

Anemia Following Weight Loss Surgery

Dorothy T. McFadden MA, RD, LDN, Bariatric Dietitian



Fatigue is a common complaint after weight loss surgery. It can be caused by inadequate fluid intake, protein depletion, low B12/folate intake or iron depletion. Iron is a relatively common deficiency after weight loss surgery. Studies have shown that 20 to 49 percent of gastric bypass patients develop an iron deficiency.

Why does this occur? There are several proposed reasons why iron deficiency is so common after weight loss surgery. First of all, both with the gastric bypass and gastric sleeve, there is decreased acid production which affects the absorption of iron. Intake of iron-

rich foods such as meats and iron-fortified cereals is often limited after surgery.

Red meat intolerance is a frequent complaint after all three weight loss surgery procedures. Inability to tolerate iron supplements due to increased nausea, vomiting, constipation, diarrhea, dark colored stools or gas pains can cause patients to stop taking their supplements. It has been estimated that 20 percent of patients who start oral iron supplements discontinue their supplements due to side effects.

In gastric bypass patients, the bypass of the first part of the small bowel (duodenum) decreases absorption of iron, as the duodenum is the most efficient part of the small bowel for iron absorption. Iron absorption is also affected by other factors. Coffee, tea, calcium, bran products, cocoa, and nuts can impair the absorption of iron. Medications that are frequently prescribed after weight loss surgery such as proton pump inhibitors (such as Prevacid®), and H2 blockers (such as Pepcid®) decrease the absorption of iron.

Iron supplementation should be spaced two hours apart from the above foods and medications to improve absorption. Ideally, iron should be taken on an empty stomach. Most people cannot tolerate taking iron on an empty stomach, so to improve tolerance, it is encouraged to take iron with food. Unfortunately, taking iron with food decreases absorption by 40 to 60 percent.

What is the recommended dose of elemental iron after weight loss surgery? For men and post menopausal women, the recommendation after weight loss surgery is 18 to 27 mg per day. For young menstruating women, the recommendation is 50 to 100 mg of elemental iron per day. Young women who take oral contraceptives can follow the same recommendation as post menopausal women. The use of oral contraceptives decreases blood loss from menstruation by as much as 60 percent, so the amount of iron recommended is decreased.

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Ingestion of iron-rich foods with foods high in vitamin C increases absorption. Foods high in iron include beef, chicken, turkey, eggs, dried lentils, peas, beans, fish, liver, peanut butter, soybeans, iron-fortified cereals and breads, raisins, prunes and apricots. High vitamin C foods include orange juice, oranges, kiwi, strawberries, broccoli, sweet potatoes, mango and pineapple

Symptoms of low iron or anemia include, fatigue, diminished exercise capacity, irritability, headaches and problems concentrating. As anemia gets worse, symptoms include brittle nails; spoon-shaped nails; hair loss, lightheadedness when standing up; pale skin color; shortness of breath; heart palpitations; and a sore tongue.

Pica can also occur. Pica is defined as "the persistent eating of non-nutritive substances for a period of at least one month, without an aversion to food." Compulsion to eat ice, dirt, clay, or laundry starch has been documented. Ice cravings seems to be the most common expression of pica after weight loss surgery with reports of patients ingesting up to 100 ounces of ice per day.

If you are diagnosed with low iron, additional iron supplementation is recommended. Oral iron supplements typically sold are ferrous sulfate, ferrous gluconate and ferrous fumerate. Ferrous sulfate is the least expensive and most commonly used over the counter iron supplement. However, it is not as effectively absorbed as ferrous fumerate. Each form of iron contains different levels of elemental iron. For instance, 325 mg of ferrous sulfate provides 65 mg of elemental iron, 325 mg of ferrous gluconate provides 35 mg of elemental iron, and 325 mg of ferrous fumerate provides 108 mg of elemental iron. In tablets, entericcoated and extended-release iron supplements are not recommended due to decreased absorption after weight-loss surgery.

It is well documented that the use of vitamin C increases the absorption of oral iron supplements. The recommended dose to treat depleted iron stores is 180 to 220 mg of elemental iron per day (taken in divided doses) plus 250 mg vitamin C. Iron levels should be rechecked in two months, and if levels do not improve with supplementation, then intravenous iron infusions are recommended. A referral is made to a hematologist, and the IV iron infusions are started. Intravenous iron is a safe and effective therapy for patients unresponsive to oral iron.

In conclusion, the best way to prevent iron deficiency anemia is to take your iron supplements as recommended and to follow up with your bariatric surgeon annually. Get your lab work completed prior to your annual follow up, so that your results can be reviewed with you and recommendations made to improve your nutritional status.



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