

# Registered dietitians help critically ill children get necessary nutrition for recovery

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For the first time, researchers investigated enteral nutrition and caloric requirements (CR) among critically ill children in a new report published in the *Journal of the Academy of Nutrition and Dietetics*. This study also showed the value of including registered dietitians in the medical team.

Providing early nutritional support through the intestine, or enteral route, to critically ill adults has been an effective strategy to improve the healing process. Using a similar approach with critically ill children, however, may present challenges, such as an inability to accurately estimate CR or an inability to administer the CR because of fluid restrictions, procedures, and other barriers. Despite these perceived challenges and a lack of data, many experts believe that early enteral nutrition should be considered in most Pediatric Intensive Care Unit (PICU) patients.

"Our main objective was to examine the practice of early documentation of estimated caloric requirement in the medical record of critically ill children to determine if this would have any effect on their daily [caloric intake](#) and the route of nutrition being used to provide them with nutritional support," says lead investigator Martin Wakeham, MD, FAAP, Assistant Professor of Pediatrics, Pediatric Critical Care, Medical College of Wisconsin, Children's Hospital of Wisconsin, Milwaukee. "We hypothesized that there would be a higher total daily caloric intake and more frequent use of enteral nutrition when a CR is estimated and documented in the medical record within 48 hours of PICU admission."

Five PICUs participated in the study. Four of these units were located in independent children's hospitals and one was part of a large community hospital. The study team collected and analyzed data from two sources: Medical records detailing the nutritional intake (nutrition route, quantity, content, presence or absence of an estimated CR) of 1349 patients, who were admitted between January 1, 2007 and December 31, 2008, aged between 30 days and 18 years, and remained in the PICU for 96 hours or more; and a multisite clinical database dedicated to data sharing and benchmarking among PICUs. Investigators also noted the type of provider when an estimated CR was present.

Careful analysis of data revealed that nearly 50 percent of the patients had a documented CR. Other findings include the following:

- Compared to patients without a CR, these patients were younger, had a higher risk of mortality, and were less likely to be post-operative
- Patients were more likely to receive enteral [nutrition](#) on each of the first four days of admission to the PICU
- Patients had a higher total daily caloric intake by enteral route and parenteral route combined on each of the first four days of their stay in the PICU
- More than 90 percent showed an estimated CR equal to or greater than the World Health Organization's calculated resting energy expenditure (REE).
- A registered dietitian determined the documented CR in more than 95 percent of the cases

"A CR documented in the medical record is evidence that at least a

member of the health care delivery team included nutritional support and therapy in the treatment plan for that particular patient. Likewise, not having a CR present in the medical record might be evidence that the subject of nutritional therapy was never addressed in those patients," says Dr. Wakeham. "Another interesting finding is that almost all of the CRs present early in the medical records were entered by a registered dietitian and not by an attending physician or other medical care provider. This finding illustrates the favorable and important impact that registered dietitians can have on the nutritional outcomes of PICU patients."

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