

IRON

Iron is a critical component of red blood cells, the cells that carry oxygen to the organs. Iron is also a component of muscle and of chemicals involved in the immune system. If the diet does not contain enough iron, stores are worn down over time and eventually body function suffers. Iron deficiency is the most common cause of **anemia**, a condition where there are not enough red blood cells to carry oxygen to tissues.

Children who are anemic may be pale and tired. Their exercise endurance may be poor and they may get out of breath easily. They may have difficulty concentrating and learning. Their ability to fight infection may be lessened.

Iron deficiency anemia is most common before age 5 and again in adolescence, but can happen at any age. Females are more prone to iron deficiency as teenagers because of monthly blood loss during menstrual periods.

Breast milk and formula are good sources of iron, so iron-deficiency anemia is uncommon before age six months. Infant foods rich in iron include: iron fortified baby cereals, green vegetables and meats.

However, when infants are weaned from breast milk or formula, special care must be taken to assure they get enough iron. Cow's milk does not contain iron, so toddlers who fill up on too much milk (or juice) can become anemic because they aren't hungry for other foods. Limit milk to 24 ounces a day. Limit 100% juice to 4-6 ounces per day.

Iron -Rich Foods

For children of all ages, and especially teens, include **iron-rich foods** daily. Examples include:

- green vegetables, especially dark leafy greens
- meat, especially red meat
- iron fortified cereals (Cheerios, Kix, Total, Rice Krispies, Raisin Bran, oatmeal etc)
- dried fruits like raisins
- beans
- eggs
- strawberries
- sweet potatoes

Iron supplements or vitamins with iron are available in both liquid, chewable and swallow tablets. These supplements can be helpful for children whose diets do not consistently contain enough iron. Iron is absorbed better when taken with vitamin C.

Daily Requirements

Toddlers: 7 mg daily

Ages 4 to 8 years: 10 mg daily

Ages 9 to 13 years: 8 mg

Adolescent boys: 11 mg

Adolescent girls: 15 mg

Iron Overdose

It is possible for children and teens to have too much iron; this usually happens when high doses of iron supplements are used over time unnecessarily. Check with us before using iron supplements for your child. Iron poisoning can also occur when iron pills or iron-containing vitamins are ingested all at once, usually by accident. Keep all medicines out of the reach of children. If you suspect your child overdosed on iron, call the New Jersey Poison Control Center: (800) 222-1222

Screening Tests

At each well child visit, we will review your child's diet. In addition, we will routinely check a blood count for anemia at the nine-month visit, after menstrual cycles begin for girls, and anytime we are concerned about iron.

Iron Content of Selected Foods*

Food	Portion	Iron, mg	Food	Portion	Iron, mg
Liver (Pork)	3.5 oz	17.92	Egg yolk	1 large	0.95
Clams, raw	3 oz	11.88	Brussels sprouts	½ cup	0.94
Cream of Wheat, instant cooked	¾ cup	9.0	Halibut, cooked	3 oz	0.91
Liver (beef)	3.5 oz	6.77	Broccoli, boiled	½ cup	0.89
Oysters, raw	6 medium	5.63	Bread, whole wheat	1 slice	0.86
Yeast, brewers	1 oz	4.9	Papaya nectar	8 oz	0.86
Spinach, boiled	½ cup	3.21	Frankfurter, beef	1 frank	0.81
Molasses, blackstrap	1 Tbsp	3.2	Tomato juice	½ cup	0.80
Potato, baked w/ skin	6.5 oz	2.75	Frankfurter, turkey	1 frank	0.71
Navy beans, canned	½ cup	2.42	Bread, white	1 slice	0.58
Hamburger, extra lean, broiled	3.5 oz	2.35	Apricots, raw	3 medium	0.58
Soybeans, green boiled	½ cup	2.25	Grapes, adherent skin	1 cup	0.41
Black-eyed peas, boiled	½ cup	2.14	Chocolate, sweet	1 oz	0.40
Raisins, seedless	2/3 cup	2.08	Banana, raw	1 medium	0.35
Avocado, California	1 medium	2.04	Lettuce, Romaine, shredded	½ cup	0.31
Rice, white enriched	1 cup	1.8	Ham, 11% fat	1 oz	0.28
Prune Juice	½ cup	1.51	Grape juice, frozen concentrate	8 oz	0.26
Tortilla, corn enriched	1 (1 oz)	1.42	Orange juice, frozen concentrate	8 oz	0.24
Chocolate, bittersweet	1 oz	1.4	Cheddar cheese	1 oz	0.19
Garbanzos, canned	½ cup	1.26	Yogurt, lowfat	8 oz	0.18
Chicken, light/dark w/o skin roasted	3.5 oz	1.21	Milk, 2%	8 oz	0.12
Prunes, dried, cooked	½ cup	1.18	Lettuce, iceberg	1 leaf	0.10
Oatmeal, cooked	¾ cup	1.08	Peanut butter, smooth	1 Tbsp	0.09
Egg, whole	1 large	1.04	Egg, white	1 large	0.01
Rice, brown, cooked	1 cup	1.0	Butter	1 tsp	0.01

* Adapted from Hodgkin G, ed. *Diet Manual Including a Vegetarian Meal Plan*. 7th ed. Loma Linda, Calif: The Seventh-Day Adventist Dietetic Assoc: 1990.

Devised 3/05, 11/07,2/11, 11/13, 9/15