Management of patients with heel-located pressure damage

Lorraine Grothier

Pressure ulcers are a significant problem in both the acute sector and the community, where nurses can spend a great deal of their time dealing with what is a painful and debilitating condition. As government policy encourages more care to be delivered in patients’ homes, finding solutions to pressure damage that aid healing and improve patients’ quality of life, as well as being cost-effective, is paramount. This article examines the background to pressure damage, as well as looking at its effect on community nurses’ workload. In particular, it focuses on the heel as a common site of pressure damage.

KEYWORDS:
Pressure damage  Wound dressing  Cost-effectiveness

Pressure ulcers are often seen by healthcare professionals as a ‘hospital’ problem, with damage developing in immobile, acutely ill patients. However, in reality, many patients enter hospital with skin damage already present. Indeed, it has been estimated that as many as 4–10% of patients admitted to acute hospitals in the UK have some kind of pressure damage (National Institute for Health and Clinical Excellence [NICE], 2005), with some researchers putting this figure as high as 20% (Clark et al, 2004).

This skin damage may originate in the patient’s home or in a residential setting, for example, with estimates suggesting that up to 20% of patients in nursing and residential homes may have some level of pressure damage (NHS Institute for Innovation and Improvement, 2013). This means that pressure damage has a significant effect on the workload of community nurses, a problem that is set to continue as government policy seeks to move more care out of the acute sector and into people’s homes (Department of Health [DH], 2009).

It has been estimated that approximately 20–30% of all pressure ulcers occur on the heels (Van Gilder et al, 2008) — a figure that has not decreased much in the last 30 years (Collier, 2005), despite advances in therapy and awareness. While Morton (2012) suggests that this may be the result of improved reporting, the heel, by its very location, is the most common area for deep tissue injury (Salcido et al, 2010). With pressure ulceration rates being seen as an indicator of the quality of care given (Ousey, 2011; Watret and Middler, 2012), organisations need to ensure that certain targets are set, namely reducing specific types of pressure ulcers such as on the heels (Best Practice Statement, 2013).

DEFINITION

The 2009 EPUAP/NPUAP guidelines define a pressure ulcer as a ‘localised injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, or pressure in combination with shear’.

The heel is the second most common site of pressure ulcer formation (Whittington, 2004), and heel pressure ulcers have been identified as the most prevalent facility-acquired pressure ulcer in long-term acute care (Van Gilder et al, 2005).

Quality of life

Pressure ulcers have a huge impact on patients’ quality of life, with pain a feature of approximately 43% of cases (Briggs et al, 2013). Pressure damage can also have a huge impact on financial resources, with treatment in the UK absorbing approximately 4% of the NHS’ annual expenditure — around £1.4–2.1bn per annum (Bennett et al, 2004). Nursing time accounts for the majority of these costs and Dealey et al (2012) estimate the expected cost of a category one ulcer (EPUAP/NPUAP, 2009) to be £1,214 per patient, increasing to £15,519 for a category four ulcer.

AETIOLOGY

The high prevalence of pressure ulcers suggests a wide range of causes, and this is indeed the case. However, irrespective of any attendant morbidities, the heel (when the patient is lying in the supine position) is naturally vulnerable to pressure (Graff et al, 2000), with the perfusion of heel skin diminishing with increased pressure levels (Mayrovitz, 2002). Ultimately, tissue damage due to poor perfusion gives rise to pressure ulcers (EPUAP/NPUAP, 2009).

The pathogenesis of pressure ulcers can be attributed to three key mechanical factors

- Pressure
- Friction
- Shearing (Grey et al, 2006).

These factors do not act in isolation, but influence and exacerbate...
INNOVATION

HEEL-SHAPED

Tailored for the heel

www.molnlycke.co.uk/borderheel

The unique design of Mepilex® Border Heel delivers essential benefits to both clinicians and patients:

- Shaped to adhere to the contours of the heel to provide excellent conformability.
- Large side flaps designed for secure fixation helping to reduce dressing wastage.
- The non-bulk design and fit provides improved patient comfort and enables footwear to be worn.
- Absorbs and retains exudate which minimises the risk of maceration and leakage which allows for less frequent dressing changes.1


Available On Drug Tariff 1st November

© 2013 Wound Care People Ltd
the effects of one another. For example, pressure that is more than the average capillary pressure, reduces blood flow to the skin and increases the risk of occluding blood vessels (Barton, 2006). Pressure, due to gravity, which is made worse from the weight of bedding, also causes increased friction and shearing when the patient moves, or is moved incorrectly. The presence of excessive moisture exacerbate the effects of friction and shear and may cause maceration and lead to ulceration (Grey et al, 2006).

RISK FACTORS AND ECONOMIC IMPLICATIONS

While old age is not a cause of pressure damage in itself, age-related changes, such as fragile skin, and underlying pathologies mean that the elderly are at increased risk. Compromised mobility, heavy sedation, inadequate nutrition, faecal or urinary incontinence, poor circulation, chronic/terminal illnesses such as diabetes mellitus and arterial disease, as well as hip fractures, all increase the risk of heel pressure ulcers developing, and are all more common in older age groups (Grey et al, 2006).

Hip fracture patients are at particularly high risk of developing pressure ulcers (Donnelly, 2011), particularly to the heel (Gunningberg, 2000). The financial implications of this are formidable, with studies estimating that costs to the NHS could be in the region of £24 million per year if effective prevention strategies are not put in place (Whittington et al, 2000).

As may be expected, the management of heel ulcers is particularly problematic for anatomical reasons — dressing the heel is inherently awkward and is made even more so by the fragility of the periwound skin (Hampton, 2010), which makes dressing removal potentially painful.

Pain has been identified as causing psychological stress, which in turn delays wound healing (Solowiej et al, 2009). Pain at dressing change is not only undesirable for the patient, it is also difficult for the nurse — changing the dressing on a painful wound can take longer, thus incurring significant costs (Rippon et al, 2008; Butcher, 2010). Therefore, the wound contact layer of a dressing should be designed to be as pain-free as possible during wear, as well as being atraumatic on removal. This is especially true of a heel dressing, where the skin is delicate and fragile.

MEPILEX® BORDER HEEL

Mepilex® Border Heel (Mölnlycke; Bedfordshire) is a newly-developed, all-in-one, five-layer dressing for the treatment of heel pressure ulcers (Figure 1), which was developed by working with clinicians treating patients with heel pressure ulcers.

The dressing features a Safetac® Technology adhesive layer, which is clinically proven to minimise dressing-related pain (White, 2008), as well as minimising trauma to the wound and vulnerable periwound skin during removal (White, 2005).

Safetac Technology also prevents maceration of the periwound skin during wear by sealing the wound edge (Meaume et al, 2003; Wiberg, 2008). The Safetac adhesive adheres gently to the dry skin surrounding the wound, but not to the moist wound surface itself, further minimising trauma and pain (Dykes, 2004; White, 2008). This all-in-one design can...
help to save time during dressing changes — especially important as the majority of the NHS’s annual expenditure on pressure ulcers is spent on the extra nursing time involved (Bennett et al, 2004).

The five-layer structure of Mepilex Border Heel (Figure 2) is designed to handle exudate but without becoming too bulky. A foam layer immediately above the Safetac wound contact layer initiates the vertical absorption of exudate, which is then distributed by a non-woven spreading layer to maximise the capacity of a superabsorbent layer above it. The fluid absorption and retention qualities of the superabsorbent layer facilitate longer wear time and thus fewer dressing changes (Feili, 2008), both of which have a knock-on effect on patient wellbeing, nurse time and financial cost.

A highly breathable water- and bacteria-proof backing film prevents strikethrough and contamination of the wound by viruses and microbes. The two-part foam and superabsorbent pad is specifically designed to cover wounds both at the back and underneath the heel, making it suitable for the irregular shape of those ulcers caused by shearing and friction, as well as the typically circular ulcers caused by calcaneal pressure (Figure 1).

Crucially, the dressing features a specially engineered border that conforms closely and easily to the body, removing the need for extra fixation.

The combination of the Safetac adhesive and the conformable border means that orthotics and footwear can be worn with ease, allowing patients to retain their mobility, and consequently maintain quality of life. This is especially important as mobilisation has been found to benefit wellbeing, both socially and emotionally (Kalisch et al, 2013).

The conformable design and five-layer composition of Mepilex Border Heel contributes to the prevention of heel pressure ulcers. The stability of the dressing, combined with the wraparound pad is designed to protect the heel from interface pressure, friction, and shearing. The dressing’s non-bulky profile also enables patients to wear shoes and orthotics simultaneously, further improving patients’ mobility.

CONCLUSION

The modern community healthcare professional needs the skills to manage a variety of conditions, especially now that services are increasingly being provided in people’s homes. This means that healthcare professionals will come across conditions like heel ulceration and will need the correct equipment in order to manage them properly and provide the best care possible.

Mepilex Border Heel offers protection, absorption, conformability, adherence and cost-effectiveness, as well as enabling atraumatic removal. Such characteristics are essential in a dressing designed for such a prevalent wound type, which has such a huge impact on patients’ wellbeing.

REFERENCES


Wound Care Alliance UK is ready to welcome new and existing members.

Our key objectives:

• Provide, publish and distribute educational material for our members, patients and carers
• Act as a significant voice for tissue viability
• Provide advice and guidance for members
• Promote and carry out research

Visit our website: www.WCAUK.org where you will find:

• Educational materials,
• A discussion forum for members
• Links to conference dates, education courses, our archived educational booklets, best practice documents and the websites of our sponsors

New members:
Apply online

Interested in joining us as a trustee?
We will be posting information regarding trustees to ensure we have appropriate representation that is reflective of our membership.

So what do you get for your membership?

• Educational booklets
• Copy of the annual Wound Care supplement within the Journal of Community Nursing
• Free delegate place for the 2014 Wound Care Alliance conference to be held on Friday 11 April at Liberty Stadium, Swansea

Don’t delay, visit: http://www.wcauk.org/
... we look forward to welcoming new members.
All foam dressings soak it up.

Introducing the new super smart foam dressing

Unlike traditional foams, KerraFoam's absorbent core and foam pad:
• Absorbs more fluid than the leading competitors' products1
• Features lateral wicking technology, increasing capacity and wear-time 2
• Reduces maceration3
• Has a silicone adhesive contact layer that prevents painful changes and skin stripping4
• Locks away bacteria5 and MMPs6

With all the softness and comfort you expect from a foam!

Dedicated to Exudate Management

NEW

For a free sample, email KerraFoam@crawfordpharma.com or visit crawfordhealthcare.com


© 2013 Wound Care People Ltd
Introducing the new super smart foam dressing

Unlike traditional foams, KerraFoam’s absorbent core and foam pad:

- Absorbs more fluid than the leading competitors’ products
- Features lateral wicking technology, increasing capacity and wear-time
- Reduces maceration
- Has a silicone adhesive contact layer that prevents painful changes and skin stripping
- Locks away bacteria and MMPs

With all the softness and comfort you expect from a foam!

Intelligent Fluid Management

Dedicated to Exudate Management

For a free sample, email KerraFoam@crawfordpharma.com
or visit crawfordhealthcare.com

1. SMTL report - data on file
2. SMTL report - data on file
3. Data on file
4. SMTL report - data on file
5. An investigation into the ability of KerraFoam to bind bacteria. Cooper R. Cardiff Metropolitan University - Sept 2013. Data on file