Standardizing to Self-Adaptive Dressings to Reduce Cost and Optimize Outcomes in Long-Term Acute Care

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PROBLEM

• Wound care patients in long-term acute care facilities (LTAC) often present with multiple co-morbidities and require quality dressings for exudate containment.[1,2]

• Patient and wound complexities prompt use of multiple and varying types of dressings, leading to application of expensive dressing combinations.

• Cost containment requires price awareness, yet bedside clinicians have long been unaware of the cost of dressings used and the cost of incorrectly selected dressings left unused in patients' rooms.[3]

• Communication gaps may exist between purchasing agents and clinicians who are applying the dressings.

• In addition, determining actual wound care costs within a facility is complex; important considerations include dressing decision-making time, inventory costs and dressing change time expenditures.

RATIONALE

• A multi-faceted approach focused on standardization to self-adaptive dressings* was recently undertaken at a LTAC facility in an effort to reduce costs and improve outcomes.

• Self-adaptive wound care dressings are composed of multi-layered synthetic polymers with a breathable, impermeable film backing.[4]

• Self-adaptive wound care technology is based on science of dynamic wound dressing materials with variable on-demand functionality [4]; dressings are designed to facilitate moisture balance in wounds through simultaneous absorption of fluid and release of water vapor.

METHODS

• Wound care staff nurses from all shifts were trained on use of self-adaptive dressings.

• LTAC purchasing department published prices of all wound care-related products, and prices were shared with entire nursing staff.

• Wound care nursing staff was informed of intent to standardize to one dressing type-—self-adaptive dressings—and that dressing use outside of the new standardized regimen required permission from the coordinator.

• Wound care stock room was cleared of all contact layer and specialty cover dressings; shelves were re-stocked with three sizes of self-adaptive wound dressings, wound cleansers, plain gauze, tape, and transparent dressings.

• Self-adaptive dressings were applied as first-line dressing on all indicated wounds for two months.

• Dressing change frequency was ordered as needed; observed dressing change frequency during use of self-adaptive dressings was compared to observed dressing change frequency during use of prior dressing regimen.

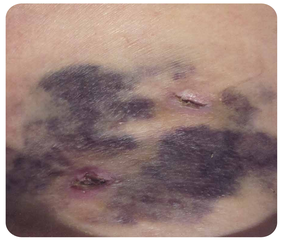
• Averaged monthly product usage and cost for two months of self-adaptive dressings was calculated and compared to average monthly expenditures during prior 4 months; dressing change time expenditure was also calculated for each of the two time periods.

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

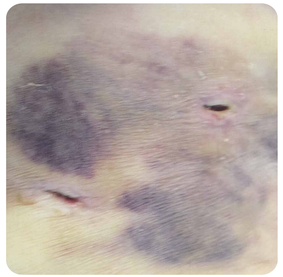
Reduced dressing change frequency in draining nonhealing surgical wounds

70-year-old female presented with two non-healing chest drainage tube sites on her right flank. Surgical wounds had been present for one month with copious drainage. Patient's medical history included respiratory failure, delirium, dementia, acute renal failure, and anasarca.

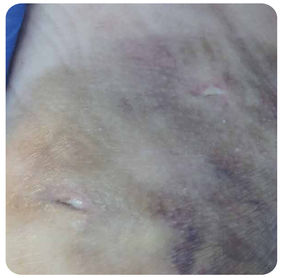
Day 0



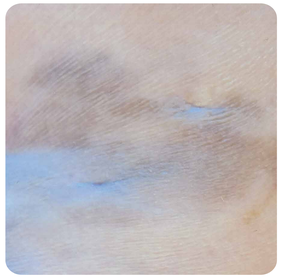
A. Before conversion to single self-adaptive dressing. Prior to self-adaptive dressings, copiously draining surgical wounds were treated with 3% bismuth tribromophenate gauze with once daily dressing changes. Wounds were slowly increasing in size with inflamed, thickened wound edges.



Day 6



Day 20



Day 27

B. After conversion to single self-adaptive dressing. Surgical wounds were treated with self-adaptive dressings with twice weekly dressing changes, resulting in labor cost savings. Wounds were completely reepithelialized in 25 days. Patient and caregiver satisfaction increased considerably due to drainage control, decreased dressing change frequency, and wound closure. Wound improvement also led to decreased patient delirium.

Table 1. Estimated monthly cost of self-adaptive dressings vs. previous wound care regimen

Average expenditures for wound-related supplies (monthly)

$2,938.55	*Before standardization to self-adaptive dressing*
$2,660.20	*During self-adaptive dressing use*

Savings per month on wound care-related supplies

$278.55 (9.5%)

Table 2. Estimated labor cost of self-adaptive dressings

	Self-adaptive dressing	Previous dressing regimen
Total dressing changes/week	2	7
Average time expended per dressing change	.25 hours	.25 hours
Nurse wage/hour	$27.50	$27.50
Monthly labor cost per patient	$55.00	$192.50

Labor saving per patient per month

$137.50

Important considerations for successful conversion to single first-line dressing

Lessons we have learned ⟩⟩

• Set a future date for conversion at least one month in advance
• Plan and communicate openly with all employees who will be impacted by the conversion, including nursing staff and purchasing
• Train entire nursing staff on use of the new dressing; retrain if necessary
• Get buy-in from nursing staff regarding selection of first-line dressing
• Clear stockroom shelves of everything except the dressings you will be using
• First-line dressing should:
  » Offer significant benefits over most other dressings and topical solutions (enzymes/ointment/gel/cream/skin prep), in order to reduce consumption of the most expensive dressings and topicals
  » Satisfy requirements for effective healing throughout all wound healing phases
  » Be affordable within confines of reimbursement systems (to maintain profitability within facility)
  » Provide benefits that transfer to all care settings, such as reduced dressing change frequency, readily available distribution and supply, established reimbursement, and positive outcomes

RESULTS

• Self-adaptive dressings replaced use of silver alginate, hydrogel and hydrocolloid dressings in approximately 80% of wounds.

• Patients who were non-compliant or who had deep wounds with exposed tendon and/or deep tunnels/undermining did not receive self-adaptive dressings.

• Approximately $278 (9.5%) savings in monthly expenditures was achieved during the first month of full implementation of the standardization, compared to average expenditures during 4 months (August 2013 to November 2013) prior to initiation of the standardization study (Table 1).

• Clinicians observed improved wound scores and exudate containment during use of self-adaptive dressings.

• Average dressing change frequency decreased from once daily to twice weekly with standardization, resulting in labor savings of approximately $137.50 per wound per month (Table 2).

• Use of one single dressing type largely eliminated incidence of incorrect dressing selection and associated waste and costs.

• Overall patient satisfaction increased due to reduced dressing change frequency and exudate control.

• All caregivers were satisfied with standardization process and dressings.

CONCLUSIONS

• Standardization to first-line usage of self-adaptive dressings required set-up time, thorough training and careful planning.

• Product cost awareness among staff nurses, and particularly nurse managers, was a crucial component in overall cost reduction in this study; knowledge of cost helped guide decision making with respect to adhesive films used to secure self-adaptive dressings.

• When fully implemented, standardization to first-line usage of self-adaptive dressings resulted in labor and product cost savings within the LTAC facility.

• Factors that contributed to high patient and caregiver satisfaction during use of self-adaptive dressings included reduced dressing change frequency, enhanced exudate control, and simplified decision-making.

• High quality patient care standards were maintained while costs and waste were reduced during standardization to self-adaptive dressings.

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