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Press release

L&R symposium at the 25th European Wound Management Association (EWMA) conference

Combatting Biofilm with Effective Debridement

Rengsdorf/Wien, September 2015 **The importance of debridement in treating wounds was the focus of one of the symposia held by Lohmann & Rauscher (L&R) at the 25th European Wound Management Association conference in London in May 2015.[1] Professor Dr Gregory Schultz of Gainesville, Florida (USA), explained the relationships between disturbed wound healing and the biofilm that can form on wounds and emphasized the importance of effective debridement. Trudie Young, from Cardiff (UK), and Andrew Kingsley, from Devon (UK), underlined the advantages offered by the Debrisoft® monofilament fibre pad for the removal of slough, scabs and hyperkeratoses – effective, uncomplicated and virtually painless – from a nursing perspective.**

Debridement entails the removal of necrotic material, hard and viscous scabs, serous crusts and other wound coatings from the bed of the wound with the aim of stimulating physiological repair processes. Products and methods used for debridement include a variety of gauze products, surgical interventions, maggots and enzymes.

Biofilm impedes wound healing

In terms of the cleaning of the wound bed, particular importance is attached to the removal of biofilms, which form on more than 60% of all chronic wounds.[2a-c] These colonies of bacteria surround themselves with a self-produced matrix of polysaccharides, proteins and DNA and thus boast a high level of tolerance to antibodies, antibiotics and antiseptics.[3]

Professor Dr Gregory Schultz from the Institute for Wound Research in Gainesville, Florida (USA), explained that these biofilms actually promote chronic infection of the wounds. Among other aspects, this manifests itself in elevated levels of proteases and reactive oxygen species (ROS), which lead to excess degradation of the skin proteins essential for wound healing. Biofilms thus complicate the process of wound healing.

“It’s important to remove biofilm, devitalized tissue and bacterial bioburden to encourage wound healing”, Professor Dr Schultz explained. He also presented data that illustrated how the Debrisoft monofilament fibre pad was able to reduce a biofilm containing Pseudomonas aeruginosa by several logs, equating to a 99% reduction.[4]

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NICE: The use of Debrisoft is cost-effective

Debrisoft is so efficient because of its innovative fibre technology: Its high fibre density (18 million per 100 cm^2) and tapered tips make debridement virtually painless and very effective.

Andrew Kingsley, Lead Nurse Healthcare Associated Infections, Devon, UK, pointed out that the soft monofilament fibre pad can be used to remove soft and loose surface debris and devitalised tissue in wounds and hyperkeratotic skin quickly, effectively and gently, whilst preserving the granulation tissue, wound edges and surrounding skin.[5] In addition, debridement with Debrisoft allows better assessment and is better tolerated by the patient, [5,6] Kingsley said.

According to Kingsley, the costs of debridement depend on the number of interventions required to debride the wound completely, the associated healthcare personnel costs and the price of the material. Upon weighing up these factors, the British assessment institute NICE (National Institute of Health and Care Excellence) gave Debrisoft a positive evaluation compared with hydrogel, gauze and larval therapy in the treatment of acute and chronic wounds.[7]

“NICE has issued a positive guidance for Debrisoft as it proves to be cost-effective compared to other debridement methods”, Kingsley explained.

Debrisoft® – Control and empowerment for the patient

Trudie Young, Director of Education and Training at the Welsh Wound Innovation Centre in LLantrisant, emphasized that debridement should be an integral component of the treatment of patients with wounds. “Effectiveness, control, and empowerment are important issues in debridement”, Young stated. “Instead of focusing solely on the product-related information we so often stress, we should give our attention to these issues, as well.”

In this context, Young also affirmed that the monofilament fibre pad, which can be used without any problems, quickly and in any setting without the need for special equipment, allows patients to debride their own wounds. “The monofilament fibre pad has been used successfully as mechanical debridement method of choice in all age groups”, she added.

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Biofilm-based wound treatment as part of wound bed preparation

To conclude, Professor Dr Schultz then recommended the following procedure for addressing biofilm problems, particularly in connection with chronic wounds: Firstly, regular debridement removes the biofilm physically. Following the debridement, the wound should then be treated with an effective microbicidal wound dressing to prevent the biofilm from forming again.

Sources:

1 Symposium „Debridement – Whose problem is it? Solutions for patients, purchasers and providers“, im Rahmen des EWMA 2015 conference – 25th Conference of the European Wound Management Association in Cooperation with the Tissue Viability Society (TVS), London, 14. Mai 2015

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2b Fonseca AP. Biofilms in wounds: An unsolved problem? EWMA Journal 2011 vol 11 no 2: 10 - 23

2c Cooper RA, Bjarnsholt T, Alhede M. Biofilms in wounds: a review of present knowledge. J Wound Care. 2014 Nov;23(11):570, 572-4, 576-80

3 Walters MC 3rd, Roe F, Bugnicourt A, Franklin MJ, Stewart PS. Contributions of antibiotic penetration, oxygen limitation, and low metabolic activity to tolerance of Pseudomonas aeruginosa biofilms to ciprofloxacin and tobramycin. Antimicrob Agents Chemother. 2003 Jan;47(1):317-23

4 Reddersen K., Wiegand C., Abel M., Muldoon J, Ruth P., Hipler UC.: In vitro evaluation of the capacity of a monofilament debrider to remove biofilm and the efficacy of different woud dressings to prevent biofilm re-growth. Congress of the European Wound Management Association (EWMA), Madrid, Mai 2014

5 Bahr S, Mustafi N, Hättig P, Piatkowski A, Mosti G, Reimann K, Abel M, Dini V, Restelli J, Babadagi-Hardt Z, Abbritti F, Eberlein T, Wild T, Bandl K: Clinical efficacy of a new monofilament fibre-containing wound debridement product. Journal Wound Care 2011; 20(5): 242-8.

6 Stephen-Haynes J, Callaghan R, The role of an active debridement system in assisting the experienced clinician to undertake an assessment and determine appropriate wound management objectives. European Wound Management Association (EWMA) Vienna/A, 23.-25. May 2012. EWMA Journal supplement (2012) 12 (2): 208 (Poster)

7 NICE. The Debrisoft monofilament debridement pad for use in acute or chronic wounds. Issued March 2014; NICE medical technology guidance 17; guidance.nice.org.uk/mtg17

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www.lohmann-rauscher.com

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Lohmann & Rauscher (L&R) is a leading international supplier of high-quality premium medical devices and hygiene products ranging from conventional dressing material to modern treatment and nursing systems. Created in 1998 through the merger of Lohmann (founded in 1851) and Rauscher (founded in 1899), L&R has more than 160 years' expertise as a reliable solution provider for its customers. With over 4,100 employees, 40 corporate subsidiaries and holdings and more than 130 select partners, the company is active in all of the world's key markets. It generated revenues in excess of € 520 million in 2014. The L&R headquarters are located at Rengsdorf (Germany) and Vienna (Austria) sites.

Further information on Lohmann & Rauscher (L&R) can be found at:

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