

# Does debridement have a role in the accurate assessment of patients with pressure ulcers?

## KEY WORDS

- ▶ Classification
- ▶ Debridement
- ▶ Pressure ulcer

There is considerable emphasis at a strategic level across the whole of the UK to reduce the number of patients who develop a PU, with particular focus on the more serious Category III and IV ulcers. However, it has been demonstrated that practitioners have difficulty differentiating between a Category II and a Category III ulcer, which has political, legal and financial implications. Accurate classification of a wound may be assisted by the use of a monofilament debridement pad, allowing practitioners to better visualise the wound bed and differentiate with greater accuracy between a Category II and III ulcer.

Pressure ulcers (PUs) have been on the NHS agenda for well over 10 years. In 2004, it was reported that PU care cost the NHS between £1.4 and £2.1 billion annually (Bennett, 2004). This was revised in 2008, when it was estimated that as many as 400,000 individuals in the UK develop a new PU annually, with costs in the range of £1.8–2.6bn per year (Posnett and Franks, 2008). In 2009, despite initiatives to reduce the incidence of PUs, the annual cost to the NHS remained around £2.64 billion (Riordan, 2009).

This has led to considerable emphasis at a strategic level to reduce the number of patients who develop a PU. In 2010, PUs became a focus of the High Impact Actions initiative: *Your Skin Matters*; this estimated that 4–10% of NHS patients will develop a PU. It called for the elimination of all avoidable Category II, III and IV PUs (NHS Institute for Innovation and Improvement, 2009). Collecting monthly incidence data on PUs using the NHS Safety Thermometer means that hospitals are now counting PUs, with the potential for organisations to review the percentage of patients who received harm-free care each month and also to see the national picture (Wounds UK BPS, 2013). From April 2015, data collected using the Safety Thermometer are included in the NHS Standard Contract under Schedule 6B (Health and Social Care Information Centre, 2015).

## CLASSIFICATION SYSTEMS FOR PUS

In this time of an increased spotlight on PU development in healthcare, it is necessary that the reported grades are accurate. However, reporting

of PUs has been extremely confusing as different methods of classification and reporting have been used. This has led to considerable discussion about classification, definitions of avoidable and unavoidable and differentiating between PUs and ulcers due to other causes (e.g. moisture lesions) (see *Box 1*, p.25).

Determining the causative factors of skin damage can be challenging. Defloor et al (2005) reported on the difficulties staff have in determining the grade and cause of damage. Although tissue viability nurses are best placed to assess PUs, this is not always practical in terms of workload or impossible to achieve. Support is needed to help ensure reporting is accurate (Downie and Guy, 2012).

Early categorisations systems included one by Reid and Morrison (1994), which identified 13 different PU grades and was used throughout the UK. This early scoring system was felt to be too complex and lead to incorrect categorisation of PUs. The European Pressure Ulcer Advisory Panel (EPUAP) released its first classification system in 1999. This comprised four clear categories of PU. However, studies by Pedley (2004) and Defloor et al (2006) highlighted the limitations in practical application of the classification system. In 2009, the EPUAP came together with the National Pressure Ulcer Advisory Panel (NPUAP) to provide a universal system for grading PUs. However, the advisory panels produced two slightly different tools, with the NPUAP including two additional definitions: deep tissue injury and unstageable

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### Box 1. Differentiating between PUs and IAD

Moisture lesions — also referred to as incontinence associated dermatitis (IAD) — and a PU can coexist in the same area (Beeckman et al, 2015). The EPUAP first proposed that moisture lesions should be differentiated from PUs in 2005 (Defloor et al, 2005). It was apparent at this time that a large proportion of wounds identified as pressure damage were lesions related to moisture and, possibly, friction. They highlighted the wound-related characteristics (causes, location, shape, depth, edges, and colour) and patient-related characteristics to help differentiate between a PU and a moisture lesion (Defloor et al, 2005).

In 2015, Stephen-Haynes reported on the development of a simple tool that would enable staff to differentiate between the two types of lesion. This led to improved PU data collection, which is required to achieve nationally set targets. The audit followed a Trust-agreed process for evaluating a new tool within a primary care Trust, and was undertaken over a 4-month period. All nurses involved attended a series of educational roadshows. Responses were positive, with staff stating that the 'Moisture or Pressure Tool' (MOPT) was easy to use. The tool advocates the use of a monofilament fibre debridement pad to assist in PU categorisation by removing debris and aiding visualisation of the wound bed (Stephen-Haynes, 2015).

PUs, suggesting that consensus is difficult to achieve around how to classify ulcers where it is not possible to visualise the wound bed, but there is evidence of injury to the underlying tissues (EPUAP/NPUAP, 2009).

Since the National Institute for Health and Clinical Excellence (NICE) (2005) recommended the 2009 EPUAP/NPUAP system, it has been widely adopted in the UK with inclusion of the category of unstageable, but not deep tissue injury. Continued debate surrounding the categorisation of PUs and the subjective nature of grading in practice has meant that some healthcare practitioners still feel unable to confidently categorise PUs.

### CLASSIFICATION CHALLENGES

The requirement to report both avoidable and unavoidable PUs has made classification more complex. Targets are set around reducing the number of avoidable PUs, which means that unavoidable PUs should not be included in such reports.

Defining an unavoidable PU means to measure and evaluate the quality care. The use of care bundles such as SSKIN (Whitlock et al, 2011) and ASKINS (McDonagh, 2013) can be used to assist the overall decision. Overarching is the definition by the Department of Health (2010), which encompasses all areas of care to ensure that the PU is truly unavoidable. With the definition including standards of care, evaluating of goals and impact of interventions, as well as refusals and overall care management, determining an unavoidable status can be challenging.

To date the government has advised that anyone who develops a Category III or Category IV PU should be referred as a safeguarding risk (Care Act, 2014). However, each case should be reviewed on an individual basis to assess whether it was unavoidable before a safeguarding referral is considered.

Anecdotally, there has been a mixed reaction in practice to the safeguarding status surrounding PUs. The threat of being labelled as 'unsafe' can be seen as creating additional stress on an already overstretched workforce. However, safe care should be achievable for all, so measuring and evaluating care should be a part of all aspects of healthcare.

There is also debate around medical device-related pressure ulcers, which are a real and growing concern for many. Care is often more complicated than preventing other PUs as the device may be an essential component of treatment. Although most are avoidable, not all are. The recent guidelines from the international pressure ulcer advisory boards (NPUAP/EPUAP/PPPIA, 2014) for the prevention of these ulcers focuses on the use of appropriate means of relocation, redistribution and skin care under the device. Mucosal tissues are especially vulnerable to pressure from medical devices, such as oxygen tubing, endotracheal tubes. The current position is not to classify PUs on mucosal surfaces due to the difficulties in differentiating between partial and full-thickness damage (TVS, 2012).

With the introduction of the Department of Health's Serious Incident Framework (2015/16) it is clear that PUs also need to be considered in relation to the level of harm that is present. While some Category III and IV PUs do meet the definition of severe harm, not all do. For example, an infected Category II PU may lead to septicemia and death, whereas a small Category III PU on the ear (designated because of exposed cartilage and lack of fatty tissue) may not have serious consequences for the patient (TVS, 2012). As such the current

*“The threat of being labelled as ‘unsafe’ can be seen as creating additional stress on an already overstretched workforce.”*

classification system cannot be relied on as a single measure of severity and a system that differentiates between intact skin, superficial and deep tissue damage may be more helpful in determining the level of harm and deciding on what clinical actions need to be taken.

### ARE NURSES CLASSIFYING PUS CORRECTLY?

Kelly and Isted (2011) audited nurses' ability to classify PUs correctly in a 500-bed district general hospital. Each ward was provided with a poster comprising photographs and descriptors of the five PU categories (including unstageable). Selected nurses were then shown photographs of PUs and asked to classify them. In the first audit, only 56% of the nursing and healthcare staff overall were able to correctly identify the category of PU from the photograph. An intense training programme increased this to 62% overall. There was no statistical difference in the ability of registered and unregistered nurses to classify PUs in either the first or second audit.

One of the key findings of the audit was that there was a degree of chance involved in classifying PUs. Category II and IV PUs were seen to be easier to identify due to the fact that the nurses were able to see whether there was no skin loss or full-thickness, muscle to bone damage. However, Category II and III classification was seen as more complicated. This was also reported by Swan and Orig (2013), who found that the classification of

Category II and III PUs caused the most confusion. The level of nurses' knowledge of anatomy, especially of the skin and ability to differentiate between dermis, subcutaneous fat and muscle, may play a key role in their ability to correctly classify PUs (Kelly and Isted, 2011). This may be further complicated by the level of slough and necrotic tissue in the wound bed (Swan and Orig, 2013).

### USING DEBRIDEMENT TO IMPROVE CLASSIFICATION

Accurate wound classification is a crucial step in delivering safe and effective PU care. Debris in the wound bed may prevent full visualisation of its depth and extent, which can contribute to incorrect PU classification (Dowsett et al, 2014). Although the 2009 EPUAP/NPUAP classification states that Category II PUs do not contain slough, some PUs containing superficial slough or slough-like material may not be associated with full-thickness dermal loss and, therefore, may be more correctly classified as superficial ulcers or Category II.

The development of a monofilament fibre debridement pad (Debrisoft®, Activa Healthcare) is indicated for removing debris and superficial slough from the wound or skin (Strohal et al, 2013). The pad comprises monofilament fibres that are cut at the appropriate length and angle to trap debris and reach uneven areas of the skin or wound bed. Unlike some other methods of debridement, the monofilament fibre pad lifts materials out of the wound bed or from the surface of the skin and binds it within the pad, thus removing it from the wound/skin. It can be used on a range of wound types, including PUs.

Evidence is beginning to emerge to support its use in removing debris and superficial slough from PUs, which can assist clinicians in more accurate categorisation of PU severity.

Swan and Orig (2013) describe a small study in an acute hospital setting, where it was unclear whether PUs should be categorised as a Category II or III, and debridement was required to better visualise the wounds and facilitate classification. Mechanical debridement was undertaken using the monofilament fibre pad, which was found to be quick and easy to use. In 61.5% (8/13) of cases, debridement with the monofilament fibre pad revealed a more superficial pressure ulcer than had been initially estimated (*Table 1*). A maximum debridement time of 4 minutes using the monofilament fibre pad was required to reveal the wound bed.

Table 1. Summary of results

Patient no.	Ulcer location	Estimated Category before debridement	Category after debridement	Debridement time
1	pannus	III	III	2 min
2	heel	III	III	1 min
3	neck	III	II	1 min 20 sec
4	buttock	III	II	1 min 15 sec
5	hip	III	II	2 min
6	penis	III	II	1 min
7	chest	III	II	1 min 30 sec
8	sacrum	III	II	55 sec
9	buttock	III	III	2 min
10	hip	III	III	2 min
11	penis	III	II	2 min 30 sec
12	left buttock	III	III	4 min
13	right buttock	III	II	1 min

These results suggest that use of the monofilament fibre debridement pad may lead to considerable cost savings by way of:

- ▶▶ More effective use of resources, such as pressure redistributing equipment, based on PU category
- ▶▶ Fewer time-intensive incident-reporting activities (and subsequent investigations) for PUs incorrectly designated as Category III
- ▶▶ Faster wound healing progression by rapid removal of devitalised tissue.

Swan and Orig conclude in their original piece of work (2013) that PU classification should be based on an assessment of the depth of damage, not tissue type. The use of the monofilament fibre pad in the debridement of PUs with superficial slough allows clinicians to clearly view the wound bed and provide more appropriate patient care (Swan and Orig, 2013).

Callaghan and Stephen-Haynes (2012) undertook a multicentre evaluation across a community Trust to evaluate whether the use of a monofilament pad to remove wound bed debris would lead to improved visualisation of the wound bed, enabling more accurate classification of PUs and clearer wound management objectives.

Rapid, safe and pain-free wound debridement was achieved between 0 and 5 minutes in all 12 patients with a PU, enabling the removal of devitalised tissue, and allowing the practitioner to classify the PU. In 11 out of 12 patients, the monofilament debridement pad also reduced the number of subsequent visits required to perform wound care (Callaghan and Stephen-Haynes, 2012).

In a further evaluation in an acute Trust over a 5-month period, Bethel (2015) found that the use of a monofilament fibre pad assisted with classification of PUs at the patient's bedside, opening up the wider debate of classification across the tissue viability community.

## CONCLUSION

Accurate classification of PUs has important political, financial, and patient safety implications. While practical application of classification tools is vital to establish a standardised approach to care, identifying PUs is complex. Producing guidelines and education can help to implement best practice, but embedding the practice into day-to-day healthcare is far more challenging. Tools that help practitioners differentiate between level of harm and causative factors, may allow more accurate assessment and recording of PUs. The use of a monofilament fibre debridement

pad has been shown to improve practitioners' decision-making capabilities in differentiating between Category II and III PUs where the wound bed is obscured by superficial slough. **WUK**

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