Exudate Management
Patient-centred wound care
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Wound healing is a sophisticated, continuous process where cells undergo a number of complicated biological changes to facilitate haemostasis, combat infection, migrate to the wound space, deposit a matrix, form new blood vessels and contract to close the defect (Jones et al, 2008). Wound exudate is an essential component of this normal wound healing process.

In chronic wounds, however, the exudate produced can be detrimental to the process. Wound exudate, particularly from chronic wounds, contains a cocktail of elements (cellular debris and enzymes), which can be highly corrosive, both to the wound bed and intact skin surrounding the wound (Coutts et al, 2001).

For the health professional caring for patients with chronic wounds, controlling exudate can be one of the biggest challenges. Managing wet wounds is costly in terms of dressing materials and nursing time and in the current economic climate within health care we are more than ever aware of reducing costs.

Of perhaps greater importance, the impact on the patient of living with a chronic exuding wound should not be underestimated. As health professionals, we must have an awareness of the emotional impact that having a wet and possibly malodorous wound has on the patient and his or her family and carers.

Detailed assessment will allow us to determine the cause of high levels of exudate and put into place a management plan to reduce exudate levels and ultimately improve the quality of life of the patient.

This supplement explores the challenge of wet wounds and aims to offer some practical solutions.

In article 1, Sylvie Hampton and Debby Verrall explain what causes exudate. They look at the difference between acute and chronic wound exudate and how to assess it.

In article 2, June Jones discusses the link between infection and exudate. The different wound environments seen in chronic wounds, such as wound contamination, colonisation, critical colonisation, infection and biofilms, are explained. She also describes the ideal environment for bacterial growth and how we can intervene to alter this, creating a healthier wound bed to allow healing to occur. Finally, June discusses how different types of dressing deal with these challenges.

In article 3, Karen Ousey looks at the issues around quality of life in patients with exuding wounds. She examines the government agenda, which takes patient safety and effectiveness of care for granted, with the focus now on the patient experience and patient satisfaction with care. Karen discusses how the government agenda relates to wound care—and patients with exuding wounds, in particular.

To bring a clinical focus to the supplement, we have included a series of 7 case studies and 1 case series on different chronic wounds, where either Flivasorb® or Flivasorb® Adhesive (Activa Healthcare) were used to control high levels of exudate. In addition to the positive effects of these dressings on the wounds, the case studies provide insight into the impact of effective exudate control on the patient.

Due to many factors, including an ageing population and diverse disease processes, we are faced with multiple challenges relating to patients with chronic wounds. Ultimately, if we assess and treat patients with highly exuding wounds appropriately, we can improve quality of life for the patient, reduce treatment costs and meet the government agenda on the need for patient-centred care.
1 Exudate management

Sylvie Hampton, Tissue Viability Consultant Nurse, and Debby Verrall, Tissue Viability Assistant Practitioner, Eastbourne Wound Healing Centre

Abstract

Controlling wound exudate is a common problem that has traditionally been managed by changing dressings frequently—and using dressings that were not designed for highly exuding wounds. Wound exudate can have a significant impact on a patient’s quality of life and can delay wound healing (World Union of Wound Healing Societies (WUWHS), 2007). It is also challenging for clinicians and can be costly in terms of clinical time and dressing cost (Dowsett, 2011).

Use of appropriate absorbent dressings for effective exudate management can reduce time to healing, reduce exudate-related problems such as periwound skin damage and infection, improve patients’ quality of life, reduce dressing change frequency and clinician input, and so, overall, improve healthcare efficiency (Romanelli, et al, 2009).

Key words

Exudate • Superabsorbent dressings • Acute inflammatory phase • Chronic phase

Since George Winter’s seminal paper on moist wound healing (Winter, 1962), it has been recognised that the control of fluid is pivotal. However, although a moist wound environment is necessary for optimal wound healing (Okan et al, 2007), over- or under-production of exudate may adversely affect healing (Romanelli et al, 2009) and fluid lost from chronic wounds can cause damage if it is not properly controlled (Hampton, 2011). Even with the knowledge that exudate must be controlled, there are still situations in which nurses are having to change dressings a number of times in 24 hours to prevent maceration, soiling, and the potential for cross-infection (Benbow and Stevens, 2010).

Highly exuding wounds are common and cause great distress to patients. Efficient and cost-effective management of excessive wound exudate continues to present unique challenges to nurses (Benbow and Stevens, 2010). Clinicians who routinely handle the challenge of wound management face the well-known problems of wound deterioration or delayed healing (White, 2003). Superabsorbent dressings have been designed to deal with this problem and have a greater fluid-handling capacity than traditional dressings,

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means to reach these goals are not always obvious, nor easily achieved (White, 2003), particularly in wounds that are producing large amounts of fluid. Devising strategies to minimise the impact on the patient’s physical and psychosocial wellbeing can be particularly demanding.

Over-production of exudate can cause devastating damage to the skin (Figure 1) and must be effectively managed if the optimal moist environment necessary for wound healing is to be created, and the surrounding skin protected from the risks of maceration (White and Cutting, 2006).

The management of wound exudate requires the clinician to have an understanding of what it is, why it is present and how to monitor and assess it accurately (White and Cutting, 2006). Exudate can also be an excellent indicator of what is happening within a wound, and therefore provides valuable information during patient assessment (Tadej, 2009). The volume, consistency, and particularly odour and colour of any exudate will inform the practitioner about bacterial contamination, infection and stage of healing (Hampton and Collins, 2003).

Production of wound exudate is a complex phenomenon that occurs as a result of vasodilation during the early inflammatory stage of healing under the influence of inflammatory mediators such as histamine and bradykinin and has a vital role in wound healing. Exudate contains:

- Water
- Nutrients
- Electrolytes
- Inflammatory mediators
- White cells
- Protein-digesting enzymes
- Growth factors.

**Acute inflammatory phase of exudate**

Proteases are the enzymes present in wound exudate and in acute wounds. They maintain a balance between tissue...
synthesis and degradation by regulating gene expression and enzyme activation and inhibition. This will occur during the acute inflammatory phase and means that the wound requires little nursing care as, providing the underlying causes of the wound are addressed and the dressing is appropriate, the exudate constituents will orchestrate the healing process.

**Chronic phase of exudate**

This clever and automatic healing environment changes when the wound becomes chronic through infection or patient comorbidities, or because underlying causes such as pressure or inefficient venous return remain a problem, due to poor knowledge or lack of skill in addressing the underlying condition. At this point, there is chronic inflammation and the exudate changes from orchestrating the healing process with assistance of proteases to a condition that will delay healing considerably, through damaging proteolytic enzymes and over-hydration. There will be increased proteolytic activity in chronic wound exudate; this is implicated in perpetuating wounds, damaging the wound bed, degrading the extracellular matrix, and causing periwound skin problems (Romanelli et al, 2009), as seen in Figure 1.

Wound exudate can be a challenge to the health professional and to the patient who has to live with oozing and discomfort associated with a leaking wound. Chronic wound exudate contains high levels of matrix metallo-proteases (MMPs). These MMPs are essential when a wound is acute and actually orchestrate the wound healing process by:

- Preventing the wound from drying out
- Aiding the migration of tissue-repairing cells
- Providing the essential nutrients for cell metabolism
- Enabling the diffusion of immune and growth factors
- Assisting the separation of dead or damaged tissue—autolysis (World Union of Wound Healing Societies [WUWHS], 2007).

However, once a wound becomes chronic, the MMPs also become chronic and this can then become a significant factor in delaying wound healing (WUWHS, 2007). The chronic inflammation created within the wound can lead to unmanageably high levels of exudate, which in turn can cause periwound damage (Bishop et al, 2003) with the skin being eroded by the proteolytic enzymes in the exudate (Young, 2000; Fletcher, 2002). The WUWHS recommends assessing the exudate levels and has produced a document, *Wound exudate and the role of dressings*, which provides a useful tool in order to assess appropriately [see Figure 8].

The WUWHS recommends reviewing the local factors that may be influencing exudate production and establishing whether the patient accepts and cooperates with treatment.

Once the assessment is completed, there is a requirement—for the patient’s comfort and safety—to choose an appropriate dressing that will absorb well and retain the fluid without reflecting it back onto the skin. Flivasorb® is an ideal dressing for this purpose because, as a superabsorbent dressing, it has a greater fluid-handling capacity than other absorbent dressings, such as some foam-type dressings. Flivasorb® is excellent as a primary dressing, but can be used as a secondary dressing.

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**Figure 8. Exudate assessment and management (WUWHS, 2007)**

**Management of exudate and related problems**

6. Assess the periwound skin
   - Maceration/excoriation – redness/loss of colour, spongy texture, loss of skin surface

5. Assess the wound base and edge
   - Wound history
   - Size
   - Stage of healing
   - Infection/inflammation
   - Fistula/sinus

4. Assess the exudate
   - Colour
   - Consistency
   - Odour

3. Assess the current dressing
   - In situ and after removal
   - Use as an indication of amount of exudate

2. Assess the region of the wound
   - Local disease/other skin conditions
   - Wound position

1. Assess the patient
   - Comorbidities (wound and exudate aetiology)
   - Medication
   - Cooperation with therapy
   - Psychological issues
   - Nutritional status

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Leaking venous leg ulcer

**Introduction**
SW is a 67-year-old man with a venous leg ulcer that was constantly leaking. The dressings were an alginate under a foam secondary dressing and the Actico® cohesive inelastic compression bandage system (Activa Healthcare). The Actico® system is simple to apply, remains in place and allows the patient to wear normal shoes. It is consistently used with high success in Eastbourne Wound Healing Centre and was an excellent compression system to select in this case. The wound (Figure 9) was of 7 months’ duration and was extremely painful. A Doppler assessment showed an ankle brachial pressure index of 0.9.

**Method**
The wound had some granulation and epithelial tissue (Figure 9), but had become static and had not shown signs of healing for 3 weeks. The exudate had increased and the wound was painful to a level of 5 on a scale of 1 (no pain) to 10 (worst pain possible).

Flivasorb® was selected as the dressing and the patient consented to be photographed for an evaluation of the product.

Within 1 week of application of Flivasorb® as a primary dressing, the wound had reduced by 20% and epithelial tissue had increased by the same amount (Figure 10). At 3 weeks, the wound had achieved 90% closure (Figure 11) and a week later had achieved full closure (Figure 12).

**Discussion**
This wound progressed from a static state to full closure in less than 5 weeks and this change in the healing status occurred after the application of Flivasorb®.

Non-adhesive dressings are always used under compression; adhesive is unnecessary as the dressing will remain safely in situ, held by the bandage. Additionally, adhesives can cause increased sensitivity so their use under compression is not advisable.

**Conclusion**
Once healed, the wound area was no longer painful. The fluid was obviously no longer a problem as the tissues were closed and SW could wear hosiery instead of compression bandages. This resulted in an improvement in his quality of life.

**References**
Winter G (1962) Formation of the scab and the rate of epithelisation of superficial wounds in the skin of the young domestic pig. Nature 193: 293–4

**Case Study 2**

absorbent layer, for example, over a cavity or where an antimicrobial dressing is used as the primary dressing. The main role of dressings in exudate management is to absorb the excess fluid (Menon, 2012). They must be able to lock the exudate into the dressing to protect the wound bed and surrounding skin from excess chronic fluid and harmful components such as the proteolytic enzymes and bacteria.

In conclusion, before applying any dressing, there should be an holistic assessment of the patient and the individual wound, which would lead to appropriate dressing selection and provision of the optimum wound-healing environment. In order to support any wound that is highly exuding, a superabsorbent dressing is the ideal solution. It will support the moist environment without being too wet or drying out and will provide the optimum healing conditions. If the dressing is appropriate and the wound is prepared, healing should occur.
2 Exploring the link between the clinical challenges of wound exudate and infection

June Jones, Independent Nurse Consultant and Associate Tutor, Edge Hill University

Abstract
Exudate and infection are two of the key challenges facing clinicians in the management of wounds, especially chronic wounds. The associated increased use of healthcare resources and nursing time are also important consequences. What we cannot underestimate, however, is the challenge for patients and their carers of living with wounds that impact on the quality of their daily lives, causing misery and distress. This article focuses on the importance of exudate as a marker of infection and the link between the two. It looks at infection and the difficulties confronting clinicians in managing wound bioburden when sometimes the wound appears not to give any clues, or at the least, very subtle ones that could easily be missed. The pivotal role of ongoing patient assessment and wound assessment is discussed; timely intervention is seen as the key to management.

Key words
Exudate • Biofilm • Dressing selection

Exudate can be good, bad and downright ugly, since at its worst it can result in malodour, pain, maceration, infection and unsightly, soiled dressings, which can have a negative impact on a patient’s quality of life, triggering feelings of self-loathing, disgust and low self-esteem (Jones et al, 2008). It has been suggested that chronic wound exudate should be regarded as a wounding agent in its own right (Trengrove et al, 2008). Nonetheless, exudate is a good and essential component of the normal wound healing process. The presence of exudate provides an environment that stimulates healing, as it contains growth factors, cytokines, matrix metalloproteinases (MMPs) and white cells (World Union of Wound Healing Societies (WUWHS), 2007a). Moisture also aids autolytic debridement and is necessary in the process of epithelialisation to permit movement of the cells across the wound surface. Exudate production reduces over time in a healing wound, while production tends to continue excessively in a non-healing or chronic wound, and the constituents take on negative changes generating clinical challenges.

In some chronic and/or large surface area wounds, under certain systemic or regional circumstances, the exudate can increase to unacceptable levels (See Figure 13). This can be detrimental to healing, as it contains a corrosive cocktail of elements, which damage the wound bed as well as the periwound skin (Bishop et al, 2003). Levels of MMPs rise dramatically when a wound becomes infected and begin to degrade extracellular matrix protein, which is considered an additional factor in the regression of healing. As well as addressing these factors, dressing selection is an important consideration in management on the part of the clinician, together with the patient. If the exudate levels are poorly managed due to inadequate dressing selection, the wound bed becomes saturated and there is a strong chance of strikethrough and leakage, increasing the risk of infection (Graham, 2004), with its concomitant malodour, maceration and poor patient experience.

It is important to monitor any increase or changes in colour of the exudate, as this should alert the clinician that the wound and patient are at risk of increased problems and may also be indicative of the causative bacteria. For example, if the infection is due to the presence of Pseudomonas aeruginosa (P. aeruginosa), the exudate becomes thicker and greenish-blue in colour. Inspection of the dressings on removal can provide valuable information on what may be happening to the wound. Wound exudate

Figure 13. Factors influencing exudate production
- Infection
- Oedema/lymphoedema
- Venous disease
- Malignancy
- Medication
- Sustained inflammatory response
is produced at a higher rate than normal in the presence of infection; this is partly due to the histamine response. **Infection**

Wounds do not exist in isolation and it is important that the clinician can confidently distinguish between the signs and symptoms of the normal physiological inflammatory response in healing and those related to infection or underlying aetiologies, such as rheumatoid arthritis or vasculitis (Figure 16).

The mere presence or multiplication of microorganisms on the wound surface does not necessarily equate to wound infection. Wound bacteria can be acquired from the patient's own endogenous flora or from exogenous microbial contamination [European Wound Management Association (EWMA), 2005]. The notion of a continuum in the development of wound infection was described by Kingsley (2001), naming the increasingly severe forms of wound bioburden as contamination, colonisation, critical colonisation and wound infection (Figure 17).

Contamination is the presence of organisms on the wound surface in low numbers. Often these microbes are harmless and naturally found on the surface of the skin; these are known as skin flora. The pathogens most commonly associated with...
wound infections in the UK are *Staphylococcus aureus*, *P. aeruginosa*, *Streptococcus pyogenes*, with anaerobes and various coliforms occurring frequently in chronic wounds (Bowler et al, 2001; Cooper, 2005). Gray et al (2005) describe the stage of colonisation as one in which one particular bacterial pathogen becomes dominant within the wound. However, the signs of colonisation are not easy to detect, as there are no physical changes in the wound bed. Critical colonisation is considered to be the precursor or transitional stage between colonisation and infection, with concern expressed that even at this stage, with high levels of bacteria, there may well be an absence of traditional signs of infection (Edwards and Harding, 2004; Warriner and Burrell, 2005). Percival and Bowler (2004) have suggested that the presence of maturing bacterial biofilms can impact on the progression from critical colonisation to infection.

**Biofilms**

There is growing interest and concern about the role of biofilms in wound healing and infection, since they are known to have a significant negative influence in chronic wounds (Phillips et al, 2010). Their eradication is a vital part of wound management and healing (Leaper et al, 2012), as well as a huge challenge, as James et al (2008) suggest that 60% of chronic wounds contain biofilms. A biofilm is a complex microbial community, consisting of bacteria embedded in a slimy glycocalyx, a protective matrix of sugars and proteins, which makes them more difficult to eradicate by the host’s own immune system, as well as by antimicrobials and environmental stresses such as nutritional or oxygen limitation. Biofilms release antigens (as do all bacteria), stimulating the production of antibodies, which cause damage to the surrounding tissue. Biofilms are also inflammatory and constantly shed bacteria onto the wound, causing inflammation and tissue damage through the release of proteases (matrix metalloproteinases [MMPs] and elastase) and reactive oxygen species [ROS]. Phillips et al (2010) suggest that biofilms are a major contributing factor to persistent, chronic inflammatory changes in the wound bed, particularly in chronic wounds. By inducing an ineffective inflammatory response, the biofilm protects the microorganisms it contains and increases exudate production, providing a source of nutrition that perpetuates the biofilm. Biofilms need to be reduced or eliminated for a wound to heal. While it is generally agreed that biofilms cannot be seen with the naked eye, there may be a link between biofilms and slough (which can be seen) (Cutting et al, 2010). Biofilms stimulate inflammation, which in turn increases vascular permeability and production of wound exudate and the build-up of fibrinous slough (Wolcott et al, 2008), suggesting that slough may be indicative of a biofilm in the wound. Wound healing is delayed as the bioburden increases and healing is more likely to occur with regular debridement of devitalised tissue.

**Eliminating biofilms**

Cutting et al (2010) propose that slough is a thriving accumulation of bacteria that requires regular and frequent debridement. Wolcott et al (2009) likewise recommend debridement as the key to maintaining a healthy wound bed in most chronic wounds. In some wounds, quick, easy debridement can be achieved using Debrisoft® (Activa Healthcare) by a generalist nurse.

When a wound starts to progress towards healing, together with a concomitant reduction in exudate and slough, these are clinical indicators that the wound might be free from biofilms. Until that point, it is important that wounds and the patient are regularly and frequently reassessed and treated with antibiofilm agents, namely antimicrobials and/or topical antiseptics such as honey, PHMB, cadexomer iodine or silver (Phillips et al, 2010; Best Practice Statement, 2011). These products help to reduce the bioburden and therefore reduce the inflammatory response within the wound, so less exudate is produced.

What then tips the balance and upsets the equilibrium, resulting in a wound that becomes infected, with a patient with increased morbidity and risk of mortality? Often it is the ability of the host to mount a robust immune response against an increasing bacterial virulence, as there is increased competition between bacteria and the host’s cells for vital nutrients and oxygen; there are many systemic and local wound factors that put the patient at increased risk of infection (Figure 20). The need for assessment and constant reassessment of not only the wound but also the patient cannot be over-emphasised, as often the signs and symptoms are as subtle as loss of appetite, a general lethargy, malaise and apathy, with the patient seemingly unwilling or unable to undertake normal activities. Poor wound-related hygiene will also increase a vulnerable patient’s risk of developing a wound infection. Stephen-Hayes and Toner (2007) comment...
Pressure ulcer to sacrum

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Introduction
Mr W is an 89-year-old patient who was referred to the tissue viability service with a Grade 4 pressure ulcer to his sacrum.

On examination, the wound was found to be 11 cm in length, 8 cm in width and 8 cm in depth. The wound tissue was 100% granulated; the periwound skin was showing signs of maceration and there was also evidence of skin stripping due to high exudate levels (Figure 18). Before assessment, the wound was dressed daily with a hydrofibre rope and a secondary dressing of a foam adhesive dressing. Dressings were being performed daily and on many occasions the secondary dressing had to be replaced twice daily, due again to the high levels of exudate and the incapacity of the secondary dressing to absorb and retain the exudate.

Dressing selection

The WUWHS (2007a) emphasises that dressing selection is important in helping to control the exudate and remove any excess along with any associated debris. This will ensure the wound bed is moist, not saturated, preventing damage and pain to the surrounding skin, and reducing the risk of infection from strikethrough. An understanding of the way in which dressing materials function and handle the fluid is important and makes a huge difference to the progress of the wound and, importantly, the comfort and quality of life of the patient (Romanelli et al, 2010). Patient comfort and acceptability are important factors when determining success or otherwise of a treatment regimen and in optimising their wellbeing (International Consensus, 2012).

WUWHS acknowledged that specific descriptions of levels of exudate were necessary in order to ensure optimal patient care. Simply describing a wound as ‘highly exuding’ does not provide health professionals with enough information to select the most appropriate approach to wound management. To ensure accurate information is passed between health professionals and appropriate dressings are selected, WUWHS defined the key descriptors of exudate as dry, moist, wet, saturated and leaking (WUWHS, 2007b).

Results

Following the initiation of the new dressing regimen, dressing change was reduced to once daily. This dramatically improved quality of life for Mr W, who reported that it was ‘more comfortable not having to have the dressing changed twice daily’. He also reported that his skin did not ‘feel wet’, as it had before. From an economic perspective, the new regimen reduced the amount of nursing time and wound dressings used.

Discussion

Some 4 weeks later, the wound was reducing in size. Periwound skin was healthy and intact and the wound edge healthy (Figure 19). The dressing regimen was changed to alternate days, as the exudate was retained and managed within the Flivasorb® Adhesive secondary dressing.

Conclusion

Overall, the benefits of the use of Flivasorb® Adhesive were:
1. Increased patient comfort and quality of life
2. Reduced number of dressing changes, thus reduced amount of nursing time and reduced need for dressing regimen resources
3. Excellent exudate retention within Flivasorb® Adhesive.
There are many different types of absorbent dressing available, which can be used as either primary or secondary dressings, such as foams, alginates, hydrofibre dressings and absorbent pads. Many of these have traditionally been used to manage high exudate levels. However, in some cases, the fluid-handling capacity is less than optimum, causing problems for the patient of strikethrough, plus feelings of anxiety and unwillingness to socialise (Jones et al, 2008). Negative pressure wound therapy (NPWT) devices are also available, which necessitate additional knowledge and skills on the part of the clinician, together with the cost element. Superabsorbent dressings indicated for the management of moderately to heavily exuding wounds are also now available, which have the ability to trap unwanted components of the exudate, such as bacteria, proteases and inflammatory mediators, within the dressing (Wiegand et al, 2011). Wiegand et al (2012) found that superabsorbent dressings aid treatment of wound infections by entrapping components of the exudate, such as bacteria, proteases and Escherichia coli. The dressings also significantly inhibited the growth of S. aureus and Candida albicans.

It is important that a dressing can retain the exudate, even when external pressure is applied (for whatever reason), to prevent the wound and periwound from coming into contact with the potentially corrosive components of the exudate such as MMPs.

### Conclusion

This paper has highlighted the complexities of managing potentially highly exuding wounds and the need for constant vigilance and reassessment of a patient and their wound for subtle signs and symptoms. The need for clinicians to consider multiple factors when determining the most suitable dressing for the wound and the patient with whom they are faced is paramount for a good outcome.

### References


Wolcott RD, Kennedy JP, Dowd SE (2009) Regular debridement is the main tool for maintaining a healthy wound bed in most chronic wounds. J Wound Care 18(11): 54-6


### Figure 20. Risk factors for infection

<table>
<thead>
<tr>
<th>Systemic factors</th>
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<tbody>
<tr>
<td>• Inadequate blood supply or hypoxia/ poor tissue perfusion</td>
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<tr>
<td>• Metabolic disorders, such as diabetes</td>
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<tr>
<td>• Medication: corticosteroids, cytotoxic agents, immunosuppressants</td>
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<tr>
<td>• Alcohol abuse/smoking</td>
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<tr>
<td>• Poor nutritional status</td>
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<tr>
<td>• Uncontrolled oedema</td>
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<tr>
<td>• Malignancy</td>
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<tr>
<td>• Rheumatoid arthritis</td>
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<tr>
<td>• Renal impairment</td>
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<tr>
<td>• Poor standards of wound-related hygiene</td>
</tr>
<tr>
<td>Wound characteristics</td>
</tr>
<tr>
<td>• High exudate levels</td>
</tr>
<tr>
<td>• Large in size and/or deep</td>
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<tr>
<td>• Prolonged duration</td>
</tr>
<tr>
<td>• Anatomical position, e.g. anal area, that raises potential contamination risk</td>
</tr>
<tr>
<td>• Necrotic tissue</td>
</tr>
<tr>
<td>• Foreign bodies</td>
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<tr>
<td>• Concurrent infections e.g. osteomyelitis</td>
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3 Quality of life: patient safety and satisfaction

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The Government’s quality agenda is by no means new, either to practitioners or to patients. Indeed, since 2008, a range of Department of Health (DH) publications (2008a; 2008b; 2009a; 2009b; 2009c) has presented the challenges and opportunities to meet this agenda. Furthermore, tissue viability practitioners and academics have written about, debated and embraced the changes to ensure they make a positive impact on patient care and the patient journey. The publication of Quality, Innovation, Productivity and Prevention (QIPP) (DH, 2012a) saw the Government set out the challenge to make £20 billion of efficiency savings by 2014-15, while improving the quality of care the NHS delivers. The DH (2011) reported that 10% of patients were harmed during hospital care, which could cost the NHS as much as £1 billion per year.

In order to measure the amount of harm-free care, the DH set up work streams, one of which was the ‘safe care work stream’. This established a quality improvement programme, ‘Safety Express’, to help the NHS develop safer systems in hospitals and community settings thereby working to the shared aim of dramatically reducing harm. One of the areas it concentrated on was hospital- and community-acquired pressure ulcers, and this led to the development of the safety thermometer, a local improvement tool for measuring, monitoring and analysing patient harm and to promote ‘harm-free’ care (DH, 2012b). In order to make certain the patient’s voice was heard in relation to quality of care received during a hospital stay, Patient Reported Outcome Measures (PROMs) were used to collect and analyse feedback from patients about their experiences of health care. Initially the requirement to collect PROMs data applied to four surgical procedures: hernia repair, hip and knee replacement and varicose veins. However, there are now discussions to extend the collection of PROMs data to a range of chronic conditions, including diabetes, asthma, stroke, chronic obstructive pulmonary disease (COPD) and others (Devlin and Appleby, 2010). There is no reason why this cannot be extended to measuring wound infections, pressure ulceration and leg ulceration. Indeed, the necessity for health professionals to record and report pressure ulcer incidence and to have pressure ulcers as a ‘never event’ is a step toward this.

The UK’s ageing population

The percentage of people aged 65 and over increased to 17% in 2010 from 15% in 1985, and by 2035, it is projected that the number of people aged 85 years and over will reach 3.5 million. With the increasing population, we can assume that the number of acute, chronic and infected wounds will also increase. The Department of Health has been clear that patients should be kept at the heart of everything we do and as such, should be actively involved in the decision-making process relating to their care plans. It is vital that all practitioners are aware of the quality agenda and how to successfully engage patients in the decision-making process that will ultimately improve patient wellbeing.

Key words
Quality • QIPP • Wellbeing • Wound care

Abstract
The UK has an ageing population with the fastest population increase being in those individuals aged 85 years and over; by 2035, it is projected that the number of people aged 85 years and over will reach 3.5 million. With the increasing population, we can assume that the number of acute, chronic and infected wounds will also increase. The Department of Health has been clear that patients should be kept at the heart of everything we do and as such, should be actively involved in the decision-making process relating to their care plans. It is vital that all practitioners are aware of the quality agenda and how to successfully engage patients in the decision-making process that will ultimately improve patient wellbeing.

Key words
Quality • QIPP • Wellbeing • Wound care
quality of life. In order to meet the needs of this population group, practitioners must understand issues surrounding quality of life, evaluate and measure the effect interventions have had on the patient’s quality of life, ensure effective communication between the patient and practitioner, and promote effective multidisciplinary team (MDT) working practices. Importantly, the patient must be involved in the decision-making process when choosing the correct wound dressing. The DH (2010), in its publication, *Equity and Excellence: Liberating the NHS*, highlighted the need to maintain and promote shared decision-making between practitioners and patients—with the underpinning mantra being ‘no decision about me without me’.

It is therefore important that all practitioners understand the meaning of wellbeing and quality.

### What is wellbeing?

The international consensus document (Wounds International, 2012) on optimising wellbeing in people living with a wound highlighted that many people living with a wound may focus on different priorities to healing, such as reducing pain or odour, or covering up unsightly strikethrough. Or they may have concerns about wearing bulky dressings that prevent them from wearing items of clothing or shoes, or performing daily activities. Indeed, the consensus document offers a clear definition of maintaining wellbeing in relation to wound care:

> Wellbeing is a dynamic matrix of factors, including physical, social, psychological and spiritual. The concept of wellbeing is inherently individual, will vary over time, is influenced by culture and context, and is independent of wound type, duration or care setting. Within wound healing, optimising an individual’s wellbeing will be the result of collaboration and interactions between clinicians, patients, their families and carers, the healthcare system and industry. The ultimate goals are to optimise wellbeing, improve or heal the wound, alleviate/manage symptoms and ensure all parties are fully engaged in this process.’ (Wounds International, 2012:1)

Practitioners must undertake a holistic assessment during each visit to the patient that incorporates not only a wound bed assessment but also a mental health assessment. Heavily exuding wounds have the potential to negatively impact on a patient’s wellbeing, causing a reluctance to engage in activities with others outside of the home environment. This is caused by the need for frequent wound dressings to manage fluid, malodour and often pain. This can lead to social exclusion and a possibility of both isolation and depression. Effective exudate management through correct dressing choice can assist in reducing these issues and will promote wellbeing for the patient and their carers.

### What is quality?

The World Health Organization (WHO) (1997:1) defined quality of life as being:

> ‘A broad-ranging concept affected in a complex way by the person’s physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment’.

WHO explored the importance of doctors understanding how a disease affects a patient’s quality of life, stating that a clear understanding would improve the interaction between patient and doctor, allowing for a more comprehensive healthcare plan to be provided.

If a practitioner understands the healing process of a wound and the effect that issues including, pain, odour, excessive exudate and altered body image can have on mental wellbeing, and the significance of choosing the most appropriate dressing for the wound—while communicating the decision-making process to the patient—then these too will improve interactions and promote quality of care. An association between depression and wound-related pain, odour and delayed healing has been reported (Fletcher, 2008; Jones et al, 2008; Vileikyte, 2007).

### Understanding the exudating wound

It is well accepted that a wound will heal in a moist environment. However, there are times when a wound can produce too much moisture or exudate and this needs to be effectively managed to encourage healing, prevent damage to the wound bed and degradation to the extracellular matrix and prevent periwound maceration (Chen and Rogers, 2007; Gibson, 2009). Managing exudate is a necessity of good wound bed preparation that will prepare the wound for the healing process.

It must be remembered that wound exudate will assist the wound healing process. As the World Union of Wound Healing Societies (WUWHS) (2007:4), explained, exudate will:

- Prevent the wound bed from drying out
- Aid the migration of tissue-repairing cells
- Provide essential nutrients for cell metabolism
- Enable the diffusion of immune and growth factors
- Assist separation of dead or damaged tissue (autolysis).

However, it is vital that practitioners are able to assess and evaluate wound exudate in the context of the wound tissue type being treated. Romanelli et al (2010) suggest that exudate produced by a necrotic wound as a result of autolytic or enzymatic debridement would characteristically be opaque and tan, grey or green; and if the wound contains certain bacteria, it may be malodorous. High levels of, or an increase in, exudate production may be indicative of underlying disease processes, such as infection (WUWHS, 2007).
Romanelli et al (2010:6) advocate that effective containment and treatment of exudate will improve an individual’s quality of life, but if exudate is not correctly managed then there will be:

- Deterioration of a patient’s quality of life
- The periwound skin will be unhealthy and/or the wound will extend
- The wound bed will show signs of increasing bacterial load
- There will be soiling outside the dressing
- The patient will need to make adjustments to dressing arrangements to accommodate the exudate
- Dressing changes will be frequent
- Wound odour will be uncontrolled
- Wound pain will be present.

How can quality be maintained?
The provision, maintenance and development of a quality service to all who access healthcare and maintaining wellbeing are fundamental responsibilities of every health professional. To ensure this is achieved, practitioners must be aware of, and familiar with, local, national and European guidance that can impact on delivery of services. Staff education must be ongoing, be this through study days, academic courses, reading appropriate literature or reflecting on practice, to guarantee that research and evidence-based practice is implemented. Patients must be at the centre of, and involved in, decision-making when assessing and planning programmes of treatment, so that their quality of life and wellbeing is maintained. Importantly, patients must be encouraged to communicate any fears or
worries they may be experiencing, to allow practitioners to discuss help that can be accessed or to change treatment regimens to prevent a reduction in quality of life.

All patients should have clear and achievable care plans developed that focus on optimising outcomes and contain regular evaluation dates. Fletcher (2008) identified that every patient with a wound should be on a pathway that leads to effective management, whether that be healing, symptom management or an alternative goal. Significantly, all care that is administered must be appropriately documented and practitioners must make certain that any intervention can be measured so that, if necessary, changes can be made to enhance future care interventions.

Summary
The effective management of wounds and ensuring quality of life is maintained for all individuals with a wound, are core skills that all health professionals require. The continuing rise in the ageing population suggests there will be more people with wounds who will require not only wound management but also promotion of wellbeing. Empowerment of the patient is essential to encourage development of a partnership when planning treatment options or listening to concerns (Edwards et al, 2005). The international consensus document (Wounds International, 2012) highlights that practitioners must listen to individuals to gain their confidence and trust, and explain to them what they are doing and to do so with empathy.

References


The management of a sacral sinus

Brigitte Price, Tissue Viability Nurse, Betsi Cadwaladr University Health Board, Wrexham Maelor Hospital

**Introduction**
Mrs J was an 81-year-old lady who developed a sacral pressure ulcer in 2010, after which it became long-standing and static. The cavity wound had not been filled sufficiently with a cavity dressing and the pressure ulcer became a non-healing, highly exuding sinus (Figure 23).

Mrs J had a past medical history including heart failure and reduced mobility due to osteoarthritis of her knees and was being nursed in a care home. The nursing staff had abandoned wound dressings and had opted to irrigate with a PHMB solution, and used incontinent pads to absorb wound exudate. Mrs J was not incontinent of faeces, but was occasionally incontinent of urine, due to poor mobility.

Investigations had taken place to assess the depth of the sinus, as it was thought at one stage that it might have been a fistula. It was confirmed, however, that it was in fact a blind-ended sinus.

**Method**
Mrs J agreed to take part in an evaluation of Flivasorb® Adhesive, a new bordered version of a superabsorbent dressing (Flivasorb®) and a full explanation was given to ensure she had made an informed choice. The wound was fairly close to the anal margin and it was decided that the best way to position the dressing was in a diamond shape and to cut the corner off the border of the dressing, next to the anal margin. This was done with a sterile pair of scissors and care was taken not to cut into the dressing pad and to leave sufficient adhesive border to provide a good seal.

**Results**
The dressing was very easy to handle, even with gloved hands (Figure 24). It fitted into place and conformed very well (Figure 25). Mrs J was an elderly lady, but her skin was in an excellent condition and assessed as being suitable for an adhesive dressing. The dressing stayed in place for 2–3 days and was comfortable when in situ. This was important as she sat in a chair most of the day, with regular changes in position. The dressing caused no pain or damage on removal and there was no mark on the skin once it had been removed.

**Discussion**
Mrs J continued with the evaluation for 2 weeks but then, due to a mix-up in communication, the sample dressings ran out. The nurses decided to continue with an adhesive foam dressing until some further samples arrived at the care home. It was interesting to note that these adhesive foam dressings only stayed in place for a day, when the dressing became full of exudate and had to be changed. Unfortunately, Mrs J died suddenly of an unrelated cause before complete healing could be achieved.

**Conclusion**
Flivasorb® Adhesive, the new bordered superabsorbent dressing, was shown to be:
- Easy to apply and remove
- Comfortable for the patient
- Very absorbent, lasting 2-3 times longer than an adhesive foam dressing.
When a foam is not enough in managing sacral pressure ulcers

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Introduction

This is a case study describing a 75-year-old man with a pressure ulcer and its management with a new bordered superabsorbent wound dressing (Flivasorb® Adhesive). Following a full holistic assessment, this patient was noted to have a past medical history including chronic obstructive pulmonary disease (COPD) and an above-knee amputation, following peripheral vascular disease (PVD). He was a smoker and he had a poor nutritional intake and was therefore taking nutritional supplements.

The man was able to move independently around the bed by dragging his bottom and using his left leg. Because of this, he had developed grade 4 pressure damage to his right ischial tuberosity. He had previously developed a pressure ulcer close to the anal margin when he was an in-patient in a community hospital for 5 months with an exacerbation of his COPD. He was discharged home in July 2012 under the care of the district nurses.

His Waterlow pressure ulcer risk assessment score was 20 and, as he was at high risk of further pressure ulcer deterioration and further pressure ulcer development, he was given a full replacement alternating pressure relieving mattress.

Method

Various daily wound dressing regimes were tried. Exudate levels were high and periwound skin care was vital. The levels of exudate had begun to damage the surrounding skin. He was taking Oromorph to control the pain. The decision was made to change the secondary dressing from an adhesive foam to Flivasorb® Adhesive. It was hoped that the new secondary dressing would allow for less frequent dressing change, to promote an improvement in periwound skin condition and allow the primary antimicrobial wound dressing became more effective as it stayed in situ for longer.

Result

Within a short time, Flivasorb® Adhesive reduced the dressing change frequency to alternate days and occasionally to every 3 days. Pain was reduced and appetite and nutritional intake improved. The wounds began to heal and the wound beds became cleaner and began to reduce in size [see Figures 26–29].

Discussion

This case study demonstrates that the application of a wound dressing to the sacral area should be undertaken with care. It was noted that the district nurses had twice applied the dressing covering the anus completely, preventing complete evacuation of the bowel and also lifting the dressing away from the wound.

The new dressing was found to easily conform to the wound and the surrounding skin in this ‘difficult-to-dress’ area and it fitted well around the anal margin.

Conclusion

It was important in this case that the periwound skin was prepared correctly, i.e. washed and patted dry and a barrier film applied into crevices/natal cleft. Careful selection and application of an appropriate wound dressing resulted in excellent absorption and retention of exudate, reduced number of dressing changes, improved comfort and reduced malodour by preventing leakage of exudate. It was felt that if the patient did not drag himself around the bed, this new dressing would have stayed in place even longer.
The management of moderate to high exudate in chronic wounds

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Introduction

Wound exudate is known to assist healing. However, it can become a problem for patients and carers when the levels are high, are not managed effectively and when the composition delays or prevents wound healing (WUWHS, 2007).

As part of a county-wide (Shropshire) evaluation of Flivasorb® Adhesive, a new bordered version of an existing superabsorbent wound dressing (Flivasorb®), 12 patients were examined to see if this extension to the range would be useful.

Method

Data on the 12 patients was entered on to the same data collection form to ensure consistency. This evaluation was divided into three sections:

• Patient details—including age, sex, wound type, exudate level, previous treatment used and the frequency of previous dressing changes
• Dressing performance—including ability to hold exudate, ease of application and removal, skin condition and adhesive border
• Comments—including whether the new dressing reduced the frequency of dressing changes.

Results

• Wound types included sinus, leg ulcers, diabetic foot ulcers and traumatic ulcers
• Exudate levels varied from 1-10 (10 was the highest); 10 patients scored 6-10 and 2 scored 4-5
• Previous treatment included an adhesive foam dressing (7 patients), hydrofibre (1 patient) and another absorbent dressing (4 patients)
• Five patients had their wound redressed daily, 4 every other day and 3 every 2 to 3 days

Conclusions

Many comments were made at the end of the evaluation form, including:

• ‘Patient preferred it to the previous absorbent pad’
• ‘Staff state the dressing is excellent’
• ‘Holds a lot of exudate.’

It is important that any adhesive dressing is assessed as being suitable for the skin type of the patient.

Reference

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