

Nutrition

Fact Sheet

Fueling the School-Aged Athlete – Weight Management

Strong Muscles and Healthy Bodies

Body weight and composition might influence performance for some athletes in certain sports. However, this should not be the focus for young athletes. Instead, school-aged athletes should be encouraged to follow sound nutritional practices, which promote normal growth and development and provide the extra energy needed for sports activities (American Dietetic Association [ADA] 1996a, 1996b). This can be accomplished by encouraging school-aged athletes to



- recognize they grow at different rates, and height and weight will vary considerably;
- find a comfortable weight range appropriate for their unique build, rather than identifying with an unrealistic weight; and
- achieve their personal best, realistic competitive weight and body composition through healthful eating and training.

Experts can help determine whether it is appropriate for a school-aged athlete to lose fat or gain muscle. A Registered Dietitian (RD) or an RD who is a Board Certified Specialist in Sports Dietetics (CSSD) is trained to evaluate energy needs based on lean body mass and percent body fat and make individualized recommendations.



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Lose Fat

Excess body fat might hinder athletic performance in certain sports by decreasing speed, endurance, agility, and acclimation to heat. If deemed appropriate, adolescent athletes can lose excess body fat by moderately decreasing calorie intake while increasing activity. The American Academy of Pediatrics (AAP) (2005) has recommended that weight loss programs for athletic purposes are not appropriate before the 9th grade.

A realistic timetable should be established before a sports season begins. Weight loss should always be gradual and not exceed more than 1/2–2 pounds per week (AAP, 2005; ADA, 2009; McArdle, Katch, & Katch, 2008; Meyer, O'Connor, & Shirreffs, 2007). Losing weight too quickly is especially risky for teen athletes and can cause fatigue, weakness, muscle loss, and other related problems.

Gain Muscle

In an attempt to achieve bigger, muscular bodies, some school-aged athletes may eat excessively and rapidly gain weight that is mostly fat. Athletes can gain weight as muscle using isometric exercise and increased calorie intake. Weight training can promote muscle growth. Care should be taken in any weight training program for children and adolescents. The amount of weight and number of repetitions needs to be tailored for school-aged athletes and requires supervision by a trained adult (Bernhart et al., 2001). Weight gain should also be gradual to ensure the weight is muscle rather than fat. An RD or qualified sports dietitian can help identify appropriate body composition goals and make specific recommendations.

Healthy Bodies in all Shapes and Sizes

The mere mention of weight loss by a coach can prompt many athletes to start unhealthy practices. In fact, the AAP (2005) has suggested trainers and coaches should not discuss weight with athletes unless it is required for mandatory weigh-ins. Young athletes may become too concerned about weight. Sports like wrestling, powerlifting, and martial arts have a history of athletes who attempt to rapidly lose weight to compete in a lower class. This dangerous practice has prompted the National Collegiate Athletic Association (NCAA) to establish a minimum wrestling weight to discourage rapid weight loss and repeated cycles of weight loss and weight gain (McArdle et al., 2008). Coaches, parents, and teammates may be misinformed and promote unsafe weight loss or gain practices.

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Unsafe Weight Control Practices for School-Aged Athletes



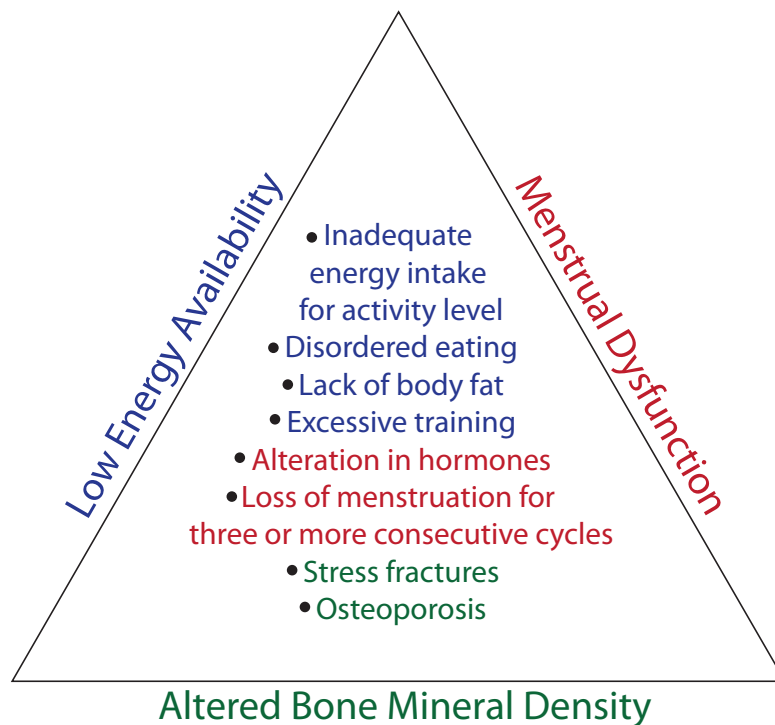
- Unhealthy food restriction
- Fasting
- Excessive exercise
- Intentional dehydration, such as saunas, sweat suits, and fluid restriction
- Rapid weight loss
- Rapid weight gain from excessive eating

Too Thin to Win

School-aged athletes involved in weight sensitive sports, such as gymnasts, sprinters, long-distance runners, and ballet dancers, may be at risk for unhealthy weight management practices or disordered eating behaviors as they attempt to reach an inappropriate body weight. Adolescent girls adjusting to changes in body shape combined with certain psychological factors may confuse body weight with self-worth and develop a negative body image. Compounded by beliefs about body size and athletic success, teen girls involved in sports are especially vulnerable for developing an eating disorder (McArdle et al., 2008). Eating disorders can negatively affect athletic performance, interfere with normal growth, and lead to other serious illnesses.

Weight loss, amenorrhea, and injuries, in combination or alone, may be warning signs of the Female Athlete Triad (Leburn, 2007; Nattiv et al., 2007). The Female Athlete Triad is a combination of medical problems that occurs when an energy deficit causes extreme leanness and reproductive hormones are affected (Manore, Kam, Ciadella, & Loucks, 2007; Nattiv et al., 2007). Female athletes are especially at risk when they continually consume less energy than they expend. This causes menstrual dysfunction and can lead to a loss of bone mineral density. Short-term consequences could be stress fractures and, in the long-term, may result in osteoporosis, loss of bone mass.

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Characteristics of the Female Athlete Triad

➤ Low Energy Availability

- Inadequate energy intake for activity level
- Disordered eating - may or may not be present
- Poor eating habits
- Rapid weight loss
- Lack of body fat
- Excessive training
- Compulsive behavior
- Highly competitive

➤ Menstrual Dysfunction

- Alteration in hormones
- Loss of menstruation for three or more consecutive cycles
- Delayed onset of menstruation

➤ Altered Bone Mineral Density

- Bone loss
- Multiple or recurrent stress fractures
- Hip and spine fractures in later life (osteoporosis)

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Identifying and managing the triad is best accomplished by a qualified medical team that might include an RD, physician, sport psychologist, and athletic trainer (AAP, 2005; Leburn, 2007; Nattiv et al., 2007). Ideally, for young athletes screening should begin in junior high or high school at the pre-participation sports medical exam (McArdle et al., 2008; Nattiv et al., 2007). Since prevention is the best treatment, coaches, parents, and athletes should be knowledgeable about appropriate body weight, healthy eating practices, and safe weight management.



For More Information

American College of Sports Medicine. www.acsm.org

American Dietetic Association. www.eatright.org

BAM! Body and Mind. www.bam.gov

BMI–Body Mass Index: About BMI for Children and Teens: Tips to Promote Healthy Eating and Physical Activity. www.cdc.gov

Board Certified Specialist in Sports Dietetics (CSSD) by State as of 2008.

<http://www.cdrnet.org>

How to Understand and Use the Nutrition Facts Label <http://www.cfsan.fda.gov>

MyPyramid for Kids. www.mypyramid.gov

Portion Distortion. www.nhlbi.nih.gov

President's Council on Physical Fitness and Sports. www.fitness.gov

Recipes from a Healthier You. (based on the *Dietary Guidelines for Americans, 2005*)
www.health.gov

SCAN–Sports, Cardiovascular, and Wellness Nutritionists – A Practice Group of the American Dietetic Association. www.scandpg.org

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For more information, contact NFSMI at 800-321-3054 or www.nfsmi.org.

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