



JANUARY 2022 NUTRITION RESEARCH REVIEW

Validation of the perioperative nutrition screen (PONS) for prediction of postoperative outcomes

Publication: Journal of Parenteral and Enteral Nutrition (JPEN)

Publish Date: December 2021

Authors: David GA Williams, Solomon Aronson, Sutton Murray, Matt Fuller, Elizabeth Villalta, Krista L Haines, Paul Wischmeyer

This study assessed preoperative nutrition risk via the Perioperative Nutrition Screen (PONS) in 3151 patients. The analysis showed that positive responses for specific PONS component questions was associated with adverse clinical outcomes as follows: 1) Unplanned weight loss (>10% in 6-months preoperatively) associated with a 22.4% increased length of stay (LOS) (95%CI: 13.3%-32.1%, p<0.0001) and increased 30-day readmission rate (OR 2.44, 95%CI: 1.73-3.44, p<0.001); 2) History of < 50% of previous oral intake in past week associated with a 25% increased LOS (95%CI: 15.7%-35.2%, p<0.001); 3) Preoperative albumin <3.0g/l associated with a 29.9% increased LOS (p<0.001) and increased 30-day readmission rate (OR 2.66 (95% CI: 1.63-4.35, p<0.001); 4) Low BMI (<18.5 kg/m² ≤65 years old or <20 kg/m² in ≥65 years old) was not associated with increased LOS. This study demonstrated that the PONS and its individual components appear to predict risk of adverse postoperative outcomes, even independent of a validated malnutrition diagnosis.

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Prevalence of low muscle mass and associated factors in community-dwelling older adults in Singapore

Publication: Scientific Reports

Publish Date: November 2021

Authors: Siew Ling Tey, Dieu Thi Thu Huynh, Yatin Berde, Geraldine Baggs, Choon How How, Yen Ling Low, Magdalin Cheong, Wai Leng Chow, Ngiap Chuan Tan, Samuel Teong Huang Chew

The objectives of this cross-sectional study were to determine the prevalence of low appendicular skeletal muscle mass index (ASMI) and to identify factors associated with low ASMI. This study included 1211 community-dwelling adults aged ≥ 65 years and the prevalence of low ASMI in the overall cohort was 59.9%. The prevalence of low ASMI was 81.3% in individuals at risk of malnutrition compared to 20.6% in their counterparts with normal nutritional status (P < 0.0001). Participants with low ASMI were older, had lower physical activity scores, and greater likelihood of hospitalization in prior 6 months compared with normal ASMI (all P < 0.0001). Low ASMI was associated with risk of malnutrition (odds ratio: 3.58 for medium risk, odds ratio: 12.50 for high risk), older age, smoking, drinking, smaller calf circumference, and lower bone mass (all P ≤ 0.0328). This study found that low ASMI was highly prevalent among community-dwelling older adults at risk of malnutrition and notes that screening community-dwelling older adults for risk of malnutrition can prevent or delay onset of low ASMI.

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The importance of protein sources to support muscle anabolism in cancer: An expert group opinion

Publication: Clinical Nutrition

Publish Date: November 2021

Authors: Katherine L Ford, Jann Arends, Philip J Atherton, Mariëlle PKJ Engelen, Thiago JM Goncalves, Alessandro Laviano, Dileep N Lobo, Stuart M Phillips, Paula Ravasco, Nicolaas EP Deutz, Carla M Prado

This opinion paper reviews the potential impact of protein on muscle anabolism in cancer. Although optimal dietary amino acid composition to support muscle health in cancer is yet to be established, animal-based proteins have a more optimal composition that offers superior anabolic potential, compared to plant-derived proteins, which should represent the majority (i.e., ≥65%) of protein intake during active cancer treatment. The authors caution that translating dietary recommendations for cancer prevention to cancer treatment may be inadequate to support the pro-inflammatory and catabolic nature of the disease. They further caution against initiating an exclusively plant-based (i.e., vegan) diet upon a diagnosis of cancer, given the presence of elevated protein requirements and risk of inadequate protein intake to support muscle anabolism. Ultimately, a dietary amino acid composition that promotes muscle anabolism is optimally obtained through combination of animal- and plant-based protein sources.

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Examining guidelines and new evidence in oncology nutrition: A position paper on gaps and opportunities in multimodal approaches to improve patient care

Publication: Supportive Care in Cancer

Publish Date: November 2021

Authors: Carla M Prado, Alessandro Laviano, Chelsia Gillis, Anthony D Sung, Maureen Gardner, Suayib Yalcin, Suzanne Dixon, Shila M Newman, Michael D Bastasch, Abby C Sauer, Refaat Hegazi, Martin R Chasen

Malnutrition, muscle loss, and cachexia are prevalent in cancer and remain key challenges in oncology today. These conditions are frequently underrecognized and undertreated and have devastating consequences for patients. Early nutrition screening/assessment and intervention are associated with improved patient outcomes. A multidisciplinary panel of experts recommended five principles to optimize clinical oncology practice: (1) position oncology nutrition at the center of multidisciplinary care; (2) partner with colleagues and administrators to integrate a nutrition care process into the multidisciplinary cancer care approach; (3) screen all patients for malnutrition risk at diagnosis and regularly throughout treatment; (4) combine exercise and nutrition interventions before (e.g., prehabilitation), during, and after treatment as oncology standard of care to optimize nutrition status and muscle mass; and (5) incorporate a patient-centered approach into multidisciplinary care.

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Effects of early weight gain velocity, diet quality, and snack food access on toddler weight status at 1.5 years: Follow-up of a randomized controlled infant formula trial

Publication: Nutrients

Publish Date: November 2021

Authors: Julie A Mennella, Alissa D Smethers, Jessica E Decker, Michelle T Delahanty, Virginia A Stallings, Jillian C Trabulsi

The goal of this follow-up study, of children who participated in a longitudinal RCT, was to determine whether the randomized formula group, early weight gain velocity, the nutrient content of the diet, and their mothers' feeding practices specific to snack foods had independent and/or interactive effects on toddlers' weight status at the ages of 1 and 1.5 years. Generalized linear mixed models revealed that, independent of the randomized formula group, greater velocities of weight gain during early infancy and lower access to snacks as toddlers predicted higher WLZ and a greater proportion of toddlers with overweight at 1.5 years. Energy and added sugar intake had no significant effects. These findings add to the growing body of evidence that unhealthy dietary habits are formed even before formula weaning and that, along with improving early diet, transient rapid weight gain and parental feeding practices are modifiable determinants that may reduce risks for obesity.

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Enteral feeding and the microbiome in critically ill children: A narrative review

Publication: Translational Pediatrics

Publish Date: October 2021

Authors: Lijia Fan, Jan Hau Lee

This narrative review summarizes our current knowledge on the interplay between enteral nutrition (EN) and gut microbiota in critically ill children, using examples from two commonly encountered diagnoses in the pediatric intensive care unit (PICU): severe sepsis and acute respiratory distress syndrome (ARDS). This review will also highlight potential areas of therapeutic interventions that should be explored in future studies.

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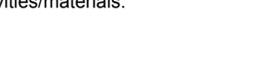
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