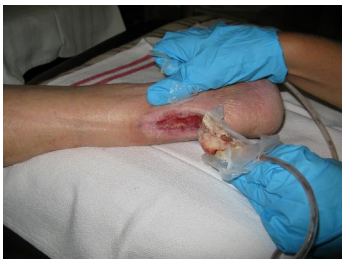
EVALUATION OF POTENTIAL TO INDUCE GRANULATION TISSUE AND EPITHELIALISATION WITH A NEW TOPICAL NEGATIVE PRESSURE SYSTEM

Schmitz M[1], Bruckner M[2], Wild Th[2]

[1] *Medical & Regulatory Affairs, Lohmann & Rauscher GmbH & Co KG, Germany*
[2] *Paracelsus Medical University, Salzburg, Austria*

Introduction:

Topical negative pressure is well published with high evidence in combination with black and white foam in different indications. Recently new devices and wound layers are available for topic negative pressure. The aim of this observer study was, to indentify the potential of gauze impregnate with polyhexanide to induce granulation tissue and support epithelialisation.



Material and Methods:

Wounds from 10 Patients with the indication adequate to the guidelines of EWMA and WUWHS for topical negative pressure suffer from pressure ulcer, ulcus cruris, diabetic food, sacral dermoid, surgical wound healing disorders with a period of treatment from 2 to 4 weeks were analyzed. Each patient was visited once a week where a picture was taken, which was analysed with WHAT (Wound healing analyzing tool) a software which enables to specify wound's tissue by a colour-based and size analysis of a digital picture of the wound. Furthermore each visit the VAS (Visual Analogue Scale) was used to quantify subjective pain of the patient during the dressing change and during the period of treatment. For topical negative pressure treatment the device from Lohmann & Rauscher* was used.

Results:

10 patients were treated 1 week, 6 patients were treated 2 weeks and 4 patients were treated 4 weeks. The increase of granulation tissue was from baseline from 43.54%, after 1 week 72.23%, after 2 weeks 77.68%. The pain scale was during the treatment time VAS 1.8; during the dressing change 1.6. After 4 weeks we find the highest reduction of size with 45%. Low exudation (lower than 20 ml in 24 h) and granulation tissue higher than 80% was the indication to change the therapeutical concept to conventional dressing like cellulose.

Conclusion:

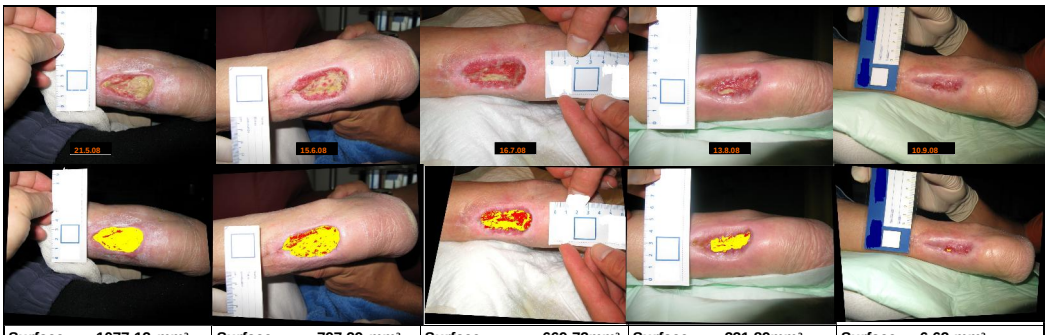
Alternative systems for topical negative pressure also show positive results in the induction of granulation tissue. To make a comparison with topical negative pressure with foam prospective randomized studies are necessary. Two effects are interesting in using this concept. We observed low pain level also during the dressing change and epithelialisation under the topical negative pressure therapy.

Case Report:

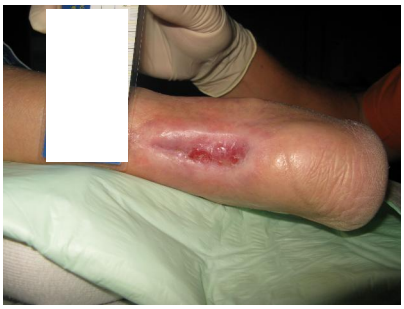
91 years old man

Before therapy:

Chronic wound healing disorder Achilles tendon since 6 months
Pain VAS 10 during maximal medication
Based of pain reduction of mobility
Chronic infection – therapy refractory to antibiotics
Indication for amputation in a hospital



Surface: 1077.12 mm²	Surface: 797.29 mm²	Surface: 669.73mm²	Surface: 331.89mm²	Surface: 6.62 mm²
Surround: 144.89 mm	Surround: 127.78 mm	Surround: 124.91 mm	Surround: 100.79 mm	Surround: 11.08 mm
Wide: 30.69 mm	Wide: 28.94 mm	Wide: 20.87 mm	Wide: 18.94 mm	Wide: 3.910 mm
Length: 54.41 mm	Length: 47.96 mm	Length: 44.81 mm	Length: 35.32 mm	Length: 4.00 mm
Fibrin: 95.41%	Fibrin: 83.93%	Fibrin: 56.84%	Fibrin: 91.56%	Fibrin: 78.27%
Granulation: 4.59%	Granulation: 16.07%	Granulation: 43.16%	Granulation: 8.44%	Granulation: 21.7%
Necrosis: 0.00%	Necrosis: 0.00%	Necrosis: 0.00%	Necrosis: 0.00%	Necrosis: 0.00%



After Therapy:

Painless, during therapy reduction from VAS 10 to 2 without additional medication

Protection of amputation

Full mobility

*** Topical negative pressure device: Suprasorb® CNP, Lohmann & Rauscher**

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