

BEST PRACTICE DOCUMENT 2018

ISTAP BEST PRACTICE RECOMMENDATIONS

**BEST PRACTICE RECOMMENDATIONS FOR  
THE PREVENTION AND MANAGEMENT  
OF SKIN TEARS IN AGED SKIN**

Recommendations from an expert working group

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## FOREWORD

Skin tears are a significant problem for patients and the healthcare practitioners (HCPs) who treat them. They can be painful wounds, affecting quality of life and causing distress to the patient. Skin tears may increase the likelihood of hospitalisation, and prolong hospitalisation time. Estimates of their prevalence differ around the world and across care areas, but there is strong evidence to suggest that they actually occur more frequently than pressure injuries (Carville et al, 2014; LeBlanc et al, 2016).

In spite of this, over the past few years, there has been an increased focus and research into skin tears, with the International Skin Tear Advisory Panel (ISTAP) identifying key knowledge gaps and areas of common misperception amongst clinicians, in order to improve interventions and clinical outcomes.

ISTAP convened a group of experts from Europe, North America, South America, Asia, Africa and Australia, who met in November 2017 to provide internationally recognised recommendations for the prevention and management of skin tears, with updated definitions and terminology.

Skin tears occur across varied patient groups; patients with aged and fragile skin are at increased risk of skin tears, and the ageing of the worldwide population means that incidence is increasing. However the expert group focused specifically on the issue of skin tears in aged skin, as the majority of research is focused in this area and it was highlighted that further research in other patient groups is still required.

Following the meeting, a draft document was produced, which underwent extensive review by the expert working group. Additional international experts were also consulted to reflect practice across different parts of the world. This culminated in a consensus by all members of the extended expert working group on all statements presented in the document.

This document should provide HCPs with the information and resources they need to assess, classify, treat (and prevent) skin tears in practice with confidence.

**Kimberley LeBlanc and Karen Campbell (ISTAP and expert group co-chairs)**

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# What is a skin tear?



## DEFINITIONS AND TERMINOLOGY

The updated 2018 ISTAP definition of a skin tear:

**"A skin tear is a traumatic wound caused by mechanical forces, including removal of adhesives. Severity may vary by depth (not extending through the subcutaneous layer)"**

Skin tears are often under-recognised and misdiagnosed in clinical practice. In order for skin tears to receive optimal treatment, accurate identification and classification are essential; therefore, an accurate definition of skin tears is a crucial starting point (LeBlanc and Baranoski, 2011).

Currently, there is often confusion in terminology, thus a need exists for standardisation of terms and definitions. In practice, skin tears are often referred to under the general terms of 'laceration' or 'cutaneous laceration'. However, a skin tear is a specific injury that is very different from a general laceration (which is defined by soft tissue tearing).

The current version of the World Health Organization's International Classification of Diseases (ICD system, in use since 1994) contains coding for some specific wound aetiologies such as decubitus ulcers/pressure injuries, and abrasions, and a dermatology section for terminology relating to skin conditions, but does not contain separate coding for skin tears (WHO, 2010). Rayner et al (2015) suggest that the lack of coding contributes to skin tears being perceived as insignificant injuries, and to these injuries frequently being poorly reported.

ISTAP recommends that skin tears be recognised as a unique and complex wound aetiology, distinct from other wound types. They must be included in the ICD and differentiated from other wound types (LeBlanc and Baranoski, 2011). This is because the use of consistent terminology for skin tears will facilitate research and improve prevention and management practices through education for healthcare providers. As well as facilitating better care, increased recognition will also have an impact on research and policy; in some countries, it will also increase rights for prescription of certain dressings (and subsequent reimbursement).

While skin tears have always existed, they were first defined by Payne and Martin in 1993 as traumatic injuries that can result in partial or full separation of the skin's outer layers — the separation of the epidermis from the dermis (partial thickness wound), or both the epidermis and dermis from the underlying structures (full thickness wound) (Payne and Martin, 1993; Stephen Haynes and Carville, 2011).

It is also key to consider the aetiology of injury – e.g. how a skin tear differs in definition from a pressure ulcer/injury or from medical adhesive-related skin injury (MARS) (Wounds UK, 2017).

Skin tears are traumatic wounds that may result from a variety of mechanical forces such as shearing or frictional forces, including blunt trauma, falls, poor handling, equipment injury or removal of adherent dressings. In already fragile or vulnerable skin (e.g. in aged or very young skin), less force is required to cause a traumatic injury, meaning that incidence of skin tears is often increased.

Skin tears can occur on any part of the body but are often sustained on the extremities such as upper and lower limbs or the dorsal aspect of the hands (LeBlanc and Baranoski, 2011).

### BOX 1 | What are skin tears? (Adapted from Wounds International, 2017)

- Skin tears are initially wounds of an acute nature caused by mechanical forces such as shear, friction or trauma, resulting in separation of the skin layers
- Skin tears are an adverse event that should be reported whenever it compromises the safety of the patient, and in many countries skin tears must always be reported (LeBlanc, 2017)
- Skin tears can be full thickness (through the hypodermis to the fascia) or partial thickness (through the epidermis or dermis) and can occur anywhere on the body – most commonly seen on the hands, arms and lower extremities, with up to 70–80% of skin tears occurring on the hands and arms
- Skin tears can be considered to be uncomplicated (heal within 4 weeks) or complicated (complex/chronic)
- It is estimated that prevalence of skin tears may be underreported and in fact be greater than pressure ulcers/injuries – to date, prevalence data and the associated cost to patients and healthcare systems is not fully known
- The ageing population translates into recognition that the incidence of skin tears is increasing (elderly patients have fragile skin and are at increased risk)
- Skin tears can be painful and distressing for the patient and their relatives
- Skin tears may increase the length of hospitalisation (particularly if related to the lower extremities and involving underlying pathology), increase health costs and have an impact on quality of life (LeBlanc et al, 2014; Rayner et al, 2015; Carville et al, 2007; Clothier, 2014).

Skin tears can be further defined as ‘uncomplicated’ or ‘complicated’. An uncomplicated skin tear is an acute wound that will go on to heal within approximately 4 weeks. A complicated skin tear is more complex, particularly on the lower extremities and/or in patients with multiple comorbidities; if it does not heal within 4 weeks, it becomes a chronic wound that can be defined as complicated.

#### THE SCALE OF THE PROBLEM

There are limited incidence studies in the current literature on skin tears, and reported prevalence estimates vary. An early study suggested that more than 1.9 million institutionalised adults develop a skin tear each year in the United States (Malone et al, 1991).

Estimates of skin tear prevalence vary across different care settings:

- In long-term care: **2.23–92%**, although estimates vary and may be lower (Strazzieri et al, 2017; LeBlanc, 2017; LeBlanc et al, 2013; Sanada et al, 2015; Skiveren et al, 2017; Woo et al, 2015)
- In the community: **4.5–19.5%** in known wounds in all age groups (Carville and Lewin, 1998; LeBlanc et al, 2008)
- In acute care: **6.2–11.1%** (Chang et al, 2016; Hsu and Chang, 2010; McErlean, 2004; Santamaria et al, 2009)
- In palliative care: **3.3–14.3%** (Amaral et al, 2012; Maida et al, 2012)
- In intensive care and operative theatres: prevalence is unknown.

As skin tears are frequently underreported or misdiagnosed, the full extent of the practical and financial burden to healthcare systems is not fully known. In addition, skin tears are often preventable wounds that create avoidable costs, particularly when classified as a complicated skin tear, and/or in patients with multiple comorbidities. Collection of prevalence data is an area of key importance, which should be focused on for future study.

# Risk factors and causes

The populations at the highest risk of skin tears – particularly older patients with vulnerable, aged skin – are also at the highest risk of developing infections and comorbidities, which can cause skin tears to be significant and often complex wounds (Wounds UK, 2015). Skin and tissue ageing is associated with structural and functional changes, increasing susceptibility to skin tear development. In aged skin, wounds take longer to heal and are associated with increased risk for deterioration (Moncrieff et al, 2015).

## INTRINSIC RISK FACTORS

The normal ageing process causes changes in the skin that make it more fragile and therefore more vulnerable to damage, including skin tears (Figure 1 and Figure 2). With a reduced ability of the skin to regenerate and a less efficient protective immune system, older patients are at an increased risk of skin breakdown from even minor force or trauma (Voegeli, 2007). It is therefore vital that care of the older person's skin is seen as a priority for all HCPs.

The changes to the skin associated with ageing include (Moncrieff et al, 2015):

- Thinning of the epidermis and flattening of the epidermal junction
- Loss of collagen, elastin and glycosaminoglycans
- Atrophy and contraction of the dermis (causing appearance of wrinkles and folds)
- Decreased activity of sweat glands and sebaceous glands, causing the skin to dry out
- Thinning of blood vessel walls and a reduction of blood supply to the extremities (Wounds UK, 2012)
- Increased dermal LEP (low-echogenic pixels), including solar elastosis, may represent a risk factor for skin tears; this indicates that skin tear risk factors might not only represent chronological ageing but also photoageing (Koyano et al, 2016).

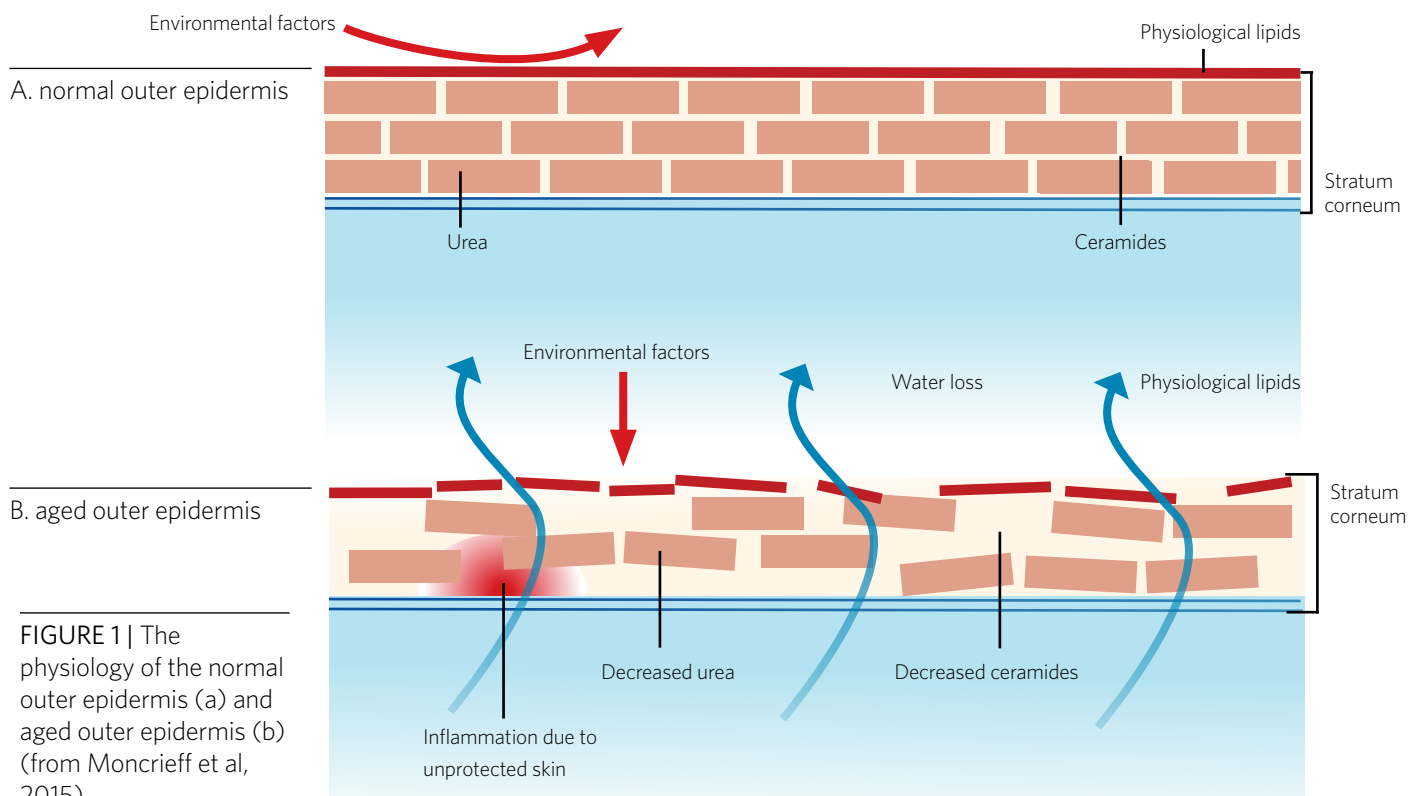
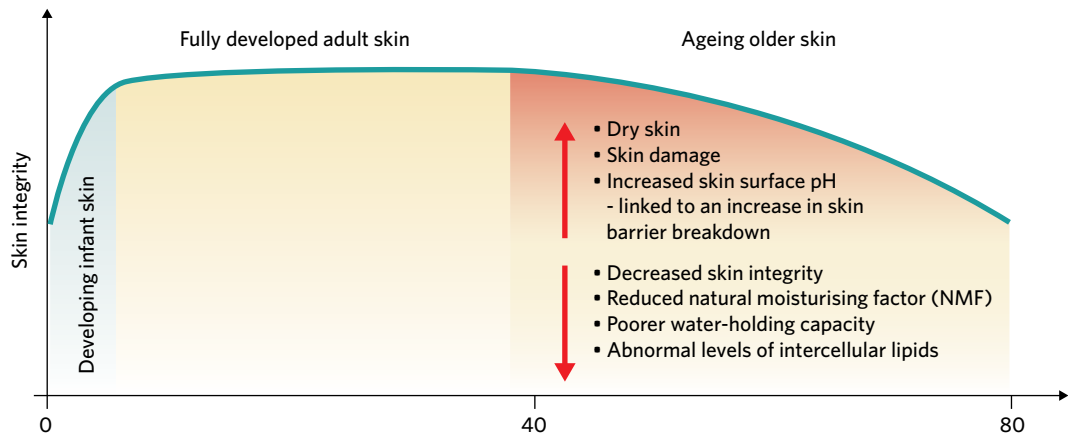


FIGURE 1 | The physiology of the normal outer epidermis (a) and aged outer epidermis (b) (from Moncrieff et al, 2015)

FIGURE 2 | Changes in the epidermis as it ages (from Moncrieff et al, 2015)



**EXTRINSIC RISK FACTORS**

Patients who require assistance with activities of daily living – such as mobility, washing, dressing – are at increased risk of skin tears due to handling and force or trauma (Wounds UK, 2015). These extrinsic, or environmental, risk factors may be combined with the intrinsic risks of aged skin detailed above.

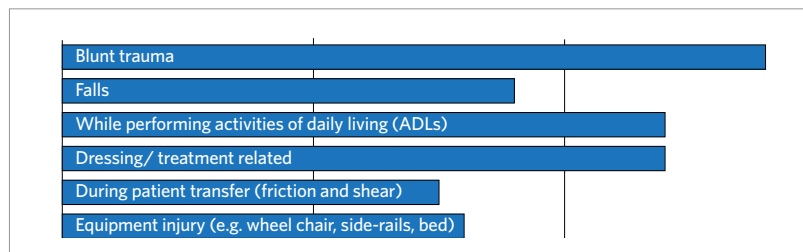
When caring for patients with vulnerable skin, therefore, it is possible to minimise extrinsic risk, by taking measures such as:

- Keeping fingernails trimmed and not wearing jewellery
- Padding and/or removing any potentially dangerous furniture or devices (e.g. bed rails and wheelchairs)
- Covering skin with appropriate clothing, shin guards or retention bandages/stockinette in vulnerable patients
- Protecting the skin's general integrity by using skin-friendly (pH balanced) products and preventative emollients (Wounds UK, 2015; Carville et al, 2014).

**CAUSES**

While generally caused by a combination of the intrinsic and extrinsic risk factors detailed above, it is important to establish the exact cause of the wound for identification and documentation purposes. Causes can vary (Figure 3) and are often undocumented on presentation, with almost half of skin tears found without any apparent cause (LeBlanc et al, 2013).

FIGURE 3 | Range of causes of skin tears\* (from LeBlanc et al, 2013)



\* note that almost half of skin tears are found without any apparent documented cause

**EARLY RECOGNITION OF PEOPLE WHO ARE AT RISK AND MINIMISING RISK**

Early recognition of people who are at risk of developing skin tears is an essential part of prevention. Identifying those patients at risk of skin tear development is vital to minimising incidence of avoidable skin tears. Determining those at risk also aids appropriate allocation of resources.

A full holistic skin assessment should be conducted at the first visit or on admission to the clinical setting, and ongoing inspection of the skin should be incorporated into an integrated and

documented daily care regimen, to ensure changes in patients' health status/skin integrity are identified (Wounds UK, 2015).

The Skin Tear Framework (Figure 4) outlines the considerations that need to be made in assessing patient risk.

ISTAP recommends an inter-disciplinary team approach to the implementation of a systematic skin tear prevention programme. This is based on three risk factor categories:

1. Skin
2. Mobility
3. General health (LeBlanc et al, 2013).

FIGURE 4 | Skin Tear Framework (LeBlanc, 2017)

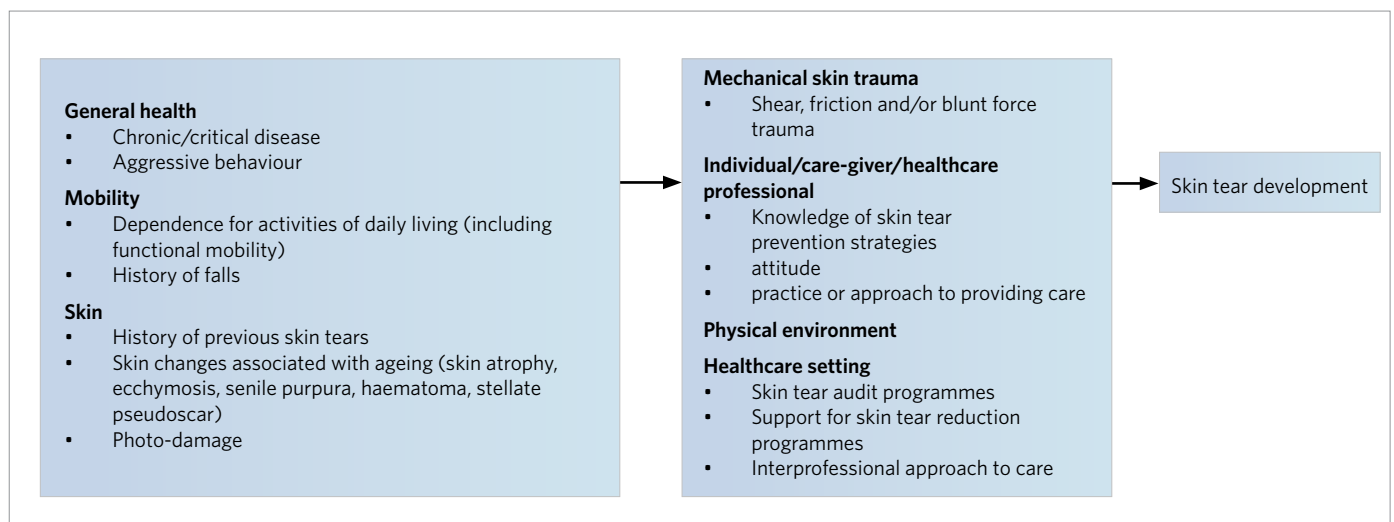
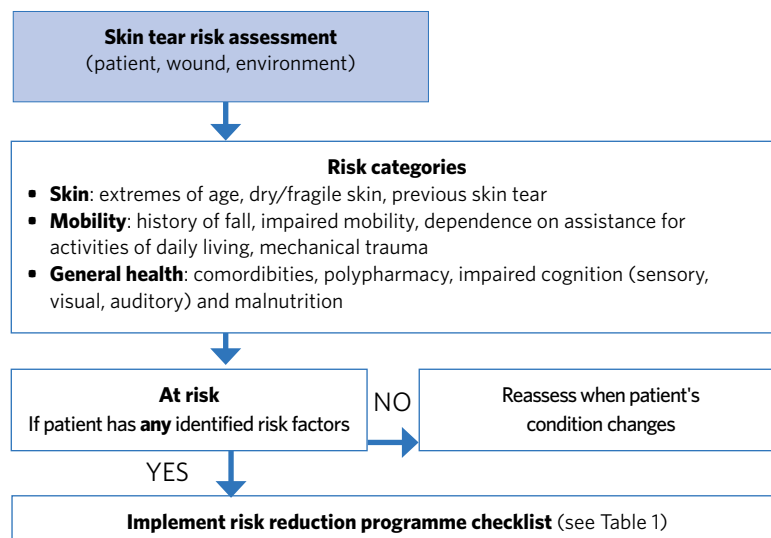


FIGURE 5 | Skin tear risk assessment protocol (adapted from LeBlanc et al, 2013)





The ISTAP skin tear risk assessment protocol should be used (Figure 5). If a patient is deemed to be at risk, the risk reduction programme checklist (Table 1) should be implemented.

Table 1. Risk reduction programme checklist (adapted from LeBlanc and Baranoski, 2011)	
RISK FACTOR	ACTION
Skin	<input type="checkbox"/> Inspect skin and investigate previous history of skin tears <input type="checkbox"/> If patient has dry, fragile, vulnerable skin, assess risk of accidental trauma <input type="checkbox"/> Manage dry skin and use emollient to rehydrate limbs as required <input type="checkbox"/> Implement an individualised skin care plan using a skin-friendly cleanser (not traditional soap) and warm (not hot) water <input type="checkbox"/> Prevent skin trauma from adhesives, dressings and tapes (use silicone tape and cohesive retention bandages) <input type="checkbox"/> Consider medications that may directly affect skin (e.g. topical and systemic steroids) <input type="checkbox"/> Be aware of increased risk due to extremes of age <input type="checkbox"/> Discuss use of protective clothing (e.g. shin guards, long sleeves or retention bandages) <input type="checkbox"/> Avoid sharp fingernails or jewellery in patient contact
Mobility	<input type="checkbox"/> Encourage active involvement/exercises if physical function is impaired <input type="checkbox"/> Avoid friction and shearing (e.g. use glide sheets, hoists), using good manual handling techniques as per local guidelines <input type="checkbox"/> Conduct falls risk assessment <input type="checkbox"/> Ensure that sensible/comfortable shoes are worn <input type="checkbox"/> Apply clothing and compression garments carefully <input type="checkbox"/> Ensure a safe environment — adequate lighting, removing obstacles <input type="checkbox"/> Use padding for equipment (as per local policy) and furniture <input type="checkbox"/> Assess potential skin damage from pets
General health	<input type="checkbox"/> Educate patient and carers on skin tear risk and prevention <input type="checkbox"/> Actively involve the patient/carer in care decisions where appropriate <input type="checkbox"/> Optimise nutrition and hydration, referring to dietician if necessary <input type="checkbox"/> Refer to appropriate specialist if impaired sensory perception is problematic (e.g. diabetes) <input type="checkbox"/> Consider possible effects of medications and polypharmacy on the patient's skin

# Identification and assessment

## PRESENTATION AND IDENTIFICATION

Identifying skin tears accurately from first presentation onwards is vital to optimising management and in order to trigger the appropriate care pathways. Currently, there are issues in correct identification, causing skin tears to be underreported, misdiagnosed and, frequently as a result, mismanaged.

A descriptive, cross-sectional, online international survey was undertaken in 2010 to explore current practices in the assessment, prediction, prevention, and treatment of skin tears, involving 1127 HCPs from 16 countries (LeBlanc et al, 2014).

The survey results found significant problems with the current classification systems, including:

- 70% of respondents reported a problem with current assessment and documentation of skin tears in their practice settings
- 90% favoured a simplified method for documenting and assessing skin tears
- 81% admitted to not using any tool or classification system for assessing and documenting skin tears
- 40% admitted to ignoring and not documenting anything for these wounds.

It is apparent that skin tears need to be correctly identified on presentation and fully documented, in order to set appropriate treatment goals and optimise management.

## COMPREHENSIVE ASSESSMENT OF PATIENT AND WOUND

When a patient presents with a skin tear, the initial assessment should include a full, comprehensive assessment of the patient as well as the wound. It is also important to establish the cause of the injury.

The wound should be examined for the following factors and documented as part of a formal wound assessment:

- Cause of the wound
- Anatomical location and duration of injury
- Dimensions (length, width, depth)
- Wound bed characteristics and percentage of viable/non-viable tissue
- Type and amount of exudate
- Presence of bleeding or haematoma
- Integrity of surrounding skin
- Signs and symptoms of infection
- Associated pain (Stephen-Haynes and Carville, 2011).

Holistic assessment of the patient is also vital, as their skin integrity and general health status are important to ongoing management. This should include factors such as:

- The patient's medical history
- Past history of skin tears
- General health status and comorbidities
- Medications and polypharmacy issues
- Mental health issues
- Psychosocial and quality of life factors
- Mobility/dependence on assistance for daily living activities
- Nutrition and hydration (adapted from Wounds UK, 2015).

## CLASSIFICATION

Classification tools are currently available for HCPs to use when assessing a patient who has sustained a skin tear. However, there is a need for simplification and standardisation of the classification system in skin tears.

Originally, the Payne-Martin classification system (Payne and Martin, 1993) was developed as a means of grading skin tears by the extent of tissue loss, measured as a percentage. This system is still in use, but defining percentages for tissue loss in practice can be difficult. Additionally, this scale has never been validated.

The validated STAR classification system (Carville et al, 2007) is also in use, particularly in Australia and Japan. This system was developed as a modified version of the Payne-Martin scale, additionally including colour distinction (i.e. whether the skin is pale, dusky or darkened). The STAR system has been validated by 63 nurses and is used in research, however it has not been widely used on a global level. There has been suggestion that some potential confusion exists due to overlapping of the categories (LeBlanc et al, 2013).

A systematic, standardised and validated approach is required, and as such the ISTAP classification system (LeBlanc et al, 2013) is recommended for use. The ISTAP system was developed using a Delphi process and validated by 839 HCPs in practice, and continues to be validated presently in Chile and Brazil. The ISTAP system uses a simple method to classify skin tears, categorising them as either Type 1, Type 2 or Type 3 (Figure 6).

### ***Type 1 skin tear — No skin loss***

Linear or flap tear where the skin flap can be repositioned to cover the wound bed.

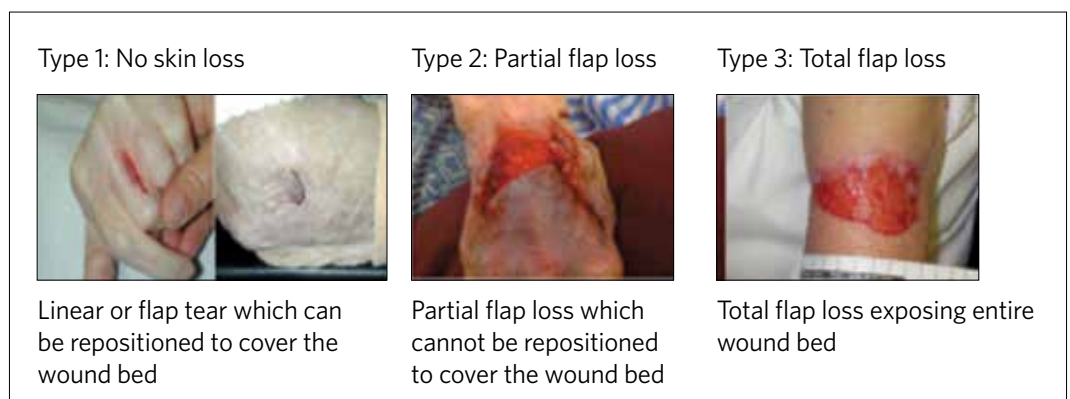
### ***Type 2 skin tear — Partial flap loss***

The skin flap cannot be repositioned to cover the whole of the wound bed.

### ***Type 3 skin tear — Total flap loss***

Total skin flap loss that exposes the entire wound bed.

FIGURE 6 | ISTAP Skin Tear Classification

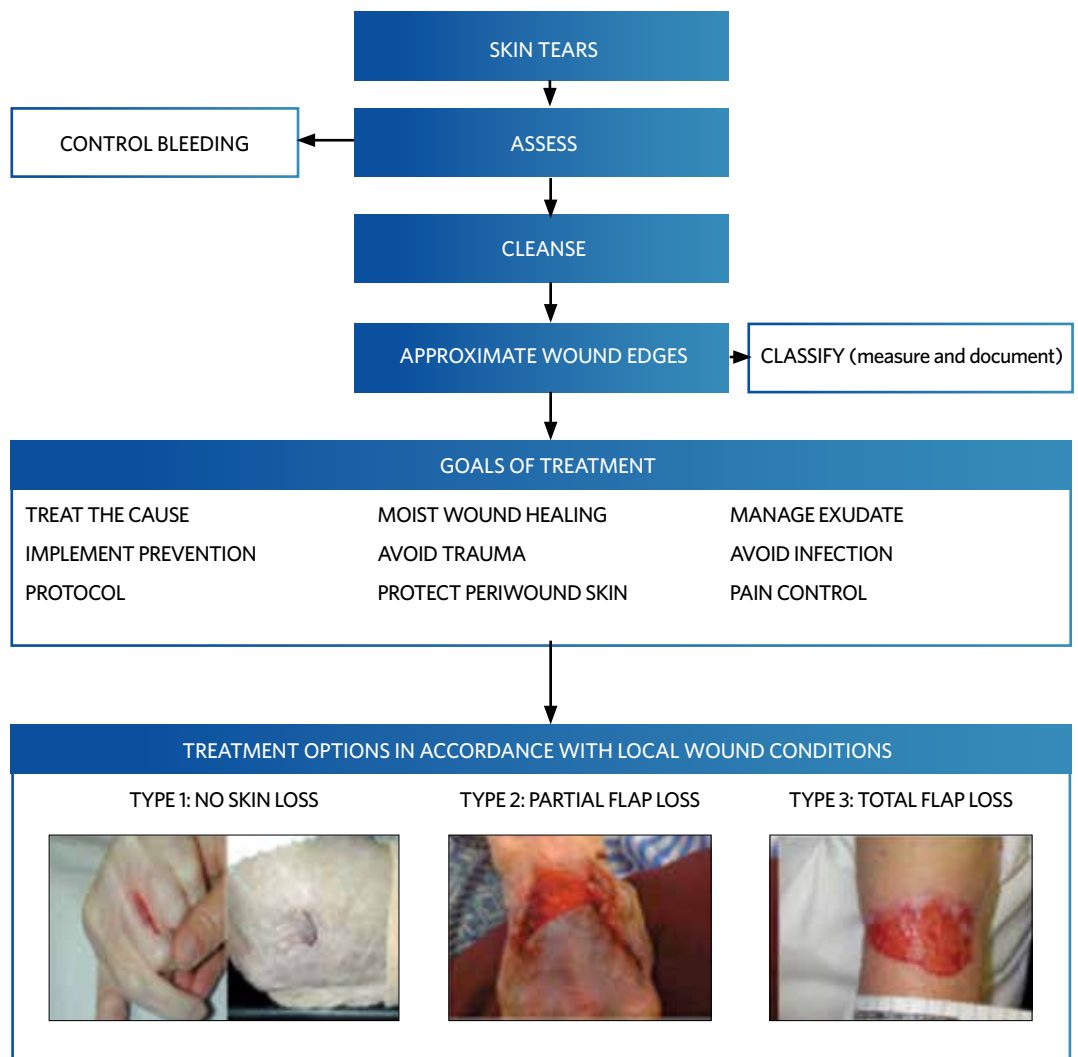


# Management of skin tears

Skin tears are acute wounds that have the potential to be closed by primary intention. Traditionally, wounds closed by primary intention are secured with sutures, staples or adhesive strips; however, given the fragility of aged skin and that skin tears are generally not deep, these are not viable options, and other methods are required (e.g. topical skin glue).

Where possible, treatment of skin tears should aim to preserve the skin flap and maintain the surrounding tissue, re-approximate the edges of the wound (without stretching the skin), and reduce the risk of infection and further injury while considering any comorbidities (Wounds UK, 2015). Starting the appropriate treatment as soon as possible improves patient outcomes, therefore patients and caregivers should be educated to perform first aid when a skin tear occurs, in order to preserve the viability of the skin flap where possible.

FIGURE 7 | Skin tear decision algorithm (LeBlanc et al, 2013)



The skin tear decision algorithm (Figure 7) is designed to help practitioners in the assessment and treatment of skin tears, maintaining a continuous link between prevention, assessment, and treatment.

#### INITIAL TREATMENT GOALS

Using the treatment algorithm detailed in Figure 7, it is important to consider the initial goals of treatment and the necessary steps to take in treating the skin tear.

##### Control bleeding

- Apply pressure and elevate the limb if appropriate.
- When controlling bleeding is the main goal, dressings to assist with haemostasis may be used (also see 'Wound care products for fragile skin' section, p13).

##### Cleanse and debride

- Cleanse/irrigate the wound as per local protocol and remove any residual debris or haematoma; gently pat the surrounding skin dry to avoid further injury.
- If the skin flap is present but necrotic it may need to be debrided; care should be taken during debridement to ensure that viable skin flaps are left intact and fragile skin is protected.
- If viable, re-approximate the skin flap to use as a 'dressing.' Ease the flap back into place using a gloved finger, dampened cotton tip, tweezers or a silicone strip.

##### Manage infection/inflammation

- Wound inflammation from trauma should be distinguished from wound infection.
- Wound infection can result in pain and delayed wound healing; diagnosis of infection should be based on clinical assessment and appropriate infection control measures taken (also see 'Wound care products for fragile skin' section, p13).
- Check tetanus immunisation status and take further steps if necessary.

##### Consider moisture balance/exudate control

- Skin tears tend to be dry wounds, but there may be some circumstances in which exudate is an issue
- Moisture balance is essential to promote wound healing and to protect the peri-wound skin from maceration.
- Observe the volume and viscosity of the exudate when selecting a topical wound dressing (also see 'Wound care products for fragile skin' section, p13).

##### Monitor wound edge/closure

- Skin tears are acute wounds that should typically proceed to closure in a timely fashion and follow an acute wound closure trajectory of 14–21 days.
- Ensure that all potential factors that could delay healing (e.g. diabetes, peripheral oedema, nutritional issues) have been addressed.
- Compression therapy should be considered if the wound is on the lower leg. Before applying compression, a full leg assessment including vascular assessment – e.g. ABPI – should be carried out.

Table 2. Product selection guide (LeBlanc et al, 2016)			
Product Categories	Indications	Skin Tear Type	Considerations
Nonadherent mesh dressings (e.g. 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 (not applicable to silicone border products)
Hydrogels	Donates moisture for dry wounds	2, 3	Maintains moisture balance for multiple levels of wound exudate, atraumatic removal, may need secondary cover dressing
2-Octyl cyanoacrylate topical bandage (skin glue)	To approximate wound edges	1	Use in a similar fashion as sutures within the first 24 h after injury, relatively expensive, medical directive/ protocol may be required
Calcium alginates	Moderate to heavy exudate Haemostatic	1, 2, 3	May dry out wound bed if inadequate exudate, secondary cover dressing required
Gelling fibres	Moderate to heavy exudate	2, 3	No haemostatic 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 minimise risk of further trauma
This product list is not all-inclusive; there may be additional products applicable for the treatment of skin tears			

## BOX 2 | Tips in practice

- Mark the dressing with an arrow to indicate the correct direction of removal and make sure that this is clearly explained in the notes.
- Adhesive removers can be used when removing the dressing to minimise trauma.
- Take time to remove dressings slowly.
- Consider using a skin barrier product to protect the surrounding skin (e.g. to prevent maceration if the wound has high exudate levels).
- Use an emollient to soften and smooth wider skin area and prevent further tears.
- Continue to monitor the wound for changes or signs of infection; if there is no improvement (e.g. after four assessments) or the wound deteriorates, refer to appropriate specialist as per local protocol.

## WOUND CARE PRODUCTS FOR FRAGILE SKIN

When skin tears occur, it is vital that the wound care products chosen will optimise wound healing and not increase the risk of further skin damage. This should include specialist dressings, and products to cleanse and moisturise the skin.

The ideal dressing for managing skin tears should:

- Control bleeding
- Be easy to apply and remove
- Not cause trauma on removal
- Provide a protective anti-shear barrier
- Optimise the physiological healing environment (e.g. moisture, bacterial balance, temperature, pH)
- Be flexible and mould to contours
- Provide secure, but not aggressive, retention
- Afford extended wear time
- Optimise quality of life and cosmetic factors
- Be non-toxic
- Be cost-effective (Carville and Smith, 2004; Wounds International, 2017).

The product selection guide (LeBlanc et al, 2016) was developed based on review of the current wound care product categories available on the global market. Dressings were evaluated for their ability to create a moist wound healing environment, while also protecting fragile skin from further injury. The product review, coupled with literature review findings, was used by the ISTAP group to develop a product selection guide (Table 2). A 3-phase modified-Delphi method was used to reach consensus on the components of the product selection guide.

## OTHER PRODUCTS (NOT LISTED ABOVE)

The following dressings were not included in the original product selection guide (LeBlanc et al, 2016), but have since been included as supporting evidence has come to light.

#### Leptospermum honey dressings

- Johnson and Katzman (2015) reported comparable healing rates using Leptospermum honey-based dressings to those of products on the ISTAP product guide.
- Leptospermum honey acts through osmosis and it is thought that its low pH (3.5–4.5) helps modulate the pH of the wound, contributing to an acidic environment conducive to wound healing (Acton and Dunwoody, 2008; Chaiken, 2010).
- The application of honey provides a supply of physiologically non-toxic hydrogen peroxide to the wound bed, and the osmotic activity of honey pulls interstitial fluid from the wound and promotes autolytic debridement (Amaya, 2015).
- Leptospermum honey dressings are available in various formats, including calcium alginates and hydrogel colloidal sheet dressing.

#### Polyhexamethylene biguanide (PHMB) dressings

- PHMB has been incorporated into a range of wound products including gels, non-adherent contact layers, foams and gauze dressings (Butcher, 2012).
- PHMB was not included into the ISTAP product guide as it did not receive >80% agreement for its use in the management of skin tears. ISTAP hypothesised that this could have been related to lack of familiarity globally of the various forms available (LeBlanc et al, 2016).
- Given that hydrogels, non-adherent contact layers and foams were included on the ISTAP product guide and PHMB is an effective antimicrobial product, HCPs may want to consider its use if they deem it is appropriate for the wound bed conditions.

#### PRODUCTS NOT RECOMMENDED FOR USE IN SKIN TEARS

##### Iodine-based dressings

- Iodine causes drying of the wound and peri-wound skin. The international review group maintained that as a major risk factor for skin tear development is listed to be dry skin, iodine-based products should not be used for the management of skin tears or for those who are deemed at risk for skin tears (LeBlanc et al, 2016).

#### **BOX 3** | Special consideration: peripheral oedema

- Lower leg oedema is well documented to contribute to delayed wound healing, regardless of the wound aetiology (Lindsay and White, 2007).
- When skin tears occur in the lower limb, the risk and cause of potential peripheral oedema should be assessed (LeBlanc et al, 2016; Wounds UK, 2015).



#### Film/hydrocolloid dressings

- Films and hydrocolloids have traditionally been used for partial thickness wounds and as secondary dressings; however, they did not receive 80% agreement and were not included as a result in the ISTAP product guide (LeBlanc et al, 2016).
- Films and hydrocolloid dressings have a strong adhesive component and have been reported to contribute to medical-adhesive related skin tears (McNichol et al, 2013).
- Films and hydrocolloid dressings are not recommended for use in those who have, or are at high risk of, a skin tear.

#### Skin closure strips

- Expert opinion suggests that adhesive strips are no longer a preferred treatment option of choice for skin tears (LeBlanc et al, 2016; Holmes et al, 2013; Wounds UK, 2015).

#### Gauze

- Using gauze is not recommended, as it does not secure the flap and there is increased risk of flap displacement when changing the secondary dressing, increasing the risk of skin necrosis (Nursing Times, 2003).

# Prevention of skin tears

Wherever possible, prevention should be the aim when assessing, planning and implementing care for skin tears. The premise is that, by controlling modifiable risk factors, skin health can be maintained and injury avoided.

Prevention is based around the same principles as risk factor identification:

1. General health
2. Mobility
3. Skin

A quick reference guide for the ISTAP risk reduction programme is shown below (Table 3).

It is important to assess the patient's risk factors and then consider the following elements:

- The individual patient's needs
- The HCP needs and education
- The healthcare setting.

## SKIN TEAR PREVENTION PROGRAMME

Emollient therapy should be seen as a vital part of skincare in patients with aged skin. Use of emollients promotes general skin health and twice-daily application has been proven to reduce incidence of skin tears by 50% (Carville et al, 2014).

Emollient products are available as moisturisers (creams, ointments and lotions), bath oils, gels and soap substitutes (NICE, 2015). Simple emollients work by 'trapping' moisture into the skin and reducing water loss by evaporation, whereas emollients that

Table 3. Quick reference guide for the ISTAP risk reduction programme		
Risk factor	Individual	Caregiver/provider
General health	Educate patient (if cognitive function not impaired) Optimise nutrition and hydration	Safe patient environment Educate client and caregivers Protect from self harm Dietary consultant NB extreme BMI (under/over weight) Review polypharmacy
Mobility	Encourage active involvement (if physical function not impaired) Appropriate selection and use of assistive devices	Daily skin assessment and monitor for skin tears Safe patient handling/equipment, including proper transferring and repositioning Fall prevention programme (remove clutter, proper lighting) Pad equipment Avoid sharp fingernails/jewellery
Skin	Encourage awareness of medication-induced skin fragility Wear protective clothing Moisturise skin Keep fingernails short	Skin hygiene - warm/tepid water, soapless pH-neutral cleansers, moisturise skin Avoid strong adhesives, dressings, tapes Avoid sharp fingernails/jewellery

include additional substances known as humectants (e.g. urea) work in a different way by actively drawing water from the dermis to the epidermis and compensating for the reduced levels of natural moisturisers in the skin (Wounds UK, 2015).

Patient choice is a vital factor – as is availability and cost – to consider in emollient therapy and deciding which products to use. For example, ointments contain more oil than cream emollients, which can make them more effective, but they are greasier and may be more difficult to remove; however, emollients containing humectants produce similar rehydration effects but are less ‘heavy’ and more cosmetically acceptable for patients, and may thus increase quality of life and improve patient adherence (Wounds UK, 2015).

The patient’s bathing regimen should be considered, with emollient products used as soap substitutes and pH-balanced products used where required. Frequency of bathing should be minimised where possible (although, again, patient choice must be considered). The water temperature should not be too hot, and care should be taken to pat the patient’s skin dry (not rub), and soft cloths and towels should be used that will not be abrasive on the skin.

The skin tear prevention regimen should also involve holistic elements considering the patient’s general health, such as optimising the patient’s nutrition and hydration. Patients at extremes of weight (bariatric, cachectic or excessively thin) will require extra care to prevent skin tears. Polypharmacy issues should be taken into consideration where necessary, and appropriate extra care taken.

Patients with dementia or mental health issues (e.g. where aggression is an issue) who also have fragile/aged skin and are at risk of skin tears, will also require extra measures to prevent skin tears where possible.

**BOX 4** | Box: Self care checklist for patients at risk of skin tears (adapted from Wounds UK, 2015)

- Have I been given an individualised skin care plan?
- Am I using an emollient every day?
- Am I eating sensibly and drinking enough water?
- Am I keeping as active and mobile as possible?
- Have I thought about wearing clothing to protect my skin - e.g. long sleeves, shin guards or tubular bandages?
- Has my environment been made as safe as possible - e.g. adequate lighting, no obstacles and using padding on furniture if required?
- Am I wearing sensible/comfortable shoes to avoid falls?

In some areas of the world, disorientated and agitated patients in hospital settings may be restrained to prevent the patient from moving. Restraints should be prohibited, particularly with regard to skin tears occurring. Keep in mind, restraints are not used in many areas of the world.

In patients for whom mobility is an issue, active movement should be encouraged where possible and assistive devices considered for suitability and assessing associated risk factors (see 'Healthcare setting' section below). A fall prevention programme should be developed and implemented for at-risk patients.

#### PATIENT SELF CARE

Wherever possible, self care should be encouraged in suitable patients, to include emollient therapy, encouraging the patient to apply moisturisers themselves where possible. This can be incorporated into the patient's daily routine.

Patient awareness of skin tears and general skin health can be beneficial, encouraging the patient to monitor their own skin for any changes. Patients can also be encouraged to be aware of potential risks and mindful of their environment, thus avoiding self injury to fragile skin (see 'Healthcare setting' section below).

Suitable patients can be given a self care checklist in order to monitor their own skin health and holistic wellbeing (see Box 4, p17).

#### HEALTHCARE SETTING

Consideration should be made within the healthcare setting for patients who are at risk of skin tears, in terms of minimising the risk of potential trauma. This should include factors such as:

- Avoiding friction and shearing – ensuring to use good manual handling techniques and using products such as hoists and glide sheets where required.
- Using padding for equipment and furniture where required or as per health protocol.
- Ensuring a generally safe environment – e.g. ensuring adequate lighting and removing any manual obstacles – particularly in patients who may have impaired vision or cognition issues.
- Conducting falls risk assessment where suitable.
- Conducting confusion or delirium prevention screening protocol.
- Encouraging use of protective clothing/devices where required, such as shin guards, long sleeves and/or tubular bandages/stockinette.
- Avoiding sharp fingernails or jewellery in patient contact.

#### HCP EDUCATION

Education and awareness is vital to skin tear prevention, with HCPs being informed and aware of risk factors and how these can be minimised in their patients.

It is important to remember that HCPs involved should include not only nurses and aiding nurses, but all members of the multidisciplinary care team (e.g. occupational therapists, physiotherapists, other specialists). A multidisciplinary approach to care is paramount.

This involves HCPs being aware of practical risks (see 'Healthcare setting' section above) as well as being informed about the importance of general skin health, being aware of the risk factors in patients with aged/fragile skin and minimising risk wherever possible. It is important to engage consumer and carers' input into all educational activities.

# Conclusions and the future

While there has been an increased focus on the issue of skin tears in recent years, there are still gaps in knowledge and awareness, and areas that require further research, with collection of prevalence data an area of particular importance for future study.

The group identified primarily that there is a need for standardised terminology, in order to assist with correct identification and subsequent management, plus the need for a validated and standardised classification system, in order to facilitate best practice from the earliest possible stage of care.

Although some skin tears may be unavoidable, wherever possible, prevention should be the aim. This requires increased vigilance, awareness and HCP education, and encouraging self care and awareness in all suitable patients, and engaging carers.

When a skin tear does occur, product selection should take into account managing the wound appropriately, as well as avoiding further trauma to the skin and taking the fragile surrounding skin into consideration in all decision-making processes.

The effect of skin tears on patients' quality of life is not fully known; gaining knowledge of patients' experiences and perspectives requires further research. Skin tears can cause pain, complication and delayed healing, and their prevention and appropriate management where required should be considered of paramount importance.

# Appendix: Updated 2018 ISTAP best practice recommendations

## STATEMENT 1

Intrinsic and extrinsic factors contribute to the cause of skin tears; some of these factors are yet to be determined

## STATEMENT 2

Skin tears occur more frequently, but are not limited to, patients at the extremes of age, as this affects the skin's ability to resist shear, friction and/or blunt force

## STATEMENT 3

Individuals with impaired activity, mobility, sensation, or cognition – or with comorbidities and polypharmacy issues – have increased risk of skin tears

## STATEMENT 4

An assessment of risk factors for skin tears should be conducted for all individuals within the context of their environment

## STATEMENT 5

A collaborative interdisciplinary approach – including patient, carers and family – should be utilised for skin tear prevention and management

## STATEMENT 6

Skin tears should be assessed and documented on a regular basis according to an internationally standardised system

## STATEMENT 7

Evidence-informed wound care principles should guide treatment of skin tears

## STATEMENT 8

Patients, families, caregivers and healthcare providers should be educated regarding prevention and management of skin tears

## STATEMENT 9

Not all skin tears are preventable

## STATEMENT 10

Further research is needed to expand scientific knowledge to determine best practice in skin tear prediction, prevention, assessment, treatment and documentation

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