PEG vs Open Gastrostomy

What does the evidence say?

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What are the indications for long-term enteral access?

- Feeding access
  - Neurological dysfunction
  - Impaired swallowing
  - Head/neck trauma or surgery

- Gut decompression
  - Chronic obstruction/ileus from advanced malignancies

- Indications for open gastrostomy
  - PEG is contraindicated
  - Patient is already undergoing an open procedure
Percutaneous gastrostomy

- First described in 1980 by Ponsky and Gauderer
- Has completely changed long-term feeding access
- Can be performed at the bedside
- General anesthesia not required
- Shorter procedure time than open gastrostomy
PEG: contraindications

• **Absolute**
  - Pharyngeal or esophageal obstruction
  - Active coagulopathy

• **Relative**
  - Oropharyngeal cancer: potential seeding of the PEG tract
  - Esophageal cancer: preserve the gastric conduit
  - Prior abdominal surgery: esp gastric, spleen, or splenic flexure of colon
  - Ventral hernia
  - Hepatomegaly/Splenomegaly
  - Ascites/Portal hypertension
  - Malnutrition
  - Limited life expectancy (<30 days)
Technique: PEG

- Advance endoscope and insufflate
- Transillumination, indentation of gastric lumen

- "Safe Tract" technique
  - Finder needle is advanced while withdrawing on plunger
  - Bubbles in syringe and endoscopic visualization of the needle occur simultaneously

- Advance guidewire through needle and snare with endoscope
- Withdraw endoscope with guidewire
- Secure g-tube to guidewire and pull back down into the stomach
- Endoscopically confirm placement
Safe Tract Technique
Complications Related to Percutaneous Endoscopic Gastrostomy (PEG) Tubes. A Comprehensive Clinical Review

Sherwin P. Schrag¹, Rohit Sharma², Nikhil P. Jaik³, Mark J. Seamon⁴, John J. Lukaszczyk³, Niels D. Martin⁵, Brian A. Hoey⁵⁺⁶, S. Peter Stawicki⁷
PEG complications

• Complications of upper endoscopy

• Direct complications of PEG procedure

• Post-procedural complications and wound care
Complications of EGD

- Cardiopulmonary compromise
  - Most common
  - **Hypoxia** occurs in 7-40% of endoscopies
  - **Airway** equipment should ALWAYS be present
- Aspiration (0.3-1%)
- Hemorrhage
- Perforation (0.008-0.04%)
  - Cricopharyngeous
  - Aortic knob
  - Diaphragmatic hiatus
- Mortality of EGD is 0.005-0.01% in *healthy ambulatory* patients
Complications of PEG procedure

- Colon injury
  - Safe track method
- Gastro-colo-cutaneous fistula
  - Often asymptomatic, may have transient ileus or fever
- Small bowel injury/volvulus
- Liver injury
- Bleeding
  - Rectus sheath hematoma
Post-procedural complications

- Peristomal pain
- Abscess and *wound infection* (3% with use of prophylactic antibiotics)
- Necrotizing fasciitis
- **Buried bumper (1.5-1.9%)**
  - Excessive tension
- Peristomal leakage
  - Don’t replace with a larger tube
- Herniation
- GI bleeding and ulceration
- Gastric outlet obstruction (migration of internal bumper)
- Ileus and gastroparesis
- **Dislodgement (1.6-4.4%)**
Alternatives to PEG

• Percutaneous radiologic gastrostomy
  • Consider in patients with prior abdominal surgeries

• Open surgical gastrostomy
  • Prior abdominal operations
  • Severe malnutrition
Disease-Based Mortality After Percutaneous Endoscopic Gastrostomy: Utility of The Enterprise Data Warehouse

Benjamin K. Poulose, MD, MPH; Joan Kaiser, RN, MS; William C. Beck, MD; Pearlie Jackson, PhD; William Nealon, MD, Kenneth W. Sharp, MD; Michael D. Holzman MD, MPH
Disease-based Mortality After PEG

- 30-day mortality has been reported to range from 16-43% after PEG
- 953 patients underwent PEG placement at VUMC between 2008-2010
Concluding Thoughts

• Just because we *can* do a procedure does not mean that we *should* do the procedure.
• No procedure is without complications.