

CORE HEALTH

NATUROPATHIC WELLNESS CENTER

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IRON

Iron is essential to all body cells because it is a central part of hemoglobin which carries oxygen in the blood. Iron deficiency anemia is a worldwide health problem which is especially common in young women and in children often caused by pregnancy, blood loss or a diet low in iron. It occurs when there is not enough iron in the red blood cells.

The typical symptoms of iron deficiency - lack of energy or tiredness - have many causes. Diagnosis by a blood test confirms the presence of iron deficiency anemia.

If your blood iron level is low, you should increase your intake of iron-rich foods and possibly take an iron supplement. Although iron is found in a variety of different foods and supplements, its availability to the body varies significantly. In general, the body does not readily absorb iron. Availability is partially determined by whether the iron is found in the form of HEME or NON-HEME iron.

HEME iron (Group A) is found only in meat, fish and poultry and is absorbed much more easily (about 10 times!!) than NON-HEME iron (Group B), which is found primarily in fruits, vegetables, dried beans, nuts and grain products.

The following factors will increase the iron absorption from non-heme foods:

- a good source of vitamin C (ascorbic acid) - i.e., oranges, grapefruits, tomatoes, broccoli, and strawberries, eaten with a Group B food
- a Group A food eaten with a Group B food
- Group B foods cooked in iron pots, such as a cast iron skillet

The following factors will decrease non-heme iron absorption:

- large amounts of tea or coffee consumed with a meal (the polyphenols bind the iron)
- excess consumption of high fiber foods or bran supplements (the phytates in such foods inhibit absorption)
- High intake of calcium - take your calcium supplement at a different time from your iron supplement.

The Recommended Dietary Allowance (RDA) for iron for non-vegetarian premenopausal women is 18 mg/day. The RDA for non-vegetarian men and postmenopausal women is 8 mg/day. Because of iron absorption issues in a healthful, high-fiber vegetarian diet, the RDAs for vegetarians are higher - 14 mg/day for

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vegetarian men and 33 mg/day for vegetarian women. Vegetarians do not have a higher incidence of iron deficiency than do meat eaters.

Iron has a moderate to high potential for toxicity because very little iron is excreted from the body. Thus, iron can accumulate in body tissues and organs when normal storage sites are full.

In children, acute toxicity can occur from overdoses of medicinal iron. Ingestion of as few as five or six high-potency tablets can provide amounts of iron that can be fatal to a child of 22 pounds. Consuming 1 to 3 grams of iron can be fatal to children under six and lower doses can cause severe symptoms such as vomiting and diarrhea. **It is important to keep iron supplements tightly capped and away from children's reach.** Any time excessive iron intake is suspected, immediately call your physician or Poison Control Center, or visit your local emergency room. In adults high intakes of iron supplements are associated with constipation, nausea, vomiting, and diarrhea, especially when the supplements are taken on an empty stomach.

Sample Menus Providing More Than 15 milligrams of Iron

Excerpted from the book *Simple Vegan: Quick Vegetarian Meals* by Debra Wasserman.
Nutrition section by Reed Mangels Ph.D., R.D. (ISBN 0-931411-20-3)

IRON (mg)

Breakfast:

1 serving Oatmeal Plus (p. 23) 3.8

Lunch:

1 serving Tempeh/Rice Pocket Sandwich (p. 94) 4.7

10 Dried Apricots 1.6

Dinner:

1 serving Black-Eyed Peas and Collards (p. 76) 2.1

1 serving Corn Bread (p. 21) 2.6

1 slice Watermelon 1.0

TOTAL 15.8

Breakfast:

Cereal with 8 ounces of Soymilk 1.5

Lunch:

Kidney Bean Chili (1 cup kidney beans) 5.2

1/4 cup Sunflower Seeds 1.2

1/4 cup raisins 1.1

Dinner:

4 ounces Seitan stir-fried with 4.0

1 cup Bok Choy 1.8

and sprinkled with 2 Tbsp Sesame Seeds 1.2

TOTAL 16.0

GROUP A - Heme iron sources

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Food Source	Serving Size (oz.)	Iron (mg)
beef, liver	3.0	7.5
beef, corned	3.0	2.5
beef, lean ground; 10% fat	3.0	3.9
*beef, round	3.0	4.6
*beef, chuck	3.0	3.2
*beef, flank	3.0	4.3
chicken, breast w/out bone	3.0	0.9
chicken, leg w/bone	2.0	0.7
chicken, liver	3.0	7.3
chicken, thigh w/ bone	2.3	1.2
cod, broiled	3.0	0.8
flounder, baked	3.0	1.2
*pork, lean ham	3.0	1.9
*pork, loin chop	3.0	3.5
salmon, pink canned	3.0	0.7
shrimp, 10 - 2 1/2 inch	1.1	0.5
tuna, canned in water	3.5	1.0
turkey, dark meat	3.0	2.0
turkey, white meat	3.0	1.2

*Lean, trimmed of separable fat

GROUP B - Non-heme sources

Food Source	Serving Size (oz.)	Iron (mg)
almonds, raw	10 - 12 each	0.7
apricots, dried, med.-size	10 each	1.7
bagel	1 whole	1.5
baked beans, canned	1/2 cup	2.0
bread, white	2 slices	1.4
bread, whole wheat	2 slices	1.7
broccoli, cooked	1/2 cup	0.6
broccoli, raw	1 stalk	1.1
dates	10 each	1.6
kidney beans	1/2 cup	3.0
lima beans	1/2 cup	1.8
macaroni, enriched, cooked	1 cup	1.9

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molasses, blackstrap	1 tbsp.	2.3
peas, frozen and prepared	1/2 cup	1.3
prune juice	1/2 cup	1.5
raisins, not packed	1/4 cup	1.0
rice, brown, cooked	1 cup	1.0
rice, white enriched, cooked	1 cup	1.8
spaghetti, enriched, cooked	1 cup	1.6
spinach, cooked	1/2 cup	2.0
vitamin supplements	varies	varies