

Dietary sources of iron

| Food | Approximate measure | Iron (mg) |
|------------------------------------|---------------------|------------------|
| High iron sources | | |
| Cream of Wheat (quick or instant)* | 1/2 cup | 7.8 |
| Kidney, beef [¶] | 2 oz (60 g) | 5.3 |
| Liver, beef [¶] | 2 oz (60 g) | 5.8 |
| Liver, calf [¶] | 2 oz (60 g) | 9.0 |
| Liver, chicken [¶] | 2 oz (60 g) | 6.0 |
| Liverwurst [¶] | 2 oz (60 g) | 3.6 |
| Prune juice | 1/2 cup | 5.1 |
| Spinach | 1/2 cup | 3.2 |
| Moderate iron sources | | |
| All-Bran cereal | 1/2 cup | 2.9 |
| Almonds, dried unblanched | 1/2 cup | 3.0 |
| Dried beans and peas | | |
| Baked beans, no pork | 1/4 cup | 1.5 |
| Blackeye peas, cooked | 1/4 cup | 0.8 |
| Chick peas, dry | 1/4 cup | 3.5 |
| Great northern beans, cooked | 1/4 cup | 1.3 |
| Green peas, cooked | 1/4 cup | 1.4 |
| Lentils, dry | 1/4 cup | 3.4 |
| Lima beans, cooked | 1/4 cup | 1.3 |
| Navy beans, cooked | 1/4 cup | 1.3 |
| Red beans, dry | 1/4 cup | 3.5 |
| Soybeans, cooked | 1/4 cup | 1.4 |
| White beans, dry | 1/4 cup | 3.9 |
| Beef, cooked | 2 oz (60 g) | 2-3 ^Δ |
| Ham, cooked | 2 oz (60 g) | 1.3 |
| Lamb, cooked | 2 oz (60 g) | 1.9 |
| Peaches, dried | 1/4 cup | 2.4 |
| Peanuts, roasted without skins | 3 1/2 oz (100 g) | 3.2 |
| Pork, cooked | 2 oz (60 g) | 2-3 [◇] |

| | | |
|--|------------------|----------|
| Prunes, dried | 2 large | 1.1 |
| Scallops | 2 oz (60 g) | 1.6 |
| Turkey, cooked | 2 oz (60 g) | 1.7 |
| Approximate iron content of children's favorite foods | | |
| Hamburger, small | 1 | 3.0 |
| Large | 1 | 5.2 |
| Big Mac | 1 | 4.3 |
| Quarter Pounder | 1 | 5.1 |
| Spaghetti with meatballs | 1 cup | 3.3 |
| Frankfurter and beans | 1 cup | 4.8 |
| Pork and beans | 1 cup | 5.9 |
| Raisins [§] | 5/8 cup | 3.5 |
| Cereals, fortified | 1 serving | 4.5-17.8 |
| Nuts [§] | 1 cup | 5.0-7.0 |
| Seeds, sunflower [§] | 3 1/2 oz (100 g) | 7.1 |
| Chile con carne | 1 cup | 3.6 |
| Beef burrito or tostado | 1 medium | 3.4-4.6 |
| Cheese pizza | 2 slices | 3.0 |
| Cheese pizza with beef | 2 slices | 4.8 |
| White bread | 1 piece | 0.7 |

* Or other fortified cereals which contain 10 mg of iron per ounce or 100 percent RDA per serving.

¶ As organ meats are generally high in cholesterol, these iron-rich foods should be eaten in moderation.

Δ Depending on cut, the greatest amounts of iron are generally found in the chuck, flank, and bottom round cuts of beef.

◇ Depending on cut, the greatest amounts of iron are generally found in the loin, sirloin, tenderloin, and picnic shoulder cuts of pork.

§ Raisins, nuts, and seeds are not generally recommended for children under age three because of risk of choking.

Data from: Walker WA, Watkins JB (Eds), *Nutrition in Pediatrics, 2nd ed*, BC Decker, Inc, London 1997.

Graphic 73962 Version 6.0



[Home](#) → [Medical Encyclopedia](#) → Iron in diet

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Iron in diet

Iron is a mineral found in every cell of the body. Iron is considered an essential mineral because it is needed to make hemoglobin, a part of blood cells.

Function

The human body needs iron to make the oxygen-carrying proteins hemoglobin and myoglobin. Hemoglobin is found in red blood cells and myoglobin is found in muscles.

Food Sources

The best sources of iron include:

- Dried beans
- Dried fruits
- Eggs (especially egg yolks)
- Iron-fortified cereals
- Liver
- Lean red meat (especially beef)
- Oysters
- Poultry, dark red meat
- Salmon
- Tuna
- Whole grains

Reasonable amounts of iron are also found in lamb, pork, and shellfish.

Iron from vegetables, fruits, grains, and supplements is harder for the body to absorb. These sources include:

Dried fruits:

- Prunes
- Raisins
- Apricots

Legumes:

- Lima beans
- Soybeans
- Dried beans and peas
- Kidney beans

Seeds:

- Almonds
- Brazil nuts

Vegetables:

- Broccoli
- Spinach
- Kale
- Collards
- Asparagus
- Dandelion greens

Whole grains:

- Wheat
- Millet
- Oats
- Brown rice

If you mix some lean meat, fish, or poultry with beans or dark leafy greens at a meal, you can improve absorption of vegetable sources of iron up to three times. Foods rich in vitamin C (such as citrus, strawberries, tomatoes, and potatoes) also increase iron absorption. Cooking foods in a cast-iron skillet can also help to increase the amount of iron provided.

Some foods reduce iron absorption. For example, commercial black or pekoe teas contain substances that bind to dietary iron so it cannot be used by the body.

Side Effects

LOW IRON LEVELS

The human body stores some iron to replace any that is lost. However, low iron levels over a long period of time can lead to iron deficiency anemia. Symptoms include lack of energy, shortness of breath, headache, irritability, dizziness, or weight loss. Physical signs of iron deficiency are a pale tongue and spoon-shaped nails.

Those at risk for low iron levels include:

- Women who are menstruating, especially if they have heavy periods
- Women who are pregnant or who have just had a baby
- Long-distance runners
- People with any type of bleeding in the intestines (for example, a bleeding ulcer)
- People who frequently donate blood
- People with gastrointestinal conditions that make it hard to absorb nutrients from food

Babies and young children are at risk for low iron levels if they do not get the right foods. Babies moving to solid foods should eat iron-rich foods. Infants are born with enough iron to last about six months. An infant's additional iron needs are met by breast milk. Infants that are not breastfed should be given an iron supplement or iron-fortified infant formula.

Children between age 1 and 4 grow rapidly. This uses up iron in the body. Children of this age should be given iron-fortified foods or iron supplements.

Milk is a very poor source of iron. Children who drink large quantities of milk and avoid other foods may develop "milk anemia." Recommended milk intake is two to three cups per day for toddlers.

TOO MUCH IRON

The genetic disorder called hemochromatosis affects the body's ability to control how much iron is absorbed. This leads to too much iron in the body. Treatment consists of a low-iron diet, no iron supplements, and phlebotomy (blood removal) on a regular basis.

It is unlikely that a person would take too much iron. However, children can sometimes develop iron poisoning by swallowing too many iron supplements. Symptoms of iron poisoning include:

- Fatigue
- Anorexia
- Dizziness
- Nausea
- Vomiting
- Headache
- Weight loss
- Shortness of breath
- Grayish color to the skin

Recommendations

The Food and Nutrition Board at the Institute of Medicine recommends the following:

Infants and children

- Younger than 6 months: 0.27 milligrams per day (mg/day)*
- 7 months to 1 year: 11 mg/day
- 1 to 3 years: 7 mg/day
- 4 to 8 years: 10 mg/day

*AI or Adequate Intake

Males

- 9 to 13 years: 8 mg/day
- 14 to 18 years: 11 mg/day

- Age 19 and older: 8 mg/day

Females

- 9 to 13 years: 8 mg/day
- 14 to 18 years: 15 mg/day
- 19 to 50 years: 18 mg/day
- 51 and older: 8 mg/day
- Pregnant women of all ages: 27 mg/day
- Lactating women 19 to 30 years: 9 mg/day

Women who are pregnant or producing breast milk may need different amounts of iron. Ask your health care provider what is appropriate for you.

Alternative Names

Diet – iron; Ferric acid; Ferrous acid; Ferritin
Diet – iron; Ferric acid; Ferrous acid; Ferritin

References

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