

Evaluation of Composite Dressings on Post-operative Wounds: Clinical outcomes, cost-effectiveness, and labor savings

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Overview

Commercially made all-in-one composite dressings, sometimes referred to as island dressings, are now available in a wide assortment of sizes and backings from several manufacturers. Composite dressings are suitable for use in most health care settings including treatments for acute wounds in emergency care (cuts, burns, and abrasions), surgery (surgical incisions), and intensive care (IV. catheter sites), as well as chronic wounds (superficial and partial thickness wounds) in long-term care.

A comparison of all-in-one composite (island) dressings to traditional “pad/gauze/tape” dressings in an actual hospital operating room setting is necessary to establish the value of each for:

- patient outcomes
- nursing time
- convenience
- cost comparisons

Objective

The purpose of this study was to evaluate the post-operative use of a composite dressing on patients undergoing general surgery by measuring clinical outcomes, labor savings and cost-effectiveness. Post-operative periwound blistering, a problem seen with traditional dressings, was the primary clinical outcome to be evaluated with the new all-in-one composite dressing. Cost-effectiveness was to be evaluated by comparing the product costs and labor costs for traditional dressings to composite dressings used according to current hospital protocol.

Methodology

To determine standard dressing practice in the OR prior to initiating the composite dressing evaluation, 16 general surgeries were observed by the CWOCN and an assistant. They documented the types of dressings applied after various surgical procedures, the application techniques used, and the length of time for application of the dressings. Seven types of dressings were evaluated by the CWOCN on the first post-operative day.

3M™ Tegaderm™ +Pad Film Dressing with Non-Adherent Pad (four different sizes) was selected as the composite dressing for evaluation. The operating room (OR) staff was already familiar with the Tegaderm™ film dressing with pad, and they knew, based on past experience, that it did not cause periwound blistering. The standard protocol post-operative dressing consisted of a non-adherent pad or gauze secured with tape.

One hundred twenty-five composite dressings were available for use on inpatient and outpatient surgeries. During the evaluation period, the CWOCN and assistant observed placement of the composite dressings on the surgical incisions immediately after surgery. The composite dressings were evaluated by participating staff from both the surgical unit and the postpartum unit. The evaluating staff was instructed to change the composite dressing on the fourth post-operative day unless the physician requested it to be changed sooner. Eight of the surgical inpatients were followed daily by the CWOCN to monitor the dressings during wear and to assess the periwound skin integrity upon dressing removal. Approximately 100 outpatients of the surgical and

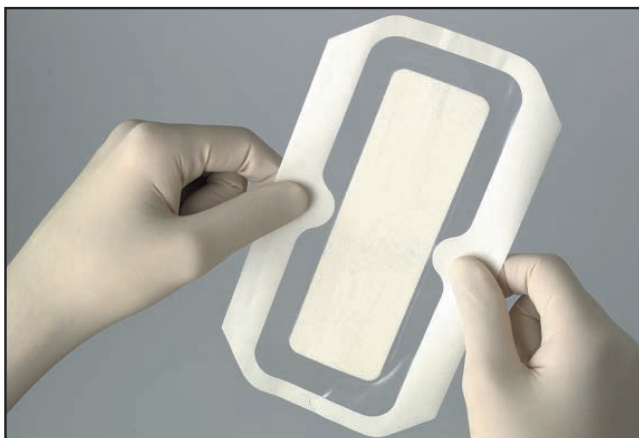


Figure 1. 3M™ Tegaderm™ +Pad Transparent Film Dressing with Non-Adherent Pad



Figure 2. 3M™ Tegaderm™ +Pad Film Dressing with Non-Adherent Pad covering upper left arm mole excision site and five stitches. Day 4—Dressing still intact after four showers.

OB/GYN units were discharged with island dressings following their surgical procedures. The outpatients were instructed to remove their dressings on the fourth post-operative day. Physicians agreed to report any periwound blistering observed in the follow-up office visit.

The OR staff assisted in the cost analysis of dressing supplies for their current protocol (including supplies sent home with patients for daily dressing changes), versus supplies used in the composite dressing protocol. The CWOCN evaluated labor cost based upon their current practice of daily dressing changes versus the labor cost savings associated with up to four-day wear of the composite dressing.

Results

Prestudy OR Observations:

- OR staff was “strapping” the tape—a possible cause of periwound blisters
- OR staff was making their own composite dressings (pads/gauze/tape)
- Dressings made with gauze were bulky on the patient
- Composite dressings took less time to apply than gauze/tape dressings

Composite Dressing Trial Observations:

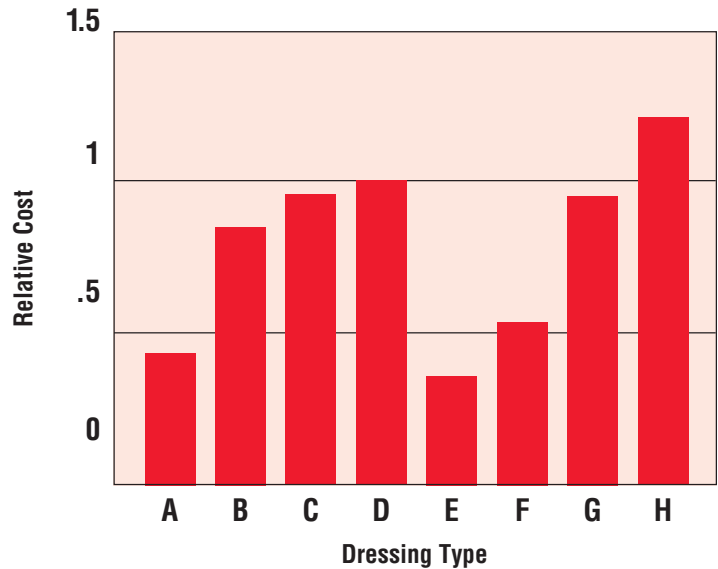
- Composite dressings took less time to apply (than current standard protocol dressings)
- Sterile delivery—composite dressing could usually be applied within the draped area
- Periwound benefits:
 - No periwound maceration
 - Absorbent pad did not adhere
 - No periwound blistering
 - Transparency allowed for periwound observation
- Patients were able to shower with the composite dressings
- Nursing time for documentation of daily dressing changes was decreased when the dressings remained in place up to four days



Figure 3. 3M™ Tegaderm™ +Pad Film Dressing with Non-Adherent Pad securing an epidural catheter.

Financial Observations:

- The cost of supplies for the two most utilized sizes of composite dressings was less than the cost of supplies for the standard protocol dressings
- There were no nursing labor or supply costs associated with daily dressing changes when the dressing remained in place up to four days



- A: 2-3/8 in. x 2-3/4 in. 3M™ Tegaderm™ Film Dressing
- B: 4 in. x 4-3/4 in. Tegaderm™ dressing
- C: 4 in. x 4 in. Gauze/tape
- D: 4 in. x 4 in. Gauze/tape/Telfa® Dressing (standard dressing relative cost=1)
- E: 2 in. x 2-3/4 in. 3M™ Tegaderm™ +Pad Film Dressing with Non-Adherent Pad
- F: 3-1/2 in. x 6 in. Tegaderm™ +pad dressing
- G: 3-1/2 in. x 10 in. Tegaderm™ +pad dressing
- H: 3-1/2 in. x 13-3/4 in. Tegaderm™ +pad dressing

Conclusion

The Tegaderm™ +Pad Film Dressing with Non-Adherent Pad provided positive clinical outcomes when utilized as a dressing for post-operative surgical incisions. This composite (island) dressing eliminated the incidence of periwound blistering, decreased the amount of nursing time spent on dressing application and changes, and showed cost savings when compared to the standard protocol dressing.

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70-2009-1865-7

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