

What Coaches Need to Know About the Nutrition of Female High School Athletes: A Dietitian's Perspective

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SUMMARY

GENDER EFFECTS THE REQUIREMENTS FOR ENERGY AND NUTRIENT NEEDS. THE NUTRITIONAL NEEDS OF FEMALE HIGH SCHOOL ATHLETES CAN BE DIFFERENT FROM THEIR MALE COUNTERPARTS. IT IS ALSO IMPERATIVE THAT COACHES KNOW HOW TO CAREFULLY APPROACH SENSITIVE ISSUES.

The nutritional practices of female athletes can have a tremendous effect on their health and performance. Coaches must try to gain understanding of how discussing weight, nutrition, and performance with female athletes can, at times, require careful regard for how the message may be perceived. After all, a coach often has the most influential

position in reinforcing nutrition messages. The coach can lead by example, encourage healthful snacking before practices and events, and discourage dieting.

Because of the differences in body composition, female athletes require slightly less total energy or calories per day than their male counterparts. According to Dietary Reference Intakes for Energy (DRI) (1), active females ages 14–18 (based on mean weight for age) should consume at least 2,036 to 2,858 calories per day. Many female athletes can require a great deal more energy, in excess of 3,000 calories per day, in times of high training volume and competitions. Given that some females feel the need to restrict calories and types of foods to meet the perceived demands of peers and society, a coach can help guide athletes away from misinformation and food myths.

Key components in the young female's diet include consuming adequate protein, fat, and calcium-rich and iron-rich foods. The DRI for protein in older adolescents is 0.85 g/kg/day. There are many disputes about this amount because of the fact that the requirement increases for active adults. For example, female athletes who participate in

endurance sports like swimming or distance running may need 1.2 to 1.6 grams of protein per kilogram, whereas strength athletes such as gymnasts may need up to 1.9 grams of protein per kilogram (2). Protein does become an issue in young female athletes that restrict high protein foods because of the misconception that all of the sources are high in fat. Coaches can educate their athletes on the basic functions of protein in the body. A few very important roles of protein include:

- growth and maintenance of cells;
- building new tissues and repairing tissues such as those needing recovery after a competition or strenuous practice; and
- aiding in the formation of antibodies that help the body fight infection.

Good sources of protein a coach can recommend include eggs, dairy products, poultry, fish, beef, legumes, and beans. Coaches should encourage athletes to have at least one protein source with every meal.

Female athletes sometimes restrict fat in their diets without understanding the impact the deficiency could have on their health and performance. Some female athletes decrease their fat intake because they feel that any intake of fat will make them deposit fat or become

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overweight. This is a common misconception that coaches can help prevent. It is recommended that athletes consume 20% to 30% of their total daily calories from fat, which equates to approximately 65 grams of fat based on 30% of a 2,000-calorie diet (3). Fat also plays crucial roles in the body, including:

- providing energy;
- transporting vitamins A, D, E, and K;
- producing hormones needed in maintaining a regular menstrual cycle; and
- acting as a protective layer for vital organs.

Fats also aids in maintaining healthy skin, hair, and nails, which can be an important motivator for young females when improving fat intake is needed. A few healthful sources of fat are oils (especially olive, canola, corn, and safflower), nuts, seeds, avocados, olives, lean meats, and low-fat dairy.

Many female athletes fall short of meeting the adequate intake recommendations for calcium of 1,300 mg per day, either because they believe dairy products are too fattening or simply because they don't like drinking milk. Unfortunately, as adolescents are passing up milk with meals and dairy snacks (2,3), they're missing out on the highest calcium bone absorption time in their lives. Calcium-rich foods provide a wide variety of vitamins and minerals while adding extra protein to the athlete's diet. Not only does calcium help build strong bones and

teeth, it's needed for nerve and muscle cell activity. Great sources include all low-fat dairy such as milk, yogurt, and cheese; tofu; fortified orange juice; and white beans. Coaches can suggest foods like chocolate milk, yogurt or yogurt smoothies, and cheese with crackers for a post-practice snack.

Iron is an essential mineral especially for the female athlete. Food sources are preferred to supplementation unless physician prescribed. Iron is a major component of hemoglobin which transports oxygen through the body's tissues. The DRI for high school age females is 15–18 mg per day. When an athlete starts restricting her protein intake, especially beef, iron intake decrease as well. Female athletes can be at risk for developing anemia with increased physical demands coupled with growth, sports-related hemolysis (more commonly seen in runners), poor diet, and menstruation. Good sources of iron include oysters, clams, tofu, beef, fortified cereals, wheat germ, and kidney beans. Simply letting athletes know good sources of iron to incorporate can be helpful in preventing low-iron stores and subsequently poor performance.

One of the most important points to remember is that many females are sensitive about their weight and body image. When athletes are encouraged to lose weight to improve performance or aesthetics, unhealthy means of achieving weight loss can occur. If weighing is absolutely necessary for the sport, weights should be done privately

and taken as a “blind” weight. Having the athlete step on the scale backwards for a blind weight will give the coach the information, yet keep the athletes from comparing numbers. Remember how imperative it can be for a coach and his/her staff to have knowledge of basic nutrition guidelines so that misinformed athletes can be redirected towards healthful practices. This can also be achieved by consulting with an experienced sports nutritionist/dietitian. The sports nutritionist can educate the coach and athletes throughout the season and on an individual basis if needed. When in doubt, refer it out!

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