**FEMALE ATHLETE TRIAD**

Physical activity has many health benefits for females. Regular physical activity benefits include building and maintaining bone strength, lower cholesterol levels, lower blood pressure, decreased symptoms of anxiety and depression, weight control, and building lean muscles. However, with strenuous or excessive exercise an energy deficit can take place. This occurs when the caloric intake is less than the energy expenditure. When this occurs, serious health consequences can occur. The female athlete triad consists of three components that are all interrelated: **disordered eating, amenorrhea, and osteoporosis.**



**Disordered Eating**

Energy deficiency is a major component of the dangerous female athlete triad. The calories from food supply the energy/fuel used for exercise. Energy deficiencies occur when the body isn’t consuming enough calories needed for the type, intensity and duration of the exercise session. It is important that athletes understand how many calories they need to eat to replenish the energy used during exercise. Disordered eating can take many different forms ranging from not knowing how to get enough nutrients and calories to replenish your body’s supply to serious eating disorders, such as anorexia or bulimia. Disordered Eating can lead to many complications including dehydration, muscle fatigue and weakness, erratic heartbeat, kidney damage, and other serious conditions.

**Amenorrhea**

Athletes may experience menstrual function disturbances that can result in amenorrhea, which is defined as no menstrual period for 3 months or more. Athletes may be predisposed to menstrual abnormalities if they have an unbalanced diet, inadequate caloric intake relative to exercise level and excessive training. Amenorrhea in athletes can have a negative affect muscle function, cholesterol levels, and reproduction. Before relating menstrual abnormalities to exercise, rule out other conditions such as pregnancy, abnormalities of the reproductive organs, or thyroid disease. ***See your physician for any and all concerns*** – and especially if:

* Menstruation has not started by age 16
* 3 consecutive periods are missed
* Periods occur at intervals greater than 35 days

**Osteoporosis**

Osteoporosis refers to low bone mass which makes the bones more fragile. Low bone mass in young athletes can lead to an increased risk of fractures. Calcium is needed to maintain optimal bone health. Our bones can pack away the most calcium in our adolescent and teen years.. Current recommended calcium intake for teenage girls and young women is 1,200 mg.

**Who Is At Risk?**



* Elite level athletes
* Endurance athletes
* Athletes with Low Self-Esteem
* Athletes with Depression
* Weight Class Sports (i.e. wrestling, rowing, martial arts)
* Sports that emphasize leanness (i.e. gymnastics, ballet,

diving, figure skating, aerobics, running)

**Treatment:**

If you recognize these symptoms in yourself or someone you know – take

action! Contact your sports medicine or primary care physician to schedule

an appointment. To evaluate and treat, the doctor may order laboratory

tests to evaluate hormone function, bone density tests, x-rays, and sometimes

even MRIs. Another key component is to make sure that the calorie intake

increases so it exceeds the energy output to improve energy availability.

Increasing caloric intake can help make significant improvements in the many

complications associated with the female athlete triad.

F**or more information visit:**

The National Athletic Trainers Association (NATA) [www.NATA.org](http://www.NATA.org)

The Female Athlete Triad Coalition: An Internal Consortium

American College of Sports Medicine (ACSM) [www.ACSM.org](http://www.ACSM.org)

American Academy of Family Physicians [www.AAFP.org](http://www.AAFP.org)

American Academy of Pediatricians (AAP) [www.AAP.org](http://www.AAP.org)

Consult your primary care physician for more serious injuries that do not respond to basic first aid. As an added resource, the staff at **Children’s Sports Medicine** is available to diagnose and treat sports-related injuries for youth and adolescent athletes. To make an appointment, call **402-955-PLAY (7529).**