

American Medical Woman's Association
Position Paper on Iron Supplements for Women and Girls, 2013
Marissa Orenstein, Parin Patel, Theresa Rohr-Kirchgraber

Iron, one of the most abundant minerals on earth, is essential for oxygen transport, cell growth, and cell differentiation in the body. Most iron is found in red blood cells and is derived from our diet. Foods that contain iron come from two sources, heme (or red blood cells) found in animal products, and non heme, found in vegetables and legumes. The body can use either type of iron but the absorption from animal products is more efficient. About 15-30% of the iron from animal products is absorbed and its absorption is not affected by other foods present, while only 2-20 % of plant-based iron is absorbed and the absorption is affected by other factors (Hurle 1997).

Meat proteins and vitamin C improve iron absorption from non heme sources, while tannins in teas, calcium, phytates*, and certain soybean proteins can decrease iron absorption (Monson 1988). Iron deficiency anemia is a global health issue. It is a risk factor for increased morbidity and mortality, and contributes to decreased quality of life. Iron deficiency is the most prevalent nutritional deficiency worldwide (WHO, 2001) and the 2nd most common in the US (CDC 2006). It is common among women. An unbalanced diet, the chronic use of antacids and the loss of blood (and therefore iron) thru menses contributes to the high worldwide prevalence of iron deficiency anemia. Iron deficiency can delay the development of normal infant motor and mental functions, increase the risk of small and preterm babies, and in older children and adults, cause fatigue, memory impairment, and impaired mental function (Grantham-McGregor 2001).

AMWA endorses the recommendations of the Centers for Disease Control (CDC). Adolescent women, 12-18 years of age and non-pregnant adult women of childbearing age should be screened every 5-10 years. Women with risk factors for iron deficiency should be screened annually.

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Two classes of women particularly vulnerable to iron deficiency include those who are pregnant and adolescent female athletes.

1) Pregnant women have increased circulating blood volume during pregnancy and must provide elemental requirements of the fetus (Blot et al 2011). Thus increased iron intake is essential to prevent maternal morbidity (Cogswell et al 2003). AMWA endorses routine low-dose iron supplementation during pregnancy **regardless of iron status** with increased doses as clinically warranted as outlined by Mitra et al 2011.

2) Adolescent female athletes are pre-disposed to iron deficiency for two main reasons: nutritional deficiency and increased hemolysis due to exercise (Brigham et al 1993 and Clarkson et al 1995). This population should be monitored and supplementation should be considered **when clinically necessary** after trials of nutritional management.

When supplements are needed, ferrous iron salts such as ferrous fumarate, ferrous sulfate, and ferrous gluconate are the best absorbed forms (Hoffman 2000). Only one supplement at a time is

recommended to improve absorption. Iron supplementation should be monitored to avoid overdose and iron overload. Care should be taken to keep this potentially toxic supplement away from children and given to children only under the care of a physician. Iron supplements may be associated with side effects such as constipation, black stools, and gastrointestinal upset which can be mitigated by a change in dose or other options.

Though symptoms of iron deficiency can include fatigue and depression, AMWA only supports the use of iron supplements for fatigue when there is proven iron deficiency. Iron supplements have not been shown to reduce fatigue in women with normal iron levels (Vaucher et al 2011). Furthermore, iron supplements do not help in cases of anemia caused by reasons other than iron deficiency. Iron supplementation in the absence of iron deficiency can lead to unnecessary oxidative stresses (Tawari et al. 2011); therefore an evaluation is warranted before iron supplementation begins.

Post-menopausal women and men are less likely to need iron supplements. Anemia in these groups, especially iron deficiency, requires further investigation to determine the underlying cause. Iron supplementation should be deferred until a thorough medical evaluation confirms that iron supplementation is clinically necessary.

AMWA Supports:

- 1.) Promotion of healthy eating of iron rich foods.
- 2.) Screening for anemia every 5 years in adolescents age 12-18 years of age
- 3.) Screening for anemia yearly if at risk for iron deficiency
- 4.) Routine low-dose iron supplementation during pregnancy regardless of iron status
- 5.) A full clinical evaluation before iron supplementation begins in post-menopausal women and all men.

Table 1: Selected Food Sources of Heme Iron

Food	Milligrams per serving	% DV*
Chicken liver, pan-fried, 3 ounces	11.0	61
Oysters, canned, 3 ounces	5.7	32
Beef liver, pan-fried, 3 ounces	5.2	29
Beef, chuck, blade roast, lean only, braised, 3 ounces	3.1	17
Turkey, dark meat, roasted, 3 ounces	2.0	11
Beef, ground, 85% lean, patty, broiled, 3 ounces	2.2	12
Beef, top sirloin, steak, lean only, broiled, 3 ounces	1.6	9
Tuna, light, canned in water, 3 ounces	1.3	7
Turkey, light meat, roasted, 3 ounces	1.1	6
Chicken, dark meat, meat only, roasted, 3 ounces	1.1	6
Chicken, light meat, meat only, roasted, 3 ounces	0.9	5
Tuna, fresh, yellowfin, cooked, dry heat, 3 ounces	0.8	4
Crab, Alaskan king, cooked, moist heat, 3 ounces	0.7	4

Table 1: Selected Food Sources of Heme Iron

Food	Milligrams per serving	% DV*
Pork, loin chop, broiled, 3 ounces	0.7	4
Shrimp, mixed species, cooked, moist heat, 4 large	0.3	2
Halibut, cooked, dry heat, 3 ounces	0.2	1

Table 2: Selected Food Sources of Nonheme Iron

Food	Milligrams per serving %	DV*
Ready-to-eat cereal, 100% iron fortified, $\frac{3}{4}$ cup	18.0	100
Oatmeal, instant, fortified, prepared with water, 1 packet	11.0	61
Soybeans, mature, boiled, 1 cup	8.8	48
Lentils, boiled, 1 cup	6.6	37
Beans, kidney, mature, boiled, 1 cup	5.2	29
Beans, lima, large, mature, boiled, 1 cup	4.5	25
Ready-to-eat cereal, 25% iron fortified, $\frac{3}{4}$ cup	4.5	25
Blackeye peas, (cowpeas), mature, boiled, 1 cup	4.3	24
Beans, navy, mature, boiled, 1 cup	4.3	24
Beans, black, mature, boiled, 1 cup	3.6	20
Beans, pinto, mature, boiled, 1 cup	3.6	21
Tofu, raw, firm, $\frac{1}{2}$ cup	3.4	19
Spinach, fresh, boiled, drained, $\frac{1}{2}$ cup	3.2	18
Spinach, canned, drained solids $\frac{1}{2}$ cup	2.5	14
Spinach, frozen, chopped or leaf, boiled $\frac{1}{2}$ cup	1.9	11
Raisins, seedless, packed, $\frac{1}{2}$ cup	1.6	9
Grits, white, enriched, quick, prepared with water, 1 cup	1.5	8
Molasses, 1 tablespoon	0.9	5
Bread, white, commercially prepared, 1 slice	0.9	5
Bread, whole-wheat, commercially prepared, 1 slice	0.7	4

*DV = Daily Value. DVs are reference numbers developed by the Food and Drug Administration (FDA) to help consumers determine if a food contains a lot or a little of a specific nutrient. The FDA requires all food labels to include the percent DV (%DV) for iron. The percent DV tells you what percent of the DV is provided in one serving. The DV for iron is 18 milligrams (mg). A food providing 5% of the DV or less is a low source while a food that provides 10–19% of the DV is a good source. A food that provides 20% or more of the DV is high in that nutrient. It is important to remember that foods that

provide lower percentages of the DV also contribute to a healthful diet. For foods not listed in this table, please refer to the U.S. Department of Agriculture's [Nutrient Database Web site](#).

* A phytate is a salt found in plants, mostly grains that forms a compound with substances such as calcium, zinc and iron, and makes them difficult to be absorbed by the body.

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