

# Identifying and categorising skin damage

## KEY WORDS

- ▶ Pressure ulcer categories
- ▶ Avoidable pressure ulcers
- ▶ Unavoidable pressure ulcers

Accurate assessment and categorisation of skin damage and pressure ulcers (PUs) is paramount if patients are to receive safe and effective care interventions. The importance of being able to recognise an individual at risk of compromised skin integrity and being able to implement timely and effective, evidence-based measures to prevent skin breakdown cannot be overstated. Practitioners need to be aware of and use recognised and validated assessment and categorisation systems. All healthcare professionals are accountable for their own practice and have a responsibility to maintain their knowledge and skills base. The importance of maintaining education in understanding how, when and why to assess skin cannot be emphasised enough.

Pressure ulcers (PUs) represent a significant cost to the NHS within both the primary and secondary care sectors. Estimates regarding the financial cost of treating a PU range from £1,064 (category I) to £10,551 (category IV) (Department of Health [DH] 2010). Data from the latest NHS Safety Thermometer Commissioning for Quality and Innovation (CQUIN) report suggested that 4.8% of patients admitted to a hospital environment were recorded as having a new or existing PU and 1.2% would develop a PU during their stay (NHS Safety Thermometer, 2013). However, an audit undertaken across five NHS Trusts in England (Ousey et al, 2013) identified the prevalence of pressure ulceration to be significantly higher at 18.1% of all recorded PUs.

All healthcare professionals will at some point in their career be responsible for assessing, diagnosing, treating and evaluating a patient who is at risk of skin damage or who already has skin damage. It is, therefore, essential that practitioners possess an appreciation of tools that can be used for assessment and an understanding of various stages of skin damage.

## IDENTIFICATION OF AT-RISK INDIVIDUALS

The importance of being able to recognise an individual at risk of compromised skin integrity and being able to implement timely measures to prevent skin breakdown cannot be overstated. However, there are circumstances that may lead to skin damage despite appropriate interventions. The Tissue Viability Society (2012) in their

consensus document identify these circumstances as being:

- ▶ Haemodynamic or spinal instability that may preclude turning or repositioning
- ▶ Patients who are non concordant with repositioning, refuse assessment and subsequent treatment
- ▶ Patients who are following end-of-life pathways and may not be able to tolerate repositioning as frequently as their skin may require
- ▶ Patients who have not previously been seen by a healthcare professional
- ▶ Patients known to a healthcare professional but an acute/critical event occurs that affects mobility or the ability to reposition.

## AVOIDABLE OR UNAVOIDABLE PRESSURE DAMAGE?

The DH/National Patient Safety Agency (2010) have also produced definitions of avoidable and unavoidable pressure ulceration that practitioners should refer to.

### Avoidable pressure ulcers

'Avoidable' is defined thus: the person receiving care developed a PU and the provider of care did not do one of the following: evaluate the person's clinical condition and PU risk factors; plan and implement interventions that are consistent with the persons needs and goals, and recognised standards of practice; monitor and evaluate the impact of the interventions; or revise the interventions as appropriate.

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### Unavoidable pressure ulcers

'Unavoidable' is defined thus: the person receiving care developed a PU, even though the provider of the care had evaluated the person's clinical condition and PU risk factors; planned and implemented interventions that are consistent with the person's needs and goals; and recognised standards of practice; monitored and evaluated the impact of the interventions; and revised the approaches as appropriate; or the individual person refused to adhere to prevention strategies in spite of education of the consequences of non-adherence.

In cases where skin becomes compromised and there are signs of pressure damage, it is crucial that practitioners can accurately recognise and record the stage of skin damage/PU. In order to assess the risk of a person's risk of pressure damage or to be able to effectively stage/categorise/grade a PU in a timely manner it is essential that each practitioner is able to define a PU. The Tissue Viability Society (2012) recommended use of the National Pressure Ulcer Advisory Panel (NPUAP) in conjunction with the European Pressure Ulcer Advisory Panel (EPUAP) definition of a PU (NPUAP/EPUAP, 2009):

*"Localised injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear. A number of contributing or compounding factors are also associated with PUs; the significance of all these factors is yet to be elucidated."*

There is often a misclassification of incontinence associated dermatitis (IAD)/moisture lesion/moisture ulcer as being a PU, it is essential that practitioners are able to distinguish between the two. The treatment and preventative strategies for IAD/moisture lesion/moisture ulcer are different to those of a PU as they are caused by excessive moisture (Defloor et al, 2005a). Skin damage as a result of exposure to excessive moisture is defined as a skin lesion associated with incontinence and not caused by pressure or shear (Defloor et al, 2005b), with moisture contributing to the formation of PUs (NPUAP/EPUAP, 2009). Prolonged contact of urine or faeces with the skin is also known as IAD skin damage and presents as inflammation of the skin surface characterised

by redness and, in some cases, swelling and blister formation (Voegeli, 2012).

However, there is often confusion between a PU and a lesion that is caused by the presence of moisture, the differentiation between the two is of clinical importance since prevention and treatment strategies are quite different (Defloor et al, 2005a). Moisture lesions, moisture ulcers, perineal dermatitis, diaper dermatitis and IAD all refer to damage of skin; due to the location of moisture lesions, they are most often misclassified as PUs (Defloor et al, 2005b).

### CLASSIFICATION OF PRESSURE ULCERS

Pressure ulcers are assigned a stage/category/grade (many healthcare areas use one of these terms) once the wound being assessed is determined to be a PU. The EPUAP and NPUAP (2009) have chosen to use the terminology category when describing the appearance and level of skin damage, following in-depth discussions between global key opinion leaders. Category was suggested as a neutral term to replace stage or grade having the advantage of being a non-hierarchical designation that removes the idea of a PU progressing from a I to a IV or indeed healing from a IV to a I. However, both EPUAP and NPUAP recognise that practitioners may use the terms stage and grade and this is satisfactory providing the same definitions for PU and level of skin damage are used.

It is important to note that the NPUAP/EPUAP (2009) stated that the classification system was not designed for use in any other wound type, and that staging of the ulcer requires understanding of the anatomy of the skin and underlying tissues. Therefore, practitioners classifying the PU must possess an in-depth knowledge of the anatomy and physiology of skin and wound-healing process.

The assessment of these wound types should not be delegated to a practitioner who has received no education or training in these areas. NPUAP/EPUAP (2009) advise that professionals should be able to differentiate PUs from other types of wounds and skin conditions, and be aware of special techniques for assessing darkly pigmented skin. Pressure ulcers on mucous membranes should not be classified using existing classification systems but should be labelled as 'mucosal PUs' without a stage identified. Mucosal PUs are defined as PUs



**Figure 1.** An example of an unclassified pressure ulcer; a deep-tissue injury of unknown depth.

found on mucous membranes associated with a history of a medical device in use at the location of the ulcer (NPUAP, 2009).

In the case of patients who are receiving end-of-life/palliative care and have skin damage, the practitioner will need to consider best practice principles of preventing further skin damage, while respecting the individual's wishes, maintaining comfort, and optimising quality of life.

The NPUAP/EPUAP (2009) classification should be used, there are two additional categories generally used in the USA — unstageable and deep-tissue injury. The Tissue Viability Society (2012) recommends that the category of unstageable should be used in the UK, but further education

is required before the category of deep-tissue injury is used in PU reporting. NPUAP (2002) defines the term 'deep-tissue injury' as being a pressure-related injury to subcutaneous tissues under intact skin, which will initially have the appearance of a deep bruise. NPUAP suggests this type of skin damage may develop to a stage III or IV PU despite optimal treatment being administered. The categories can be summarised thus:

- ▶▶ Category/stage I: Non-blanchable erythema
- ▶▶ Category/stage II: Partial thickness
- ▶▶ Category/stage III: Full-thickness skin loss
- ▶▶ Category/stage IV: Full-thickness tissue loss

For a full explanation of each category please access the NPUAP/EPUAP (2009) classification.

The two additional categories are those of unstageable/unclassified:

- ▶▶ Full-thickness skin or tissue loss — depth unknown
- ▶▶ Suspected deep tissue injury — depth unknown.

#### Unstageable/unclassified

##### Full thickness skin/tissue loss — depth unknown

Full thickness tissue loss in which actual depth of the ulcer is completely obscured by slough (yellow, tan, gray, green or brown) and/or eschar (tan, brown or black) in the wound bed. Until enough slough and/or eschar are removed to expose the base of the wound, the true depth cannot be determined; but it will be either a category III or IV. Stable (dry, adherent, intact without erythema or fluctuance) eschar on the heels

serves as 'the body's natural (biological) cover' and should not be removed.

##### Suspected deep-tissue injury — depth unknown

Purple or maroon localized area of discoloured intact skin or blood-filled blister due to damage of underlying soft tissue from pressure and/or shear (Figure 1). The area may be preceded by tissue that is painful, firm, mushy, boggy, warmer or cooler as compared to adjacent tissue. Deep tissue injury may be difficult to detect in individuals with dark skin tones. Evolution may include a thin blister over a dark wound bed. The wound may also further evolve and become covered by thin eschar (NPUAP/EPUAP, 2009).

Deep-tissue injury is often witnessed over the heel area and is difficult to improve, an individual with a deep-tissue injury often presents with a range of comorbidities, for example, diabetes, peripheral vascular disease, arterial disease and ischemia. Diagnosis can be difficult as the deep-tissue injury often presents as category I PU, although laser doppler blood flow studies and ultrasound can be useful in highlighting damaged reticular dermis and subcutaneous tissue under intact epidermis (Fleck, 2007).

#### MONITORING AND RECORDING PRESSURE ULCERS

Should a PU develop, it is essential it is monitored and any deterioration or improvement documented. The NPUAP have developed a Pressure Ulcer Scale for Healing (PUSH) tool that helps to monitor the change in PU status over time (NPUAP, 1998). The PUSH tool allows for monitoring of ulcers over time through accurate recording of surface area, exudate, and type of wound tissue using a score for each section. Although currently only used in the US, it is a useful tool that UK health professionals should be aware.

#### CONCLUSION

Accurate assessment and categorisation of skin damage and PUs is paramount if patients are to receive evidence based interventions. Standardisation of assessment and categorisation systems can be achieved by using the NPUAP/EPUAP classification system (Table 1). The importance of education in understanding

Care need	Tools to use	Rationale
Identification of a pressure ulcer	Refer to and apply NPUAP/EPUAP definition	Use this definition when assessing an individual for skin damage
Classification of pressure ulcers	Refer to and apply the NPUAP/EPUAP classification system.	
	Ensure all practitioners are conversant with the NPUAP/EPUAP classification system.	
Ensure practitioners involved in the assessment and identification of pressure ulceration have undergone appropriate education and training		
Use the NPUAP/EPUAP system during assessment and evaluation		
Differentiation between pressure ulcers and deep tissue injury and mucosal pressure ulcers	Refer to and apply the NPUAP/EPUAP classification system.	
	Assess skin damage in line with national guidance. Plan care according to cause of skin damage. Document care and regularly evaluate	
Accurate measurement of a pressure ulcer		Assess and record the ulcer. Document care and regularly evaluate
Skin damage and end of life care	Assess the skin in line with NPUAP/EPUAP categorisation system	Ensure that principles of best practice for identifying and managing pressure ulcers are adhered to.
Discuss care with the individual and plan according to personal wishes		

Table 1. Practice box: Identifying and categorising skin damage.

how, when and why to assess skin cannot be over emphasised enough, all practitioners are accountable for their own practice and have a responsibility to maintain their knowledge and skills base.



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