

# *Pumping Iron*

## **Why do I need iron?**

Iron is an essential mineral that is part of a blood protein called *hemoglobin*. Iron's job in hemoglobin is to carry oxygen through the blood to every cell in your body, including muscle cells and brain cells.

When iron is lacking, the body begins drawing from its iron reserves (called *ferritin*). As the reserves become depleted, hemoglobin levels drop, and the body starts producing smaller and fewer red blood cells that can't meet the oxygen demands of the body. Without adequate oxygen, muscle, brain, and other cells cannot produce energy and cannot perform their best. This is called iron deficiency anemia.

## **What causes iron deficiency anemia?**

Iron deficiency is the most common nutrient deficiency in the United States. Deficiency can result from low dietary intake, poor iron absorption, and/or excessive iron loss (due to heavy menstrual bleeding in women, abnormal bleeding from an injury or disease, or excessive iron loss from very intense athletic training). Infants younger than 2 years old, adolescent girls, pregnant women, the elderly, and female athletes (especially those involved in endurance sports) are considered at highest risk for iron deficiency anemia.

## **What are the symptoms of anemia?**

Some people with anemia have no noticeable symptoms. Others may feel tired, have difficulty concentrating, look pale, develop thin, concave nails, and experience low energy, poor exercise tolerance, unusually rapid heart rate, and shortness of breath. Simple blood tests ordered by a clinician can detect low iron stores and iron deficiency anemia.

<u>Diagnosis</u>	<u>Blood test findings</u>
Low iron stores:	Ferritin < 20 Hemoglobin normal
Iron deficiency anemia:	Ferritin < 20 Hemoglobin < 12 (women); < 14 (men)

## **How much iron do I need?**

The Recommended Dietary Allowances (RDA) for iron:

Men and post-menopausal women:	8 mg
Menstruating women:	18 mg
Pregnant women:	30 mg

## **Where can I get iron in foods?**

Iron occurs in two forms in foods:

- **Heme iron** is found in animal foods like meat, poultry, and fish. This type of iron is most readily absorbed.
- **Non-heme iron** is found in plant foods like beans, peas, dark green leafy vegetables, dried fruit, enriched grains, fortified cereals and nutrition bars, and in the animal foods mentioned above. This type of iron is less readily absorbed.

*See back for the iron content of common foods.*

Foods with Heme Iron		Foods with Non-Heme Iron	
Oysters (3 oz.)	7.82 mg	Fortified cereal (1 oz)	4.5-18 mg
Beef liver (3.5 oz.)	6.77 mg	Tofu, raw (1/2 cup)	6.65 mg
Ground beef, extra lean, (3.5 oz.)	2.35 mg	PowerBar, and other fortified bars (1)	6.30 mg
Lean steak, eye-of round (3.5 oz.)	1.95 mg	Oatmeal, instant (1 packet)	6.30 mg
Lean ham (3.5 oz.)	1.48 mg	Lentils (1 c.) Kidney beans (1 c.)	6.59 mg 5.20 mg
Chicken, dark meat (3.5 oz.)	1.33 mg	Garbanzo beans (1 c) Black beans (1 c.)	4.74 mg 3.61 mg
Tuna, light, cnd. in water (3 oz.)	1.30 mg	Spinach, boiled (1/2 cup)	3.21 mg
Turkey slices, fat free Louis Rich (4 slices)	1.08 mg	Enriched white rice or pasta, cooked (1 c.)	1.90 mg
Chicken breast (3.5 oz.)	1.06 mg	Peas, green (1.2 cup)	1.26 mg
Salmon, wild* (3 oz.)	0.88 mg *only 0.29 mg in farmed salmon	Dried figs (4) Dried apricots (10 halves)	1.67 1.65
Pork, loin chop (3.5 oz.)	0.85 mg	Raisins (1/3 cup) Prunes (5)	1.04 mg 1.04 mg
Fish fillet, lightly battered, Mrs. Paul's (1)	0.70 mg	Wheat bread (1 slice)	0.9 mg
Egg (1 whole)	0.59 mg	Mustard greens, boiled (1/2 cup)	0.49 mg
Cod fish (3 oz.)	0.42 mg		

### **What can I do to maximize my iron intake?**

- Enjoy several iron-rich foods from the list above. Aim for one iron-rich food at every meal.
- Combine vitamin C-rich foods with iron-rich foods. Vitamin C increases iron absorption. This is especially important for vegetarians who rely on poorly absorbed iron from plant foods. Vitamin C-rich foods include citrus fruits and juices (orange and grapefruit), berries, cantaloupe and other melons, tomatoes, bell peppers, potatoes, and broccoli.
- If you drink coffee or tea, drink them 1 or 2 hours before you eat. Substances in coffee and tea (called tannins) interfere with iron absorption.
- Use an iron-skillet for cooking. Some of the iron leaches into the food you are preparing.

### **Should I take a supplement?**

**Men:** Since your needs are much lower than women's, it's easy to get the RDA from food sources alone. An iron supplement is not usually necessary. If you choose to take a daily multivitamin-mineral supplement, make sure it provides no more than 10 mg iron. Large amounts of iron are toxic.

**Women:** If you are menstruating and very active (or if you're pregnant), it's probably a good idea to take a daily multivitamin-mineral supplement with 18 mg iron (30 mg if you're pregnant). Avoid larger amounts of iron unless you have been diagnosed with iron deficiency anemia by a clinician. Large amounts of iron are toxic.

**NOTE:** Avoid taking calcium supplements at the same time as your iron supplement. Iron and calcium compete with one another for absorption.