

Neox® 1K vs. Skin Graft for Traumatic Forearm Wounds

Christopher Stewart, MD; Baptist Health, Little Rock, AR

Why this Study is Relevant

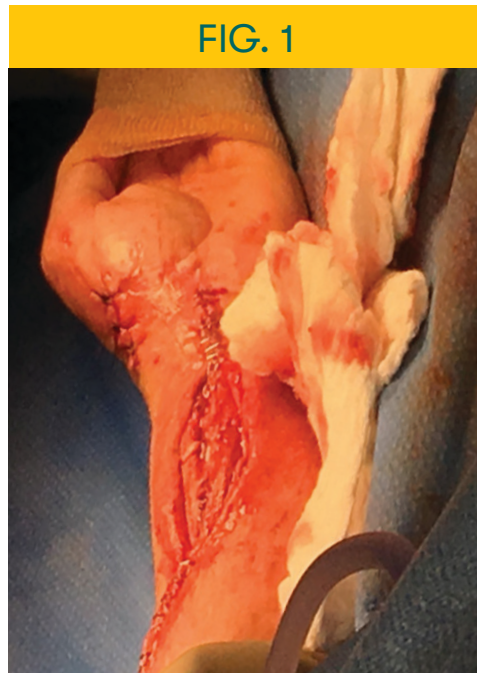
Skin grafts have been used since the late 1800s to treat a plethora of wounds,¹ however they are often ill-suited for managing deep wounds with exposed underlying structures.^{1,2} Furthermore, complications may arise postoperatively that can affect the functional and cosmetic outcome, such as graft failure, hyperpigmentation, and contraction, especially in the case of Split Thickness Skin Grafts (STSGs).^{1,2} Hence, the use of other treatment modalities to mitigate wound complications, while promoting a functional and cosmetically appealing outcome, is warranted.

Case Example

A 72-year-old male smoker with a history of diabetes mellitus, hypertension, and atrial fibrillation, managed with clopidogrel, presented with multiple traumatic injuries after a motor vehicle crash. Along with a left Grade IIIB open Both Bone Forearm Fracture (BBFF) (FIG. 1), the patient also had a frontal Intraparenchymal Hemorrhage (IPH), C2 Hangman's fracture, facial/ear lacerations, and rib fractures with respiratory failure.

Treatment Procedure

On Day-1, Incision & Drainage (I&D) was performed, along with external fixation, antibiotic beads, and vacuum dressing over the open BBFF wound. This was repeated on Day-4, with Open Reduction and Internal Fixation (ORIF) and a replacement of the antibiotic beads and vacuum dressing. On Day-7, I&D was repeated on the left forearm and the beads were removed. A 6.0 x 3.0 cm Neox® 1K ultra-thick Amniotic Membrane (AM) allograft was applied over the medial side of the arm (FIG. 2A) due to exposed tendon and muscle. A 10.5 x 5.0 cm split thickness skin graft was applied over the more superficial dorsal side of the forearm wound (FIG. 3A).



Outcomes

The STSG and Neox 1K allograft wound sites achieved closure within 2.5-months post-op (FIG. 2 & 3). Additionally, the medial side of the arm, where Neox 1K was used, showed a return of hair and normal sensation without significant contracture (FIG. 2B), whereas the area covered by the STSG did not (FIG. 3B).



Surgical Goals

- Help mitigate wound complications
- Help expedite soft tissue healing
- Help facilitate functional recovery

Neox 1K

Neox 1K is an ultra-thick cryopreserved human amniotic membrane allograft derived from umbilical cord that can be applied as a sheet or strips to support and expedite wound healing.

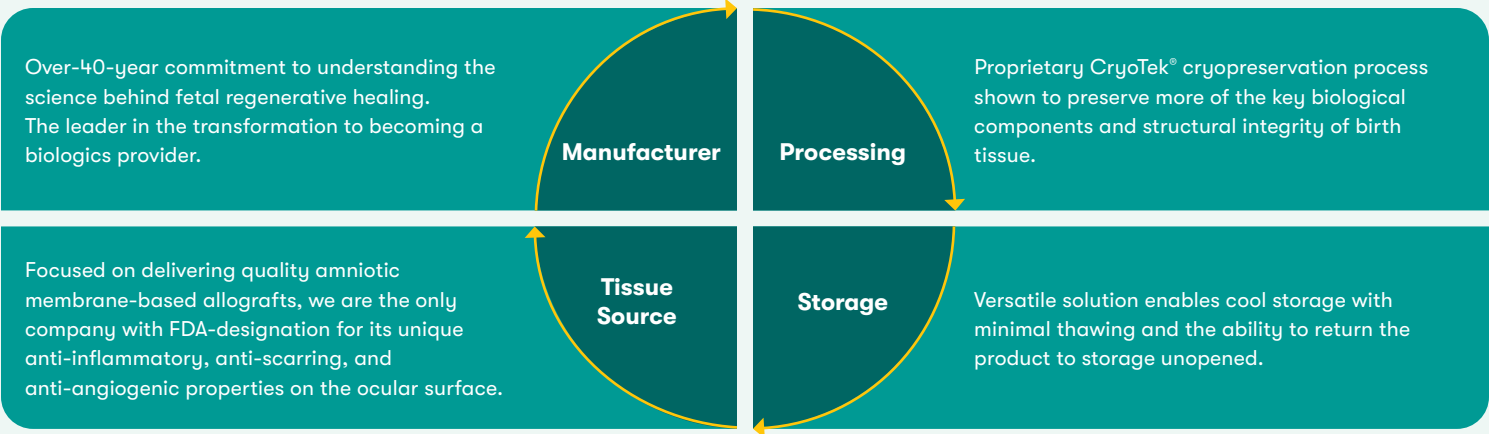
- Diabetic Foot Ulcers
- Chronic Wounds
- Venous Leg Ulcers
- Arterial Ulcers
- Pressure Ulcers
- Post-surgical Wound Dehiscence
- Traumatic Wounds
- Burns

It can be used with Negative Pressure Wound Therapy (NPWT). The product does not require edge-to-edge wound coverage. The allograft can even be cut into strips and applied to a wound.



Neox 1K Cryopreserved Amniotic Membrane Allograft	
Catalog Number	Dimension
NX-10-2010	2.0 x 1.0 cm
NX-10-2020	2.0 x 2.0 cm
NX-10-3020	3.0 x 2.0 cm
NX-10-3030	3.0 x 3.0 cm
NX-10-4030	4.0 x 3.0 cm
NX-10-6030	6.0 x 3.0 cm
NX-10-8030	8.0 x 3.0 cm

The BioTissue Difference



1. Shimizu R, Kishi K. Review Article: Skin Graft. *Plastic Surgery International*. 2011;2012563493. doi:10.1155/2012/563493.

2. Seyhan T. Split-Thickness Skin Grafts. *Skin Grafts - Indications, Applications and Current Research*. InTech; 2011.