

Expert testimony to inform NICE guideline development

Section A: Developer to complete	
Name:	Brenda King
Role:	Nurse Consultant Tissue Viability and Co-lead of the lower limb ulcer pathway (within National Wound Care Strategy Programme)
Institution/Organisation (where applicable):	Sheffield Teaching Hospitals NHS Foundation Trust
Guideline title:	Leg ulcer infection: antimicrobial prescribing
Guideline Committee:	Managing common infections
Subject of expert testimony:	Leg ulcer infection
Evidence gaps or uncertainties:	<p>Are there any specific features that indicate a leg ulcer is infected? In practice is it possible to separate an infection from colonisation of the wound?</p> <p>What is the current approach for microbiological testing in people with an infected leg ulcer (at initial presentation and at reassessment)?</p> <p>What is the relevance of high bioburden and biofilms?</p> <p>Is there a role for topical antiseptics in the management of an infected leg ulcer? Are they widely used in practice?</p> <p>What is the appropriate course length for first choice antibiotics, taking account of the risk of antimicrobial resistance?</p>

Section B: Expert to complete

Summary testimony:

The expert witness responded to specific questions posed by the committee chair or other committee members during the discussion of consultation comments in order to address uncertainties. The responses to those questions are summarised below and are the expert's opinion (unless otherwise stated).

- 1) Would you consider a 5 to 7 day course of antibiotics appropriate for the treatment of infected leg ulcers?
 - A true infection may not be fully resolved in 5 days.
 - It depends on the control of underlying problems. Antibiotics are not as effective if there are significant arterial impairments or uncontrolled oedema.
 - 7 days is appropriate for most people. Infection is harder to clear in complicated cases with comorbidities, up to 14 days might be appropriate in these people only.
 - Any leg ulcer where the underlying aetiologies are not being addressed may not improve after 7 days.
- 2) How many people with an infected leg ulcer require a course of antibiotics that is longer than 7 days?
 - Very few people if they are having appropriate management of their leg ulcer. Very few people would need 14 days.
 - There is a lot of inappropriate prescribing, when the underlying cause of the ulcer is not managed, especially in venous disease. This leads to more antibiotic prescriptions.
 - 70% of lower leg wounds relate to venous hypertension in the lower leg. Antibiotics are not usually needed if this is treated promptly.
- 3) Would you agree that a review should be stipulated after a 7 day course of antibiotics?
 - People with leg ulcers would be reviewed regularly. The only people not having regular clinician review are self-treating patients; risk of infection in these patients with straightforward venous leg ulcers is probably lower. More complicated leg ulcers would be unsuitable for self-care.
 - A national programme is in place so people with a lower leg wound are seen and managed by the right person.

4) What is a biofilm?

- A complex community of bacteria that can communicate with each other and produce a polymer matrix, which protects the bacteria from antibiotics and certain antiseptics. Some of the bacteria are dormant; these may be harmless but can detach and cause infection or develop further biofilm.
- Biofilm is very hard to diagnose as not visible – diagnosis is made on presence of certain wound characteristics. Biofilm competes for oxygen supply. The role of removing a biofilm on wound outcomes is not known.

5) Should antiseptics be considered alongside antibiotics for the treatment of infected leg ulcers?

- If systemic antibiotics are needed, it may be useful to use a topical antiseptic as well as the antibiotics.
- There is evidence to support reduction of bacteria with use of antiseptics, but it's not good quality evidence.
- Anecdotally, if a patient presented to clinic with signs of increased bacterial bioburden (e.g. increased pain and exudate), a topical antiseptic would reduce these signs suggesting the antiseptic has an effect on the bacterial load.

6) What is your opinion of cadexomer iodine and silver dressings?

- Cadexomer iodine is a useful antiseptic but requires dose monitoring and specialist input may be required. Silver dressings can be suitable when there are early signs of increased bacterial bioburden.
- There is a lot of debate about topical antiseptics [for infected ulcers], but there is a lack of robust evidence.

7) Would you swab an infected leg ulcer?

- Would not recommend routine swabbing.
- Suggest swabbing an infected leg ulcer is only carried out after cleaning it. The NICE guideline on surgical site infection says to clean wounds with tap water.
- Swabbing is very important if someone has had a course of antibiotics, rather than prescribing a further course. If there is no previous antibiotics for that wound and it fails to resolve or worsen rapidly, swabbing is useful.
- Swabbing should be from the whole of the surface of the ulcer, paying

attention to the edge of the wound.

8) What are the key signs of infection in a leg ulcer?

- Redness around the wound margin and spreading is more indicative of infection, especially when associated with increased pain.
- Warmth.
- Change in odour. Malodour is important because it can indicate what bacteria are contributing to the infection. Most ulcers will have an odour; a trained person will notice a change in odour, especially if there is anaerobe infection. However, this would not be a standalone indicator of infection.
- A rapidly enlarging ulcer is not necessarily a sign of infection.

References to other work or publications to support your testimony' (if applicable):

Michaels, J.A., Campbell, B., King, B., Palfreyman, S.J., Shackley, P., Stevenson, M., (2009) Randomized controlled trial and cost-effectiveness analysis of silver-donating antimicrobial dressings for venous leg ulcers (VULCAN trial), *British Journal of Surgery*, **96**: 1147-1156.

King, B.M. (2009) The use of topical antimicrobials in leg ulcer management, *Primary Care Review Spring*. 136-138. Sovereign Publishers, London.