



ACSM Information On...

The Female Athlete Triad

The Female Athlete Triad is a health concern for active women and girls who are driven to excel in sports. It involves three distinct and interrelated conditions: disordered eating (a range of poor nutritional behaviors), amenorrhea (irregular or absent menstrual periods) and osteoporosis (low bone mass and microarchitectural deterioration, which leads to weak bones and risk of fracture).

A COMPLETE PHYSICAL ACTIVITY PROGRAM

A well-rounded physical activity program includes aerobic exercise and strength training exercise, but not necessarily in the same session. This blend helps maintain or improve cardiorespiratory and muscular fitness and overall health and function. Regular physical activity will provide more health benefits than sporadic, high intensity workouts, so choose exercises you are likely to enjoy and that you can incorporate into your schedule.

ACSM's physical activity recommendations for healthy adults, updated in 2011, recommend at least 30 minutes of moderate-intensity physical activity (working hard enough to break a sweat, but still able to carry on a conversation) five days per week, or 20 minutes of more vigorous activity three days per week. Combinations of moderate- and vigorous-intensity activity can be performed to meet this recommendation.

Examples of typical aerobic exercises are:

- Walking
- Running
- Stair climbing
- Cycling
- Rowing
- Cross country skiing
- Swimming.

In addition, strength training should be performed a minimum of two days each week, with 8-12 repetitions of 8-10 different exercises that target all major muscle groups. This type of training can be accomplished using body weight, resistance bands, free weights, medicine balls or weight machines.

FEMALE ATHLETE TRIAD CAUSES

Exercise alone does not put someone at risk for developing the Triad; however, an energy deficit, in which caloric intake doesn't match energy expenditure, is a risk factor.

All women face societal pressure that "thin is in." A young woman or girl who is determined to achieve a lean appearance or athletic success may attempt to excel through compulsive dieting and exercise. (Such athletes are typically goal-oriented perfectionists.) This misguided approach may lead to disordered eating, menstrual dysfunction and lower-than-normal bone mass formation.

WHO IS AFFECTED?

Anyone may be affected, but women and girls participating in activities which emphasize leanness are at especially high risk. These activities can include:

- Gymnastics
- Ballet
- Diving
- Figure skating
- Aerobics
- Running

Weight class sports associated with

disordered eating in athletes, including males, are:

- Wrestling
- Rowing
- Martial arts

DISORDERED EATING

In response to pressure to lose weight, women and girls may practice unhealthy weight-control methods, including restricted food intake, self-induced vomiting, consumption of appetite suppressants and diet pills, and use of laxatives and compounds to increase urination. Specific eating disorders are anorexia nervosa and bulimia.

Many girls and women hide or deny their eating disorders due to embarrassment, shame, fear of losing control of their dieting and a mistaken belief that excessive weight loss enhances performance.

WARNING SIGNS OF EATING DISORDERS

- Excessive leanness or rapid weight loss;
- Preoccupation with weight, food, mealtime rituals and body image;
- Avoiding team meals, or secretive eating;
- Wide fluctuations in weight;

- Daily vigorous exercise in addition to regular training sessions;
- Stress fractures (i.e. microfractures of bones that may progress to complete fractures);
- Yellowing of the skin;
- Soft baby hair on the skin;
- Frequent sore throats despite no other signs of respiratory illness (self-induced vomiting);
- Chipmunk-like cheeks from swollen parotid glands (self-induced vomiting);
- Many dental cavities and/or foul breath (self-induced vomiting);
- Fatigue, light-headedness or dizziness; and
- Depression or low self-esteem.

EATING DISORDERS CAN BE FATAL

Eating disorders are serious, chronic medical and psychological illnesses. Individuals with untreated chronic anorexia or bulimia may die prematurely from heart problems, blood electrolyte (i.e., salt) disorders, suicide or other health problems. If these disorders are recognized early, however, treatment may be effective.

AMENORRHEA

An unbalanced diet, inadequate caloric intake relative to exercise level and excessive training may predispose females to menstrual abnormalities. Any female who hasn't started menstruating by age 16, misses three consecutive periods or has periods that occur at intervals of greater than 35 days should be evaluated by a physician. Before attributing menstrual abnormalities to exercise, other conditions – such as pregnancy, abnormalities of the reproductive organs or thyroid disease – must be ruled out.

OSTEOPOROSIS

Osteoporosis refers to low bone mass and fragility of the skeleton. Low estrogen levels and other hormonal changes, which accompany irregular or absent menstrual periods, may predispose females to osteoporosis, especially in their teens and twenties when bone mass is accumulating. A 20-year-old woman without menses during her critical teenage growth period may have bone mass typical of a 70-year-old woman, predisposing her to stress fractures and fractures later in life. Adequate nutrition fosters good bone formation. Calcium requirements for teenage girls and young women with normal menses is 1,200 mg

per day. Females with irregular or absent menses require 1,500 mg of calcium and 400 mg of Vitamin D per day.

PREVENTING THE FEMALE ATHLETE TRIAD

Emphasis or pressure to achieve unrealistically low body weight should be avoided by coaches, parents, athletic administrators and health professionals. Out-of-competition "weigh-ins" should be discouraged. Rules governing sports should be examined, and rules encouraging excessive leanness should be eliminated or revised. Athletes and coaches should be encouraged to look for warning signs of eating disorders.

EARLY RECOGNITION AND TREATMENT

Although individuals with disordered eating or amenorrhea may deny nutritional or health problems and are reluctant to seek care, medical attention is mandatory. An athlete should be reminded that medical care and proper nutrition may enhance performance. If an eating disorder or amenorrhea is suspected, the involved individual should be strongly encouraged or required to seek medical attention. If the individual refuses, the concerned coach, friend or parents should consult with a physician directly. Treatment of the Triad often requires intervention via a team approach, including a physician, nutritionist, psychologist, and the support of family, friends, teammates and coaches.



STAYING ACTIVE PAYS OFF!

Those who are physically active tend to live longer, healthier lives. Research shows that moderate physical activity – such as 30 minutes a day of brisk walking – significantly contributes to longevity. Even a person with risk factors like high blood pressure, diabetes or even a smoking habit can gain real benefits from incorporating regular physical activity into their daily life.

As many dieters have found, exercise can help you stay on a diet and lose weight. What's more – regular exercise can help lower blood pressure, control blood sugar, improve cholesterol levels and build stronger, denser bones.

THE FIRST STEP

Before you begin an exercise program, take a fitness test, or substantially increase your level of activity, make sure to answer the following questions. This physical activity readiness questionnaire (PAR-Q) will help determine if you're ready to begin an exercise routine or program.

- Has your doctor ever said that you have a heart condition or that you should participate in physical activity only as recommended by a doctor?
- Do you feel pain in your chest during physical activity?
- In the past month, have you had chest pain when you were not doing physical activity?
- Do you lose your balance from dizziness? Do you ever lose consciousness?
- Do you have a bone or joint problem that could be made worse by a change in your physical activity?
- Is your doctor currently prescribing drugs for your blood pressure or a heart condition?
- Do you know of any reason you should not participate in physical activity?

If you answered yes to one or more questions, if you are over 40 years of age and have recently been inactive, or if you are concerned about your health, consult a physician before taking a fitness test or substantially increasing your physical activity. If you answered no to each question, then it's likely that you can safely begin exercising.

PRIOR TO EXERCISE

Prior to beginning any exercise program, including the activities depicted in this brochure, individuals should seek medical evaluation and clearance to engage in activity. Not all exercise programs are suitable for everyone, and some programs may result in injury. Activities should be carried out at a pace that is comfortable for the user. Users should discontinue participation in any exercise activity that causes pain or discomfort. In such event, medical consultation should be immediately obtained.



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