

Iron Supplements: Treating Iron-Deficiency Anemia

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Although most individuals typically obtain a sufficient amount of iron by eating a well-balanced diet, iron supplementation may be warranted to build up iron stores in individuals with iron-deficiency anemia.

Iron-deficiency anemia is considered to be the most prevalent form of anemia in the United States, but the good news is that it can be effectively treated.¹⁻⁴ An estimated 4% of premenopausal women are considered to be iron deficient.⁵ In addition, certain patient populations—such as children younger than 2 years, adolescent girls and premenopausal women (due to menstruation), women during and after pregnancy, and patients of advanced age—are at greater risk of developing iron deficiency.²⁻⁴

According to the Centers for Disease Control and Prevention, although multiple factors may contribute to iron deficiency, the causes can be grouped into 2 main categories: increased iron needs, and decreased iron intake or absorption (Table 1⁶). The most common causes of iron deficiency include blood loss due to hemorrhagic loss and menstruation as well as poor diet and/or an inability of the body to absorb an adequate amount of iron from dietary means.²⁻⁸ Strict vegetarians may also be at risk of iron deficiency, but deficiency can be avoided if the diet contains iron-fortified foods such as grains, beans, and dark leafy vegetables.^{2,4,7}

Individuals who have had gastric bypass surgery or who have Crohn's disease or celiac disease may be unable to absorb enough iron.^{2,4,7} In addition, long-term use of pharmacologic agents such as salicylates, nonsteroidal anti-inflammatory drugs, anticoagulants, and corticosteroids may result in drug-induced blood loss due to direct irritation of the gastric mucosa or the tendency of these agents to increase bleeding, thus possibly increasing the risk of iron deficiency.²⁻⁴ Females with heavy or prolonged menstrual cycles are at greater risk of developing iron-deficiency anemia and often require

iron supplementation.³ Iron supplementation may also be needed during recovery from medical conditions such as peptic ulcer disease, cancer, esophageal varices, and injuries associated with significant blood loss (eg, wounds sustained in an automobile accident), as well as in individuals who have had recent surgery.²⁻⁴

TABLE 2: SIGNS OF IRON-DEFICIENCY ANEMIA
Fatigue or a general feeling of malaise
Pale skin
Weakness
Dizziness
Headache
Dyspnea, especially upon exertion
Inflammation or soreness of the tongue
Tachycardia
Numbness of the extremities
Cold intolerance
Split or spoon-shaped nails
Adapted from references 1-8.

The early signs and symptoms of iron deficiency are often vague and may go unnoticed initially. As the body becomes more iron deficient, the symptoms of iron deficiency become more apparent (Table 2¹⁻⁸). Some patients may present with pica—abnormal cravings to eat substances such as ice or dirt.⁵

Patients exhibiting signs of iron-deficiency anemia should be encouraged to seek medical evaluation by their primary health care provider to prevent further complications. In addition, patients exhibiting signs of anemia who are not pregnant, breast-feeding, or menstruating, or are not on a meat-restricted diet should always seek medical evaluation because anemia may be a symptom of a more serious medical condition.²⁻⁶

Nonprescription Iron Supplements

Nonprescription iron supplements are available as ferrous salts and ferric salts (Table 3).² Ferrous salts (ferrous fumarate, ferrous sulfate, and ferrous gluconate) are the best absorbed iron supplements and are often considered the standard compared with other iron salts.² Iron supplements are available in immediate- and controlled-release formulations in tablets and caplets, in enteric form to decrease gastric irritation, and in chewable and liquid formulations. Ferrous salt formulations may be administered with ascorbic acid to improve absorption. Some clinicians may advise patients to take

iron supplements with fruit juices high in ascorbic acid to improve absorption. Some combination products contain iron and ascorbic acid, such as Vitron-C (Insight Pharmaceuticals), which is formulated to help the body absorb iron more effectively and to cause less constipation.⁹

Feosol Complete Bifera HP & PIC iron (Meda Consumer Healthcare) is marketed as the only nonprescription iron supplement to contain heme iron (protein-based iron) and nonheme iron (plant-based iron).¹⁰ It is available in pill form and is associated with minimal gastrointestinal (GI) side effects.¹⁰

If iron supplementation is warranted, clinicians should consider which product is best for the individual patient, how well the iron is absorbed and tolerated, the dosing intervals, and the amount of elemental iron delivered per dose.²

Patient Counseling

Patients concerned about iron deficiency should not use iron supplements until they have been evaluated by their primary health care provider to ensure that supplementation is appropriate. When patients are counseled about iron supplementation, it is important to remind them that iron supplements may be associated with GI irritation, nausea, constipation, dark stools, and abdominal pain.^{2-5,7} To prevent iron toxicosis, patients using iron supplements should be reminded not to also take multivitamin supplements that contain iron.

Patients should be reminded that iron supplements should only be taken as directed under the supervision of their primary health care provider. Patients should be encouraged to contact their primary health care provider if they experience any adverse effects or their symptoms worsen. To monitor their iron level, patients should be advised to maintain routine checkups with their primary health care provider.

For the best absorption, iron supplements should be taken on an empty stomach; however, to avoid stomach irritation, many iron supplement manufacturers recommend that these supplements be taken with meals.² However, foods and beverages such as cereals, milk, tea, and coffee may decrease iron absorption.^{2,11} Because iron may interfere with the absorption of antibiotics such as tetracyclines and fluoroquinolones, iron supplements and antibiotics should be taken at least 2 hours apart.^{2,11}

During counseling, pharmacists should screen for potential interactions and contraindications. To prevent accidental poisoning, patients should be advised to store iron supplements in child-resistant containers and out of the reach of children.

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