

Wound bed preparation for leg ulcers

This article is based on a Made Easy workshop held at the Wounds UK annual conference in Harrogate, UK, on 14th November 2016. The symposium consisted of presentations by two speakers: Kimberley Socrates (Tissue Viability Nurse Specialist, Oxleas NHS Foundation Trust) providing practical information and guidance on debridement as part of wound bed preparation in practice; and Monica Smith (Clinical Trainer, medi UK) providing information on simplifying treatment of leg ulcers from a compression point of view.

FOCUS ON WOUND BED PREPARATION

Kimberley Socrates began by focussing on wound bed preparation in leg ulcers, by looking at complex cases of leg ulcers that are not healing as planned. These cases are common and are seen in all patient age groups, particularly those with complex underlying issues. Dealing with these leg ulcers includes a variety of practical issues:

- ▶ Leg ulcer treatment is very costly
- ▶ Practitioners see huge recurrence rates — as Kim noted, ‘we keep seeing the same patients again and again’
- ▶ Leg ulcers can cause significant quality of life issues for the patient, such as mobility or social issues; ‘wet, leaky’ legs can be extremely distressing for both the patient and their family.

It is vital, Kimberley emphasised, to optimise the patient journey. When developing a treatment plan, it is crucial to consider the patient and their goals. Often the patient may not like the word ‘ulcer’, for instance. It is important to work collaboratively as a team alongside carers, podiatry services and industry partners (Wounds International, 2012).

Wound bed preparation is an essential start to a treatment plan. By definition, wound bed preparation is ‘the management of a wound in order to accelerate endogenous healing or to facilitate the effectiveness of other therapeutic measures’ (Schultz et al, 2003).

It is vital to ‘look at the bigger picture’ and focus systematically on the critical components of a non-

healing wound to identify possible causes of the problem. In order to do this, an hour should be taken for proper initial assessment.

It is crucial to ‘link the cause to the treatment’ and look at the components of local wound care — e.g. debridement, bacterial balance, moisture balance, edge of wound. Wound bed preparation should be a dynamic process that focuses first on properly debriding the wound, followed by maintenance debridement and treatment that ultimately leads to healing.

‘Wet, weeping’ wounds are a huge problem that can also affect the periwound skin. Kimberley described seeing patients with very wet ‘dripping’ legs and how this problem must be effectively addressed.

As such, using the structured TIME framework is key to wound bed preparation (Dowsett and Newton, 2005). It is vital both to use this structured framework and to take a holistic approach to patient wellbeing, encompassing patient-centred concerns (Falanga, 2004). Barriers to healing must be identified and a plan of care implemented to address and remove these barriers (Dowsett and Newton, 2005).

FOCUS ON DEBRIDEMENT

Debridement is defined as ‘the removal of dead, non-viable tissue, infected or foreign material from the wound bed and surrounding skin’ (Wounds UK, 2013). The role of debridement in wound bed preparation has been well documented, and the need for this is reflected in all elements of the Tissue, Infection, Moisture and wound Edge (TIME) framework.

- ▶ Tissue: reducing/removing non-viable tissue, facilitating better assessment
- ▶ Infection: reducing bioburden, biofilms
- ▶ Moisture: reducing chronic wound exudate, MMPs, odour
- ▶ Edge: reducing senescent cells, promoting granulation/epithelial tissue, improving skin integrity

Kimberley described the decision pathway that should be followed by nurses considering

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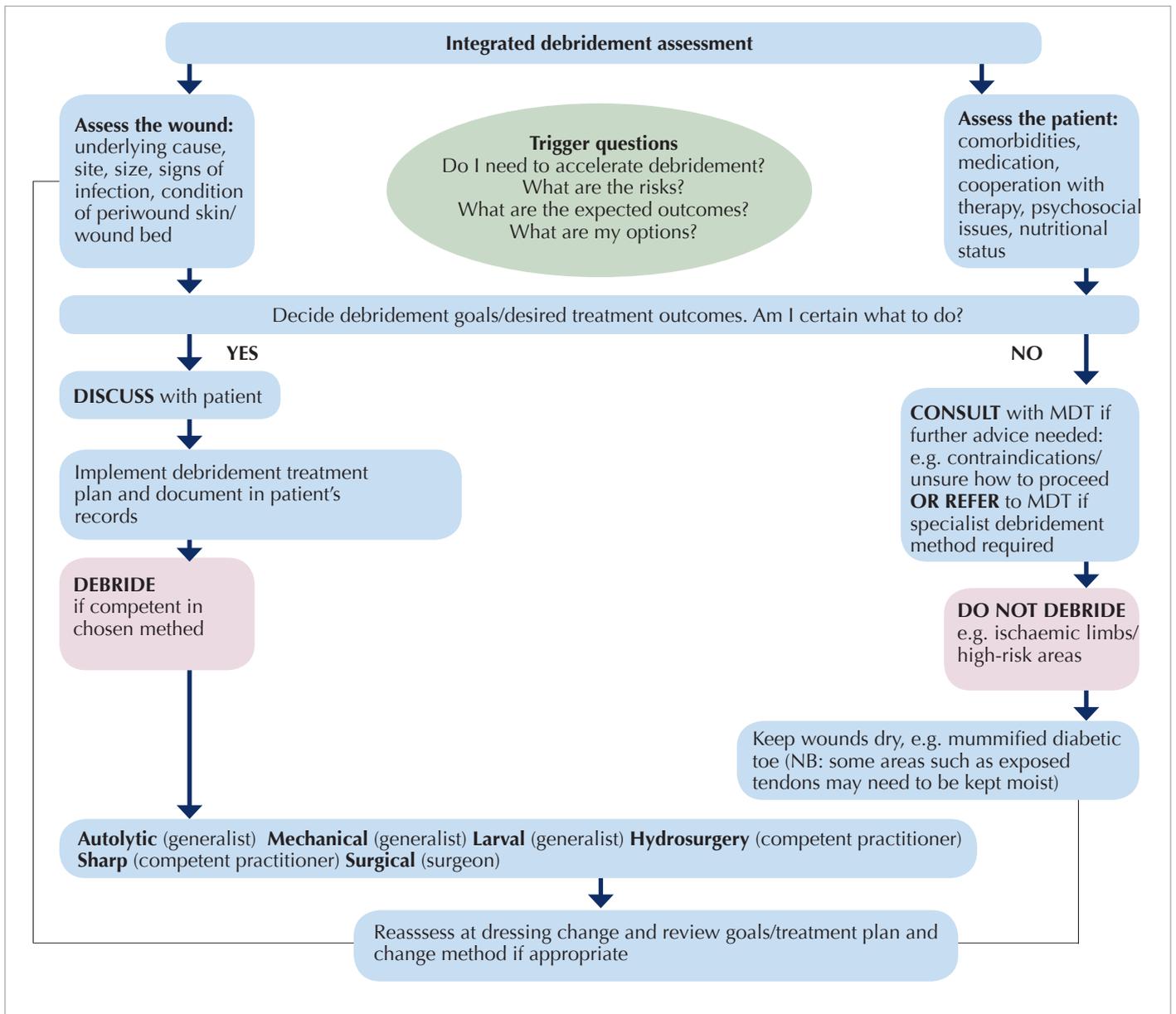


Figure 1. Decision pathway for nurses considering debridement (Wounds UK, 2013)

debridement options (Figure 1).

There are various methods of debridement that can be selected for use in practice (Gillies, 2016) including:

Sharp debridement

- ▶ Excision or wider resection of non-viable tissue to healthy wound margins; selective, immediate
- ▶ Requires hospitalisation, anaesthetic; high cost

Conservative sharp debridement

- ▶ Removal of non-viable tissue just above viable

tissue level; selective, episodic; home or clinic environment

- ▶ Requires skilled practitioner; painful, risk of bleeding; issues surrounding patient choice

Larval therapy

- ▶ Highly selective, rapid
- ▶ High costs; requires advance planning; patient choice issues, risk factors

Autolytic debridement

- ▶ Considered a safe method of debridement and usually undertaken by nurses without

specialist debridement skills or equipment by using moist wound dressings

- ▶▶ However, this method can be slow and is not always the most beneficial treatment for progressing a wound towards healing
- ▶▶ Risk of maceration, pain/discomfort, infection, delayed healing; possible allergies

Physical or mechanical debridement

- ▶▶ Traditionally wet-to-dry method not recommended in the UK
- ▶▶ Pre-moistened physical debridement cloths may be used to improve practice:
 - ▶▶ Contains a surfactant and a mild keratolytic that cleanse and penetrate the surface of a wound, providing deep and effective cleansing of the wound bed and peri-wound skin
 - ▶▶ Prepares wound for healing by gently removing slough, debris, biofilms, wound margins
 - ▶▶ Helps soften and remove hyperkeratosis through process of rehydration and exfoliation, and improves skin integrity
 - ▶▶ Cost-effective, user-friendly, convenient
 - ▶▶ Can be used safely by nurses without specialist debridement skills
 - ▶▶ Increased patient control
 - ▶▶ Need to assess for patient tolerance.

PRE-MOISTENED CLOTHS

Initially, Kimberley took a poll of the delegates present at the workshop, to establish how many of them currently use pre-moistened physical debridement cloths in day-to-day practice. Out of 60 delegates, 26 had not previously used pre-moistened cloths.

Pre-moistened debridement cloths (such as UCS™ Debridement, medi UK) are sterile single-use cloths that can be used for wound debridement and cleansing the surrounding peri-wound skin. The cloths include other useful elements, such as a mild keratolytic and a surfactant to deep-clean and soften the skin. Kimberley noted that buckets of water are not always practical and often don't effectively debride the wound — a lot of time can be taken up that only results in basic washing.

The cloth itself offers gentle physical debridement, which is particularly useful in the case of hyperkeratosis (*Box 1*). Removing

Box 1. Hyperkeratosis of the lower limb (Wounds UK, 2016)

- ▶▶ Abnormal thickening of the outer layer of skin due to over-proliferation of keratin-producing cells
- ▶▶ A number of factors may contribute to its pathogenesis:
 - Chronic venous insufficiency
 - Lymphoedema, chronic oedema
 - Chronic recurring eczema or cellulitis
 - Neglect, poor skin care
- ▶▶ If left untreated, hyperkeratosis can degenerate into a progressive cycle of colonisation, infection, skin breakdown, interfere with healing
- ▶▶ Can lead to pain, distress, anxiety, depression and social isolation

hyperkeratotic skin is a process that should take 10 minutes, but in practice often takes longer.

Using the cloths can help to remove suspected biofilm, as well as thick/sloughy tissue and debris, or dry hyperkeratotic skin. Often patients are fearful of pain in wound cleansing and this is an important element to consider when planning care.

Kimberley described a patient who was in severe pain and could not tolerate cleansing. Using a gel dressing helped to manage his pain levels, but caused debris in the wound. Introducing the cloths as part of his wound care regimen improved the situation; the patient was able to use the cloths himself on an ongoing basis, which helped him to take control of his own treatment.

Wet 'neglected' legs are a huge problem in practice. Kimberley explained that often clinicians are just reacting to the immediate problem, rather than identifying and treating the causes. Many management techniques can also be ineffective — such as 'just dabbing on saline' when there is a need to remove build-up of tough hyperkeratotic skin. Superabsorbers are also not always correctly used in practice. Kimberley showed case study pictures of before and after managing wet legs with a pre-moistened physical debridement cloth and the positive effect it had on her patients.



Figure 2. The built-in pressure system (BPS) card

Kimberley asked the audience how many of them would now consider using cloths in their practice. All but one of the delegates said that they would consider using them in their day-to-day practice in future.

FOCUS ON COMPRESSION

Monica Smith (Clinical Trainer, medi UK) went on to talk about compression and its vital role as a first-line treatment in both healing and preventing recurrence of leg ulcers. Effective compression must be consistent — so we need to consider how best to apply it and the methods to use.

Traditional compression methods can have drawbacks and limitations for both the patient and practitioner, such as:

- ▶▶ Traditional bandaging methods can burden patients
- ▶▶ Reliance on healthcare practitioners to reapply
- ▶▶ Slippage may occur
- ▶▶ Normal footwear may not be feasible and may impact on mobility
- ▶▶ Daily showering may not be possible.

Monica went on to explain how adjustable Velcro compressive devices (AVCD; such as juxtacures, medi UK) can have some benefits for the patient and practitioner, such as:

- ▶▶ Instantly re-adjustable straps allow patient or carer to maintain consistent compression during any 24-hour period
- ▶▶ Measurability using built-in pressure system (BPS) ensures safe practice.

The BPS provides a method where compression can be measured and monitored using a calibrated card held against two lines on the AVCD of each strap — the scale shows mmHg from 20–50.

Monica polled the delegates present to establish how many already used AVCDs in their day-to-day practice — of the 60 delegates, 12 had not previously used an AVCD.

HOW IS AN AVCD USED?

Evidence has shown that heel-to-toe walking and using the calf muscle pump is vital for patients, which can be facilitated by using an AVCD (Elvin, 2015; Mosti, 2015; Wickes, 2015). These studies showed a reduction in oedema (Mosti, 2015), as well as improvement of patient experience and quality of life (Elvin, 2015; Wickes, 2015). When assessing their treatment, 74% of patients rated the AVCD device with the maximum of 5 points, stating that they were 'very happy' (Elvin, 2015). Only one patient refused it and that was due to a fear of social isolation if the nurses were to reduce their visits

The key to using the garment effectively is through simple measurement. It comes in three lengths: short, standard and long. The correct measurement is obtained by measuring the thinnest part of the patient's ankle and the widest part of their calf. The BPS is used to measure and maintain the correct degree of pressure in mmHg (Figure 2).

juxtacures will be most beneficial in leaky/wet wounds as it can be adjusted to accommodate the reducing size of the leg; if the wound is static and there is no exudate, there is a pre-sized device called juxtalite that can be used — this prevents the need to cut the garment. See Figure 3 for a decision-making pathway when using these products. All juxta products include the BPS card.

Monica took another poll of the audience to establish how many would now consider using an AVCD in their day-to-day practice — all of the delegates present now said that they would.

USING THE PRODUCTS IN PRACTICE

The presentations were followed by a practical demonstration of how the products are used, with delegates getting the chance to try out the products and ask any questions about using them.

The cloths should be used using gentle circular motions — not scrubbing. Both sides of the cloth

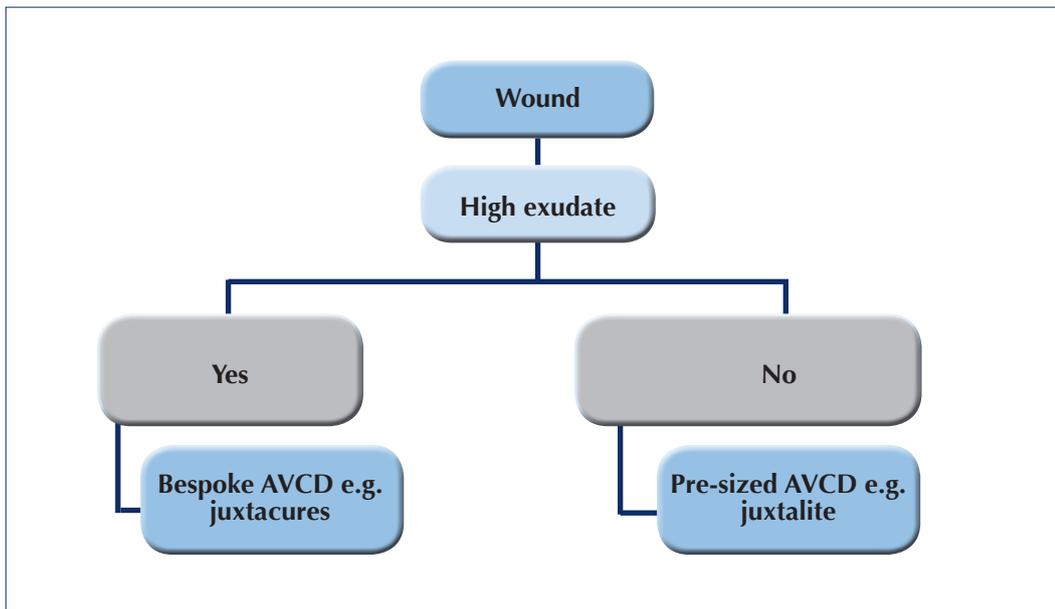


Figure 3. Decision-making pathway in exuding wounds

can be used — e.g. using one side for cleansing the leg and the other between the toes, etc. One cloth, using both sides, should be enough to treat one limb.

Trying out juxtacures, the delegates agreed that it was easy to use compared to the alternatives. One clinician said that in the right ‘motivated’ patients, it is an excellent way to help them to take control of their own treatment and gain independence. Another mentioned that patients who are unable to self care find juxtacures

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comfortable and it only requires a quick and simple appointment at the leg ulcer clinic to change the dressing.

The delegates were shown how to take the patient’s measurements correctly and set up the garment. When applying, they were shown to start fastening the straps from the bottom and moving upwards, removing any creases. For patient comfort, it is important to make sure that the straps are fastened so that the Velcro is not against the skin at the top or bottom.

Using the BPS card was agreed to be very simple — lining up using the lines, compression can be adjusted and patients will be able to use this to check their own compression levels themselves on an ongoing basis. WUK

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