

# Case Series Study: Effect of Silver-ion Solution on Chronic Ulcers



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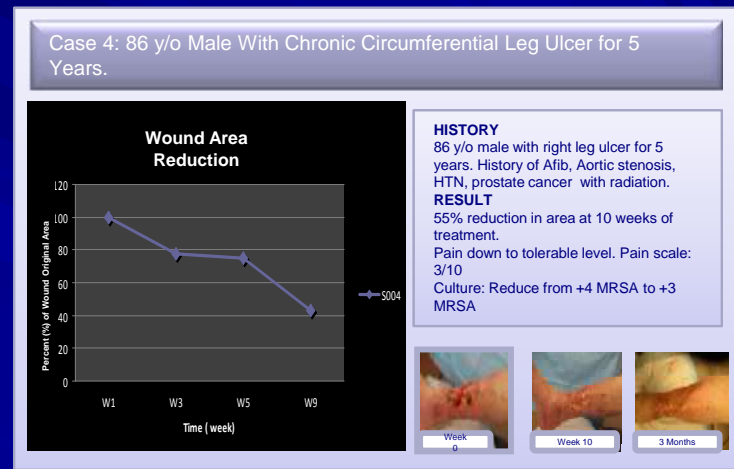
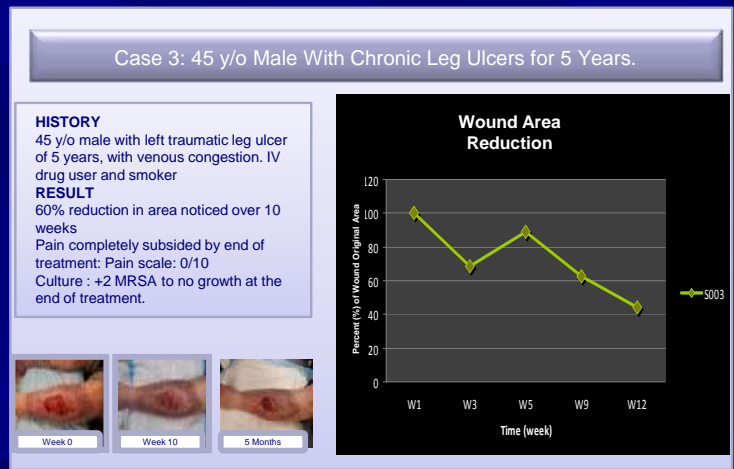
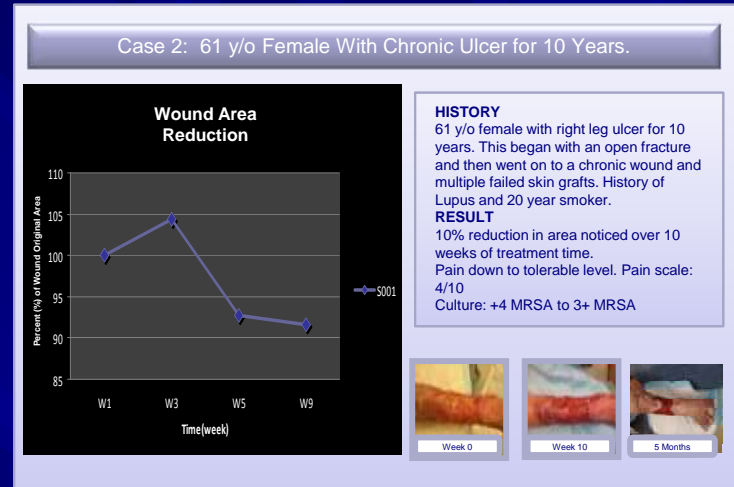
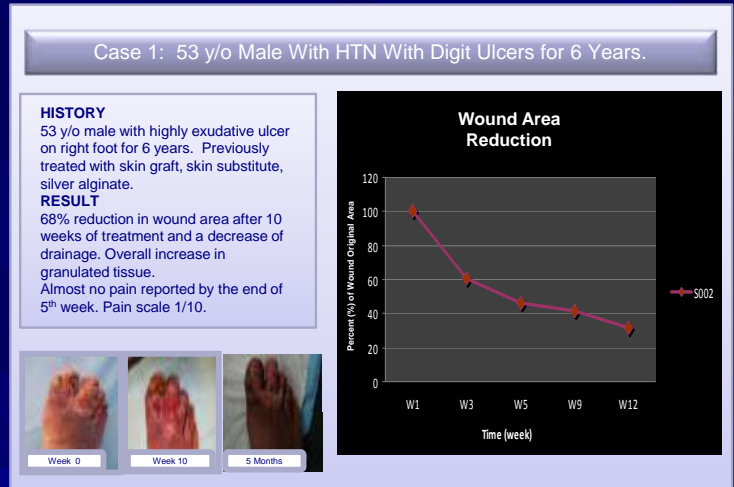


**Background:** Silver has been a known topical antimicrobial. Silver-containing dressings may be more efficacious in reducing the wound size and eliminating biofilm if *ionic silver* was released into the wound over time. This case series evaluates SilverStream<sup>®</sup>, by EnzySurge Ltd., Israel. It is a clear, hypertonic solution that combines menthol and low concentration of silver ions and surfactants.

**Purpose:** To investigate the use of SilverStream solution in the treatment of chronic ulcers.

**Methods:** Four patients with multiple comorbidities and either venous or diabetic foot ulcers of at least 5 years in duration were treated with SilverStream. Patients have been treated with multiple advanced wound care modalities. Patients were instructed to change dressing daily by first saturating sterile dry gauze with the silver-ion solution and apply the saturated gauze directly to the wound for 15 minutes prior to dressing change. The patient was followed every 10 days. Wound measurements, level of pain, wound characteristics, photographs, and biopsies were captured at each clinic visit for 10 weeks period.

**Result:** All patients showed a decrease in area and fibrotic tissue, decrease of exudates, decrease of pain and an increase in granulation tissue. No serious adverse events were observed.



**Conclusion:** Application of SilverStream was shown to decrease wound area, fibrotic tissue, dressing change frequency, and pain and can increase granulation tissue. These findings may support a prospective randomized study. A future study might also include measures of effects at the cellular level.

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