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### A PRELIMINARY EVALUATION OF AN ADVANCED THERAPY (AMELOGENIN) FOR THE TREATMENT OF HARD TO HEAL WOUNDS: VENOUS LEG ULCERS AND DIABETIC FOOT ULCERS

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**Aim:** Chronic wounds such as diabetic foot ulcers and venous leg ulcers are distressing to patients, difficult to manage by the health workers and burdensome on local and national health economies. For example it has been demonstrated that approximately 20% of venous leg ulcers do not respond to the Gold Standard treatment of compression therapy<sup>1,2</sup>. Without the possibility of a treatment that can stimulate healing, these recalcitrant ulcers and their symptoms have to be managed for the remainder of the patient's lifetime. A recent advance in the treatment of hard to heal wounds has been the use of a protein Amelogenin that has been used to successfully treat chronic wounds such as venous leg ulcers<sup>3</sup>. This protein is thought to act as a surrogate wound matrix, which has been shown to be deficient in such chronic wounds<sup>4</sup>.

**Methods:** In this study, ten patients with pre-defined non-healing wounds

were assessed, two groups of five patients with venous leg ulcers and diabetic foot ulcers respectively. The patients were each treated with weekly applications of the Amelogenin therapy for 12 weeks and progression of healing recorded.

**Results:** The preliminary results showed that a high percentage of the wounds that had previously failed to heal changed from static to healing, indicating a beneficial effect of this new treatment.

**Conclusion:** This advanced treatment therapy using Amelogenin has been shown to be beneficial in the treatment of patients with either diabetic or venous ulcers that had previously failed to heal.

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### SUSTAINED AND INSTANT ANTIMICROBIAL EFFECT OF A SILVER IMPREGNATED FOAM DRESSING\* ON COMMON WOUND PATHOGENS

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**Aim:** A silver impregnated foam dressing\* has been developed based on a patented soft silicone adhesive technology\*\*. The dressing is atraumatic during use and upon removal and it has sustained and instant antimicrobial effect against wound pathogens.

The present study aims to demonstrate the antimicrobial effect of the dressing on some common wound pathogens including antibiotic resistant strains and yeast.

**Methods:** Sustained effect was verified by a standard method, in which microorganisms were exposed to the dressing in a nutrient-deprived environment under dynamic conditions. Each day after the first day the samples were moved to new inoculate flasks for 7 days.

Instant effect was verified by the same method for 30 minutes. Bacteria and yeast cultures without dressing were used as control in both trials.

**Results:** Results from sustained trial demonstrate that the dressing reduced the viable number of *Candida albicans*, *Enterococcus faecalis* (VRE), *Pseudomonas aeruginosa*, *Serratia marcescens*, *Staphylococcus aureus* (MRSA), *Staphylococcus aureus*, and *Acinetobacter baumannii* by >4.06; >4.43; >3.73; >4.72; >4.38; >4.30 and >4.48 log units after 7 days respectively.

Results from instant trial show that the dressing reduced the viable number of *Candida albicans*, *Enterococcus faecalis* (VRE), *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Staphylococcus aureus* (MRSA) by 99.61, 99.92, 99.99, 99.95, and 99.99% within 30 minutes. The viable number of microorganisms in controls did not show any reduction.

**Conclusions:** This study demonstrates the sustained and instant antimicrobial effect of the silver foam dressing on Gram positive and Gram negative bacteria as well as antibiotic resistant strains and yeasts.

\*Mepilex Ag®, Mölnlycke Health Care AB

\*\*Safetac®, Mölnlycke Health Care AB