

# Hemoglobin and Iron



**American  
Red Cross**

## What is hemoglobin?

You may have noticed that the Red Cross checks your hemoglobin before every blood donation by taking a small sample of blood by pricking your finger. Hemoglobin is a protein carried by the red blood cells that contains iron. A blood donor must have a hemoglobin level of at least 12.5 gm/dl to donate blood for another person. A low hemoglobin level may reduce your oxygen carrying capacity and make you feel tired and irritable. If your hemoglobin is too low, you may not be able to donate blood that day. This does not necessarily mean you are unhealthy, you just don't have a high enough hemoglobin level to share your red cells that day.

## What is iron?

Iron is necessary in building the proteins of red blood cells and is required for producing energy from food. It is an important factor in every activity your body performs. Iron in the hemoglobin molecule also helps carry carbon dioxide back to the lungs for removal.

## HIGH-IRON FOODS

- ✓ ready-to-eat cereals
- ✓ beans
- ✓ spinach
- ✓ beef
- ✓ shrimp
- ✓ tomatoes
- ✓ oysters
- ✓ broccoli
- ✓ rice
- ✓ peas
- ✓ potatoes
- ✓ watermelon

## IRON BUSTERS

- ✗ caffeinated beverages
- ✗ chocolate
- ✗ an excess of high-fiber foods
- ✗ some medications like antacids or phosphate salts



## Why might I have a low hemoglobin?

A low hemoglobin level could be caused by a diet low in iron-rich foods, blood loss, pregnancy or another medical condition.

## How can I boost my iron level?

By changing your diet to include more high-iron foods and avoiding substances that reduce iron absorption, you can improve your iron level, thereby improving your hemoglobin.

There are two types of iron – heme iron and non-heme iron. Heme iron, which is found in meat, fish and poultry, is more easily absorbed than the non-heme iron, which is found primarily in fruits, vegetables, dried beans, nuts and grain products. When you eat the two together, the non-heme iron is more easily absorbed. Foods high in vitamin C, like tomatoes, citrus fruits and red, yellow and orange peppers, can also help with the absorption of non-heme iron.

Avoiding iron busters, which are foods or substances that may reduce the absorption of iron by your body when consumed at the same time, is also important in boosting your iron level.

## What if I've been deferred?

If you were temporarily deferred from donating blood because of low iron levels, you are not alone. The majority of people who are deferred from donating blood are deferred for this reason. Iron levels can fluctuate daily, so we encourage you to follow the tips above to boost your hemoglobin and to schedule another appointment soon!