

Nutrition in the STICU: Why and How?

Presented by Dr. Phillip Prest DO FACS and Jessica Justice-Reath RD CNSC

References

- Alito Aprelino M, de Aguilar-Nascimento JE. Multimodal perioperative care plus immunonutrition versus traditional care in total hip arthroplasty: a randomized pilot study. *Nutrition Journal*. 2016;15:34.
- ASPEN Adult Nutrition Support Core Curr, 3rd Ed. 2017;Chapter 24 Trauma, Surgery and Burns:36-56.
- Bansal V, Syres K, Makarenkova V, et al. Interactions between fatty acids and arginine metabolism: implications for the design of immune-enhancing diets. *J Parenter Enteral Nutr*. 2005;29:S75–S80.
- Braga M, Gianotti L, Vignali A, Carlo VD. Preoperative oral arginine and n-3 fatty acid supplementation improves the immunometabolic host response and outcome after colorectal resection for cancer. *Surg*. 2002;132(5):805-14.
- Calder PC. Marine omega-3 fatty acids and inflammatory processes: effects, mechanisms and clinical relevance. *Biochimica et Biophysica Acta*. 2015;1851(4):469–484.
- Corstjens AM, van der Horst IC, Zijlstra JG, et al. Hyperglycaemia in critically ill patients: marker or mediator of mortality? *Crit Care*. 2006;10(3):216.
- Deckers JW, van Domburg RT, Akkerhuis M, Nauta ST. Relation of admission glucose levels, short- and long-term (20-year) mortality after acute myocardial infarction. *Am J Cardiol*. 2013;112(9):1306-1310.
- Drover JW, Dhaliwal R, Weitzel L, et al. Perioperative use of arginine-supplemented diets: a systematic review of the evidence. *J Am Coll Surg*. 2011;212(3):385-399.
- Ekinci O, Yanik S, Terzioğlu BB, et al. Effect of calcium β -hydroxy- β -methylbutyrate (CaHMB), Vitamin D, and protein supplementation on postoperative immobilization in malnourished older adult patients with hip fracture: a randomized controlled study. *Nutr Clin Pract*. 2016;31(6):829-835.
- Falciglia M, Freyberg RW, Almenoff PL, et al. Hyperglycemia-related mortality in critically ill patients varies with admission diagnosis. *Crit Care Med*. 2009;37(12):3001-3009.
- Feliciano DV, Mattox KL, & Moore EE. (2007). *Trauma* 6th ed. McGraw-Hill Professional.
- Gil A. Modulation of the immune response mediated by dietary nucleotides. *Eur J Clin Nutr*. 2002;56(Suppl 3):S1-4.
- Hess JR, Greenberg NA. The role of nucleotides in the immune and gastrointestinal systems: potential clinical applications. *Nutr Clin Pract*. 2012;27(2):281-294.

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References Continued

Heyland DK, Cahill NE, Dhaliwal R, et al. Enhanced protein-energy provision via the enteral route in critically ill patients: a single center feasibility trial of the PEP uP protocol. *Crit Care*. 2010;14(2):R78.

Heyland DK, Dhaliwal R, Jiang X, Day AG. Identifying critically ill patients who benefit the most from nutrition therapy: the development and initial validation of a novel risk assessment tool. *Crit Care*. 2011;15(6):R268.

Heyland DK, Dhaliwal R, Lemieux M, et al. Implementing the PEP uP protocol in critical care units in Canada. *J Parenter Enteral Nutr*. 2015;39:698-706.

Justice J, Bunmi O, Reath P, et al. Early and adequate feeding in the critically ill brain injured patient. CNW 2017 abstract.

Kabata P, Jastrzębski T, Kąkol M, et al. Preoperative nutritional support in cancer patients with no clinical signs of malnutrition-prospective randomized controlled trial. *Supp Care Canc*. 2014;pub on line.

Kadri Z, Danchin N, Vaur L, et al. Major impact of admission glycaemia on 30 day and one year mortality in non-diabetic patients admitted for myocardial infarction: results from the nationwide French USIC 2000 study. *Heart*. 2006;92(7):910-915.

Kondrup J, Allison SP, Elia M, et al. ESPEN guidelines for nutrition screening 2002. *J. Clin Nutr*. 2003;22(4):415-21.

McClave SA, Martindale RG, Vanek VW, 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.). *J Parenter Enteral Nutr*. 2009;33(3):277-316.

McClave SA, Taylor BE, Martindale RG, 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.). *J Parenter Enteral Nutr*. 2016;40(2):159-211.

Moore, EE. Staged laparotomy for the hypothermia, acidosis, and coagulopathy syndrome. *Am J Surg*. 1996;172(5):405-410.

Morris CR, Hamilton-Reeves J, Martindale RG, et al. Acquired amino acid deficiencies: a focus on arginine and glutamine. *Nutr Clin Pract*. 2017;32(1):30S-47S.

Nicolo M, Heyland DK, Chittams J, et al. Clinical outcomes related to protein delivery in a critically ill population: a multicenter, multinational observation study. *J Parenter Enteral Nutr*. 2016;40(1):45-51.

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References Continued

Popovich PJ, Zeh HJ 3rd, Ochoa JB, et al. Arginine and immunity. *J of Nutr.* 2007;(6 Suppl 2):1681S-1686S.

Prest PJ, Justice J, Bell N, et al. A volume-based feeding protocol improves nutrient delivery and glycemic control in a surgical trauma intensive care unit. *J Parenter Enteral Nutr.* 2019;doi: 10.1002/jpen.1712. [Epub ahead of print].

Reignier J, Mercier E, Le Gouge A, et al. Effect of not monitoring residual gastric volume on risk of ventilator-associated pneumonia in adults receiving mechanical ventilation and early enteral feeding: a randomized controlled trial. *JAMA.* 2013;309(3):249-256.

Rumberger L et al. 2014 Clinical Nutrition Week, Abstract 1835637.

Santora R, Kozar RA. Molecular mechanisms of pharmaconutrients. *J Surg Res.* 2010;161:288-294.

Shaikh NA, Yantha J, Shaikh S, et al. Efficacy of a unique omega-3 formulation on the correction of nutritional deficiency and its effects on cardiovascular disease risk factors in a randomized controlled VASCAZEN(®) REVEAL Trial. *Mol Cell Biochem.* 2014;396(1-2):9-22.

Taylor BE, McClave SA, Martindale RG, 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.) *CCM.* 2016;44(2):390-438.

Yeh DD, Cropano C, Quraishi SA, et al. Implementation of an aggressive enteral nutrition protocol and the effect on clinical outcomes. *Nutr Clin Pract.* 2017;32(2):175-181.

Zhu X, Pribis JP, Rodriguez PC, et al. The central role of arginine catabolism in T-cell dysfunction and increased susceptibility to infection after physical injury. *Ann Surg.* 2014;259(1):171-178.

Website

<https://www.criticalcarenutrition.com/resources/pepup>