Successful Coverage and Closure of a Complex Right Lateral Plantar Foot Wound with a Next Generation Decellularized Dermal Allograft

Mohin Bhadkamkar MD, Houston, TX Board Certified, American Board of Plastic Surgery

Surgical Summary

Clinical Presentation:

- A 50-year-old female presented to the emergency department (ED) following a crush injury to her right foot resulting in partial amputation and heel pad degloving.
- The patient underwent multiple debridement procedures in the days following injury, and was recommended for plastic surgery for soft tissue coverage.
- Placement of DermaPure®, a next generation decellularized dermal allograft, was recommended to optimize coverage and closure.

Intraoperative Findings (in the OR, DermaPure® application):

- At the time of surgery, there was some non-viable tissue throughout the wound (Figure 1).

Figure 1. Right foot wound with presence of non-viable tissue.

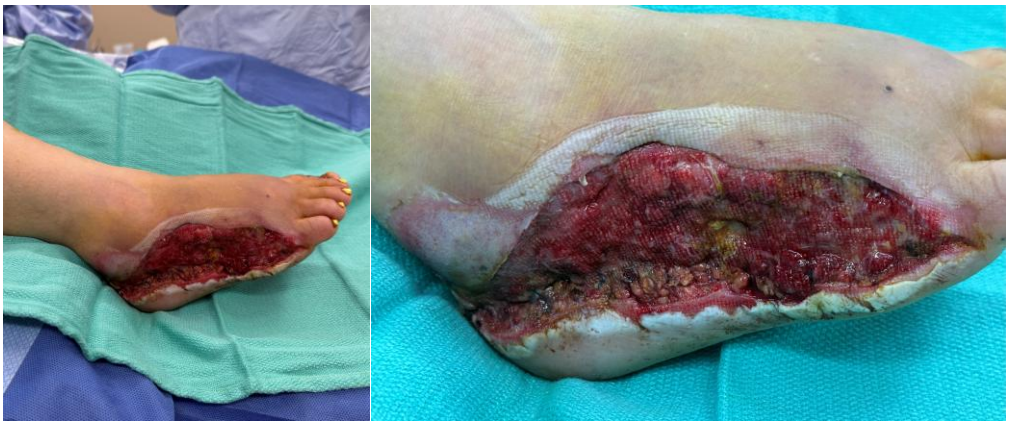
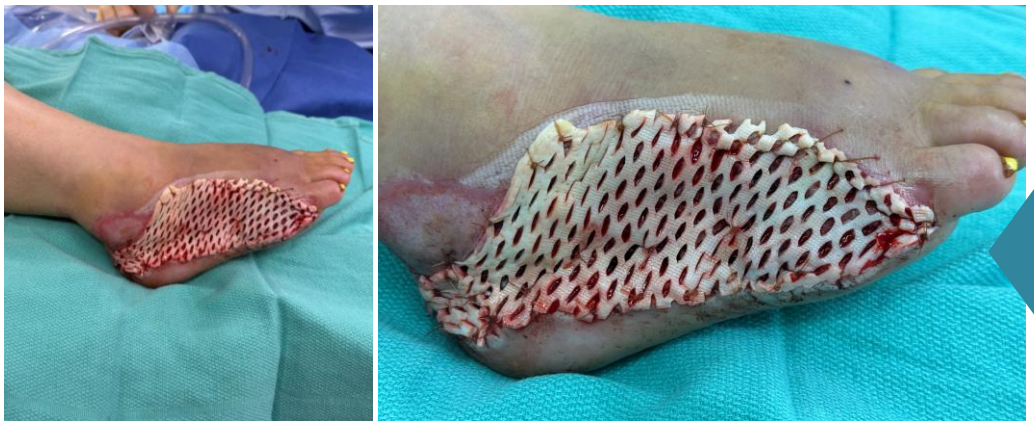


Figure 2. Placement of DermaPure® graft performed in the OR.



DermaPure®
14 cm X 5 cm
Meshed 3:1
Basement
Membrane
Outer-Most

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Surgical Procedure:

- Under general anaesthesia, the patient was positioned in a supine position. Surgical sites were prepped and draped in a sterile fashion.
- Sharp excisional debridement of necrotic skin, soft tissue, fascia, muscle, and tendon was performed over a 14 cm x 5 cm area, extending down to healthy, bleeding tissue. The wound was thoroughly irrigated with sterile saline, and hemostasis was achieved.
- A 14 cm x 5 cm DermaPure® Meshed decellularized dermal allograft was applied to the wound bed and secured with chromic sutures (Figure 2). The site was dressed with Adaptic® and V.A.C.® Therapy.
- Surgical plan for coverage with a split-thickness skin graft once sufficient granulation has developed.

Post-Operative Notes:

- Week one post-op: DermaPure® demonstrated good take with no evidence of compromise. Surrounding tissue appeared viable with minimal edema and no signs of infection (Figure 3). V.A.C.® Therapy continued.
- Week three post op: DermaPure® fully integrated, no signs of breakdown or infection. Split thickness skin grafting performed.
- Week seven post-op (4 weeks post skin graft): Final post-operative pictures showing completely healed wound.

Figure 3. Week one post-op: Full take of DermaPure® graft observed.

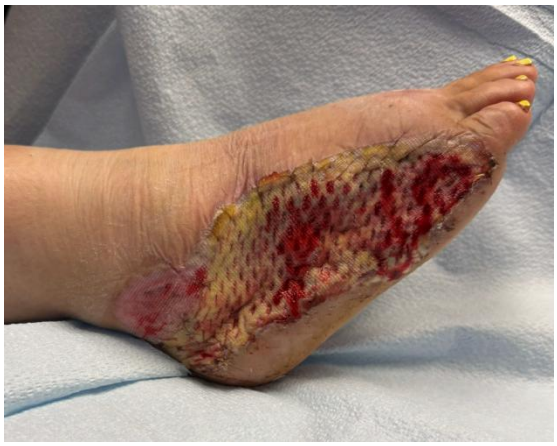
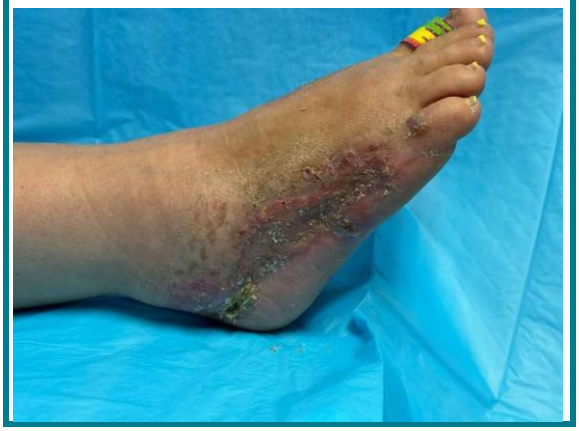


Figure 4. Week seven post-op: Full integration of DermaPure® and skin graft, no signs of breakdown or infection. Wound bed fully epithelialized.



Surgeon Perspective:

"This patient had a complex wound in an anatomically difficult location. DermaPure® was able to help fill in the deficit and establish a healthy wound bed for eventual skin grafting. "