

# Spot the difference: difficulties differentiating between pressure ulcers and foot ulcers

Joanne Grimes, Sue Hall and Graham Holt

**It can be difficult to determine whether a wound on the foot should be classified as a pressure injury or a foot ulcer. The literature defines pressure injuries as localised injury to the skin/underlying tissue as a result of unrelieved pressure due to immobility in combination with shear; however, the definition of foot wounds is less clear and includes underlying aetiology and trauma/pressure as contributing factors. Poor differentiation of foot wounds can negatively impact the accuracy of incident reporting. The authors reviewed the literature to better define both pressure ulcers and foot ulcers and created a guideline to aid staff members in decision-making related to diagnosis and incident reporting.**

The pathogenesis, treatment and management of pressure ulcers and diabetic foot ulcers is well documented in the literature. Nevertheless, there can be confusion among practitioners when a patient develops a wound over a pressure area in the foot. This article aims to describe and justify the development of guidance around clarification of whether a wound on the foot should be described as a foot ulcer or a pressure ulcer, thus aiding a practitioner's decision-making process for incident reporting.

## Descriptions in the literature

The burden of chronic wounds has an individual impact to the patient in terms of quality of life, as well as a huge cost to the NHS. Many chronic wounds originate from pressure damage, which is described by Posnett and Franks (2008) as 'damage to the skin and underlying tissue that is caused by unrelieved pressure, friction or shear forces'. Patients rendered immobile are at greater risk of pressure damage and research has suggested that patients who move fewer than 21 times per night are most likely to develop pressure sores (Bateman,

2012). Pressure damage, in this context, refers to compression that occurs to soft tissues when they are between a bony prominence and an external surface (Walton-Greer, 2009). The cone of pressure theory (McClemont, 1984) explains that the pressure exerted on deeper tissues is greater than that at the surface, which is reflected in the greater tissue damage found nearer the bone rather than at the skin surface. Excess unrelieved pressure can lead to tissue ischaemia, with eventual necrosis of the skin and subcutaneous tissues.

The dilemma of ulcer identification occurs when the damaged structure is on a foot. Walker et al (2015) state that while there are similarities between the specific ulcer assessments, 'both pressure ulcers and foot ulcers are conditions in their own right'. The international guideline on pressure ulcers/injuries (European Pressure Ulcer Advisory Panel et al, 2019) provides a clear definition of a pressure ulcer as a localised injury to the skin and/or underlying tissue, usually over a bony prominence, as a result of unrelieved pressure due to immobility in combination with shear. However, the definition of a foot ulcer is less well founded. The National Institute

Citation: Grimes J, Hall S, Holt G (2020) Spot the difference: difficulties differentiating between pressure ulcers and foot ulcers. *The Diabetic Foot Journal* 23(2): 37–9

## Key words

- Foot ulcers
- Pressure ulcers
- Differentiation
- Incident reporting

## Article points

1. The literature clearly identifies pressure injuries but there is a lack of clarity surrounding the definition of foot ulcers.
2. In practice, nurses are more likely to consider immobility and static pressure, identifying wounds as pressure ulcers; whereas podiatrists consider more dynamic forces and are more likely to diagnose and treat based on underlying conditions, eg diabetes.
3. A guideline was created to aid staff members in the correct identification of foot wounds for incident reporting purposes.

## Authors

Joanne Grimes is Highly Specialised Podiatrist, Bolton NHS Foundation Trust, UK; Sue Hall is Professional Lead Podiatry, Bolton NHS Foundation Trust, UK; Graham Holt is Podiatry and Leg Circulation Service Manager, Manchester Local Care Organisation, UK

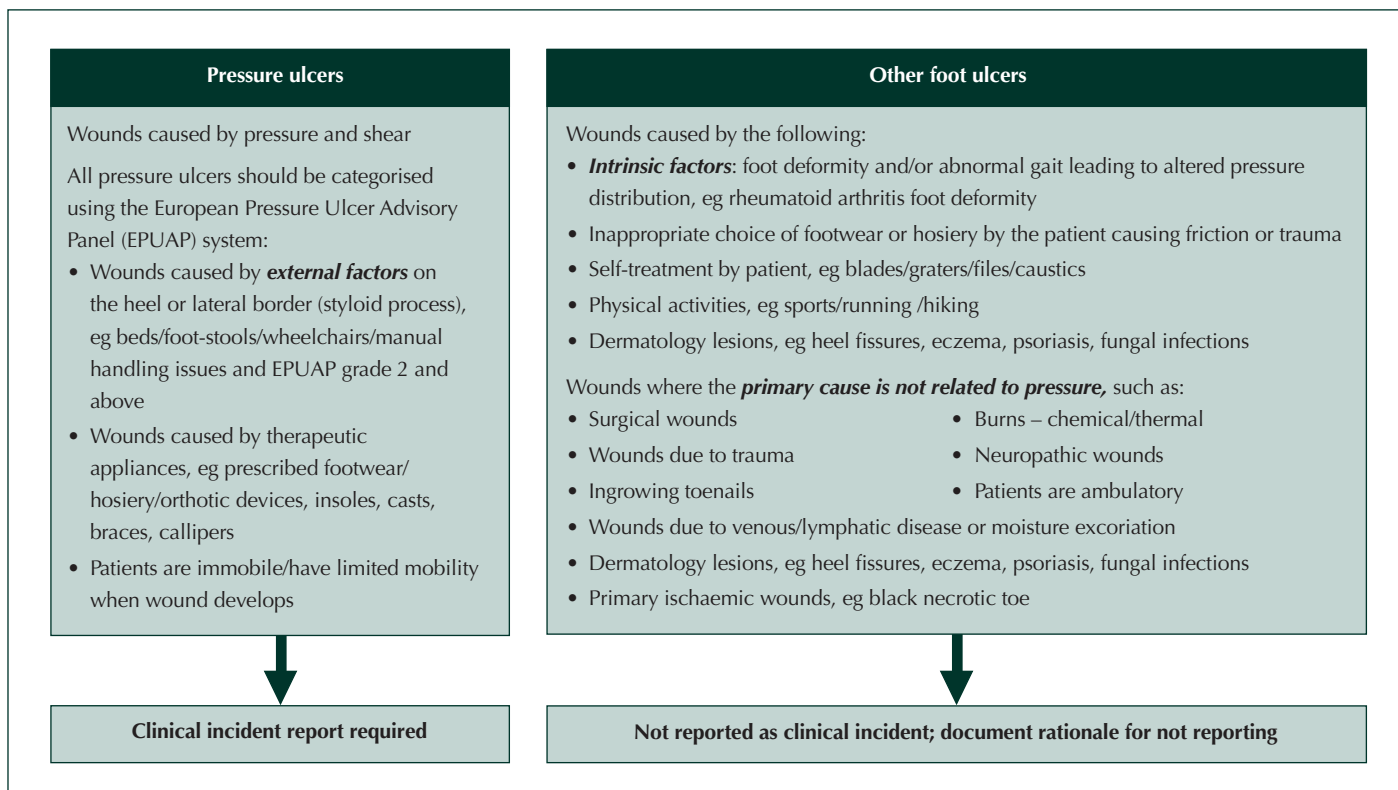


Figure 1. Foot wound/pressure ulcer reporting: Quick guide.

for Health and Care Excellence (2014) describes these ulcers as a break in the skin below the ankle. This difference in definition may be due in part to the aetiological involvement of poor circulation and be compounded by neuropathy, but may also originate from trauma or pressure.

Foot ulcers generally present on the plantar aspect of the foot, dorsal interphalangeal joints and apices of toes. Foot deformity, poor visual acuity and increasing age are further risk factors for foot ulceration (Edmunds and Foster, 2006). Inappropriate footwear is an obvious source of pressure that can result in ulceration. The normal response to pain in a sensate foot caused by poorly fitted footwear is removal/changing of the problematic footwear. Patients with neuropathy tend not to feel the pain caused by pressure. As a result, they may not feel the urge to move, reposition themselves or remove the footwear to alleviate the potentially harmful source of pressure. This leads to a dilemma for the clinician when auditing, as it is difficult to determine whether the ulcer is a result of complications of neuropathy, vascular disease or pressure.

In summary, throughout the literature, the key to defining a wound as pressure-related is the link to immobility. Another key feature of pressure-related damage is dependence on help or support to be repositioned.

Individuals with long-term conditions, such as diabetes, are at increased risk of neuropathy and, therefore, will be less likely to detect and report pain or discomfort in areas exposed to pressure. These patients are at increased risk of developing a diabetic foot ulcer. They will require prompting to reposition if they are able to move themselves; they will need regular skin inspections and repositioning if they are immobile.

### Differentiation: a reflection of training

Confusion regarding diagnosis occurs as pressure is part of the aetiology of many foot ulcerations. It has been suggested that if an ulcer on the heel of a patient with diabetes is reviewed by both a nurse and a podiatrist, there may be conflicted findings, opinions and diagnosis. The nurse will likely describe it as a pressure ulcer, whereas the podiatrist is likely to classify and manage the same wound

as a diabetic foot ulcer (McIntosh and Ousey, 2008). The findings of a hospital prevalence audit concurred with this suggestion, finding a larger than expected number of pressure ulcers (Ousey et al, 2011). When the data were further examined, it was noted that nursing staff were incorrectly counting diabetic foot ulcers as pressure ulcers. Such misclassification will cause discrepancies in the prevalence of pressure ulcers reported within an NHS Trust. This difference in assessment is likely to be due to training: podiatrists are experienced in assessing gait and mobility, so tend to look at more dynamic forces; whereas nursing staff are naturally more likely to think about immobility and static pressure, due to the cohort of patients they care for.

## Guidance

In its definition of a pressure ulcer, the National Institute for Health and Care Excellence (2014) relates the pathogenic cause of pressure damage to static pressure rather than ambulatory pressure. While there is a clearer definition of a pressure ulcer, there are still some misperceptions around how to exactly distinguish the difference between a pressure ulcer and a foot ulcer, which is key for the purpose of NHS trust compliance reporting. The authors have developed a guideline that reflects the different aetiologies and causes of foot wounds and aims to enable staff to establish the correct classification when incident reporting. This guideline is supported by a quick guide (*Figure 1*).

The key elements of any wound assessment must include the identification of sources of external pressure and the duration and intensity of the pressure, as not all ulcers on the foot are pressure ulcers. While the literature provides workable definitions for the NHS to accurately report pressure ulcers, the primary cause of the wound must be considered, including patient mobility and independence. Clinicians must pay further consideration as to whether the patient has the capacity to make decisions about their care and lifestyle choices.

When all of these elements are taken into

consideration, the authors propose the following guidance to provide clinicians with greater clarity and help with the classification of pressure ulcers for incident reporting purposes:

- When all individual clinical and non-clinical factors pertaining to the patient are taken into account and the predominant factor of cause is pressure, then the wound should be considered a pressure ulcer
- When the predominant factor is disease-related eg diabetes, neuropathy or arterial disease, the wound should not be considered a pressure ulcer in patients who are independently mobile.

Regardless of how the ulcer is classified, it is important that patients are assessed for peripheral vascular disease, neuropathy, pressure, infection and underlying comorbidities to ensure they are appropriately managed. ■

## Acknowledgements

*This work was undertaken on behalf of the Northwest Clinical Effectiveness group. Special thanks go to Ceinwen Turner for use of her quick guide, which helped to produce Figure 1 to aid staff in the decision-making process.*

- Bateman S (2012) Preventing pressure ulceration in surgical patients. *Wounds UK* 8(4): 65–73
- Edmunds ME, Foster AV (2006) Diabetic foot ulcers. *BMJ* 332(7538): 407–10
- European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel, Pan Pacific Pressure Injury Alliance (2019) *Prevention and Treatment of Pressure Ulcers/Injuries: Clinical Practice Guide. The International Guideline*. Available at: <https://bit.ly/2W9l3EK> (accessed 07.05.2020)
- McClement EJ (1984) Pressure sores. No pressure — no sore. *Nursing (Lond)* 2(21): Suppl 1–3
- McIntosh C, Ousey K (2008) A survey of nurses' and podiatrists' attitudes, skills and knowledge of lower extremity wound care. *Wounds UK* 4(1): 59–68
- National Institute for Health and Care Excellence (2014) *Pressure Ulcers: Prevention and Management. Clinical Guideline [CG179]*. Available at: <https://bit.ly/3ccC1aP> (accessed 07.05.2020)
- National Institute for Health and Care Excellence (2015) *NG19: Diabetic Foot Problems; Prevention and Management*. Available at: [www.nice.org.uk/guidance/ng19](http://www.nice.org.uk/guidance/ng19) (accessed 29.04.20)
- Ousey K, Chadwick P, Cook L (2011) Diabetic foot or pressure ulcer on the foot? *Wounds UK* 7(3): 105–8
- Posnett J, Franks PJ (2008) The burden of chronic wounds in the UK. *Nurs Times* 104(3): 44–5
- Walton-Greer PS (2009) Prevention of pressure ulcers in the surgical patients. *AORN J* 89(3): 538–48, quiz 549–51
- Walker A, Mitchell L, Martin R (2015) Differentiating between a pressure ulcer or a foot ulcer. *Wounds UK* 11(1): 27–31