

**Lee C. Rogers D.P.M.**

**Associate Medical Director-Valley Presbyterian Hospital Amputation Prevention Center, Van Nuys, CA**

In October 2010 this 63 y/o WM with Type 2 diabetes and a recurrent ulcer under the right first metatarsal head (figure 1) was referred to the Amputation Prevention Center at Valley Presbyterian Hospital for an acute infection. The patient had a previous surgery where the flexor hallucis longus tendon was likely transected. The patient had sudden loss of control of his blood glucose, flu-like symptoms, and a fever. All symptoms of a serious diabetic foot infection. Skin perfusion pressures were >50 mmHg, ruling out significant peripheral artery disease.



The patient was admitted, placed on IV antibiotics, and emergency surgery was performed. The ulcer was elipsed, all infected tissue removed with the Versajet® (Smith & Nephew, St. Petersburg, FL.) hydroscalpel, and the wound was packed open. Four days later the wound was clean and there were no signs of infection. (figure 2)

Due to the extent of tissue loss and retraction after I&D, the wound was not amenable to primary closure. The DermaClose® Continuous external tissue expander device was applied in the OR utilizing the bridge tubing to place the tension controller on the dorsum of the foot. The device applies a constant 1.2kg of tension which creates laxity in the tissue and frequently affords re-approximation of the wound edges in just a few days. (figure 3)

Five days after the DermaClose was applied the wound had approximated by skin expansion. The wound edges were revised and closed with layered suture. This photo (figure 4) shows the wound at four weeks post revision and closure.

The wound healed and remained healed at 3 months postoperative (figure 5). The quality of this tissue will afford a more durable surface than closure by secondary intention. Additionally, closure after 8 days reduces the post-operative risks of an open wound. After the plantar incision completely healed a 1st metatarsal phalangeal joint fusion was performed due to the unopposed extensor hallucis longus to prevent recurrence of an ulcer.



Fig 2 -Post I&D



Fig 3-After Application



Fig 4-At four weeks



Fig 5-At 12 weeks