

**Case report: Reconstruction of massive left upper extremity fasciotomy wound after compartment syndrome using DERMACLOSE external tissue expansion to avoid skin graft.**

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**Case report #50**

**Prior to application of DERMACLOSE device:** A 47-year-old male patient was diagnosed with severe compartment syndrome with ongoing rhabdomyolysis. The patient was taken to the operating room for emergent hand and forearm fasciotomies with carpal tunnel release. The patient's condition improved after fasciotomies, and on post-fasciotomy day 2, negative pressure wound therapy was used to manage his wounds.

Wound VAC dressings were changed on a three-times-per-week basis. On post-fasciotomy day 11, the wounds were found to be healing well with granulation tissue but massive in size. Loss of soft tissue domain had occurred.

**DERMACLOSE device application:** After discussion, patient agreed to proceed with external tissue expansion reconstruction in an attempt to diminish wound size for either smaller skin graft or avoiding skin grafts altogether.

On post-fasciotomy day 13, two DERMACLOSE tissue expanders were applied to the wound with the standard configuration. The V-M-W method was followed with barbs approximately 2-3 cm from each other and 0.5-1.0 cm away from the skin edge. Expansion continued for 11 days post operatively prior to return to the operating room.

**DERMACLOSE device removal:** After 11 days of expansion, the wound had nearly completely closed on its own. The patient was returned to the operating room at which time the expanders were removed and a complete closure of the wound was performed with multiple layers of sutures.

**Follow-up:** After removal of the expanders and closure of the wound, the patient returned for follow up, 2 weeks post operative. Sutures were removed and the wound went on to complete healing. The patient was diligently engaged in an occupational hand therapy program and went on to recover the majority of his upper extremity function with a fully healed wound. **Conclusion:** Complete closure of a massive fasciotomy wound can be achieved utilizing external tissue expansion. Avoidance of skin graft-based reconstruction can be achieved, thereby providing the patient with a better cosmetic appearance and functionality.

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**INDICATIONS FOR USE:** The DERMACLOSE Continuous External Tissue Expander is indicated for use in assisting with the closure of moderate to large surgical or traumatic acute full thickness wounds of the skin by approximating and reducing the size of the wound.

**CONTRAINDICATIONS:** The DERMACLOSE Continuous External Tissue Expander should not be used on ischemic, infected, or acute burned tissue. It should not be used on fragile tissue at the edges of a wound.

**For single patient use only.**

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Condition prior to expansion due to hand and forearm fasciotomies



2 DERMACLOSE devices applied post-op day 13



DERMACLOSE removal 11 days later



Patient recovered majority of function



Case report courtesy of Ajul Shah MD.