Isolation of Enteric Fistulas to Allow Adjacent Skin Graft Placement

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Introduction

- Wounds near fistulas and ostomies are typically not well suited for skin grafting due to the risk of effluent contamination.
- However, not grafting these wounds can delay healing and further tax patients and providers with finding creative ways to manage the wound and intestinal effluent.
- Furthermore, these wound types can many times leave the patient bound to a care facility, with further skin breakdown related to effluent leakage resulting in cellulitis and readmission to an acute care hospital.

Purpose

- In this case series, we describe the use of fistula isolation devices (FIDs*) to help manage intestinal effluent during the placement of skin grafts or artificial skin substitutes onto nearby wounds.

Methods

- Upon fistula isolation, skin grafts (n=3) or xenografts (n=1) were placed onto the nearby wounds.
- All grafts were covered with non-adherent dressings and bolstered using negative pressure wound therapy (NPWT) at -125 mmHg for 5-10 days, and NPWT dressings were changed every 5 days.

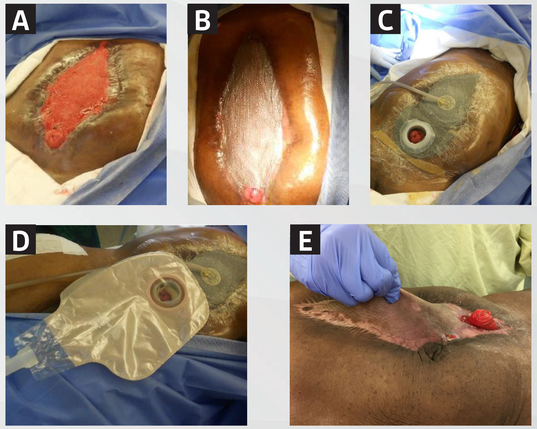
Results

- FIDs were placed onto 4 patients (1 female and 3 males) ranging in age from 44- to 81-years of age.
- Comorbidities included type 2 diabetes mellitus, vascular disease and coagulation disorders, and cancer.
- FIDs effectively helped seal the fistula effluent away from the newly placed grafts, and excellent graft take and wound healing occurred for all four patients (**Figures 1-4**).
- Ultimately, peri-fistula skin was fully healed, and each patient was transitioned to a standard ostomy pouch system for effluent management.

Conclusion

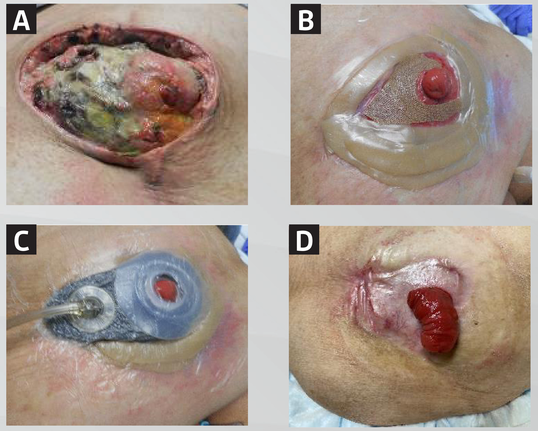
- Results from these cases suggest that FIDs can be applied to patients for effective effluent management, thereby allowing skin grafting to a nearby wound.
- Skin grafting can allow formation of intact skin around enteric fistulas and ostomies, which could allow providers to transition patients to standard ostomy appliances.

Patient 1. A 52-year-old male undergoing takedown of small bowel fistula and complex ventral hernia repair.



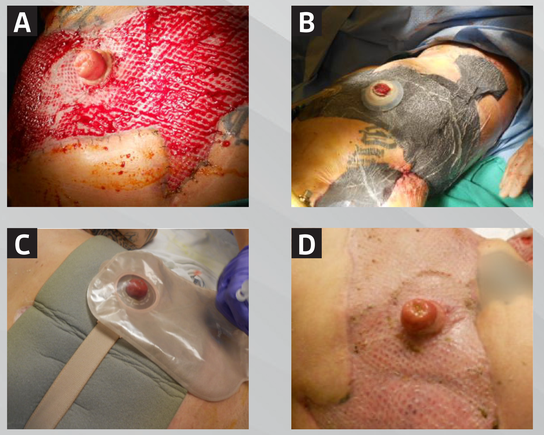
(**A**) Wound ready for skin graft (**B**) Placement of skin graft. (**C**) Placement of FID, with NPWT used to bolster graft. (**D**) Use of high output ostomy pouch over FID to contain fistula effluent. (**E**) 4 months later: Healed skin graft passed pinch test, allowing small bowel fistula surgery to proceed.

Patient 2. A 44-year-old female admitted for necrotizing fasciitis with enterocutaneous fistula at a prior hernia site.



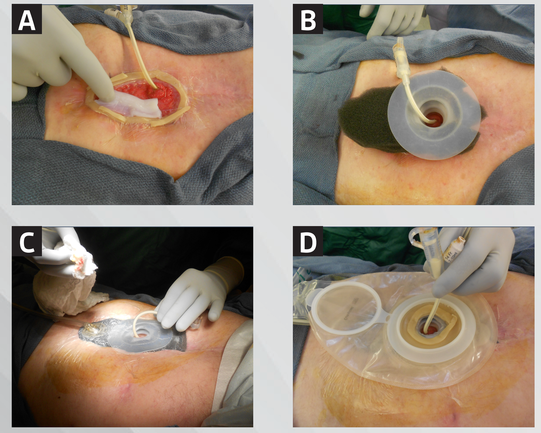
(**A**) Surgical debridement of necrotizing soft tissue. (**B**) Placement of skin graft over granulated wound bed. (**C**) Placement of FID and use of NPWT over graft. (**D**) 4 months later: Successful graft take; patient using standard ostomy pouch.

Patient 3. A 39-year-old male with multiple traumatic injuries after being run over by a train.



(**A**) Placement of skin graft. (**B**) Use of FID with NPWT dressings. (**C**) Placement of ostomy pouch with silver foam over skin graft. (**D**) Successful graft take on postoperative day 11.

Patient 4. An 80-year-old male undergoing fistula repair.



(**A**) Fistula with feeding tube and placement of allograft. (**B**) Non-adherent and NPWT dressings with FID. (**C**) Creation of a negative pressure seal. (**D**) Attachment of fistula manager with feeding tube.

Presented at the Symposium on Advanced Wound Care/Wound Healing Society: A Virtual Experience, July 24-26, 2020

NOTE: Specific indications, contraindications, warnings and precautions, and safety information exist for these products and therapies. Please consult product labeling prior to use.

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The author wishes to thank 3M for the preparation and production of this poster.