A series on wound care in collaboration with the World Council of Enterostomal Therapists

Preventing, Assessing, and Managing Skin Tears: A Clinical Review

Often perceived as minor injuries, these wounds can become painful, costly, and complex.

ABSTRACT: Although skin tears are common, particularly among older adults and neonates, they are often inadequately documented and poorly managed, resulting in complications, extended hospital stays, and negative patient outcomes. In this article, the first in a series on wound care in collaboration with the World Council of Enterostomal Therapists (www.wcetn.org), the authors describe the complications that developed in an elderly patient whose skin tear was improperly dressed and discuss best practices for preventing, assessing, documenting, and managing skin tears.

Keywords: skin tear, skin tear classification system, wound care

RF, an 83-year-old man who resided in a long-term care facility, was admitted to an acute care facility with pneumonia and possible aspiration at 3 PM on a Wednesday. (This is a real case; some identifying details have been changed to protect the patient's privacy.) RF presented with multiple comorbid conditions, including hypertension, congestive heart failure, coronary artery disease, arthritis, chronic obstructive pulmonary disease, and anemia. The admitting physician documented the presence of "skin sores" in RF's medical record, but did not indicate their severity or location. A nurse in the ED had covered the skin tears with dry gauze dressings, which tend to adhere to wounds.

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The removal of the dressings caused further trauma. RF described the skin tears as very painful.

The following morning, the RN caring for RF on the medical–surgical unit called in a wound ostomy continence nurse (WOCN) to assess and treat the tears. Approximately 24 hours after RF's admission, the WOCN (one of us, SB) assessed his skin tears. RF told her that he believed the injuries occurred the day before his admission to the acute care facility when he tripped and a personal support worker in the long-term care facility grabbed him to prevent him from falling. The first tear, on RF's left shoulder, measured $10 \times 6 \times 0.1$ cm; the second, on his upper back, measured $7 \times 5 \times 0.1$ cm (see Figure 1). Both were type 3 tears, as defined by the International Skin Tear Advisory Panel (ISTAP),[1] indicating total flap loss that exposed the entire wound bed. The bleeding from both tears was profuse, probably exacerbated by the anticoagulant medication RF took for coronary artery disease, which was neither discontinued nor reduced during hospitalization. As a result of the bleeding, by day 3 of his hospital stay, RF's hemoglobin level had dropped to 8 g/dL, necessitating a blood transfusion.

Because the WOCN was concerned about the risk of infection, once the bleeding was under control, she treated the tears with a nonadherent topical antimicrobial dressing and a soft silicone foam dressing. Since RF had been vaccinated with tetanus toxoid within the past 10 years, no tetanus prophylaxis was administered.

Initially, the dressings required daily changes because of excessive bloody discharge; as the drainage subsided, the frequency of dressing changes decreased. Eight days after RF's admission, the skin tears were progressing toward closure (see Figure 2). Within four weeks of the original injury, they were healed (see Figure 3). As a result of RF's skin tears and the subsequent need for a transfusion, the treating physician extended RF's hospital stay by one week.

RF's experience underscores several crucial facts about skin tears:

- Although they are often perceived as minor injuries, skin tears can become painful, costly, complex wounds that negatively affect patient outcomes.
- Wound care nurses should be involved in their management.
- Skin tears must be documented and properly classified in order to ensure that best practices are followed in their treatment.

This article describes skin tears, their frequency, and the classification system used in their documentation. It also discusses risk factors for developing skin tears, prevention strategies, and best practices for assessing and managing skin tears.

Figure 1. The skin tears on the patient's left shoulder and upper back at initial consult. Photos courtesy of Sharon Baranoski.

CHARACTERISTICS AND FREQUENCY OF SKIN TEARS

A consensus panel of internationally recognized opinion leaders has defined a skin tear as "a wound caused by shear, friction, and/or blunt force resulting in separation of skin layers [that] can be partial-thickness (separation of the epidermis from the dermis) or full-thickness (separation of both the epidermis and dermis from underlying structures)."[2] Skin tears tend to be jagged and irregular in shape. Some are dry; others are exudative. In most cases, skin tears are painful and slow to heal.

Wound care nurses should be involved in skin tear management.

While skin tears are often found on the arms, legs, and dorsal aspect of the hands of older adults, they can occur anywhere on the body. In ambulatory

Figure 2. The skin tears eight days after treatment was initiated.

independent older adults, the majority of skin tears occur on the lower extremities as a result of wheelchair injuries or trauma sustained when bumping into objects, during falls or patient transfers, or with inappropriate removal of dressings.[2,3] In neonates with immature skin, tears tend to occur with adhesive- or device-related trauma.[2,4]

Populations at greatest risk for skin tears include those at the extremes of age.

Skin tears are relatively common, particularly in long-term care facilities. Some research suggests that in the long-term care setting, the prevalence of skin tears is similar to or greater than that of pressure ulcers, affecting 8% to 22% of residents.[5-7] In one Australian hospital study, the overall skin tear prevalence rate was 11%, but rates varied widely within the hospital, ranging from 4% in the orthopedic unit to 27% in the palliative care unit.[8]

Despite the tremendous clinical burden and costs associated with skin tears, they have been largely neglected in nursing and medical literature until recently. Over the past few years, however, there has been a substantial rise in research related to skin tear prevention and management.[2,9-11] Since 2011, ISTAP members have worked to review research; develop a new nomenclature and classification system[1,3]; and establish consensus statements that provide a simpler means of assessing, documenting, and managing skin tears.[2,12]

The ISTAP classification system, adapted from the work of Payne and Martin[13] and Carville and colleagues,[14] defines three types of epidermal and dermal loss (see Figure 4)[1]:

- Type 1–No skin loss
- Type 2–Partial flap loss
- Type 3–Total flap loss

After having been shown to have internal and external validity as well as test–retest and intrarater reliability, the system was incorporated into practice.

RISK FACTORS FOR SKIN TEARS

Populations at greatest risk for skin tears include those at the extremes of age (neonates and adults over 75), critically ill patients, chronically ill patients, and those who need assistance with personal care.[2] Both intrinsic and extrinsic factors may put patients at risk for skin tears (see Table 1).

Advanced age affects both the healing process and the patient's susceptibility to skin tears.[1] (See *Changes That Occur in Aging Skin*.[2]) Older patients undergo dermal and subcutaneous tissue loss, epidermal thinning, and changes in serum composition that reduce

Figure 3. The skin tears four weeks after treatment was initiated.

Figure 4. ISTAP Skin Tear Classification

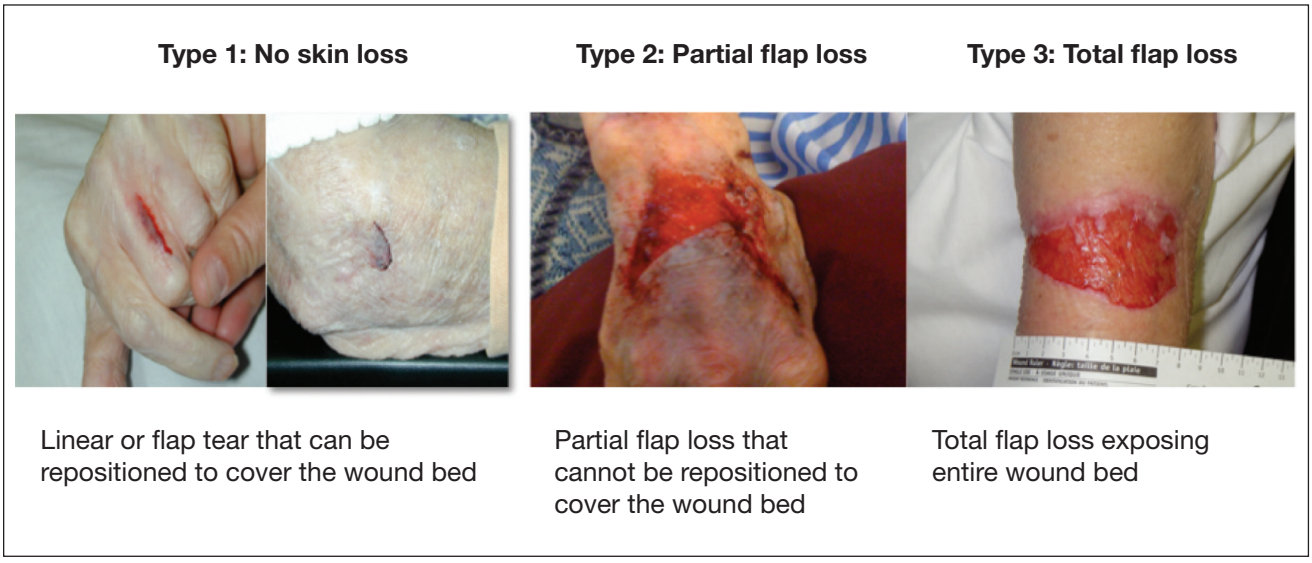

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Table 1. Factors Associated with Increased Risk of Skin Tears

Intrinsic Factors	Extrinsic Factors
• Female sex	• Inadequate nutritional intake
• White race	• Polypharmacy
• Immobility	• Using assistive devices
• Presence of ecchymosis	• Application and removal of stockings
• History of previous skin tears	• Removal of tape or dressings
• Long-term corticosteroid use	• Blood draws
• Dependence for ADLs	• Transfer and falls
• Altered sensory status	• Prosthetic devices
• Cognitive impairment	• Skin cleansers
• Limb stiffness and spasticity	
• Neuropathy	
• Very young (neonate) or very old (> 75 years of age)	
• Vascular problems	
• Cardiac problems	
• Pulmonary problems	
• Visual impairment	
• Incontinence, MASD	

ADLs = activities of daily living; MASD = moisture-associated skin damage.

Table 2. Product Selection Guide[a]

Product Categories	Indications	Skin Tear Type	Considerations
Nonadherent mesh dressings (eg, lipidocolloid mesh, impregnated gauze mesh, silicone mesh, petrolatum)	Dry or exudative wound	1, 2, 3	Maintains moisture balance for multiple levels of wound exudate, atraumatic removal, may need secondary cover dressing
Foam dressing	Moderate exudate, longer wear time (2–7 days depending on exudate levels)	2, 3	Caution with adhesive border foams, use nonadhesive versions when possible to avoid periwound trauma
Hydrogels	Donates moisture for dry wounds	2, 3	Caution: may result in periwound maceration if wound is exudative, for autolytic debridement in wounds with low exudate, secondary cover dressing required
2-Octyl cyanoacrylate topical bandage (skin glue)	To approximate wound edges	1	Use in a similar fashion as sutures within the first 24 hours after injury, relatively expensive, medical directive/protocol may be required
Calcium alginates	Moderate to heavy exudate hemostatic	1, 2, 3	May dry out wound bed if inadequate exudate, secondary cover dressing required
Hydrofiber	Moderate to heavy exudate	2, 3	No hemostatic properties, may dry out wound bed if inadequate exudate, secondary cover dressing required
Acrylic dressing	Mild to moderate exudate without any evidence of bleeding, may remain in place for an extended period	1, 2, 3	Care on removal, should be used only as directed and left on for extended wear time
Special Consideration for Infected Skin Tears			
Product Categories	**Indications**	**Skin Tear Type**	**Considerations**
Methylene blue and gentian violet dressings	Effective broad-spectrum antimicrobial action, including antibiotic-resistant organisms	1, 2, 3	Nontraumatic to wound bed, use when local or deep tissue infection is suspected or confirmed, secondary dressing required
Ionic silver dressings	Effective broad-spectrum antimicrobial action, including antibiotic-resistant organisms	1, 2, 3	Should not be used indefinitely, contraindicated in patients with silver allergy, use when local or deep infection is suspected or confirmed, use nonadherent products whenever possible to minimize risk of further trauma

[a]This product list is not all-inclusive; there may be additional products applicable for the treatment of skin tears.

Changes That Occur in Aging Skin[2]

As the skin ages, many changes occur within the dermis that make the skin more susceptible to skin tears. These include

- loss of subcutaneous fat.
- atrophy, particularly in the skin on the face, dorsal aspect of the hands and shins, and plantar aspects of the feet.
- thinning of blood vessels, leading to the appearance of hemorrhaging (senile purpura).
- loss of elasticity and tensile strength.
- flattening of the rete ridges (the epithelial projections between the epidermis and the dermis that enhance adhesion).
- loss of sebaceous and sweat gland activity, which impairs the skin's ability to retain moisture and makes it more vulnerable to trauma.

skin surface moisture. As these changes occur, the skin loses elasticity and tensile strength, elevating the risk of skin tears. Other characteristics common among elderly patients, such as dehydration, nutritional deficiencies, cognitive impairment, limited mobility, and reduced sensation, may exacerbate this risk.

When skin is fragile, any forceful movement or pull can cause tearing. Caregivers and family members need to take great care when positioning, turning, lifting, or transferring patients with vulnerable skin.

Neonates. The incomplete epidermal-to-dermal cohesion seen in neonates predisposes them to skin tears when medical devices are secured to the skin. The adhesive bond between tape and skin is greater than that between the epidermis and dermis. As tape is removed, the epidermis remains attached to the tape, resulting in a painful tear. Other factors that put neonates at risk for skin tears include limited stratum corneum, skin surface alkalinity, and nutritional deficiencies.[15]

PREVENTION STRATEGIES

When skin is fragile, any forceful movement or pull can cause tearing. Caregivers and family members need to take great care when positioning, turning, lifting, or transferring patients with vulnerable skin. The key to preventing skin tears is to recognize patients at high risk and to implement a prevention protocol that incorporates the following strategies[3]:

- Identify and remove potential sources of injury, such as unnecessary equipment.
- Ensure that lighting is sufficient.
- Use lift sheets to move patients in bed.
- Pad bedside rails, as well as wheelchair arm and leg supports.
- Encourage patients to wear long sleeves and pants.
- Consider shin guards for those who repeatedly experience skin tears.
- Keep fingernails short when providing care.
- Trim and file patients' fingernails and toenails regularly.
- Use moisturizing creams and no-rinse or pH-neutral skin cleansers.
- Use lukewarm water for bathing.
- Avoid using adhesive products on frail skin. If dressings are needed, use paper tapes or nonadherent dressings.
- Reinforce the importance of gentle care with all caregivers and family members. Fragile skin can sustain injury through improperly moving or repositioning a patient.

ASSESSING AND MANAGING SKIN TEARS

When assessing and developing a skin tear treatment plan, nurses must address several issues, including nutritional support, pain management, local wound conditions, and dressing selection. Assessment and

treatment should proceed as follows[3, 12]:

- Examine the skin tear flap.
- Control the bleeding.
- Support the integrity of fragile skin surrounding the wound by providing gentle care, avoiding adhesive products, and moisturizing as needed.
- Clean the wound with normal saline or wound cleanser.
- Irrigate the wound, flushing out any clots, debris, or dead tissue.
- Realign the skin flap over the wound, approximating the wound edges. Do not remove the flap unless it is necrotic.
- Classify and document the tear as type 1, 2, or 3.
- In accordance with institutional practice and protocol, administer tetanus immunoglobulin (TIG) to patients who have not been inoculated with tetanus toxoid within the past 10 years. TIG should be administered before wound debridement to prevent the potential release of exotoxin.[16]
- Address the underlying reason the tear occurred (for example, cognitive, sensory, or visual impairment; nutritional deficiency; or polypharmacy), if known.
- Implement and document a prevention protocol to protect patient from further trauma.
- Promote healing, wound drainage, and patient comfort with an appropriate moist, nonadherent dressing.
- Provide ongoing assessment for infection, discomfort, or pain at the wound site.
- Manage any infection that develops.

Appropriate dressings. Numerous moisture-retentive dressings are available in various shapes and sizes. These include dressings made from mesh, silicone, foam, acrylic, hydrogel, calcium alginate, and hydrofiber (see Table 2 for a list of products).[12] Prevention is the primary focus in skin tear management, but using the right nonadherent product can aid in the healing process and prevent further insult with dressing changes. ▼

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