

C L I N I C A L M A N A G E M E N T

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International Skin Tear Advisory Panel: A Tool Kit to Aid in the Prevention, Assessment, and Treatment of Skin Tears Using a Simplified Classification System[©]



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To earn CME credit, you must read the CME article and complete the quiz and evaluation on the enclosed answer form, answering at least 13 of the 18 questions correctly.

This continuing educational activity will expire for physicians on October 31, 2014.

Authors' disclaimer: The choice to use any part of the tool kit recommendations must be made by the healthcare professional in light of the available resources and circumstances presented by individual patients. Nothing contained in this guideline is to be considered medical advice for specific cases or endorsement of a specific product.

PURPOSE:

To enhance the learner's competence with knowledge regarding utilization of a tool kit to aid in the prevention, assessment, and treatment of skin tears.

TARGET AUDIENCE:

This continuing education activity is intended for physicians and nurses with an interest in skin and wound care.

OBJECTIVES:

After participating in this educational activity, the participant should be better able to:

- 1. Demonstrate knowledge of skin tear prevention and classification as presented in the International Skin Tear Advisory Panel's tool kit.**
- 2. Apply information from the skin tear tool kit to patient care scenarios.**

ABSTRACT

The International Skin Tear Advisory Panel has created a tool kit for the prevention, identification, and treatment of skin tears. The tool kit is based on extensive literature reviews, international input from healthcare professionals, and on expert opinion. It has undergone a modified Delphi process.

KEYWORDS: skin tears, older adults

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INTRODUCTION

Until recently, skin tears were an underappreciated wound with very little attention or research directed toward this particular wound etiology. The International Skin Tear Advisory Panel (ISTAP) defines a skin tear as "a wound caused by shear, friction, and/or blunt force resulting in separation of skin layers. A skin tear can be partial-thickness (separation of the epidermis from the dermis) or full-thickness (separation of both the epidermis and dermis from underlying structures)."^{1,2}

Skin tears are unique in that they are common acute wounds in older adults. However, neonate and pediatric populations are also at risk for skin tears. Skin tears are frequently underreported; they have been reported in the literature to have prevalence rates equal to or greater than those of pressure ulcers.² The role of identifying skin tears with a comprehensive skin assessment needs further study.

Individuals suffering from skin tears complain of increased pain and decreased quality of life. Populations at the highest risk for skin tears include those at extremes of age and the critically or chronically ill. These individuals are at a higher risk for developing secondary wound infections and have comorbidities.^{1,3,4}

Healthcare professionals must become cognizant of which individuals are at risk for developing skin tears, how to prevent these wounds, and how to treat them once they occur. In recent literature, there has been increasing attention given to skin tears, but there has been no criterion standard developed for their management. Although the prevention of skin tears is the primary focus, healthcare professionals must be equipped to manage these wounds when they do occur. By recognizing which patients are at risk for skin tears, preventing skin injuries, and using appropriate nonadherent dressings, clinicians can save patients undue pain and suffering.^{1,5} Reading this article will help clinicians prevent and manage skin tears.

To help diminish the impact of skin tears on our healthcare systems, it is imperative that a systematic prevention program be implemented. The ISTAP has created a tool kit for the prevention, identification, and treatment of skin tears. Each component of the tool kit has been developed to complement other components. The tool kit is based on extensive literature reviews, international input from healthcare professionals, and on expert opinion. It has undergone an extensive peer-review process in the form of a modified Delphi process.

The tool kit was designed to include components that would serve as a basis for education and implementation guidance for prevention and treatment programs. It includes the following:

- Skin Tear Risk Assessment Pathway (Figure 1)
- Skin Tear Decision Algorithm (Figure 2)
- Pathway to Assessment/Treatment of Skin Tears (Figure 3)
- ISTAP Skin Tear Classification (Figure 4)
- Prevalence Study Data Collection Sheet (Figure 5)
- Quick Reference Guide for the ISTAP Risk Reduction Program (Table 1)
- Medications that Can Affect the Skin (Table 2)
- Drugs Associated with Risk of Falls (Table 3)
- Skin Tear Product Selection Guide (Table 4)

GOALS AND OBJECTIVES

The goal of the ISTAP Skin Tear Tool Kit is to provide a foundation to assist and guide individuals, their circle of care, and healthcare professionals in the risk assessment, prevention, and treatment of skin tears. The ISTAP Skin Tear Tool Kit is designed to allow the clinician to implement a systematic approach to the prevention, management, and treatment of skin tears.

METHODOLOGY

The ISTAP group developed the tool kit and subsequently subjected it to a global review and input from a wide group of international reviewers (see List of Reviewers). The purpose of this document is to disseminate the globally agreed ISTAP Skin Tear Tool Kit and to generate further research on this topic (see Glossary of Terms).

A 3-phase modified-Delphi method was used to reach consensus on the components of the ISTAP Skin Tear Tool Kit.

• Phase 1

The ISTAP expert panel was convened to develop the components of the tool kit pertaining to the assessment, prediction, prevention, and treatment of skin tears. The panel consisted of 11 key opinion leaders in the field of wound care from the United States, Canada, and the United Kingdom. The meeting was held January 9 to 11, 2013, in Orlando, Florida, and was made possible by an unrestricted educational grant from Hollister Incorporated.

• Phase 2

The ISTAP Skin Tear Tool Kit was disseminated to all ISTAP members, who then distributed the statements to a wider global group of distinguished reviewers. Each panel member collected and summarized feedback from the global reviewers, then returned feedback to ISTAP's 2 co-chairpersons. A total of 46 reviewers with noted expertise in wound care were selected to be the distinguished international external review panel.

• Phase 3

Written input received from the international reviewers and the ISTAP members was used to generate an ISTAP Skin Tear Tool Kit. The final tool kit was returned to the original ISTAP and the 46 external reviewers for voting on the tool kit components for consensus. The ISTAP Skin Tear Tool Kit received a 98% consensus from those who agreed or somewhat agreed with the content.

Implementation

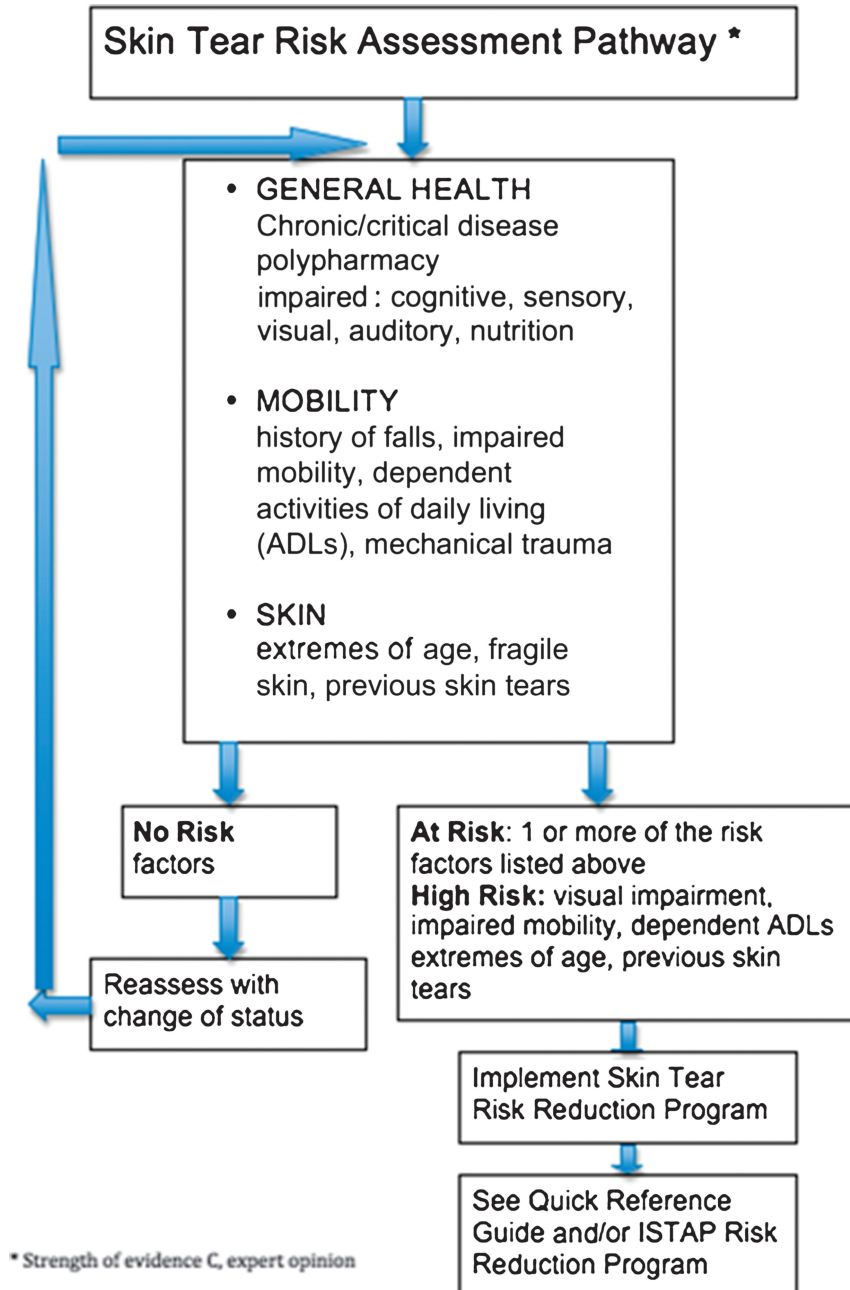
The ISTAP recommends an interprofessional team approach to the implementation of a systematic skin tear prevention program based on 3 identified risk factor categories: general health, mo-

bility, and skin-related issues. The individual, caregiver, healthcare provider, and the healthcare system must collaborate to ensure that support is in place to allow for a successful implementation of the program. The components of the tool kit are designed to be complementary to each other and to allow the clinician to transition from risk assessment to prevention and treatment as required.

- The *Skin Tear Risk Assessment Pathway* (Figure 1) is recommended to determine those at risk and in need of the implementation of a risk reduction program. The pathway should be used upon admission to a healthcare setting and whenever an individual's health status changes. The pathway is a useful tool for the healthcare provider to determine those at risk and for the allocation of resources.
- The *Quick Reference Guide for the ISTAP Risk Reduction Program* (Table 1) is designed to be used in conjunction with the ISTAP Risk Reduction program, which has been developed to allow for a systematic approach to preventing skin tears at the individual, caregiver, and institutional level. The focus for the treatment of skin tears should begin with this comprehensive risk reduction program.
- The *The Skin Tear Decision Algorithm* (Figure 2) was designed to assist healthcare professionals in the assessment and treatment of skin tears, to complement the pathway to the assessment/treatment of skin tears, and to assist in skin tear classification and wound assessment. Furthermore, the algorithm links the classification and wound assessment to product selection options, which are specific to skin tears and the local wound environment. The skin tear decision algorithm is to be the continuing link between assessing and treating skin tears.
- The *Pathway to Assessment/Treatment of Skin Tears* (Figure 3), building on the work of Sibbald et al,⁶ was established to link the treatment and prevention of skin tears to the wound bed preparations paradigm. This is to allow for wound assessment and treatment in accordance with local wound conditions.
- The *ISTAP Skin Tear Classification* (Figure 4) was developed and validated by the ISTAP groups to allow for a universal language for identifying and documenting skin tears.
- The *Prevalence Study Data Collection Sheet* (Figure 5) provides a consistent method of collecting skin tear prevalence data. Given the low levels of published skin tear prevalence data, it is imperative that the global wound care community collect prevalence data and conduct further research. This research will build upon and support the identified risk factors for skin tears, which are currently based on expert opinion.
- *Medications that Can Affect the Skin* (Table 2) lists some of the medications that may have a cutaneous or inflammatory interaction/reaction on the skin. This list is not all-inclusive.
- *Drugs Associated with Risk of Falls* (Table 3) lists high-risk and moderate-risk drugs associated with older adult consumption

Figure 1.

SKIN TEAR RISK ASSESSMENT PATHWAY



that may contribute to falls in this population. This list is not all inclusive.

• *Skin Tear Product Selection Guide* (Table 4) was established to identify products currently on the world market that will allow for moist wound healing in accordance with the local wound conditions, while respecting the fragile nature of the skin associated with those who have been identified as being at risk for skin tear development.

ISTAP RISK REDUCTION PROGRAM

Risk Factors

1. General Health

1.1 Altered sensory, auditory, and visual status

- **Individual** (strength of evidence = C, D)(see *Strength of Evidence* sidebar)
 - Participate actively in care
 - Be cognizant of environment
- **Caregiver/provider** (strength of evidence = C, D)

- Ensure safe environment
- Implement a falls assessment and reduction program
- Assess footwear
- Avoid wearing clothing that could be injurious to the patient's skin
- Educate individual and caregivers on safety concerns regarding individual impairment and risks for skin tears

- **Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program that includes minimizing risk associated with altered sensory status, visual, auditory impairment, and neuropathy.
 - Include the prevalence and incidence of skin tears in current wound audit programs
- **Rationale:** Chronic disease, often experienced by the aging population, can lead to altered sensory, visual, auditory, and neuropathic status. In addition, the critically ill and individuals with extremes of age (the very

Figure 2.
SKIN TEAR DECISION ALGORITHM

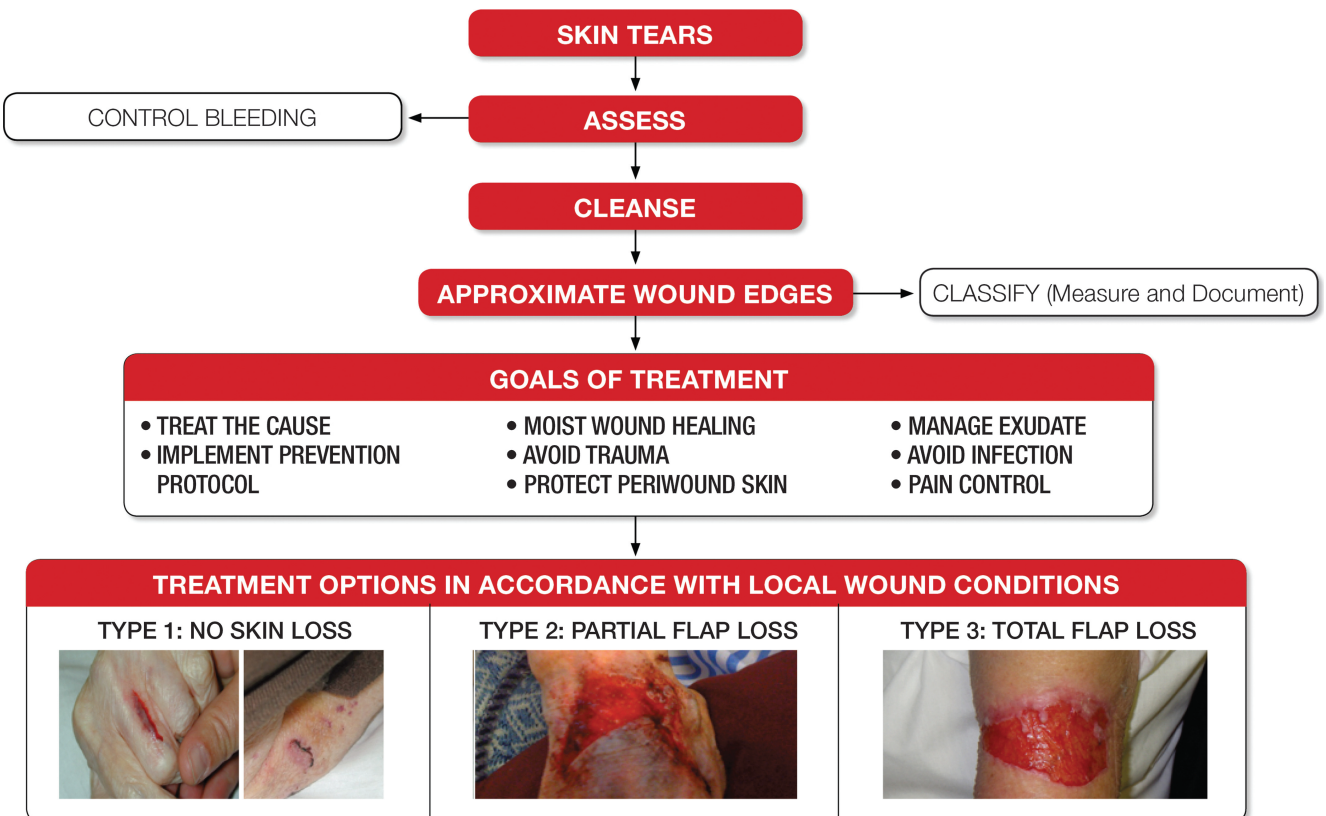
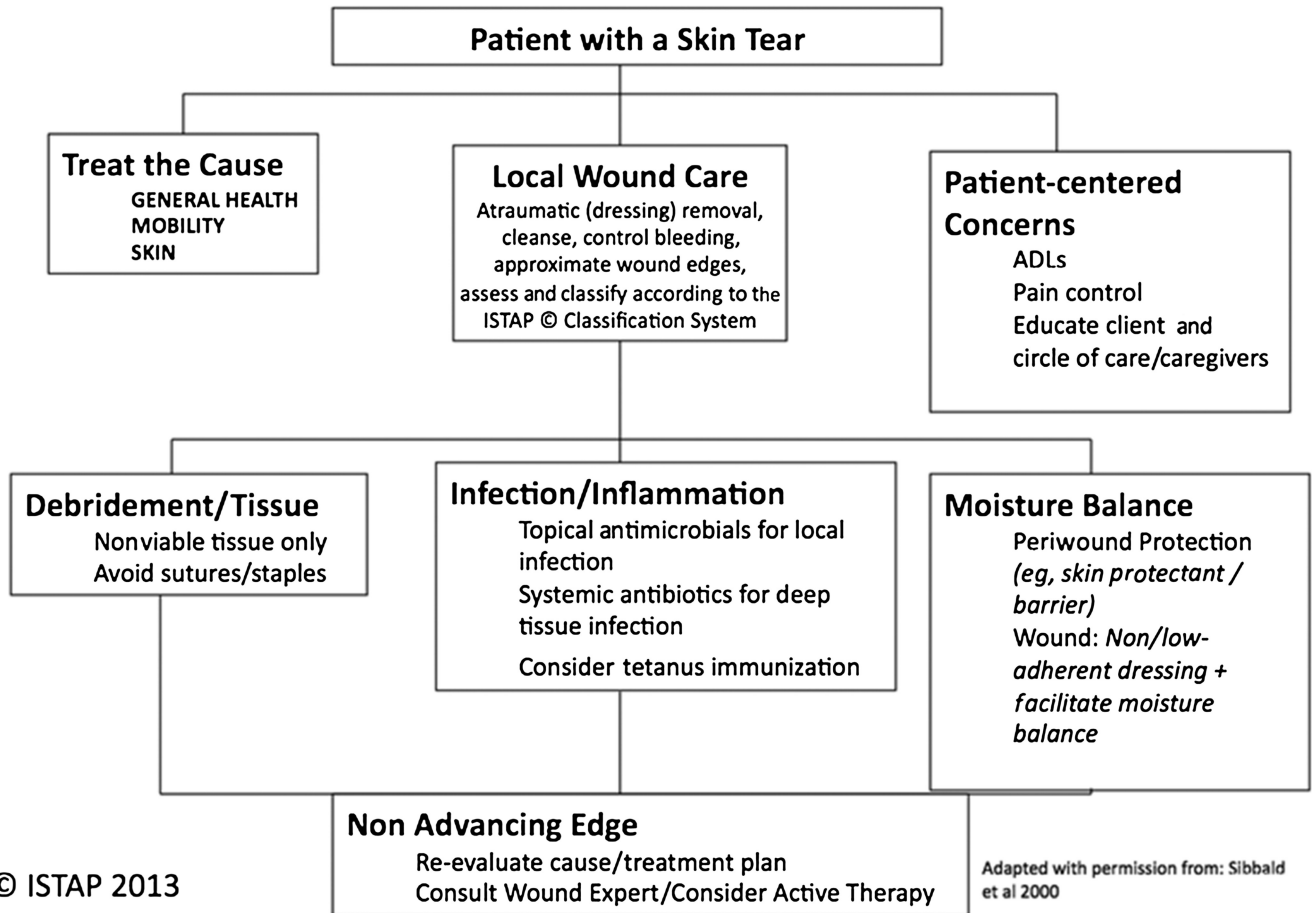


Figure 3.

PATHWAY TO ASSESSMENT/TREATMENT OF SKIN TEARS



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Adapted with permission from: Sibbald et al 2000

young or the very old) can also be afflicted with altered sensory status.¹ Aging skin puts individuals at risk for skin injury, including acute traumatic wounds or skin tears. Care of the geriatric patient often involves managing persons who are among the oldest and fastest-growing segment of the population (aged 85 years and older). As individuals age, the normal wound healing process also slows, and the risk of dementia, diabetes, and vascular disease increases. With the increase in the aging population, more individuals will be at risk for developing skin injuries, including chronic wounds and skin tears.⁷⁻⁹

Altered sensory, visual, auditory, and neuropathic status all contribute to increased fall risks.⁷⁻⁹ A history of falls has been

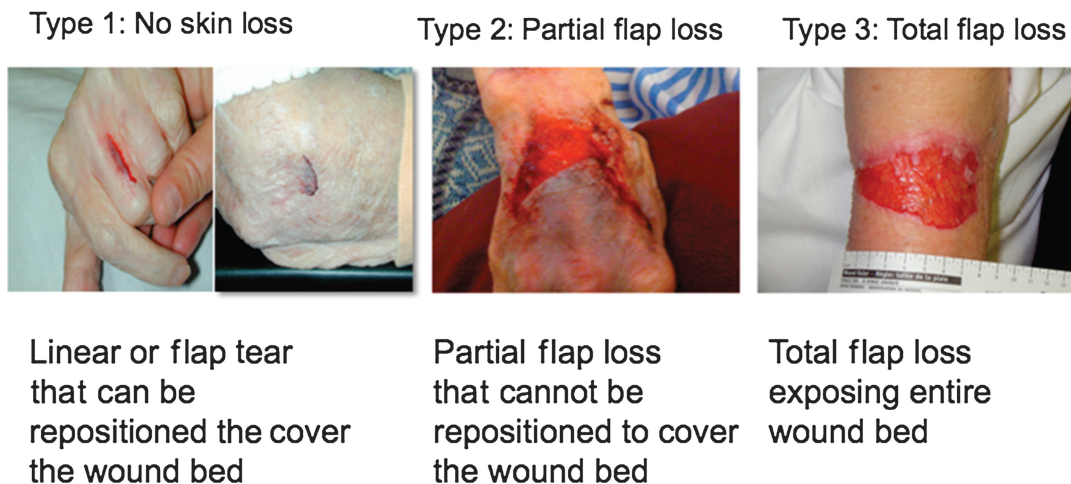
strongly linked in the literature to an increased risk of skin tears.^{1,5,10,11} The increased risk of falls and subsequent skin tears associated with altered sensory, visual, and neuropathic status must be addressed, and in addition to a comprehensive skin tear reduction program, a falls risk assessment and prevention program should be implemented.^{1,3}

The critically ill, pediatric, and premature neonatal population can also be at an increased risk for skin tear development if alterations in sensory, visual, auditory, or neuropathic status are experienced. Care should be taken to ensure that the individual and all those involved in his/her care are aware of the increased risk of skin tears and ensure protection from potential risk factors.^{8,9,12}

The individual and his/her circle of care must be part of a comprehensive team approach. Review of the safety hazards that exist

Figure 4.

ISTAP SKIN TEAR CLASSIFICATION



in the environment and the individual's willingness to wear protective sleeves and trousers/pants is an integral part of any skin tear risk reduction program.^{1,3}

• **1.2 Cognitive impairment**

- **Individual** (strength of evidence = C, D)
 - Participate actively in care
 - Be cognizant of environment
- **Healthcare provider** (strength of evidence = C, D)
 - Assess cognitive status
 - Educate individual and caregivers on safety concerns regarding individual impairment and risks for skin tears
 - Protect individual from self-harm when possible
- **Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program, which includes minimizing risk associated with cognitive impairment
 - Include the prevalence and incidence of skin tears in current wound audit programs
- **Rationale:** Despite the paucity in the literature surrounding the causative factors of skin tears, there is evidence to suggest that altered levels of cognition in the older adult,¹² pediatric,¹³ and critically or chronically ill individual¹ increase the risk of skin tear development.

Various types of dementia and other chronic illnesses lead to altered cognitive status and can be an added challenge to caregivers. Cognitive impairment can lead to decreased adherence to prevention programs due to lack of comprehension. Aggressive

behavior and agitation associated with altered cognition and dementia can also increase the risk of blunt trauma and self-injury resulting in skin tears.¹⁴

Healthcare settings must support a comprehensive dementia management program in addition to a skin tear prevention program to fully address dementia-related issues and their relationship to skin tear development.

The very young or developmentally challenged individual cannot be forgotten when managing skin tears. Lack of cognition or insight can potentially increase the risk of skin tears in this population. Healthcare providers must be able to intervene on the individual's behalf to ensure skin tear prevention strategies are in place and that every attempt is made to ensure maximal understanding of the risks. Family/caregiver education should be the primary focus¹² for the neonatal and developmentally challenged individual.

• **1.3 Nutritional concerns**

- **Individual** (strength of evidence = C, D)
 - Optimize nutrition and hydration
- **Healthcare provider** (strength of evidence = A, B, C, D)
 - Consult dietician to optimize nutrition and hydration (A)
 - Promote and monitor nutrition and fluid intake appropriate to age and physiological status, increase fluid intake as appropriate (A)
 - Be aware that extremes of weight (bariatric, cachectic, or excessively thin) require extra care to prevent skin tears (C, D)

- **Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program, which includes optimizing nutritional support and hydration
 - Include the prevalence and incidence of skin tears in current wound audit programs

- **Rationale:** Adequate nutrition and hydration help maintain tissue viability.¹⁵ Assessment of each individual's nutritional status is vital to ensure health and well-being. Older adults can be at great risk for nutritional impairment. Of hospitalized older adults, 25% to 30% are undernourished, whereas 46% to 61% are at

Figure 5.

PREVALENCE STUDY DATA COLLECTION SHEET

Patient Identifier _____
 Unit/Floor _____
 Type of care facility _____
 Sex male female
 Age _____

Skin Tear	Location of Skin Tear	Skin Tear Type	Cause of Skin Tear	Where Skin Tear Occurred	Facility Acquired Yes/No
A					
B					
C					
D					

ISTAP Skin Tear Classification



Location of Skin Tear:

1. Hands
2. Arms
3. Legs
4. Feet
5. Head/Face
6. Trunk
7. Other _____

Cause of Skin Tear:

1. During ADLs
2. Trauma
3. Fall
4. Self-inflicted
5. Dressing Removal
6. Resisting Care
7. Unknown
8. Other _____

Where Skin Tear Occurred:

1. Acute Care
2. Long-term Care
3. Home Care
4. Rehab
5. Other

Table 1.**QUICK REFERENCE GUIDE FOR THE ISTAP RISK REDUCTION PROGRAM**

Risk Factor	Individual	Caregiver/Provider
General health	<ul style="list-style-type: none"> Educate patient on skin tear prevention and promote active involvement in treatment decisions (if cognitive function not impaired) Optimize nutrition and hydration 	<ul style="list-style-type: none"> Safe patient environment Educate client +/-circle of care/caregivers Protect from self-harm Dietary consult if indicated Extra caution with extremes of body mass index (<20 or >30 kg/m²) Review polypharmacy for medication reduction/optimization
Mobility	<ul style="list-style-type: none"> Encourage active involvement if physical function not impaired Appropriate selection and use of assistive devices 	<ul style="list-style-type: none"> Daily skin assessment and monitor for skin tears Ensure safe patient handling techniques/equipment and environment (trauma, ADLs, self-injury) Proper transferring/repositioning Initiate fall prevention program Remove clutter Ensure proper lighting Pad equipment/furniture (bed rails, wheelchair, etc) Avoid sharp fingernails/jewelry with patient contact
Skin	<ul style="list-style-type: none"> Awareness of medication-induced skin fragility (eg, topical and systemic steroids) Wear protective clothing (shin guards, long sleeves, etc) Moisturize skin (lubrication and hydration) Keep fingernails short 	<ul style="list-style-type: none"> Individualize skin hygiene (warm, tepid, not hot, water; soapless or pH-neutral cleaners; moisturize skin) Avoid strong adhesives, dressings, tapes Avoid sharp fingernails/jewelry with patient contact
Healthcare setting		
<ul style="list-style-type: none"> Implement a comprehensive skin tear reduction program Include skin tears in audit programs Utilize validated classification system Develop consultative team (wound care/dietary specialists, rehab/pharmacists) 		

risk for being undernourished.¹⁶ There are many variables to assess when determining nutritional status: monitoring intake, the Braden subscale on nutrition, low body mass index (<20 kg/m²), unintentional weight loss, level of appetite, difficulty chewing, lack of dentures or teeth, and weight loss may be suspected with the presence of loose-fitting clothes or jewelry and status of laboratory values such as protein, zinc, albumin, and prealbumin.^{5,16,17} Both obese and undernourished patients can be at risk for effects on tissue/body structure and function. Malnutrition can cause delayed healing of impaired tissue and increase chance of infection. If a patient consumes less than 50% of his/her meals for more than 3 days, a nutrition consult is warranted.¹⁵⁻¹⁷ At that time, the individual should be assessed for the possible

need for an appetite stimulant and other supplemental vitamins and minerals in addition to his/her diet.¹⁷

Dehydration can be assessed by monitoring intake, urine output, skin turgor, changes in weight, and laboratory values such as sodium and serum osmolality.^{17,18} With issues such as diarrhea, vomiting, increased body temperature, or heavily draining wounds,¹⁷ more fluid intake is needed to replenish lost fluid and electrolytes. Adequate hydration is essential in maintaining skin integrity. It can make a difference between a bump causing a bruise or a skin tear.^{15,19}

Vitamins A, B, C, and D, iron, zinc, and copper are needed to maintain healthy skin.^{5,17,18,20} There is clear evidence to show that calcium and vitamin D supplementation reduces the risk of falls in ambulatory or institutionalized older adults.²⁰ Daily supplementation of 1 to 1.2 g calcium in combination with at

Table 2.

MEDICATIONS THAT CAN AFFECT THE SKIN

Various types of cutaneous or inflammatory interactions/reactions may occur with use of the following^{14,15}:

- Antibacterials
- Antihypertensives
- Analgesics
- Tricyclic antidepressants
- Antihistamines
- Antineoplastic agents
- Antipsychotic drugs
- Diuretics
- Hypoglycemic agents
- Nonsteroidal anti-inflammatory agents
- Oral contraceptives
- Sunscreens
- Steroids

least 800 IU vitamin D as co-calciferol has been shown to improve both body sway and muscle function in older adults, reducing overall fall risk by more than 20%.²⁰

• 1.4 Polypharmacy

- Individual** (strength of evidence = A, B, C, D)
 - Be aware of potential for skin changes with certain medications (C)
 - Discuss all medications with prescriber or pharmacist
- Healthcare provider** (strength of evidence = A, B, C, D)
 - Consult with intraprofessional team to monitor effects of polypharmacy on the individual's skin; complete a comprehensive medical review of all medications (C, D)
- Healthcare setting** (strength of evidence = A, B, C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program, which includes supporting an intraprofessional team to monitor polypharmacy (C, D)
 - Consider automatic alerts when certain medications or doses are prescribed (D)
 - Include the prevalence and incidence of skin tears in current wound audit programs (D)
- Rationale:** Polypharmacy (ie, the use of multiple medications that might predispose patients to drug interactions/reactions or confusion) is common among older adults. Numerous medications can be associated with negative health outcomes (eg, cutaneous reactions, falls), but more research is needed to further delineate the consequences associated with multiple drug use, especially in older adult patients.

A variety of medications can affect the skin. The most common being corticosteroids, which can interfere with epidermal regeneration and collagen synthesis.^{14,15} Steroids may be a contributing factor to skin tear development. See Table 2 for other medication categories that affect the skin.

Polypharmacy has also been indicated to be an independent risk factor for falls.²¹⁻²⁴ Pervin's²² research concluded that individuals receiving 4 or more medications are at a greater fall risk. In a recent consensus document pertaining to the prevention, assessment, and treatment of skin tears, LeBlanc et al¹ identified falls as another major risk factor in the development of skin tears. Table 3 lists some of the high- and moderate-risk drugs that can potentially increase a patient's risk for falls, thereby making him/her very susceptible to skin tears from traumatic injury.

Healthcare professionals should be aware of the risks and fully evaluate all medications to prevent polypharmacy from occurring.

2. Mobility

• 2.1 Mobility-related issues

- Individual** (strength of evidence = C, D)
 - Participate actively in care
 - Be cognizant of environment
- Healthcare provider** (strength of evidence = C, D)
 - Ensure safe handling techniques and safe equipment
 - Perform daily skin assessment and monitoring for skin tears
 - Be aware that extremes of weight (bariatric, cachectic, or excessively thin) require extra care to prevent skin tears
- Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for a comprehensive skin tear reduction program including minimizing risk associated with mobility-related issues
 - Include the prevalence and incidence of skin tears in current wound audit programs
- Rationale:** When skin tears are reported, the causative factor is often not known.²⁵⁻²⁷ Nevertheless, skin tears are frequently linked to wheelchair injuries, falls, transfers, or blunt trauma from bumping into objects.^{4,5} Skin tears are also reported to occur around peak care times. White et al²⁵ concluded that skin tears occur during the peak activity hours of 6:00 to 11:00 AM and 3:00 to 9:00 PM.

In the older adult population, skin tears are often environmentally related.¹⁰ In 1990, Payne and Martin²⁶ conducted a 3-month descriptive study in 10 long-term-care facilities to describe skin tears, identify risk factors, and determine the rate of healing of skin tears. Among the predominant risk factors, impaired activity, mobility, sensation, and cognition all demonstrated an increased risk for skin tear development. McGough-Csarny and Kopac²⁷ conducted a similar study in a Veterans Affairs

Table 3.

DRUGS ASSOCIATED WITH RISK OF FALLS

HIGH-RISK DRUGS ASSOCIATED WITH FALLS^{23,26}

Antidepressants	Avoid tricyclic antidepressants, especially those with high antimuscarinic activity. Selective serotonin reuptake inhibitors are associated with a reduced incidence of adverse effects in older adults.
Antipsychotics	Risk of hypotension is a dose-related effect reduced by the “start low, go slow approach.” Attempted withdrawal <i>must</i> always be gradual to avoid precipitation of withdrawal symptoms, such as rebound agitation.
Antimuscarinic drugs (anticholinergics)	Antimuscarinic drugs are used in treatment of urinary incontinence and in Parkinson disease. Oxybutynin may cause acute states of confusion in older adults, especially those with preexisting cognitive impairment.
Benzodiazepines and hypnotics	Avoid long-acting benzodiazepines
Dopaminergic drugs used in Parkinson disease	Sudden excessive daytime sleepiness can occur with levodopa and other dopamine receptor agonists. Careful dose titration is particularly important in initiation of treatment because of the additional risk of inducing confusion. As the patient ages, maintenance doses may need to be reduced.

MODERATE-RISK DRUGS ASSOCIATED WITH FALLS

Angiotensin-converting enzyme inhibitors/angiotensin II antagonists	Risk of hypotension is potentiated by concomitant diuretic use. Incidence of dizziness varies from 4%–12% of patients, but affects twice as many patients with heart failure than hypertension.
Antiarrhythmics	Dizziness and drowsiness are possible signs of digoxin toxicity; risks of toxicity are greater in renal impairment or in the presence of hypokalemia. Flecainide has a high risk for drug interactions and can also cause dizziness.
Antiepileptics	Incidence of dizziness, drowsiness and blurred vision are dose-related adverse effects observed with carbamazepine but may be reduced by altering timing or choice of formulation. Phenytoin adverse effects, such as dizziness and blurred vision, may be signs of drug-related toxicity.
Antihistamines	Somnolence may affect up to 40% of patients with older antihistamines. The newer antihistamines cause less sedation and psychomotor impairment.
β-blockers	Dizziness can occur and may be due to postural hypotension; this may affect up to 10% of patients.
Diuretics	Postural hypotension, dizziness, and nocturia are the most frequent problems seen in older adults. Diuretics should not be prescribed for long-term use in the treatment of gravitational edema.
Opiate analgesics	Drowsiness and sedation are common with initiation of treatment, but tolerance to these adverse effects is usually seen within 2 weeks of continuous treatment.

nursing home and concluded that dependency for activities of daily living (ADLs), sensory loss, limited mobility, use of assistive devices, and impaired cognition were risk factors for skin tear development.

Individuals at risk for skin tears, care providers, and healthcare settings must all identify the mobility-related issues associated with skin tears and incorporate a united approach to minimizing these risks.⁵ These mobility-related issues may include blunt trauma to shins, hands, and arms secondary to hitting objects, when seated in a wheelchair or when using canes and walkers, and inadvertent skin tears when using transfer devices or other movement aids.⁵

Strategies for preventing mobility-related skin tears include but are not limited to⁵

- padding devices and hard objects in the individual’s environment,
- long sleeves and trousers,
- knee-high socks,
- gloves,
- shin/elbow pads, and
- uncluttered environment.

• 2.2 Assistance with ADLs

- **Individual** (strength of evidence = C, D)
 - Participate actively in care
 - Be cognizant of environment

Table 4.

SKIN TEAR PRODUCT SELECTION GUIDE

Product - Avoid Adhesives	Indications	Considerations for Use
<i>Lipidocolloid Mesh</i> (carboxymethylcellulose [CMC] + petrolatum) minimal skin shear	Dry or <i>exudative</i> wound (with secondary absorptive dressing)	Maintains moisture balance for variable amounts of wound <i>exudate</i> , atraumatic removal
Silicone mesh adherence to skin with low skin shear	Dry or <i>exudative</i> wound (with secondary absorptive dressing)	Maintains moisture balance for variable amounts of wound <i>exudate</i> , atraumatic removal
Impregnated gauze mesh	For barrier function	Variable degrees of trauma on removal, no moisture balance
Foam, polyurethane cells	Absorption of moderate to heavy <i>exudate</i>	Potential for <i>periwound</i> maceration and for skin stripping on removal
<i>Hydrogel</i> (70%–90% H ₂ O) available in gel and sheet form	Donates moisture for dry wounds	May result in <i>periwound</i> maceration, excellent for autolytic debridement
Calcium alginates: Available in rope and sheet	<i>Hemostatic</i> and <i>autolytic</i> debridement properties + moisture balance, requires moderate to high <i>exudate</i>	Biodegradable
<i>Hydrofiber</i> : (CMC)	Mild to moderate <i>exudate</i> , minimal <i>autolytic</i> debridement	Nonbiodegradable, no <i>hemostatic</i> properties
Acrylic dressing: conformable acrylic pad enclosed between 2 film layers	Mild to moderate <i>exudate</i> without any evidence of bleeding	May become completely adherent/very cautious removal but should be left in place until it falls off
Skin glue liquid acrylic	To approximate wound edges	Use in a similar fashion as sutures within first 24 hours post injury, medical directive/protocol may be required

Products **NOT** recommended: hydrocolloid, transparent films, closure strips

- **Healthcare provider** (strength of evidence = C, D)
 - Provide protection from trauma during routine care and ADLs
 - Use proper transferring and positioning techniques
 - Ensure safe environment
 - Educate individual and caregivers on proper transferring and positioning techniques
- **Healthcare setting** (strength of evidence = C, D)
 - Include the prevalence and incidence of skin tears in current wound audit programs
- **Rationale:** Individuals frequently acquire skin tears during routine activities of dressing, bathing, positioning, and transferring and those who are dependent on others for total care are at the greatest risk for skin tears.^{1,28,29} Individuals who are independent in ambulation report high numbers of skin tears, occurring primarily on the lower extremities.^{1,4,25,28} A 2011 survey¹ reported that the perceived top causes of skin tears included equipment injury, patient transfers, falls, ADLs, treatment, and dressing removal.

It is important to educate caregivers on gentle handling of older adult patients with frail skin. Any harsh movement or pulling can create a skin tear. Patients and families should understand the importance of proper positioning, turning, lifting, and transferring. Use lift sheets to move patients up in bed. Provide padding to side rails, wheelchair arm and leg supports, and other equipment. Patients at risk are encouraged to wear long sleeves and trousers/pants for added protection.²⁹ To reduce the risk of skin tears, patients and caregivers should keep their fingernails short; use no-rinse, pH-balanced soap for bathing; and moisturize the skin with creams rather than lotions.³⁰

A comprehensive assessment of risk factors for skin tears should be conducted for all individuals within the context of their environment. Just as pressure ulcer risk assessment may reduce the prevalence of pressure ulcers, identifying those individuals at high risk for skin tears and instituting prevention strategies may reduce the risk of skin tears.^{31,32}

National guidelines and this skin tear tool kit recommend a comprehensive head-to-toe assessment upon admission to a healthcare service and thereafter whenever the individual's

condition changes or per agency/facility policy. The Registered Nurses' Association of Ontario,³³ National Pressure Ulcer Advisory Panel,³⁴ and the National Institute for Clinical Health and Excellence³⁵ guidelines support the use of validated risk assessment tools.

• 2.3 History or risk of falls

- **Individual** (strength of evidence = C, D)
 - Participate actively in care
 - Be cognizant of environment
 - Utilize assistive devices as prescribed by healthcare professionals
 - Work with caregivers to follow falls prevention program when capable
- **Healthcare provider** (strength of evidence = C, D)
 - Initiate falls prevention program as per facility/institution or workplace policy. Program should include the pediatric/neonatal population when appropriate
 - Create a safe environment
 - Remove clutter from environment
 - Maintain a well-lit environment
 - Ensure safe handling techniques and safe equipment
- **Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program, which includes a falls prevention program
 - Include the prevalence and incidence of skin tears in current wound audit programs
- **Rationale:** Falls pose a serious risk of skin tears for older adults. An average nursing home with 100 beds reports 100 to 200 falls annually.³⁶ Prevention of falls in the older adult population requires several different approaches to mitigate these unique factors, which may predispose older adults to this type of injury.³⁶

A fall is defined as a sudden, unintentional change in position, which results in either an individual hitting the ground or another object below his/her starting point.³⁶ The American Medical Directors Association³⁷ reports that falls are a significant cause of injury and death in older adults living in long-term-care facilities. According to McCarthy et al,³⁸ falls are the leading cause of fatal and nonfatal injuries among Americans 65 years or older, resulting in more than 2 million emergency department visits.

Predisposing factors for falls include unsteady gait and balance, weak muscles, poor vision, medications, and dementia. In addition, other factors such as poor lighting, loose rugs, poorly fitting shoes, floor clutter, continence urgency, and beds or toilets without handrails also may cause falls.³⁹ Furthermore, medical conditions such as low blood pressure, stroke, Parkinson disease, arthritis, Meniere's disease (affects the middle ear—causes

vertigo), poorly controlled diabetes, poorly controlled epilepsy, brain disorders, and thyroid problems increase older adult patient's risk for falls.⁴⁰

Falls have been associated as a factor contributing to the development of skin tears in older adults and compromised populations.^{1,10,11} Implementing a best practice fall prevention program has proven to be successful in reducing falls in older-adult, long-term-care patients. It is common knowledge that fall prevention is crucial for this population. Best practice guidelines can be successfully implemented only where there are adequate planning, resources, organization, and administrative support, as well as appropriate facilitation.^{41,42}

It is therefore imperative that an important step in reducing skin tear risk is the introduction of a falls prevention program that is supported by the individual at risk, the care provider, and the governing healthcare setting.

• 2.4 Mechanical trauma (not related to mobility aids)¹⁻¹⁵

- **Individual** (strength of evidence = C, D)
 - Participate actively in care
 - Be cognizant of environment
 - Practice behaviors that will reduce the incidence of skin tears
 - Remove clutter from environment
 - Avoid the use of adhesives on skin
- **Healthcare Provider** (strength of evidence = C, D)
 - Implement safe activities for those who are at risk for skin tears
 - Hydrate skin with hypoallergenic moisturizer after bathing, with the skin still damp, not wet; use warm tepid water for bathing
 - Utilize soapless, no-rinse, and/or pH-neutral skin cleansers
 - Provide those at risk with protective clothing, such as long sleeves, long pants/trousers, or knee-high socks or shin/elbow guard pads
 - Avoid adhesive products on frail skin. If dressings or tapes are required, use nontraumatic paper/silicone tapes, nonadherent contact layers, nonadherent/silicone foam dressings, or other topical dressings specifically formulated for management of fragile skin, to avoid skin stripping or tearing of the skin with the removal of adhesives (ensure proper removal of all adhesives)
 - Keep fingernails and toenails cut short and filed to remove rough edges to prevent self-inflicted skin tears
 - Ensure safe environment: pad bed rails, wheelchair legs, furniture edges, and other objects that may lead to blunt trauma; remove unnecessary equipment from environment, well-lit environment

- Initiate falls prevention program as per facility/ institution or workplace policy. Program should include the pediatric population when appropriate.
- Use proper positioning, turning, lifting, and transferring techniques
- Provide extra protection (padding) of the skin for individuals with extremes of weight (bariatric, cachectic, very thin)
- Educate staff/caregivers on prevention and treatment of skin tears; communicate with other healthcare professionals the need for gentle care
- **Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program, which includes minimizing risk, associated with mechanical trauma.
 - Utilize atraumatic topical wound care products to minimize the risk of skin tears with dressing and/or adhesive removal
 - Include the prevalence and incidence of skin tears in current wound audit programs
- **Rationale:** Intrinsic factors, such as age, pertain to an individual's inherent biologic or genetic makeup. Extremes in age impact not only how individuals heal but also their susceptibility to developing a wound.⁵ With increasing age, individuals experience dermal and subcutaneous tissue loss, epidermal thinning, and serum composition changes, all of which cause decreased skin surface moisture.^{14,15} In turn, the skin's elasticity and tensile strength decrease.^{5,14,15,30} These factors are common in older adults in all care settings and combine to increase the skin's vulnerability to trauma.^{1,4,10,12}

Premature neonates and neonates are also susceptible to skin tears. Premature neonates have underdeveloped skin, and children have only 60% of adult epidermal thickness.¹² Neonates have decreased epidermal-to-dermal cohesion, deficient stratum corneum, impaired thermoregulation, a body surface-weight ratio of nearly 5 times greater than an adult, and immaturities in the immune, hepatic, and renal systems. A combination of these factors places this population at increased risk for epidermal stripping, infection, increased transepidermal water loss, with resultant heat loss, and toxicity from percutaneous absorption.^{12,43-46}

Mechanical trauma causing skin tears is often related to topical dressing choices and dressing removal techniques,^{1,2,5} blunt trauma as the result of falls, dressing/changing clothing, bathing, and repositioning.^{1-4,43-46} Changes related to aging skin, immature skin, or skin affected by chronic and/or acute illness increase the risk of mechanical trauma. In the neonatal population, mechanical trauma is the number one cause of skin tears.¹²

3.0 Skin

• 3.1 Skin changes related to extremes of age and critically ill

- **Individual** (strength of evidence = C, D)
 - Participate actively in care
 - Be cognizant of environment
 - Know if the individual is at risk for skin tears and how to reduce the risk of skin tears
 - Practice behaviors that will reduce the incidence of skin tears
- **Healthcare provider** (strength of evidence = A, B, C, D)
 - Implement safe activities for those who are at risk for skin tears
 - Hydrate skin with hypoallergenic moisturizer after bathing, with the skin still damp, not wet; use warm tepid water for bathing
 - Utilize soapless, no-rinse, and/or pH-neutral skin cleansers
 - Provide those at risk with protective clothing, such as long sleeves, long pants/trousers, or knee-high socks or shin/elbow guard pads
 - Avoid adhesive products on frail skin. If dressings or tapes are required, use nontraumatic paper/silicone tapes, nonadherent contact layers, nonadherent/silicone foam dressings, or other topical dressings specifically formulated for management of fragile skin, to avoid skin stripping or tearing the skin with the removal of adhesives
 - Keep fingernails and toenails cut short and filed to remove rough edges to prevent self-inflicted skin tears
 - Educate staff/caregivers on the importance of "gentle care"
- **Healthcare setting** (strength of evidence = C, D)
 - Recognize the need for and implement a comprehensive skin tear reduction program, which includes addressing skin considerations related to the extremes of age. Support the use of atraumatic topical dressing options for the treatment of skin tears when they do occur to minimize the risk of further skin damage.
 - Include the prevalence and incidence of skin tears in current wound audit programs
- **Rationale:** Skin tears commonly occur in individuals at the extremes of age, the critically ill, or medically compromised and in those requiring assistance with personal care.^{1,5}

As the skin ages, there are many changes that occur within the dermis, making the skin more susceptible to skin tears:

1. Loss of subcutaneous fat and atrophy, specifically in the face, dorsal aspect of the hands, shins, and plantar aspects of the foot, which increase the energy absorbed by the skin during trauma and increases the risk of skin tears.^{14,15,46}
2. Blood vessels become thinner and more fragile, leading to the appearance of hemorrhaging (senile purpura). Skin tears often occur at sites of senile purpura.^{14,15,47}
3. The skin's elasticity and tensile strength decrease and skin becomes more easily stretched because of a decrease in elastin fibers.^{14,15,47-49}
4. The flattening of rete ridge/peg results in a less effective anchoring of the epidermis to dermis, making the skin more susceptible to shearing and separating of the skin layers.^{4,15}
5. Rete ridge flattening also impairs the ability of the skin to retain moisture. This flattening in combination with diminished or loss of sebaceous and sweat gland activity results in xerosis cutis, or dry skin, which makes the skin more vulnerable to trauma.^{4,15}

Neonates and infants are also susceptible to skin tears. Neonates have underdeveloped skin, and children have only 60% of adult epidermal thickness. Neonates have decreased epidermal-to-dermal cohesion, attenuated rete ridges, deficient stratum corneum, impaired thermoregulation, body surface-weight ratio nearly 5 times greater than an adult, and immaturities in the immune system, as well as hepatic and renal function. A combination of these factors places this population at increased risk for epidermal stripping, infection, increased transepidermal water loss with resultant heat loss, and toxicity from percutaneous absorption.¹²

Skin cleansers can further alter the stratum corneum by reducing the thickness and number of cell layers and by removing lipids, natural lubrication, and resident bacteria (normal flora). Harsh soaps (especially with a high pH) dry the skin by interfering with its water-holding capacity.^{1,5}

4.0 Skin Tear Management and Treatment

4.1 The management or treatment of skin tears varies according to institution, and little has been published regarding preferred treatments for skin tears.

- However, the basic goals of care should be to complete a thorough wound assessment.⁵⁰ To adequately treat wounds, several areas must be addressed: coexisting factors, nutritional support, pain management, local wound conditions, and optimal dressing selection.⁶

4.2 Wound assessment

- Assess skin flap or pedicle, and determine the type of skin tear using the ISTAP Classification (types I, II, III)
- Control bleeding
- Cleanse the wound with normal saline or wound surfactant
- Remove debris and/or necrotic tissue

- Realign pedicle or skin flap (do not remove flap unless necrotic)
- Assess fragility of surrounding skin
- Prevent infection
- Control pain
- Promote healing and patient comfort with appropriate dressing selection
- Tetanus immunoglobulin, administered depending on institution protocol⁵¹

Note: Tetanus is an acute, often fatal disease caused by wound contamination with *Clostridium tetani*. Human tetanus immunoglobulin (TIG) neutralizes circulating tetanospasmin and toxin in the wound, but not toxin that is already fixed in the nervous system. It should be given according to individual institutional policy, to individuals with interruption of the skin integrity by a nonsurgical mechanism who have not received a tetanus toxoid inoculation in the past 10 years. The TIG should be given before wound debridement because exotoxin may be released during wound manipulation.⁵¹

• 4.3 Dressing selection

- Many types of skin and wound care products are used to promote a healing environment. Actual product selection will be dependent on the wound assessment.
- Choose a dressing that will^{3,5,6,32,33}:
 - maintain a moist wound healing versus a dry dressing (method of choice),
 - be appropriate in accordance to the local wound environment,
 - protect the periwound skin,
 - control or manage exudate,
 - control or manage infection,
 - optimize caregiver time.
- Best practice supports that a skin flap/pedicle should be approximated if possible and covered with 1 of the following type of dressings: hydrogel, alginate, lipido-colloid-based mesh, foam dressings, soft silicone, absorbent clear acrylic dressing, or nonadherent impregnated gauze mesh dressing applied depending on wound bed characteristics¹ (Table 4).
- Hydrocolloids and transparent film dressings are not recommended over skin tears, as they may cause skin stripping and injury to the healing skin tear if not removed properly.⁵²

SUMMARY

This tool kit for healthcare professionals provides ways to implement effective skin tear prevention, assessment, and treatment practices through an interprofessional approach to care. The document includes an implementation guide with tools and resources. The tools and resources are designed to be used in multiple healthcare settings and by all levels of staff and caregivers.

PRACTICE PEARLS

- Skin tears are acute wounds that have a high risk of becoming complex chronic wounds.
- Skin tears have been reported in the literature to have prevalence rates equal to or greater than those of pressure ulcers.
- Although commonly associated with the older adult population, skin tears are also common in the critically ill, pediatric, and premature neonatal population.
- A comprehensive risk assessment should include assessment of the individual's general health (chronic/critical disease, polypharmacy, cognitive, sensory, visual, auditory, and nutritional status), mobility (history of falls, impaired mobility, dependent activities, and mechanical trauma), and skin (extremes of age, fragile skin, and previous skin tears).
- The ISTAP Skin Tear Classification system should be utilized to ensure a common language for identifying and documenting skin tears.

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GLOSSARY OF TERMS

Circle of care: includes that the healthcare professionals work as part of an interprofessional team, rendering care to a particular individual, and may collect, use, or share information with each other about that individual on the basis of assumed implied consent. Importantly, 6 conditions must be met before a health information custodian, including those participating in interprofessional collaboration may assume an individual's implied consent to collect, use, or disclose personal health information.

1. The person must fall within a category of health information custodians entitled to rely on assumed implied consent.
2. The personal health information must have been received from the individual, his/her substitute decision-maker, or another health information custodian.
3. The health information custodian must have received the personal health information for the purpose of providing or assisting in the healthcare of the individual.
4. The purpose of collecting, using, or sharing the personal health information must be for providing or assisting in the healthcare of the individual.
5. The disclosure of personal health information by a health information custodian must be to another health information custodian.
6. The health information custodian receiving information must not be aware that the individual has expressly withheld or withdrawn his or her consent.

Delphi method: The Delphi method is a structured communication technique, originally developed as a systematic, interactive forecasting method, which relies on a panel of experts¹

Dermis: lower or inner layer of the main 2 layers of cells that make up the skin. Consists of a bed of vascular connective tissue and contains nerves, organs of sensation, hair roots, and sebaceous and sweat glands^{1,34}

Epidermis: outermost layer of the skin^{1,34}

Extremes of age: the very young to older adults¹

Extrinsic: from the outside of a body or organ¹

Friction: the resistance to motion in a parallel direction relative to the common boundary of 2 surfaces; eg, when skin is dragged across a coarse surface, such as bed linens³⁴

Full-thickness skin loss: ulceration that extends through the dermis to involve subcutaneous tissue¹

Healed: restoration of tissue/skin integrity after insult¹

Infection: the presence of bacteria or other microorganisms in sufficient quantity to overwhelm the tissue defenses and produce inflammatory signs of infection, eg, purulent exudates, erythema, odor, warmth, pain, fever, and elevated white blood cells³⁴

Interprofessional: collaborative efforts of physicians, nurses, therapists, and all other healthcare providers¹

Intrinsic: coming from within¹

Ischemia: inadequate tissue perfusion as evidenced by pale, dusky, or darkened tissue¹

ISTAP: International Skin Tear Advisory Panel¹

Laceration: a torn or jagged tear of the skin; often used to describe a skin tear¹

Partial-thickness skin loss: skin damage that involves the epidermis and can penetrate into but not through the dermis¹

Pressure ulcer: localized injury to the skin and/or underlying tissue over a bony prominence, as a result of pressure, or in combination with friction or shear¹

Responsible bathing: bathing should be based on individual need and preference, should be performed with either soapless products or pH-balanced soaps, involves limiting baths: showering instead with warm, not hot, water and includes the application of hypoallergenic moisturizers after showering while skin is still damp but not wet⁴

Risk assessment: an assessment to determine which, if any, risk factors are present that might contribute to the development of a skin tear¹

STRENGTH OF EVIDENCE

Level A: consistent randomized controlled clinical trial, cohort study, clinical decision rule validated in different populations

Level B: consistent retrospective cohort, exploratory cohort, ecological study, outcomes research, case-control study, or extrapolations from level A studies

Level C: case-series study or extrapolations from level B studies

Level D: expert opinion without explicit critical appraisal or based on physiology, bench research, or first principles

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