

Hormonal Changes

Effect on Bones

Estrogen and progesterone help bone growth. If hormone levels are low for a long time, such as during too much exercise, calcium will be lost from the bones. This loss is similar to that which occurs after menopause. It may result in broken bones, especially the spine and hips. More often, however, bone growth is improved with exercise.

Reversing the Effects

The reason for exercise-related hormone changes are complex and not well understood. What is known is that these changes can be reversed with small reductions in training or small weight gains. Certainly women who have irregular periods, no matter what the cause, should see a doctor. Women who have a history of irregular periods could have their bone density measured to determine if there has been any associated bone loss.

Iron Levels

Active women must maintain proper iron levels in the body. Iron is found in hemoglobin, which is in the red blood cells carrying oxygen from the lungs to the tissues. Iron is also an important part of many body proteins and cell components. Women who menstruate risk having low iron because of the regular loss of blood (and therefore iron) that occurs each month. Very active women have an added risk because their bodies absorb less iron. They also lose iron with sweat and have a breakdown of red blood cells in some of the tissues.

Red meat provides the best source of iron. Any red meat and the dark meat of poultry provide a form of iron called heme iron, which is more easily used than the iron found in vegetables and grains. It is most effective when combined with vegetable proteins. For example, split-pea soup with ham, or chicken soup with lentils are high-iron combinations. Vitamin C, plentiful in fruits, will also increase iron absorption.

Some people who restrict meat from their diets are also counting calories. These people may cut back on other food groups which supply iron. One way to increase iron, especially if calories are being limited, is to choose breads, cereals and pasta with "enriched" or "fortified" on the label.

The single or combined effect of loss of iron through menstruation, exercise and diet restrictions may cause iron deficiency. The symptoms of low iron include tiring easily and poor performance. If iron stores become too low, anemia will result and the added symptoms of this include paleness, greater fatigue and shortness of breath.

All women should eat a diet with enough iron (see table). It is also important that they have hemoglobin levels checked on a regular basis by a doctor. For those at risk of low iron, the body's iron stores should be measured.

Increasing Iron Intake

To be sure you are taking in enough in your food, try the following:

At each meal, eat foods that are high in vitamin C. Vitamin C helps the body use iron. Drink orange juice with an iron enriched cereal, or combine pasta with broccoli, tomatoes and green peppers.

Sources of Iron	Amount	Iron (mg)
<i>(contain heme iron)</i>		
Pork chop	3.5 oz	4.0
Lean ground beef	3.5 oz	3.4
Lamb (leg)	3.0 oz	2.1
Turkey (dark)	3.0 oz	1.9
Chicken	3.0 oz	1.0
Tuna	3.0 oz	1.0
<i>(contain non-heme iron)</i>		
Dried apricots	12	6.0
Dates	9	5.0
Baked beans	1/2 c	3.0
Kidney beans	1/2 c	3.0
Raisins	1/2 c	2.0
Spinach	1/2 c	2.0
Green beans	1/2 c	1.0
Enriched pasta	1/2 c	1.0