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SUPPLEMENTATION TO THE ENCYCLOPEDIA

Percutaneous Endoscopic Gastrostomy Tube Replacement [☆]



Shou-jiang Tang^{*}

Division of Digestive Diseases, Department of Medicine, University of Mississippi Medical Center, 2500 North State Street, Jackson, MS 39216, USA

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KEYWORDS

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Endoscopy;
Low-profile feeding tube;
PEG replacement tube;
Enteral feeding;
Video

Abstract

Background: Enteral feeding should be considered for patients with an intact and functional gastrointestinal tract. Percutaneous endoscopic gastrostomy (PEG) tube placement is indicated in patients requiring medium to long term enteral feeding (>30 days) and with impaired swallowing. Previously placed PEG tube can dislodge or be inadvertently removed, blocked, or damaged. Gastrostomy tube replacement is not infrequently performed.

Patients and methods: In this video manuscript, the author demonstrates step-by-step PEG tube replacement in several clinical scenarios: standard gastrostomy feeding tube (with internal retention balloon or with internal collapsible bumper) removal and replacement; low-profile feeding tube replacement; and feeding tube replacement over a wire guide.

Conclusions: PEG tube replacement can be easily replaced at bed-side in most cases. Occasionally, in difficult cases gastrostomy feeding tube replacement needs endoscopic guidance and assistance.

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Video related to this article

Video related to this article can be found online at <http://dx.doi.org/10.1016/j.vjgien.2014.01.002>.

1. Background

- These patients had percutaneous endoscopic gastrostomy (PEG) feeding tube placement for enteral feeding [1-4].

[☆]The terms of this license also apply to the corresponding video.

*Tel.: +1 601 984 4540; fax: +1 601 984 4548.

E-mail address: stang@umc.edu

- Not infrequently, the existing gastrostomy feeding tube becomes blocked, damaged, inadvertently removed. Occasionally, the patient requests a low-profile gastrostomy feeding tube to be placed.
- The patient and/or patient's family consented with PEG replacement.
- Before PEG tube removal or replacement, health care providers need to discuss with the patient/patient family about the need for continued enteral feeding and the type of replacement feeding tubes (Figure 1).
- Percutaneous PEG removal or replacement can be safely performed after the PEG tract is matured, which usually matures over several weeks (average 4 weeks) after initial PEG procedure.
- Infrequently, the PEG tube is inadvertently removed or prematurely blocked within weeks after initial PEG tube placement. The decision to replace the feeding tube through the existing PEG tract is based on clinical presentation, physical examination, laboratory results, and consulting physicians. Replacement through the existing tract can be attempted if there is no evidence of leak or perforation. Replacement under endoscopy is recommended in this setting.
- Abdominal examination revealed no peritoneal signs.
- Unlike in initial PEG placement, a dose of parental antibiotics is not needed before the procedure for prophylaxis.
- The patient is placed on supine position for the procedure.
- After feeding tube replacement, enteral feeding can be started immediately.

2. Materials

- Diagnostic gastroscope (Olympus GIF-Q180, Olympus America, Center Valley, PA).
- Gastrostomy feeding tube (PEG-PULL-S, Cook Medical, Winston-Salem, NC).

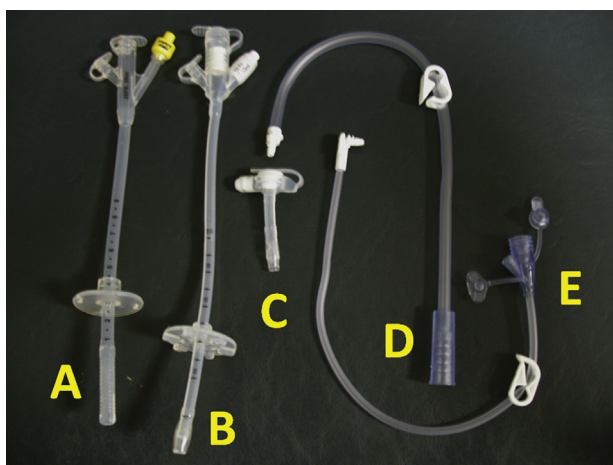


Figure 1 Image showing two standard replacement gastrostomy feeding tubes (A and B), a low-profile feeding tube (C), and two types of extension sets (D and E) associated with the low-profile button. D is for bolus feeding.

- MIC-KEY[®] low-profile gastrostomy feeding tube (Kimberly-Clark, Rosewell, GA).

3. Endoscopic procedure

3.1. PEG replacement feeding tube placement through the existing PEG tract

- If the PEG tube is not replaced by another tube, the PEG tract will shrink in several hours and close within days. A new PEG tube should be replaced quickly. Otherwise, a Foley catheter should be placed through the PEG tract to keep it open.
- Select the size of replacement feeding tube based on the size of old PEG tube. If the old PEG tube is loose and gastric juice leakage around the tube is an issue, a slightly larger new tube can be tried.
- The old PEG feeding tube has either an internal retention balloon or an internal collapsible bumper.
- The external bumper is loosened and the old PEG tube should move easily to and fro within the PEG tract.
- Open the new replacement tube package, check the intactness of internal retention balloon by injecting water using a prefilled syringe as directed in the package insert, and apply lubricant to the tip and external tubing of the new PEG replacement tube.
- Old PEG removal can be achieved with one of the following options [1]:
 - Gentle manual traction of the external tubing and removal of the PEG tube with its internal bumper (collapsible version) through the matured PEG stoma. For PEG tube with an internal retention balloon, the balloon is fully deflated before tube removal. This is performed without sedation or endoscopy, and is the most frequently utilized technique.
 - Cutting the tubing close to the skin and pushing the internal bumper into the stomach.
 - Spontaneous passage of the internal bumper through the gastrointestinal (GI) tract.
 - Small risk (2-3%) of bowel obstruction by the migrating bumper.
 - Endoscopic removal of the internal bumper after cutting the feeding tube close to the skin. This technique involves endoscopy and sedation.
- Insert the replacement tube gently through the exiting PEG tract into the stomach and inflate the internal retention balloon with the prefilled syringe.
- Check the position of the replaced tube by aspiration of gastric content (Figure 2).
- If there are any concerns about the location of the replaced tube, a water soluble radiologic contrast should be obtained to confirm the placement before feeding is resumed.
- Infrequently, the old PEG can be changed over a standard wire guide.
- Not done as a routine, a contrast study through the replaced PEG tube can be performed to confirm its intraluminal position.

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