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DEVELOPMENT OF A CLINICAL ALGORITHM FOR WOUND BIOFILM IDENTIFICATION

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Aim: To collate current knowledge and evidence of the appearance, behaviour and clinical indicators associated with wound biofilm.

Methods: The authors’ clinical experiences and collated clinical and scientific insight were combined with literature searches in PubMed (key words: wound; chronic; biofilm(s); 2001-2013 inclusive). Indicators of biofilm were classified as direct or indirect observations, and questions around these indicators were formulated in order to create a step-wise algorithm to aid the clinical recognition of the emerging problem of wound biofilm.

Results: A number of visual clinical signs associated with wound biofilm were identified, where, on occasions, biofilm may develop into visible substances in the wound bed. This suspected biofilm may be shiny and translucent, or be more opaque, viscous, slimy, pigmented or gel-like. It may re-form quickly and be easier to remove via gentle debridement compared to host-derived slough. However, when biofilm is microscopic and invisible to the trained naked eye, there are clinical cues which may suggest its likely involvement. These include signs of local infection, antimicrobial failure, culture-negative swab results, or wound recalcitrance despite addressing all other factors.

Conclusions/discussion: Together these visual and indirect clinical signs may be used to form an algorithm to aid clinical recognition of wound biofilm. While wound biofilm research is still in its infancy, such an algorithm for wound biofilm identification will hopefully facilitate effective wound management.