



Pumping Iron in HHT



What is iron?

Iron is a mineral. In the body, it is an essential part of *hemoglobin*, which is the molecule in your blood that **transports oxygen** from your lungs to the cells in your body.

Certain individuals, like children and teens, menstruating or pregnant women, and athletic individuals, are at an increased risk of iron deficiency. **HHT also raises your risk of iron deficiency.** *Iron deficiency anemia* occurs when your body's iron stores get very low and you can not produce enough red blood cells to transport oxygen through your body. Symptoms of iron deficiency anemia include fatigue, lack of energy, pale skin, depressed immune function, and reduced mental performance.

How much iron do I need?

Normally, men should aim for 8 mg of iron per day, and women should aim for 18 mg. This includes both iron from foods and iron from supplements.

However, **people who have chronic bleeding and have low levels of iron in their bodies need more iron than this.** Talk to your doctor about how much iron YOU need each day.

How does my body absorb iron?

Heme iron (from meat) is more easily absorbed by the body, while non-heme iron (from meat and plant sources) is harder to absorb. Because vegetarians only consume non-heme iron, their bodies cannot absorb as much of it, so they are at a higher risk for iron deficiency. But other factors influence how your body absorbs iron as well. If you are *deficient in iron*, your body will absorb more of it from food than it would if you had good iron stores.

Here are some easy ways to increase your intake and absorption of iron:

- **Consume iron with a source of vitamin C to increase absorption.** Many fruits, vegetables, and juices are good sources of vitamin C, including citrus fruits and juices, cantaloupe, strawberries, broccoli, peppers, and tomatoes. E.g. drink a glass of orange juice with your morning oatmeal
- **Meat enhances absorption of non-heme iron**, e.g. beef in chili will help you absorb the iron in kidney beans
- **Cooking meals in cast iron pans** allows iron from the pan to be absorbed by the food

Where is iron found?

There are two types of iron found in foods. *Heme* iron is found only in animal-based foods, like meat, fish, and poultry, while *non-heme* iron is found in both animal-based foods and plant-based foods. Sources of iron include...

Animal Sources: Heme + Non-heme	Plant Sources: Non-heme
<i>Excellent source:</i> Beef, organ meats	<i>Excellent source:</i> Meat alternatives like pumpkin seeds, tofu, soybeans, lentils, and legumes
<i>Great source:</i> Shellfish like oysters, shrimp, and clams	<i>Good source:</i> Meat alternatives like nuts, eggs, and baked beans
<i>Great source:</i> Tuna, sardines	<i>Great source:</i> Blackstrap molasses
<i>Good source:</i> Chicken, turkey	<i>Good sources:</i> Grain products: In Canada, grain products like flour, pasta, and breakfast cereals are iron-fortified
	<i>Good sources:</i> Some fruits and vegetables e.g. cooked spinach , dried fruits like apricots, cooked green peas , and tomato sauce

For more information about sources of iron, talk to your dietitian.

What about oral iron medications?

Since people with HHT often need extra iron, your doctor might recommend iron replacement therapy. Iron is available in capsule, tablet, chewable tablet, and liquid form.

- Take your iron pills on an empty stomach, which means 2 hours after the last meal or 1 hour before eating. If you experience stomach cramps, nausea, or diarrhea when taking iron, you may take it with a small amount of food. As stated above, vitamin C helps you absorb iron so you can take your pill with a glass of orange juice.
- Your body can only absorb so much iron at one time, so take your prescribed daily iron dosage in two or three equally spaced doses throughout the day.
- Don't drink milk or take calcium supplements or antacids at the same time as your iron – wait at least 2 hours before taking your iron after consuming these.
- **Avoid** these foods when consuming your iron pills, because they decrease absorption:
 - **Foods containing phytates:** e.g. legumes, rice, whole grains
 - **Foods containing polyphenols:** e.g. coffee, tea, red wine, oregano
 - **Foods containing vegetable proteins:** e.g. soybeans
 - **Foods containing calcium:** e.g. dairy products
- Ask your doctor or pharmacist about your other medications. Some **antibiotics (e.g. tetracycline, penicillin, etc...)** and **other drugs** don't work as well if you take them at the same time as iron – wait at least two hours between. Also, if you **take acid suppressant medications (e.g. ranitidine, omeprazole, pantoprazole and others)**, talk to your doctor or pharmacist about what time of day to take your different pills.

These iron pills are considered “over the counter” because you don't need a prescription but they are kept behind the counter at the pharmacy. Tell the pharmacist which type of iron your doctor has suggested and the dosage, and they will give it to you.

Iron is available in different forms, and each type contains different amounts of “elemental iron.”

Elemental iron is how much iron in the pill is available for your body to absorb. Here are the common types:

Iron	Pill Size	Elemental Iron
Ferrous Fumarate	300 mg	90-100 mg
Ferrous Gluconate	300 mg	35 mg
Ferrous Sulfate	300 mg	60 mg
Triferexx-150	150 mg	150 mg
Proferrin	1 tablet	11 mg
Feramax 40	1 tablet	40 mg
Feramax 150	1 capsule	150 mg

Iron supplements can sometimes cause constipation. Here are some tips to help with this:

- Aim for 25-35 grams of fibre per day, but increase slowly by adding 1-2 high fibre foods per day (e.g. whole grains, fruits, vegetables, bran cereal). Be sure to drink 6 to 8 cups of fluid per day as you increase your fiber.
- Some evidence suggests that probiotics might help with constipation. Some probiotic yogurts also contain added fibre (e.g. some types of Activia brand yogurt)
- If consuming more fibre and fluid is not helping, ask your doctor about a laxative or stool softener

Diarrhea, nausea, or vomiting sometimes occur with high doses of iron supplements. This can be managed by taking iron in smaller doses throughout the day. Talk to your doctor about adjusting your iron rather than just stopping.

Black stools are normal when taking iron supplements, but if you notice blood in your stool or have cramps or sharp pains in your abdomen, talk to your doctor immediately.