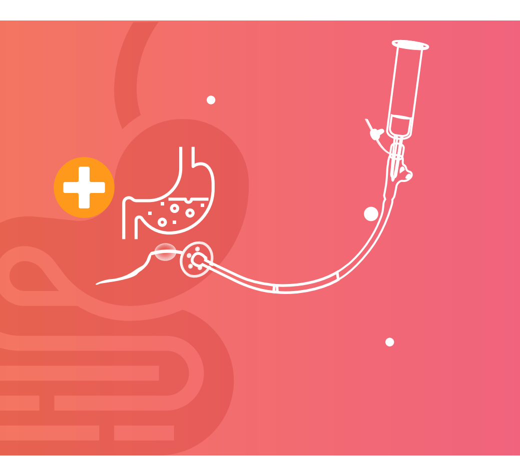
AVANOS

ROLE OF JEJUNAL (POSTPYLORIC) FEEDING IN OVERCOMING CHALLENGES IN GASTRIC FEEDING



Gastrostomy is the most common type of enteral access system; however, jejunostomy feeding may be needed in certain cases when the gastrointestinal (GI) tract is functioning, but there is an obstruction in the proximal part of the gut precluding placement of a gastrostomy tube.[1]

Indications for Jejunal feeding include[1-4]

- Gastroparesis characterized by decreased gastric motor function in the absence of mechanical obstruction (commonly seen in early postoperative setting or in critical care patients)[1,2]
- Major gastrointestinal resection of the esophagus, stomach, pancreas, and duodenum[1]
- Recurrent aspiration caused by severe gastroesophageal reflux disease (GERD) in bedridden patients[2,3]
- Post-esophagogastrectomy[4]
- Gastric outlet obstruction caused by a mechanical cause such as an inoperable tumor, refractory peptic ulcer, or Bouveret syndrome[1]
- Inoperable duodenal tumors or strictures[1]
- Compromised duodenum in conditions like pancreatitis[1]
- Delivery of drugs like levodopa-carbidopa for the treatment of Parkinson's disease[1]

The selection of a candidate for placement of a feeding jejunostomy involves multiple factors including the general condition of the patient, risk for aspiration, institutional facilities, and surgeons' experience.[1]

Benefits of Jejunal feeding

Jejunal feeding enables

- Provision of enteral nutrition with less stimulation of pancreatic secretions and less exacerbations of inflammation in the pancreas[2]
- Reduces the likelihood of aspiration/vomiting caused by gastroesophageal reflux[2]
- Provides access to the jejunum (the small bowel) to provide nourishment, liquids and medication[5]

DID YOU KNOW ?

A feeding jejunostomy is an important technique to achieve enteral access in patients with contraindications to the placement of a gastrostomy tube.[1]

- Feeding jejunostomy is sometimes also a part of a more extensive surgical procedure such as esophageal or gastric resection
- Multiple techniques exist to place a feeding jejunostomy; however, minimally invasive methods are preferred

Although the technique is relatively simple and can be performed by a general surgeon, the involvement of a multidisciplinary team comprising of the provider, surgeon, dietitian, speech-language therapist, and nurse is vital in improving cost-effectiveness and patient satisfaction.[1]

Need and benefits of G-J Feeding

Certain patients with persistent problems of gastroesophageal reflux even with jejunal feeding may require simultaneous gastric decompression and jejunal delivery of feed.[6]

Jejunal feeding through percutaneous endoscopic gastrojejunostomy (PEG-J) helps circumvent the gastric passage, improve the drainage of gastric secretions via decompression holes, and improve feeding-related adverse events encountered during PEG feeding.[7]

Complications of Jejunal feeding

Jejunal feeding tubes may be associated with certain complications including[1]

- Intestinal obstruction due to over-inflation of the balloon
- Aspiration due to improper placement of the jejunostomy tube
- Hypokalemia, hyperglycemia, and acid-base balance disturbances due to improper placement of the jejunostomy tube, the use of incorrect feeds, and failure to correct resulting biochemical abnormalities

Contraindications to Jejunal feeding

Although jejunostomy is a potentially life-saving procedure, eliminating the need for parenteral nutrition and its associated risks; it is contraindicated in certain situations associated with bowel obstruction distal to the site of tube implantation.[1]

Relative contraindications can be classified as:

Local	Systemic
Abdominal wall infection at the placement site	Severe coagulopathy
Severe ascites	Hemodynamic instability requiring the use of vasopressors
Peritonitis	Ventilatory dependence preventing transport to the operating room
History of bowel necrosis from the previous jejunostomy	

Types of tube placement used for postpyloric/jejunal feeding

Endoscopically/Radiologically using direct jejunal access

- This procedure involves direct insertion of a feeding tube into the jejunum with endoscopic assistance[8]
- This technique provides a more stable access for jejunal feeding[8]
- It offers distinct advantages over PEG-J tubes in terms of tube patency and proximal migration[9]

Endoscopically/Radiologically using gastric access (percutaneous endoscopic transgastric jejunostomy)

- A feeding tube long enough to pass beyond the pylorus is inserted through an existing PEG tube[2]
- The tip of the feeding tube is then grasped with the biopsy forceps of the endoscope and the tube is pushed as far as possible into the duodenum[2]
- Although a simple procedure, it is associated with chances of the feeding tube returning back into the stomach during withdrawal of the gastroscope, as well as dislodgement of feeding tube from the outer gastrostomy[2]
- For patients in whom endoscopy is contraindicated, jejunal feeding tubes can be placed with radiological guidance[2]

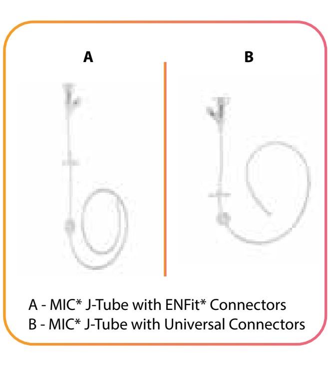
Surgically

- A surgically placed jejunostomy tube is inserted into the small intestine during a surgical procedure[10]
  - It is an alternative to a PEG-J for patients who need postpyloric feeding but cannot tolerate a PEG-J, or in whom PEG-J tube insertion is not possible[10]
  - It may be used for patients with complex gastric or small intestine pathology, who may have had repeated surgery[10]
- Surgical placement of a jejunostomy can be performed by a needle catheter or by Witzel technique[2]
  - A needle catheter jejunostomy is placed during laparotomy for surgical patients who need short-term enteral support[2]
  - The Witzel jejunostomy is another open-surgery method. A tube is placed through an incision in the anterior abdominal wall and a tunneled incision is made in the jejunal wall. The adherence of jejunum to the abdominal wall is ensured by sutures[2]

OUR SOLUTION

MIC* and MIC-KEY* Jejunal Feeding Tubes[11,12]

The MIC* J-Tube and the MIC-KEY* J-Tube can be placed via a gastric stoma using endoscopic/radiologic or surgical approaches.[11]



A - MIC* J-Tube with ENFit* Connectors
B - MIC* J-Tube with Universal Connectors

MIC* Jejunal Feeding Tube (MIC* J-Tube)

- The MIC* J-Tube with ENFit® or Universal Connectors allows for delivery of enteral nutrition and medication via an access port into the distal duodenum or proximal jejunum[11,12]
- The MIC* J-Tube is indicated for patients requiring jejunal feeding with a distal tip that can be trimmed to suit individual patient needs[11]

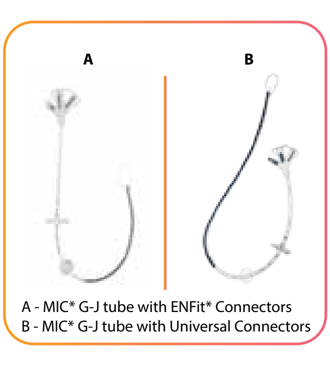
MIC-KEY* J-Tube

MIC-KEY* Jejunal Feeding Tube (MIC-KEY* J-Tube)

- The MIC-KEY* J-Tube is indicated for patients requiring jejunal feeding only, but who want an inconspicuous external segment[11]
- A low-profile version of the MIC* J-Tube, the MIC-KEY* J-Tube is accessed using MIC-KEY* Extension Sets with ENFit®/ Universal Connectors[11,12]

MIC* and MIC-KEY* Gastric-Jejunal (G-J) Feeding Tube

The MIC* G-J Tube, MIC-KEY* G-J Tube and the MIC* Gastro-Enteric Feeding Tube can be placed via a gastric stoma using endoscopic/radiologic or surgical approaches.[11-14]



A - MIC* G-J tube with ENFit* Connectors
B - MIC* G-J tube with Universal Connectors

MIC* Gastric-Jejunal Feeding Tube (MIC* G-J Tube)

- MIC* G-J Tube are available with both ENFit® or Universal Connectors, and are designed for patients who require simultaneous gastric decompression/drainage and delivery of enteral nutrition into the distal duodenum or proximal jejunum[11,12]

MIC-KEY* G-J Tube

MIC-KEY* Gastric-Jejunal Feeding Tube (MIC-KEY* G-J)

- A low-profile version of the MIC* G-J Tube, the MIC-KEY* G-J Tube is accessed using MIC-KEY* extension sets with ENFit®/Universal Connectors[11,12]
- The MIC-KEY* G-J Tube is unobtrusive and easy to conceal[11]

MIC* Gastro-Enteric Feeding Tube

MIC* Gastro-Enteric Feeding Tube

- The MIC* Gastro-Enteric Feeding Tube is a precursor to the very popular MIC* G-J Feeding Tube[12]
- Also designed for simultaneous gastric decompression and jejunal feeding, it is indicated for patients where smaller distal jejunal segment may be indicated[12]

MIC* Jejunostomy Feeding Tube

MIC* Jejunostomy Feeding Tube

The MIC* Jejunostomy Feeding Tube is indicated for patients requiring jejunal feeding. MIC* Jejunostomy Tube is provided with Universal Connectors only. It is surgically placed directly into the small bowel, utilizing the Witzel Tunnel technique for secure placement and to help minimize leakage.[11]

PEG, percutaneous endoscopic gastrostomy

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1. D'Cruz JR, Cascella M. Feeding Jejunostomy Tube. [Updated 2021 Jul 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK562278/ **2.** Niv E, Fireman Z, Vaisman N. Post-pyloric feeding. World J Gastroenterol. 2009;15(11):1281-1288. doi:10.3748/wjg.15.1281 **3.** Pearce CB, Duncan HD. Enteral feeding. Nasogastric, nasojejunal, percutaneous endoscopic gastrostomy, or jejunostomy: its indications and limitations. Postgraduate Medical Journal. 2002;78(918):198-204. **4.** Wani ML, Ahangar AG, Lone GN, Singh S, Bhat MA, Lone RA, Irshad I. Feeding jejunostomy: does the benefit overweight the risk (a retrospective study from a single centre). International Journal of Surgery. 2010;8(5):387-90. **5.** TUBE TYPES. https://tubefed.com/newsletter/tube-types/ **6.** Lucey BC, Gervais DA, Titton RL, O'Hare F, Hahn PF, Maher M, Mueller PR. Enteric feeding with gastric decompression: management with separate gastric accesses. American Journal of Roentgenology. 2004 Aug;183(2):387-90. **7.** Yoon EW, Yoneda K, Nakamura S, Nishihara K. Percutaneous endoscopic transgastric jejunostomy (PEG-J): a retrospective analysis on its utility in maintaining enteral nutrition after unsuccessful gastric feeding. BMJ open gastroenterology. 2016;3(1):e000098. **8.** Fan AC, Baron TH, Rumalla A, Harewood GC. Comparison of direct percutaneous endoscopic jejunostomy and PEG with jejunal extension. Gastrointestinal endoscopy. 2002;56(6):890-4. **9.** Strong AT, Sharma G, Davis M, Mulcahy M, Punchai S, O'Rourke CP, Brethauer SA, Rodriguez J, Ponsky JL, Kroh MD. Direct percutaneous endoscopic jejunostomy (DPEJ) tube placement: a single institution experience and outcomes to 30 days and beyond. J Gastrointest Surg. 2017;21(3):446-452. **10.** Best C. Selection and management of commonly used enteral feeding tubes. Nursing Times [online]. 2019;115(3):43-47 **11.** Avanos-Digestive-Health-Catalogue-2019.pdf **12.** MIC*/MIC-KEY* Enteral Feeding Tubes & Accessories catalogue 2019. **13.** MIC* GASTRIC-JEJUNAL feeding tube with ENFit® connectors- Endoscopic /Radiologic Placement: Instructions for Use. **14.** MIC* GASTRIC-JEJUNAL feeding tube with ENFit® connectorsSurgical Placement: Instructions for Use.

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