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SURFACE ACCOUSTIC WAVE PATCH GENERATES HEALING IN HARD TO HEAL WOUNDS

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Aim: Low Intensity, Low Frequency ultrasound (LILFU) and Surface Acoustic Waves (SAW) delivered by a patch device*, keep most of its acoustic energy at the surface of the wounds, allowing its benefits to localize and focus in the skin and dermal tissue.

LILFU/SAW utilized for this study have an maximal penetration of 3 cm. They also have a radial spread of approximately 20 cm squared allowing it to effect a large target area.

Methods: The effects of LILFU/SAW patch* on chronic wounds from a microbiological and cytological aspect were evaluated. Patients were given treatment with the LILFU/SAW patch* for 8 hours of cycled treatment (30 min. on / 30 min. off) for the period of 1 week. Patients were then allowed to continue use of the device until wound closure.

Results: Microscopic evaluation (H&E staining) showed an increased robustness to the granulation tissue after LILFU/SAW treatment. There was an increase in active fibroblasts as well as an increase in blood vessels in the base of the biopsy sample and an increase in GAG's and the number of cells in mitosis. There was a significant decrease in the bacterial load of the tissue and

Over 70 percent of the wounds closed within 10 weeks.

Conclusion: LILFU/SAW Patch* has a positive affect in stimulating the precursors to dermal and epidermal growth. It is a useful adjunct to wound care. Because of its size and low intensity it can be used in a much more effective way than standard therapeutic ultrasound.

* PainShield - NanoVibronix