



## Nutrition therapy - 'one size does not fit all'



A review paper published in *Critical Care* highlights the importance of employing targeted nutritional care for critically ill patients. The sad truth, according to the article, is that current ICU nutrition delivery worldwide actually leads to “starvation” of these patients and is likely a major contributor to poor long-term quality of life outcomes.

"Without doubt, in medicine as in life, one size does not fit all. We do not administer the same drug or dose to every patient at all times, so why then would we live under the illusion that we should give the same nutrition at all times in the continuum of critical illness?" asks the paper author Paul E. Wischmeyer, MD, EDIC, Department of Anesthesiology and Surgery, Duke Clinical Research Institute, Duke University School of Medicine, Durham, USA.

To optimise patient outcomes and start creating “survivors and not victims” we must realise that one-size nutrition and one calorie delivery “does not fit all”, the author says, noting that patients’ nutritional needs change over the course of illness.

The author cites recent and historic data indicating that critical illness is characterised by early massive catabolism, lean body mass (LBM) loss, and escalating hypermetabolism that can persist for months or years. "Early enteral nutrition during the acute phase should attempt to correct micronutrient/vitamin deficiencies, deliver adequate protein, and moderate nonprotein calories in well-nourished patients, as in the acute phase they are capable of generating significant endogenous energy. Post resuscitation, increasing protein (1.5–2.0 g/kg/day) and calories are needed to attenuate LBM loss and promote recovery," Dr. Wischmeyer explains.

Further, malnutrition screening is essential and parenteral nutrition can be safely added following resuscitation when enteral nutrition is failing based on pre-illness malnutrition and LBM status, the author says. Following the ICU stay, significant protein/calorie delivery for months or years is required to facilitate functional and LBM recovery, with high-protein oral supplements being essential to achieve adequate nutrition.

To better understand the nutrition delivery required in the post-ICU period, Dr. Wischmeyer urges physicians to take a moment to read the Minnesota Starvation Study and learn from its landmark lessons. Most important among these, he says, is that even healthy subjects require significant calories (typically > 3000-4000 kcal/day) to recover from massive weight and LBM loss, such as occurs following critical illness (or even major surgery).

In addition, "we must learn to target and incorporate nutritional therapies such as vitamin D, probiotics, and anabolic/anti-catabolic agents to optimise our patients’ chance to survive and thrive against all evolutionary

odds," the author writes.

In the future, according to Dr. Wischmeyer, great promise seems to exist for bedside  $^{13}\text{C}/^{12}\text{C}$  breath carbon ratio mass spectroscopy to assist in direct objective measurement of overfeeding and underfeeding.

"But to begin winning the war on long-term ICU outcomes and give our patients back the lives they came to us to restore," he notes, "we must ensure our patients are getting the right nutrition, in the right patient, at the right time!"

Source: [Critical Care](#)

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