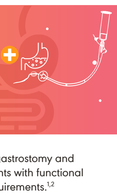
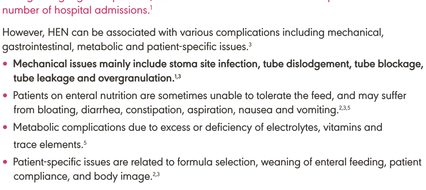
AVANOS

CHALLENGES FACED BY PATIENTS IN HOME ENTERAL NUTRITION (HEN)



Enteral tube feeding via nasogastric, percutaneous endoscopic gastrostomy and jejunostomy is an effective method of providing nutrition to patients with functional gastrointestinal tract who are unable to meet their nutritional requirements.[1,2]

In certain cases, these patients are likely to require enteral nutrition support even after discharge from hospitals or other acute care centers.[3] There are numerous and often complex diseases that can necessitate home enteral nutrition (HEN) including:[4]



HEN has been found to improve clinical outcomes and decrease healthcare costs through weight gain in patients, reduced incidence of infectious complications and the number of hospital admissions.[1]

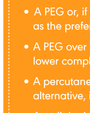
However, HEN can be associated with various complications including mechanical, gastrointestinal, metabolic and patient-specific issues.[3]

- **Mechanical issues mainly include stoma site infection, tube dislodgement, tube blockage, tube leakage and overgranulation.**[1,3]
- Patients on enteral nutrition are sometimes unable to tolerate the feed, and may suffer from bloating, diarrhea, constipation, aspiration, nausea and vomiting.[2,3,5]
- Metabolic complications due to excess or deficiency of electrolytes, vitamins and trace elements.[3]
- Patient-specific issues are related to formula selection, weaning of enteral feeding, patient compliance, and body image.[2,3]

Mechanical and infectious issues are the most frequently reported problems related to the tube, and include:[3,4,6,9]

Tube dislodgement

- Can occur after transitioning to home care[3]
- Can cause serious consequences like peritonitis if the stomach has not adhered to the abdominal wall[3,7]

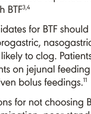


Tube migration

- Tube migration into the pylorus and small intestine can result in luminal obstruction[3,8]

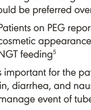
Tube clogs

- Occurs due to a number of reasons including small bore of feeding tubes, slow administration rate of enteral nutrition, accumulation of formula sediment in the lower segment of the tube, as well as improper administration of medications through the tube[6]



Tube leakage

- Although some leakage around the stoma site is inevitable with long-term tube feeding, excessive leakage is more likely found with fungal infections at the stoma site, hypergranulation tissue, side torsion on the tube, buried bumper syndrome (BBS), or absence of a skin disk[3,4,9]



Peristomal infections

- Common complication associated with percutaneous tubes (5%-30%) with high risk patients being those with type 2 diabetes, obesity, advanced malignancy, colonization with methicillin-resistant ***Staphylococcus aureus,*** significant weight gain or severe malnutrition, and steroid use[3,6]
- Excessive moisture around the stoma site promotes bacterial and fungal growth[3]
- Characterized by pruritus, redness, and satellite lesions at the stoma site[3]

DID YOU KNOW ?

ESPEN Guideline on Home Enteral nutrition 2020 recommends

- A PEG or, if indicated, a percutaneous endoscopic jejunostomy (PEJ) as the preferred access device for long-term HEN[4]
- A PEG over a surgical gastrostomy for long-term HEN, mainly due a lower complication rate, cost-effectiveness and operating time[4]
- A percutaneous laparoscopic assisted gastrostomy (PLAG) as a safe alternative, if a PEG is not suitable for long-term HEN[4]
- A radiologically inserted gastrostomy (RIG) or percutaneous radiological gastrostomy (PRG) as alternative techniques for the placement of a feeding tube into the stomach, if an endoscopically guided tube placement cannot be performed[4]

Home Enteral Nutrition Feeds

Blended Tube Feeds (BTF) are commonly used rather than commercial tube feeds because of consumer demand for more natural food products, treating tube-feeding intolerance, and financial challenges of obtaining commercial formula.[3,4]

- Studies have reported improved satisfaction and tolerance, and fewer adverse gut symptoms with BTF.[3,4]

Candidates for BTF should be medically stable, and have at least a 14-French gastrostomy tube (not orogastric, nasogastric, nasojejunal, or jejunostomy tube), as smaller diameter tubes are more likely to clog. Patients should tolerate bolus feedings by syringe.[3,4,10] BTF is not preferred in patients on jejunal feeding as it is more likely to clog the tube, and J-Tube fed patients are usually not given bolus feedings.[11]

Reasons for not choosing BTF by some patients include concerns about risk of microbial contamination, poor standardization, product instability, and increased time and lack of knowledge regarding their preparation.[4]

Resolving challenges of HEN

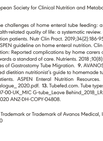
- PEG placement of enteral feeding tube is associated with lower risk of treatment failure consisting of feeding interruption, blocking or leakage of the tube, and non-adherence, and should be preferred over nasogastric tube (NGT) placement for long-term HEN[4]
  - Patients on PEG report less complications, less tube replacements and less stigmatizing cosmetic appearance and better quality of life as compared to those on long-term NGT feeding[5]
- It is important for the patients and/or caregivers to recognize signs/symptoms (abdominal pain, diarrhea, and nausea) and visualize external tube length for significant length reduction to manage event of tube dislodgement or migration[3]
- To reduce leaking, it is vital to inspect the site frequently and discriminate normal from abnormal findings[3]
- It is important to rotate the gastrostomy tube frequently, and check for induration, erythema and discharge to reduce stoma site infections and BBS[3]

OUR SOLUTION

AVANOS MIC*/MIC-KEY* enteral feeding tubes and accessories include a variety of innovative product designs for gastric, jejunal and gastro-jejunal access[12]

MIC*Gastrostomy tubes have a SECUR-LOK* external retention ring or bolster with aeration holes to allow air to circulate around the stoma, and feet to allow for contact point to the skin to be changed.[13,14] It ensures that the tube is held securely in place without causing friction or leakage.[12]

- Contain inflatable silicone internal retention balloon[12]
- Cm markings along the length of the tube enables determination of tube position[12]



MIC-KEY* low-profile gastrostomy feeding tubes have fixed external base (or bolster) that helps prevent the tube from migrating into the stomach[13]

- The external dome has the proven, beveled design that allows air to circulate between the bumper and skin[15]
- High patient satisfaction with low adverse events such as granulation[15]
- Designed to minimize the potential for skin irritation and maximize stoma site care[15]

MIC* PEG tubes have a unique tube design for simple traction removability that requires more force to remove and may result in fewer accidental dislodgements[16]

- Cm markings along the length of the tube[17]
- Traction removable with collapsible internal retention bumper[17]
- External SECUR-LOK* retention ring that allows air circulation around stoma[17]

ESPEN, European Society for Clinical Nutrition and Metabolism; PEG, percutaneous endoscopic gastrostomy

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