

# MANAGING PATIENTS VULNERABLE TO PRESSURE ULCERATION

Pressure ulcers cause immense pain and suffering to patients and subsequently can have a negative impact on their quality of life (National Institute for Health and Clinical Excellence [NICE], 2005). It is worrying, therefore, that an estimated 200,000 people have a chronic wound in the UK (Posnett and Franks, 2008) and unsurprising that pressure ulceration has risen high on the political agenda.

According to the NHS, pressure ulcers are, 'sometimes known as bedsores or pressure sores, [and] are a type of injury that affects areas of the skin and underlying tissue. They are caused when the affected area of skin is placed under too much pressure. They can range in severity from patches of discoloured skin to open wounds that expose the underlying bone or muscle.'

Recently, pressure ulcers have become an indicator of the quality of nursing care. Debate has arisen, however, over whether even with all of the pressure ulcer prevention measures available, some individuals, such as the obese, immobile, malnourished or critically ill, will nevertheless go on to develop ulcers, irrespective of the treatment provided.

Furthermore, the financial cost of pressure ulcers cannot be underestimated as they are postulated to be the single most costly chronic wound to the NHS (Posnett and Franks, 2008). The cost of treating a category 3 pressure ulcer is between £363,000–£543,000 and a category 4 between £447,000–£668,000 (Department of Health [DOH], 2010a).

## **Definition of avoidable and unavoidable pressure ulcers**

### *Avoidable pressure ulcer*

'Avoidable' means that the person receiving care developed a pressure ulcer and the care provider did not do one of the following:

- ▶▶ Evaluate the person's clinical condition and pressure ulcer risk factors
- ▶▶ Plan and implement interventions that are consistent with the patient's needs or goals, or recognised standards of practice
- ▶▶ Monitor and evaluate the impact of the interventions, as appropriate.

### *Unavoidable pressure ulcer*

'Unavoidable' refers to an individual receiving treatment who develops the pressure ulcer even though the care provider evaluated the person's clinical condition and pressure ulcer risk factors. The care provider completed the following steps:

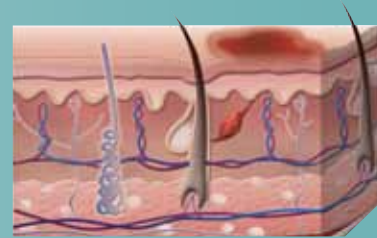
- ▶▶ Planned and implemented interventions that are consistent with the person's needs and goals
- ▶▶ Monitored and evaluated the impact of the interventions and revised approaches as necessary
- ▶▶ Made the patient aware of the consequences of non adherence (Black et al, 2011).

- ▶▶ Pressure ulcers
- ▶▶ Repositioning
- ▶▶ Quality of life

*Pressure ulcers are estimated to be the single most costly chronic wound to the NHS*

MARIE WILSON is a Tissue Viability Clinical Nurse Specialist at Croydon University Hospital

Category 1 pressure ulcer: A patch of non-blanchable erythema on a patient's buttock, showing as redness. As the diagram shows, a category 1 pressure ulcer only affects the epidermis. Patients who have been identified as at-risk of developing pressure damage require a pressure-relieving mattress and cushion and should be repositioned at regular intervals to prevent deterioration into an ulcer.



Category 2: The pressure ulcer here is on a patient's heel. As the diagram shows, the ulcer has begun to break through the layers of the skin. Patients who have been identified as at risk of developing further pressure damage will require a pressure-relieving mattress and cushion and should be repositioned at regular intervals in order to relieve pressure on the blister.



Category 3: The pressure ulcer is showing full thickness skin loss that may extend down to underlying structure. This patient will require pain relief, psychological support, absorbent wound dressings (in order to manage exudate), a pressure-relieving mattress, regular repositioning, increased nutritional input to aid healing, and intensive physiotherapy as recovery begins.



Category 4: The pressure ulcer has now passed through the underlying structure and there is extensive tissue destruction. There is also damage to bone, muscle and supporting structures. This patient will require; pain relief, psychological support and moist wound dressing to help the body deslough the dead tissue. A pressure-relieving mattress, regular repositioning, increased nutritional input and intensive physiotherapy will be required once the patient begins to recover.



Figure 1. Examples of pressure ulcers, categories 1–4.

### Avoiding pressure ulceration

Mobility and activity are well-documented predictors of pressure ulceration. If an individual is chair- or bedridden, they are considered to be at greater risk of pressure ulcer development (European Pressure Ulcer Advisory Panel [EPUAP]-National Pressure Ulcer Advisory Panel [NPUAP], 2009) (Figure 1).

Repositioning and turning of the patient will aid pressure reduction at vulnerable regions. This should include many different variations of positioning, such as the 30-degree tilt, full alternate side rest, small body movements and partial turns. Any repositioning should be tailored to

the individual's clinical needs and should not be just routinely followed once or twice hourly. It is important to consider when establishing any repositioning regimen that patients do have the right to refuse treatment and can be non-adherent to a plan of care.

### Capacity

Even though individuals do have the right to refuse intervention/ treatment, in the majority of cases they do participate in their own care by independently repositioning and/ or turning. However, even when they have full mental and physical capacity, some individuals have been known to refuse to reposition either independently or with assistance. In

such circumstances, it is vital that the full effect of the non-adherence is communicated to the individual and any family/carers/relatives. They must be made aware that the choices made may have a direct impact on pressure ulcer development. This must be clearly documented in the individual's medical notes and/or any other relevant paperwork.

The cognitively impaired individual may often resist treatment and can be a challenge to the clinician aiming to provide care. These patients should not be considered non-adherent as they do not have the capacity to understand the possible outcome of their actions. There must be robust documentation

of the attempts to reposition and exactly what the individual will allow and tolerate, as well as as much preventative care undertaken as possible.

### *Palliative care*

It is also important to remember that a palliative patient at the final stage of their life may be in extreme levels of pain, so repositioning them would cause even greater trauma and discomfort. Terminally ill patients, however, are at greater risk of pressure ulcer development due to their general physical condition, their illness and, often, psychological/socio cultural aspects (Langemo et al, 2007). For example, depression is suggested as being a common phenomena associated with terminal illness. As depression is linked to diminished interest in activity, fatigue, and weight loss or gain, all of these factors will have an impact on pressure ulcer development (Williams, 2000).

Indeed, Kennedy (1989) described the sudden onset of pear-shaped purple areas of skin that often develop on the sacrum two to three days before death. Although there have been few formal studies in relation to these terminal ulcers, general anecdotal evidence suggests that they do occur. The phenomenon has also been termed as skin failure, which La Puma (1991) refers to as underlying skin damage that occurs at the end stage of life. As the skin is the body's largest organ, it is suggested that it is inevitable that the hypoperfusion of tissue under severe pressure will lead to ulceration (Langemo and Brown, 2006).

### *Intensive care*

The critically ill individual requiring intensive intervention may also be at greater risk of pressure ulcer development. If they are haemodynamically unstable and/or poorly perfused, they will require medical intervention to maintain normal blood pressure and/or adequate cardiac output. The

vasoactive medications used in such cases constrict peripheral blood vessels which, in turn, decreases perfusion to the skin (Kaitani et al, 2010). In these cases, the individual's haemodynamic state will often become exacerbated by movement and, thus, repositioning may be less frequent as a result. The combination of medication and the less frequent positioning can only impair tissue perfusion and lead to ulceration.

### *Nutrition*

The malnourished individual, either underweight or obese, and/or those who are poorly hydrated should also be recognised as being at greater risk of ulcer development. Frail, elderly individuals with severe protein malnutrition will have an altered tissue tolerance which affects their inflammatory response and immune function. These factors combined can make them more prone to pressure ulceration.

Individuals who are obese or extremely obese have an increased risk of ulceration due to their unique skin tissue type, known as pannus, which can develop in the skin folds. Obesity can alter the epidermal barrier of the skin, which is thought to increase transepidermal water loss and dry skin (Guida et al, 2009). People who are obese are more likely to sweat profusely when overheated in comparison with non-obese people and this increased moisture, combined with the friction caused between the deep skin creases, can lead to maceration, inflammation and, ultimately, necrosis and pressure ulceration.

This may not just be limited to the large abdominal skin folds as the pannus can also cause friction and pressure to other areas of the body, for instance, the thighs due to their size and weight. Obesity causes complex clinical situations that require specialist offloading equipment and multidisciplinary specialist input.

There must be collaboration between tissue viability, dietetics, physiotherapy, and medical professionals to ensure that all aspects of their care are addressed with the aim of reducing the risk, and/or managing pressure ulceration.

### *The Skin*

The skin, as mentioned earlier in this article, is the largest organ of the body and, as such, is subjected to many different stressors, for example:

- ▶▶ Daily washing with astringent soaps and detergents
- ▶▶ Sunlight and different weather
- ▶▶ Pollutants and continence problems.

Urinary and faecal incontinence can have a detrimental effect on skin integrity and are considered to be a risk for pressure ulcer development (Beldon, 2008).

The skin produces natural protective secretions and oils that maintain a level acid pH balance to assist the skin in remaining intact. In the case of individuals with urinary incontinence, the ammonia produced by the urine raises the pH balance of the skin on contact, making it more permeable (Beldon, 2008).

The underlying cause of the urinary incontinence should be explored and if treatment is either unadvisable or unnecessary, a catheter insertion may be used to protect the local tissue.

In a person with faecal incontinence, the properties of the faeces, which contains proteolytic and lipolytic enzymes that aid digestion, act in a similar manner to that of urine. These enzymes are normally deactivated in the gut, but if the pH balance of the skin is raised then on contact they can be reactivated which, in turn, creates further skin trauma (Beldon, 2008).

With the protective barrier of the skin breached, bacteria can strip away the epidermal layer, which



leads to moisture lesions, and if left untreated, these can become pressure ulcers. Thus, the clinician must have the knowledge and skills to not only recognise, but also to manage and treat, moisture lesions and continence issues, thus preventing tissue breakdown and/or pressure damage.

The cause of the continence problem must be explored, for example, factors such as Chron's disease, ulcerative colitis, impacted faecal load, antibiotic use, and bacterial infection (*Clostridium difficile*) should be considered.

Infection control advice always centres on isolating the individual, in order to prevent the cross infection of others. As prolonged exposure to loose stools creates skin damage, the use of a faecal collector and/or faecal management system (e.g. Flexi-Seal®, ConvaTec) may be considered to protect the peri-anal skin.

There have been many guidelines published at a national and local level aiming to assist clinicians in managing these issues, yet it is an embarrassing problem for people to admit to. There needs to be sensitive and sympathetic communication with the individual so that the best outcome can be reached.

### Conclusion

Pressure ulcer prevention has been on the agenda for those with an interest in tissue viability for a very long time. It has recently risen higher on the political agenda due to the ever-increasing costs to the healthcare provider and the detrimental effect that pressure ulcers have on the individual.

All care providers must now complete incident forms for individual pressure ulcers, with the majority of these, in the author's experience, progressing onto root cause analysis, vulnerable adult examination and safeguarding processes.

An individual with a category 3 or 4 pressure ulcer should now have any evidence of care scrutinised by senior nursing staff, social services and allied healthcare professionals.

By adopting this more strategic approach nationally and locally, it has been argued that all pressure ulcers are now preventable due to the direct accountability of clinicians, who are now expected to provide 'harm free care' (Stephen-Haynes, 2011).

The author would suggest, however, that a consideration of the factors briefly touched upon within this article demonstrates that this is not always the case. This begs certain questions, such as: 'How can individuals at the end of life be prevented from suffering skin damage when they find themselves in such a fragile or painful state?' and, 'How can the individual with full mental capacity be repositioned against their will if this may be seen as an infringement of their human rights?'

To establish whether a pressure ulcer is avoidable or unavoidable, regulators must be presented with evidence to demonstrate that all the actions that are stipulated in order to render a pressure ulcer 'avoidable' have been undertaken. It is, therefore, vital that there is robust documentation throughout an individual's healthcare journey to demonstrate that actions have been undertaken.

There is still, however, no excuse for lack of care or poor pressure ulcer prevention measures, and the debate over the avoidable/unavoidable pressure ulcer must not support substandard care. **WE**

### References

Beldon P (2008) Moisture Lesions: The Effect of Urine and Faeces on the Skin, *Wound Essentials* 3: 83–87

Black J, Edsberg L, Baharestani M, et al (2001) Wound, Ostomy and Conti-

nence Nurses Society. Pressure Ulcers: avoidable or unavoidable? Consensus conference. *Ostomy and Wound Management*, 57(2): 24–37

DoH (2010) Pressure Ulcer Productivity Calculator, DoH, London

EPUAP/NPUAP (2009) Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline. Washington DC; NPUAP

Guida B, Nino M, Perrino NR et al (2009) The Impact of Obesity on Skin Disease and Epidermal Permeability Barrier Status. *J Eur Acad Dermatol*, 24(8): 191–5

Kaitani T, Tokunga K, Mastsui N, Sanada H (2010) Risk Factors Related to the Development of Pressure Ulcers in a Critical Care Setting. *J Clin Nurs*, 19 (3–4) 414–21

Kennedy KL (1989) The Prevalence of Pressure Ulcers in an Intermediate Care Facility. *Decubitus*, 2(2): 44–5

LaPuma L (1991) The Ethics of Pressure Ulcers. *Decubitus*, 4(2): 43–44

Langemo D, Brown G (2006) The Skin Fails Too. Acute, Chronic & End Stage Skin Failure. *Adv Skin Wound Care*, 9(4): 206–211

Langemo D, Anderson J, Hanson D, Thompson P, Hunter S (2007) Understanding Palliative Wound Care. *Nursing. J Wound Ostomy* 37(1): 65–6

NHS, Pressure Ulcers. Available at: <http://www.nhs.uk/conditions/Pressure-ulcers/Pages/Introduction.aspx> (accessed on 25 May, 2012)

NICE, The Prevention & Treatment of Pressure Ulcers, 2005

Posnett J, Franks PJ (2008) The Burden of Chronic Wounds in the UK. *Nurs Times*, 104(3): 44–5

Stephen-Haynes J (2011) Pressure ulceration and the current government agenda in the UK. *Wound Care* 18–26

Williams LM (2000) Difficulties in diagnosing and treating depression in the terminally ill cancer patient. *Postgrad Med J* September: 76: 555–8