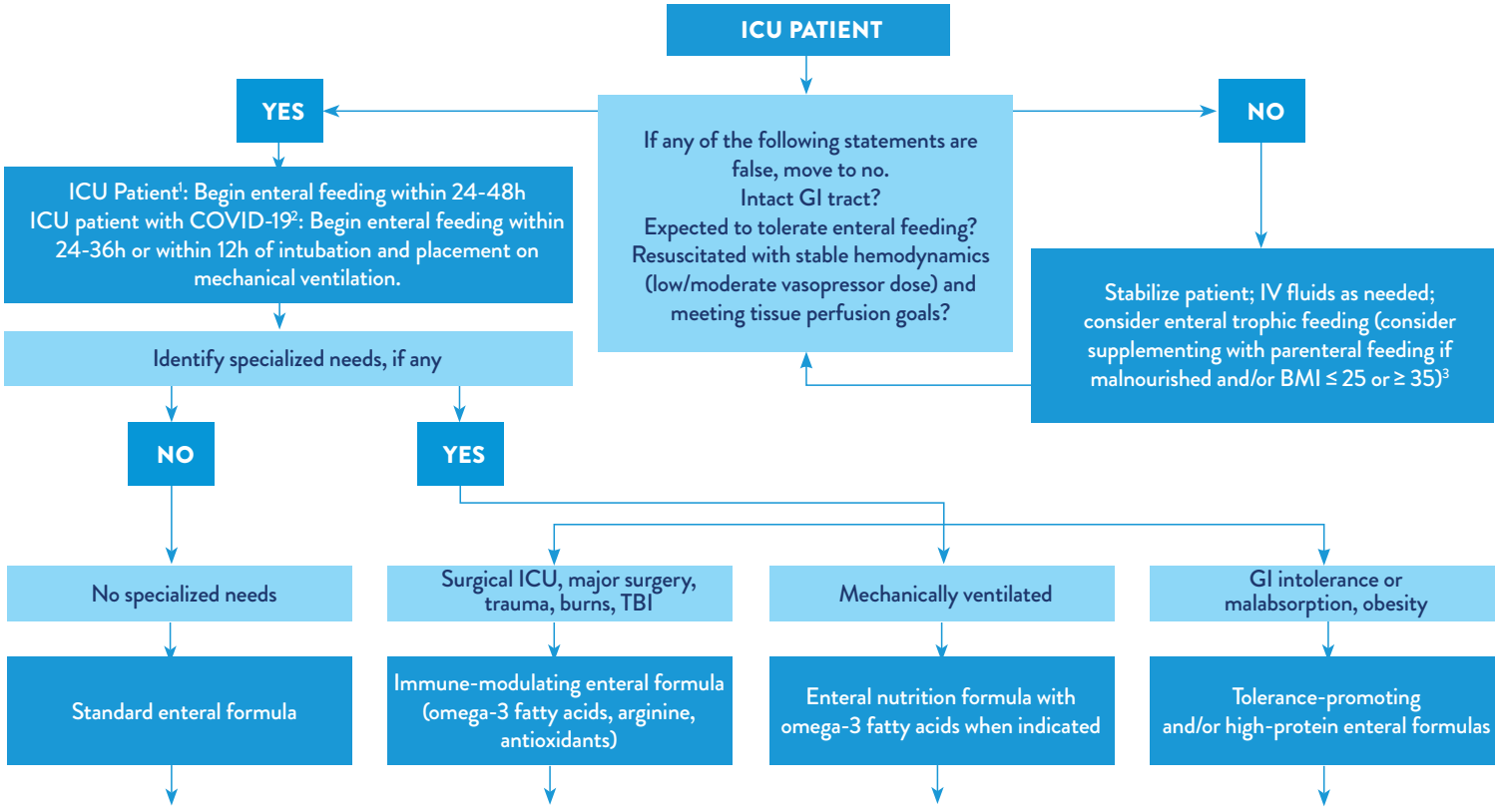
Enteral Formula Selection in Adult Critically Ill Patients

NUTRITION STRONG

When considering nutrition therapy for ICU patients[1] (including patients with COVID-19)[2], 3 main decisions must be made on the basis of the patient's medical condition:

1. When to feed? **2. How to feed?** **3. What to feed?**

This nutrition algorithm is intended as a guide for selecting the appropriate therapeutic nutritional formula.[3]



How Abbott Nutrition Products Fit Within the Algorithm

Promote® Product Family
Complete, Balanced, High-Protein Formula for Patients Who Need a Higher Proportion of Calories from Protein With and Without Fiber

Jevity® Product Family
Complete, Balanced Nutrition® With Fiber

Osmolite® Product Family
Complete, Balanced Nutrition® Without Fiber

Pivot® 1.5 Cal
Therapeutic, Peptide-Based, High-Protein Nutrition for Metabolic Stress

Perative®
Peptide-Based, Therapeutic Nutrition for Metabolic Stress (Does Not Contain Omega-3 Fatty Acids)

Vital® High Protein
High-Protein, Low-Fat Therapeutic Nutrition Designed With Ingredients to Help Manage Inflammation and to Promote GI Tolerance

Vital AF 1.2 Cal®
Therapeutic Nutrition With Ingredients to Help Manage Inflammation and to Promote GI Tolerance

Vital® High Protein
High-Protein, Low-Fat Therapeutic Nutrition Designed With Ingredients to Help Manage Inflammation and to Promote GI Tolerance

Vital AF 1.2 Cal®
Therapeutic Nutrition With Ingredients to Help Manage Inflammation and to Promote GI Tolerance

Vital® 1.0 Cal
Therapeutic Nutrition for Malabsorption, Maldigestion, or Impaired GI Function and/or GI Intolerance

Vital® 1.5 Cal
Calorically Dense, Therapeutic Nutrition for Malabsorption, Maldigestion, or Impaired GI Function and/or GI Intolerance

Denotes these products contain "Power of 3" ingredients

This information is for educational purposes and should not replace medical advice.

References: 1. McClave SA, et al. Guidelines for 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 (A.S.P.E.N.) *JPEN J Parenter Enteral Nutr.* 2016;40(2):159-211. **2.** Martindale R, et al. Nutrition Therapy in Critically Ill Patients with Coronavirus Disease (COVID-19). *JPEN J Parenter Enteral Nutr.* 2020. doi: 10.1002/jpen.1930. Online ahead of print. **3.** Adapted from Hegazi RA and Wischmeyer PE. Clinical review: optimizing enteral nutrition for critically ill patients – a simple data-driven formula. *Crit Care.* 2011;15(6):234-244.

DISCOVER THE "POWER OF 3" OF VITAL & PIVOT

Peptide-Based Protein Blend
- Peptide-based formulas may reduce diarrhea associated with hypoalbuminemia and malnutrition, as compared to polymeric formulas.[1,2]
- Both whey and casein provide optimum levels of the essential amino acids[3]

NutraFlora® scFOS®*
- A prebiotic, helps to support the immune system by feeding beneficial bacteria in the gut[4, 5, 6]
- Fermented in the colon to short-chain fatty acids (SCFAs), which are a preferred energy source for cells of the colon, helping to maintain GI tract integrity[7,8]

Structured Lipids
- Well-tolerated[9,10] and absorbed[9] fats to promote absorption of fatty acids
- Compared with a simple physical mixture of MCT and LCT oils, pre-clinical studies show structured lipids help reduce muscle catabolism and improve nitrogen balance during metabolic stress[11-14]

Therapeutic Nutrition for Early Enteral Feeding

VITAL®—For patients who could benefit from a tolerance-promoting enteral formula.

Vital® is formulated to enhance absorption and tolerance in patients with impaired GI function and/or feeding intolerance.

- Vital 1.0, 1.5 and AF 1.2 products offer the benefits of the "Power of 3" and also contain:
  - Elevated levels of antioxidants, vitamins C and E and selenium to help reduce tissue and cell damage due to oxidative stress[15,16]
  - Fortified with vitamin D to help maintain normal circulating levels of vitamin D, which is important to support immune system function during times of metabolic stress and critical illness.[17,18]

Also available: Vital HP, a high-protein, low-fat, peptide-based formula for patients with malabsorption, maldigestion, or impaired GI function and/or symptoms of GI intolerance

- Vital High Protein has 87.3 g/L of peptide-based protein and 10.6 g/L (40%) of total fat as fish oil

PIVOT®—For patients who could benefit from an immune-modulating enteral formula.

Pivot® 1.5 Cal is peptide-based, high protein, therapeutic nutrition for metabolic stress.

- Pivot offers the benefits of the "Power of 3" and also contains:
  - Arginine (13 g/L, 3.5% of calories) to support proliferation and function of immune cells[19]
  - Glutamine (inherent) (7.6 g/L) for GI tract integrity and energy for immune cells[20,21]
  - Omega-3 fatty acids (EPA, 2.6 g/L; DHA, 1.1 g/L) to help modulate inflammation and support immune function[22,23]

Use Vital and Pivot Products Under Medical Supervision.

*NutraFlora® scFOS® are not registered trademarks of Abbott.

References: 1. Brinson RR, et al. *Crit Care Med.* 1987;15(5):506-509. **2.** Brinson RR, et al. *Crit Care Med*. 1988;16(2):130-136. **3.** Report of a Joint WHO/FAO/UNU Expert Consultation: WHO Technical Report Series no. 935. Geneva, Switzerland: 2007. **4.** Bornet FR, et al. *Nutr Rev*. 2002;60(11):326-334. **5.** Hidaka H, et al. *Bifidobacteria Microflora*. 1986;5(1):37-50. **6.** Guigoz Y, et al. *Nutr Res*. 2002;22(1-2):13-25. **7.** Roberfroid M. *Crit Rev Food Sci Nutr*. 1993;33(2):103-148. **8.** Gibson GR, et al. *J Nutr*. 1995;125(6):1401-1412. **9.** Kenler AS, et al. *Ann Surg*. 1996;223(3):316-333. **10.** McKenna MC, et al. J Pediatr Gastroenterol Nutr. 1985;4(1):45-51. **11.** DeMichele SJ, et al. *Metabolism*. 1988;37(8):787-795. **12.** DeMichele SJ, et al. *Am J Clin Nutr*. 1989;50(6):1295-1302. **13.** Swenson ES, et al. *Metabolism*. 1991;40(5):484-490. **14.** Teo TC, et al. *Ann Surg*. 1989;210(1):100-107. **15.** Institute of Medicine (US) Panel on Dietary Antioxidants and Related Compounds. Dietary Reference Intakes for Vitamin C, Vitamin E, Selenium, and Carotenoids. Washington (DC): National Academies Press (US);2000. **16.** Sies H. *Redox Biol.* 2015;4:180-183. **17.** Mora JR, et al. *Nat Rev Immunol*. 2008;8(9):685-698. **18.** Quraishi SA, et al. *Curr Opin Clin Nutr Metab Care*. 2012;15(6):625-634. **19.** Weitzel LR, et al. *Curr Opin Anaesthesiol*. 2009;22(2):177-183. **20.** Rao RK, Samak G. *J Epithel Biol Pharmacol*. 2012;5(Suppl 1-M7):47-54. **21.** Cruzat V, et al. *Nutrients*. 2018;10(11):1564-1594. **22.** Calder PC. Prostaglandins Leukot Essent Fatty Acids. 2008;79(3-5):101-108. **23.** Calder PC. *Clin Nutr*. 2010;29(1):5-12.

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