



Why debride? A patient-centred approach

25 June 2019
7.00pm

Learning objectives

1. Understand the important role of debridement in wound healing
2. Recognise the tissues that need removing from the wound bed and edge, and surrounding skin to promote wound healing
3. Appreciate the different types of debridement available within a primary care setting and their advantages and disadvantages
4. Recognise patient choice and experience as a key factor in selecting a debridement technique
5. Understand when it is safe and appropriate to debride in primary care and to recognise your own limitations

Background

- A shift in patient care from secondary to primary care means more people with wounds are being seen in this setting
- A change in patient demographics with patients living for longer with multiple co-morbidities means that the management of these wounds is increasingly complex. Guest et al (2015) indicated that about 48% of wounds treated were chronic
- The overall cost of wound care in the UK has been estimated at £5.3 billion (4% of NHS budget)
- Debridement is an essential component of wound management, and the ability to identify wounds which need debriding is a key skill of the generalist nurse

What is debridement?

- Debridement is defined as: 'the act of removing necrotic material, eschar, devitalised tissue, serocrusts, infected tissue, hyperkeratosis, slough, pus, haematomas, foreign bodies, debris, bone fragments or any other type of bioburden from a wound with the objective to promote wound healing' (European Wound Management Association [EWMA], 2013)
- It is different to simple wound cleansing, which aims to remove loose dirt and foreign material
- Within a wound, the presence of adherent, dead or contaminated tissue can be a constraint on healing
- Debridement aims to remove these tissues, so healing can progress

What is debridement?

- Failure to debride when it is clinically indicated can lead to delayed healing and wound infection
- Debridement should also consider the wound edges and surrounding skin to optimise healing outcomes
- Failure to debride, or using inappropriate debridement techniques, will result in increased costs to the NHS, an increase in nursing time and can impact negatively on patient wellbeing and quality of life

Why debride?

The presence of non-viable tissue and debris in the wound can have several negative effects on wound healing:

- Acts as a barrier to wound assessment
 - If dead tissue is physically covering the wound bed, this can prevent the true extent of the wound from being seen, and may mask underlying structures, such as exposed bone or tendons
- Provides nutrients for micro-organisms
 - Non-viable tissue and debris provide nutrients for micro-organism growth, which can ultimately lead to wound infection, particularly in at-risk patients



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Why debride?

- Provides a physical barrier to healing
 - New epithelial cells migrate from the edges of the wound and the presence of necrotic tissue can provide a physical barrier to this process
- Results in wound stuck in inflammatory phase of healing
 - Leads to delayed healing and inflammatory symptoms, such as pain and production of exudate and there may be an increase in odour
- Blocks the delivery of topical therapies
 - Can prevent topical antimicrobials from reaching the living tissues of the wound bed to exert their effects

Why debride?

- Failing to choose and implement an appropriate form of debridement may be considered clinical negligence, or an omission of care
- Debridement may be a one-off procedure, or may be an ongoing process
- Implementing debridement will assist in short- and long-term treatment objectives, allowing for regular assessment of progress

Identifying tissue for debridement

- Necrotic tissue present in a wound was once living tissue that has died as a result of ischaemia
- The appearance of necrotic tissue can vary depending upon its water content. Newly ischaemic tissue is similar in texture to normal tissue, but will have a purple hue
- As necrotic tissue dehydrates, over time it becomes hard and leathery. This is known as eschar



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Slough

- By rehydrating the tissue with moisture, it will soften and become yellow, grey or brown
- This is known as slough



Credit: Duangnapa Kanchanasakun/Shutterstock

Slough

- Some wounds exhibit both sloughy and necrotic tissue



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Deciding to debride

- Deciding to debride and selecting a debridement method should be following comprehensive wound assessment. Some wounds, especially if they are infected, may require fast debridement techniques, such as surgical debridement
- The TIMES framework is often used as a guide to wound bed preparation
- Once a debridement method has been selected, it is important to ensure that interventions are evaluated for effectiveness and documented within the patient's record
- If intervention is not effective you may need to consider a different debridement technique or referral to specialist practitioner

Deciding to debride

- Many factors should be considered when deciding if to debride, and what technique to use. These include:
 - Pain
 - Environment
 - Patient choice
 - Age
 - Quality of life
 - Local guidelines
 - Your skill and knowledge of debridement techniques
 - Your knowledge of the product that you are going to use
 - Local formulary availability

Deciding to debride

There are certain wounds where debridement must be approached with caution and probably requires the intervention of the multidisciplinary team:

- High risk areas, such as hands and feet
- Ischaemic wounds
- Wounds where malignancy may be suspected
- Wounds in close proximity to blood vessels, nerves, tendons
- Wounds in patients with blood clotting disorders
- Patients with inflammatory conditions, such as *pyoderma gangrenosum*



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Autolysis

- Autolysis is the body's natural way to debride a wound using its own enzymes to moisturise and soften eschar and slough
- Necrotic tissue will degrade if kept moist
- Matrix metalloproteinases (MMPs) are enzymes released by white blood cells as part of the inflammatory response
- MMPs break down proteins in the dead tissue, which leads to its detachment
- This process can be lengthy, however, and may need to be accelerated to prompt speedy healing, to reduce wound symptoms and the risk of infection

Debridement techniques

- The two main debridement techniques recommended for use by the generalist nurse are:
 - Autolytic
 - Mechanical
- These do not require specialist skills
- There is also larval therapy, but more skill and knowledge may be required to apply the larvae compared with autolytic or mechanical debridement

Autolytic

- Autolytic debridement uses dressings to provide a moist environment that enhances the natural autolysis process
- Examples of dressings that facilitate autolytic debridement include occlusive/semi-occlusive dressings, such as hydrocolloids, hydrogels, alginates, and hydrofibers
- The dressings used to do this must be selected based on the findings of wound assessment and according to wound symptoms, such as the volume of exudate produced, pain, malodour and if infection is present
- A disadvantage of this approach is that it can be lengthy, requiring extended nursing time for dressing changes, and increasing the risk of complications such as wound infection

Mechanical

- Traditional mechanical debridement techniques, such as the use of wet-to-dry dressings, gauze and paraffin tulle are no longer recommended due to the pain associated with these techniques
- More modern approaches to mechanical debridement include the use of monofilament debridement pads to physically loosen and remove tissue from the wound bed, edges and surrounding skin
- Advantage of this approach is that it is quick and easy to use
- Patients can also use for self-care
- There is an association with some pain (Bahr et al, 2011)
- Not suitable for hard or dry eschar

Larval therapy

- Green bottle larvae (*Lucilia sericata*)
- Secrete enzymes that liquify non-viable tissue, which they then ingest
- Can result in fast debridement, although expensive
- Need to be applied with caution in wounds that bleed easily, are near blood vessels, or if patient is on anticoagulants

Patient-centred approach

- Patient involvement in care planning will help to promote co-production and concordance
- When choosing which method of debridement to use, ensure that the patient understands what you are hoping to achieve and why
- Patients should be given adequate information in a language that they understand so that they are able to make an informed decision regarding their care
- Informed consent should be sought and documented

Patient-centred approach

- It is vital to understand what is important to the patient, as this may influence choice of debridement method when planning treatment intervention. Influencing factors may be:
 - Pain
 - Odour
 - Exudate
 - Frequency of dressing changes
 - Prescription costs
 - What is acceptable to the patient

Consequences of not debriding

- Chronicity
- Cost
- Impact on patient quality of life
- Poor patient outcomes

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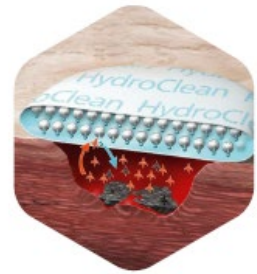
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Providing rapid wound debridement

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Unique debriding mode of action: HydroClean® plus irrigates the wound while absorbing dead tissue, necrosis, bacteria and exudate.

The superabsorbent polymers ensure an optimal absorption of exudate while the Ringer's solution continuously cleanses and moisturises the wound bed



1. Release of Ringer's solution^[13]



2. Absorption of necrosis, fibrin, bacteria, wound exudate and debridement of devitalised tissue^[3,15-16]



3. Ideal wound environment for effective wound healing^[5]



[13] Atkin, L. and Rippon, M. (2016). Autolysis: mechanisms of action in the removal of devitalised tissue. *British Journal of Nursing* 25(20), pp. S40-S47. **[15]** Knestele, M (2004). The treatment of problematic wounds with HydroClean plus tried and tested over many years in clinical practice. HARTMANN Data on file **[16]** Kaspar, D. (2011). Therapeutic effectiveness, compatibility and handling in the daily routine of hospitals or physicians practices. HARTMANN Data on file

Case one



*Image reproduced courtesy of Heather Hodgson,
Greater Glasgow and Clyde NHS*

- 72-year old female patient with a sacral pressure ulcer
- At presentation, wound covered with 100% necrosis
- Reddening to periwound skin and patient experiencing pain in the periwound area
- Low volume of exudate and no signs of infection
- HydroClean® plus applied with a film dressing
- Dressing changes to take place every three days

Case one continued



*Image reproduced courtesy of Heather Hodgson,
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- Sloughy tissue lifting by day eight
- Layer of yellow slough detaching from wound edge
- Visible healthy granulation tissue

Case one continued



*Image reproduced courtesy of Heather Hodgson,
Greater Glasgow and Clyde NHS*

- Slough levels continued to decrease
- Corresponding increase in granulation tissue
- After 14 days, sharp debridement was undertaken to clean the wound of any remaining devitalised tissue
- Patient commented that the HRWD was comfortable to wear
- Clinician stated that the dressing promoted detachment of devitalised tissue from healthy wound edges which, in turn, enabled sharp debridement

Case two

- 74-year-old lady with severe chronic obstructive pulmonary disease (COPD) and bronchiectasis
- History of trauma to top right foot
- Painful wound of eight weeks' duration
- At presentation, 100% haematoma
- Surrounding skin friable



*Image reproduced courtesy of Heather Hodgson,
Greater Glasgow and Clyde NHS*

Case two continued

- After two weeks' treatment, the haematoma had completely debrided
- At three weeks, the wound was almost healed
- Patient and family delighted with outcome
- Patient found dressing pain-free and was able to mobilise



*Images reproduced courtesy of
Heather Hodgson, Greater
Glasgow and Clyde NHS*

Case three

- Patient presented with a burn to her underarm, measuring 333cm²
- Tissue type present:
 - 35% necrotic
 - 35% slough
 - 35% granulation
 - 5% epithelial



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Case three continued

- After treatment with HRWD, the wound desloughed in 14 days
- Clinician found the dressing conformed well
- Hydrated the wound and enabled sharp debridement to show a clean wound bed
- Patient found the dressing comfortable and pain levels were reduced at the wound site



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Case analysis

- Study aim: to evaluate the clinical efficacy of a HRWD on debriding the wound of slough/devitalised tissue, supporting generation of granulation tissue and progressing the wound to healing
- Case notes of ten randomly selected patients with different wound types were investigated both two weeks before treatment with HRWD, and during the two-week HRWD treatment period
- Percentage of devitalised tissue present and its removal was evaluated at each assessment
- At baseline, all wounds exhibited high levels of slough and necrosis

Case analysis

- After two weeks' treatment with the HRWD:
 - Majority of wounds had been debrided
 - Wound area had reduced
 - Wounds were progressing to healing — four patients showed 100, 95, 80 and 60% granulation tissue respectively
- One patient's heel ulcer of four years' duration, had a 59% reduction in wound area

Case analysis

Cost analysis: audit to identify and collate cost of the treatment regimens of the ten patients in the two weeks before starting treatment with HRWD compared with the two weeks of HRWD treatment found a saving of £346.68 (25%)

- Reduction in nursing time, due to the simplicity of the dressing's application, was also significant

Summary

- Debridement is the removal of devitalised/sloughy tissue
- The aim is to clear away debris from the wound to enable epithelialisation and granulation to occur and promote healing
- Decision to debride should be based on comprehensive assessment
- Technique chosen should depend on the type of wound and clinician's competency
- Ensure that interventions are re-evaluated within an acceptable timeframe
- Always recognise when a wound is beyond your scope of practice and when to refer to specialist practitioners

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A top-down view of a desk with a blue background. In the top right, a silver laptop is partially visible. To its left is a green and white pom-pom. In the bottom right, there is a brown spiral notebook with a white cup of black coffee on top. A silver pen lies horizontally to the right of the notebook.

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