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## Does in with the good equal out with the bad? Application of nutrition support research

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More than 30% of children admitted to the Pediatric Intensive Care Unit (PICU) are malnourished and at risk to develop new or worsened malnutrition during their hospitalization. Nutrition support during critical illness is essential to diminish alterations in metabolism, support immune function, promote tissue repair, prevent loss of lean muscle mass and minimize weight loss. The extent of energy and protein deficiency that occurs during critical illness is multifactorial and includes age, baseline nutritional status and severity of the presenting condition. Gastrointestinal (GI) dysmotility during critical illness increases the risk of feeding intolerance due to increased influence of the Sympathetic Nervous System. In addition, many common PICU therapies may also slow GI motility, such as immobility and commonly administered medications, such as opiates and catecholamines. Thus the child is predisposed to feeding intolerance at a time when enteral nutrition (EN) is needed to avoid worsening malnutrition and decrease morbidities. Evidence suggests early and adequate delivery of EN in the appropriate ratio of calories, protein and fluids in the face of critical illness can reduce mortality, hospital acquired infections, ventilator days and skin breakdown. However, numerous barriers exist to the effective and efficient delivery of formulaic nutrition goals, resulting in a cumulative energy and protein deficit. These barriers include hemodynamic instability, presumed feeding intolerance, frequent feeding interruptions and variation in feeding practices. Current best practices to overcome barriers and optimize nutrition delivery in the critically ill infant and child will be presented.

## **Biography**

Ann-Marie Brown is completing her PhD in Aug 2014 and has been a PICU Acute Care Pediatric NP for more than 10 years. She has published numerous papers on nutrition in critically ill children, reducing codes outside the ICU, development of pediatric ICU NP programs, and VTE in the PICU. She is a Fellow in the American College of Critical Care Medicine. She has presented nationally and internationally on a variety of topics, including change in the acute care environment, nutrition, shock, and many others.

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