

Decision Framework for Enteric Fistula Management

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Topic
Enteric fistulas and poorly sited ostomies can challenge patients and providers on multiple fronts. Caring for adjacent wounds, controlling effluent, preventing leaks, and maintaining a positive attitude can all be problematic. Furthermore, these wound types can many times leave the patient bound to a care facility, with skin breakdown related to effluent leakage resulting in moisture-associated skin damage and readmission to an acute care hospital.

Objectives
We present a decision framework used by the complex abdominal reconstruction service (CARS) at Regions Hospital to help providers determine the appropriate therapy when faced with a challenging enteric fistula. Because patient presentation changes over time due to complications and/or wound healing this framework is reviewed periodically to determine when there should be a change in therapy.

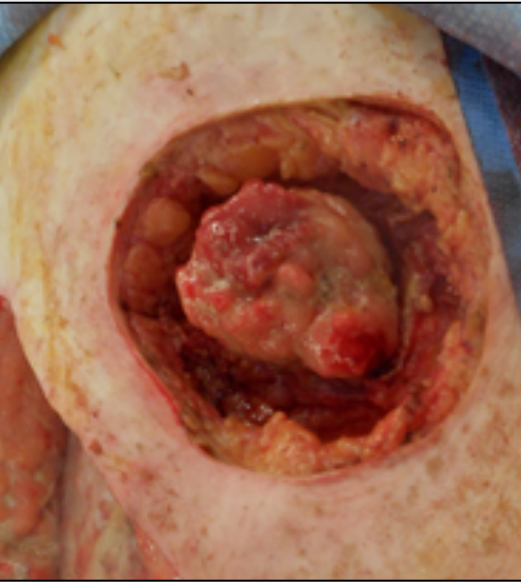
Process
The cross-functional CARS team including a surgeon and WOC nurse assesses patients according to the SNAP methodology: Skin and Sepsis, Nutrition, Anatomy, and planned surgical Procedures. The team assessment also includes the presence of adjacent wounds and patient pouchability. These factors are all considerations in the decision hierarchy presented here. Therapy options using the decision framework include:

- Bolstered pouching techniques
- Wound manager to allow moist healing
- Negative Pressure Wound Therapy (NPWT) using a fistula isolation device* (FID)
- Soft tissue revision to expose the stoma
- Skin grafting around the stoma bolstered with NPWT and FID

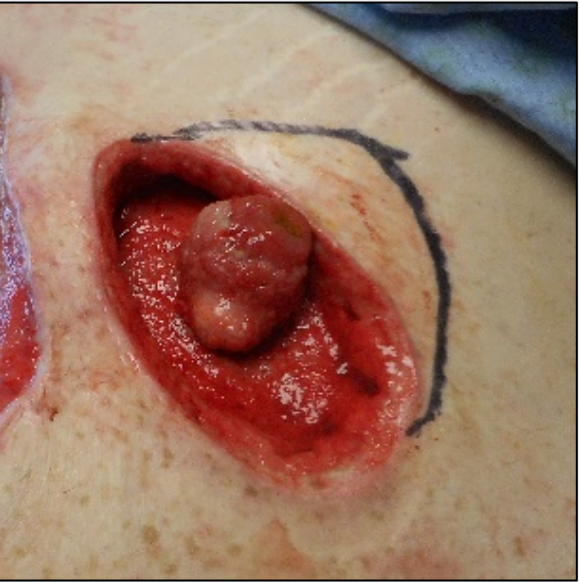
Outcomes
We present enteric fistula and ostomy patient cases illustrating the application of the decision-making tool and the therapies applied. Therapies presented include NPWT, pouching, and skin grafting. In all cases the patients were assessed by the CARS team and therapies were applied based on the decision-making framework.

This framework highlights the need for a multidiscipline approach for managing enteric fistulas. Applying the decision-making tool with team-based assessment to improve patient quality of life, decrease hospital stays and enable patients to return to home.

Soft tissue removal to the expose stoma



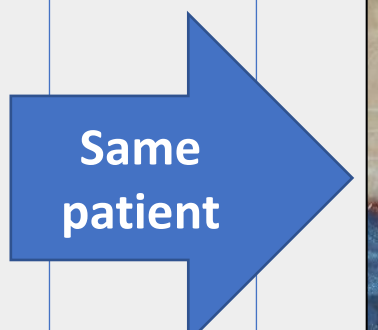
August 26: Stoma formed after traumatic injury. Pouching challenge!



September 4: Soft tissue impediment and revision marking



September 15: Stoma after soft tissue removal



Skin graft and bolster with NPWT and FID



September 24: Demonstrated that stoma could be isolated prior to skin graft

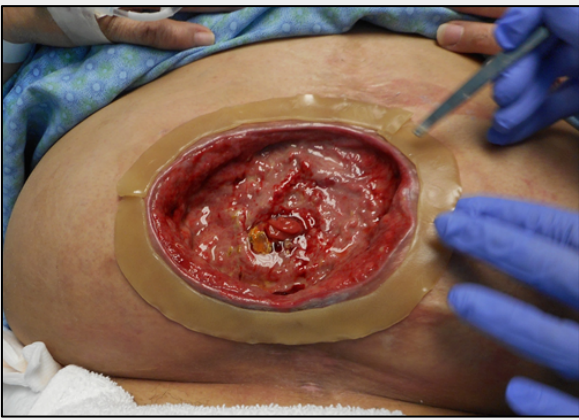


October 1: Stoma after skin graft placement. Bolstered with NPWT and FID

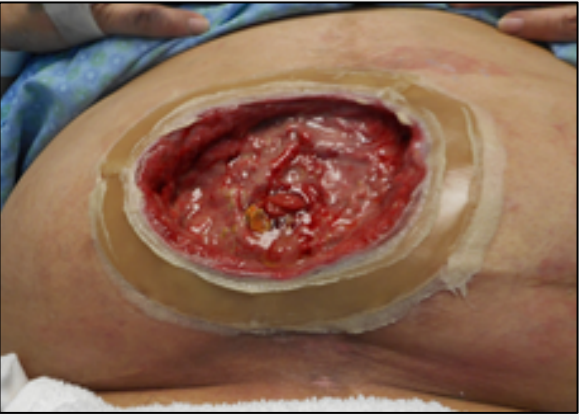


November 5: Patient transitioned to standard ostomy pouch

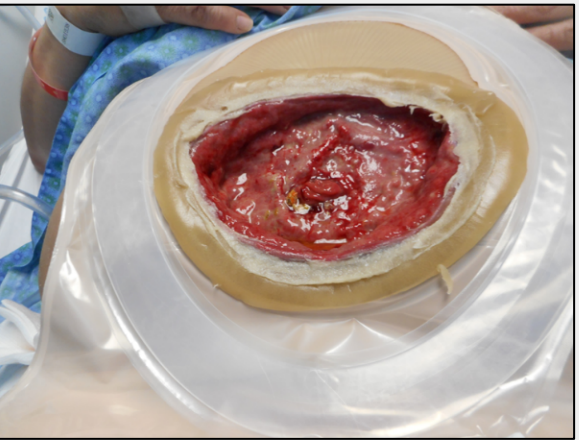
Pouch Flange Sandwich technique



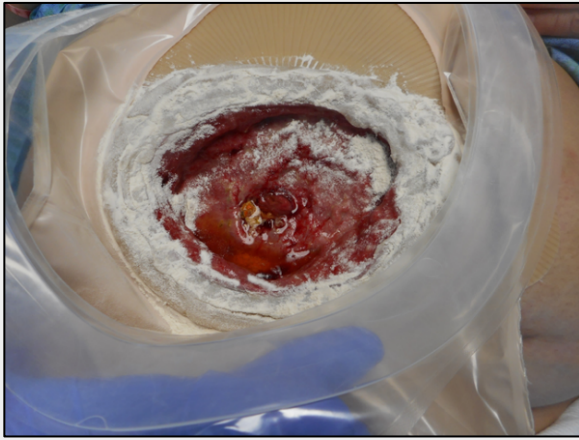
1) Cut large barrier ring into a circle about 2-3 cm in width. Set back about .5 cm from edge of wound



2) Add a very thin line of stoma paste to the inside and outside of the barrier ring



3) Cut wound manager opening generously so the barrier ring base is visible. Apply a second strip of barrier ring on top of the first to **sandwich** the pouch flange



4) Apply a second thin line of stoma paste, then apply stoma powder and gently touch the powder to finish the seal. Video: <https://youtu.be/RXDfliitwPQ>

Wound manager to allow moist healing



August 4: Compartment syndrome and decompressive enterotomy treated with vicryl mesh to skin edges over inflamed bowel



August 4: Wound manager and moist wound healing to manage fistula effluent and allow tissue to granulate over exposed bowel, sutures and injuries



NPWT with Fistula Isolation Device (FID)



August 31: Loops of bowel are hidden and granulation tissue covers wounds

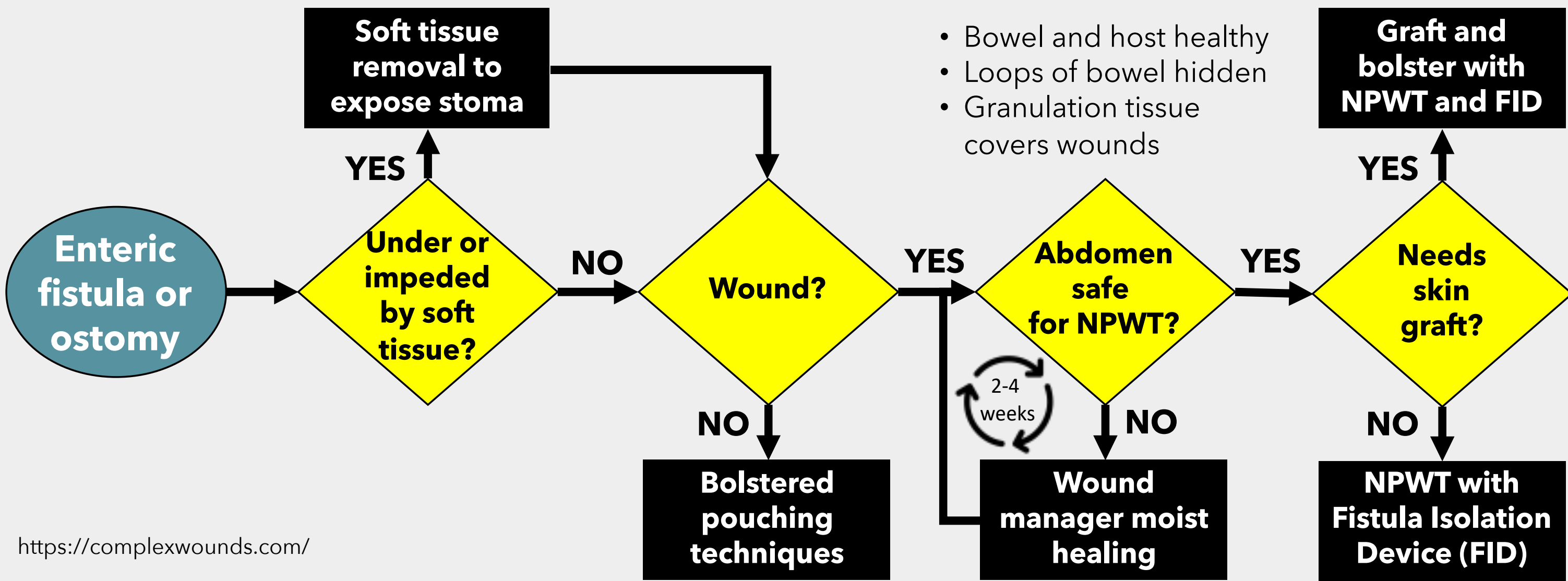


August 31: Fistula isolation devices used seal and protect from effluent



September 1: Pouch volumes indicate proximal fistula (right)

Decision making framework



<https://complexwounds.com/>

References:

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2. Obst, M. A., & Dries, D. (2020). New Compressible Barrier Devices for Enteric Fistula and Ostomy Effluent Isolation. Surgical technology international, 36, 77x 81.
3. Schecter, W. et al. (2009). Enteric Fistulas: principles of management. Journal of the American College of Surgeons, 209(4), 484x491
4. Byrnes MC, Riggle A, Beilman G, Chipman J. A novel technique to skin graft abdominal wall wounds surrounding enterocutaneous fistulas. Surg Infect (Larchmt). 2010;11(6):505-509. doi:10.1089/sur.2010.032
5. <https://complexwounds.com/>
6. <https://www.youtube.com/c/ComplexWoundsandFistulas>

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