6. Wound colonisation / clinical infection

Increased bacterial load on the wound bed is a common factor that can delay wound healing. An understanding of microbiology concepts, normal wound healing process and the ability to identify factors which are delaying wound healing is crucial for any practitioner involved in wound care.

All chronic wounds that are healing by secondary intention will be contaminated with a variety of bacteria, but this level of bacteria will NOT affect wound healing, therefore DOES NOT require routine use of antimicrobial dressing. Although wounds may become colonised by a diverse range of bacteria, infection is not an inevitable consequence. Only wounds that are critically colonised or infected require topical antimicrobial dressings and the effect of these dressings need to be regularly reviewed to ensure treatment is effective and discontinued as soon as bacterial load is under control. Clinical wound infection occurs when there is a presence of multiplying bacteria which results in a host response. Identification of wound infection should be viewed as a clinical skill which is supported by laboratory finding when necessary, but should not rely on pure laboratory science. Signs and symptoms of clinical wound infection include Erythema, heat, swelling, pain, abscess formation, pyrexia, and raised white cell count (with no other source of infection).

Wound swabbing should only be undertaken when signs of clinical infection are present. Routine wound swabbing should not be undertaken. All wounds contain microorganisms yet the majority are not clinically infected, wound swabs will often show evidence of bacteria (contamination), positive wound swab results need to be taken in context of clinical symptoms and DO NOT routinely need to be treated with either topical antimicrobials or systemic antibiotics. To reiterate reports of growth of organism on a laboratory result is not an indication for antimicrobial/antibiotic therapy.

Topical antimicrobial dressings contain agents to provide sustained antimicrobial effects; these include ones containing Honey, Silver, Iodine and PolyhexamethyleneBiguanide (PHMB). The aim of these dressings is to reduce the bacterial load therefore prompting healing. However it is important to note that there is a lack of robust evidence that antimicrobial dressings are effective in preventing or treating infection and widespread use may result in bacterial resistance and toxicity. The need for an antimicrobial dressing should be based on holistic assessment of the patient and the wound. It is imperative to select a wound management product which is appropriate for the tissue type, the level of exudate and patient comfort. Other options of reducing bacterial load should be considered including wound debridement which may eliminate the need for topical antimicrobials.

If antimicrobial dressings are utilised they require regular review and once consistent signs of healing are observed antimicrobial therapies should be stopped. If there is no evidence of wound improvement after 2 weeks of treatment with an antimicrobial dressing, it is recommended that an alternative topical

antiseptic or antimicrobial agent is used. If the wound begins to show further signs of infection, the use of a systemic antibiotic should be considered, (Wounds UK, 2010).

It should be noted that infection of diabetic foot ulceration often requires aggressive treatment including antimicrobial therapy in combination with antibiotic therapy and will require review by a member of the Diabetic foot team (NICE, 2015), as often effective management requires surgical incision, aggressive debridement and drainage with or without re vascularisation, (American Diabetes Association, 2003).