

Increasing the accuracy of pressure ulcer classification using a Pressure Ulcer Guidance Tool

KEY WORDS

- ▶ Pressure ulcer
- ▶ PUG wheel
- ▶ Risk assessment

This article describes the development and introduction of a new strategy to aid healthcare professionals overcome the difficulties with classifying pressure ulcers and differentiating superficial pressure ulcers from moisture lesions. Using the 2014 National Pressure Advisory Panel, European Pressure Ulcer Advisory Panel, and Pan-Pacific Pressure Injury Alliance classification guide, a pressure ulcer guidance wheel, or 'PUG wheel/tool', was designed. To test the accuracy of the tool a group of 20 tissue viability link nurses compared it against several verified pressure ulcer and moisture lesion images. A supporting poster was also designed to help healthcare professionals understand the classification system.

Skin inspection should be seen as an essential part of patient assessment and therefore should be compulsory for all hospital admissions. Recognising this as a key factor of risk assessment can ensure healthcare professionals are providing the best possible care and protection for their patients. Identifying skin damage on initial assessment ensures appropriate and early intervention, thus minimising or even preventing the risk of damage to the skin and avoiding pressure ulcer development. Once a pressure ulcer has developed, the patient is generally dependent on others to manage, treat and care for their ulcer. Healthcare providers need to recognise that a pressure ulcer is a crucial element in preventing a full recovery, it can lead to increased hospital stay, resulting in ongoing treatment which may take weeks, even months of nursing care. Patients may also experience pain and discomfort, which has serious consequences on a patient's quality of life, as well as a very costly exercise for the NHS.

Understanding the mechanism of how the skin can be damaged and identifying the different stages of pressure ulceration can help in the reduction, or even avoidance of hospital-acquired pressure ulcers. However, failure to identify pressure ulcers correctly can lead to inaccurate reporting and consequently

inappropriate management.

Pressure ulcers have been in existence since ancient Egyptian times — they are not a plague of modern men (Agrawal and Chauhan, 2012) and pressure ulcers remain a major problem within health care. Although nurses do not have sole responsibility in preventing pressure ulcers, they are in a unique position to have a significant impact on the problem (Moore and Price, 2004; Benbow, 2012).

The assessment and maintenance of patients' skin integrity is an essential element in the delivery of care, for which all healthcare professionals are accountable.

In accordance with the National Institute for Health and Care Excellence (NICE, 2014) guidelines, assessment of a patient's risk factors and skin inspection should, ideally, be carried out within 6 hours of admission to a ward. Accurate and timely assessments are key features for the management of high-risk patients and the early detection of potential problems, thus ensuring interventions can be applied at the right time to minimise the risk of skin and tissue damage.

The NHS spends an estimated £1.4 billion–£2.1 billion every year treating what is largely avoidable harm from pressure ulcers caused to patients (Dealey et al, 2012); the cost of treating individuals with more severe cases

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can range from £11,000 to £40,000. The cost of interventions to prevent pressure ulcers is infinite (Benbow, 2012).

The National Patient Safety Agency (NPSA, 2010) believes the problem can be solved in a number of simple ways:

- » Checking patient's skin regularly
- » Guaranteeing regular change of position,
- » Ensuring patients have a moisture free environment
- » Checking nutritional status.

Focus should also be on increasing and justifying the healthcare professionals' knowledge and experience in pressure ulcer prevention.

METHOD

Following several referrals for pressure ulcer verification, it became apparent that classification skills among the nursing staff within the organisation were poor. Distinguishing between the various pressure ulcer categories and differentiating superficial pressure ulcers from moisture lesions was proving to be problematic,

often leading to inaccurate reporting and inappropriate management.

The incidence of pressure ulcers within Northern Lincolnshire and Goole Hospitals NHS Foundation Trust was reported as being high, with approximately 120 referrals a month requiring verification. An estimated 73% of the skin damage referred from October 2015 through to December 2015 were mis-classified, showing a higher incidence of category 2 pressure ulcers which appeared to be due to their inaccurate identification. Skin damage was frequently mistaken as a category 2 pressure ulcer in place of a moisture lesion.

This prompted the introduction of a new tool which is designed to educate nursing staff into overcoming these difficulties.

Using the European Pressure Ulcer Advisory Panel (EPUAP, 2014) classification guide, an easy to use image illustrated decision-making tool was designed: the Pressure Ulcer Guide (PUG) wheel/tool. The PUG wheel consists of 3 discs. Each disc is laminated for ease of cleaning

Side 1 consists of images relating to category 1 to category 4 pressure ulcers. Side 2 consists of images relating to moisture lesions, suspected deep-tissue injuries and unstageable pressure ulcers. The idea is to match the skin damage on the patient that best relates to image on the wheel, when the image is similar to that of the skin damage the display window beneath the image will give an indication as to the wound type. Around the edge of the wheel is a measurement guide so the size of the wound



Figure 1. The Pressure Ulcer Guidance (PUG) wheel

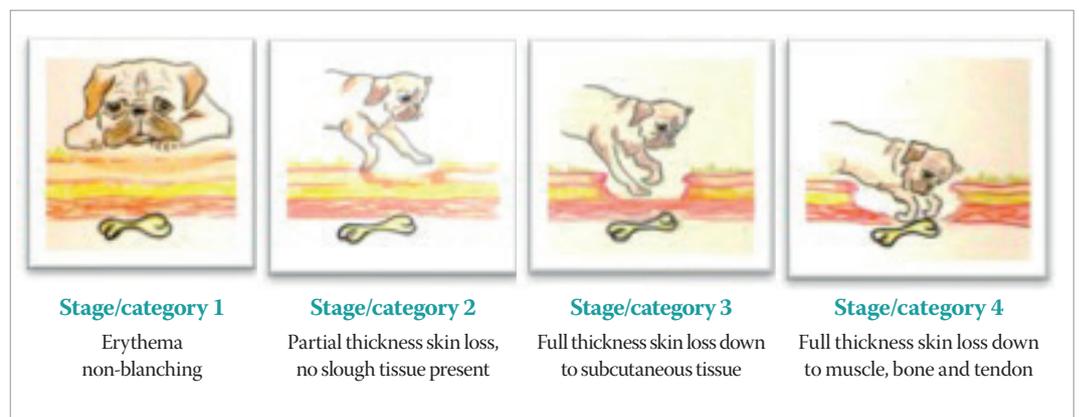


Figure 2. PUG poster



Figures 3–6. Examples of the PUG wheel being used in education and in practice

can be measured at the time of assessment (Figure 1).

A supporting poster was also designed to help healthcare professionals understand the 'level' of damage caused to the skin for each category of ulcer. Figure 2 depicts a PUG digging, the layers of the soil represent each layer of the skin. This concept shows the stages of a pressure ulcer by viewing them from a different perspective while still utilising the European Pressure Ulcer Advisory Panel classification guide.

The benefit of this tool is there is no language barrier to overcome; it is an image showing the category, so all nurses will be able to understand and define it (Figures 3–6)

RESULTS

Preliminary testing with 20 tissue viability link

nurses using 15 verified pressure ulcers, and five moisture lesion images, without using the PUG tool produced an estimated 70-80% accuracy rate. The same 20 tissue viability link nurses then repeated the test using different images but this time using the PUG wheel as an *aide memoire*. In this second test, they achieved a 100% accuracy rate. Following these results, approval was authorised by the chief nurse to implement the PUG wheel within the Trust.

During the months of February and March 2016, the PUG wheel was presented to the staff within the Trust. The introduction of this new tool raised awareness of the importance of pressure ulcer prevention and management within the Trust, facilitating the accurate classification of pressure ulceration and guiding staff towards differentiating them from moisture lesions, thus improving the accuracy of pressure ulcer reporting.

OUTCOME

The classification of pressure ulcers and moisture lesions is reported have significantly improved since the introduction of the PUG wheel, with an estimated 80% of skin damage now being classified accurately. The graph in Figure 7 shows an overall decrease in the total number of pressure ulcers.

However there are areas that showed a significant increase in the total number of pressure ulcers. This appeared to occur at a

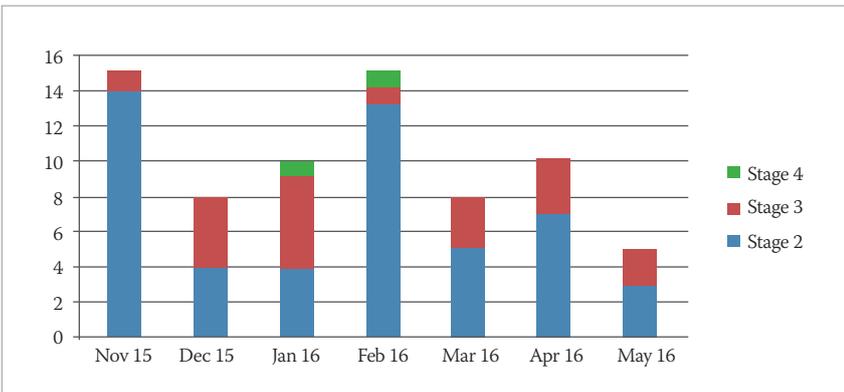


Figure 7. Total number of pressure ulcers

time when there was a disruption in the team and accounted for seasonal winter fluctuations.

The majority of those ulcers reported were category 2 skin damage; this was attributed to the increase in staff education. As a result of training, healthcare professionals were able to correctly differentiate superficial ulcers from deep ulcers (Figure 8). The overall total number of acquired full-thickness pressure ulcers also decreased since the introduction of this new tool (Figure 9). Furthermore, the use of the tool as a guide when assessing and clarifying skin damage has given the nursing staff the confidence, which was so often lacking, to accurately assess and confirm what type of pressure ulcer or moisture damage they are looking at.

CONCLUSION

Full acute Trust-wide implementation of this local tool has been phased in, helping provide a consistent approach to clinical practice, and complementing patient assessment, care planning and documentation. Pressure ulcers that are assessed and classified correctly can be appropriately managed. This may lead to faster healing, improving patients’ quality of life and ultimately lead to a reduction in associated costs.

In the short period of time that this project has been running, the tissue viability team has noticed a decline in the total number of pressure ulcers. The classification skills among healthcare professionals has improved, resulting in more accurate reporting.

Plans are now being prepared to expand the use of this tool into children’s services within the acute Trust. The intention is also to implement it within the local community care setting. **WUK**

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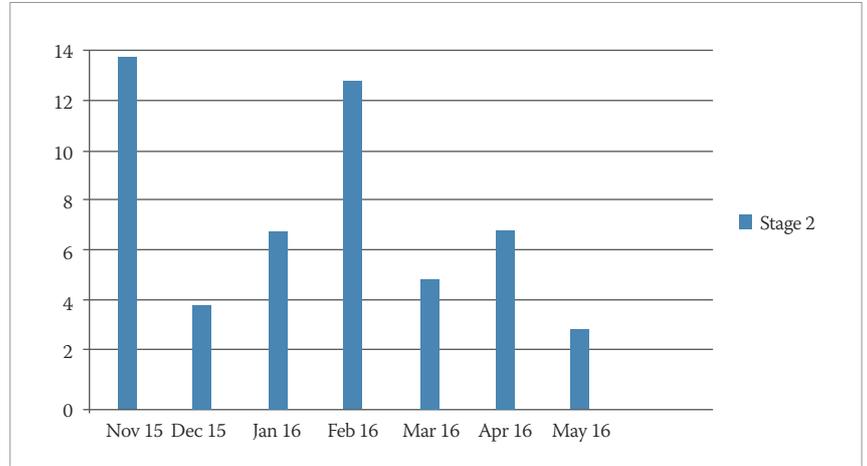


Figure 8. Total number of grade 2 pressure ulcers

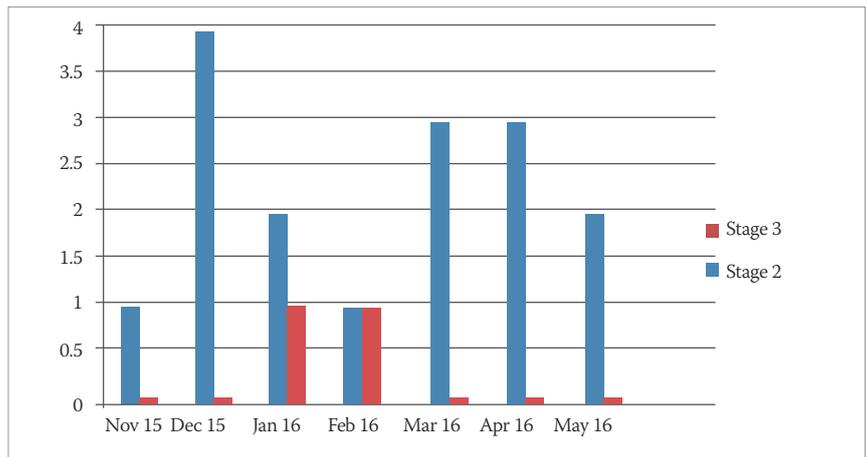


Figure 9. Total number of full thickness pressure ulcers

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