

by Stella Lucia Volpe, Ph.D., R.D., LDN, FACSM

## Young Athletes Nutritional Needs for Optimal Performance

**W**ith the increase in sports participation of young athletes, there is a greater need for health professionals to understand young athletes' needs and to not consider them as "little adults." Growing athletes need to consume about 2,200 Kcal/day and possibly even more, depending on the particular sport and how frequently the athlete is involved in that sport. In addition, this varies if an athlete is a 100-lb gymnast versus a 150-lb football player.

Between 7 and 10 years of age, girls and boys typically consume between 1,600 and 2,400 Kcal/day. At about 10 to 12 years of age, however, girls start their growth surge; therefore, they should add about 200 Kcal/day above their usual intake to support this growth. Boys start their growth spurt about 2 years after girls do and should consume about 500 Kcal/day more than their usual intake. There are several things that need to be taken into consideration when determining how much more a young athlete should consume during his/her growth surges: body size, activity intensity and frequency, metabolic rate, muscle mass, and body weight at the start of the growth spurt. Although a slightly overweight young athlete should not focus on weight loss, especially with training, the increase in kilocalories per day with growth spurts may need to be adjusted to be sure that weight gain is associated with muscle mass and less with fat mass.

It is important that young athletes consume a varied and balanced diet to ensure enhanced athletic performance and optimal growth. We hear the term "varied and balanced" a lot in the



nutrition literature, and no one really seems to define these terms. In brief, young athletes should maintain high nutrient density in their food choices—foods that provide energy but not at the cost of nutrients. Simply stated, young athletes should consume more complex carbohydrates, such as brown rice or whole-grain breads, over white rice or white bread, most of the time. And although carrots are a healthy food, eating a varied and balanced diet does not mean that one should consume a pound of carrots every day, simply because they are "good for you." A varied and balanced diet also does not mean that a young athlete cannot have "fun" foods such as ice cream or french fries, but these foods need to be consumed in moderation. They may be tasty, but high consumption of such foods will lead to decreased performance and health. Perhaps these are obvious points, but many times when we as

health professionals discuss nutrition, it seems as though our message is one of all or nothing—"all healthy foods and nothing else." This tends to be an ineffective approach, unless there is a medical need to do so. Food needs to be enjoyed, and to prevent disordered eating, especially in young children, we need to encourage balance and variety, which occasionally can include foods that may not be the healthiest.

So, how can we make nutrition fun and impart the importance of it to strong athletic performance? First, we as health professionals, coaches, parents, and teachers need to practice what we preach. For example, we cannot expect children to stay away from soda if we drink and buy such items. We need to show the children that we are able to consume a "varied and balanced diet" just as we want them to do. Furthermore, we need to engage in healthy exercise to show our children that an active lifestyle

is important at all ages. Finally, and somewhat off topic but related to sport, we need to practice good sportsmanship, no matter at what level the young athlete is competing.

Another way young athletes can enhance performance potential is to eat a healthy breakfast. In a busy lifestyle to which we all seem to have adapted, breakfast is the one meal that seems to have fallen by the wayside. If breakfast is consumed at all, it is often eaten on the run. Children need to take time for breakfast. It helps fuel their depleted glycogen stores, helps with normal growth, helps them think better and perform better at school, and makes them less ravenous at lunch time. Children also should bring snacks to school. If they are allowed to keep them in their desks or lockers, they can at least have small snacks throughout the day, before and after lunch, so that they do



not enter practice when hungry or hypoglycemic. Consuming a well-balanced dinner, followed by a healthy evening snack also will help with overall cognitive and athletic performance as well as growth. If a child athlete also works out in the morning, a snack later in the evening will be helpful, especially if he/she is not able to eat much early in the morning. See the Table for snack ideas for the growing child athlete.

Hydration also is key. Water is, of course, a great choice for both children and adults for hydration; however, drinking low-fat/skim milk, sports drinks, and 100% fruit juices will help the child with hydration and provide some energy. Keeping water bottles in their lockers or desks will again help to prepare young athletes for their afternoon workouts.

Fueling a young athlete after exercise is critical to recovery and subsequent performance. Meals and snacks that provide enough energy, variety, and balance are important for maintaining performance and growth. This is largely placed upon the parents and, again, can be done easily, especially if the entire family eats well. So, parents, coaches, and health

professionals, be good role models for these child athletes; it will lead to healthy lifetime habits for these children.

### Summary

Child athletes require more energy than a sedentary child, because of the excess energy expended. Having the proper amount and types of foods needed for strong performance and growth is imperative for these young athletes. Being good role models also is important and can make the greatest impact on what the young athlete chooses when the parents, coaches, and/or health professionals are not watching.



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**Table. Examples of Snack Foods for Child Athletes—Foods They Can Easily Keep in Their Lockers or Desks at School**

Food Item
Cheese and whole-wheat crackers
Fruit (apples, bananas, pears); if canned packs, then in water or fruit juices, but not sweetened
Granola or granola bars
Pretzels
Graham crackers with peanut butter
Half of a peanut butter and jelly sandwich on wheat bread
100% Fruit juice or small sports drink