

# Every moment matters: addressing the challenges of chronic wounds

This article is based on two Made Easy sessions at the Wounds UK conference, Harrogate, in November 2017 by John Timmons and Clare Morris, who addressed the challenges of chronic, highly exuding wounds. The interactive sessions used voting pads to gauge delegates' views on the issues they face on a day-to-day basis (*Box 1*) and aimed to cover effective wound bed preparation and exudate management.

## EXUDATE IN CHRONIC WOUNDS

Highly exuding wounds can affect people of all ages, with a variety of conditions, often causing distress and anxiety. As well as the human cost, managing these challenging wounds also represents significant costs for the NHS (Wounds UK, 2013). Exudate is managed using absorbent dressings; however, it is important to recognise and manage the cause of the exudate.

In healing wounds, exudate supports healing and a moist wound environment (Romanelli et al, 2013). Higher than normal exudate levels in chronic wounds can be caused by oedema, systemic or local infection or increased devitalised tissue or slough (Wounds UK, 2013). Slough consists of dead tissue, bacteria and neutrophils, and can prolong the wound healing process and increase exudate levels as the body produces more in order to autolytically debride the wound.

## WOUND BED PREPARATION

Removing slough and managing excess exudate is imperative for the timely healing of chronic wounds.

Debridement is the cornerstone of wound bed preparation (Wounds UK, 2017), and involves the removal of senescent cells and slough. By removing slough with appropriate wound bed preparation and regular debridement (e.g. with Debrisoft®), exudate production and the impact of excessive exudate on the wound and the surrounding skin can be reduced.

Debridement helps to manage bioburden, improve microcirculation, manage exudate and normalises the biochemistry of the wound (Strohal et al, 2013).

Debridement also disrupts biofilm — a thin but robust layer, consisting of a community of bacteria and other microorganisms adhering to a solid surface or to each other. Biofilms have been identified in 60% of biopsies of chronic wounds but in only 6% of acute wounds (Phillips et al, 2010). Biofilm is not visible and the normal signs of infection are not normally present; wounds with biofilm are normally static or slow to heal (Wounds UK, 2017). There are usually no systemic signs of infection, and following removal, a biofilm will often reform quickly if not correctly or efficiently managed (*Box 2*).

Reducing biofilm in a chronic wound may tip the balance in favour of healing. If biofilm is suspected, it should be treated proactively with a biofilm-based wound care regimen of debridement and antimicrobial therapy (Wounds UK, 2017):

- ▶ Repeatedly breaking up and removing the biofilm — through vigorous/active cleansing and/or debridement
- ▶ Reducing biofilm reformation — through the use of an antimicrobial dressing or topical antiseptic preparation left in place between each session of biofilm removal (Wounds UK, 2017).

## Case for regular debridement

Debridement is an ongoing process and should be repeated as and when necessary (Wilcox et al, 2013). Debridement can be autolytic, enzymatic, mechanical or surgical. In a study by Wilcox et al (2013), 312,744 wounds were treated with at least one debridement treatment. Of these wounds, nearly two-thirds (71%) healed (median debridement treatments was two, range 1–138), and the wounds that were treated with at least once-weekly debridement had significantly shorter healing times.

JOHN TIMMONS  
Head of Clinical Services, L&R

CLARE MORRIS  
Senior Clinical Services  
Manager, L&R

**Box 1. Delegate responses**

Delegates were initially asked what their job role was in order to gain an accurate picture of respondents and their practice; 58% were TVNs or other specialist nurses. They were then asked what were the most common wound types they managed, with venous leg ulcers being the most common (55% of delegates). A total of 98% of delegates responded that over 20% of the wounds they treated could be classed as static or slow to heal, with the main challenges faced on a day-to-day basis being necrotic and sloughy tissue (32%), biofilms (38%) and excessive wound moisture (30%). Among delegates, most wounds were requiring two or more dressing changes per week (85%), highlighting the impact of high exudate levels on nursing time and resources.

Debrisoft® (L&R) is a monofilament fibre debridement pad that quickly lifts debris (including slough and exudate) and binds it within the fibres. Its gentle action removes barriers to healing without damaging new, viable tissue and can be used as part of a regular debridement protocol.

An audit was carried out of static, chronic wounds managed with a biofilm management pathway. The pathway incorporated regular mechanical debridement with a monofilament fibre debridement pad (Debrisoft®), for biofilm reduction and the use of a biocellulose dressing impregnated with PHMB to prevent biofilm reconstitution. A total of 251 clinicians used the complete 2-week pathway as described on 251 wounds (including 70% leg ulcers, 9% pressure ulcers and 6% diabetic foot ulcers). Results indicate that 232 out of 251 patients (92%) reported a positive healing response at the end of the 2-week pathway. A total of 81% reported a reduction in exudate production, 92% reported a reduction in the amount of slough and debris and 90% reported an improvement in the granulation tissue and skin condition. The monofilament fibre debridement pad was easy to use by the clinician or patient, gentle and pain free (Morris et al, 2016).

**EXUDATE MANAGEMENT**

As the interactive keypad session of delegates suggested, exudate management is one of the biggest challenges in wound care. High-exuding wounds often form a large part of the wounds seen in day-to-day practice and as Clare Morris said, “Exudate is a symptom of something else happening in the wound”.

The main role of exudate is in facilitating the diffusion of vital healing factors (e.g. growth and

immune factors) and the migration of cells across the wound bed. It also promotes cell proliferation, provides nutrients for cell metabolism, and aids autolysis of necrotic or damaged tissue (Romanelli et al, 2013). As the wound heals and moves along the healing trajectory, exudate levels usually reduce.

The composition of chronic, ‘bad’ wound exudate is different to ‘good’ exudate as it includes bacteria and dead white blood cells and a much higher level of inflammatory mediators and activated matrix metalloproteinases. ‘Bad’, excessive exudate occurs when a chronic wound gets trapped in the inflammatory stage. It can lead to a wet, soggy, and often malodorous wound, which impacts on the patients’ quality of life. Patients report feeling miserable, isolated and embarrassed by a highly exuding wound. It can be very painful, can lead to irritation of the surrounding skin, and can be an increased risk of infection. Increased exudate levels in chronic wounds are often caused by the presence of sloughy tissue, increased bacterial load and the presence of oedema. Treatment should include regular debridement to remove sloughy tissue and disrupt biofilm, the use of antimicrobials to kill remaining bacteria and, in patients with oedema, they will require compression therapy. Full compression therapy should be used to move the fluid from the lower limb; this will reduce exudate levels and help to promote healing.

Factors that can contribute to further poor exudate management include the wound healing stage, local factors (such as the size of the wound), systemic factors (such as cardiac, renal or liver failure), and practice factors (such as the position of the wound or inappropriate dressings or interventions).

Vliwasorb Pro® is a superabsorbent, highly

**Box 2. Formation of biofilm (Wounds UK, 2017)**

- Attach within minutes
- Form attached micro-colonies within 2–4 hours
- Develop initial extracellular polymeric substance and are tolerant to biocides within 6–12 hours
- Evolve into mature biofilm colonies within 2–4 days
- Rapidly recover from mechanical disruption and re-form mature biofilm within 24 hours

conformable dressing indicated for superficial wounds with moderate to very high levels of exudate, including chronic and acute wounds. It can be used under compression or an effective retention bandage. The core effectively absorbs and locks away proteases and bacteria, reducing microbial burden, odour and the risk of leakage (L&R, 2018).

In a 171-patient study where Vliwasorb Pro® was used for a minimum of three dressing changes, 95% of clinicians reported ease of application, 98% reported good absorption, 94% reported patient satisfaction, 99% of clinicians were satisfied with use of the dressing and 95% thought the dressing was safe and reliable (Efsthathios et al, 2017).

**IMPLEMENTING A STRUCTURED APPROACH**

Clare and John explained how appropriate wound bed preparation and exudate management should fit into a structured holistic approach to wound assessment using the TIMES framework. The TIMES framework outlines the five principles of Wounds Assessment, and is designed to encourage clinicians to follow a structured approach. T is for Tissue, I is for Infection, M is for Moisture Imbalance, E is for Edge of wound (non-advancing or undermining) S is for Surrounding Skin. Wound management for high-exuding wounds requires a more absorbent dressing, increased absorbency of secondary dressings, and often increased frequency of dressing changes. A cleansing and debriding procedure that is gentle to the surrounding skin, and could reduce the frequency of dressing changes may also benefit the patient by reducing trauma and distress at dressing changes.

**CONCLUSION**

It is important to address the possible causes of chronicity in long-term wounds. This should include preparing the wound bed, debridement and addressing the presence of biofilm. High levels of exudate are often due to the presence of sloughy tissue, high bacterial burden and the presence of oedema. Managing the underlying cause of excessive exudate is more important than managing the exudate itself, hence the need for regular debridement, removal of biofilm, the judicious use of antimicrobials and use of compression to reduce oedema. Tackling the resulting exudate challenge requires knowledgeable management but addressing the cause and the underlying aetiology of exudate is vital to improve patient outcomes and reduce the health burden. WUK

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