

## Iron Reduction Strategies

The following strategies will help to reduce both your intake of iron and the iron that is already stored in your body. Not all of these steps will be necessary for all patients. Please consult with your clinician to determine the recommended frequency of blood donation and which of the additional steps listed below are required. (For example, many patients are able to achieve iron balance without limiting beef and lamb if the preceding strategies, i.e., #1-10 below, are followed.)

1. Donate blood at a frequency that maintains serum ferritin <150 ng/mL (men) or <100 ng/mL (women) and iron saturation <45%, ensuring that hemoglobin stays >13% and ferritin does not drop below 30 ng/mL.
2. Do not consume organ meats, venison, clams, oysters, or mussels. These foods are very high in heme iron, the most absorbable form.
3. Consume coffee and/or tea with meals. Coffee and tea are rich in tannins, which inhibit non-heme (plant-based) iron absorption.
4. Consume a variety of fruits, vegetables, and other foods that are high in oxalic acid, phytic acid, and polyphenols, which inhibit non-heme iron absorption. These include dark leafy greens (e.g., spinach, kale), brightly colored fruits and veggies (beets, berries, etc.) nuts, chocolate, lentils (if tolerated), and spices/herbs.
5. Consume dairy products with meals (if tolerated). Dairy products are rich in calcium, which is the only substance known to decrease both heme iron (found in animal products) and non-heme iron.
6. Limit supplemental vitamin C to 200 mg/day (always between meals), which enhances iron absorption. Vitamin C in foods is fine.
7. Avoid sugar. It increases iron absorption by as much as four times in some cases.
8. Avoid alcohol until iron balance has been achieved. Alcohol elevates intestinal iron absorption, possibly by increasing stomach acid secretion. Once iron balance is achieved, moderate alcohol consumption (one drink per day) is permitted.
9. Avoid betaine HCl (hydrochloric acid) supplements or digestive enzymes that contain HCl. HCl increases iron absorption.
10. Avoid fortified foods or supplements/multivitamins that contain iron.
11. Limit consumption of beef and lamb to two to three times per week. They are also high in heme iron.
12. Take 300 mg of apolactoferrin twice a day on an empty stomach. Lactoferrin is the only natural substance known to remove iron that is already stored in the body. It is a safe alternative to pharmaceutical iron chelation for patients with mild iron overload that cannot donate blood (due to anemia or other restrictions), or a means of further reducing iron levels for patients that are able to donate blood.