



Pumping the Iron

Iron deficiency is a significant health problem which affects many women and children. It is the most common nutrient deficiency in the United States.

What Is Iron Deficiency Anemia?

Iron deficiency is a condition where red blood cells are small and pale due to their lack of hemoglobin. Hemo-globin carries oxygen throughout the body. Without a sufficient amount of dietary iron, the body depletes its iron reserves and produces less hemoglobin. As a result, cells lack the oxygen necessary to produce energy. The result is fatigue, weakness, and headaches.

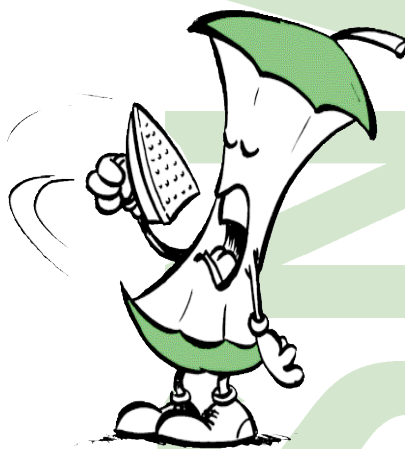
Why Does It Occur?

Iron deficiency anemia is relatively common in females, usually due to menstrual blood losses of iron and increased iron needs during pregnancy. On the other hand, iron deficiency anemia is uncommon in males, occasionally occurring as a result of abnormal gastrointestinal bleeding. Iron deficiency can also result from a low iron diet and/or poor iron absorption.

Iron Absorption

Iron is present in food as heme and nonheme iron. 30-60% of the iron in meat, fish and poultry is heme. Nonheme iron is found in dried fruits, some vegetables, beans, and eggs. Heme iron is absorbed at a greater rate (25%-35%) than non-heme iron (10%). If you combine foods containing heme and nonheme iron in the same meal, your body can absorb the nonheme iron more effectively. Also, foods rich in vitamin C (like citrus fruits and tomatoes) can increase iron absorption. Certain substances such as antacids, tea, and coffee can decrease iron absorption.

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Can I Tell If I Am Anemic?

Some individuals do not show overt symptoms of anemia, even though deficiencies in the diet may have already depleted the body's iron stores. Others may feel tired, have less energy, or look pale. Anemia can also cause shortness of breath and can reduce the body's ability to fight infections. Chronic severe anemia can lead to more serious symptoms. Several blood tests can be used to detect iron deficiency anemia.

Sources of Iron

The best way to ensure your body gets enough iron is to eat iron-rich foods. Animal sources, which are more easily used by the body, include liver, red meat, poultry, clams, and oysters. Iron-rich plant sources include beans, dark green leafy vegetables, and raisins. Iron-fortified cereals are also a great way to increase your iron intake. Iron supplements should only be used if recommended by a medical professional. Excess iron is toxic.

Tips to Help Increase Your Iron Intake:

- Eat adequate amounts of meat, fish, poultry, beans, eggs, vegetables and iron-fortified cereals.

- Consume vitamin C rich foods such as orange juice, tomatoes, and berries with your meals to enhance iron absorption.
- Avoid drinking coffee or tea with your meals.
- Combine foods containing non-heme iron (fruits, vegetables, beans, and eggs) with sources of heme iron (meat, fish and poultry) to increase the absorption of iron.

Please visit www.snac.ucla.edu to learn about the iron content of a variety of foods.

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TIPS TO HELP INCREASE YOUR IRON INTAKE

- The RDA for iron is 8mg/day for men (ages 19 and older), and 18mg/day for women (ages 19 through menopause), based on the assumption that approximately 10% of the iron consumed will be absorbed.
- Principle sources of iron include: meat, fish, poultry, eggs, beans, iron-fortified cereals, dried fruits, and dark green leafy vegetables.
- An average of 10% of the iron you eat is absorbed through the intestines. Vitamin C enhances this process by preventing iron from binding to compounds which cannot be absorbed. Therefore, it is best to eat fruits and vegetables rich in vitamin C (see list below) along with foods high in iron.

Good Sources of Vitamin C

Broccoli	Green Peppers
Brussel Sprouts	Orange Juice
Cantaloupes	Oranges
Chili Peppers	Strawberries
Grapefruit Juice	Tomato Juice
Grapefruits	Tomatoes

- The iron in meat and animal products is absorbed twice as efficiently as that in plant foods. Keep this in mind if you are a vegetarian, and compensate by eating other sources of iron.
- Meat, poultry, and fish enhance the absorption of iron in plant foods. Eat them together for greater nutritional value.
- Some cereals are fortified with iron and contain 10-18 mg. of iron per serving. Approximately 10% of this will be absorbed, which is adequate to meet your iron needs. Compare the nutritional information on cereal boxes to determine which are the best sources of iron.
 - An extremely high intake of calcium, over 2,500 mg. per day, can decrease the absorption of iron. Avoid taking calcium supplements with iron-rich meals.
 - The tannic acid in tea interferes with the absorption of iron by approximately 50%. Coffee also reduces iron absorption. Drinking tea or coffee with meals is not recommended if you wish to increase your iron intake.

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RECOMMENDED DAILY ALLOWANCE (RDA)

(for individuals 19 years and over)

Women - 18 milligrams of iron per day.

Men - 8 milligrams of iron per day.

APPROXIMATE IRON CONTENT OF SELECTED FOODS

(in milligrams)

Animal Foods

Chicken Liver (3 1/2 oz.)	8.4
Oysters (3 1/2 oz.)	5.5
Lean Meats (3 1/2 oz.)	3.0
Cod Fish (3 1/2 oz.)	1.1
Chicken (3 1/2 oz.)	1.1
Egg (1 medium)	1.0

Dried Beans and Peas

Garbanzo Beans (cooked, 3 1/2 oz.)	3.0
Kidney Beans (cooked, 3 1/2 oz.)	2.4
Lentils (cooked, 3 1/2 oz.)	2.1
Peas (cooked, 3 1/2 oz.)	1.8

Grains

Iron-fortified Cereal (1 cup)	18.0
Oatmeal, Instant (6 oz.)	6.3
Spaghetti (1 cup)	1.6
Wheat Bread (1 slice)	0.8

Fruits

Prune Juice (1 cup)	3.0
Raisins (1/2 cup)	1.8

Vegetables

Mustard Greens (cooked, 1/2 cup)	1.8
Broccoli (cooked, 1/2 cup)	0.6
Green Beans (cooked, 1/2 cup)	0.4