

Nursing Practice

Review

Wound care

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Skin tears can become chronic wounds if they are not treated appropriately, and are a growing problem as the number of older people increases

Preventing, assessing and managing skin tears

In this article...

- ▶ Patients at greatest risk of skin tears
- ▶ Evidence-based advice on how to prevent skin tears
- ▶ Assessing and managing skin tears

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The ageing population means nurses in all care settings are increasingly likely to care for patients with skin tears. This article reviews the evidence on preventing, assessing and managing these.

Skin tears are a growing problem, partly due to the ageing population and the comorbidities associated with ageing. Without treatment, they may become chronic wounds with prolonged healing, causing unnecessary pain and distress (Jones and Millman, 1990). Traditional management can cause new damage and slow healing (Meuleneire, 2002a).

This type of injury usually occurs in immature skin (neonates) and older people. As the number of older people increases, nurses need to be aware of best practice in preventing, assessing and managing skin tears in patients' own homes, care homes and hospitals. This article reviews the evidence on their prevention, assessment and management.

An international consensus panel defined 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)" (LeBlanc and Baranoski, 2011).

As well as at the extremes of age, these wounds most commonly occur in people who are critically ill or medically compromised and those who need help with personal care (Beldon, 2008; Carville et al, 2007; Irving et al, 2006). Where possible, prevention should be nurses' priority; when skin tears do occur, accurate assessment and appropriate management will minimise further trauma and preserve viable tissue.

The evidence on the prevalence and incidence of skin tears is limited and generally dated. A study conducted in a long-term care facility in Australia indicated that 42% of known wounds were found to be skin tears (Everett and Powell, 1994), while an incidence of 0.92 per patient per year was reported in a care facility for older people in the US (Malone et al, 1991). A more recent survey found prevalence was 8-11% in public hospitals in Western Australia (Wounds-West, 2009).

The work carried out in Australia led Carville et al (2007) to conclude that skin tears are perceived to be common wounds and occur more frequently than pressure ulcers.

To date no prevalence data is available for the UK, so the number of patients needing hospital care due to skin tears and their resource impact or cost to patients and the NHS is not fully known.

The management of skin tears differs between care settings. An international survey to explore their assessment, prediction, prevention and treatment was carried out from June until December 2010 (LeBlanc et al, undated, unpublished data). In total, 1,127 health professionals from 16 countries completed the survey; over two-thirds (70%) reported a problem with assessment and

5 key points

1 Skin tears usually occur in immature skin in neonates and in older people

2 Evidence on their prevalence and incidence is limited and generally dated

3 Nurses should be aware of the risk factors associated with skin tears and minimise risks to patients wherever possible

4 Prevention should start with early identification of those at risk

5 The most important aspect of assessment and management is to minimise further trauma and preserve viable tissue



Lacerated leg of an 87-year-old woman. Topical steroid use has thinned the skin

documentation of skin tears in their practice settings, while 90% favoured a simplified method of documenting and assessing them. Despite the availability of assessment and classification scales, the majority of responders (81%) admitted they were not used in their practice settings.

There are well-recognised best-practice guidelines incorporating risk assessment, classification and management strategies concerning pressure ulcers. It is clear that practitioners need better information on preventing and managing skin tears.

Risk factors

Both intrinsic and extrinsic factors make the skin more vulnerable with advancing age.

The outermost component of the epidermis – the stratum corneum – is composed of corneocytes (formerly known as keratinocytes) and is the main barrier to chemical and microbial invasion. The turnover time of keratinocytes is reduced by 50% during later life (Sibbald et al, 2009), which results in the epidermis thinning. The dermal-epidermal junction also thins and flattens with age, which reduces resistance to shearing forces (Voegel, 2010).

The dermis is composed of connective tissue and components such as blood vessels, lymphatic vessels, macrophages, endothelial cells and fibroblasts. As people age, there is an approximate 20% loss in the thickness of the dermal layer.

Finally, the subcutaneous fatty layer becomes thinner with age. Certain areas of the body, such as the face, neck and hands, lack the cushioning produced by fatty deposits so can become susceptible to skin tears (Resnick, 1993). Vascular capillaries become more fragile leading to ecchymosis and senile purpura (White et al, 1994).

Neonates and infants are also susceptible to skin tears. Neonates have underdeveloped skin and children have only 60% epidermal thickness (Baharestani, 2007). Neonates also have decreased epidermal to dermal cohesion (Irving et al, 2006).

Other factors not directly related to age,

BOX 2. STAR SKIN TEAR GUIDELINES

- Control bleeding and clean the wound according to protocol.
- Realign (if possible) any skin or flap.
- Assess tissue loss and skin or flap colour using the STAR Classification System.
- Assess the surrounding skin condition for fragility, swelling, discolouration or bruising.
- Assess the person, their wound and their healing environment as per protocol.
- If skin or flap colour is pale, dusky or darkened, reassess in 24-48 hours or at the first dressing change.

such as immunological status, malnutrition, circulation and oxygen intake may also affect the skin's fragility (Meuleleire, 2002a).

Preventing skin tears

Preventing skin tears should start with early identification of those at risk. Based on evidence, the consensus statement of an international panel suggested the following should be part of prevention:

- » Assess for risk on admission to healthcare services and whenever the patient's condition changes;
- » Implement a systematic prevention protocol;
- » Ensure those at risk wear long sleeves, long trousers or knee-high socks;
- » Provide shin guards/leg protectors for those who experience repeat skin tears on the shins;
- » Ensure safe patient-handling techniques and equipment/environment;
- » Involve patients and families in prevention strategies;
- » Educate nursing staff and caregivers to ensure proper techniques for providing care without causing skin tears;
- » Consult a dietitian to ensure adequate nutrition and hydration;
- » Keep skin well lubricated by applying hypoallergenic moisturiser at least twice a day;
- » Protect people at high risk of trauma during routine care from self-injury (LeBlanc and Baranoski, 2011). Stephen-Hayes and Carville (2011) also

gave practical advice on maintaining a safe environment to minimise the risk of skin tears, including:

- » Ensure adequate lighting and position small furniture (night tables, chairs) to avoid bumps or knocks. Remove rugs and excess furniture;
- » Upholster or pad sharp borders of furniture or bed surroundings with padding and soft material;
- » Use aids when moving patients and adopt good manual-handling techniques according to local policy;
- » Never use bed sheets to move patients as this can add to damage by causing a dragging effect on the skin. Always use a lifting device or slide sheet;
- » Where possible, reduce or eliminate pressure, shear and friction using pressure-relieving devices and positioning techniques.

Assessing and managing skin tears

The most important aspect of assessment and management is to minimise further trauma and preserve viable tissue.

It is important to classify the type of skin tear as this will determine its severity and help in planning treatment. Two validated skin-tear classification systems are available to practitioners: the Payne-Martin Classification System for Skin Tears (Payne and Martin, 1993) and the more recently developed STAR Skin Tear Classification System (Carville et al, 2007) (Box 1). Practitioners should know which system is used in their clinical setting.

BOX 1. STAR SKIN TEAR CLASSIFICATION SYSTEM

Category 1a

A skin tear where the edges can be realigned to the normal anatomical position (without undue stretching) and the skin or flap colour is not pale, dusky or darkened.

Category 1b

A skin tear where the edges can be realigned to the normal anatomical position (without undue stretching) and the skin or flap colour is pale, dusky or darkened.

Category 2a

A skin tear where the edges cannot be realigned to the normal anatomical position and the skin or flap colour is not pale, dusky or darkened.

Category 2b

A skin tear where the edges cannot be realigned to the normal anatomical position and the skin or flap colour is pale, dusky or darkened.

Category 3

A skin tear where the skin flap is completely absent.



Category 1a skin tear ▶

The principles used to manage other types of wounds should be followed when treating skin tears (Baranoski, 2003). O'Regan (2002) reviewed literature on skin tears and concluded that wounds should be treated in a systematic way, including cleaning with normal saline, controlling bleeding, removing clots and using an appropriate dressing to address wound-bed characteristics. See Box 2 for skin tear guidelines.

The following summarise the recommendations for managing skin tears:

- » Control bleeding;
- » Assess the wound, skin flap or pedicle and determine the type or category of skin tear using a validated classification system;
- » Cleanse the skin tear following assessment using warm saline or water to remove debris and any residual haematoma;
- » Depending on the country in which healthcare is delivered, a tetanus immunoglobulin may be administered;
- » Approximate the skin flap by gently easing it back into place using a dampened cotton bud or gloved finger;
- » If the flap is difficult to align, consider using a moistened non-woven swab. Apply for 5-10 minutes to rehydrate;
- » Encourage moist wound healing by applying a dressing such as lipido-colloid based mesh and foam dressing, soft silicone-based mesh or foam dressing, calcium alginate dressing, adsorbent clear acrylic dressing or skin glue;
- » Do not use adhesive strips. While sutures and staples are generally not recommended, they may be required in the treatment of deep, full-thickness lacerations;
- » If possible, the dressing should be left in place for several days to avoid disturbing the flap;
- » If an opaque dressing is used, mark an arrow to indicate the preferred direction of removal and record this in the notes;
- » Dressings should be held in place with stocking-like products (for example a tubular bandage);
- » Pain assessment should be carried out (LeBlanc and Baranoski, 2011; Stephen-Hayes and Carville, 2011).

If the skin tear is extensive or associated with a full-thickness injury, significant bleeding or haematoma formation, a surgical review may be needed (Stephen-Hayes and Carville, 2011).

If the injury is on the lower leg, practitioners should refer to local leg ulcer guidelines.

CASE STUDY. TREATING SKIN TEARS

A 75-year-old woman stumbled and fell at home, landing with her right arm against a cupboard. She experienced excruciating pain in her right hip and could not stand up. On her right arm, she had two epidermal skin tears. Her daughter placed absorbent dressings on the bleeding wounds.

A few hours later the patient arrived at the emergency ward. After a clinical investigation, she was admitted to hospital with a fractured hip.

The first wound on the forearm measured 3cm x 2cm. The wound was cleaned with saline and the flap eased back into place. A soft silicone dressing (Mepitel) was placed on the wound with an absorbent dressing on top.

At day six, complete wound healing was observed. A new soft silicone dressing was placed on the newly healed wound for protection.

The second wound on the upper arm was much bigger – it was triangular and measured 13cm x 5cm. After cleansing, the skin flap was eased back into place, and 95% closure was achieved. As with the first wound, a soft silicone dressing and absorbent pad were applied. Due to exudate levels, the absorbent dressing was changed at day one and day three. The soft silicone dressing was left in place.

At day six, the wound had healed with an area of just 5%.

Where the epidermis was missing was still an open superficial wound. Source: Meuleneire (2002b)

Ongoing management: review and reassess

At each dressing change, the dressing should be gently removed in the direction indicated by the arrow. If it is not removed easily, consider using saline soaks or silicone-based adhesive removers (Mudge and Orsted, 2010). The wound flap may be very friable so care should be taken to prevent it from being disturbed.

The wound should be observed for signs of infection and any changes in the colour of the tissue of the flap, which may indicate that it is becoming non-viable (Stephen-Hayes and Carville, 2011).

Conclusion

Skin tears are common wounds, particularly at the extremes of age. Nurses should

be aware of the risk factors associated with them and minimise risks to patients wherever possible.

When a patient develops a skin tear, using a classification system will aid decision-making, and ensure nurses are all using the same language to describe lesions. Treatment regimens should be based on the best available evidence. **NT**

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