

A Hidden Epidemic:



The Female Athlete Triad

Sport is a great way for girls and women to build strong, healthy bodies, self-esteem and a life-long love of physical activity. However, some female athletes participate in sport in a way that is harmful to their health and well-being. The Female Athlete Triad is a serious health concern that has been identified among athletes, particularly girls and women in competitive sport.

► What is the Female Athlete Triad?

The Female Athlete Triad refers to three interrelated health problems seen in females. These problems include: disordered eating habits, amenorrhea (loss of menstrual periods), and osteoporosis (weak bones).

Disordered Eating Habits/Eating Disorders

Disordered eating is usually the first step in developing the Triad. In an effort to improve performance, athletes often try to lose weight. With disordered eating, the method in which the athlete attempts to lose weight is unhealthy and may include mechanisms such as severely limiting food intake, constantly weighing and/or measuring foods, secretive eating, refusal to eat in front of others, counting calories and fat grams, and abuse of laxatives. These methods actually impede performance and result in dehydration, malnourishment, and unhealthy weight loss, as well as psychological difficulties such as food/weight obsession, depression, and anxiety.

Loss of Menstrual Periods (Amenorrhea)

The athlete is already probably more at risk for loss of menstruation than a non-athlete because of the physical demands of her sport. Disordered eating further increases that risk. If the athlete is not consuming enough calories to support the demands placed upon her body, her reproductive system may respond by producing less estrogen, which is a hormone needed to maintain normal monthly menstrual cycles. The athlete will experience infrequent menstruation or the loss of menstruation altogether (amenorrhea). For the athlete who has not started menstruation, disordered eating can delay the onset of menstruation due to inadequate nutrition and lower than normal body weight and fat levels.

Osteoporosis (Weak Bones)

Because of decreased hormone levels, the athlete's body will not be able to replace old bone cells with new healthy cells, and the athlete is at risk for bone density loss. Her poor eating habits will likely decrease the levels of calcium, vitamins, and minerals the athlete is consuming, thus further affecting bone density. The intense exercise and physical demands of her sport further increase her risk for stress fractures and other bone-related problems. Unfortunately, if her condition worsens to the point that she cannot train or compete, she may become depressed and/or eat even less to compensate for the lack of exercise.



The Female Athlete Triad



What are the risk factors for developing the Triad?

Any factor that increases the likelihood of disordered eating would be considered a risk factor. These include factors such as: dieting at an early age; participating in sports that require a thin body size or shape; sports with weight classes; the prevailing notion in sport that loss of weight or body fat enhances performance; sport uniforms that are revealing (i.e., swimsuits); perfectionistic personality traits; decreased eating with family and friends; and the fact that symptoms such as amenorrhea, excessive exercise, and weight loss are viewed in athletics as "normal" or even "desired" characteristics of "good athletes." Because of these risk factors, identification of disordered eating is more difficult in the athletic environment, which also increases the athlete's risk, thereby increasing the risk of the Female Athlete Triad.

What are the signs of the Triad?

Disordered eating — restrictive dieting, binge eating, induced vomiting, excessive use of laxatives, along with excessive exercise — will most likely be the first indication. Physical signs of the Triad include noticeable weight loss, cold hands and feet, dry skin, hair loss, absent or irregular periods, increased rate of injury, delayed healing time for injuries, and stress fractures. Emotional signs include mood changes, decreased ability to concentrate, and depression.

Is it normal for female athletes to stop having their menstrual period because they train so hard?

It may be the "norm" in some sports, but it is never normal, desirable or acceptable. When menses stops, the body is communicating that something is wrong. Energy consumption is not meeting the needs of the individual. If an athlete is over the age of 16 and has not yet started menstruating, she should contact a healthcare professional. Lack of menstruation can inhibit normal pubertal growth and development.

Why should young female athletes and their families worry about this now?

Eating habits develop early and last a lifetime; it is important to develop good eating habits at an early age. In addition, bone density increases throughout adolescence and starts to decrease later in life. As such, lack of good bone health during adolescence will drastically affect bone health later in life. Lastly, reproductive conditions during adolescence may lead to reproductive problems later in life, including the ability to maintain healthy pregnancies and bear children.

What are the consequences of the Triad?

The Triad can affect every aspect of life. Nutrient deficiencies and fluid/electrolyte imbalance can lead to impaired performance, impaired growth, impaired mental functioning and increased risk of injury. Long-term consequences may include loss of reproductive function and serious medical conditions such as dehydration and starvation. Ultimately, this condition could result in death.

How is the Female Athlete Triad treated?

Treatment must address all possible causes of the Triad. Treatment should include medical, nutritional, and psychological intervention. Counseling and education regarding eating properly for the amount of energy expended as well as activity modification are integral parts of the recovery process. Normal menstruation should be a goal for the athlete.

How can the Triad be prevented?

Prevention should begin with nutritional, medical, and psychological education related to healthy eating and nutrition for a life-long healthy lifestyle. The athlete should select friends/role models with healthy body images and eating habits. She should keep track of her periods so she can monitor the number of days between cycles. In addition, the athlete should not skip meals or snacks. She should be sure to bring snacks to practice and to carry snacks around during the day. Foods containing protein and fat (nuts, cheese, yogurt) as well as carbohydrate-containing foods (cereal, crackers, pretzels, fruit, vegetables) are healthy choices for the athlete. The athlete should be encouraged to visit a dietitian if she needs meal and/or snack suggestions or recommendations. She should not be afraid to ask for help at any time!

For more information:

Talk to a family member, physician, nurse, dietitian, athletic trainer, physical therapist, school counselor or coach.

Everyone has the same goal in mind:
*for the female athlete to be as healthy
and successful as possible!*

