Best Practice Statement

The use of topical antiseptic/antimicrobial agents in wound management

First edition, June 2010
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This Best Practice Statement has been produced in accordance with the standards set out by the Appraisal of Guidelines for Research and Evaluation (AGREE) collaboration (AGREE, 2003).

A working group was formed as a result of concern arising from a paper published in the British Journal of Surgery on the VULCAN trial (Michaels et al, 2009). This clinical trial examined the use of topical antiseptic/antimicrobial agents for the treatment of leg ulcer patients, compared with standard non-antimicrobial therapy.

A small subgroup of contributors met to develop the basic document, for which they were paid an attendance honoraria and travel expenses. This meeting was funded by an unrestricted educational grant from ConvaTec Ltd and Mölnlycke Health Care and the project was directed and managed by Wounds UK. No other payments were paid to any of the contributors.

The guidelines contained in this document were subsequently drawn up and circulated to a wider group of contributors who received no fee for their reviews on whether they agreed or disagreed with the statements.

The document progressed through four drafts, with all comments and reviews being considered, discussed and agreed upon before reaching the final draft, which was endorsed by the contributors before publication.

It is envisaged that this document will support the appropriate use of topical antiseptic/antimicrobial agents, and promote clinical decision-making that ensures their prescription only when clinically indicated.

This Best Practice Statement on topical antiseptic/antimicrobial agents is seen as a basis for further discussion and development of practice. To this end, a website has been established which will allow individuals to comment on each section of the document between 30th June and 30th September 2010. After this time, comments will be reviewed and a new version of the document published. This process will continue in 2011, with updated documents being published annually. This will allow for as broad a collaboration as possible.

The development of this Best Practice Statement has been made possible as a result of an unrestricted educational grant from:

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**INTRODUCTION**

Towards the end of 2009, a clinical trial comparing silver-containing dressings with non-medicated dressings in venous leg ulcer treatment was published (Michaels et al, 2009; VULCAN study). This has provoked a reaction within the UK and internationally. Clinicians and scientists have commented on its design and conclusions, and it has led to a subsequent review in the Drug and Therapeutics Bulletin (DTB, 2010). This latter article has been reported in the national press (Daily Mail, 2010).

The findings of the VULCAN study do not mean that antimicrobial agents are not valid for treatment of critical colonisation/local infection, which is what some people might erroneously presume from the study results. However, they go some way towards dispelling the belief that topical silver ‘aids’ wound healing. There are repercussions for the availability and clinical use of silver dressings. For example, there is increasing evidence that the three publications mentioned above are serving to restrict the wider availability of silver dressings. The ‘evidence’ on silver dressing efficacy is now so well-publicised that patients are refusing silver on the basis that ‘they don’t work’ — because of what is written in the popular press.

From the positive perspective, the VULCAN study confirms that silver should not be used just to get quicker healing, which was a common theme being touted at the time the study was planned. The articles by Michaels et al (2009) and DTB (2010) have served to ‘mobilise’ wound care experts to make their feelings, and considered opinions, clear. A carefully reasoned article by Gottrup et al (2010) is testimony to this effect. The authors state that:

The extended definition by Sackett (1996) may be more relevant in the wound sector. Evidence-based medicine is not restricted to randomised trials and meta-analyses, but involves exploration of all types of best external evidence with which to answer our clinical question. Prospective cohort studies may be particularly helpful, especially when cost and resource use are the major outcomes of interest, as background information on the natural progression towards healing can be obtained.

These sentiments echo those of Sir Douglas Black in 1998 about the limitations of evidence.

This approach towards clinical evidence in wound care is certainly not new; correspondence in key journals has posed provocative questions (Maylor, 2007; Cutting, 2008; White, 2008). If confusion exists in what is required as evidence to support wound dressings, it probably stems from the overlapping definitions of medical devices and medicinal products (pharmaceuticals). A medical device can be used for diagnosing, preventing, monitoring, treating or alleviating disease, whereas a medicinal product or pharmaceutical can be used in diagnosis, restoration, correction or modification of physiological functions. Those involved in the appraisal of pharmaceuticals often demand the same level of evidence as required for medical devices used in the treatment of wounds.

Wound dressings, as medical devices, should not, in our opinion, be judged as if they are pharmaceuticals; they are not. No regulatory authority in any of the developed nations currently regards them as such. This does not, however, reduce the need for the development of robust evidence to support and guide dressing use to gain the best outcomes for patients in the context of best value. The wider wound care community is now anxious to present their case for ‘reasonable’ and ‘realistic’ clinical trials.

Similarly, the wound dressings’ industry now realises that it, too, has a responsibility to provide clear, evidence-based instructions for use, and to educate customers in the best practice for use of their products. On this latter point, the NHS must recognise that unless it invests in its own tissue viability workforce to provide impartial evidence-based education to its staff on effective use of dressing products, it will continue to need to rely on wound care company staff to provide training as an essential adjunct to product supply, something which to date has often been viewed with suspicion by those outside the immediate clinical arena.

In the VULCAN trial, antimicrobial agents were placed on wounds without a justified clinical indication for use and were used for a prolonged period of time, i.e. 12 weeks. This practice can no longer be supported as it is incompatible with current clinical practice (Greenwood et al, 2007; Lo et al, 2009; Carter et al, 2010; Fife et al, 2010). Clinical ‘titration’ (adjusting therapy to the presence of clinical signs and symptoms of infection) of antimicrobial therapy is not new; it
would certainly apply to silver dressings in the hands of informed clinicians. The basic principles of bioburden control in any wound involve debridement, as necessary, and treatment with careful monitoring up to a defined endpoint. This would never be dictated purely by time elapsed, but rather by sound clinical parameters.

The Michaels et al and DTB articles have now, albeit without intention, led to restrictions in the availability of silver. This could lead to increased morbidity in wound patients; indeed, there is already evidence that arbitrary withdrawal of silver dressings can lead to increased incidence of septicaemia (Newton, 2010).

The literature does have reviews of the use of topical antiseptic/antimicrobial agents (White et al, 2006), but this is the first exercise of this kind conducted according to this format.

This Best Practice Statement aims to provide guidance as to the appropriate use of antiseptic/antimicrobial agents in wound management.

**Topical Antiseptic/Antimicrobial Agents**

For the purposes of this document, this term means substances capable of broad spectrum bacteriocidal activity (both Gram-positive and Gram-negative, aerobic and anaerobic bacteria that are commonly found in wound bioburden and capable of causing infection in wounds healing by secondary intention). Additionally, the active substances must be contained in a containment/delivery system. This would normally, although not exclusively, be a contact dressing that can be left in contact with the wound for 12 hours or more and remain active for the duration of wear-time. Included in the definition are products containing/delivering chlorhexidine, iodine, silver, silver sulfadiazine (SSD), polyhexamethylene biguanide (PHMB), and honey. Other products that have microbial control effects principally by other physical methods, such as sequestration, pathogen binding, toxin binding, exudate removal, and debridement are excluded.

Antimicrobial dressings all have different physical properties, such as the level of antimicrobial they release, the duration of effective action, the base dressing’s ability to handle different levels of exudate or manage odour or pain, and specific products should be chosen to reflect the overall treatment requirements of the wound.

The topical antiseptics agents silver, PHMB and iodine should always be used with caution in paediatric cases.

**Wound Infection**

Wound infection is without doubt the most troubling of all wound complications (Cutting, 1998). Whether present in a closed surgical wound or in a large open pressure ulcer, the impact on the patient is such that they may experience relatively minor symptoms such as pain, swelling and discharge, but also may be at risk of a potentially life-threatening sepsis (Collier, 2004).

Wound infection occurs as a result of the imbalance between the patient’s immune system, bacteria and the conditions within the wound, which may precipitate bacterial proliferation (European Wound Management Association [EWMA], 2006; World Union on Wound Healing Societies [WUWHS], 2008). Therefore, infection occurs when conditions in the wound are ideal for the bacteria to multiply and also when there is lowered host resistance.

In the case of elective surgical wounds that have been closed using primary closure techniques, such as clips or sutures, the wound is most likely to have been contaminated during the actual operation (Reilly et al, 2004). There are a number of factors that could lead to perioperative contamination, including the type of surgery. For example, in bowel surgery the risk of faecal contamination of the abdominal cavity, the length of time in theatre, the surgeon’s technique, the amount of bleeding, and even the number of people in theatre can all influence the development of post-operative infection (Reilly et al, 2004). Add to this the patient’s nutritional state, hydration, and the presence of concurrent conditions, and lack of perioperative warming and there is a significant group of risk factors to consider.

Chronic wounds such as pressure, leg and diabetic foot ulcers are likely to be colonised with bacteria due to the nature of the open wound and the tissue types within the wound (Vasquez-Boland et al, 2006). The presence of sloughy and necrotic tissue provides an ideal environment for bacterial growth, due to the availability of nutrients.
and oxygen that are necessary for the organism's survival.

Foot infections are common in patients with diabetes. Although infection is not considered to be a direct cause of diabetic foot ulceration (DFU), infection plays a major role in wound healing impairment, hospitalisation, high mortality rates and the incidence of lower extremity amputation (Falanga, 2005; Bader, 2008). Indeed, infection is reportedly the final common denominator that leads most people with chronic DFU to lower limb amputation (Lipsky et al 2004; O’Loughlin et al, 2010). Therefore, prompt recognition and early management of infection in the diabetic foot is imperative. If infection is left undetected or treatment is delayed, DFU can become limb- and life-threatening (Sheppard, 2005). There is much variability in treatment approaches to infected DFUs and, as Lipsky et al (2004) suggested, there is a need for evidence-based guidelines in this area to prevent the chronic complications and adverse outcomes associated with diabetic foot disease.

Elbright (2005) suggested that infection in wounds can present as increased local pain, cellulitis, abscesses, necrotising fasciitis, osteomyelitis, sepsis or bacteraemia. Systemic antibiotics should be administered when infection is suspected. (It should be noted that Elbright does not describe infection in the same terms as this document, e.g. critical colonisation, local and spreading infections.) Pressure ulcers provide a portal of entry for bacteria, as the bacteria will first multiply on the wound surface and then, over time, may move deeper into the tissues (Elbright, 2005). The release of toxins by the bacteria destroys local tissue and, once established in the deeper tissues, the bacteria can continue to multiply and enter the circulation.

Bryan et al (1983) examined 102 patients with decubitis ulcers who had developed bacteraemia over a period of five years in a US hospital. In 49% of episodes, pressure ulcers were thought to be the probable cause of the bacteraemia. The mortality for the groups was 55%, with 51% of these deaths attributed to infection. The findings would indicate that pressure ulcers are strongly linked to soft tissue infection, which may lead to bacteraemia.

Cooper (2005) also states that all microorganisms require supplies of nutrients to provide carbon, nitrogen, minerals and water. In addition, some bacteria will proliferate in wounds that are either oxygen-rich (aerobes) or oxygen-poor (anaerobes), while others can adapt to both types of environment — these are known as facultative organisms (Ratliff et al, 2008).

Bacterial quality, quantity and virulence are also important factors to consider; as many Gram-positive cocci produce excessive virulence factors, such as biofilms, adhesins and polysaccharide capsules, all of which can reduce the impact of antiseptic/antimicrobial agents on the bacteria (Vasquez-Boland et al, 2006).

In addition to the virulence of the bacteria, and central to its impact on the patient, is their susceptibility to infection. This is influenced by the patient’s immune system, which can be affected by a number of factors such as the presence of concurrent chronic illness. Illnesses that affect patients over prolonged periods of time can continually erode the immune system. This decrease in immunity coupled with an increase in bacterial virulence can impact on the development of wound infection. Conditions such as diabetes, vasculitic disease and malnutrition all have the ability to lower the host resistance to infection. Other factors such as oedema can also reduce the potency of antiseptic/antimicrobial agents. Many patients who present with wounds, particularly chronic wounds, are likely to have concurrent conditions which may precipitate the wound formation or be unrelated, but either way these conditions may impact on the healing process.

**Identification of wound infection**

Identifying wound infection should be viewed as a clinical skill which can be supported by laboratory findings when necessary, but it should not rely on pure laboratory science. To date, there have been few bedside tests which can identify the presence or absence of bacteria in wounds. So, armed with a thorough patient history and good clinical assessment skills, the clinician should be able to establish the reason for changes in the wound status which are indicative of infection.

Infection in the diabetic foot is common and can prove severe, placing the patient’s limb and life at risk (Cavanagh et al, 2005). Practitioners should remain vigilant for subtle signs of infection to allow prompt diagnosis and implementation of management strategies. Identifying infection in the diabetic foot can, however, prove challenging.
Edmonds and Foster (2006) advise that only half of infection episodes in DFU show signs of infection. This is attributed to peripheral neuropathy and ischaemia that can diminish the classic signs of infection, including pain and heat, erythema and inflammation.

The clinical signs of increased erythema, pain, swelling and localised heat provide a fundamental guide to the outward signs of infection. However, as wounds become more complex, a number of authors have attempted to summarise the potential key features of an infected wound.

In 1994, Cutting and Harding produced a guide to identifying wound infection. In addition to the criteria of erythema, pain, swelling and localised heat, they identified the following potential signs:

- Increased discharge
- Delayed healing
- Wound breakdown
- Pocketing at the base of the wound
- Epithelial bridging
- Unexpected pain or tenderness
- Friable granulation tissue
- Discolouration of the wound bed
- Abscess formation
- Malodour.

In 2004, the Applied Wound Management (AWM) assessment tool was designed to assist in the assessment of wounds using three continua, wound healing, wound infection and wound exudate (Gray et al, 2005). The wound infection continuum identified a wound state which had once been known as an 'occult infection'. This continuum was designed to allow clinicians to consider the wound state as either colonised, critically colonised, locally infected or with spreading infection. The state of critical colonisation is one which many clinicians recognised as being 'pre-infected', i.e. there are changes in the wound, healing has stopped or slowed down, the tissue may look unhealthy, but there are none of the normal signs of infection present. In this critically colonised state, there is possibly a role for the use of antiseptic/antimicrobial agents to attempt to redress the balance, supporting the work of the immune system by disrupting bacteria on the surface of the wound (Gray et al, 2005).

The concept of Wound Bed Preparation (WBP) has also gained international recognition as a framework that can provide a structured approach to wound management. By definition, WBP is the management of a wound to accelerate endogenous healing or to facilitate the effectiveness of other therapeutic measures (Falanga, 2000; Schultz et al, 2003; EWMA, 2004). The concept focuses the clinician on optimising conditions at the wound bed so as to encourage normal endogenous healing (Dowsett, 2008). It is an approach that should be considered for all wounds that are not progressing to normal wound healing. The mnemonic TIME is frequently used as summary of the main focus within WBP:

- T represents the tissue types in the wound itself. Is it non-viable or healthy?
- I refers to the presence or absence of infection or inflammation
- M addresses the issue of moisture balance, and avoiding desiccation or maceration
- E is the wound edge. Is this non-advancing or non-migrating? The aim being to promote wound healing.

Wound swabs
There is little clinical evidence to support the role of wound swabs in identifying wound infection and the topic is an ongoing subject of debate. Using a wound swab may identify some or all of the bacteria within the wound, but may not always indicate the clinically significant species. There is also a significant delay in obtaining the results, during which time the patient's condition could deteriorate if not treated (EWMA, 2006; Dow, 2008).

However, despite their limitations, wound swabs remain part of clinical practice until advanced techniques are developed and validated.

Management of wound infection

All wounds contain microorganisms, yet the majority are not infected. The spectrum of interactions between the microbial community and the host may gradually reach a point at which the wound healing process is impaired or localised detrimental host effects are initiated. When this transition occurs, immediate intervention to pre-empt infection is indicated.

Vowden and Cooper, 2006

Once thorough assessment of the wound has been carried out and the wound is considered to be either critically colonised, locally infected or has spreading infection, appropriate topical antiseptic/
antimicrobial treatment may be started. Depending on local protocol, a wound swab may be taken, however, as stated, this should not delay treatment.

In recent years there has been a groundswell of opinion that over-reliance on antibiotics has led to resistance. However, while possible resistance is discussed, there is no significant evidence (White et al, 2001).

In addition to using topical antiseptic/antimicrobial agents and/or antibiotics, other appropriate wound management techniques should be employed which can impact on the bacterial burden. Debridement of necrotic or sloughy tissue can alter the wound environment significantly, help to reduce the overall bioburden, and reduce odour (EWMA, 2006).

In wounds that are thought to be critically colonised, a topical antiseptic/antimicrobial agent may be considered. However, it is imperative to select a wound management product that is appropriate for the tissue types present, the level of exudate and patient comfort. When topical antiseptic/antimicrobial agents are utilised and consistent signs of progress towards healing are observed, antimicrobial intervention may be stopped. If the wound is unchanged after 14 days, it is recommended that an alternative topical antiseptic/antimicrobial agent is used. If the wound begins to show further signs of infection, the use of a systemic antibiotic should be considered.

In locally infected wounds where there are no signs of the infection spreading, topical antiseptic/antimicrobial agents should be used. If the signs of infection subside and the patient shows no signs of systemic infection, the antiseptic/antimicrobial agent should be discontinued. If the wound continues to show signs of infection, a systemic antibiotic should be considered (EWMA, 2006). In patients with high risk or immunocompromised conditions, such as diabetes, or where poor vascularity may mask the cardinal signs of infection, experienced clinicians may consider the use of systemic antibiotics.

For wounds which are assessed as having spreading infection and/or systemic infection, the patient should have blood cultures taken to identify the offending organism and to assess for differential diagnosis. The patient should be treated with broad spectrum antibiotics which in some cases may be given intravenously. Topical antiseptic/antimicrobial dressings should also be used to help reduce the wound bioburden (EWMA, 2006).

In the case of DFU, it should be noted that medical treatment, with antibiotic therapy, and/or topical antiseptic/antimicrobial agents may be insufficient to resolve infection in the diabetic foot. Surgical incision, aggressive debridement and drainage, with or without revascularisation, are often required to effectively manage diabetic foot infection (American Diabetes Association [ADA], 2003).

The use of topical antiseptic/antimicrobial agents is one of the key ways to assist in treating patients with signs of wound infection, and without judicious use of the products, patients may be at risk. If there is a culture of fear regarding the use of antiseptic/antimicrobial agents, some patients may be at risk of untreated infection which could progress to sepsis (Newton, 2010). It is equally important to avoid using topical antiseptic/antimicrobial agents on wounds in situations where infection is not present, or where there is no significant clinical risk of infection, as discussed within this Best Practice Statement.

A recent case in point being the publication in the British Journal of Surgery by Michaels et al (2009). In a study of 300 patients with leg ulcers, the patients were randomly allocated to receive a topical antiseptic/antimicrobial dressing or a standard dressing, yet allocation was not based on the presence or absence of infection. The authors assert that this is standard practice, however, no evidence to support this statement was provided. Certain limitations were acknowledged in the published article. The two centres were noted to have different demographics and healing rates. The original sample size was reduced after an interim analysis showed regional recruitment difficulties. These were attributed to ‘reconfiguration of services in South Yorkshire’. This led to patient management being provided by practice nurses, rather than in specialist clinics. It was openly acknowledged that this care may have been less than optimal. The overall impact on the study is difficult to gauge.

The following Best Practice Statement is designed to give guidance to clinicians who have to make daily judgements which impact on the quality of care patients receive.
The flowcharts on pages 16–17 aim to help clinicians consider their own practice in relation to their patient group and should not be interpreted as a prescriptive treatment plan.

REFERENCES


Cutting KF (2008) Should evidence dictate clinical practice, or support it? J Wound Care 17(5): 216


**Best Practice Statement**

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<thead>
<tr>
<th>Statement</th>
<th>Reason for statement</th>
<th>How to demonstrate statement is being achieved</th>
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| **Gateway to topical antiseptic/antimicrobial agent use:**  
- The patient should receive the standard care for this type of wound, e.g. leg ulcer  
- Care should be delivered in line with national and local guidelines and local prescribing practices using the best evidence available  
- Baseline data should be recorded in the patient’s health records  
- Patients presenting with a clinical picture of critically colonised, localised or spreading wound infection (hereinafter referred to as wound infection) should be considered for treatment with topical antiseptic/antimicrobial agents | - Failure to adhere to standard care may contribute to delayed healing or development of infection  
- Practice should be based on the best available evidence  
- This allows for continuity of assessment by other healthcare professionals  
- Patients who present with an established infection may benefit from the use of topical antiseptic/antimicrobial agents as part of their treatment/care | - Compare patient health records with local/national standards  
- All organisations will compare patient health records with local/national standards  
- The patient’s health records will contain the recording of baseline data  
- Health records of patients who present with a clinical picture of wound infection will demonstrate that they have been considered for treatment with topical antiseptic/antimicrobial agents |
| **Contraindications and precautions:**  
- Manufacturers’ guidelines should be followed and products used in line with license  
- Multiple antimicrobial products should not be used in combination, unless there is an overriding clinical indication  
- Products selected should reflect clinical and patient needs  
- Accurate baseline data and or images should be recorded at each review | - Failure to follow manufacturers’ guidance may lead to inappropriate care  
- Multiple products used on the same wound are likely to be against manufacturers’ guidance and may compromise the patient  
- Each patient will have different clinical indications and social/psychological requirements which can be met by different preparations at different times  
- Failure to establish accurate baseline data and/or images could result in an inability to assess the interventions’ outcome | - The patient’s health records must demonstrate that the products are being used in line with manufacturers’ guidance, or will contain a rationale for not following these instructions  
- The patient’s health records will demonstrate that the products are being used in line with manufacturers’ guidance or must contain a rationale for not following these instructions  
- A clear rationale supporting the product selected must be recorded in the patient’s health records  
- Sequential records should be included in the patient’s records |
### Contraindications and precautions continued

- Unless clinically indicated the patient’s treatment should be continued for the prescribed period
- The termination of an antiseptic/antimicrobial treatment between scheduled assessments or after transfer to another care setting, without justifiable reasons, is unlikely to contribute to optimum care for the patient
- The rationale for terminating treatment before the prescribed period is complete must be recorded in the patient’s health record
- The patient’s health records should state why the treatment has been started, how long it is prescribed for, and provide clear treatment objectives

### Prescribing issues:

- Patients who present with the following should be considered for treatment with topical antiseptic/antimicrobial therapy — spreading infection, local infection, history of wound infection with genuine risk of re-infection, critical colonisation and where the patient’s overall condition indicates a significant risk of infection
- Topical antiseptic/antimicrobial treatment is not indicated for patients being treated using standard care for their particular wound type and who have no signs of infection
- There is a risk of selecting for bacterial resistance if antimicrobial/antiseptic agents are used inappropriately
- Where standard therapy is proving successful, topical antiseptic/antimicrobial agents are not indicated
- The patient’s health record must accurately reflect appropriate requests for specialist input relating to clinical need, i.e. wound deterioration or failure to progress to healing
- Topical antiseptic/antimicrobial agents can help to reduce wound bioburden
- Patients with recurring infection are at risk of cellulitis and spreading infection which can significantly impact on clinical outcomes and quality of life
- The rationale for terminating treatment before the prescribed period is complete must be recorded in the patient’s health record
- Patient health records and outcomes must demonstrate the appropriate use of topical antiseptic/antimicrobial agents in the patient groups mentioned
- Patients without signs of infection should not routinely be given topical antiseptic/antimicrobial agents, and this will be reflected in the patient’s health records
- Patient health records will indicate appropriate treatment regimens, or not
- Regular auditing of patient’s health records should demonstrate accurate information regarding treatments and rationales for treatments, with timely review of each prescription
- The patient’s health record must accurately reflect appropriate requests for specialist input relating to clinical need, i.e. wound deterioration or failure to progress to healing
### Prescribing continued

- For the majority of patients, the initial prescription should normally be for 14 days with a formal review of treatment objectives at around seven days. However, a review should be conducted at each dressing change by a qualified healthcare professional.
- No prescription should extend beyond 14 days without discussion with a local specialist, unless previously agreed or indicated by clinical need.
- If a prescription extends beyond 28 days, a specialist referral should be made unless previously agreed.
- In some cases, such as in diabetic foot disease, a patient at high risk of infection may benefit from prophylactic antimicrobial intervention.

- To prevent clinical ambiguity, promote continuity of care and provide an auditable paper trail which can be used to collect information on prescribing data.
- If a wound fails to respond to treatment there may be a number of other clinical differential diagnoses, such as vasculitis or carcinoma, both of which require specialist input.
- Patients at high risk may develop significant infection within a short timeframe.
- Clinical signs of infection may be diminished due to background pathology allowing infections to progress to more advanced stages before they are recognised, leading to worse outcomes.

### Treatment plan/goals

- The treatment selected should reflect both clinical and patient needs.
- Each patient will present with different clinical indicators of infection. Product selection should be based on thorough clinical assessment and may require different preparations at different times.
- The patient’s health records should contain clear evidence that at each dressing change the patient has been assessed in line with the stated treatment objectives.

- A clear rationale supporting the selected product must be recorded in the patient’s health records.
- The patient’s health records must demonstrate a clear auditable trail of product selection, application and review in line with manufacturers’ guidelines. A clear plan of care determining expected outcomes with evidence of planned and systematic review must also be included.
- The patient’s health records must include appropriate justifications for altering treatment plans.
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<th>Statement</th>
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<tr>
<td>Monitoring between and at dressing changes</td>
<td>✦ The acceptability of the treatment should be assessed with particular attention paid to discomfort or pain at or between dressing changes, and the treatment plan altered accordingly</td>
<td>✦ Once treatment has started the clinical presentation of the wound and associated symptoms, i.e. exudate, pain may alter. Clinicians should be aware of this and treatment interventions altered accordingly ✦ The patient’s health records must document any complications/adverse effects or therapy compromises associated with the treatment and demonstrate that action has been taken to reduce or change treatment to enhance patient comfort and compliance</td>
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<td>Use of dressings with other dressings/treatments</td>
<td>✦ Manufacturers’ guidelines should be followed and products used in line with license</td>
<td>✦ Failure to follow manufacturers’ guidance may lead to inappropriate care ✦ The use of multiple products is normally contraindicated by the manufacturer and should only be used in accordance with their guidelines ✦ If multiple products are to be used, clinicians must be aware of potential risks to the patient and plan care accordingly</td>
</tr>
<tr>
<td>Assessment of treatment plans/goals</td>
<td>✦ Assessment of progress towards treatment goals should be considered at every dressing change and, more formally, no less than 10 days while the patient is receiving topical antiseptic/antimicrobial treatment</td>
<td>✦ Failure to assess and record wound condition at each dressing change may contribute to delayed healing or development of infection</td>
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<tr>
<td><strong>Assessment of treatment plans/goals continued</strong></td>
<td>✦ It is expected that the majority of wounds should demonstrate a significant improvement in wound condition within 14 days. If this does not occur, specialist referral should be sought to ensure appropriate and best practice is achieved.</td>
<td>✦ The patient’s health records must demonstrate that specialist referral has been sought.</td>
</tr>
<tr>
<td>✦ Specialist input should be obtained and referral considered if the treatment goals are not achieved within 14 days without obvious explanation</td>
<td>✦ Each patient will have different clinical indications and social/psychological requirements. If the treatment is not successful, a comprehensive review of the wound/patient should occur and a new treatment plan devised to show reason for change in rationale.</td>
<td>✦ The patient’s health records must show evidence of a clear and concise plan of action and rationale for change in dressing selection and ongoing treatment plan.</td>
</tr>
<tr>
<td>✦ If the treatment has not been successful without obvious reason, the treatment should be discontinued and a new assessment and prescription started</td>
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</table>
GATE A Patient has static/deteriorating wound, the cause of which is not obvious. e.g. ischaemic limb, terminal state

Yes: wound is static/deteriorating

Yes: wound is improving

No: wound is static/deteriorating

No: wound is improving

Using antimicrobials?

Yes: Plan stop date for antimicrobials

No: Start antimicrobials – GO TO Start/Stop Track 2

Start standard care and review for progress at two weeks or earlier if static/deteriorated

GATE B Patient has history of/risk factors for delayed healing/exposed bone or underlying structure/repeated infections

Yes: non-wound site

No: wound site

GATE C Patient has invasive group A streptococcus (GAS) diagnosis or GAS colonisation

Yes: Antimicrobials not warranted

No: Start antimicrobials – GO TO Start/Stop Track 2

Start 14-day course topical antiseptics/antimicrobials

14-day course completed

Stop antiseptics

Start non-antimicrobial standard care

Swab on third non-antimicrobial day

Swab result positive

Swab result negative

Start different topical antiseptic/antimicrobial

Continue non-antimicrobial standard care

GATE D Routine meticillin resistant Staphylococcus aureus (MRSA) screen (may or may not include wound swab)

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NB: These flowcharts aim to help clinicians consider their own practice in relation to their patient group and should not be interpreted as a prescriptive treatment plan.
Start/Stop Track 2

Send swab specimen
Clinically assess for infection

Critically colonised or locally infected?

Yes
Start topical antiseptic/antimicrobial

No
Spreading infection?

Yes
Start systemic antibiotics to local formulary recommendations; start topical antiseptic/antimicrobials

No
Seek other opinion/evidence for underlying cause, e.g., poor blood supply, malignancy, non-infectious inflammatory conditions, etc

At 14 days of treatment has wound improved?*

Yes
Return to standard care (non-antimicrobial)

No
Continue topical antiseptics/antimicrobials; start antibiotics to swab result

Continues to improve?

Yes
Continue standard care

No
Restart topical antiseptics/antimicrobials; change to a different topical at 14 days; review topical use at 28 days*

If not already stopped, stop antibiotics (in discussion with prescriber); return to standard care (non-antimicrobial)

Infection improving but not resolved?

Yes
Review antibiotics and topical antimicrobial choices (with microbiologist and TVN, as appropriate); re-review signs of spreading infection and CRP daily to determine response to therapy

No
Refer back to doctor; refer to microbiologist

At 14 days signs of spreading infection gone and C-reactive protein (CRP) in normal range?*

Yes

No

*Timings are suggested and assessment and taking action should not be restricted if outcomes are achieved earlier

Best Practice Statement: The Use of Topical Antiseptic/Antimicrobial Agents in Wound Management 17
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