

PRESSURE ULCERS: PREVENTION USING RISK ASSESSMENT

Some patients will be more at risk than others of developing pressure damage. Using a pressure ulcer risk assessment tool will help identify those at risk in order to make the appropriate interventions to prevent the formation of a pressure ulcer. Once key risk factors have been identified, it is the responsibility of the nurse to produce a care plan to ensure seamless continuity of care for the patient.

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Figure 1. Grade 1 pressure ulcer; non-blanching erythema.

Impact of pressure ulceration

The number of older people in the UK is rising (Department of Health, 2006), as a consequence it is suggested that the incidence of pressure ulcers may also rise (Williams, 2005). Pressure ulcers are a source of misery, pain and discomfort to the individual patient, whose ability to function becomes reduced, and mobility, nutritional intake, elimination and psychological well-being can all be affected.

Pressure ulcers are a financial burden to the NHS. Bennett et al (2004) stated that the cost of treating a pressure ulcer ranged from £1,064 for a grade 1 ulcer; non-blanching erythema (Figure 1), to £10,551 for a grade 4 ulcer;

extending to bone, tendon or joint (Figure 2). The total cost to the NHS is estimated at £1.4–2.1bn per year (Bennett et al, 2004), and most of this is made up by nursing costs as caring for patients with pressure ulcers can

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be extremely time-consuming. The cost also increases with the severity of the ulcer, as more resources are employed to treat the ulcer, both directly with wound management dressings and indirectly using pressure-relieving equipment and nutritional supplements.

Pressure ulcer risk assessment: professional responsibility

It is imperative to prevent pressure ulcers. The first means of doing so is to recognise those individual patients who are most likely to develop pressure damage by using a validated risk assessment tool. Pressure ulcer risk assessment is enforced within care settings by a pressure ulcer prevention policy. Such a policy is necessary to demonstrate both to the public and the Department of Health (DoH) that in any care setting, whether acute hospital, community hospital, nursing home or in the patient's own home, a risk assessment has been performed and acted upon (National Institute for Clinical



Figure 2. Grade 4 pressure ulcer, exposing the heel bone.

Excellence, 2003; Royal College of Nursing, 2005).

The Nursing and Midwifery Council (NMC) (2008) is explicit and states that 'you remain accountable for your professional conduct, any care you provide and any omission on your part'.

Consequently, if a nurse fails to provide a pressure ulcer risk assessment and act upon that assessment they may be guilty of omitting or not performing care. This may result in a nurse being suspended from duty and investigated by the NMC and/or the possibility of civil action being taken by patients and relatives against the trust or even the individual nurse. For example, in the case of Castle versus Kings Healthcare NHS Trust (2000), a 65-year-old paraplegic man developed a pressure ulcer while in hospital suffering from renal failure. He was discharged but not provided with a pressure-relieving mattress for another two weeks. He consequently died in pain and distress as a result of his medical problems, which were exacerbated by his pressure ulcer. A legal claim

was made against the trust and the case settled for £32,000.

Clinical guidelines and policies are in place to protect both the patient and the healthcare professional and are designed to ensure that the healthcare

professional is aware of their responsibilities of care. However, such policies can also be used by lawyers to determine whether the patient did in fact receive such care. This can only be proven by clear documented evidence from nursing staff that a pressure ulcer risk assessment and a clear care plan of action were instigated to prevent pressure damage to the patient (McKeeney, 2002).

Pressure ulcer risk assessment tools

Pressure ulcer risk assessment tools include intrinsic (internal) factors, which may predispose the individual patient towards the development of pressure damage (Table 1). By scoring the patient within each section of the risk assessment tool the healthcare professional is either alerted to the possibility of the patient developing

Table 1.

Intrinsic factors contributing towards pressure damage

Intrinsic factor	Example	Consequence
Mobility	Patient has undergone spinal surgery	Possible loss of ability to independently change position in bed
Activity	Patient is paraplegic	Transfers from bed/chair may inflict friction/shear force on own skin
Contenance	Patient is incontinent of urine	Excessive moisture may lead to a breach in skin integrity
Chronic disease	Patient has severe rheumatoid arthritis	Limited repositioning potential
Acute disease	Patient has pneumonia	Reduced oxygenation of tissues
Nutrition	Patient has lost several kilos in weight in a short time period	Loss of soft tissue padding over bony prominences
Age	Patient is 87 years old	Reduced degree of mobility
Skin condition	Patient has dry fragile skin	Increased risk of skin tears
Mental status	Patient has senile dementia	No cognisance of physical risk
Medication	Steroid therapy	Loss of dermal bulk in skin
Sensation	Patient has diabetes and sensory neuropathy	Loss of protective sensation, patient is unaware of harm/injury occurring

pressure damage or can confirm that the patient is not at risk, i.e. the patient who is independently mobile, has a good nutritional intake, is fully continent and mentally cognisant is unlikely to develop pressure ulcers. It is also imperative to fully inform patients about the dangers of pressure damage should their condition change so that they can participate fully within their care to prevent damage developing (see p97–99).

Various pressure ulcer risk assessment tools exist (Norton, 1962; Waterlow, 1985; Bergstrom et al, 1987), including the Knoll and Pressure Sore Prediction Score (Lowthian, 1989), and all include the intrinsic factors highlighted in *Table 1*. There are nuances of interpretation as some tools have been developed for a specific care setting.

Pressure ulcer risk assessment (PURA)

Norton et al (1962) developed the first pressure ulcer risk assessment (PURA) tool when working in an elderly care setting and chose a declining scale to correspond with the patient's declining condition. The tool was devised following a series of three separate investigations.

The first investigation examined the effects of standard nursing care, which at that time did not have the luxury of pressure-relieving mattresses or cushions. Of the 250 patients examined and scored using the Norton PURA tool, 59 (24%) developed pressure ulcers and all had scored very low. It was also noted that 70% of the pressure ulcers had developed within the first two weeks following admission.

The second investigation followed the effects of four different kinds of skin products on 218 newly admitted patients — again the incidence of pressure ulcers was 24%.

The third investigation sought to determine whether the prevalence of pressure ulcers could be reduced by attention to skin hygiene and 2–3 hourly changes of body position. One hundred patients were involved and according to their Norton PURA score ratings, 32 were potentially at risk from pressure ulcer development. However, only nine patients (9%) actually developed a pressure ulcer (Norton et al, 1962).

This series of investigations performed by Norton et al (1962), clearly demonstrate that:

- ▶▶ The use of a risk assessment tool to identify patients vulnerable to pressure damage is essential
- ▶▶ Nursing interventions are vital to prevent a patient from developing a pressure ulcer
- ▶▶ The application of skin products does not prevent a patient from developing pressure ulceration
- ▶▶ That repositioning a patient is a vital part of pressure ulcer prevention.

The latter point is especially important today, when due to the wide availability of pressure-relieving equipment many nurses may think that repositioning a patient is unnecessary. This is not true (Defloor et al, 2005). While pressure-relieving equipment assists the nurse, it is still vital that immobile, dependent patients have their position

changed at regular intervals. This is vital for preventing discomfort and enabling lung expansion, good bladder and bowel function, human contact, and psychological well-being, as well as preventing boredom.

However, the Norton PURA tool (1962) was very basic and reflected the care given to the 'geriatric' or elderly population at that time, some 45 years ago.

Pressure Sore Prevention Score (PSPSI)

The Pressure Sore Prevention Score (PSPS) was developed by Lowthian (1989) for the care of orthopaedic patients. The scoring system consists of six simple questions about the patient's condition, including whether they are sitting up, unconscious, have a poor medical condition, can get up and walk, lift up or are incontinent. It does not, however, take into consideration whether the patient has any comorbidities, such as diabetes, or look at factors such as medication, skin condition or nutritional status.

The PSPS system demands answers of 'Yes', 'Yes but', 'No', and 'No but' and can cause some confusion without rigorous training (Flanagan, 1995). It is interesting that this tool was developed for use in orthopaedic patients and yet does not include the dangers of orthopaedic trauma and surgery for the elderly patient. The exclusion of nutritional status is also troubling, especially since adequate nutrition is essential for wound healing in the orthopaedic patient, providing sufficient energy for the patient to actively rehabilitate from surgery.

Again, the exclusion of important risk factors highlights the age of the tool, which is now 32 years old, thus it must be questioned whether its use in its original form is relevant today.

Waterlow

The Waterlow (1985) PURA tool was developed as a result of a pressure ulcer audit — 2,920 patients were surveyed and 72 (2%) were found to have pressure ulcers. The Waterlow PURA tool (1985) was designed to predict the risk of pressure ulcer development in both medical and surgical patients. It also includes skin type and comorbidities (recognising that as the individual ages the skin becomes dry and more friable), and the impact of comorbidities, e.g. that cardiac failure may lead to oedema of the lower legs causing the area to be more prone to friction/shearing forces and resulting in a possible skin tears. Nutrition is also included. Waterlow (1985) pre-dates the common use of nutritional risk-assessment tools.

Braden

The Braden PURA tool (Bergstrom et al, 1987) examines the risk of pressure ulcer development in the elderly and was designed following collaboration between two nurses — Bergstrom and Braden — who examined groups of nursing home residents. The Braden tool provides great detail of each aspect of risk assessment, which enables the nurse assessing the patient greater clarification. It also provides detail on the levels of sensory perception, in other words whether patients are aware of discomfort and are able to move themselves, or whether

they have no sensation and cannot mobilise to protect their body from the effects of pressure. This section also allows the nurse to assess patients' mental status which is important when determining whether they are able to participate in their care or not. Often older nursing/residential home patients have a degree of vascular or senile dementia and are not able to fully participate.

While Bergstrom et al (1987) have produced a robust tool, which has been found to be both valid and reliable, it should be remembered that the tool was devised for nursing home residents.

All NHS trusts have their own pressure ulcer prevention policy or guidelines and nurses should use the risk assessment tool laid out in their trust's policy.

More pressure ulcer risk assessment tools exist, but those cited clearly demonstrate the aspects of risk that must be considered. They also reflect the changes that occur and the need for constant re-examination of risk assessment tools to ensure they meet the needs of patients. Once the risks have been identified, it is then the responsibility of the nurse/healthcare professional to provide a plan of care that reflects both the identified risk and the actions that can be taken to prevent pressure damage. Failure to implement appropriate preventive treatment plans after identifying the patient's risk status would be considered negligent practice (Flanagan, 1998).

Care plans

The NMC (2003) states that: 'Good record keeping helps to

protect the welfare of patients and clients by promoting:

- ▶▶ High standards of clinical care
- ▶▶ Continuity of care
- ▶▶ Better communication and dissemination of information between members of the inter-professional healthcare team
- ▶▶ An accurate account of treatment and care planning and delivery
- ▶▶ The ability to detect problems, such as changes in the patient's or client's condition, at an early stage.'

The *Essence of Care* (National Health Service Modernisation Agency, 2003) states that an individualised plan for the prevention and treatment of pressure ulcers should be included in any patient documentation. A care plan should demonstrate both direct and indirect nursing actions, i.e. referral to a speech and language therapist — in other words any interaction with the multidisciplinary team instigated by the nurse. While it might not be the nurses' responsibility to perform all tasks, it may be their responsibility to ensure that appropriate referrals are made and acted upon — such is the responsibility of acting as the patient's advocate (NMC, 2008).

Involvement of the patient or their relative/carer is advisable as they may have tried and trusted means of preventing various problems, which could be invaluable to the nurse planning the patient's care. The National Health Service Modernisation Agency (2005) states clearly that person-centred care is vital and that care planning involves negotiation, discussion and shared decision-making between

the nurse and the patient. It should be regarded as a means to an end, the ultimate goal of which is successful management of the patient's problems by a multidisciplinary team that includes the patient.

Conclusion

Care planning is an essential part of nursing documentation. It demonstrates explicitly the care the individual patient requires, provides an essential part of nursing communication and is an integral part of the legal documentation relating to a patient's plan of care. It should be drawn up by a multidisciplinary team that includes the patient or their relatives/carers.

NICE (2003), guidance states that all trusts should have a pressure ulcer policy, which should include a pressure ulcer risk assessment tool. However, it also reminds healthcare professionals that such risk assessment tools should be regarded as an adjunct to the clinical judgement of the healthcare professional. **WE**

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Key Points

- ▶ Pressure ulcers represent a financial burden to the state, the healthcare system and the individual affected.
- ▶ Pressure ulcers are a cause of misery, pain and loss of dignity for the individual.
- ▶ It is important to recognise and use the most appropriate pressure ulcer risk assessment tool for each individual patient.
- ▶ It is the responsibility of healthcare professionals to follow local trust policy/guidelines in pressure ulcer prevention.

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