

The Use of an Innovative Gellable Fiber Dressing to Advance Healing in Chronic Foot and Ankle Wounds with Varying Exudate Levels

Babajide A. Ogunlana DPM, FCFAS, PCWC - Chief of Podiatric Surgery at Memorial Hermann Southwest Hospital in Houston, Texas

BACKGROUND

Venous leg ulcers (VLUs) and diabetic foot ulcers (DFUs) can have varying levels of exudate through-out the healing process. Ideal dressings should be able to accommodate for fluctuating wound exudate while still protecting the peri-wound and healthy skin.

DFUs and VLUs typically follow a healing path like that of a chronic wound. These tend to produce large amounts of drainage which can lead to higher chance for maceration, and periwound skin breakdown. The wound dressings utilized need to not only manage the exudate but provide protection to the surrounding skin while the wound progresses through the wound healing cascade.

METHODS

Following appropriate wound bed preparation, an innovative gellable fiber wound dressing* was utilized for exudate management, as either a primary dressing or secondary dressing, across a sampling of patients.

- **Primary:** Gellable fiber dressing used over a surfactant gel alone or Surfactant Gel + Non-Adherent
- **Secondary:** Gellable fiber dressing used over cellular based tissue products (CBTP)

The technology† within the gellable fiber dressing is designed to wick away excess exudate while maintaining a moist wound environment required for healing.

Wounds were examined on a weekly and/or bi-weekly basis for:

- Wound exudate/drainage control
- Wound bed quality
- Periwound quality and epithelializing wound margins
- Wound size reduction
- Progression along the wound healing cascade

FOOTNOTES

Milliken Healthcare Products, LLC:
†Active Fluid Management Technology
*AGILE, Gellable Fiber Dressing

REFERENCES

1. Okan et al. The role of moisture balance in wound healing. Adv. in Skin and Wound Care 2007, 20:39-53

RESULTS

- Gellable fiber dressing was effective at wicking away excess exudate while maintaining a moist wound environment.
- Frequency of the dressing changes: Effective weekly (low-moderate exudate) and biweekly in cases over CBTPs (moderate-heavy exudate).
- The innovative gelling fiber dressing was found to be quite easy to remove without damaging the wound bed or periwound margins.

Case #	Age	Ethnicity/Gender	Wound Type	Dressing Application
1	88	AAF	Venous Stasis Leg & Ankle Ulcers	Surfactant Gel + Gelling Fiber Dressing
2	82	AAM	Venous Stasis Circumferential Ulcers	Surfactant Gel + Non-Adherent + Gelling Fiber Dressing
3	47	AAM	Left TMA Secondary to "Slippers" Gas Gangrene	Surfactant Gel + Non-Adherent + Gelling Fiber Dressing
4	44	AAM	Right Posterior Achilles Ulcer	Surfactant Gel + Non-Adherent + Gelling Fiber Dressing
5	42	AM	Left Lateral 5 th Metatarsal Head Ulcer	Allograft CBTP + Non-Adherent + Gelling Fiber Dressing

CASE #2

Initial Presentation - Exudate Level: Heavy & malodorous, Wound Bed: Fibrotic and yellow slough, Periwound Quality: Macerated rim, Irregular border
Final Presentation - Exudate levels resolved, Fully epithelialized in 28 weeks



CASE #3

Initial Presentation - Exudate Level: Heavy initial to Moderate, Wound Bed: Moist, Hypergranular initial to stalled epithelialization, Periwound Quality: Macerated rim, Irregular border
Final Presentation - Exudate levels significantly reduced, 95% epithelialized in 71 weeks total (15 weeks from New Treatment)



CASE #5

Initial Presentation - Exudate Level: Moderate, Wound Bed: Undermined edges and granular wound bed preparation at every visit, Periwound Quality: Macerated rim
Final Presentation - Exudate levels resolved, Fully epithelialized in 10 weeks



DISCUSSION

Moisture balance achieved by the gellable fiber dressing allowed for clinical improvement of the wound bed, while controlling maceration and preventing desiccation, by adjusting to the varying exudate levels.

The use of the gellable fiber dressing over cellular based product as secondary dressing helped to manage excess exudate/drainage often associated with this type of treatment method.

The sample size looked at in this study showed promising results with a synergy of purpose in advancing wound healing forward towards closure.