



The Healthy Female Athlete

- **What are some of the benefits of playing sports?**
- **What health problems should I be aware of if I play sports?**
- **What is disordered eating?**
- **What is the female athlete triad?**
- **What causes the female athlete triad?**
- **What are the symptoms of the female athlete triad?**
- **What changes in my period should I be concerned about?**
- **What is low bone mass?**
- **Can these health problems cause permanent damage?**
- **Who can I talk to if I am concerned that playing sports is harming my health?**
- **How can sports-related health problems be treated?**
- **What can I do to stay healthy as an athlete?**
- **Should I stop playing sports if I have these health problems?**
- **Glossary**

What are some of the benefits of playing sports?

Playing sports is a great way to get the exercise you need while practicing physical skills. It is good for both your body and your mind. It also gives you a chance to make friends, have fun, and compete. But even with all of these benefits, you should be aware of certain health problems that can come with being a female athlete.

What health problems should I be aware of if I play sports?

Girls who play sports are very active at a time when their bodies are still growing and changing. You may be more likely to injure yourself because your body hasn't finished developing yet. Intense physical activity also can affect things like hormone levels. Hormones are the chemical messengers in your body. Female hormones, like **estrogen** and **progesterone**, help regulate your menstrual period. Estrogen also is needed to help keep your bones strong. Changes in estrogen levels brought on by strenuous physical activity can affect your overall physical development, your period, and bone health.

Some girls who play sports develop an intense focus on their weight. There's often a lot of pressure from your coach or parents to succeed if you play sports. You may feel responsibility to your teammates. You may feel a need to be "perfect." This type of thinking can put you at risk of developing bad eating habits (called "disordered eating").

What is disordered eating?

Disordered eating is an unhealthy way of eating that sometimes happens when people try to lose weight. Examples of disordered eating include the following:

- Fasting
- Skipping meals
- Extreme dieting
- Making yourself vomit
- Using **diuretics**, **laxatives**, or stimulants

Disordered eating is not the same thing as an eating disorder, such as **anorexia nervosa** or **bulimia**, but it can be serious. Disordered eating also puts you at risk of a true eating disorder.

What is the female athlete triad?

The female athlete triad refers to three problems that often are found together in girls who play sports:

1. Weight loss or being underweight (often because of disordered eating)
2. Irregular or missed periods
3. Low bone mass (weakened bones)

What causes the female athlete triad?

In women, weight, estrogen levels, and bone density are all related. Losing too much weight can reduce how much energy you have to fuel your body's activities. Drastic weight loss causes you to lose fat, but you also will lose muscle mass. Fat is the tissue in your body that stores energy. If you lose too much fat, your body starts to use muscle for energy instead. Your body also will try to conserve energy by reducing the levels of estrogen in your body. Decreasing estrogen levels can put you at risk of weakened bones and stress fractures. Your **immune system** also may be affected, and you may get sick more often. In fact, if your body's systems aren't working as they should, your athletic performance could suffer.

What are the symptoms of the female athlete triad?

The following can be warning signs for the female athlete triad or other problems:

- Irregular or missed periods
- Changes in weight, especially a lot of weight loss
- Feeling tired
- Excessive focus on your weight
- Feelings of guilt if you don't exercise
- Limiting your food intake, fasting, or purging
- Eating in secret
- Stress fractures

What changes in my period should I be concerned about?

As a teen, your **menstrual cycle** may not always be regular, so it can be hard to tell if a change in your cycle is normal or not normal. But there are a few changes in your menstrual cycle that may signal that something is wrong. If you have any of the following changes, see your doctor:

- You get a period more frequently than every 21 days or the time between periods is longer than 45 days.
- Your periods last longer than 7 days.
- Your periods were regular and now are irregular.
- You haven't had a period in 3 months.

Sometimes an athlete's body fat and estrogen levels are so low that she doesn't start her period. If you are age 14 years, you are an athlete, and you've never had a period, it is time to talk to your doctor.

What is low bone mass?

Bone mass is the amount of healthy bone tissue that is in your bones. Having enough bone mass ensures that your bones stay strong. Most of your bone mass is created when you are a child and a teen. It is affected by nutrition and estrogen. Adding bone mass is not something you can do later.

This is where healthy eating comes in. You need to eat enough healthy foods to create energy to grow bone mass. Getting enough nutrition also affects estrogen levels. Estrogen helps keep bones healthy. If you are having regular periods, your estrogen levels are probably good. But once you start missing periods, your estrogen levels may decrease and **bone loss** may occur.

Eating healthy means getting a combination of proteins, carbohydrates, and fats. Every day you should be eating grains, fruits, vegetables, protein, and dairy. Protein provides the nutrients needed to grow and repair muscles. Carbohydrates fuel your daily activity. Fats help your immune system function well, and they help your body use important vitamins.

Can these problems cause permanent damage?

Yes. Low levels of estrogen can affect your future reproductive health. You may have problems with fertility (your ability to get pregnant) later. Low levels of estrogen can lead to low bone density and **osteoporosis**. This can lead to fractures (broken bones).

Who can I talk to if I am concerned that playing sports is harming my health?

If you have any warning signs of the female athlete triad or other problems, you should talk to your parents and your coach. You also should see your doctor.

Sometimes it is hard to talk to your parents or a coach. You may feel like you cannot change your behavior without disappointing them. It is OK to want to excel, but not at the expense of your health. Your parents and coach should understand this. Your long-term health and safety are the main concerns.

Working together, you, your parents, coach, doctor, and a sports nutritionist can come up with a plan for you to stay healthy and continue to play sports.

How can sports-related health problems be treated?

In some ways, treating the female athlete triad is easy. It is simply a matter of making sure you're getting enough **calories** and nutrition to support the amount of physical activity that you do. You may need to eat more healthy foods and maybe spend less time training. Many committed athletes will find it hard to train less, but it is important to try. You may find that your sports performance improves when your nutrition is better and your body is healthier. You also need to weigh enough to have periods to protect your reproductive system and bones. Other ways to keep your bones healthy include getting 1,300 mg of calcium daily from calcium-rich foods and making sure you get 600 international units of vitamin D every day.

What can I do to stay healthy as an athlete?

Ask your doctor what a healthy weight for you is, and don't go below that weight. Be sure you are taking in enough calories and eating healthy foods. Make sure you recognize what disordered eating is, and if you start behaving this way, seek help. Pay close attention to your periods, and tell your doctor if you notice changes.

Should I stop playing sports if I have any of these health problems?

Probably not. Exercise and sports are good for you. But you may have to change your level of activity and your eating habits.

Glossary

Anorexia Nervosa: An eating disorder in which distorted body image leads a person to diet excessively.

Bone Loss: The gradual loss of calcium and protein from bone, making it brittle and more likely to fracture.

Bulimia: An eating disorder in which a person binges on food and then forces vomiting or abuses laxatives.

Calories: Units of heat used to express the fuel or energy value of food.

Diuretics: Drugs given to increase the production of urine.

Estrogen: A female hormone produced in the ovaries.

Immune System: The body's natural defense system against foreign substances and invading organisms, such as bacteria that cause disease.

Laxatives: Products used to empty the bowels.

Menstrual Cycle: The monthly process of changes that occur to prepare a woman's body for possible pregnancy. A menstrual cycle is defined from the first day of menstrual bleeding of one cycle to the first day of menstrual bleeding of the next cycle.

Osteoporosis: A condition in which the bones become so fragile that they break more easily.

Progesterone: A female hormone that is produced in the ovaries and that prepares the lining of the uterus for pregnancy.

If you have further questions, contact your obstetrician–gynecologist.

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