

THE DIFFERENCE BETWEEN MOISTURE LESIONS AND PRESSURE ULCERS

Pressure ulcers are estimated to cost the NHS between £1.8bn and £2.6bn a year (Posnett and Franks, 2007) and have been an ever-present problem for the immobile patient (Dealey, 1997). The blame for pressure ulcers has shifted from poor nursing care to being the responsibility of the multidisciplinary team (Dealey, 1997). However, clinicians often confuse pressure ulcers with damage caused by moisture. This article looks at how to differentiate between the two types of skin damage.

It is estimated that as many as 400,000 new pressure ulcers develop each year

- ▶▶ Pressure ulcers
- ▶▶ Moisture lesions
- ▶▶ Classification
- ▶▶ Quality of life

Despite the high costs associated with them, pressure ulcers have rarely found their way onto either the national health or media agenda. For the last decade or so, the focus has been on Methicillin-resistant *Staphylococcus aureus* (MRSA), and infection prevention and control. It is estimated that healthcare associated infections cost the NHS £1 billion per annum (The Patients Association, 2010) — less than the costs of pressure ulcers.

Despite this, there are 3.25 times more infection prevention control nurses than tissue viability nurses in the acute sector (The Patients Association, 2010).

This may be because the attention given to MRSA and infection prevention led to an increase in the number of infection prevention and control nurses (IPCNs).

The adverse effects of pressure ulcers include:

- ▶▶ Death following septicaemia
- ▶▶ Loss of lower limb
- ▶▶ Extensive reparatory surgery
- ▶▶ Months or years of dressings
- ▶▶ Living with exudate and malodour
- ▶▶ Ongoing pain.

Since their inception in the late 1980s, tissue viability nurses (TVNs) have been champions for the prevention of pressure ulcers and the recent attention given to pressure ulcers in the political (Lansley, 2010) and national agenda (Bolger, 2010) is welcomed. TVNs, where they exist, have battled to reduce the occurrence of pressure ulcers, very often in a team of one, with small budgets and few resources.

Total pressure ulcer numbers have not been collected nationally in an organised and standardised way (The Patients Association, 2010) and so it has not been possible to ascertain the true extent of the problem but, it is estimated that as many as 400,000 new pressure ulcers develop annually (Posnett and Franks, 2007).

The Department of Health (DoH, 2012) has set the target of eliminating all avoidable pressure ulcers in 95% of patients through quality, innovation, productivity and prevention (QIPP) workstreams. From July 2012, all NHS organisations are expected to collect data of harms, including pressure ulcer prevalence, using the NHS Safety Thermometer (The NHS Information Centre, 2012), under the Commissioning for Quality

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and Innovation (CQUIN) payment programme. While this method is not an accurate reflection of true incidence of pressure ulcers (Tissue Viability Society, 2012), it represents the first time that counting has been attempted nationally and provides a starting point for data collection that can be improved upon. Currently, only the worst 'old' pressure ulcer (i.e. developed since admission to that hospital or district nursing [DN] caseload) and the worst 'new' pressure ulcer (i.e. developed since admission to hospital or DN caseload) that patients have are reported (Grade two to four only).

Meanwhile, some regions are being asked to eliminate all avoidable pressure ulcers by the end of 2012 (NHS Midlands and East, 2012).

Both the nurse-sensitive outcomes document (Bolger, 2010) and the TVS Consensus document (TVS 2012) provide recommendations as regards what does and does not need to be counted. The latter has received acknowledgement from the Chief Nursing Officer (CNO Bulletin, 2012). It is recommended that the DoH definition for unavoidable pressure ulcers is used nationally (TVS, 2012), however, a precise time of occurrence of damage often cannot be determined (TVS, 2012).

The National Institute for Health and Clinical Excellence (NICE, 2005) recommends that pressure ulcers are classified using the European Pressure Ulcer Advisory Panel (EPUAP) grading tool. This tool was refashioned in 2009 with collaborative work between the EPUAP and the National Pressure Ulcer Advisory Panel (NPUAP) (EPUAP and NPUAP, 2009). Interestingly, consensus between Europe and the US was still not found for all descriptions and the NPUAP has additional definitions in its classification tool. Clearly, the definition of 'pressure ulcers' is not a clear cut issue if even international experts continue to struggle to gain consensus.

Clinicians face various challenges when identifying and classifying pressure ulcers including:

- ▶▶ A precise time of occurrence of damage often cannot be determined
- ▶▶ The initial presentation of grade only represents visible damage at the time of inspection — underlying damage may be present, but may not become visible for a few days
- ▶▶ Other lesions may be incorrectly classified as pressure ulcers
- ▶▶ Early pressure damage may not be visible in individuals with darker skin colour, preventing early recognition
- ▶▶ Skin failure at end of life may be mistaken for pressure damage (Sibbald and Krasner, 2009).

It is suspected that one of the commonest reporting errors is around moisture lesions (*Table 1*) (Defloor et al, 2005; Beeckman et al, 2009) as these usually occur on the seating area and, in severe cases, can erode into a cavity. Nurses will commonly associate this damage with pressure and grade these lesions two to four.

Strategy

Once the task of reducing pressure ulcers has been set, it is important to get the baseline for counting correct from the outset. Trusts are now reporting pressure ulcer occurrences to a number of different bodies, including the Care Quality Commission and the National Patient Safety Agency. Grade three and four pressure ulcers are being recorded and reported to Primary Care Trusts as serious incidents. Many trusts in the eastern region of the UK undertake a root cause analysis when a patient develops a grade three or four pressure ulcer. Documentation is vital in this process and it may be during this process that a pressure ulcer will be deemed to be unavoidable.

When considering documentation and care pathways, the following factors are crucial:

- ▶▶ Risk assessment within six hours of admission
- ▶▶ Skin inspection
- ▶▶ Implementation of preventative care strategies
- ▶▶ Documentation of delivery of these care strategies
- ▶▶ Evidence of repeated skin inspection
- ▶▶ Re-evaluation of care strategies if skin damage is occurring, despite the previous plan being implemented.

Identifying and recording skin damage correctly is important in this process, in part, to prevent the reporting of lesions as pressure ulcers when this is not the case. Most pressure ulcers occur



Figure 1: Sacral pressure ulcer. Full depth not yet visible.



Figure 2: Sacral pressure ulcer one month later, showing full depth of damage, which extends to the bone.



Figure 3: A deep cavity moisture lesion secondary to faecal incontinence. This lesion is not positioned over a bony prominence.

on the sacrum and buttocks, with the second highest occurrence site being the heels. However, there are other lesions that can occur that may not be pressure damage, but that healthcare professionals may incorrectly identify and grade as pressure ulcers (Defloor et al, 2005), including:

- ▶▶ Moisture lesions
- ▶▶ Incontinence-associated dermatitis
- ▶▶ Leg ulcers
- ▶▶ Diabetic foot ulcers
- ▶▶ Pilonidal sinus
- ▶▶ Anal ulcerations
- ▶▶ Dermatological lesion-causing disorders
- ▶▶ Burns
- ▶▶ Cellulitis.

Recognising the common pathology of a pressure ulcer will reduce inaccurate reporting and ensure that appropriate care actions are instigated.

Moisture lesion or pressure ulcer

Pressure ulcers will occur because of either immobility or pressure exerted by an external piece of equipment (Defloor et al, 2005; Jaul, 2011). In the former case, they will present as a circular or symmetrical shape over a bony prominence (Defloor et al, 2005), commonly the sacrum, ischial tuberosities or heel. The damage is caused by lack of oxygen supply to the skin and underlying tissues as a result of partial or full vascular occlusion, secondary to the pressure. The highest point of pressure will be at the bone — the lowest on the skin (Collier and Moore, 2006).

If the pressure is unrelieved, skin marking, which will be circular in shape, will become darker (a shade of red turning to purple and then to black) as skin necrosis occurs. Over time, the now dead tissue will be autolytically debrided by the body, revealing a deep tissue cavity, beneath which may be damage extending to the bone. This level of damage is classified as grade four (EPUAP and NPUAP, 2009).

Table 1
Quick reference guide — differentiating between pressure ulcers and moisture lesions

<i>Pressure ulcer</i>	<i>Moisture lesion</i>
<i>History of immobility, short or long term</i>	<i>History of faecal and/or urinary incontinence</i>
<i>Will be circular and symmetrical in shape</i>	<i>May be associated with sweating in skin folds or natal cleft</i>
<i>May take butterfly wing shape if spans out from sacrum</i>	<i>Irregular and asymmetrical shape</i>
<i>Will be over a bony prominence (unless piece of equipment is the cause)</i>	<i>Lesions will be over fatty parts of the buttocks and thighs, and are not isolated to being located over the bony prominences</i>
<i>May have necrotic or thick sloughy tissue present</i>	<i>Lesions may extend into perineal area, scrotum and vulva</i>
<i>If associated with an external device causing the pressure the lesion will take the shape of the device</i>	<i>Usually there is no necrotic tissue or slough</i>
<i>Grade according to EPUAP classification tool</i>	<i>Do not grade</i>

When a piece of equipment causes the damage, such as ventilation masks placed on noses or catheter tubing against the thighs, the highest point of pressure will be on the skin's surface, reducing as it passes through the skin layers. Skin damage may even take on the shape of the piece of equipment.

These lesions do not usually extend down to bone often and may not extend further than the dermis. The exception here is where there is little or no underlying subcutaneous tissue to protect the deeper layers, such as on the bridge of the nose when masks may cause damage extending through to the cartilage.

Where shear force has also been involved in the damage — when patients slide down a bed in a semi-prone position, for example (Deutekom and Dobben, 2005) or in the case of anal irrigation (Ebanks and Mills, 2007) — the circular shape may stretch. On the buttocks this often presents as a butterfly wing shape over the sacrum (*Figures 1 and 2*). The addition of friction may also result in blistering, commonly seen on the heel.

Moisture lesions, on the other hand, will be present when there is a history of moisture on the skin. In most cases this will be due to faecal or urinary incontinence or a combination of both.



Figures 4 (left) and 5 (right). Both show skin damage from friction between buttock cheeks, resulting in sweat build-up in skin folds.



Figure 6. Incontinence-associated dermatitis.

However, it may also be related to sweat resulting in an increased friction between skin folds. An example of this is where a linear lesion will occur in the natal cleft of the buttocks. These can be differentiated from pressure damage because they are linear not circular and are not located directly over the bony prominence of the sacrum/coccyx/ischium.

Moisture lesions due to incontinence will be irregular in shape, have ill-defined 'wandering' edges and often occur over the fatty tissue of the buttock cheeks, the perineum, inner thighs, scrotum and vulva. Certainly, the presence of incontinence and moisture lesions can increase a person's risk of developing pressure damage as the weakened skin in this area becomes increasingly vulnerable. Where there are both moisture lesions and pressure-related damage present, these lesions may be referred to as combination lesions (Defloor et al, 2005).

Moisture lesions can extend to deeper tissue, particularly where faeces gets trapped under slough (Figure 3). The bacterial toxicity that results, erodes into the dermis and fatty tissue and may result in a cavity lesion. These can be mis-diagnosed as pressure ulcers. Differentiation is important for both selection of an appropriate management plan and incidence reporting of pressure ulcers. Obtaining an accurate history is essential when ascertaining the underlying aetiology of a lesion.

Management and treatment of moisture lesions

Where possible, the cause of the moisture lesion needs to be addressed (Table 2). In terms of both urinary and faecal incontinence, the cause must be initially identified. Interventions include:

Urinary incontinence

- ▶ Exclude a urinary tract infection as the cause
- ▶ Where skin damage is severe, consider catheterisation to protect skin (NICE, 2010)
- ▶ Refer to continence specialists for advice where appropriate (Thomas et al, 2009)
- ▶ Utilisation of body worn pads rather than pads for the bed/chair (Fader et al, 2008).

Faecal incontinence

- ▶ Eliminate constipation and subsequent impaction as a cause of overflow (NICE, 2007)
- ▶ For a type 4–1 stool (Bristol Stool Chart — Lewis and Heaton, 1997), consider anal plugs if tolerated and appropriate (Deutekom and Dobben, 2005; NICE, 2007)
- ▶ Type 6–7 stool, consider faecal management system (cautions and contraindications apply) (Evans et al, 2010; Hurnauth, 2011).

Treatment of skin damage

Once the cause of a moisture lesion has been established, the following can be used to treat skin damage:

Sweat in skin folds/natal cleft (Figures 4 and 5)

- ▶ Barrier creams/films may be useful here to protect the skin from maceration and resultant friction
- ▶ Using emollients in the water when washing can reduce dryness and skin flakes
- ▶ Avoid using soap
- ▶ Consider anti fungal treatment if fungal infection is suspected
- ▶ In some instances, soft absorbent padding may be useful to keep skin-to-skin contact minimal.

Table 2

Skin care to prevent and treat moisture lesions and IAD

Wash skin after every episode of incontinence using water and emollients. Do not use soap (Beekman et al, 2009)

Ensure skin is thoroughly dried after washing

Use moisturisers after washing and drying; antimicrobial content may be considered

Consider a barrier protectant film or cream

Consider the use of antifungal or antimicrobial creams

Consider the use of body worn pads to protect the skin

Consider the use of incontinence management aids

Refer to a continence nurse where available

Incontinence-associated dermatitis and moisture lesions (Figure 6)

- ▶ Skin washing using water and an antimicrobial emollient (such as Emulsiderm, Dermal Laboratories Ltd) (Watkins, 2008)
- ▶ Use bodyworn incontinence pads. Consider barrier creams/films that do not clog up the absorbency of the pads (Zehrer et al, 2005), such as Cavilon™ (3M) or Sorbaderm™ (Aspen Medical), or a silver sulphadiazine cream (i.e. Flamazine®; Smith & Nephew) (Copson, 2006). A honey-based barrier cream (i.e. Medihoney®; Derma Sciences) can also be used to protect the skin
- ▶ Avoid adhesive dressings as these often result in further skin stripping
- ▶ Consider an antifungal and/or combination antimicrobial cream if fungal or bacterial skin infection is also suspected.

Conclusion

Preventing pressure ulcers and skin damage caused by moisture is important when protecting patients from harm, and differentiating between the two is important in terms of reporting accuracy. It also ensures that the best preventative care strategies are implemented.

Now is the best time to ensure patients avoid skin damage — senior NHS managers are providing support to ensure the target of eradicating avoidable pressure ulcers can be achieved and listening to tissue viability experts. The hard work must continue to ensure this becomes a reality. **WE**

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