

ARTIFICIAL NUTRITION SUPPORT IN CRITICAL PATIENTS: PREFERENCE FOR ENTERAL OVER PARENTERAL NUTRITION



Artificial nutrition support is needed in situations where the patient cannot take in food normally by the mouth.¹

Examples of such cases include^{1,2}



Neuromuscular disorder affecting swallowing reflex²



Psychiatric diseases²



Conditions involving increased metabolic and nutritional demands²



Upper GI obstruction, esophageal stricture or tumor²



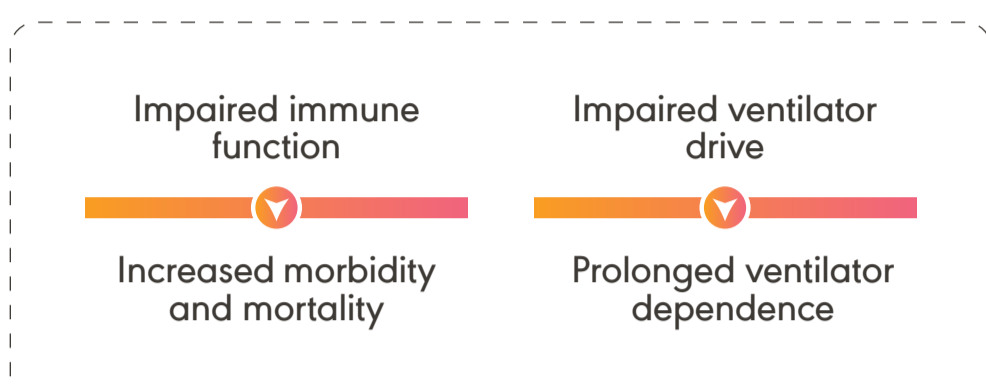
Gut obstruction or perforation and ileus¹



Short bowel syndrome¹

Such critically ill patients are at a risk for malnutrition, occurring in up to 40% of cases³

Malnutrition may be associated with³



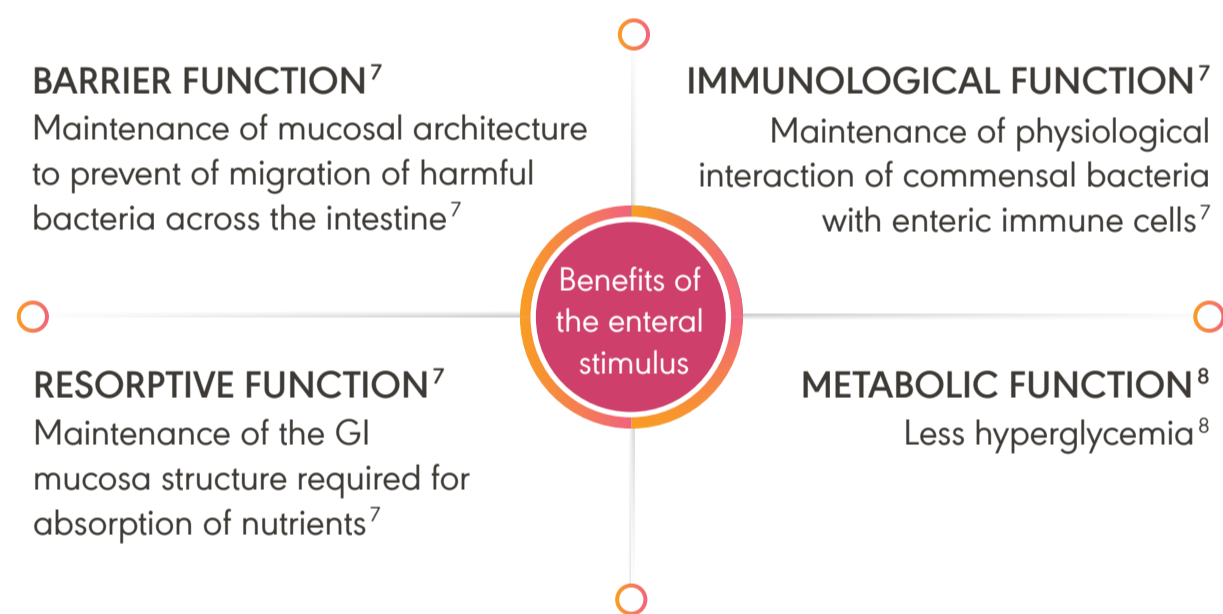
Nutritional support can be provided in these patients through enteral (directly into the gut using a tube) or parenteral nutrition (intravenous infusion directly into the blood, thus bypassing the gut).^{1,4}

Complications of artificial nutrition support

	Parenteral	Enteral
Mechanical	<ul style="list-style-type: none"> Lumen occlusion⁵ Catheter dislocation⁵ external tract rupture⁵ Venous thrombosis⁵ 	<ul style="list-style-type: none"> Pulmonary aspiration⁶ Complications like tube (dislodgement and clogging)⁶
Metabolic/ Gastrointestinal	<ul style="list-style-type: none"> Altered hydration status⁵ Electrolyte imbalances and hyperglycemia⁵ Abnormal organ function⁵ Metabolic bone disease⁵ Refeeding syndrome⁵ 	<ul style="list-style-type: none"> Refeeding syndrome⁶ Hypo/hyponatremia⁶ Dehydration⁶ Hyperglycemia⁶ Hypo/hyperkalemia⁶ Hypo/hyperphosphatemia⁶ Diarrhea/Constipation⁶ Nausea⁶
Infectious	<ul style="list-style-type: none"> Catheter-related bloodstream infections⁵ Central line-associated bloodstream infection⁵ 	

Advantages of enteral nutrition

Studies show that enteral nutrition is better than parenteral with regard to morbidity, especially for infectious complications, and helps maintain gastrointestinal functions^{7,8}



DID YOU KNOW ?

The European Society for Clinical Nutrition and Metabolism (ESPEN) recommends medical nutrition therapy to be considered for all patients staying in the ICU, mainly for more than 48 hours. Also, if oral intake is not possible, early enteral nutrition (within 48 h) must be performed/initiated rather than delaying it or performing early parenteral nutrition.⁸

The Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition (ASPEN) recommend initiation of enteral nutrition within 24–48 hours following onset of critical illness and ICU admission and to increase goals over the first week of ICU stay. Initiate parenteral nutrition early when enteral is not feasible or sufficient in high-risk or poorly nourished patients⁹

The ASPEN pathway provides directives for managing critically-ill adult patients requiring enteral nutrition (EN). Basic steps include¹⁰

- Determination of enteral nutrition appropriateness and potential benefits
- Complete nutrition assessment
- Assessment for placement of enteral feeding access device
- Selection of suitable enteral nutrition formula

OUR SOLUTION

AVANOS* offers a wide variety of innovative, high-quality enteral feeding tubes and accessories uniquely designed for delivering nutrition and medication to pediatric and adult patients.



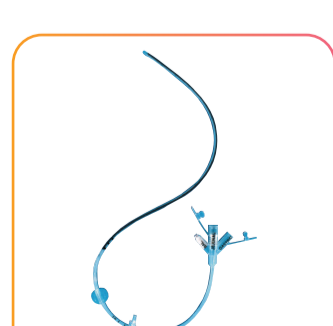
CORFLO* nasogastric and nasointestinal feeding tubes¹¹



MIC*PEG tube¹¹



MIC* Gastrostomy feeding tube¹¹



MIC*gastric jejunal feeding tube¹¹



MIC-KEY* feeding tube¹¹

GI: gastrointestinal

References:

1. BAPEN. Enteral and parenteral nutrition [last updated 2018 Feb 05; cited 2020 Jun 12]. Available from: <https://www.bapen.org.uk/nutrition-support/assessment-and-planning/enteral-and-parenteral-nutrition> 2. Adeyinka A, Valentine M. Enteric Feedings. [Updated 2020 Feb 10]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK532876/> 3. Seron-Arbeloa C, Zamora-Elson M, Labarta-Monzon L, Mallor-Bonet T. Enteral nutrition in critical care. J Clin Med Res. 2013;5(1):1-11.4. ASPEN. What is parenteral nutrition [Internet]. [2020; cited 2020 Jun 26]. Available from: http://www.nutritioncare.org/about_clinical_nutrition/what_is_parenteral_nutrition/ 5. Cotogni P. Management of parenteral nutrition in critically ill patients. World J Crit Care Med. 2017;6(1):13-20. 6. Bodoky G, Kent-Smith L. Basics in clinical nutrition: Complications of enteral nutrition. E Spen Eur E J Clin Nutr Metab. 2009; 4(5):e209-11. 7. Schögrhuber M, Fruhwald S. Effects of enteral nutrition on gastrointestinal function in patients who are critically ill. Lancet Gastroenterol Hepatol. 2018;3(4):281-7. 8. Singer P, Blaser AR, Berger MM, Alhazzani W, Calder PC, Casaer MP, et al. ESPEN guideline on the provision and assessment of nutrition support therapy in the adult critically ill patient: Society of Critical Care Medicine (SCCM) and American Society for Parenteral and Enteral Nutrition [ASPEN]. J Parenter Enteral Nutr. 2016; 40(2):159-211. 9. ASPEN. Enteral Nutrition Care Pathway for Critically-Ill Adult Patients [Internet]. [2020; cited 2020 Jun 29]. Available from: https://www.nutritioncare.org/Guidelines_and_Clinical_Resources/EN_Pathway/nteral_Nutrition_Care_Pathway_for_Critically-Ill_Adult_Patients/ 10. Avanos asset library. Available from: https://pim.avanos.com/webui/AAL_EXT

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