

► Case Report

Treatment of Surgical Wound Dehiscence (SWD) After Hindfoot Double Arthrodesis Revision

Patient Background

- › 51 year old female
- › History of depression and obesity
- › Open reduction and internal fixation (ORIF) of the ankle
- › Revision of subtalar and talonavicular arthrodesis

Case History

On initial patient assessment, the patient opted for a surgical intervention via subtalar and talonavicular arthrodesis to treat her painful flat foot experience. Initially, the patient had a fairly uncomplicated post-operative course, however when the patient began bearing weight to the operative foot, the internal fixation failed and ultimately suffered a nonunion of the fusion sites requiring revision surgery ten months following initial presentation.

Case Summary by Rahn A. Ravenell, DPM, FACFAS

One month following the subtalar and talonavicular arthrodesis revision surgery, purulence was noted from the lateral incision and antibiotics (500 mg of Keflex) were prescribed. One week post the purulence and prescribed

antibiotics, wound dehiscence was presented from the lateral incision site. Surgical debridement was then performed, and an alternative xenograft wound matrix was applied (weekly). In addition, the patient was instructed to use daily at home topical oxygen therapy. This regimen continued for a period of 4 weeks with minimal improvement in the wound size and appearance. Geistlich Derma-Gide® was then initiated (image 1) and the initial wound was measured to be 2.0 cm (L) × 3.0 cm (W) × 0.8 cm (D). Weekly application of Geistlich Derma-Gide® (2 cm × 2 cm graft size) was applied for 5 weeks (images 2–5) and then bi-weekly application was continued for four weeks where the wound then measured to be 1.5 cm (L) × 0.8 cm (W) × 0.2 cm (D). Bi-weekly application was conducted for two additional applications over 4 weeks primarily due to patient's work schedule. One month after the final application of Geistlich Derma-Gide®, the wound measured to be 0.5 cm (L) × 0.4 cm (W) × 0.2 cm (D). The patient continued topical oxygen therapy at home. The wound was completely closed three and half months (image 6) after the initial application of Geistlich Derma-Gide® and has remained closed three months after initial closure (image 7) with normal appearing incision line and supple, healthy appearing surrounding skin.



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Dr. Rahn A. Ravenell is a podiatrist specializing in foot and ankle surgery, diabetic limb salvage, and preventative diabetic foot care. He completed his residency in podiatric medicine and surgery at Dekalb Medical Center in Decatur, Georgia after receiving his doctorate of podiatric medicine from Temple University School of Podiatric Medicine. As a podiatrist, Dr. Ravenell's interests include both conservative and surgical care of bunions, heel pain, arthritis of the foot and ankle.

“Geistlich Derma-Gide® supported the healing in this difficult surgical wound dehiscence case, which also resulted in consistent tissue remodeling and pigmentation.”

Clinical Case Documentation

- › Over the course of treatment with the use of Geistlich Derma-Gide®, improvement of wound size and depth was observed
- › The patient achieved wound closure 3.5 months post Geistlich Derma-Gide® application
- › The wound remained closed 3 months post-closure



Day 0: Initial Presentation & Application
Assessment of wound dehiscence and subsequent treatment with wound VAC.



Day 7: One Week Post Application
One week follow-up prior to reapplication of Geistlich Derma-Gide® | Wound size: 2.5 cm × 2 cm × 0.5 cm



Day 21: Three Week Follow-up Visit
Appearance after three applications of Geistlich Derma-Gide® | Wound size: 2.5 cm × 1.5 cm × 0.2 cm



Day 28: Four Week Follow-up Visit
Appearance after 4 applications of Geistlich Derma-Gide® | Wound size: 2.0 cm × 1.5 cm × 0.2 cm



Day 42: Six Weeks Follow-up Visit
Appearance after five applications of Geistlich Derma-Gide® | Wound size: 2.0 cm × 1.0 cm × 0.2 cm



Day 105: ~3.5 Month Follow-up
This image represents appearance 8 weeks after final (8th) application of Geistlich Derma-Gide®



Day 211: 6 Month Follow-up Visit
Appearance of wound that remains completely healed with normal appearing skin 3 months after final application of Geistlich Derma-Gide®



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