International Skin Tear Advisory Panel: Evidence Based Prediction, Prevention, Assessment, and Management of Skin Tears

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Until recently skin tears were an under appreciated wound with very little attention or research directed towards this particular wound etiology. The International Skin Tear Advisory Panel defines skin tears 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 the elderly. However, the neonate and pediatric population are also at risk for skin tears. Skin Tears are frequently under-reported. Skin tears 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 co-morbidities. [1,3,4]

Health-care 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 gold standard developed for their management. While the prevention of skin tears is the primary focus, health-care 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 non-adherent dressings we can save patients undue pain and suffering. [1,5]

In order to diminish the impact of skin tears on our health care systems it is imperative that a systematic prevention program be implemented. The International Skin Tear Advisory Panel 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 professional, and on expert opinion. It has under gone an extensive peer review process in the form of a modified Dephi 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)
- Prevalence Study Data Collection Sheet (Figure 2)
- Pathway to Assessment/Treatment of Skin Tears (Figure 3)
- Skin Tear Decision Algorithm (Figure 4)
- Drugs Associated with Risk of Falls (Table 1)
- Quick Reference Guide for the ISTAP Risk Reduction Program (Table 2)
- Skin Tear Product Selection Guide (Table 3)

Goals and Objective

The goal of the ISTAP Skin Tear Tool Kit is to provide a foundation to assist and guide individuals, their circle of care, and health care 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 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. The purpose of this document is to disseminate the globally agreed ISTAP Skin Tear Tool Kit and to generate further research on this topic.

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

Summary

This toolkit for health care 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 level of staff and caregivers.

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Figure 1.

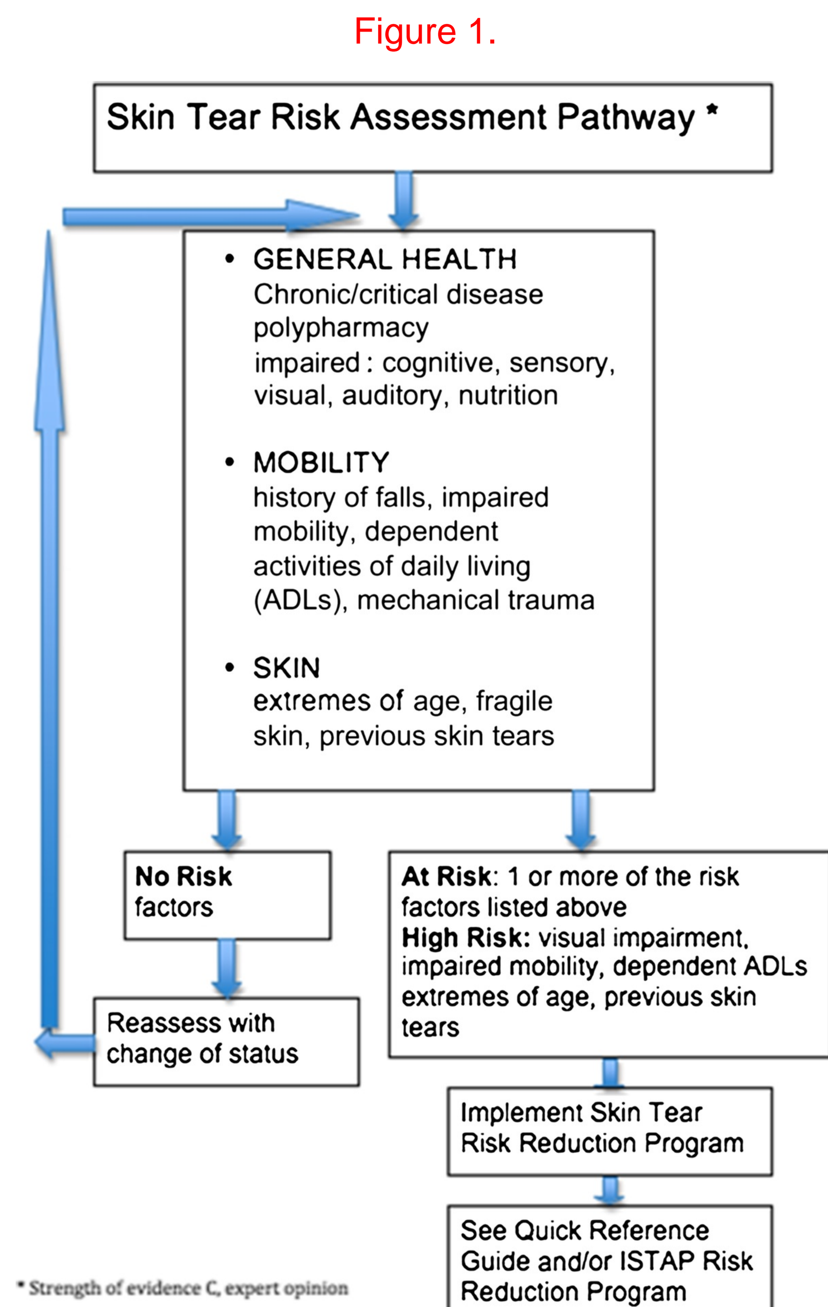

Figure 2.

PREVALENCE STUDY DATA COLLECTION SHEET

Patient Identifier:________________________

Unit/Floor:________________________

Type of care facility:________________________

Sex: 1: Male 2: Female (circle one)

Age ____________

Skin Tear	Skin Tear Type (place number 1–3 in box below)	Anatomical Location of Skin Tear (place number 1–10 in box below)	Extrinsic Cause(s) (place number 1–7 in box below) (list all causes that apply)	Intrinsic Cause(s) (place number 1–12 in box below) (list all causes that apply)	Where Did Skin Tear Occur? (place number 1–11 in box below)	Facility Acquired? (circle yes or no below)
A						Yes No
B						Yes No
C						Yes No
D						Yes No

ISTAP Skin Tear Classification

Type 1: No Skin Loss — Linear or Flap Tear which can be repositioned to cover the wound bed

Type 2: Partial Flap Loss — Partial Flap loss which cannot be repositioned to cover the wound bed

Type 3: Total flap loss — Total Flap loss exposing entire wound bed

ISTAP

Anatomical Location of Skin Tear:
1. Hands
2. Arms
3. Legs (include pre-tibial, ankle)
4. Feet
5. Head / Face
6. Abdomen
7. Buttocks / Hip
8. Chest
9. Perineum
10. Back
11. Chest

Extrinsic Causes:
1. During ADLs
2. Blunt Force Trauma
3. Fall
4. Adhesive (dressing and tape) injury
5. Resisting care / Agitation
6. Unknown
7. Other: ________

Intrinsic Causes:
1. Senile Purpura
2. Ecchymosis
3. Hematoma
4. Presence of Edema
5. Inability to reposition independently
6. Topical steroid use
7. Systemic steroid use
8. Anticoagulants /Antiplatelet
9. Chemotherapy Agents
10. Co-existing Pressure Ulcer
11. Incontinence (urine, stool)
12. None of the above

Where Did Skin Tear Occur?
1. Critical Care
2. Emergency Department
3. Medicine
4. Surgery
5. Operating Room
6. Long Term Care
7. Community
8. Rehab
9. Palliative Care
10. Unknown
11. Other: ________

Figure 4.

SKIN TEAR DECISION ALGORITHM

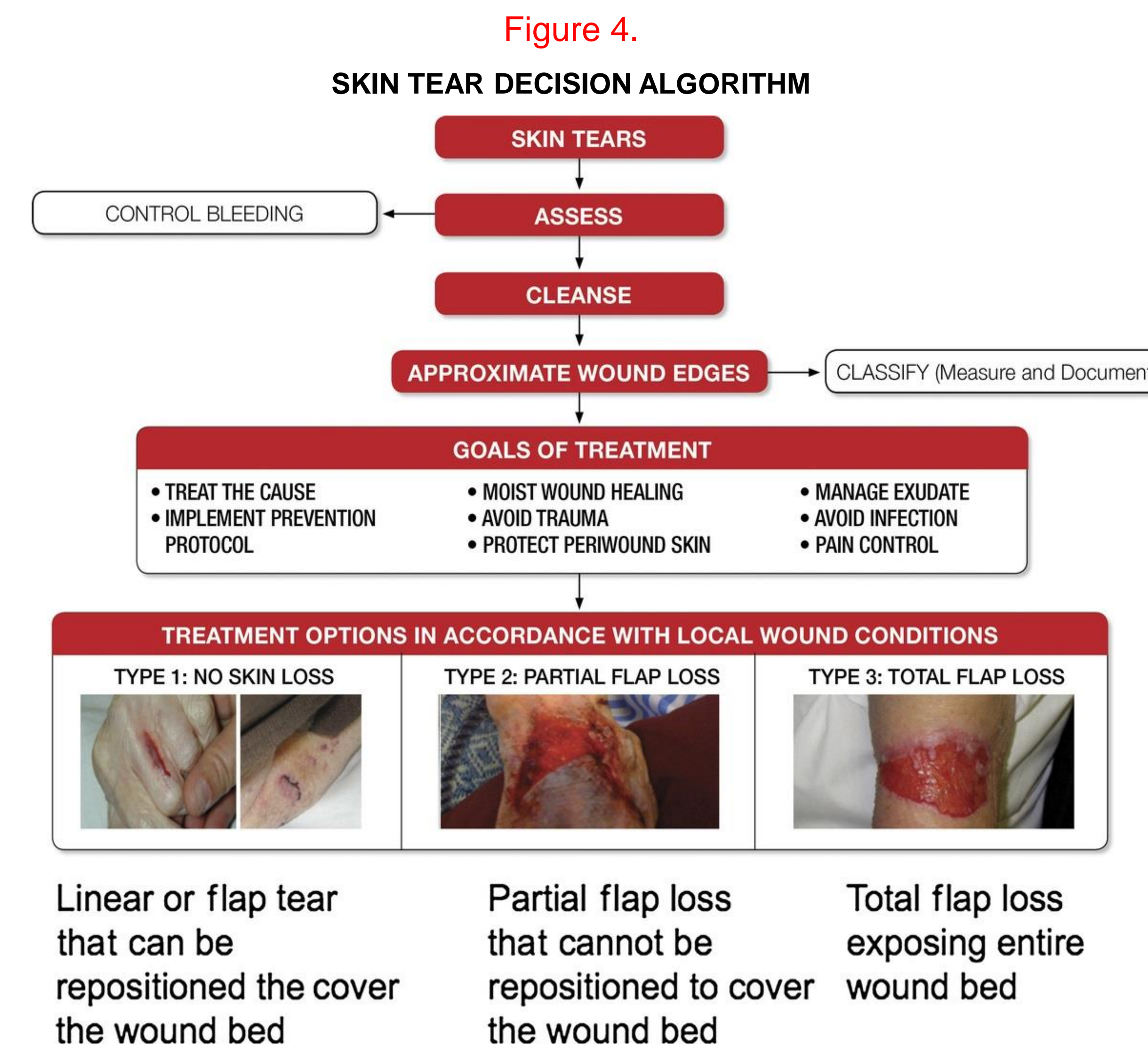

Table 3.

SKIN TEAR PRODUCT SELECTION GUIDE

Product - Avoid Adhesives	Indications	Considerations for Use
Lipidocolloid Mesh (carboxymethylcellulose [CMC] + petrolatum) minimal skin shear	Dry or *exudative* wound (with secondary absorptive dressing)	Maintains moisture balance for variable amounts of wound *exudate, atraumatic* removal
Silicone mesh adherence to skin with low skin shear	Dry or *exudative* wound (with secondary absorptive dressing)	Maintains moisture balance for variable amounts of wound exudate, 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 *exudate*	Potential for *periwound* maceration and for skin stripping on removal
Hydrogel (70%–90% H_2O) available in gel and sheet form	Donates moisture for dry wounds	May result in *periwound* maceration, excellent for autolytic debridement
Calcium alginates: Available in rope and sheet	*Hemostatic* and *autolytic* debridement properties + moisture balance, requires moderate to high *exudate*	Biodegradable
Hydrofiber: (CMC)	Mild to moderate *exudate*, minimal *autolytic* debridement	Nonbiodegradable, no *hemostatic* properties
Acrylic dressing: conformable acrylic pad enclosed between 2 film layers	Mild to moderate *exudate* 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

Key Points:

- 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.

Table 3.

DRUGS ASSOCIATED WITH RISK OF FALLS

HIGH-RISK DRUGS ASSOCIATED WITH FALLS	
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 *must* 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.

Figure 3.

PATHWAY TO ASSESSMENT/TREATMENT OF SKIN TEARS

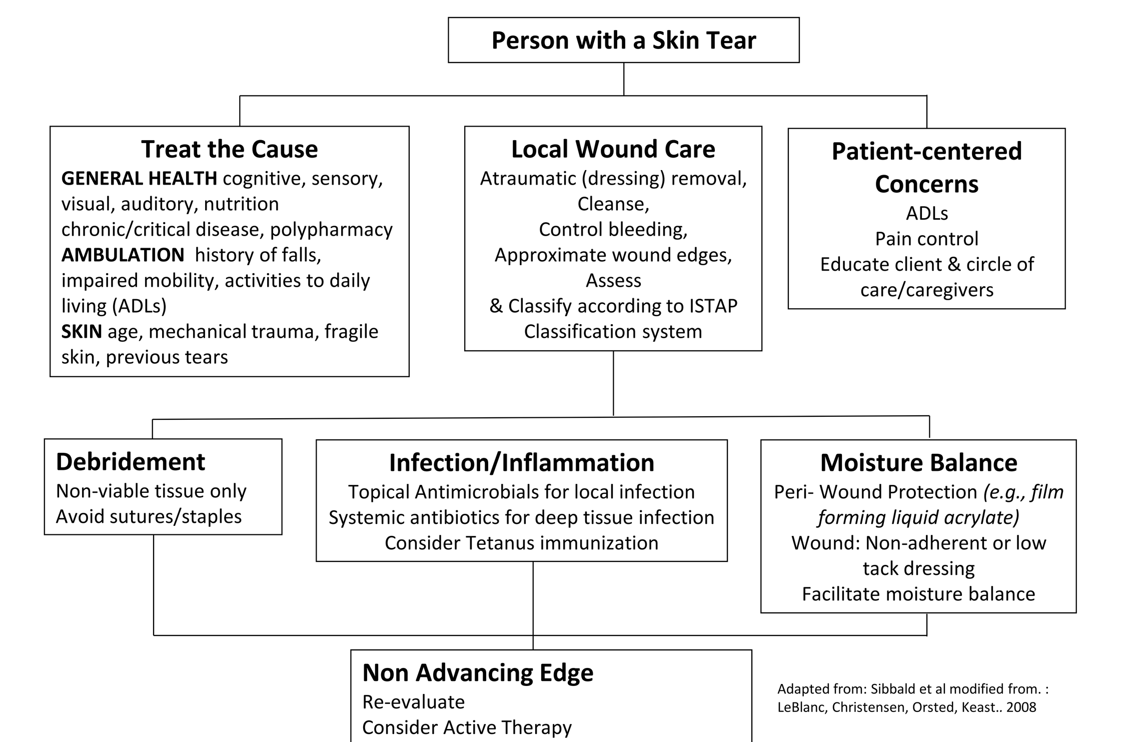

Table 2.

QUICK REFERENCE GUIDE FOR THE ISTAP RISK REDUCTION PROGRAM

Risk Factor	Individual	Caregiver/Provider
General health	• Educate patient on skin tear prevention and promote active involvement in treatment decisions (if cognitive function not impaired) • Optimize nutrition and hydration	• 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/m^2) • Review polypharmacy for medication reduction/optimization
Mobility	• Encourage active involvement if physical function not impaired • Appropriate selection and use of assistive devices	• 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	• 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	• 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
- 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)

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