## Non-Surgical Management of Neonatal Wounds by Utilizing Fish Skin Graft Roxana Reyna, MSN, APRN, NP-C, CWON-AP and

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#### INTRODUCTION

The acutely ill neonate is at high risk for skin injury and breakdown. Wounds in this special population can be challenging due to how critical a patient's injury or illness is. Current wound care treatments in neonates are limited. Extensive wounds requiring skin grafts may not be an option due to the size and condition of the patient. It is important for the wound care clinician to approach these complex wounds with options that allow for closure and are safe and effective. A fish skin graft (FSG) was applied to three wounds located on a very sick patient during the neonatal period (<30 days of life).

#### METHODS

A critical neonatal patient with a wound to a central line extravasation to the right neck, embolic phenomena to the left arm and stage 4 pressure injury to the occiput is illustrated. Each wound was optimized to healthy tissue by autolytic debridement. FSG particles were mixed with medical grade honey and applied to the wound beds, covered with a foam dressing, and changed every 3-5 days until healed.

## RESULTS

Each wound healed throughout the patient's critical condition with a single application of FSG. Full closure was achieved with minimal contracture and scarring. Range of motion was not compromised.

## CONCLUSIONS

The case study illustrates the use of FSG in a critical neonatal patient with three extensive wounds. Wounds that would otherwise require a skin graft, were healed with a xenograft by easy placement completed at the bedside while the patient is in a critical state. The product demonstrated to be safe and effective. Final closure of wounds also showed minimal scarring with no contracture or limitations of range of motion. Further studies are needed to help support the use in neonates and children.

References



**Rio Grande Valley** 

#### Wound 1: Right Neck

Patient History: Critically ill, Open chest, inotropes Wound History: Right Intrajugular extravasation **Kerecis Applications:** x 1

Patient Outcomes: Dressing changes every 3-5 days until healed. Small contraction of wound with no affect on ROM

#### Wound 2: Left Arm

Patient History: Critically ill, open chest, inotropes, sepsis Wound History: Radial Art Line, Embolic Phenomena 75% of anterior forearm affected

**Kerecis Applications:** x2 (1/2 package)

Patient Outcomes: Dressing changes every 3-5 days until healed. Hyperpigmentation of inflammation remained.

#### Wound 3: Occiput

**Patient History:** Critically ill, on anticoagulation therapy, NPO, vented **Wound History:** Pressure injury to occiput Kerecis Applications: x1 **Patient Outcomes:** Dressing changes every 3-5 days until healed.



2 cm x 3 cm wound, Cleansed with hypochlorous acid solution, autolytic debridement with medical grade honey until wound bed ready for fish graft.



1.2 cm x 2.7 cm x 0.4 cm, patient NPO, HFNC stable. Wound bed ready for fish graft application. 10/7/22



Purple soft necrotic edges; small blistering. Cleansed with Hypochlorous acid solution, once sloughing off applied medical grade honey and silicone foam.



1.3 cm x 3.5 cm x 0.7 cm, wounds autolytic debridement until ready to apply fish graft 9/15/22. (1/2 pkt. Mixed with medical grade honey and covered with silicone foam.



2 cm x 1.5 cm x 0.3 cm, cleansed with hypochlorous acid solution, medical grade honey and silicone border for autolytic debridement.



1 cm x 1 cm x 0.3 cm. Wound bed ready for FSG. Mixed with medical grade honey and covered with a white foam bolster and covered with a silicone border dressing. 11/8/22

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Fish graft mixed with medical grade honey, applied to wound and covered with white oam bolster. White foam no neck cut to fit and trach tie used to secure.



Dressing changed every 3-5 days until healed. 11/26/22.



2.5 cm x 1.2 cm x 0.2 cm, wounds ready for FSG mixed with medical grade honey and covered with white silicone foam. Dressing changes every 5 days. 10/7/22



Patient healed while NPO, Hyperpigmentation of inflammation remained to intact skin. Moisturizer used BID. 11/29/22

0.5 cm x 1.5 cm x 0.2 cm,

11/15/22

Wound healed 1/3/23. 8 weeks from grafting to total healing.