KICK-START STALLED WOUNDS: CASE SERIES EVALUATING AN INNOVATIVE FLUID DELIVERY SYSTEM FOR WOUND HEALING

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BACKGROUND

For nearly a half-century the benefits of moist wound healing have been compared with dry techniques.¹ Research through the years has continued to support moist wound healing as the gold standard in wound treatment. "Dyson et al. (1992) reported that the inflammatory and proliferative phases of wounded healing were shortened by use of moist wound healing as opposed to dry conditions. They also showed revascularization occurred at a faster rate and in a more orderly manner in wounds managed in a moist environment.² Subsequent research supports the concept that wounds managed in a moist environment heal faster with less pain, fewer infections and less scarring."³

METHOD

We conducted a nonrandomized trial on a new device designed to provide a moist wound environment



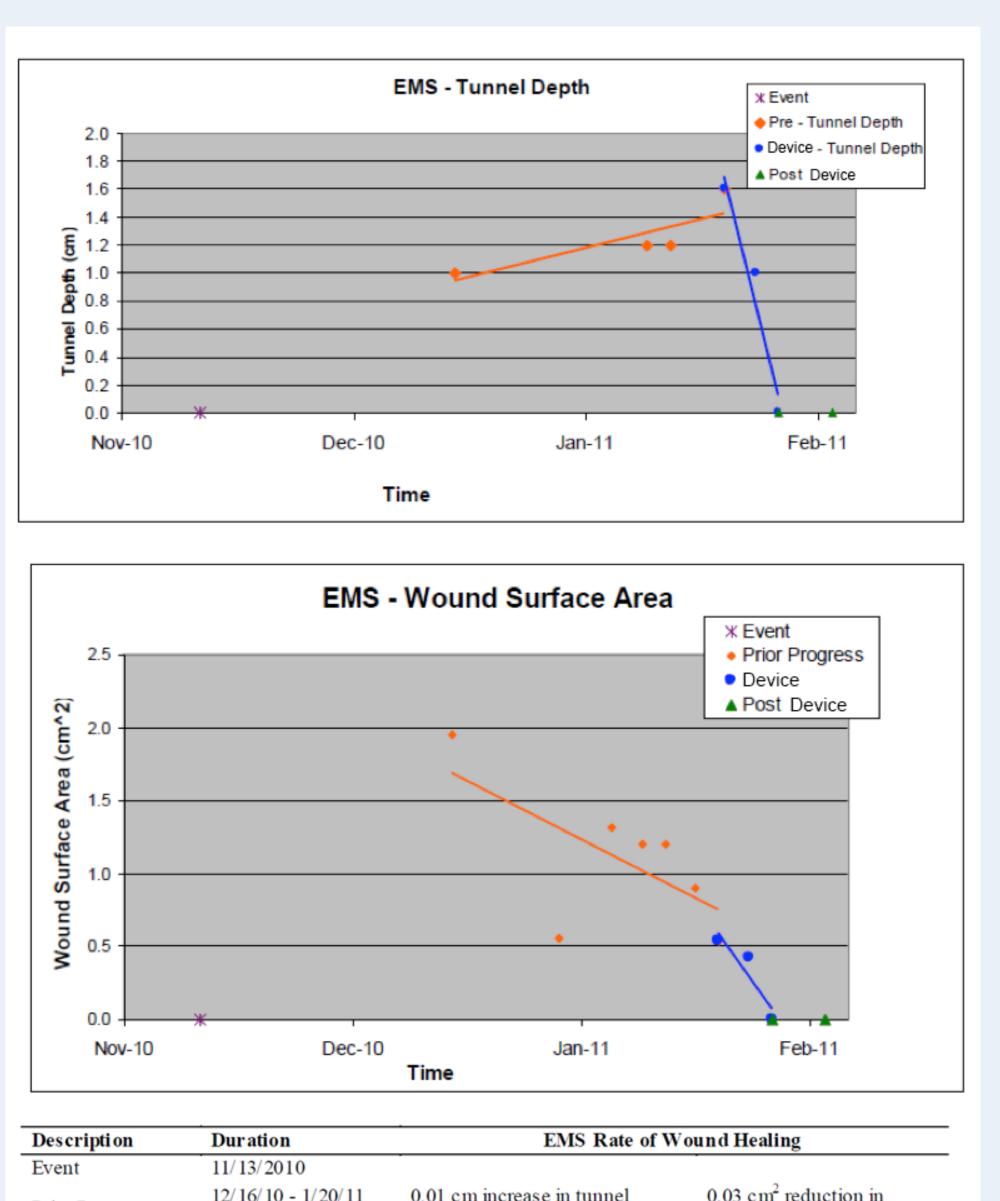


through the introduction of a small volume of continuous topical solution. The system includes an innovative pocket sized delivery device connected to a patented semi-occlusive dressing with small tubing. Below are the results of three of the 15 patients who received a total of 57 procedures.

RESULTS

Patients phases of wounded healing were shortened by use of the moist wound healing treatment. Patient examples one, two, and three illustrate the results of 15 patients who received a total of 57 procedures.





PATIENT

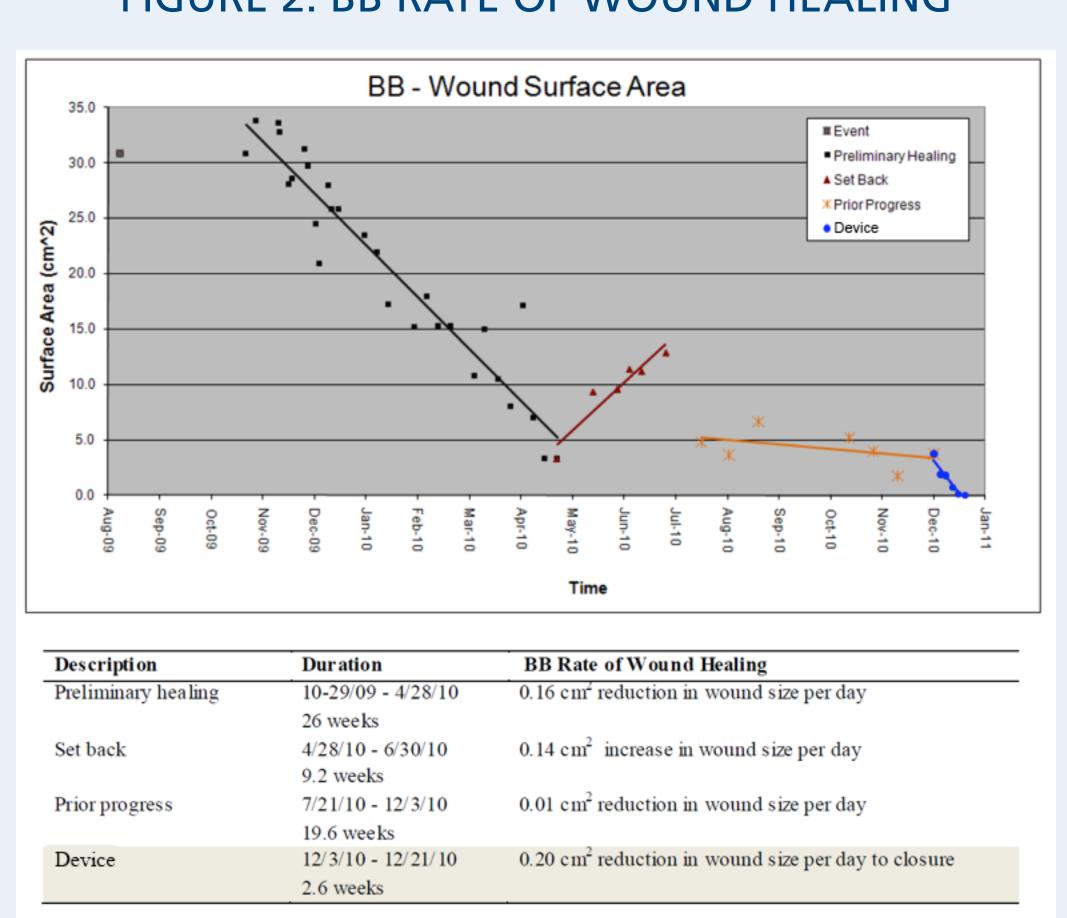
26 year old female (with venous stasis disease and morbid obesity) had a traumatic injury to her right shin (falling while ascending a staircase and striking her shin on a stair). This injury caused swelling to the leg and drainage from a skin tear at the site of the injury. The skin tear developed into an open wound with a tunnel (measuring 1.95 cm2 and a depth of 1 cm). Treatment consisted of packing the wound tunnel with silver impregnated collagen with application of the dressing and device delivering a small amount of sterile water to the wound. The tract decreased in size by 0.22 cm2/day and healed completely in 3 weeks (figure 1).

FIGURE 1: EMS RATE OF WOUND HEALING

0.03 cm² reduction in 0.07 cm^2 reduction in wound size per day Post Progress Wound closure



47 year old diabetic male: laparoscopic repair of a ventral hernia, which dehisced leaving a chronic, non-healing open wound. Preliminary healing was followed by a setback (increase in size of the wound of 0.14 cm2/day for 9 weeks). The wound stalled for 19.6 weeks with a 0.01 cm2/day decrease. The new system was applied instilling a 3% gentamicin solution. The wound then showed a decrease in size of 0.2 cm2/ day and closed completely in 2.6 weeks (figure 2).



This new moist healing treatment system of instilling a small volume of solution shows promise of improved healing rates. Further studies are needed to determine if improved healing rates are due to maintaining a moist environment or the addition of slow release of antiseptic solution.

PATIENT



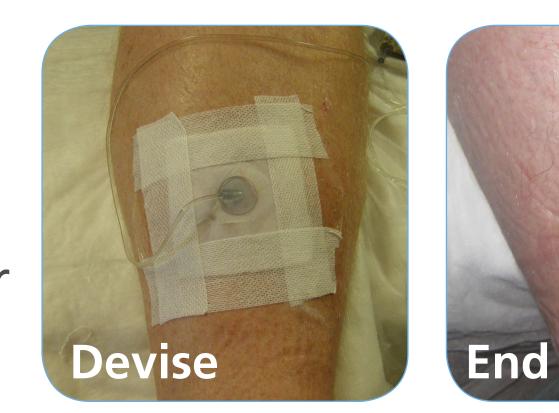


FIGURE 2: BB RATE OF WOUND HEALING

50 year old male (comorbidities include: diabetes, obesity, edema and peripheral neuropathy) had a

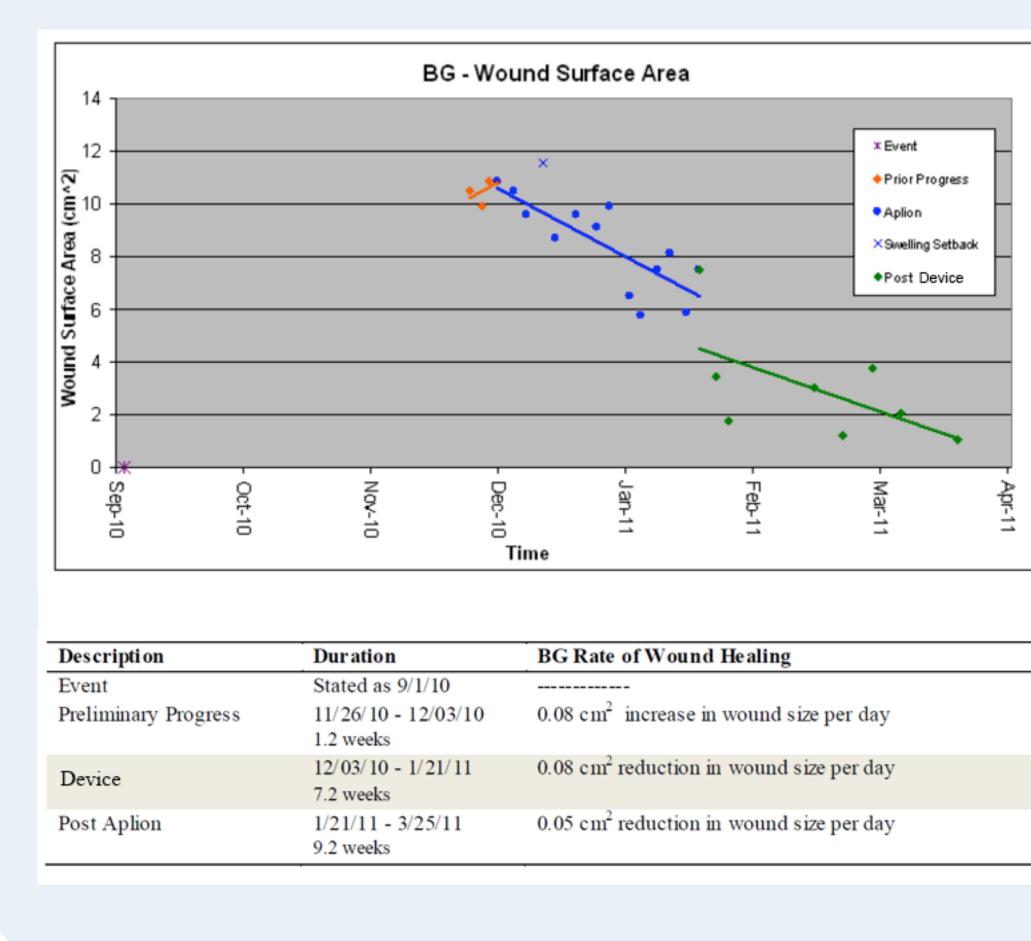
non-healing ulcer on his left medial calf. The new device and dressing were applied using a 3% gentamicin solution. The wound decreased in size at a rate of 0.08 cm2/day over the next 7.2

weeks. The device was removed with wound closure 9.2 weeks later (figure 3).



PATIENT

FIGURE 3: BG RATE OF WOUND HEALING



CONCLUSION



REFERENCES

- 1. Winter, G. (1962) Formation of the Scab and the Rate of Epithelisation of Superficial Wounds in the Skin of the Young Domestic Pig. Nature 193, 293-294.
- 2. Dyson, M, Young, SR, Hart, J et al. (1992). Comparison of the effects of moist and dry conditions on the process of angiogenesis during dermal repair. Journal of Investigative Dermatology, 99, 729.
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