

Appropriate use of nanocrystalline silver (NCS) dressings may support infection control protocols and antimicrobial stewardship in wound care

As part of local infection management procedures, NCS dressings may reduce transmission of antibiotic-resistant organisms and minimise the need for antibiotic therapy



Publication overview

- A literature review of current evidence supporting the role of NCS dressings as an alternative or supplementary strategy to help combat antibiotic-resistant infections
- Recommendations for the appropriate use of antimicrobial dressings in infection control and reducing antibiotic usage are reviewed and summarised



Key discussion points

- Antimicrobial stewardship is the systematic effort to educate and persuade prescribers of antimicrobials to follow evidence-based prescribing in order to stem overuse of antibiotics and thus reduce antimicrobial resistance
- Silver is an antiseptic that is used to help prevent and treat infections as part of antimicrobial stewardship practices; silver ions (Ag^+) have been incorporated into specialised dressings because of their broad-spectrum antimicrobial activity and other features (Figure 1)
- As the architecture of silver within a dressing can affect its antimicrobial efficacy, specialised silver dressings, such as ACTICOAT[®] Antimicrobial Barrier Dressing with nanocrystalline silver, have been developed that release bactericidal levels of silver and continuously replenish neutralised Ag^+ ions over extended time periods
- Evidence supports the use of NCS dressings to help address local methicillin resistant *Staphylococcus aureus* (MRSA) infections in surgical revisions and to reduce or even avoid the need for systemic antibiotics in burns patients
 - Studies show that they can also help to reduce hospital length of stay and provide cost savings due to decreased expenditure on antibiotics and antimycotics (Bhattacharyya 2006; Strand 2010; Fong 2005; Tonkin 2005; Glik 2017)
- Consensus recommendations have previously been made for appropriate use of silver dressings to manage local infections and help to reserve antibiotics for cases where infection spreads or becomes systemic (Figure 2)



Figure 1. Key requirements of effective silver dressings

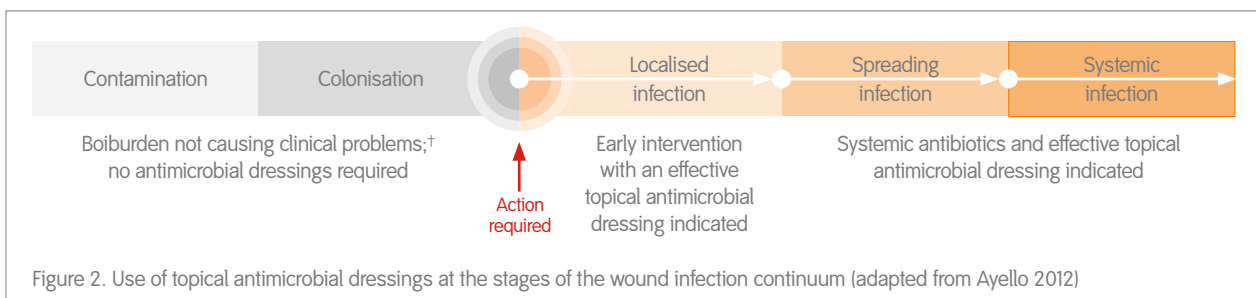


Figure 2. Use of topical antimicrobial dressings at the stages of the wound infection continuum (adapted from Ayello 2012)

*With the exception of high-risk patients

Evidence in focus (continued)



Conclusion

Effective antiseptics can be used to minimise transmission of antibiotic-resistant organisms as part of institutional infection control procedures. Appropriate early use and stewardship on local wound infections plus compliance with local procedures can help to reduce the need for systemic antibiotic therapy.



Study citation

*Woodmansey EJ and Roberts CD. Appropriate use of dressings containing nanocrystalline silver to support antimicrobial stewardship in wounds. *Int Wound J.* 2018;15:1025-1032.

Available at: [International Wound Journal](#) 

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