

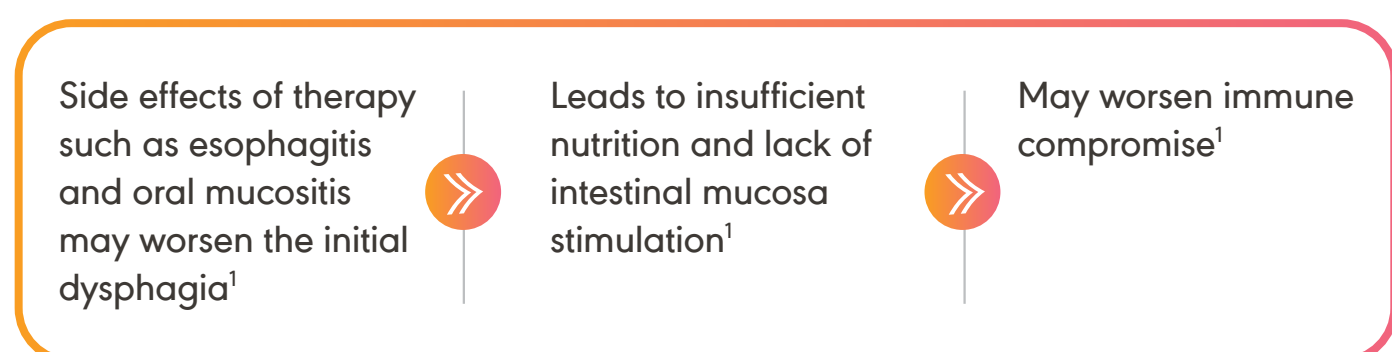
# CHALLENGES OF USING PULL TECHNIQUE FOR PEG TUBE PLACEMENT IN ONCOLOGY PATIENTS



Aerodigestive cancers (including tumors of the esophagus and gastroesophageal junction of head and neck) are some of the most malignant cancers with high mortality rates, poor prognosis and are often diagnosed in the late stages with dysphagia (difficulty swallowing).<sup>1</sup>

- Dysphagia\* leads to nutritional compromise and deterioration of quality of life.<sup>1</sup>
- Patients develop anorexia and significant weight loss due to tumor effects, presenting with varying degrees of malnutrition.<sup>1</sup>

Therapeutic options include surgical resection of the primary tumor, chemotherapy and radiotherapy, however<sup>-1</sup>



In such cases, it is crucial to optimize enteral nutrition.<sup>1</sup>

**Nasogastric tubes**

- Easy to place but poorly tolerated for prolonged periods of feeding, due to frequent ulceration, esophageal reflux and general discomfort.<sup>1</sup>

**Percutaneous endoscopic gastrostomy (PEG) tubes**

- Can serve as one of the best options for nutritional support.<sup>1</sup>

## Comparison of techniques for PEG tube placement

The pull/push and introducer methods have been established as standard techniques for PEG tube placement.<sup>1</sup>

Criteria	Pull method	Introducer method
Site of tube insertion	Transoral; through the mouth <sup>1</sup>	Transabdominal; balloon-type catheter feeding tube can be inserted directly into the stomach through the abdominal wall <sup>1</sup>
Need for repeat endoscope insertion	Required, to confirm correct tube placement, document internal bumper's location and rule out accidental esophageal injury during the procedure <sup>1,2</sup>	Not required <sup>1</sup>
Complications	<ul style="list-style-type: none"> <li>• Though the most widely adopted and primary technique used, high complication rates reported in head and neck cancer patients<sup>3</sup></li> <li>• Transoral passage may lead to increased risk of wound infection and PEG site tumor implantation, cellulitis, abscess, fasciitis<sup>1,3,5</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Transabdominal passage prevents tube contamination by the upper aerodigestive organisms or tumor cells<sup>3,4</sup></li> <li>• Adherence to aseptic technique lowers risk of wound infection<sup>1</sup></li> </ul>
Mortality and complication rates	Overall complication rate of 10.9%-42.0% and mortality rates of 0%-5% reported in patients with head and neck cancer <sup>1</sup>	Overall complication rate of 0%-11% and mortality rate of 0% have been reported <sup>1</sup>

PEG tube placement using the introducer technique may be a much safer alternative than pull method.<sup>1</sup>

## DID YOU KNOW ?

Contraindications or situations in which classic pull-type PEG procedure is not possible include—

- High-grade stenosis caused by an esophageal tumor or a head and neck tumor: A conventional upper GI endoscopy may not be possible or the internal bumper of the PEG tube may not pass.<sup>5</sup>
  - Severe malignant stenosis and trismus\*\* may prevent passage of endoscope in up to 20% of patients<sup>4</sup>
- High volume ascites: Associated risk of leakage of gastric contents (due to separation of the stomach from abdominal wall), leading to peritonitis or peristomal leakage.<sup>5,6</sup>

The introducer PEG technique can be used in case of high grade stenosis since it allows the transnasal endoscopy using an ultrathin endoscope, even without sedation. Due to the procedure of gastropexy that forms a part of this technique, it can also be safely used in case of ascites.<sup>5</sup>

\*Dysphagia develops when the esophageal lumen becomes stenotic to <14 mm in diameter<sup>1</sup>

\*\*Trismus refers to restriction of the range of motion of the jaws, may interfere with the ability to swallow normally.<sup>7</sup>



## OUR SOLUTION

AVANOS\* Introducer Kits deliver all the essential tools for an efficient, secure and less invasive placement. Choose AVANOS\* Introducer kits for minimized trauma and enhanced patient comfort.<sup>8</sup>

- Lowered risk for surgical and post-op complications that other procedures may pose (longer hospital stay, punctured colon, tissue damage)<sup>8</sup>
- Tools specifically designed for visual and surgical accuracy<sup>8</sup>
- Sterilized introducer needle, hemostat, J-guide wire/seeking catheter, scalpel and more<sup>8</sup>
- Flexibility as adjunctive or primary procedure for tube placement<sup>8</sup>
- Easy access to the essential tools in one convenient kit<sup>8</sup>

**References:**

1. Ogino H, Akiho H. Usefulness of percutaneous endoscopic gastrostomy for supportive aerodigestive cancer. World J Gastrointest Pathophysiol. 2013;4(4):119-125. 2. Tang SJ, Wu R. Percutaneous endoscopic gastrostomy (pull method) and jejunal extension tube placement. Video Journal and Encyclopedia of GI Endoscopy. 2014 Apr 1;2(1):40-5. 3. Foster JM, Filocamo P, Nava H, Schiff M, Hicks W, Rigual N, Smith J, Loree T, Gibbs JF. The introducer technique is the optimal method for placing percutaneous endoscopic gastrostomy tubes in head and neck cancer patients. Surgical endoscopy. 2007; 21(6):897-901. 4. Retes FA, Kawaguti FS, de Lima MS, et al. Comparison of the pull and introducer percutaneous endoscopic gastrostomy techniques in patients with head and neck cancer. United European Gastroenterol J. 2017;5(3):365-373. 5. Van Dyck E, Macken EJ, Roth B, Pelckmans PA, Moreels TG. Safety of pull-type and introducer percutaneous endoscopic gastrostomy tubes in oncology patients: a retrospective analysis. BMC Gastroenterol. 2011;11:23. 6. Wejda BU, Depppe H, Huchzermeyer H, Dormann AJ. PEG placement in patients with ascites: a new approach. Gastrointestinal endoscopy. 2005; 61(1):178-80. 7. Santiago-Rosado LM, Lewison CS. Trismus. [Updated 2020 Dec 7]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK493203/> 8. Product data sheet, US product catalogue, Avanos\* Introducer Kits for gastrostomy, jejunoscopy and gastric jejunal feeding tubes.