

The Design and Implementation of a Local Strategy to Increase the Accuracy of Pressure Ulcer Classification: The Pressure Ulcer Guidance (PUG) Tool

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Abstract

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 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 National Health Service (NHS).

Understanding the mechanism of how the skin can be damaged and identifying the different stages of pressure damage can help in reducing, or even avoiding hospital acquired pressure ulcers. However, failure to identify pressure ulcers correctly can lead to inaccurate reporting and consequently inappropriate management.

This article aims to explain the development and introduction of a new strategy to aid healthcare professionals overcome the difficulties in classifying pressure ulcers and differentiating superficial pressure ulcers from moisture lesions. Using the European Pressure Ulcer classification guide (EPUAP 2014) a pressure ulcer guide wheel, or 'PUG wheel/tool', was designed to help healthcare professionals understand pressure ulcer categories and differentiate between pressure ulcers and moisture lesions [1]. To test the accuracy regarding classification, a group of 20 Tissue Viability Link Nurses were tested using this new tool against various verified pressure ulcer and moisture lesion images.

A supporting poster was also designed to help healthcare professionals understand the staging system.

Introduction

Pressure ulcers have been in existence since ancient Egyptian times - they are not a plague of modern men [2]. Pressure ulcers remain a major problem within healthcare. 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 [3].

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 Clinical Excellence (NICE 2014) assessment of a patient's risk factors and skin inspection should, ideally be carried out within 6 hours of admission to a ward [4]. Accurate and timely assessments are key features for the early risk and possible detection of a potential problem, thus ensuring

interventions can be applied at the right time to minimise the risk of skin and tissue damage.

The NHS spends an estimated 1.4-2.1 billion pounds every year treating what is largely avoidable harm caused to patients [5]. As a result treating individuals with more severe cases can range from £11,000 - £40,000. The costs of interventions to prevent pressure ulcers are infinite [3].

Method

Approximately 102 referrals a month are reported requiring verification from the Tissue Viability team, it was identified that the classification skills amongst the nursing staff within the organisation were poor. Distinguishing between the various pressure ulcer categories and differentiating superficial pressure ulcers to moisture lesions was proving to be problematic, often

leading to inaccurate reporting and inappropriate management.

The incidence of pressure ulcers within the Trust was reported as being high, with a higher incidence of category 2 ulcers, this appeared to be due to the inaccurate categorising and wrong identification of the ulcer, usually being mistaken as a category 2 pressure ulcer in place of a moisture lesion.

The National Patient Safety Agency (NPSA 2010) believes the problem can be solved by a number of simple ways: checking patient's skin regularly, guarantee regular change of position, ensure patients' have a moisture free environment and check nutritional status [6]. Focus should also be on increasing and justifying the healthcare professionals' knowledge and experience in pressure ulcer prevention.

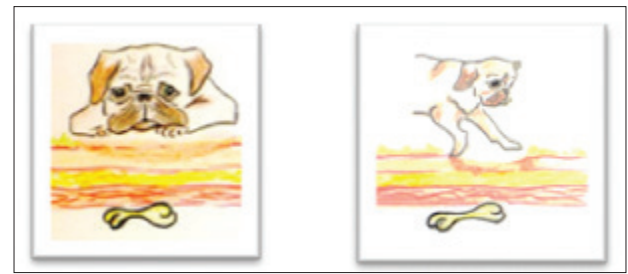
Using the European Pressure Ulcer Advisory Panel (EPUAP 2014) classification guide, an easy to use image illustrated decision making tool was designed (Fig1) The Pressure Ulcer Guide wheel (PUG wheel/tool) [1]. The PUG wheel consists of 3 discs, each disc is laminated for easy clean. The internal wheel is double sided with multiple images relating to each perspective side. 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 matches 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 can be measured at the same time.

The benefit of this tool is there is no language barrier to overcome; it's an image showing the category, so nurses from any cultural background will be able to understand and define it.



Figure 1: The Pressure Ulcer Guide Wheel.

A supporting Poster was also designed to aid healthcare professionals understand the damage caused to the skin at each stage. It depicts Pug digging, the layers of the soil represent each layer of the skin, this method shows the stages of a pressure ulcer by viewing them from a different perspective while still utilising the EPUAP classification guide.



Stage/category 1

stage/category 2

Non-blanching Erythema

Partial thickness skin loss no slough present



stage/category 3

Stage/category 4

Full thickness skin loss down to Subcutaneous tissue

Full thickness tissue loss down to underlying structures muscle tendons and bone

Results

Preliminary testing with 20 Tissue Viability Link nurses using 15 verified pressure ulcers and 5 moisture lesion images produced an 80% accuracy rate. The test was then repeated using the same images on another 20 nurses. Using the PUG wheel as an aide memoir we achieved a 100% accuracy rate. The results from this may not look too bad; however it meant 20% of patients were at risk of being miss-managed. From these results approval was authorised by the Chief Nurse to implement the PUG wheel within the Trust. (Fig 2&3)



Figure 2 & 3: Pug Wheel in training.

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.

The majority of those ulcers reported were category 2 skin damage; this was attributed to correctly identifying superficial ulcers instead of deep ulcers. The overall total number of acquired full thickness pressure ulcers had decreased since the introduction of this new tool. This has resulted in less referrals for skin assessment and therefore reduced the time spent on having to undertake Root Cause Analysis, thus reducing the associated management costs.

Furthermore, the use of the tool as an assessment 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. (Fig 4,5 &6).



Figure 4,5 and 6: Pug wheel used in practice.

During a three month audit it was estimated 73% of pressure ulcers were miss-classified, but since the introduction of the PUG Wheel an estimated 80% of skin damage had been identified correctly.

Conclusion

A full acute Trust wide implementation of this local tool has been phased in, helping provide a consistent approach to clinical practice, 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 the patients' quality of life and ultimately see a reduction in associated costs.

Plans are being prepared to expand the use of this tool into children services within the acute Trust and also implement it into the local community care setting [7].

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