

Nutrition to Support the Youth Athlete

D. Enette Larson-Meyer, PhD, RD, CSSD, FACSM

Abstract

Optimal nutrition plays a pivotal role in supporting the growth, development and athletic performance of youth athletes. During childhood and adolescents, rapid physiological changes including increases in height, muscle mass and hormonal activity (specifically during puberty) significantly increase nutritional demands. Young athletes, however, are not only growing physically but also developing cognitively and psychosocially, all of which influence how they understand and apply nutrition concepts and healthy eating. As such, sports nutrition education must focus not only on meeting physiological needs but also on fostering lifelong healthy eating behaviors and positive attitudes toward food and body image. This session will review evidence- and practice-based strategies for nutrition to support the youth athlete including recommendations for energy, carbohydrate, protein, fat, fluid and micronutrient intake with focus on the nutrients that tend to be lacking in the diets of children and adolescents. Adequate energy intake is essential to support training and normal growth and overall intake of macronutrients and micronutrients. Carbohydrates remain the primary energy source for intense physical efforts and intake recommendations should be considered in light of the training loads and competitive characteristics typically undertaken. Protein supports general growth and development and aids in muscle repair and recovery, while dietary fat supports hormone regulation and absorption of fat-soluble vitamins/phytonutrients. However, for youth athletes, recommendations per kilogram of body weight are less critical than promoting balanced, varied, enjoyable and culturally-appropriate eating patterns. Micronutrients such as iron, calcium and vitamin D are particularly important to support oxygen transport and bone health during periods of rapid growth. These and other nutrients including folate, potassium, vitamin E, vitamin K and magnesium may be lacking in general in the diet of children and adolescents and can be supplied through intake of fruits and vegetables, whole grains, legumes, nuts and seeds. Dietary supplements are not recommended for younger athletes unless medically indicated. Fluid intake to support adequate hydration also plays a key role in performance and safety. Developing consistent fluid intake habits before, during and after exercise helps prevent fatigue and overheating. Because children and adolescents are still developing autonomy and abstract thinking, parents, caregivers and coaches serve as powerful role models in shaping eating behaviors. Their attitudes toward food, health and body image can either reinforce or undermine positive nutrition messaging. Creating supportive environments that emphasize nourishment, balance and enjoyment, rather than restriction, macronutrient counting or appearance, may help establish a healthy foundation for lifelong eating patterns. Specifically, parents and coaches can help youth athletes by modeling healthy eating behaviors and ensuring availability of healthy food choices including whole and less processed foods and encouraging use of sports foods and drinks only when necessary. Families can help by planning healthy meals and snacks ahead of time and having them ready to eat at home or on the go, and by cooking healthy meals together. Overall,

sports nutrition for youth athletes should periodize overall dietary quality, hydration and education rather than rigid dietary prescriptions.