

Treatment of suspected wound bed biofilm by mechanical debridement with 2-in-1 cleansing and debridement pad

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Introduction

Slough, non-viable tissue and biofilms can all delay the wound healing process as they may increase the risk of infection, inhibit development of healthy tissue and limit wound assessment^{1,2}. Wound preparation by cleansing and debridement is key to creating the right environment for wound healing and assessment. A 2013 study in over 300,000 wounds showed that preparing the wound by cleansing and debridement prior to applying a dressing has positive results because the treatment speeds up wound healing^{3,4}. It is now understood that Biofilms are known to cause infection, inflammation and delayed wound healing and are believed to be present in 60-100% of non healing wounds^{5,6}

- Patient**
- 70 yr old male with hard to heal and recurrent bilateral venous leg ulcers which were painful to debride.
 - History of multiple DVTs and obesity

Method

Hard to heal and recurrent bilateral painful Venous Leg Ulcers with persistent exudate and suspected wound bed biofilm treated with a 2 sided cleansing and debridement pad following unsuccessful treatment with previous techniques. The patient had previously been seen in Dermatology leg ulcer clinic and was self caring with basic dressings and hosiery with limited success. The patient had a previous hospital admission with infected leg ulcers and as a result of a fall and subsequent limited mobility. Extensive bilateral leg ulcers, over granulating in areas and evidence of bleeding on the dressing removal. First referred from DN team to Tissue Viability in January 2021. Compression commenced however wounds failed to progress to healing

Results

Patient assessment and history indicated a persistent overload of bacteria, slough and biofilm in the wound bed.

- T** Overgranulating dark red in colour. Occasional bleeding present when debrided. Around 70% slough present, 30% thick slough.
- I** Local wound bed infection present to all ulceration.
- M** Highly exuding, thick purulent and malodourous.
- E** Vulnerable some maceration present.

Treatment objectives to loosen and remove non-viable tissue and disruption on biofilm with 2-in 1 cleansing and debridement pad, antimicrobial cleansing solution followed by application of antimicrobial dressing and modified compression.

Right Calf wound and Left inner malleolus debrided with Alprep® Pad. Left wound was painful to debride and patient only able to tolerate 30 secs of cleansing with Alprep® Pad. However, this removed 80% of the slough. Very effective to R calf wound - removed 100% of the slough but caused some bleeding. It is not uncommon for friable wound beds to bleed upon cleansing.



Pre Debridement

Post Debridement



Pre Debridement

Post Debridement

Conclusion

Effective wound preparation can lead to improved patient care, faster wound healing and increased capacity⁹. Previous methods to proactively remove suspected biofilm required use of curettes and enhanced training and competencies of Health Care Professionals. Other mechanical debridement products take longer to debride the wound compared to The 2-in-1 pad which was found to be an easy and quick to use cleansing and debridement tool assessable to the entire wound care team helping to simplify the delivery of wound preparation.

References: 1. Strohal, R., Apelqvist, J., et al., EWMA Document: Debridement. J wound Care. 2013;22 (suppl.1): S1-S52. 2. Angheliet al., Current Concepts in Debridement: Science and Strategies, Plastic and Reconstructive Surgery, 2016. 3. Wounds UK. (2013). Effective debridement in a changing NHS: a UK consensus. London. 4. Wilcox, J. R., Carter, M. J. and Covington, S. (2013). Frequency of Debridements and Time to Heal: A Retrospective Cohort Study of 312 744 Wounds. JAMA Dermatology, 149(9): 1050-1058. 5. Malone M et al. The prevalence of biofilms in chronic wounds: A systematic review and meta-analysis of published data. Journal of Wound Care 2017;26(1):20-25. 6. World Union of Wound Healing Societies (WUWHS), Florence Congress, Position Document. Management of Biofilm. Wounds International 2016. 7. International Wound Infection Institute (IWII) Wound infection in clinical practice. Wounds International 2016. 8. Moore, K., Baxter, E., Wound preparation using a 2-in-1 cleansing and debridement tool. Wounds UK, Vol.17, No.3 2021. 9. Wounds UK (2013) Effective debridement in a changing NHS: a UK consensus. London: Wounds UK. www.wounds-uk.com (accessed 23.06.2021)