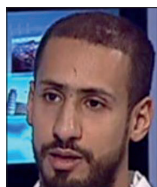


The impact of appropriate pressure ulcer assessment on clinicians



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This article defines how pressure ulcer assessment practices impact on the treatment, diagnostic and management practices of clinicians. It incorporates guidelines and recommendations from the United Kingdom, US National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance, to enable clinicians to focus on assessment as a key weapon for the effective management and prevention of pressure ulcers.

Pressure ulcers (PUs) are also known as decubitus ulcers or pressure injuries (Agarwal and Chauhan, 2012; National Pressure Ulcer Advisory Panel [NPUAP] et al, 2014). External pressure reduces blood flow in the soft tissue and results in ischaemia (Mishu and Schroeder, 2015). PUs usually affect older people and those who are confined to beds or wheelchairs. Clinical assessment plays a key role in patient evaluation, enabling the risk of ulceration to be determined in vulnerable patients and the stage to be identified in patients with a PU (Manganese et al, 2017).

PUs have a negative impact on patient quality of life. They are avoidable yet costly injuries: the UK National Health Service spends an estimated £4 billion each year on PU treatment, with severe ulcers costing between £11,000 and £40,000 to treat (Benbow, 2012). Collaborative evidence-based assessment enables healthcare practitioners to improve health outcomes and reduce demands on over-stretched healthcare resources (Andrade et al, 2016).

Holistic assessment

The provision of good quality healthcare is challenging. A study of the prevalence of PUs in England found that 24,674 patients had adverse conditions for PU healing (Lee and Kim, 2016). Appropriate assessment of PUs is key to limiting further tissue damage and selecting suitable treatment (Engles et al, 2016; Greenwood and McGinnis, 2016). Clinicians need to implement appropriate assessment to inform PU diagnosis (Bae, 2015). Analysis has revealed that nurses' PU management knowledge and practices have been inadequate (Nuru et al, 2015). However, by participating in various educational

programmes, training, and gaining experiences would be beneficial in handling the disease accurately so that patients may receive better treatment assistance (Choi et al, 2016).

Clinicians should assess and document PU risks for every age group (Smith et al, 2016); however, they are more inclined to assess older people, since this group is more likely to have PUs. According to 2014 National Institute for Health and Care Excellence guidelines in the UK, clinicians should assess and then treat PUs in the primary care setting. The patient's physical and mental health need to be considered (Richardson et al, 2017) and barriers to healing be identified during the initial assessment process (Benbow, 2016).

Holistic assessment enables clinicians to gather information from the patient on factors that increase the risk of PU development. It provides the opportunity for clinicians to communicate with the patient (Han and Ceilley, 2017). Richardson et al (2017) proposed that clinicians first assess a patient with a PU to determine his or her mental and physical health. PUs have a major impact on the emotional and psychological health of most patients which, in turn, has a negative effect on their quality of life (Sari et al, 2019). These changes were described in the study as troublesome, annoying, disruptive or inconvenient. Apart from this, the occurrence of PUs results in patients feeling discomfort while being unable to actively participate in daily activities, which leads to further mental challenges (Charalambous et al, 2018).

As mentioned in European Pressure Ulcer Advisor Panel (EPUAP) and NPUAP guidelines, without an assessment, clinicians cannot advise patients on which activities they need to stop

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Table 1. Braden scale for predicting pressure sore risk.

Risk factor	Score			
	1	2	3	4
Sensory perception	Completely limited	Very limited	Slightly limited	No impairment
Moisture	Completely moist	Often moist	Occasionally moist	Rarely moist
Activity	Bed-bound	Chair-bound	Walks occasionally	Walks frequently
Mobility	Completely immobile	Very limited	Slightly limited	No limitations
Nutrition	Very poor	Probably inadequate	Adequate	Excellent
Friction and shear	Problem – requires moderate to maximum assistance in moving	Potential problem – moves feebly or requires minimum assistance	No apparent problem – moves in bed and chair independently	

Table 2. Braden score risk levels.

Risk level	Score
Very high	9 or less
High	10–12
Moderate	13–14
Mild	15–18
No risk	19–23

– eg smoking – or modify – eg increasing their calorie intake – to prevent ulceration or improve wound healing (Guy, 2007; NPUAP et al, 2014).

Identifying at-risk patients

A person who is unable to move his or her muscles is at risk of developing ulceration. PUs are commonly caused by prolonged periods spent resting on a hard surface, such as a bed or wheelchair, and insufficient repositioning to relieve pressure and shear. Infants and patients in intensive care and long-term care are at a high risk of developing PUs (Greenwood and McGinnis, 2016).

Prevention of PUs is the responsibility of care takers and nursing staff (Tayyib et al, 2016). Fabbruzzo-Cota et al (2016) found that the implementation of evidence-based PU prevention strategies reduced the number of hospital-acquired PUs. This can have a huge impact on both patient wellbeing and healthcare resources. The average duration of hospital stay for a patient with a PU is 25 days in the UK (Smith et al, 2016). Effective assessment allows suitable interventions to be implemented for at-risk patients.

The Braden scale was developed by Barbara Braden and Nancy Bergstrom in 1987 to predict the risk of PUs and is widely used across the world (Engels et al, 2016). It includes six risk factors [Table 1] and the overall score reflects the level of risk [Table 2].

Causes

PU injury often occurs over specific areas, such as bony prominences. Pressure, shear, friction and moisture are the leading factors in PU development. Clinicians should consider their presence and address them where possible, eg, regularly repositioning bed-bound patients to reduce pressure and shear. The causes of tissue damage, such as injury or reduced blood supply, need to be identified and managed where possible (Park et al, 2016). Holistic, early assessment helps clinicians identify and understand the factors that have caused ulceration and determine the patient's needs. It is important to promptly assess and evaluate PUs because early intervention and addressing major risks or contributing factors could aid the healing process, making it less likely that their wounds will become chronic (NPUAP et al, 2014).

Contributing factors

Urinary incontinence, smoking, dry skin, nutritional status, terminal illness and chronic systemic conditions can increase the risk of ulceration. Various lifestyle factors may have an impact on healing, such as nutrition, mental status, mobility and physical activity. Patients should be asked about possible contributory factors during assessment.

Diagnosis

Assessment is fundamental to efficient diagnostic practices (Eva et al, 2016). An accurate diagnosis based on assessment of a patient's overall health will enable clinicians to select the best course of treatment for complete wound healing. Talking to the patient and asking questions is important, as poor communication can hinder diagnosis (Guy, 2007).

In hospital settings, care is provided based on the assessment and diagnosis that have been

Table 3. International pressure ulcer classification system (NPUAP et al, 2014).

Category/stage	Description
I: Non-blanchable erythema	Intact skin with localised redness, usually over a bony prominence. Area may be painful, firm, soft, warmer or cooler than surrounding tissue. May indicate 'at risk' patients. Harder to detect in patients with darker skin.
II: Partial thickness skin loss	A shiny or dry shallow, open ulcer with a pink wound bed and no slough OR a serum-filled blister (intact or open). No bruising present.
III: Full thickness skin loss	Subcutaneous fat may be exposed. No bone or tendon is visible or directly palpable. Slough may be present. Can include undermining or tunnelling. Depending on the depth of subcutaneous tissue, can be extremely deep (eg on buttocks) or shallow (eg ear)
IV: Full thickness tissue loss	Bone, tendon or muscle are exposed. Slough or eschar may be present. Undermining or tunnelling often present. Can extend into muscle and/or supporting structures, so osteomyelitis is possible.
Unstageable: Depth unknown	Full thickness tissue loss; base of the ulcer covered in slough and/or eschar in the wound bed.

made. These practices empower clinicians to address a number of causes of skin damage and identify key signs of PU formation, such as non-blanching erythema (Payne, 2016).

Ulcer assessment

Assessment enables clinicians to determine the best treatment options for PUs, produce a treatment plan and effectively advise patients on how to manage their wound at home (Richardson et al, 2017). Clinicians should work collaboratively (Smith et al, 2016) and consider a number of factors when determining the severity of an ulcer:

- Its location
- Whether infection is present
- The health of the surrounding skin (is it swollen, spongy, hard or blanched?)
- The edges of the wound.

PUs should be classified according to the international PU classification system (NPUAP et al, 2014) [Table 3]. The length, width and depth of the PU should be measured and recorded. Clinicians should observe the patient's skin to check for signs of infection, maceration and epithelialisation (NPUAP et al, 2014).

Treatment

A treatment plan is devised based on a patient's diagnosis. There are specific treatment methods that are used by physicians to heal PUs. It requires an understanding of which management techniques will provide effective support to patients and the treatment of their condition with appropriate tools and techniques. Negative pressure wound therapy can be used to treat acute, chronic, subacute and non-healing pressure ulcers (Cook et al, 2017).

Discussion

Assessment practices have an impact on PU occurrence and healing. Holistic assessment enables clinicians to identify patients at risk of developing PUs. EPUAP, NPUAP and Pan Pacific Pressure Injury Alliance (2014) assessment guidelines have been associated with practices that should be taken into consideration while managing PUs. Hospitals are required to strictly follow guidelines because they provide a framework on the basis of which specific strategies can be devised to treat and effectively optimise healing of PUs. Therefore, EPUAP, NPUAP and Pan Pacific Pressure Injury Alliance guidelines must be deployed in hospitals and regarded as the standard for supporting patients to make a quick recovery.

Clinicians should identify and assess patients at risk of PUs, particularly older people and young children in hospitals, so preventative strategies can be implemented. The first step in assessment should be to identify factors that may impact a patient's health status. Assessment should be guided by information provided by the patient, such as eating patterns, physical behaviour and many other activities. At this time, clinicians should determine whether an ulcer is progressing to healing, as this can inform treatment decisions that reduce the risk of amputation or mortality following ulcer deterioration.

Conclusion

Appropriate assessment helps clinicians to make effective diagnostic, treatment and management choices for the patients with PUs. It also enables clinicians to identify at-risk patients and implement PU prevention strategies. WME

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