



ANHI October 2026 Nutrition Research Review

Effects of Dietary Interventions on Gut Microbiota and Related Cardiometabolic Changes in Pediatric Obesity: A Systematic Review and Meta-Analysis

Publication: Pediatric Research

Publish Date: September 2026

Authors: Fiore G, Alcázar M, Muñoz-Hernando J, Hernández-Pérez I, Perucho E, Panelli S, Ferré N, Escribano J, Verduci E, Luque V

SUMMARY

Growing interest in the relationship between nutrition, the gut microbiome, and obesity has prompted investigation into whether dietary interventions can improve metabolic health through changes in gut microbial composition. In this systematic review and

meta-analysis, Fiore et al. evaluated eight clinical studies involving 200 children and adolescents with overweight or obesity who received dietary interventions ranging from calorie-restricted diets to reduced free-sugar intake or DASH-style dietary counseling. Across studies, balanced calorie-restricted dietary approaches were associated with increased gut microbiota richness, demonstrated by a significant improvement in the Chao1 diversity index. Several beneficial butyrate-producing bacterial genera, including *Faecalibacterium*, *Roseburia*, *Coprococcus*, and *Blautia*, increased following intervention. Improvements in weight, BMI, waist circumference, glucose, and lipid parameters were also reported in several studies. However, due to substantial variability in study design and microbiome findings, the authors concluded that current evidence does not yet establish a clear causal link between microbiota changes and cardiometabolic improvements. Larger, longer-term pediatric trials are needed to better define these relationships.

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A Systematic Review and Meta-Analysis of Malnutrition and Metabolic Failure in High-Potency Incretin Therapy

Publication: Obesity Science & Practice

Publish Date: October 2026

Authors: Ampofo E, Apprey C, Amoako M, Turkson FD

SUMMARY

Growing use of high-potency incretin therapies has raised questions about the nutritional consequences of the substantial weight loss they produce. This systematic review and meta-analysis examined 19 randomized trials from the SURMOUNT, STEP, SCALE, and OASIS programs to evaluate changes in dietary intake, body composition, and markers of nutritional status among adults with obesity. Across studies, energy intake

decreased by 24% to 39%, with estimated daily deficits reaching approximately 1,200 kcal. Tirzepatide 15 mg was associated with reductions in fat-free mass, and laboratory findings suggested that nutritional risk may be underrecognized when relying solely on reported adverse events. The authors propose a structured monitoring approach that includes assessment of nutritional status during therapy, particularly for older adults at risk for sarcopenia and frailty.

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The Role of the Pediatrician to Promote Effective Approaches for Child and Adolescent Nutrition in Schools

Publication: Pediatrics

Publish Date: June 2026

Authors: Zmuda E, Hannon TS, Valentic J, Council on School Health, Committee on Nutrition

SUMMARY

Recognizing that schools play a critical role in children's daily nutrition, this American Academy of Pediatrics policy statement reviews current evidence supporting school-based nutrition programs and outlines opportunities for pediatricians to advocate for healthier school environments. The authors highlight the importance of federal school meal programs in addressing food insecurity and improving diet quality, noting that millions of children rely on school meals as a key source of nutrition. Updated USDA nutrition standards emphasize reductions in added sugars and sodium, increased use of whole grains, and improved access to nutritious foods and beverages. The statement also discusses the value of nutrition education, hands-on learning experiences, school gardens, and supportive eating environments in promoting healthy dietary behaviors. Pediatricians are encouraged to participate in school wellness councils, advocate for

universal school meal access, support evidence-based nutrition policies, and collaborate with educators and community partners to strengthen nutrition programs. The authors conclude that sustained support for high-quality school nutrition initiatives can help improve dietary patterns, reduce food insecurity, and support long-term child health outcomes.

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A Systematic Review and Meta-Analysis of Perioperative Muscle Wasting Following Major Abdominal Surgery

Publication: Journal of Cachexia, Sarcopenia and Muscle

Publish Date: October 2026

Authors: Reynolds A, George NM, Papadopoulou A, Creagh-Brown B

SUMMARY

Loss of skeletal muscle surrounding major abdominal surgery is increasingly recognized as an important contributor to poor postoperative outcomes. This systematic review and meta-analysis evaluated 45 studies involving 5,283 patients and quantified changes in muscle mass and strength within six weeks of surgery. Meta-analysis of 17 studies demonstrated significant reductions in muscle size and mass during both the first two weeks and the subsequent three to six weeks after surgery. Handgrip strength also declined significantly during recovery. Across the included studies, greater muscle loss and functional impairment were consistently associated with less favorable clinical outcomes, including postoperative complications and prolonged hospitalization. The authors propose perioperative muscle wasting as a distinct clinical entity requiring greater recognition, assessment, and targeted intervention.

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Comparison of Crohn's Disease Exclusion Diet and Exclusive Enteral Nutrition in Prospectively Followed Paediatric Patients with Crohn's Disease

Publication: Pediatric Research

Publish Date: July 2026

Authors: Duskova J, Hradsky O, Zarubova K, Mitrova K, Bronsky J, Lerchova T

SUMMARY

As interest grows in dietary approaches for managing pediatric Crohn's disease, Duskova et al. prospectively compared the Crohn's Disease Exclusion Diet (CDED) with exclusive enteral nutrition (EEN) in children with newly diagnosed mild to moderate disease. The study included 66 patients, with 33 receiving CDED plus partial enteral nutrition and 33 receiving EEN. After six weeks, clinical response rates were similar between groups, occurring in 76% of children treated with CDED and 82% of those receiving EEN. Mucosal healing, assessed using the Mucosal Inflammation Noninvasive Index (MINI), was achieved in 48% of the CDED group and 33% of the EEN group, although the difference was not statistically significant. While unadjusted analyses suggested a lower risk of relapse during the first year among children treated with CDED, this association was not maintained after adjustment for baseline disease characteristics. The authors concluded that CDED produced clinical outcomes comparable to EEN and may represent a practical induction therapy option for children with mild to moderate Crohn's disease.

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Joint International Society of Renal Nutrition and Metabolism (ISRNM) and International Society for Peritoneal Dialysis (ISPD) Practice Recommendation on Nutrition Management in Peritoneal Dialysis

Publication: Peritoneal Dialysis International

Publish Date: September 2026

Authors: Wang AYM, Avesani CM, Kariyawasam D, Lambert K, Nash C, Nerbass F, Sabatino A, Alobaidi A, Naraine SD, Chan M, Chow JSF, Dong J, Ebrahim Z, Figueiredo AE, Liebman SE, Rhee C, Silva MZC, Johnson DW

SUMMARY

Recognizing the absence of globally harmonized nutrition guidance for individuals receiving peritoneal dialysis, the International Society of Renal Nutrition and Metabolism and the International Society for Peritoneal Dialysis developed their first joint practice recommendation. The document provides comprehensive guidance for nephrologists, dietitians, nurses, and other healthcare professionals involved in the care of patients receiving peritoneal dialysis. Recommendations address nutritional assessment and monitoring, protein and energy requirements, management of malnutrition, body composition, fluid balance, physical activity, micronutrients, dietary patterns, and nutrition considerations during complications of therapy. The guidance emphasizes routine screening and individualized nutrition care to help preserve nutritional status and support overall health throughout peritoneal dialysis treatment.

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Prevention, Screening, Diagnosis, and Treatment of Iron Deficiency and Iron Deficiency Anemia in Infants, Children, and Adolescents: Clinical Report

Publication: Pediatrics

Publish Date: June 2026

Authors: Powers JM, Heeney MM, Hord J, Lehmann CU, Abrams SA, Buchanan GR, AAP Section on Hematology-Oncology, AAP Committee on Nutrition, American Society of Pediatric Hematology-Oncology

SUMMARY

Updated guidance from the American Academy of Pediatrics provides comprehensive recommendations for preventing, identifying, and treating iron deficiency (ID) and iron deficiency anemia (IDA) across infancy, childhood, and adolescence. The report emphasizes the critical role of iron in neurodevelopment, energy metabolism, and red blood cell production, while highlighting the ongoing prevalence of ID and IDA, particularly among toddlers and female adolescents. Prevention strategies include delayed cord clamping, age-appropriate iron supplementation for breastfed infants, timely introduction of iron-rich complementary foods, and limiting excessive milk intake in young children. The report recommends universal screening for infants and young children between 9 and 18 months of age and for adolescents who are at least one-year postmenarche but no later than age 14. Diagnostic evaluation should include a complete blood count and serum ferritin measurement whenever possible. The authors also provide updated ferritin thresholds for identifying iron deficiency and discuss oral and intravenous iron treatment options, emphasizing early recognition and intervention to reduce potential long-term cognitive, developmental, and health consequences.

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