

Emergency General Surgery

Practice Management Guidelines: Enterocutaneous Fistula

- I. **Background:** The major cause of enterocutaneous or atmospheric fistula is surgical intervention, accounting for 80% of EC or EA fistulas. Other non-surgical etiologies relate to inflammatory conditions such as inflammatory bowel disease, radiation, malignancy, ischemia. The non-surgical fistulas can be managed in the acute setting according to this PMG, but their long-term management differs significantly, and will not be addressed in this guideline.

EC/EA fistulas have a very high morbidity and mortality rate. They require months-years of wound care and supplemental nutrition, sometimes via parenteral route only. Mortality rates quoted in the literature are between 6% and 33%.

II. **Terminology**

- a. Fistula: abnormal connection between two epithelialized surfaces
- b. Enterocutaneous fistula: abnormal connection between GI tract and skin
- c. Gastrocutaneous fistula: abnormal connection between stomach and skin (often after prolonged gastrostomy tube)
- d. Enteroatmospheric fistula: abnormal connection between bowel and skin without an epithelialized tract

III. **Classification**

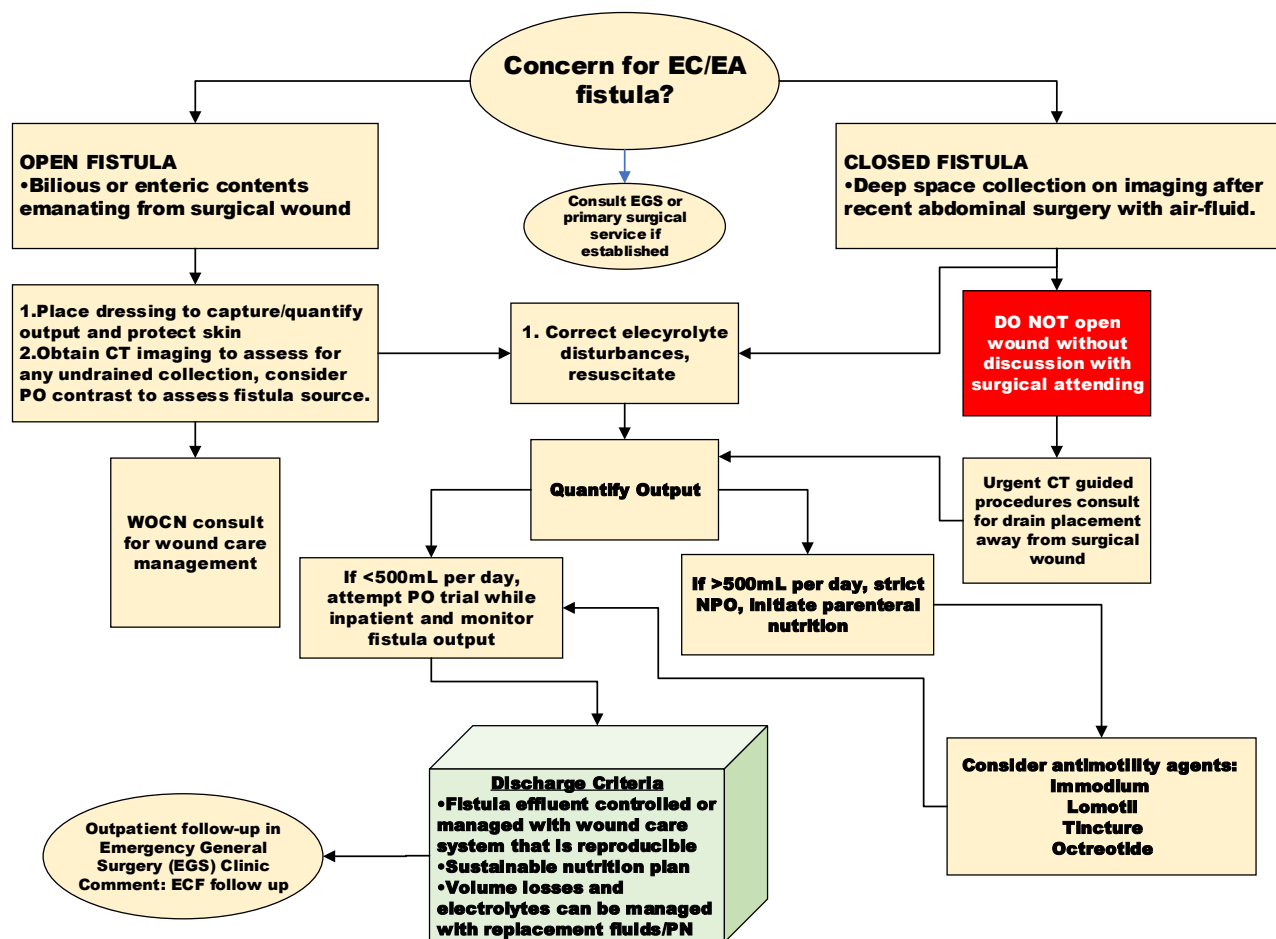
- a. Low output: < 200 cc/day
- b. Moderate output: 200-500 cc/day
- c. High output: > 500 cc/day

IV. **Management**

- a. Resuscitate and Replace Electrolytes
 1. Patients with fistulas are subject to large volume losses as well as electrolyte derangements
 2. Patients should be admitted to a stepdown unit unless an ICU admission is appropriate
 3. Hyponatremia, Hypokalemia, and Hypomagnesemia are common electrolyte abnormalities
- b. Wound and Skin Protection
 1. Early control of effluent is imperative due to corrosive bowel contents, as skin breakdown will make pouching difficult
 2. Immediate pouching with early WOCN consultation
- c. Control Sepsis
 1. Percutaneous drainage can be used to divert effluent from the skin to improve wound care
 2. Antibiotics
 - a. If no systemic sepsis or cellulitis, no antibiotics are necessary
 - b. If systemic sepsis:
 - i. First line: Piperacillin/Tazobactam
 - ii. Severe PCN Allergy: Cefepime/Metronidazole
- d. Quantify Output
- e. Nutrition Optimization
 1. If low-to-moderate output, preferentially utilize enteral nutrition
 2. If high output, consider NPO and parenteral nutrition

3. Gastroenterology/Nutrition Consultation
- f. Operative Management
 1. Patients who present with new enterocutaneous fistulae will rarely benefit from immediate operations
 2. If a patient presents with an associated necrotizing soft tissue injury of the abdominal wall as a result of a fistula, surgical management per [NSTI Guideline](#)
 3. Once discharge criteria met, patients whose fistulas fail to resolve with nonsurgical therapy should be considered for elective fistula takedown
- g. Nonsurgical Options: Patients may be considered for endoscopic and/or percutaneous management of fistulae when these are anatomically feasible

V. Flowchart



VI. References

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