric skin protectant does not have analgesic properties.

References

1. Cutting KF. Impact of adhesive surgical tape and wound dressings on the skin with reference to skin stripping. *J Wound Care.* 2008;17(4):157-162.
2. Dowsett C, von Hallern B. The triangle of wound assessment: a holistic framework from wound assessment to management goals and treatments. *Wounds Int.* 2017;8(4):34-39.

*3M™ Cavilon™ Advanced Skin Protectant (3M, St. Paul, MN)

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