

# Silver dressings: the continuing challenges

Heather Newton

The development of a wound infection can have potentially serious implications for patients. As well as delayed healing, wounds can rapidly deteriorate and, if left untreated, patients are at risk of septicaemia and death (Newton, 2010). Quality of life can be significantly altered, as can the patient's experience of living with a wound. Early interventions with appropriate antimicrobial treatments have been shown to reduce these risks, particularly wound infections caused by methicillin-resistant *Staphylococcus aureus* (MRSA) (Newton, 2010). However, there is ongoing debate (White and Kingsley, 2010) regarding efficacy, cost and the evidence base to support their use in clinical practice, particularly in relation to wound healing. As a result, silver dressings are being restricted and in some cases removed from dressing formularies (White and Kingsley, 2010).

White and Kingsley (2010) highlight the controversial nature of some of the publications, but acknowledge that raising the profile of silver dressing research may result in a more responsible use of antimicrobial dressings. This is an important factor in the ever-ending battle to ensure cost-effective, evidence-based wound care practice. Silver dressings appear to have a place in managing infected wounds, however, the evidence of their effectiveness in preventing wound infection or promoting healing is still lacking (Storm-Versloot et al, 2010).

## Wound infection

Wound infection occurs as a result of an imbalance between the patient's immune system, the type of bacteria present and the conditions within the wound itself, which ultimately lead to a proliferation of bacteria (World Union of Wound Healing Societies [WUWHS], 2008).

Accurate wound assessment is essential to ensure early detection of changes within the wound and the surrounding skin, which may indicate a rise in bacterial levels. According to Vowden and Cooper (2006) all wounds contain microorganisms, yet the majority are not infected. However, the spectrum of interactions between the microbial community and the host may gradually reach a point where 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. It is here that silver dressings can play an important role and systemic antibiotic therapy can be reduced, or avoided completely. This is where the evidence base is poor and, as clinicians, we rely on anecdotal evidence often based on our own experience to support our decision-making (Maylor, 2007).

However, where staff are not skilled in wound assessment, subtle early signs of infection may not be noticed and subsequently not treated in a timely manner. Accurate assessment of the patient's clinical condition, comorbidities, personal circumstances and preferences are also required to ensure that all factors are considered. It is becoming

harder for staff to be released to attend training unless mandatory, and, in many organisations, wound care education is not classed as a mandatory subject. This sadly does not provide us with confidence that our workforce are equipped to assess patients' risk of developing wound infection, or that they have the confidence to treat at an early stage to prevent further complications. In turn, this can lead to inappropriate dressing selection and potential misuse. It could be challenged, therefore, that it is not the fault of the dressings but of the users. In the absence of good clinical research, this gives those who wish to remove silver dressings from formularies more reason to take this approach. As White and Kingsley (2010) suggest, patients are also aware of the findings of research in the press and are refusing silver dressings on the basis that 'they don't work' (Hope, 2010).

## Silver in wound care

Silver is a broad spectrum agent which is effective against a large number of Gram positive and Gram negative microorganisms, many aerobes and anaerobes and several antibiotic-resistant strains such as MRSA (Hermans, 2007). As with many other dressing products, it is important that staff understand the actions and indications for silver dressings, and that they are aware of the various ways in which silver interacts with the wound environment. Manufacturers of silver dressings are required to detail the mode of action and how the silver is delivered to enable appropriate dressing selection. The many companies producing silver dressings all have

their own opinion as to which is best, however, this has at times led to confusion. For non-specialist nursing staff, being blinded with science also adds to their confusion. It is interesting to see that in 2011 the debate is still ongoing with more challenges and decisions to be made regarding silver dressing use (White, 2011).

In 2007 there were more than 10 different silver-containing dressings, all of which were assumed to be safe and effective (Hermans, 2007). Unfortunately, recent discussions in the literature have suggested that claims of enhanced wound healing through the use of silver dressings has not been based on randomised clinical trials (RCTs) (Leaper, 2011; Toy and Macera, 2011). Toy and Macera (2011) undertook a literature review to examine the evidence for efficacy of using silver in chronic wound care and found no robust evidence of antimicrobial efficacy due to the limited number of large RCTs published. They suggest that it is essential for staff to provide holistic and accurate assessment of the patient and the wound before selecting dressings. In the author's opinion, the majority of staff would concur with this, however, they may argue that this practice is not new and is already embedded as an essential part of managing wounds.

Experienced clinicians would support the findings that not all of our wound care practices are based on clear and rationalised high level evidence, as within the field of wound care there is a lack of good quality research (White and Jeffery, 2010; White et al, 2010). Much of the evidence is based on case reports and expert opinion, which collectively provide a wealth of good quality practical information. Is this wrong? If so, why are we still continuing to use products that are based on weak evidence? Many are used because they make a difference in practice to clinical outcomes and patient quality of life. Thus, in the author's opinion, clinicians should not lose sight of their own experience and those of other experts in the field, but rather share and seek to continually inform the body of evidence in wound care.

It is interesting to read the literature regarding the level of evidence required for wound care products, as some authors would argue that wound

---

**... clinicians should not lose sight of their own experience and those of other experts in the field, but rather share and seek to continually inform the body of evidence in wound care.**

---

dressings should not be judged as if they are pharmaceuticals, which currently command a high level of clinical evidence (Grocott and Campling, 2009; Gottrup et al, 2010). The need for good quality impartial evidence which should be developed by clinicians as well as industry is, however, recognised (Grocott, 2010; Wounds UK, 2011).

There is no doubt that wound care is becoming more challenging and wound healing more complex to understand. Multi-resistant strains of bacteria have increased over the last few years, with the World Health Organisation suggesting that it is the reckless use of antibiotics that has resulted in the emergence and spread of antibiotic resistant infections. (WHO, 2011). NHS organisations have been tasked with identifying ways to improve antibiotic prescribing to address this serious issue and, as such, antimicrobial wound dressing usage appears to have increased significantly. In practice, when a patient presents with clinical signs of wound infection but no other clinical risk factors or symptoms, it is accepted through expert opinion that an antimicrobial wound dressing should be used in the first instance. Sadly, in the author's experience, patients are still being started on oral antibiotics to treat suspected wound infections when there is no clear rationale to do so, or based on a swab result alone.

**Efficacy and cost**

Increased media attention related to silver wound dressings last year followed the publication of a *Drug and*

*Therapeutics Bulletin* report highlighting a number of issues relating to silver's efficacy within the wound care arena (DTB, 2010). This independent bulletin found that the evidence to support the use of silver dressings was flimsy, with most of the studies considered to have methodological limitations. It was felt that money was being wasted with the use of 'fashionable' dressings and that the high costs were difficult to justify. The conclusion suggested that the amount of money spent on silver dressings was difficult to justify in the light of existing data.

Wound dressings account for about £120 million of prescribing costs in primary care, with £25m being spent on silver dressings alone (National Prescribing Centre, 2008). A headline in *The Daily Mail* claimed that the NHS 'wastes £25m on silver dressings that don't beat bugs' (Hope, 2010). In essence, this is saying that all of the money spent on silver dressings is being wasted, which is simply not true.

As a result of the continued concerns around antimicrobial dressing use, a group of expert clinicians produced a best practice statement in the use of topical antiseptic/antimicrobial agents in wound management in 2010. This publication aimed to provide guidance for staff to promote robust clinical decision-making. An extended consultation period into 2011 allowed for a broad collaboration and review of comments, which have been consolidated into the new best practice statement (Wounds UK, 2011).

The new best practice statement (Wounds UK, 2011) states that silver wound dressings should be used in a timely and appropriate manner, tied to accurate assessment and ongoing reassessment of the wound. The evidence, however, is not robust enough to guide the clinician as to when is the right time to apply silver products and for how long to continue. Many trusts have adopted the principle that they should be used for no longer than two weeks for an infected wound, as by this time there should be evidence that the infection is resolving and the wound

is showing renewed signs of healing. If these changes are not apparent, it should be questioned as to whether or not the infection diagnosis is correct, rather than just continuing with the silver dressing 'just in case'. If silver dressings are to be effective, they should be used on the right wounds at the right time. Staff who are using these products inappropriately should be challenged and asked to justify their actions on the basis of both clinical and cost-effectiveness in order to learn lessons and change 'ritual' practice.

As White (2010) claims, 'if we use antimicrobial agents as clinically indicated, the silver debate would fade into history'. Evidence has shown that in one NHS trust there has been a reduction in MRSA bacteraemias through a combined strategic approach (Newton, 2010). Education relating to assessment of wounds and use of silver dressings, together with a centralised managed service to provide silver dressings has resulted in no new MRSA bacteraemias associated with wounds occurring in the last two years. This approach has required a lot of commitment from the tissue viability and infection control teams, and has had to be sustained to continue to meet the MRSA bacteraemia targets. Ongoing education for clinical staff to ensure appropriate dressing use has been essential.

White et al (2011) remind us that silver dressings must be used appropriately. They also recommend that those responsible for purchasing need to be convinced that the unit cost of the dressings cannot be the only criterion that influences wound care practice. Costs should not be considered in isolation of the risk of increased morbidity and mortality. There are many active regional tissue viability groups in the UK who work closely with NHS Supply Chain and regional procurement teams to ensure that there is clinical input into wound dressing product procurement. This is important to ensure that the clinical and cost-effective argument is balanced and that decisions are based on assessment of both criteria. As clinicians, we have a responsibility to be financially aware and contribute to overall savings, but also to be realistic in

the outcomes that we wish to achieve to impact on the health economy in the long-term, rather than just short-term cost-saving exercises.

Using silver dressings responsibly can contribute to a reduction in wound infection and, ultimately, to wound

---

**As clinicians, we have a responsibility to be financially aware and contribute to overall savings, but also to be realistic in the outcomes that we wish to achieve to impact on the health economy in the long-term, rather than just short-term cost-saving exercises.**

---

healing. However, it is important to remain mindful of the concerns raised through research, as actions need to be justified. Keeping a record of silver dressing usage and clinical outcomes would be a useful way of providing evidence of effectiveness within practice to support clinical decision-making.

Meanwhile, the silver dressing debate continues and clinicians are faced with the ever increasing and frustrating challenges of meeting current financial demands, with the need to manage wound infection in a timely and effective way. WUK

---

## References

- Drugs and Therapeutics Bulletin (2010) Silver dressings — do they work? *DTB* 48(4): 38–42
- Gottrup F, Apelqvist J, Price P (2010) Outcomes in controlled and comparative studies on non-healing wounds: recommendations to improve the quality of evidence in wound management. *J Wound Care* 19(6): 237–68
- Grocott P (2010) The ongoing evidence debate: time to decide. *Wounds UK* 6(4): 12–3
- Grocott P, Campling N (2009) A methodology for evaluating wound care technologies in the context of treatment and care. *Eur Wound Management Assoc J* 9: 27–38
- Hermans M (2007) Advances in skin and wound care. *J Prevention Healing* 20(3): 166–73
- Hope J (2010) NHS wastes £25m on silver dressings that don't beat bugs. Mail online. Available online at: [www.dailymail.co.uk/health/article-1266093/NHS-wastes-25m-silver-dressings-dont-beat-bugs.html](http://www.dailymail.co.uk/health/article-1266093/NHS-wastes-25m-silver-dressings-dont-beat-bugs.html)
- Leaper D (2011) The overview of the evidence on the efficacy of silver dressings. The Silver Debate. Educational supplement. *J Wound Care*
- Maylor (2007) Don't give me evidence, give me reality! *Br J Nurs* 16(20): Suppl 3
- National Prescribing Centre (2008) Modern Wound Dressings: the absence of evidence. *MeReC Extra*. 31:2
- Newton H (2010) Reducing MRSA bacteraemias associated with wounds. *Wounds UK* 6(1): 56–65
- Storm-Versloot M, Vos C, Ubbink D, Vermeulen H (2010) Topical silver for preventing wound infection. Cochrane database of systematic reviews. No 3 CD006478
- Toy LW, Macera L (2011) Evidence-based review of silver dressings use on chronic wounds. *J Am Acad Nurse Practitioners* 23(4): 183–92
- Vowden K, Cooper RA (2006) Managing wound infection. In Position document: *Identifying criteria for wound infection*. MEP, London
- White R, Kingsley A (2010) Silver dressings in the light of recent clinical research: what can be concluded. *Wounds UK* 6(2): 157–8
- White R, Cutting K, Leaper D (2011) The silver debate: a new consensus on what constitutes credible and attainable evidence. *J Wound Care* 20(3): 1–19
- White R, Jeffery S (2010) The evidence debate in wound care: is patient welfare an issue? *Wounds UK* 6(3): 10
- White R, Maylor M, Iverson C (2010) Evidence is 'in', ignorance is 'out': a dilemma for wound care products. *Wounds UK* 6(3): 114–6
- White R (2011) The silver debate. *J Wound Care*. Educational supplement
- World Health Organization (2011) *Complacency kills. Antibiotic resistance still on the rise in Europe*. WHO, Geneva. Available online at: <http://euro.who.int/complacency-kills-antibiotic-resistance-still-on-the-rise-in-europe>
- Wounds UK (2011) Best Practice Statement. The use of topical antiseptic/antimicrobial agents in wound management. 2nd edn. Wounds UK, London. Available online at: [www.wounds-uk.com](http://www.wounds-uk.com)
- World Union of Wound Healing Societies (2008) Principles of best practice: *Wound Infection in clinical practice. An International Consensus*. MEP, London