Fistulae Management

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Fistulae Management

• Objectives
  – Describe skin integrity issues associated with fistulae
  – Select appropriate products to manage fistulae
  – Discuss the principles of fitting fistulae with management systems
  – Describe the use of NPWT for fistulae management
Fistulae

• Abnormal opening between one hollow organ and the skin (external fistula), or between two hollow organs (internal fistula)
• Identified by the organs involved
  – Example: an enterocutaneous fistula connects the intestine to the surface of the skin
Fistulae

• Incidence and etiology
  – High-risk patients
  – Associated with high risk of morbidity and mortality (up to 22%)
  – 80% occur following GI surgery
Fistulae

• Associated with:
  – Cancer, inflammatory bowel disease, trauma, distal bowel obstruction, pancreatitis, and mesenteric vascular disease

• Predisposition may include:
  – Radiation therapy, enterostomy, malnutrition, hypoxia, diabetes mellitus, cirrhosis of the liver, chemotherapy, anti-inflammatory drugs, and GI surgery without bowel prep
Fistulæ

• Common locations
  – Dehisced wounds
  – Abscess sites
  – Incisions
  – Established drain sites
  – Site of active disease
Fistulae

• High-output
  – Drainage greater than 500 cc/24 hours
  – Associated with higher mortality
  – Often require pouching/containment

• Low-output
  – Drainage less than 500 cc/24 hours
Management of Fistulae

• High resource utilization
  – Prolonged hospitalization
  – Nutritional support
  – Diagnostic tests
  – Pharmacological interventions
  – Additional nursing care/time/expertise
  – Dressings, bandages, and other medical supplies
Management of Fistulae

• The underlying priority of care
  – *Prevention of altered skin and tissue integrity*
Establishing the Goals of Wound Healing

Establish the following:

• What is the goal of therapy?
• Is the mouth of the fistula visible?
• Is there conclusive testing to determine the start and end of this fistula?
• Is the patient NPO? Nutritionally stable?
• What type of effluent is coming out?
Management of Fistulae

• Goals of care
  – Maintain/restore nutrition/hydration
  – Contain drainage and odor
  – Maintain/restore skin integrity
  – Quantify output
  – Improve quality of life
  – Contain costs
Establishing the Goal of Therapy

#1 Goal
- Obtain pressure-direct closure of the wound with fistula mouth
  - Complex Acute
  - Simple Acute

#2 Goal
- Segregate the enteric fistula
- Allow for healing and stabilization of the patient prior to surgical closure.
  - Complex Chronic
Acute candidate selection

✓ Enteric and explored
✓ Acute formation with no evidence of epithelial cells
✓ Opening must be easily visualized and accessed
✓ NPO and TPN
✓ Minimal to moderate amounts of effluent
✓ Tubing must be below the level of the fistula
✓ Effluent is thin to slightly viscous consistency
Chronic candidate selection

✔ Enteric fistula non surgical candidate
✔ Chronic formation: evidence of stomatization
✔ Mouth of fistula must be easily visualized and accessed
✔ NPO
✔ TPN
Management of Fistulae

• Management options
  – Wound care dressings
  – Skin care products (protective creams and ointments)
  – Skin barriers, (wafer, Eakin Cohesive seals, paste, powder)
  – Wound and fistula pouches
  – Negative Pressure Wound Therapy

Eakin Cohesive™ is a trademark of T.G. Eakin Ltd.
Management of Fistulae

• Indications for wound and/or fistula pouches
  – Drainage greater than 100 cc in 24 hours
  – Frequent dressing changes are
    • Painful
    • Damage the skin
    • Exhaust the patient
  – High-output pouch
    • High-volume tube or drain
    • Facilitates ambulation
Principles of Fitting a Management System

- Wound and/or fistula pouches
  - Help control odor
  - Decrease change frequency
Principles of Fitting a Management System

• Selecting the “right” system
  – Size and shape of cutting surface
  – Type of skin barrier
  – Pouch capacity
  – Outlet matches character of drainage
  – Access window/transparent film
  – Condition of skin (denuded, intact, flat, retracted)
Case Study: Dehisced Surgical Wound

65 year old s/p multiple surgeries
- Denuded skin
- High-volume output
- Uneven skin
- Need access to wound
Case Study:
Dehisced Surgical Wound with Fistula

- Access to site
- Skin protection
- Local management of denuded skin
- Containment of output
- Less frequent dressing changes
Case Study: High-Output Enterocutaneous Fistulae

- 22 year old with h/o Crohns disease
- Fistula in incision
- Extensive damage to skin integrity
- Need to fill in trough
- Need to create level skin surface
Case Study: High-Output Enterocutaneous Fistulae

- Level skin surface achieved
- Skin protection provided
- Pouch can be applied
Case Study: Fistula management with NPWT

- 38 year old with self inflicted stabbing
- High output chronic fistula
- Failed surgical intervention
Wound with Chronic Complex Fistula

• Goal of therapy: Segregate fistula/effluent, apply V.A.C.® Therapy to rest of wound. Obtain healing for surgical closure.

Clinical Guidelines July 2007 edition p. 56
Initial Step

• Clean the wound:
  – Cover the mouth of the fistula with petroleum gauze.
    • Prevent effluent from leaking into the wound as it is being cleaned.
  – Thoroughly clean the wound base as per your institution protocol.
  – Have all proper materials ready.
  – Remove the petroleum gauze from the fistula mouth.
Chronic Complex Fistula Pouching

Grafting Around Enterocutaneous Fistulas
1. Apply non adherent layer on top of new graft site.

2. Rim fistula with petroleum gauze, cover graft with V.A.C.® GranuFoam™ Dressing, leaving fistula exposed.
3. Place gauze over fistula; cover entire area with drape and ensure seal

4. Remove drape and gauze, exposing fistula
5. Apply barrier ring or moldable hydrocolloid paste on the drape in a circle around the mouth of the fistula.
6. Place ostomy bag over cut out drape, seal well

7. Turn on V.A.C.® System and allow to seal. Effluent goes into bag, not on wound bed.
Place V.A.C.® Drape on top of paper tape border
Foam Ring

• Wound bed is clean. Fistula is located in center of wound bed along sutures.

• Cut Simplace Foam dressing into a ring. Drape on both sides. Cut a small hole in the donut in order to allow negative pressure to draw down the donut to reduce the overall height of the ring.

• Trim drape, leave some drape around the ring if bowel is exposed.
Foam Ring

- Add an ostomy ring to the bottom (if needed). Cut a small hole in the middle of the ring.

- Application of ring over fistula site. Steri strips can be used to reinforce the center of ring to keep it open and sealed. Add GranuFoam in wound bed around donut. Place GranuFoam on top of wing of donut if bowel is exposed.

- Use low wall suction for managing output until seal obtained.
Foam Ring

• Place T.R.A.C. pad to bottom of wound.

• Turn on VAC to 125mmhg and draw down to check for leaks.
NPWT for Fistulae

- **Chronic**: 100-125 mmhg continuous
- Goal is to separate the wound from the fistulae to allow for wound healing
- **Acute**: 150-175 mmhg continuous
- May be used to encourage wound healing
- Not for effluent containment
Management of Fistulae

• Change management option to meet the changing needs of the patient, the wound, and the skin
  – Hospital to home
  – Increase or decrease in output
  – Improvement or deterioration of skin integrity

• Topical treatments, dressings, pouches, or a combination approach
Management of Fistulae

- Contemporary Issues
  - Care setting
  - Cost of care versus cost-effectiveness
  - Product formulary
  - Reimbursement
  - Quality of life
  - Interdisciplinary approach
Management of Fistulae

• Patient Education
  – Purpose of pouch or VAC
  – Etiology of fistula
  – Routine care and hygiene
  – Signs and symptoms of complications and appropriate response