

Definitive Coverage and Closure of an Extravasation Arm Injury with a Next Generation Decellularized Dermal Allograft

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Surgical Summary

Clinical Presentation:

- A 39-year-old male with morbid obesity and end stage renal disease was referred for a complex wound in the antecubital (AC) region of his left arm. Two weeks prior he was in the hospital for a problem with his leg; while there, his left arm, antecubital (AC) intravenous (IV) site developed an infection due to an extravasation of his IV medication Vancomycin and Piperacillin/Tazobactam.
- Physical exam revealed:
 - o Soft tissue cellulitis with edema and pain noted in left arm AC region
 - o Necrotic wound to the AC region, measuring 3 cm x 8 cm, with greater than 80% eschar (Figure 1)
- Surgery scheduled for debridement and placement of DermaPure[®], a decellularized dermal allograft.

Intraoperative Findings:

- Full thickness wound to left arm, AC region. Necrotic area debrided revealing exposed subcutaneous tissue, fascia, and muscle (Figure 2).



Figure 1. Necrotic wound with eschar, 3 cm x 8 cm.



Figure 2. Full thickness wound left arm, AC region with exposed subcutaneous tissue, fascia, and muscle.



Figure 3. Application of DermaPure[®] in the OR.

DermaPure[®] Application
7 cm x 10 cm
Basement Membrane Outer-Most

Surgeon Perspective:

"DermaPure[®] provided a reliable and safe method of tissue coverage for this complex wound in an end-stage renal patient."

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Surgical Procedure:

- The left upper extremity was draped/prepped in the usual sterile fashion. The tourniquet was elevated to 350 mmHg.
- The necrotic tissue of the left arm, AC region was debrided, and the skin edges were freshened with a #15 scalpel blade and curette. Hemostasis was achieved with electrocautery.
- One 7 cm x 10 cm DermaPure[®] decellularized dermal allograft was cut to size and fenestrated with a #15 scalpel blade. It was secured to the wound by using running and interrupted 4-0 chromic sutures around the perimeter (Figure 3).
- Adaptic[®] was placed on the wound, followed by Bactroban and a bolster dressing.



Figure 4. Week one, post-application of DermaPure[®].



Figure 5. Week three, post-application of DermaPure[®].



Figure 6. Week eight, 100% closed.

Post-Operative Notes:

- Week one post-application: DermaPure[®] appeared to be taking well, firmly adhered to the wound bed (Figure 4). Bolster discontinued. Moist daily dressings with Bactroban ordered.
- Week three post-application: Partial integration of DermaPure[®] with reduction in surface area (Figure 5).
- Week eight post-application: 100% closed.
- The patient then underwent a surgical procedure to create an arteriovenous (AV) fistula (for dialysis) at the closed/healed AC site (Figure 6).

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