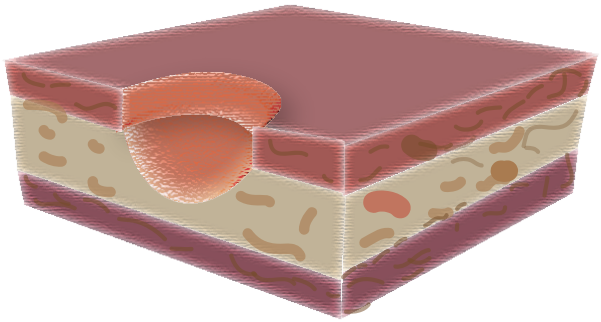
WOUNDS UK

Best Practice Statement

Management of cavity wounds in practice

2025



BEST PRACTICE STATEMENT: MANAGEMENT OF CAVITY WOUNDS IN PRACTICE

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Foreword

Cavities can occur in wounds of most aetiologies, including leg ulcers (LUs), diabetic foot ulcers (DFUs), pressure ulcers (PUs) and in patients with surgical wound dehiscence. Definitions of cavity wounds in the literature are varied, plus these can be complex wounds – so identification and assessment in practice can be a challenge.

Clear guidance is needed to give clinicians knowledge and confidence in dealing with cavity wounds of all types.

To address this gap, a group of experts met in London in September 2024 to share experiences, discuss challenges in managing cavity wounds, establish standardised definitions, and provide practical guidance for clinicians.

This resulting best practice statement is based on the discussions and opinions of the expert group. The document aims to provide guidance for practice, including the following areas:

- Overview and definitions of cavity wounds
- Special considerations unique to cavity wounds
- Exudate management
- Dressing selection
- Patient considerations.

This document also includes a glossary of terms relating to cavity wounds [**Appendix 1**], to demystify practice and standardise definitions. The overall aim is to increase clinicians' knowledge and confidence and, ultimately, improve outcomes for patients with cavity wounds.

Jacqui Fletcher, Chair

What is a cavity wound? Overview and definitions

Cavity wound is a common term in wound care. A cavity can exist in almost any wound aetiology, such as non-healing wounds (e.g. LUs, PUs, malignant wounds and DFUs), traumatic wounds, surgical wounds, and abscess drainage and excision (Tickle, 2024).

However, specific definitions can vary, often depending on the care setting and the individual clinician. The definition of a cavity wound is generally linked to the depth of the wound. In basic terms, a cavity wound may be any wound that has depth.

It is generally agreed that, to be deemed a cavity, the wound must fully breach the dermis (full-thickness; Timmons and Cooper, 2008). As cavity wounds can develop on any part of the body, referring to specific depth measurements may not always be accurate. The difference may be that the smaller wounds with less depth may not be managed in the same way as a usual cavity wound – i.e. a flat dressing could manage the wound. Cavity wounds may need to be treated differently, but all should be classified as complex.

A cavity wound is not a full diagnosis, but part of the description. It is characterised as:

- A wound extending to subdermal underlying layers and structures such as fascia, tendon, muscle or bone.

Terminology in cavity wounds

There are many other terms that may be associated with cavity wounds, such as:

- Undermining
- Fistula
- Sinus
- Tracking
- Tunnelling.

These are all forms of erosion; however, they differ in practice. For example, a sinus is not necessarily a cavity wound, but a cavity wound may have sinus(es) involved. Similarly, a fistula connects the wound to another organ, whereas tracking/tunnelling/undermining do not lead anywhere under the wound. These differing terms may cause confusion in practice, so it is important to be aware that they have distinct meanings associated with cavity wounds.

For full definitions of terms commonly associated with cavity wounds, see the glossary (Appendix 1, page 25). See **Figure 1** for a visual representation of how cavity wounds may present beneath the surface of the wound bed.

Complexities specific to cavity wounds

Cavity wounds may expose underlying structures such as muscles, tendons, ligaments, cartilage, bone, fascia, organs e.g. bowel or heart, blood vessels or other specialised structures e.g. dura (Smith et al, 2015). It is important to consider what may be underneath the visible wound bed, with the hidden aspect to cavity wounds representing a challenge in practice.

Clinician confidence may be an issue in assessing and managing cavity wounds, which presents significant risk to patients. Less experienced clinicians may be concerned about exposing underlying structures, so may not investigate thoroughly. In practice, this may mean that only the obvious element or surface of the wound is assessed and managed, leaving further damage underneath that goes untreated. For example, if bone is present in the bed of the wound, there is an increased risk of osteomyelitis which may not be correctly managed.

Thorough and accurate assessment is key in cavity wounds, considering the potentially hidden elements beneath the visible wound bed, so clinicians need to have the confidence to look beneath the surface and ascertain the full extent of the wound, including what may not be immediately visible. With this in mind, it is also important to be aware of local anatomy and have an understanding of

MYTH

Terms such as cavity, tunnelling or sinus are interchangeable.

TRUTH

These terms associated with cavity wounds have specific definitions and it is important in practice to know the difference.

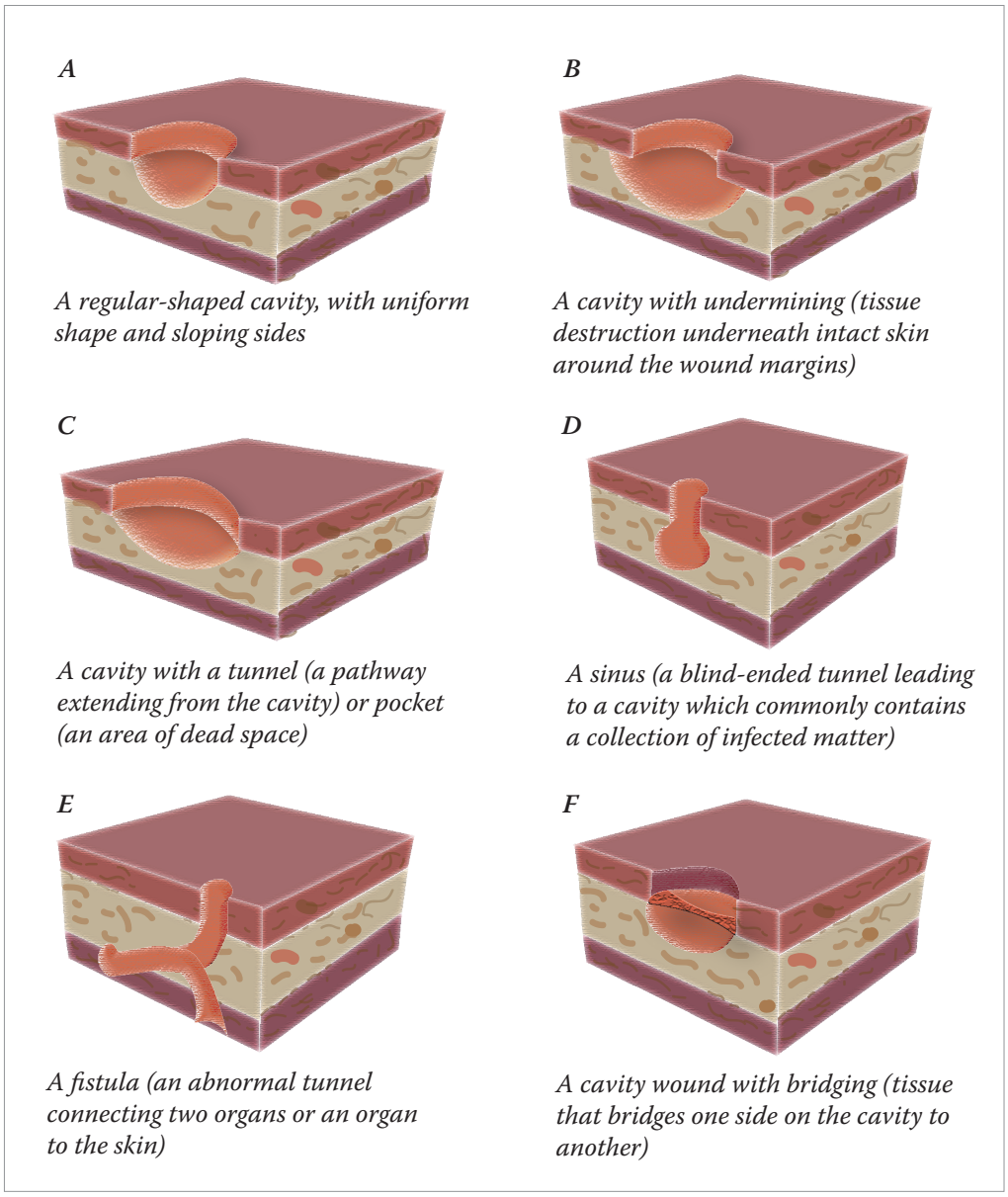

Figure 1. A visual representation of how cavity wounds may present beneath the surface of the wound bed

It is important to investigate cavity wounds thoroughly, including identifying underlying structures, considering the position of the wound in relation to the local anatomy and awareness of what may be close to the wound bed.

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what structures may be in close proximity to the wound base. This knowledge of anatomy may suggest wounds require further investigation, testing or specialist referral. For example, cavity wounds may overlie a large vessel such as the femoral artery and this would need to be considered when performing actions such as sharp debridement or using negative pressure wound therapy (NPWT). See page 6 for further information on accurate assessment and documentation and measuring cavity wounds.

Assessment of cavity wounds

All wound assessment should follow a structured framework that incorporates all the essential elements of assessment, such as TIMERS.

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Thorough and accurate assessment is the foundation of all wound care; in cavity wounds this may be particularly true, as cavity wounds can present specific challenges in assessment that affect ongoing treatment due to high exudate levels that can increase the risk of infection and maceration (Timmons and Johnstone, 2022).

It should be noted that – while local policies may vary – guidance states that the first wound assessment should be conducted by a registered nurse.

Assessment framework

Assessment may differ depending on the care setting and what equipment is readily available (for example, in the patient's home, assessment may be more challenging due to poor lighting). Across all care settings, using a structured assessment framework, such as TIMERS (Atkin et al, 2019), is recommended. The TIMERS framework encompasses the following elements:

- **T** for tissue: nonviable or deficient
- **I** for infection/inflammation
- **M** for moisture imbalance
- **E** for edge of wound, non-advancing or undermined
- **R** for regeneration/repair of tissue
- **S** for social factors that affect the trajectory of wound healing.

In dealing with a patient with a cavity wound, the initial assessment particularly needs to investigate the:

- Wound bed
- Periwound area
- Presence and impact of exudate
- Presence of underlying structures.

In some wound types, assessment of the cavity can hold other challenges. For example, debridement by a podiatrist or tissue viability nurse is important in DFUs to visually assess the wound as the presence of devitalised tissue such as callus, slough or necrosis may obscure full assessment and measurement of the cavity (Tickle, 2024). Following assessment of a cavity wound, wound bed preparation (WBP) is a vital next step in all treatment. See page 8 for more information about WBP.

Holistic assessment

In all wound assessment, it is important to look at the whole patient. By identifying factors (both local and systemic) that require intervention and indicating objectives for management, holistic wound assessment will guide appropriate patient and wound management (Fletcher et al, 2018).

Some key elements of holistic assessment (depending on the individual patient and their wound) may include:

- Establishing wound type/cause/diagnosis, which is fundamental to objective setting, care planning and management
- Identifying whether any of the wide range of factors that may hinder or prolong healing or increase risk of further wound development are present
- Understanding how the wound is affecting the patient, which can enable the plan of care to include measures to reduce the wound's impact on overall health, wellbeing and quality of life (Fletcher et al, 2018).

Psychosocial factors or those associated with lifestyle and wellbeing (e.g. the patient's overall health, their working life or living circumstances) should also form part of holistic assessment and having a full picture of the patient.

Inadequate assessment of cavity wounds can have a detrimental impact on the patient because of, skin damage caused by maceration, failure to heal, damage to underlying structures and an increased risk of infection (Tickle, 2024).

MYTH

We should be measuring the depth of all wounds.

TRUTH

In some wounds, other descriptors may be more useful than measurements (i.e. of depth), which may be inaccurate.

Assessment should involve the patient's overall health and wellbeing, and any psychosocial factors, as well as their wound.

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Measuring cavity wounds

Measuring cavity wounds can be challenging and often subjective. While numerical measurements are useful in smaller wounds, they may be less effective in larger, irregularly shaped wounds. Objective assessment should incorporate multiple methods, including standardised wound tracing, digital imaging, and documentation of wound characteristics such as depth, exudate levels, and presence of undermining or sinus tracts. These tools provide a more comprehensive baseline to track wound progression or deterioration (Tickle, 2024).

Cavity wounds mean that there may be tunnels/tracks or other forms of erosion underneath the obvious wound bed which may be missed. Capturing the full depth of the wound may not be possible – ultrasound or advanced imaging techniques may be required for deep, complex wounds.

A clear image and description of the wound is useful and should be done routinely as well as relying on measurements. It is important that all documentation is thorough and easy to understand. If there is undermining or tracking, this can be recorded using a clock face to describe the position.

In cavity wounds, it is also important to note that a reduction in visible wound size is not the only indicator that a wound is healing. These are complex wounds that may appear bigger during the healing process.

In addition to recording measurement of the wound, there are other ways to gauge the wound's progress. This can be based on other markers such as change in tissue type, reduction of exudate or pain or resolution of infection. Dressing materials used can also be a marker of progress (e.g. if volume of wound filler can be reduced). Clinical judgement may also be used.

Documentation

Accurate documentation of wound assessment and progress is essential. Documentation should be as objective and consistent as possible, particularly in wounds where accurate measurement may be a challenge. Therefore, in cavity wounds, it is advised to take the following steps (Tickle, 2024):

- **Step 1** – take two photographs, with the first being a wide shot showing wound location and the second being a closer shot of the wound
- **Step 2** – encourage careful measuring and/or probing, especially if the full depth of the wound is not visible. Avoid causing trauma, discomfort, pain or contamination
- **Step 3** – document accurately and consistently, using descriptors as well as numerical measurements. For some cavities, it is important to document the side the patient is on, as this may affect the measurements of the cavity underneath.

Use images and description when assessing and documenting cavity wounds, in addition to measurements.

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MYTH

Any increase in wound size means deterioration.

TRUTH

In cavity wounds, an increase in size does not always mean the wound is deteriorating; removing devitalised tissue may expose the full extent of the wound.

Ensure accurate and consistent documentation of all wound assessment parameters, treatment and progress.

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The importance of wound bed preparation

Good wound bed preparation (WBP) is the key to the commencement of proper treatment of cavity wounds (Smith et al, 2015). WBP is a multifaceted approach that includes cleansing and debridement to enhance the effectiveness of therapeutic measures and prepare the wound for healing, assisting clinicians to identify and address barriers to wound healing to create an optimal healing environment (Ousey and Schofield, 2021). If a wound has become static and healing has stalled, ongoing WBP, depending on the wound's needs, can help to kickstart progress.

WBP can be conducted through a structured framework that considers all necessary aspects of the wound. As with assessment, again the TIMERS framework can be used (Atkin et al, 2019; see page 6).

In terms of action, the main components of WBP are appropriate cleansing and debridement. Cleansing and debridement have different clinical aims. As such, cleansing should not be confused with debridement, and cannot replace it (Mayer et al, 2024).

In cavity wounds, there may be some concern around the best techniques for both cleansing and debridement, particularly where undermining and underlying structures may be involved.

Cleansing

Wound cleansing should be seen as an integral part of WBP to optimise the wound environment by removing debris, reducing bacterial load and preventing biofilm formation (Wolcott and Fletcher, 2014).

There is no agreed consensus on wound cleansing techniques (e.g. passive soaking, swabbing, irrigation or showering/washing), plus there is a lack of agreement on procedural aseptic techniques (i.e. sterile/surgical versus clean/standard); equally, the ideal wound cleansing solution has not been established conclusively (IWII, 2022). Therefore, clinical judgement is required based on the individual patient and wound. In cavity wounds, there are specific considerations at each stage.

Cavity wounds will require careful cleansing and the method chosen will largely be controlled by access to the wound cavity. Cleansing is necessary not only to remove accumulated pus, slough and exudate but also to assist in the removal of any dressing material residue (Vowden, 2016).

Selection of an appropriate cleansing solution will depend on several clinical considerations (Weir and Swanson, 2019):

- Infection risk
- Cytotoxicity (effective enough to cleanse the wound, but not high enough to damage healthy cells)
- Clinical efficacy
- Ease of use and availability
- Cost-effectiveness (bearing in mind total costs connected to time to wound healing)
- Volume of solution required
- Position of the wound.

Evidence shows that inert substances (sterile water or saline) are appropriate for cleansing most non-infected wounds (IWII, 2022). However, use of antimicrobial cleansing solutions that contain surfactants may have additional advantages by disrupting biofilms, and reducing bacterial load, which is important as cavity wounds are at high risk of infection (Vowden, 2016).

Additionally, surfactants (surface active agents) are substances that lower the surface tension between the wound bed and the fluid, or between two liquids. The lowered surface tension facilitates the spread of fluid across the wound bed. Surfactants assist in the separation of loose, non-viable tissue by breaking bonds between non-viable tissue/debris and the wound bed.

Wound bed preparation should be informed by a structured framework, such as TIMERS.

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These products might be chosen for cleansing wounds that require greater mechanical action when cleansing, for example, wounds with suspected biofilm (IWII, 2022). Many wound cleansers contain surfactants and there is available data that demonstrates the positive impact of these cleansers in the enhancement of wound closure through improved removal of debris and exudate, and reducing the presence of microorganisms that have been shown to be a significant factor in delayed wound healing (Percival et al, 2017).

See **Table 1** for a list of cleansing solution options and how these may be selected.

Table 1: Wound cleansing solution options (adapted from IWII, 2022)

Fluid type	Safety profile	Comments	Key model features
Potable tap water	Hypotonic	No cytotoxicity Not sterile	■ Generally inert solution that varies in content ■ Effect achieved through mechanical detachment of contaminants ■ Safe alternative when sterile solutions are not available or feasible (e.g. low resource or community settings) ■ In low resource settings with non-potable water, boiled and cooled water is an alternative ■ When using potable tap water, run the tap to remove contaminants before using the water
Sterile normal 0.9% saline	Isotonic	No cytotoxicity	■ Inert, isotonic solution with no antimicrobial properties ■ Effect achieved through mechanical detachment of contaminants ■ Once opened, product is no longer sterile
Sterile water	Hypotonic	No cytotoxicity	■ Inert, hypotonic solution with no antimicrobial properties ■ Effect achieved through mechanical detachment of contaminants ■ Once opened, product is no longer sterile
Surfactant wound cleansers (e.g. Poloxamer 407, undecylenamido-propyl betaine and macrogolum)	Surfactant	Low cytotoxicity to fibroblasts and keratinocytes *in vitro*	■ Categorised based on type of chemical charge ■ Commonly combined with antimicrobial / antimicrobially-preserved agents including octenidine dihydrochloride (OCT) or polyhexamethylene biguanide (PHMB) ■ Removes bacteria without damage to healing wound tissues
Super-oxidised solutions (hypochlorous acid and sodium hypochlorite are present as antimicrobial preservatives)	Hypotonic	Varies	■ Contain naturally occurring hypotonic, oxidising agents ■ Antimicrobial and antibiofilm action varies
Povidone iodine	Antiseptic Iodophor	Dose-dependent cytotoxic effect on osteoblasts, myoblasts and fibroblasts	■ Antiseptic solution ■ Broad-spectrum antimicrobial and antibiofilm action
Other agents containing antimicrobials and/or active preservatives	Varies	Varies	■ Range of antimicrobial/antimicrobially-preserved agents solutions, less commonly used solely as a cleansing agent

It may be necessary to use more than one method of debridement (Mayer et al, 2024).

In cavity wounds, irrigating the wound with consideration of underlying structures may present practical issues. In wounds with narrow openings or tunnelling, it may be necessary to use a single-use sterile syringe, both to access the wound and to measure the volume of solution going into the wound.

When cleansing/irrigating a cavity wound, if liquid enters the wound, it may not always be possible to get the full volume of liquid out, depending on what undermining is present. While some liquid in the wound may not cause significant issues, it is important that large volumes of liquid do not sit inside the wound and that volumes are monitored and documented, and excess liquid kept to the minimum possible levels. Note that, if there is liquid in the underlying wound, this may affect the appearance and level of exudate.

Irrigation may also be used as a diagnostic or investigatory tool in cavity wounds. Use of fluid may indicate whether there are additional areas and connections underneath the wound bed, such as tunnelling or sinuses (i.e. observing where liquid comes in and goes out). In scenarios where there are separate wounds/areas that are connected, it may be necessary to consider technique; for example, if one area appears infected and another clean, avoiding spreading the infection).

In terms of cleansing technique, there is debate over soaking versus irrigation, the benefits of which may vary in different wounds. When cleansing a wound, especially a cavity wound, it is important that, if possible, the entire volume of cleansing solution is accurately accounted for, with all fluid/as much fluid as possible being retrieved from the wound. For the best antimicrobial activity, some solutions need to be left in the wound for a short period, which is best achieved by soaking gauze with the solution and leaving for the specified period.

Careful and thorough cleansing/irrigation is particularly important in cavity wounds due to their potential complex structures and infection risk.

Best Practice Statement

Any devitalised tissue should be removed as soon as possible, as it is a focus for infection, will potentially be the cause of increased exudate production and will delay healing.

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Debridement

The primary goal of debridement is to remove all the non-viable or devitalised tissue from the wound bed to promote wound healing. Debridement is also used for the removal of biofilm, along with senescent cells, and it is suggested to be performed regularly (i.e. at each appointment) when assessment identifies that devitalised tissue is present to be effective (Manna et al, 2023; Mayer et al, 2024).

Early and appropriate debridement is essential as the presence of devitalised tissue in a cavity wound increases the risk of infection, excessive exudate production, and delayed healing (Vowden, 2016). However, in cavity wounds, careful consideration must be given to the anatomical structures involved. For example, wounds near tendons, nerves, or bone may require specialist referral to avoid unintended damage. A structured decision-making approach should be followed to determine the safest and most effective debridement method based on wound depth, tissue viability, and clinician expertise.

Whilst sharp debridement is the most effective method of debridement, it is not always possible in a cavity wound, as the devitalised tissue may be difficult to access and remove safely (Vowden, 2016). The use of antiseptic surfactants (see above) and debridement products/techniques that can fit inside the cavity may assist with cleansing and debriding cavities and undermining tissue. In addition, dressings can also facilitate autolysis and debridement (Tickle, 2024).

There are several options for debridement, including surgical, sharp, mechanical, autolytic, enzymatic, and biological methods. The method of debridement should be chosen based on individual patient conditions, availability of resources and clinician skill, and the condition of the wound. See **Table 2** for more information on different debridement techniques.

Table 2. Types of debridement (based on Gray et al, 2011; Vowden and Vowden, 2011; Holmes et al, 2019; Nair et al, 2024)

Type	Mechanisms of action	Advantages	Disadvantages	Who/where
Autolytic	Uses the body's own enzymes and moisture to rehydrate, soften and liquefy hard eschar and slough using occlusive or semi-occlusive dressings and/or antimicrobial products to create a balanced moist wound environment either by donating or absorbing moisture	• Can be used for pre-debridement, when there is a small amount of non-viable tissue and where other forms of debridement are inappropriate • Can be used for maintenance debridement	• The process is slow, increasing potential for infection and maceration	Can be done by both generalist and specialist; however, advice should be sought for high-risk individuals
Biosurgical	Larvae of the green bottle fly are used to remove necrotic and devitalised tissue from the wound. Larvae are also able to ingest pathogenic organisms in the wound (Thomas et al, 1998)	• Highly selective and rapid • Can be used on infected wounds	• Initial costs may be higher than autolytic debridement • Access to larvae may be an issue • Not suitable for all patients or wounds (e.g. in patients with highly exuding wounds, wounds requiring occlusion, patients with clotting issues, malignancies or wounds close to large blood vessels)	Can be applied by generalist or specialist practitioner with with the appropriate level of skill, training and competence
Hydrosurgical	Removal of dead tissue using a high energy saline beam as a cutting implement	• Short treatment time and selective • Capable of removing most if not all devitalised tissue from the wound bed without compromising healthy tissue	• Requires specialist equipment • There is potential for aerosol spread and it is associated with higher costs	Must be carried out by a specialist practitioner with relevant training. Suitable in a variety of settings with a controlled environment due to the risk of bacterial aerosolisation
Mechanical	Traditional method involves using wet-to-dry gauze that dries and adheres to the top layer of the wound bed, which is 'pulled' away when the dressing is removed; however, this method is not generally recommended	• Other (newer) methods including monofilament/microfibre debridement pads and therapeutic irrigation are more selective, faster and relatively pain-free	• Traditional methods (e.g. wet-to-dry gauze) requires frequent dressing changes and can be painful for the patient	Can be done by both generalist and specialist; however, advice should be sought for high-risk individuals
Sharp	Removal of dead or devitalised tissue using a scalpel, curette, scissors and/or forceps to just above the viable tissue level	• Selective and quick. No analgesia is required normally • Can be combined with other therapies (e.g. autolytic debridement)	• Clinicians need to be able to distinguish tissue types and understand anatomy as there is a risk of damaging blood vessels, nerves or tendons	Can be done at the patient's bedside or in clinic by a competent practitioner with specialist training
Surgical	Excision or wider resection of non-viable tissue, including the removal of healthy tissue from the wound margins, until a healthy bleeding wound bed is achieved	• Selective and is best used on large areas where rapid removal is required	• It can be painful for the patient and anaesthetic is normally required (caution required around sensitive areas) • It can be associated with higher costs	Must be performed in a procedure room by physician, surgeon, podiatrist or specialist nurse with appropriate training and skills
Ultrasonic	Devices deliver ultrasound either in direct contact with the wound bed or via an atomised solution (mist). Most devices include a built-in irrigation system and are supplied with a variety of probes for different wound types	• Immediate and selective • Can be used for excisional debridement and/or maintenance debridement over several sessions	• Availability issues due to higher costs and requirement for specialist equipment • Requires longer set up and clean up time (involving sterilisation of hand pieces) than sharp debridement	Must be carried out by competent practitioner with specialist training in a variety of settings

In cavity wounds, there may be a lack of clinician knowledge and confidence in some debridement methods, particularly where underlying structures are involved. It should be noted that access to debridement should be based on clinical need and the skill of the clinician. It is important that the decision to debride and the method of debridement selected are most effective for the patient, the amount of non-viable tissue to be removed and the anatomical location of the wound, and should form part of the overall wound management plan for the patient. However, in real-world practice, clinician skill and resources may be limiting factors and, therefore, there should be clear pathways for escalation to an appropriately skilled practitioner.

As with all wounds, additional knowledge and awareness of anatomy is required before undertaking sharp debridement. For example, a deep cavity wound may be over a tendon, so should be debrided with care, and more than one technique may be required. Tendons must not be allowed to dry out and should be kept moist.

Clinicians performing any wound debridement are expected to have:

- Good knowledge of relevant anatomy
- Understanding of the range of wound debridement methods available
- Capability to identify viable tissue and differentiate non-viable tissue
- Ability to manage pain and patient discomfort prior to, during, and following the procedure
- Appropriate skills to deal with complications (e.g. bleeding)
- Awareness of infection control procedures (Vowden and Vowden, 2021).

Additionally, debridement may be daunting for both patient and clinician, as the process can initially cause the wound to appear bigger. Pain may also be an issue in some clinical scenarios. Ongoing patient communication and managing expectations is important at every stage of treatment.

A comprehensive holistic assessment must be undertaken before debridement. This should aim to address any potential barriers to participation in debridement, including patient anxiety and fear of pain during the procedure (Mayer et al, 2024). The clinician should ask the following questions before deciding whether and how to debride (Vowden and Vowden, 2021):

- What is the cause of the wound?
- What is the aim of treatment?
- What are the risks and benefits of performing debridement?
- What speed of debridement is required?
- Which method would be most appropriate?
- Where are the skills and/or equipment required to perform the treatment?

If there are any doubts or concerns, specialist help should be sought prior to commencement of debridement. Wounds that should not be debrided without specialist involvement are (Vowden and Vowden, 2021):

- Wounds on the hands, feet or face. These wounds require multidisciplinary involvement
- Lower limb wounds on patients with arterial disease who require advice and assessment from the vascular team
- Patients with inflammatory conditions such as pyoderma gangrenosum where active debridement may lead to wound deterioration. These patients require review by the dermatology team.

Additionally, caution is advised when patients have clotting disorders or are on anticoagulant therapy. Patients who have active, untreated wound infection require urgent intervention.

Be clear at every stage and communicate with the patient about treatment goals and what to expect, making them part of the decision-making process.

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Patient pain should be assessed using a validated tool (e.g. Visual Analogue Scale, Numerical Rating Scale), discussed and managed as necessary.

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MYTH

Any increase in the appearance of the size of the wound should be considered a bad sign.

TRUTH

Debridement can initially make cavity wounds appear larger, but this is necessary as part of the treatment and healing process.

Exudate in cavity wounds

Exudate is defined as fluid that leaks from a wound. Exudate production is the result of the inflammatory process and is usually clear or amber-coloured fluid, which contains proteins, enzymes (especially matrix metallopeptidases [MMPs]), leucocytes (granulocytes, macrophages), tissue cells, bacteria, and fungi (WUWHS, 2019).

Exudate plays a key role in wound healing. However, exudate can delay healing when in the wrong amount, in the wrong place, or of the wrong composition. Effective assessment and management of exudate is therefore key to ensuring timely wound healing without complications (WUWHS, 2019).

Cavity wounds can produce a large volume of exudate, which carries an increased risk of infection and other complications (Tickle, 2024). Assessment should record the type, colour and viscosity or thickness/consistency (WUWHS, 2019).

In cavity wounds, exudate management may form a key element of treatment. The aims of exudate management are generally to:

- Optimise wound bed moisture level as appropriate for the individual patient and their wound
- Protect the surrounding skin
- Manage symptoms and improve patient quality of life (WUWHS, 2019).

A key consideration in cavity wounds is to prevent exudate pooling. The accumulation of exudate in or below the wound bed is often referred to as exudate pooling. Exudate pooling is likely in wounds with irregular topographies, pockets, or cavities and this can impact negatively on wound healing by causing maceration of the local tissues and increasing the risk of infection (Dowsett et al, 2020).

Exudate pooling can also occur when the exudate is not absorbed by the wound dressing, or the volume of fluid exceeds the dressing's absorptive capacity. To prevent pooling, the dressing should transfer exudate away from the cavity; ideally, the primary dressing will be able to absorb fluid and transfer it to a secondary dressing. Once depth, tunnelling, or undermining is identified, the dressing selected must be able to conform well to the wound base, as well as fill the dead space (Dowsett et al, 2020). See page 18 for more information on dressing selection in cavity wounds.

Moisture balance in wound healing

While excessive or unmanaged exudate presents an issue, equally the wound becoming too dry can cause problems in wound healing. Moisture balance is key.

There can be some benefits to exudate in cavity wounds, with a moist environment assisting wound healing. If a cavity wound becomes too dry and the tissue is dehydrated, moisture may need to be added rather than removed. This can apply particularly to intensive care patients, patients on dialysis/haemofiltration, or patients who are systemically dehydrated/nutritionally depleted. Use of some dressings, such as NPWT can cause the wound to become drier.

Exudate and the periwound

Exposure of the skin to wound exudate, particularly if chronic in nature, carries the risk of periwound moisture-associated dermatitis, one of the clinical manifestations of moisture-associated skin damage (Young, 2017). This means the skin around the wound can appear white and soggy (maceration) or red and inflamed (excoriation) and cause the wound to break down or increase in size (Young, 2017; Mahoney, 2020).

Proper management of exudate (e.g. through dressing selection) can help to protect the periwound skin; use of skin protection or barrier products may be needed in some patients.

Exudate levels should always be included as part of the assessment, with consideration of how to optimise moisture level.

Best Practice Statement

Exudate must be appropriately managed to protect the periwound skin from further damage; skin protection and barrier products should be used where necessary.

Best Practice Statement

Any infected matter should be removed from cavity wounds.

Best Practice Statement

MYTH

Exudate always indicates the presence of infection.

TRUTH

Cavity wounds will produce exudate that does not indicate infection; additionally, some dressing types can alter the characteristics of exudate.

In patients with highly exuding cavity wounds, nutrition and hydration should be considered, as well as any potential underlying causes.

Best Practice Statement

It is important to discuss the psychosocial impact of exudate with the patient, and how treatment choices may be able to improve their quality of life.

Best Practice Statement

Exudate and infection risk

Exudate is often associated with the presence of infection (WUWHS, 2019). However, depending on the individual wound and its location, cavity wounds will produce exudate that does not indicate infection (from fistulae, for example).

A change from clear, thin exudate to opaque, discoloured, thick exudate may indicate the development of wound infection; however, clinicians should be aware that some dressing types alter the characteristics of exudate (WUWHS, 2019). If there is infection present, it is important to drain infected matter out of cavities, so that it is not sitting or pooling in the base of the wound.

Exudate and overall health

Exudate production can be increased by underlying conditions, such as heart failure (Fletcher et al, 2023a). Evidence has shown that patients with heart failure are likely to be at increased risk of skin damage through exudate production and recurring wounds (Atkin and Byrom, 2022). It is important to investigate any potential underlying issues.

Having a wound can increase the metabolic demands on the body, and protein can be lost through the production of copious amounts of wound exudate. Therefore, nutrition and hydration should be optimised in all patients with exuding wounds (Quain and Khardori, 2015). The presence of a chronic wound can increase protein requirement by 250% and calorie requirement by 50% (Quain and Khardori, 2015).

Impact of exudate on the patient

Excessive exudate levels can have a serious psychosocial impact on patients and reduce quality of life. For example, patients' work, social and home lives may be disrupted by dressing changes or by fear and embarrassment related to leakage or odour, which can prevent patients from leaving their homes (WUWHS, 2019).

Patient communication is important, and cavity wounds may involve specific practicalities that need to be discussed. In cavity wounds, exudate may be able to move around more freely within the wound than in other wound types, which can increase the risk of leakage. Consideration of fluid mechanics and the anatomy of the wound should be a factor in treatment decisions. Gravitational force has an impact on exudate movement, so awareness is needed around patient positioning, repositioning and anatomical locations.

In different wounds, fluid levels may increase at different times or in different positions; for example, in the legs, fluid may increase when the legs are down – gravity makes it harder for the veins to pump fluid back up to the heart, so fluid collects in the legs and can leak through the wound.

It is important to discuss lifestyle and daily activities with the patient and what the best treatment choices are for the individual. Discussing what is most important to the patient, or what elements of their wound affects them the most, should help to direct their care as part of a shared decision-making process wherever possible.

Infection risk in cavity wounds

Cavity wounds are often associated with a high risk of infection, which can cause further complications. Due to the often-challenging presentation of cavity wounds and potential lack of visibility, assessment should proactively look for signs and symptoms of infection (Tickle, 2024). However, this can represent a challenge in practice. Early identification of infection is key.

The classic signs and symptoms of infection may include (IWII, 2022):

- Erythema or changes in colour (often referred to as redness, although this may vary according to the patient's individual skin tone)
- Local warmth
- Swelling
- Purulent discharge
- Wound breakdown or enlargement
- New or increasing pain
- Increasing malodour.

Additionally, there may be more covert (subtle) signs of infection present, which may include (IWII, 2022):

- Hypergranulation
- Bleeding or friable granulation
- Epithelial bridging and pocketing in granulation tissue
- Increasing exudate
- Delayed wound healing beyond expectations.

Exudate pooling and the risk of dead space (a gap between the wound and the dressing, where fluid and bacteria can accumulate) is likely in cavity wounds, causing maceration and potential infection (Dowsett et al, 2020). As well as wound exudate, if wounds have significant undermining and are not cleaned sufficiently, there may also be residual dressing debris, wound cleansing solution or other materials or fluids that have accumulated in the wound, which may present an additional source or focus of infection.

Wound aetiology should be considered when evaluating risk and presentation of infection, and cavity wounds are closely associated with infection risk (IWII, 2022). Where infection is indicated, wound swabbing is the most widely used method for collecting a wound sample (IWII, 2022); however, the individual characteristics of a cavity wound may mean that additional guidance is needed, as per clinical judgement and local protocols. See **Figure 2, page 16** for taking a wound swab for culture. Only swab if there are clinical signs of infection.

Increased vigilance is needed for any signs of infection in cavity wounds.

Best Practice Statement

Biofilm

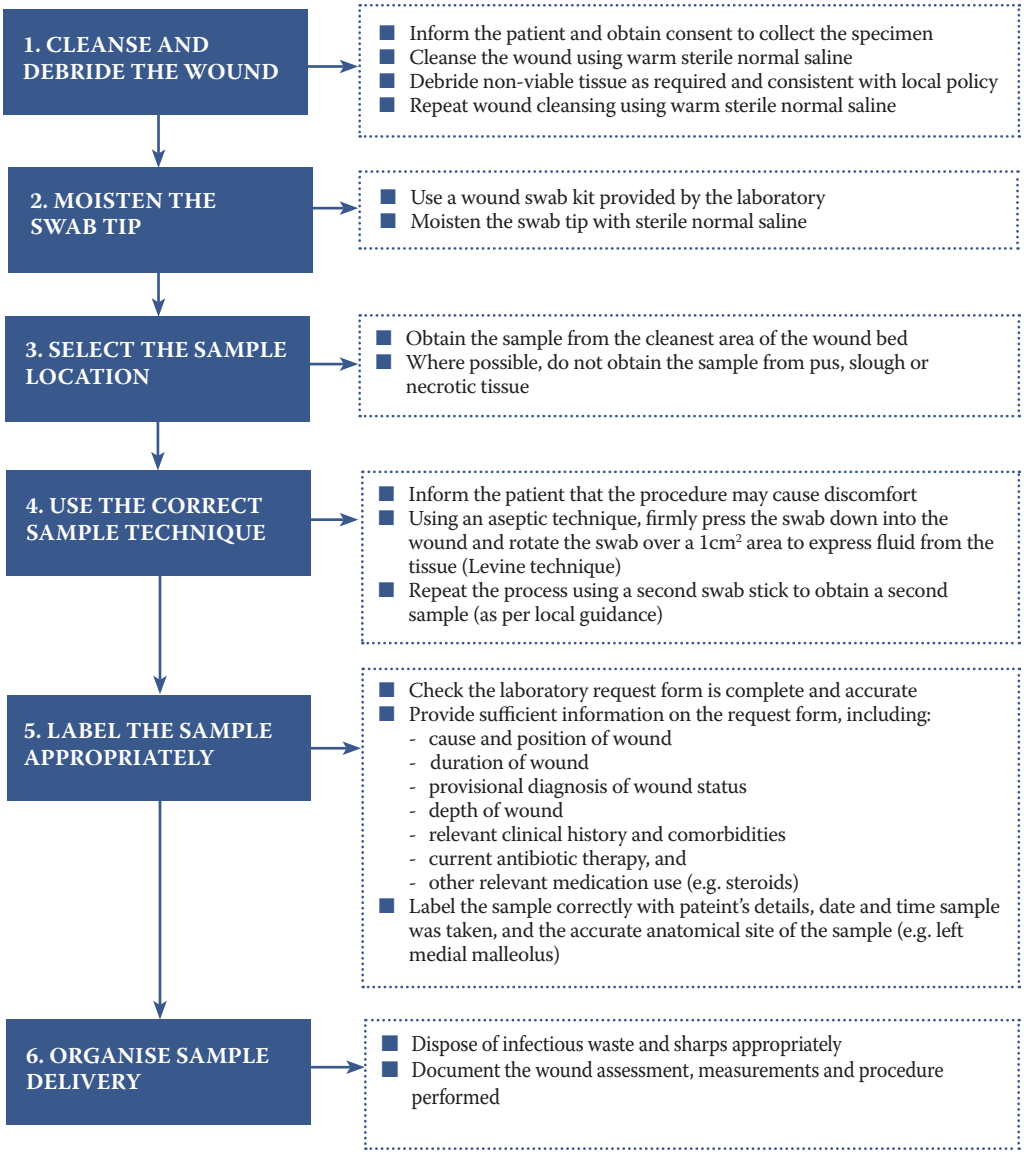
Biofilms consist of a complex community of microorganisms, which tend to attach to surfaces, and are encased within a matrix consisting of extracellular polymeric substances (Malone et al, 2017). This matrix provides the microorganisms with protection against antimicrobial treatment and an individual's immune system (Choudhury and Downie, 2022).

Biofilm is often present in cavity wounds, and it has been reported that between 80% to 100% of all non-healing wounds include the presence of biofilm, which impedes wound healing (Bjarnsholt et al, 2017; Malone et al, 2017). There is currently no gold standard for wound sampling to identify biofilm or the presence of microorganisms (IWII, 2022); however, due to their recognised prevalence within non-healing wounds, it is vital that clear and effective management strategies are put into place (Choudhury and Downie, 2022).

Possible clinical indicators of biofilm include (IWII, 2022):

- Poor granulation/friable hypergranulation
- Low-level chronic inflammation
- Low-level erythema
- Delayed healing despite optimal wound management and health support
- Increased exudate
- Secondary signs of infection
- Inadequate response to antimicrobial treatment
- Recurrence of delayed healing on cessation of antibiotic treatment
- Failure of appropriate antibiotic treatment.

Figure 2. Taking a wound swab for culture (adapted from IWII, 2022)



In any non-healing or hard-to-heal wound, it is advised to consider the presence of a biofilm and commence a biofilm-based wound care pathway accordingly (IWII, 2022).

WBP plays an important role in infection and biofilm-based care but may present challenges in cavity wounds due to their specific qualities (see page 8). Equally, dressing selection and management strategies in cavity wounds may require awareness of infection risk and/or presence. See page 18 for more information on dressing selection.

In any non-healing or hard-to-heal wound, the presence of biofilm should be suspected.

Best Practice Statement

Osteomyelitis

Osteomyelitis is an infection of the bone that occurs through the bloodstream or from a wound that allows bacteria to directly reach the bone (IWII, 2022); therefore, cavity wounds – depending on depth and anatomical location – are associated with a high risk of osteomyelitis.

In some wound aetiologies and locations, assessment and identification of osteomyelitis may be more straightforward. For example, in DFUs, probing to the bone with a sterile metal probe or instrument to diagnose osteomyelitis is standard practice

and is generally considered reliable, as well as being relatively inexpensive, accessible and safe (IWII, 2022). It is important to consider the anatomical location of the wound – if there is bone underlying the cavity and if the wound bed is covered with slough or necrotic tissue, escalation may be required so that a suitably qualified clinician can sharp debride the area.

Discussion with medical and surgical teams, microbiology and further investigations such as magnetic resonance imaging (MRI) may be necessary (e.g. for the pelvis/coccyx). It is not just debridement, but sometimes more the full clinical picture for sacral osteomyelitis. Examples of osteomyelitis in different anatomical locations can be found in **Figure 3–5**.

Antimicrobial stewardship

While vigilance regarding infection is needed and appropriate measures need to be taken, in recent years the increasing threat of antimicrobial resistance (AMR) means that care should be taken with infection management strategies.

Driven by an increase in AMR, topical antimicrobials are being increasingly used in wound care, especially for superficially or locally infected wounds; however, it is imperative that clinical practices minimise the possibility of micro-organisms developing resistance to these therapies as well (Fletcher et al, 2020). Therefore, novel approaches to optimising and conserving all antimicrobial interventions in wounds are indicated (Cooper and Kirketerp-Møller, 2018). This approach to combat antimicrobial resistance is known as antimicrobial stewardship (AMS).

Antimicrobial misuse in wound care often occurs because of diagnostic uncertainty concerning the presence of a bacterial infection, lack of knowledge of infection presentation, clinicians' fear of achieving unfavourable patient outcomes and patient demand (Roberts et al, 2017). Patients should not repeatedly be prescribed courses of antibiotics (Fletcher et al, 2020); however, people with chronic long-term conditions or recurrent wounds may require continued monitoring for infection risk. This continued assessment and monitoring will be required across acute and community care settings. For osteomyelitis and patients with chronic conditions, this is often led by microbiology.

It should be noted in high-risk wounds such as cavity wounds, there may at times be a need for prophylactic antimicrobial use. The risk and benefit should be continually assessed, with a high level of clinical vigilance, and expert advice sought.

Figure 3. Right Hip (2cm x 2cm x 1cm [thick eschar]).
Image courtesy of Kim Whitlock, North Bristol NHS Trust

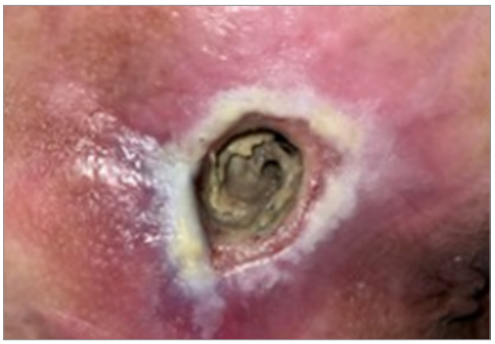


Figure 4. Sacrum (3cm x 2.5cm x 1cm [100% slough]).
Image courtesy of Kim Whitlock, North Bristol NHS Trust

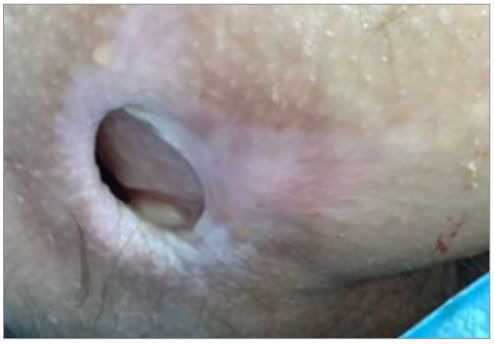


Figure 5. Right ischial tuberosity (2cm x 2cm x 9cm)
Image courtesy of Kim Whitlock, North Bristol NHS Trust

Dressing selection for cavity wounds

Dressing selection should depend on the outcome of the wound assessment and the objectives set for management (Timmons and Johnstone, 2022). Cavity wounds may be challenging to dress and present specific issues that affect dressing choice and technique.

It is important to remember that a cavity wound will heal by filling with granulation tissue from the base upwards, until the deficit is filled to just below the level of intact skin – therefore, healing may take some time to be visible, with a reduction in wound size not seen in the width and length of the cavity until it has filled (Tickle, 2024).

Once the management strategies are identified, this will help to inform dressing and treatment selection. Cavity wounds may be challenging to dress and present specific issues that affect dressing choice and technique. Objectives for dressing selection in cavity wounds may include the following:

- Filling dead space of the cavity wounds
- Creating intimate and continuous contact of the primary dressing with the wound bed to prevent exudate pooling
- Absorption of fluid
- Transferring fluid to a secondary dressing
- Optimising the wound bed condition and removing devitalised tissue
- Managing bioburden
- Minimising dressing-related issues (e.g. moisture balance issues due to the dressing being too absorbent or not absorbent enough, i.e. leakage)
- Single-piece removal and the ability of the dressing to maintain its integrity and avoid shedding debris in the wound
- Reduction in wound pain or discomfort, on application, removal and during use
- Prevention of damage to the surrounding skin.

Dressings need to be in contact with the wound bed and should eliminate dead space as much as possible.

Best Practice Statement

Contact between the wound and dressing

Dead space – any gap between the wound bed and dressing – increases the risk of wound infection (WUWHS, 2019) and chronicity of wound infection by allowing exudate pooling and accumulation of bacteria (Maddineni et al, 2015). In cavity wounds, it is particularly important to prevent or eliminate dead space (Morgan-Jones et al, 2019).

A dressing needs to be selected that can conform to the wound bed, which may present a particular challenge in cavity wounds, depending on the wound's individual topography and anatomical location. Dressing selection for cavity wounds should prioritise conformability to the wound bed to eliminate dead space and prevent exudate pooling, which can increase infection risk. In wounds with irregular contours or undermining, dressings that expand to fill the cavity or gel-forming dressings may be preferable, as long as they can be removed. The chosen dressing should facilitate easy removal, maintain moisture balance, and minimise trauma to the wound bed and periwound skin.

If a dressing is selected that includes any active components (e.g. antimicrobial agents to manage infection), it is vital that the dressing is in contact with the wound for this to have any beneficial effect.

Location of the wound

The nature of cavity wounds can make them difficult to dress, which can also be exacerbated by anatomical location. Depending on location factors, the dressing may need to withstand pressure (e.g. under compression) or manage friction and shear without causing further damage.

Retention is a key factor – i.e. the dressing staying in place. This needs to be balanced with flexibility (i.e. not impede the patient's movement), providing elasticity to avoid pulling the skin or blistering, particularly over joints (Sandy-Hodgetts et al, 2022). Other factors may also make this more difficult; for example, if this is over a moist or hairy area. Considering the key requirements of

a dressing and matching these to dressings' mode of action or product information is important to make sure the most appropriate dressing is selected.

While the primary dressing may need to be flexible/malleable – and the size of the required dressing will vary – it is important to choose the correct sized dressing. With some exceptions (which will be specified in the instructions for use), dressings should not be cut to size. Cutting a dressing may affect its efficacy, particularly in dressings requiring exudate management properties, as the dressing may shrink or swell on contact with exudate (see below for more information on dressing fluid-handling properties).

Depending on location, cosmesis may be an important factor for the patient. If the wound location is visible, particularly on the face, aesthetics are a key consideration. The patient needs to be involved in the decision-making process to make sure the treatment regimen suits the individual and minimises the impact of the wound on their activities of daily living, and that they are engaged in their treatment as much as possible (WUWHS, 2020b).

Consideration of skin tone may also form an important element of aesthetic acceptability for the patient, which should be discussed as part of treatment decision-making (Dhoonmoon et al, 2021). If the cavity is close to other anatomical structures (e.g. anus, urethra, eyes or mouth), it may be more difficult to anchor dressing products and this needs to be considered when selecting the most appropriate dressing.

Dressing fluid-handling properties

As cavity wounds can produce high levels of exudate, fluid-handling can be an important consideration in dressing selection. Exudate-related factors need to be considered as part of the dressing selection process, such as:

- Exudate volume
- Exudate consistency (viscosity/thickness)
- Protection of the periwound skin (i.e. absorption and wicking away from the skin)
- Wound location and gravitational forces on exudate
- Whether the dressing can retain exudate under pressure if necessary.

As well as the dressing's fluid absorption and retention capabilities, the mode of action in terms of fluid-handling should also be considered. Many dressings soak up fluid by vertical wicking – absorbing the exudate upwards and taking up the shape of the wound to avoid macerating the surrounding skin – whereas some dressings will absorb laterally, which means that exudate is absorbed into the whole of the dressing, which may increase the risk of damage to the periwound skin if the dressing overlaps onto the skin and is not contained within the cavity (Gardner, 2016). The way the fluid is absorbed is particularly relevant to cavity wound dressing, to minimise the risk of pooling.

It is vital to consider the periwound skin in all dressing and treatment choices.

Best Practice Statement

Protecting the periwound skin

Protection of the periwound skin reduces the risk of further skin breakdown, and of infection potentially being spread, which is often a key consideration in cavity wounds. To protect the periwound skin, it is important to select an appropriate primary dressing and, if necessary, to apply a secondary dressing that is atraumatic on removal, minimising the risk of further potential damage, such as medical adhesive-related skin injury (MARSI; Tickle, 2024).

Use of adhesive removers may be necessary to prevent skin stripping. See page 21 for more information on how dressing technique on application and removal can help to protect the skin. The use of skin barrier products for some patients may also be beneficial to protect the periwound skin (Tickle, 2024).

Advanced cavity wound dressing options

Use of NPWT has increased in cavity wounds in recent years and can be effective in suitable cavity wounds. It is particularly important that type and amount of fluid coming out into a canister if using NPWT is monitored for safety/dehydration.

Where available, negative pressure wound therapy may be suitable for use in cavity wounds (subject to individual assessment).

Best Practice Statement

If fresh blood is noted within the canister, the pump should be switched off and further advice sought immediately. If the volume of blood is high, treat as a haemorrhage/emergency.

In some complex cavity wounds, specialist considerations may need to be made that require more advanced treatment options. For example, the complex groin wounds associated with gender-affirming surgery or necrotising fasciitis may have specific treatment needs. In patients receiving palliative or end-of-life care, treatment goals may be different, such as symptom management or avoiding trauma to the patient through unnecessary dressing changes (Ousey et al, 2024).

While all dressing options should be considered, it should be acknowledged that availability of products may depend on the care setting and product availability (e.g. according to formularies), and guidance should be sought where needed (Fletcher et al, 2023b).

Dressing technique in cavity wounds

As well as selecting the appropriate dressing, application and removal of the dressing are also important. In cavity wounds filling of the wound is often required, which requires knowledge and awareness of how the product can be used correctly in this way. The packing of cavity wounds tightly should be avoided as this can cause further harm to the wound and may restrict free absorption of exudate. Dressing technique also influences pain and the risk of further damage to the patient's skin at every dressing change.

There is now a wide selection of materials available for use in cavity wounds, which have improved patient experiences and outcomes, but require use of clinical judgement for the best material to use in an individual wound.

Lining or filling cavity wounds

The cavity should be loosely filled with the dressing material, ensuring there is sufficient material to maintain contact with the wound bed but not so much that the product causes additional pressure and pain, aiming to allow exudate to drain freely, promote healing, eliminate dead space, prevent infection and wound trauma/pain.

Different techniques for filling the wound may be used, such as folding, scrunching, or zig-zag layering. This may depend on the material and size and shape of the dressing or cavity. Overpacking can create excessive pressure within the wound, leading to ischemia and delayed granulation (Vowden, 2016; Timmons and Johnstone, 2022). The packing material should be easy to remove in one piece, with minimal risk of fragmenting inside the wound. Clinicians should avoid tightly compressing the dressing, as this can obstruct drainage and contribute to wound deterioration.

Dressings should not be folded or twisted in order to be crammed into smaller wound openings; equally, dressings should not be tied together to attempt to fill a large space. If inserting dressings into a wound with a restricted opening, it is important to consider how it will come out at dressing change. If more than one piece of a dressing is required due to the extent of a cavity, the number of pieces used should be clearly recorded in the patient record to ensure that the equivalent number of pieces are removed.

Products specifically designed for use in cavity wounds should always be used, which facilitate one-piece removal, and do not shed fibres into the cavity (Tickle, 2024).

It is also worth noting that flat dressings can be used successfully in some cavity wounds, as opposed to ribbon shaped packing. Some flat dressings may contour or swell with use, so will be in contact with wounds at some depth depending on the wound's location.

Undisturbed wound healing

In recent years, awareness has increased of the concept of undisturbed wound healing (UWH), optimising healing through minimising dressings changes, which can result in improvements in clinical outcomes and patients' quality of life (Sandy-Hodgetts et al, 2022).

Based on the initial assessment and ongoing treatment goals, it is important to give the selected dressing time to work in cavity wounds, as well as reducing potential pain and trauma for the patient, which may be caused by frequent removal. In some cavity wounds, keeping the wound stable may be an appropriate initial goal for treatment; as long as the wound is not deteriorating, conservative management may be continued. Consistency is important, as well as regular review.

Depending on the wound and the product used, a 2-week or 4-week review plan may be appropriate. Unless there is significant deterioration, the treatment regimen should not be changed for 2 weeks. In cavity wounds, healing occurs from the base upwards, meaning visible reductions in wound size may not be immediately

MYTH

When packing a wound, as much material as possible should be used to fill the wound cavity.

TRUTH

Cavity wounds should be loosely filled.

Cavity wounds must not be overpacked or packed too tightly; aim to loosely fill the wound cavity.

Best Practice Statement

MYTH

Dressings should be wet before used for packing cavity wounds.

TRUTH

Unless specified in the individual product's instructions for use, using wet dressings is not recommended.

MYTH

All wound treatment plans must aim to see reduction in size within 4 weeks.

TRUTH

This aim and timeframe may vary depending on the objectives for that specific patient.

obvious. Clinicians should focus on assessing granulation, exudate levels, and patient comfort rather than solely measuring wound size.

Some products may need longer to see an effect, so a 4-week review plan may be used. One of the current aims of wound care, in line with undisturbed wound healing, is to use dressings that, once *in situ*, provide undisturbed healing; too many disturbances to the wound can delay healing or even lead to adverse events, such as introducing infection and damaging the periwound skin and increasing risk of MARSI (Davies et al, 2019).

It should be noted that stable and static have different meanings. Stable – particularly in the presence of comorbidities and other factors that need to be managed or in patients who are at end of life – may be an appropriate outcome in some wound treatment plans. Static means the wound is not healing as expected and may need a kickstart by rethinking treatment and checking the wound aetiology/diagnosis is correct.

Managing realistic expectations for both patient and clinician is key and should be achieved by communication and collaborative decision-making. It is important to know what is most important to the patient based on their individual needs and preferences (WUWHS, 2020b).

Dressing removal

Dressing removal technique is important to minimise any pain and trauma to the patient, and to protect the surrounding periwound area from further damage. In cavity wounds, dressing removal should be considered throughout the dressing process, as it can form a key part of care. This generally means one-piece removal wherever possible and making sure that dressing debris is not left in the wound bed (Tickle, 2024).

If the wound is being filled, it is vital to consider what is going into the wound and what is coming out. No dressing should be left in the wound, and in cavity wounds it can be easy for dressing material to be forgotten and remain in the wound. Documentation for other clinicians need to be thorough clearly stating how many pieces of dressing were inserted, so the same number is removed.

Cavity wounds can be painful, so ensuring that the dressing removal process is as atraumatic and pain-free for the patient should be an ongoing part of the process at every dressing change. Dressing choice and application is an important aspect to alleviate the pain factor on application and on removal.

Tips in practice for dressing cavity wounds

- **All wound dressing selection should be based on assessment and treatment goals**
- **"Do no harm" should underpin any dressing choice – consider the potential risk of all dressing choices (e.g. potential shedding of fibres, how fluid will affect the dressing *in situ*, toxicity of cleansing fluids)**
- **Patient acceptability and engagement is vital – be proactive and communicate with the patient about their needs and preferences**
- **Treatment should be a dynamic process – consider what is working and not working, but give dressings time to work if needed**
- **Know your dressings – make sure to be up to date with instructions for use, look carefully at what dressing is used and why**
- **Don't cut/sandwich dressings – use correctly sized dressings and consider potential shrinkage**
- **Consider patient positioning and the effect this will have – for example, if the patient is in a different position, sitting down/walking, how this will affect their dressing, exudate flow and overall comfort.**

When filling wounds, full and clear documentation of what has been put into the wound, and is taken out, is essential.

Best Practice Statement

Communicate with the patient about pain at dressing change and take appropriate pain management steps if necessary.

Best Practice Statement

Patient considerations

As cavity wounds can have a significant and detrimental effect on patients' quality of life. Many individuals living with wounds report not feeling supported and not feeling involved in decisions relating to their care (WUWHS, 2020b).

It is important to communicate effectively with the patient and make decision-making a shared and collaborative process throughout treatment. Asking the patient about their individual priorities to inform treatment – rather than making assumptions – may include asking questions such as:

- What are your priorities regarding your wound and dressing?
- Are there any lifestyle issues we should bear in mind?
- Do you have any concerns you would like to discuss?
- Do you have any questions about your treatment, or how the dressing will work? (WUWHS, 2020b).

There is increasing evidence that taking this patient-centred approach results in improved quality of care and quality of life, as well as considerable cost savings in practice; for example, by reducing length of hospital stays and facilitating more efficient use of resources while providing higher quality of care to patients (EWMA, 2020).

Individual patient capacity

All communication with patients needs to be clear and tailored to the individual. Individual patient capacity will have a significant effect on care (i.e. the extent to which the patient is able to understand and take an active role in their own treatment; WUWHS, 2020b).

Mental capacity is both decision specific and time specific. This means that a person may have mental capacity in respect of a decision about what clothes to wear but not have mental capacity about a more complex decision such as where to live (NHS, 2005; The General Medical Council [GMC], 2024). Clinicians must always start with the presumption that a patient has capacity. If during conversation you feel as though a patient is unable to make their own decision, their capacity should be assessed.

The Mental Capacity Act (MCA) sets out a 2-stage test of capacity:
1. Does the impairment mean the person is unable to make a specific decision when they need to?
2. Does the person have an impairment of their mind or brain, whether as a result of an illness, or external factors such as alcohol or drug use?

There are 5 core principles (values) that underpin the MCA:
1. A presumption of capacity
2. Individuals being supported to make their own decisions
3. Unwise decisions
4. Best interests
5. Less restrictive option.

Principles 1 to 3 support the process before/at the point of determining whether someone lacks capacity; principles 4 and 5 to support the decision-making process (NHS, 2005).

In patient communication and education, it is also important to consider different learning styles and how the method of delivery may help (e.g. video, audio, text information; using technology when appropriate). Alternative information or a translator may be required for patients for whom English is not their first language.

Patient lifestyle

The patient's individual lifestyle and circumstances should always be considered, and reasonable adjustments made to care plans wherever necessary. The individual patient may or may not want to engage in lifestyle-related treatment options (e.g. weight management, nutrition or smoking cessation). Equally, they may have specific preferences around dressing selection (e.g. not wanting to use active products like NPWT as they may have concerns about managing the pump) that should be explored to identify what the root of the concern is, and relevant information discussed.

It is important to take into consideration whether the patient has capacity to understand the impact of their choice; they should also be allowed reasonable time to consider the

Speak to the patient about any concerns they have and listen to their needs and preferences to aid with shared decision-making.

Best Practice Statement

Discuss pain with the patient to encourage them to share any specific pain or concerns that may otherwise be missed.

Best Practice Statement

Encourage suitable patients to keep a wound diary to inform their appointments and ongoing care.

Best Practice Statement

information being presented and not forced to make decisions immediately – it should also be clear that they can change their mind at any point in time and their preferences should be respected.

It is important to be clear and realistic about patients' suitability for self-care or shared care. As well as mental and physical capacity, it is important to address the logistics of how this will happen in practice; for example, who will be undertaking dressing changes, whether other commitments (e.g. work, family) might make this difficult to keep track of. It is also important to consider how and from whom they will access support if problems arise.

Patients' beliefs and ethics may also come into play as part of treatment; for example, patients may not want to use some products or dressings or may be reluctant to engage in some care settings. It is important to keep communication open and to base options on respect for the patient, listening to their views and taking these into account (WUWHS, 2020b).

Treatment should be a dynamic process and may be subject to change. The patient's priorities may change or be nuanced – for example, they may want/need different products for different times or activities, or for when they are at home or out.

Pain

It is important to consider the patient's pain levels, how pain may occur (e.g. as a result of the wound itself, or at dressing change) and how they feel about their wound. Pain can be an overlooked factor in wound care; it has been reported that health professionals tend to focus on the assessment of the wound itself, rather than the pain experienced by the patient with the wound (Frescos, 2018). Pain needs to be included in the wound management plan to help mitigate the pain experienced by the patient (i.e. pain medication should be administered prior to a dressing change, allowing sufficient time for it to be effective).

Some patients may be reluctant to mention pain – sometimes for fear of being difficult – so it is worthwhile taking the time to ask them specifically about this, rather than asking more general questions and relying on the patient to self-report accurately (Bengtsson et al, 2008). Useful questions may include asking the patient where specifically any pain is, or whether they experience pain at specific times or when undertaking daily activities. It is important to note that patients may not always disclose pain unless directly asked, either due to fear of being perceived as 'difficult' or a lack of understanding that pain management is a priority (Bengtsson et al, 2008). Clinicians should use targeted questions to assess pain more effectively, such as: 'Can you describe the type of pain you are experiencing?'; 'Does the pain change with movement or dressing changes?' and 'How does your wound pain impact on your daily activities?' This approach ensures that pain management strategies are tailored to individual patient needs.

Patient tools

In suitable and willing patients, it can be useful to encourage keeping a wound diary, which can be written by hand or digitally (e.g. using a mobile phone). It is important to remember that the patient knows their own wound and is often best placed to monitor any progress, changes or issues. Reflecting on the wound in this way can be therapeutic for the patient and can be a useful starting point for conversations with clinicians (WUWHS, 2020b).

Suggested parameters for a wound diary might include (WUWHS, 2020b):

- Pain levels and how these may change/fluctuate
- Other symptoms that may cause them issues, such as malodour, exudate or itchiness
- Visible changes to the wound (they could also take pictures with a mobile phone)
- Dressing changes and any associated issues
- Quality of life and any emotional/psychological issues associated with their wound
- Any questions for the clinician at their next visit.

Conclusion

This document provides an insight into cavity wounds, which can occur in wounds of most aetiologies. It covers an overview and definitions of cavity wounds; special considerations unique to cavity wounds; exudate management; dressing selection and patient considerations.

Definitions of cavity wounds in the literature are varied, plus these can be complex wounds – so identification and assessment in practice can be a challenge.

The glossary of terms relating to cavity wounds to follow [Appendix 1] has been developed to demystify practice and standardise definitions. The overall aim is to increase clinicians' knowledge and confidence and, ultimately, to improve outcomes for patients with cavity wounds.

Appendix 1: Glossary

Abscess: A collection of pus surrounded by inflamed tissue, which forms in a localised area of the body, usually due to a bacterial infection

Bridging: Incomplete epithelialisation causing strands or patches of tissue to form bridges across the wound bed; can also occur within the granulation tissue

Cavity wound: A wound extending to subdermal underlying layers and structures such as fascia, tendon, muscle or bone

Cleansing: The process of removing debris, dead tissue, and other contaminants from a wound and the surrounding skin to prepare it for healing and prevent infection

Dead space: The gap between the wound bed and the wound dressing, which is more likely in cavity wounds

Debridement: Removal of devitalised/dead tissue, debris or foreign objects from a wound

Erosion: Breakdown of the outer layers of the skin

Exudate: Fluid that leaks from a wound, which is produced as a result of the inflammatory process

Fistula: An abnormal passageway or opening connecting two parts of the body that are not normally connected, which can form between organs, blood vessels, or between an organ and the skin

Malignancy: A cancerous lesion on the skin that occurs when cancerous cells invade the skin and its blood and lymph vessels, caused either by a primary cancer or by metastasis from a tumour in another part of the body

Pooling: Accumulation of excess fluid or exudate in the wound

Senescent cells: Cells that have stopped dividing but remain metabolically active. They play a complex role in wound healing by both promoting and inhibiting cutaneous wound healing processes

Sinus: A blind-ended tract that extends from the surface of an organ to an underlying abscess cavity or area, which may also be known as a sinus tract or tunnelling wound

Tracking or Tunnelling: A complex wound that forms irregular passageways from the skin's surface to underlying tissues

Undermining: A complication that occurs when the tissue under a wound's edges erodes, forming a pocket beneath the skin

Wound bed preparation: The process of identifying and removing barriers to healing as a basis for treatment

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