Self-Adaptive Dressing Usage Throughout All Stages of Wound Healing In Long-Term Acute Care

- CASE SERIES -

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PROBLEM

- Controlling moisture content of wounds and large areas of vulnerable tissue is a considerable challenge for nursing staff in long-term acute care (LTAC) facilities.
- Incontinence affects a high number of patients in an LTAC facility, and irritant body fluids such as urine, wound fluid or fecal material can cause superficial periwound skin irritation if not controlled.[1]
- Incontinence as well as complexities in patient care, such as ventilators and feeding tubes, necessitate use of dressings with significant fluid handling properties that allow reduced dressing change frequency.
- In addition, short treatment time windows and staff nursing time constraints in LTAC facilities have increased the demand for dressings that provide moisture control across the spectrum of wound healing—from debridement to closure.[2,3]

RATIONALE

- We evaluated the effectiveness of self-adaptive advanced wound dressings* in treating wounds of different etiologies throughout all healing phases in a long-term acute care facility.
- Self-adaptive wound care dressings are composed of multi-layered, pliable synthetic polymers with a breathable backing film impermeable to fluids and microorganisms.
- Self-adaptive wound care technology is based on science of dynamic wound dressing materials with variable on-demand functionality; dressings are designed to facilitate moisture balance in wounds through simultaneous absorption of fluid and release of water vapor.[4]

METHODS

- De-identified data records of patients with wounds that received at least one application of self-adaptive wound dressings from December 1, 2013 to March 31, 2014 were retrospectively analyzed.
- Self-adaptive dressings were applied over wounds with 2 to 3 cm overlap onto intact skin, and adhered with an adhesive transparent film dressing or tape.
- Periwound and wound bed conditions were documented at least once weekly.

RESULTS

- Fifty-seven patients with 84 wounds received treatment with self-adaptive advanced wound dressings.
- Dressings were changed every 3.5 days on average, and a reduction in dressing change frequency over time was observed.
- Twelve of 84 (14.2%) wounds closed during treatment.
- Granulation tissue formation was observed within 1 to 2 weeks in most wounds.
- There was insufficient data to evaluate periwound conditions in 19/84 (22.6%) wounds. Of the remaining 65 wounds, periwound condition was improved or maintained in 54 (83.1%) wounds, and showed deterioration in 11/65 (16.9%) wounds. Poor primary condition was thought to be a major contributing factor to periwound deterioration.
- Of the 39 wounds that contained slough prior to initiation of self-adaptive dressings, slough decreased in 27 (69.2%) wounds and stayed the same or increased in 12 (30.8%) wounds.
- There were no reports of allergic reaction to the dressing.

CONCLUSIONS

- Self-adaptive wound dressings appeared to control wound drainage in the majority of wounds, even in patients with urinary and fecal incontinence.
- Self-adaptive dressings may assist in autolytic debridement as evidenced by decreased slough over time in most wounds.
- Use of self-adaptive dressings provided a safe and optimal environment for granulation tissue formation and wound edge reepithelialization in this series of complex wounds of patients with multiple comorbidities.
- Overall reduction in periwound moisture-related skin damage was observed with use of self-adaptive dressings.

Reduction of slough and eschar in lower extremity traumatic wound — CASE 1

66-year-old diabetic female presented with a traumatic right medial calf wound subsequent to an automobile accident.

A. Day 0. Traumatic wound was inflamed and painful, and measured 24.0 x 14.0 cm. Wound was covered with 30% yellow slough and 20% black eschar. Self-adaptive dressing was applied over wound and periwound.

B. Day 5. Wound bed was bright beefy red with reduced slough and eschar. Periwound tissue appeared healthy and red with an epithelializing border.

C. Day 14. Wound edges were flattened, tapered and normalizing to pink. Epithelial islands were present in the wound bed and wound size was reduced to 13.0 x 5.0 cm.

D. Day 20. Patient was discharged with partial thickness, bright beefy red wound free of eschar and slough.

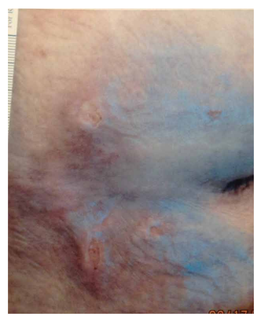
*ENLUXTRA Self-Adaptive Advanced Wound Dressing, OSNovative Systems, Inc., Santa Clara, CA • www.OSNovative.com

Pressure ulcer and periwound tissue management in patient with incontinence — CASE 2

58-year-old male presented with a sacral pressure ulcer sustained after hip replacement subsequent to a fall. Patient's medical history includes malnourishment, incontinence, and diabetes.

A. Day 0. Pressure ulcer (7.0 x 9.5 cm) was 30% slough covered with erythema throughout periwound area. Self-adaptive dressing was placed over the ulcer and surrounding intact skin, and secured with an adhesive film.

B. Day 5. Wound size and slough were slightly decreased. Erythema was reduced and tissue appeared healthier.



C. Day 11. Ulcer was 50% reepithelialized with reduced slough.

D. Day 21. Ulcer was closed and surrounded by healthy periwound tissue.

Slough and size reduction of surgical wound — CASE 3

67-year-old male presented with a surgical wound located in the right groin, secondary to failed dialysis catheter placement. Patient has history of diabetes and renal failure.

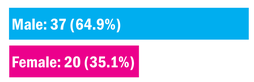
A. At presentation. Groin wound measured 1.7 x 3.5 cm and was 80% slough covered. Debridement was not performed. A self-adaptive dressing was placed over the wound and surrounding tissue, and adhered with an adhesive film.

B. Day 7. Wound size (0.7 x 0.2 cm) and slough were considerably reduced.

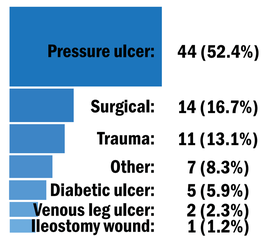
C. Day 18. Wound was 25% slough covered with reepithelializing wound edges and healthy surrounding intact skin at patient discharge from LTAC.

DEMOGRAPHICS

- **Patients: 57**
- **Age (avg.): 72**
- **Wounds: 84**



WOUND ETIOLOGY



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