

Understanding our report and advice: Antimicrobial wound dressings (AWDs) for chronic wounds

Health technology assessment report 13

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What is an understanding our report and advice booklet?

Healthcare Improvement Scotland has published a health technology assessment (HTA) report on the use of antimicrobial wound dressings (AWDs) for chronic wounds. The HTA report provides recommendations and advice to guide the use of AWDs in NHSScotland.

This summary booklet provides a brief overview of the recommendations and findings of the HTA. A glossary is provided on page 11. The full methods and evidence reviewed is reported in the full HTA [report](#). A patient version of the HTA report is also [available](#).

Recommendations

1. The routine use of AWDs to heal chronic wounds is not recommended.
2. In the absence of sufficient clinical evidence to guide decision-making, NHSScotland should adopt a consistent approach to guide the use of AWDs in treating localised wound infection in chronic wounds. A national management algorithm should be agreed. See our consensus statements for more information.
3. When selecting a dressing for people with chronic wounds, alongside holistic clinical assessment, consider the factors of importance to the patient such as odour, pain/discomfort, leakage and mobility as well as healing.
4. Having first taken into account patient and wound-specific factors, the costs of dressings relative to their benefits should guide their use. See our consensus statements for more information.
5. There is a need for good quality randomised controlled trials (RCTs) on the use of AWDs to treat localised infection in chronic wounds. The subsequent impact of reduced infection on patient outcomes (for example healing, improvement in signs and symptoms) also needs to be explored. There is also a need for good quality economic evaluations.
6. A national patient leaflet should be developed, which can be used as an aid to support shared decision-making between patients with chronic wounds and healthcare professionals.
7. There is a need for accessible and evidence-based education and training on the appropriate use of AWDs in chronic wounds.
8. The Therapeutics Branch in the Pharmacy and Medicines Division at Scottish Government would be well placed to take forward the implementation of the recommendations in this HTA.

Consensus statements

For chronic wounds, the evidence is insufficient to draw conclusions on the use of AWDs to treat localised wound infection. There is a need for a more consistent approach to the use of AWDs across NHSScotland. Expert consensus was reached on the following statements.

1.
 - a. When treating a patient with a chronic wound, symptoms of localised infection must be present before use of an AWD is commenced.
 - b. However, in certain patients with underlying health conditions, some of the signs and symptoms of localised infection might be masked.
2.
 - a. Clinical experts agreed that the most commonly observed signs and symptoms of localised infection, which might prompt use of AWDs, include:
 - pain/increased pain
 - erythema/redness
 - heat
 - wound deteriorating/getting bigger
 - exudate: thick, haemopurulent or purulent and/or high volumes
 - inflammation/swelling/oedema
 - delayed or stalled healing
 - malodour
 - b. Some of the above signs and symptoms can be caused by patient factors other than localised wound infection. Therefore, a holistic assessment of the patient is required to rule out causes other than localised infection.
3. After 2 weeks of using an AWD, if the symptoms of localised infection have ceased entirely, stop using the AWD and dress the wound in line with formulary recommendation.
4. After 2 weeks of using an AWD, if the symptoms of localised infection have improved, but not ceased entirely, consider continued use of the AWD, but review at weekly intervals.
5. If, after 2 weeks of using an AWD, the symptoms of localised infection have not changed or have become worse, follow the guidance given in stage 3 of [‘The Ropper Lothian Ladder’](#) in line with your local policies and procedures.
6. Do not use an AWD for longer than 2 weeks without reassessing wound progress.
7. AWDs should not normally be used for longer than recommended by the product information, or as documented within local policies or procedures.
8. Having taken into account patient and wound specific factors, the costs of dressings relative to their benefits should guide their use.

Why a health technology assessment was needed

For wounds that are not infected, and healing as expected, AWDs are not normally indicated. There may be a role for AWD use for people with wounds that are not healing and when the wound is showing some signs and symptoms of local infection. However, the amount and quality of the evidence underlying the use of AWDs is not clear.

Our HTA report considered the use of AWDs in chronic wounds in adults. Chronic wounds are an important health problem affecting many patients. The chronic wounds that were included in the HTA are leg ulcers caused by problems with veins (venous leg ulcers) or arteries (arterial leg ulcers), foot ulcers in people with diabetes, pressure ulcers (also known as bed sores), and surgical wounds that have ruptured (dehisced surgical wounds).

The use of AWDs has increased rapidly in recent years and makes up a quarter of wound dressings spend. We have undertaken this HTA because AWDs may be used too much in NHSScotland.

The questions that the HTA wanted to answer were:

- Do different AWDs work and are they safe, compared with other dressings and techniques, for treating local wound infection in chronic wounds in adults?
- Do AWDs offer value for money compared with other dressings and techniques?
- What are the issues associated with the use of different AWDs that are important to patients with chronic wounds?
- What are the organisational issues associated with the use of different AWDs?

What is an antimicrobial wound dressing?

An AWD is a dressing that carries or delivers an antimicrobial agent. Antimicrobials are chemicals that kill germs or stop their spread. Examples of antimicrobials used in AWDs include silver, iodine; honey, alginate gels containing enzymes, octenidine and polyhexanide (PHMB).

A variety of AWDs are available in NHSScotland. In our HTA report, we described an AWD as either:

- a germ-free pad or compress (known as a dressing) that is soaked in an antimicrobial and placed securely over a wound, or
- a layer of antimicrobial cream, ointment or powder applied directly to the wound (topical) over which a dressing is placed.

What we did

The HTA process comprises four sections: clinical effectiveness, cost effectiveness, patient issues and organisational issues. We used different types of evidence and information to answer these questions and make the recommendations in Section 1.



Due to the limited evidence available, the consensus of experts in wound care was sought using a modified Delphi method, and the consensus statements in Section 2 were prepared. Volunteers for the development of the consensus statements were sought across NHSScotland.

The HTA process, evidence base, methodology, results and recommendations are described in detail in our HTA [report](#).

What we found

Clinical effectiveness

Several good quality systematic reviews were found, but the studies that they included were generally of poor quality.

For treating localised wound infection in chronic wounds:

- the evidence is insufficient in terms of quality and quantity to draw conclusions on the use of AWDs.

For the healing of chronic wounds, the evidence either:

- does not support the use of AWDs, or
- is insufficient in terms of quality and/or quantity to make conclusions on the use of AWDs.

Cost effectiveness

We identified a small number of studies which looked at whether AWDs offered value for money. However, taken together, there is not enough good quality research evidence to be sure whether AWDs are good value for money compared with dressings that do not contain an antimicrobial for the treatment of localised wound infection and healing of chronic wounds.

Patient issues

From a synthesis of published qualitative literature, a patient focus group and a set of telephone interviews, we concluded the following.

- The impact of chronic wounds on people's lives is considerable. The persistence, recurrence and symptoms of a chronic wound can have severe physical, psychological and social consequences.
- Patients reported that the extent and impact of pain from chronic wounds can be considerable. Reports of pain were not always acknowledged by healthcare professionals, and it seemed that pain frequently remains uncontrolled.
- Wound healing was usually the most important outcome to patients, but control of symptoms (in particular pain, odour and exudate), and prevention of infection and wound deterioration were also important. People often reported wanting to 'try anything' to achieve these outcomes.
- There was often a 'trial and error' approach to dressing selection, and this process can continue until the wound begins to heal. People may then credit a particular dressing type with healing their wound.
- The people who took part in the primary research (n=14) were generally positive about AWDs. People felt that they helped (or were helping) to heal their wound(s), and/or that they helped with wound symptoms. There was no one favourite AWD, and what worked for one person may not work for another.

- People valued care that they felt was personal, and from healthcare professionals who they felt they could trust and who were persistent with treating their wounds, even when wound healing is slow.
- The primary research indicated inconsistent access to AWDs across healthcare settings. This led to frustration and inconvenience for some people with chronic wounds, who had to source access to their preferred AWD, often from a particular healthcare professional. This inconsistency can make people think that the best treatments are being withheld from them because of costs.

Organisational issues

The main findings for this section are as follows.

- Most respondents to the staff survey had used AWDs in the previous year (98%). The ones that they reported using most frequently were iodine dressings (listed by 69% of respondents), followed by honey and silver dressings (55% each).
- There may be benefits in agreeing to consistent approaches to wound care. Clinicians in NHSScotland reported that they use local guidelines to guide their decision-making.
- Most respondents (96%) to the staff survey reported that they used AWDs when a chronic wound was showing signs and symptoms of infection.
- Most respondents (72%) said that they would stop using an AWD if there was an improvement in the wound, or an improvement or resolution in the signs and symptoms of infection. Other reasons for stopping an AWD were if a wound had not changed (25%), or if a wound deteriorated (13%).
- A fifth of the respondents said that they would review a wound after a period of time (most commonly 2 weeks). However, there did not appear to be agreement on what wound characteristics would prompt them to stop using an AWD, or to continue using an AWD.
- The vast majority of respondents felt competent about assessing wounds for suitability to start using an AWD (92%), and felt confident in their decision-making on the appropriate use of AWDs (89%).
- Overall, there was strong support for AWDs, but an acknowledgement that they are often overused or used inappropriately. Three respondents said that they were opposed to their use completely.
- The majority of AWDs used within NHSScotland are dispensed within the community. The highest proportion of spend on AWDs in NHSScotland is on silver dressings. The per capita spend on AWDs, and the types of AWDs being used, varies between NHS boards.
- Six of the seven NHS board respondents indicated that they had reduced the number of different dressings available in their formularies.

Implications for NHS boards

NHS boards should consider the recommendations and findings in our HTA report when planning and reviewing their services.

Glossary

acute wound	An injury to the skin that happens suddenly rather than over time. It heals in the predicted and expected way.
antimicrobial	Any agent that kills or prevents growth in numbers of micro-organisms, for example bacteria or fungi. Antimicrobials may be antibiotics, antiseptics or disinfectants.
antimicrobial wound dressing (AWD)	A dressing that carries or delivers an antimicrobial agent.
chronic wound	A chronic wound develops when an acute wound fails to heal within the expected period for that type of wound, which might be anything from a couple of weeks to several weeks.
clinical effectiveness	The benefit of using a technology, programme or intervention to address a specific problem under general or routine conditions, rather than under controlled conditions, for example, by a physician in a hospital or by a patient at home.
cost effectiveness	A form of economic analysis which compares two interventions in terms of both their costs and their effect on patients, to ascertain whether the additional cost of the more expensive intervention gives rise to sufficient additional benefits to warrant the additional cost.
health technology assessment (HTA)¹	<p>The systematic evaluation of the clinical effectiveness and/or cost- effectiveness and/or the social and ethical impact of a health technology on the lives of patients and the health care system.</p> <p>Its main purpose is to inform health care policy makers. The process advises whether a health technology should be used, and if so, how it is best used and which patients will benefit most from it. Assessments vary, but most look at the health benefits and risks of using the technology. They also look at costs and any wider impacts that the technology might have on a population or on society.</p>

¹ This definition is reproduced, with permission from the [Health Technology Assessment International \(HTAi\) consumer and patient glossary](#).

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