

Managing Skin Damage in the Frail Elderly Using a Novel Clear Absorbent Acrylic Dressing*

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Clinical Problem

A frail, 83-year-old woman was admitted to the hospital with anemia, weakness, lower extremity wounds and skin tears after several falls at a long-term care facility. Her medical history was significant for peripheral vascular disease (PVD), deep vein thrombosis with pulmonary embolism, asthma, osteoporosis and multiple sclerosis. Upon admission to the hospital, her hemoglobin was 5.9, her albumin was 2.9 and her weight was reported at 90 lbs. Her nursing home transfer form stated that she was essentially non-ambulatory, having quite significant weakness in her lower extremities.



Figure 1

The Payne-Martin¹ classification was used to assess the patient's skin tears. On admission to the hospital, she was noted to have Category II skin tears on her left arm measuring 5.5 cm x 10.0 cm in diameter. The open areas were draining small amounts of serous drainage. Note the loss of tissue and separation of the epidermis from the dermis. The skin on her extremities was thin and fragile with ecchymotic discoloration and hemorrhagic areas commonly noted with traumatic skin loss. (Figure 1)

The patient also presented with Category III skin tears on the right lower leg. Similar to the arm, the surrounding tissue was thin and ecchymotic. The primary open areas were 2.0 cm x 1.0 cm in diameter and 3.0 cm x 1.5 cm in diameter. The base of the most distal wound on the lower extremity was 100% fibrin slough. With her history of PVD, there was most likely a vascular component to the skin tears.

The patient reported that, although she did not recall specifically how she sustained her current skin tears, she frequently injured her arms and legs by bumping into doorways, bedrails and while transferring to and from the bed.

The patient presented with multiple risk factors for developing skin tears. Those included:

- Advanced age
- History of previous skin tears
- Nutritional deficits (albumin 2.9)
- High level of immobility with dependence on care providers for transfers
- Upper and lower body spasticity
- Long-term use of prednisone.

Past Management

Prior to her hospitalization, saline gauze was being used on skin tears on her leg and arm causing painful dressing removal and trauma of surrounding tissue.

Current Clinical Approach

Treatment goals:

- Decrease pain and frequency of dressing changes
- Protect fragile skin surrounding the wound
- Absorb drainage and wick it away from wound and surrounding tissue
- Autolytic debridement
- Wound visualization
- Same plan of care for both arm and leg wounds to promote consistency and simplify treatment

To meet these goals, clear absorbent acrylic dressings were applied to the skin tears on her forearm and lower extremity wounds. (Figures 2 and 3) This dressing* is composed of an absorbent pad (an acrylic polymer that remains clear as it absorbs drainage) encased between two layers of transparent film dressing. This allows the wound or drainage to be observed without dressing removal.



Figure 2

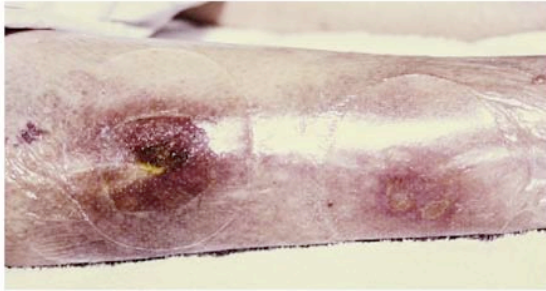


Figure 3

Prior to dressing application, an alcohol-free barrier film** was used to protect the surrounding skin from wound fluid and adhesives. (Figure 4)



Figure 4

Patient Outcomes

During the time the dressings were in place, staff were able to visualize the wound and periwound skin. Wound visualization provided an additional benefit in that it served as a reminder to care providers to use caution with drawing blood, starting IVs and transferring the patient. After 2 days, the dressings remained intact with good wound visualization. (Figures 5 and 6)



Figure 5

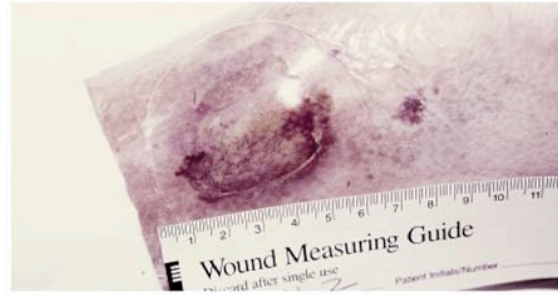


Figure 6

After 4 days, the dressings were removed without trauma to the surrounding, fragile skin. (Figure 7) The patient denied pain during dressing wear and removal. Overall, improvement was noted with less erythema and inflammation. Although the actual size of the skin tear on the forearm had not changed, dry wound debris had lifted from the wound showing evidence of autolytic debridement. (Figure 8)

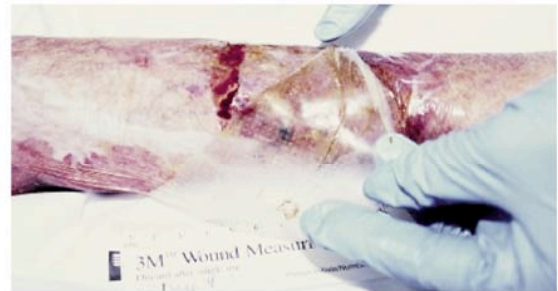


Figure 7



Figure 8

The most distal wound on the lower extremity had evidence of autolytic debridement as well, with some granulation tissue noted at the base. (Figure 9)

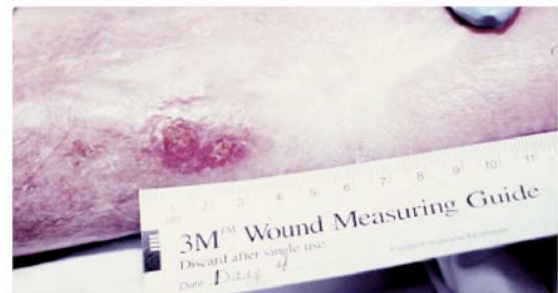


Figure 9

Dressing Characteristic	Clear absorbent acrylic dressing*	Transparent film dressing	Hydrogel dressing	Wound contact layer	Foam dressing	Antibiotic ointment and gauze dressing
Absorbent	•				•	
Can visualize skin tear	•	•				
Wear time allows minimal disruption of wound	•			•	•	
Provides moist healing environment	•	•	•	○	•	
Barrier to contaminants	•	○			○	
Promotes comfort	•	•	•	•	•	
Easy to apply	•	•	○	•	•	•
Does not require cover dressing or secural	•	•			○	
Stays in place, does not slip	•	•			○	
Protects wound from mechanical damage	•	•			•	

Table 1 Characteristics of various dressing materials used for skin tear management

○ Varies dependent on dressing characteristics

Discussion

Wound care clinicians are frequently called upon to recommend management for skin tears in frail elders. The patient described in this case is typical of those in the highest risk group for skin tear development.^{2,3}

Despite the prevalence of this problem, only two comparative studies evaluating management specific to skin tears were found in the literature,^{4, 5} and a generally accepted guideline for skin tear management has not been established.

Selection of topical care may be driven by physician preference, product familiarity or availability and a variety of dressing materials for topical care have been reported anecdotally in the literature. These include traditional products such as antibiotic ointment and gauze, and moisture retentive dressings such as transparent films, hydrogels, wound contact layers and both adhesive and nonadhesive foam. Based on our experience with various dressings, we developed a list of desirable characteristics for evaluation of dressings to be used on skin tears. (Table 1)

Conclusions

The clear absorbent acrylic dressing* was effective and met our goals for wound treatment. Ability to visualize the wound through the dressing provided significant benefits. The dressing also prevented wound disruption and pain associated with dressing changes (compared to previous wound care protocol), while saving nursing time and supplies cost.

* 3M™ Tegaderm™ Absorbent Clear Acrylic Dressing

** 3M™ Cavilon™ No Sting Barrier Film

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70-2009-7076-5