

UW Medicine

SPORTS, SPINE &
ORTHOPEDIC HEALTH

The Real Story Behind Running and Low Iron

For years serious runners have claimed that taking iron, even when they weren't anemic gave them more energy, helped them recover from workouts better, and made them faster. For years the medical establishment disputed these claims. So what is the real story behind iron? Should you be taking it? How much is enough?

WHAT YOU NEED TO KNOW

Iron is an element that is an essential part of hemoglobin, which is the molecule that carries oxygen to the tissues. If you don't have enough iron, your body can't make enough hemoglobin and your working muscles may not get as much oxygen to they need to perform their best. But iron is not just oxygen transporter. It is also involved as an essential part of the energy generating chemical reaction that occurs in the cells. Thus, low iron can affect runners in two ways.

Measuring iron is sometimes done by measuring the hemoglobin. The assumption is that if there is enough iron to make hemoglobin you must have enough iron. However, savvy athletes know to check their ferritin level. Ferritin is a marker of total body iron stores and ferritin might be low even when the hemoglobin is normal. It can be checked with a blood test. Studies have shown that up to 90% of female endurance athletes have low ferritin. Male athletes, particularly in endurance sports can also have low iron. Endurance athletes use more iron.

A normal ferritin level is usually considered 20 – 160 although it can vary from lab to lab. Most runners should aim for a ferritin of 25 – 30. Increasing your ferritin beyond that is unlikely to improve performance.

If you discover your ferritin is low there are many different ways to increase your iron levels. The best way is to eat meat, especially red meat. The iron in meat is more readily absorbed than the iron in vegetables.

If you are trying to get most of your iron from vegetable sources try to mix it with some meat, as it will boost absorption. Iron is also absorbed better in a more acidic environment. So, ingesting iron with Vitamin C or orange juice can increase absorption.

Some people will be unable to get enough iron from diet alone, especially if they are quite low to begin with. These athletes should consider an iron supplement. Iron supplements are available over the counter.

Ferrous sulfate is the most common and the most well absorbed of the iron supplements. When someone has a very low ferritin level it is usually recommended to take an iron supplement 1 – 3 times a day. Common side effects of iron supplementation include stomach discomfort and nausea. If you experience these side effects you should take your iron with a meal take it less often (once a day) or change to a different preparation. Ferrous gluconate is another type of iron supplement, which is not quite as well absorbed as ferrous sulfate but often tolerated better. Some people better tolerate some slow-release preparations, like Niferex. Liquid iron is also popular now. There is no advantage to liquid iron although some people respond to it better. Liquid iron will turn teeth gray if it comes in contact with tooth enamel, so if you take it, make sure you put it in orange juice and drink it through a straw. Iron will also turn your stool dark black and may cause constipation. Consult your physician if you have difficulties or questions taking iron supplements.

POTENTIAL INTERFERENCES

There are several common things that can interfere with absorption of iron. Both Calcium and fiber supplements with inhibit iron absorption; so if you take these, try to do so at a different time than you are taking your iron supplement. Iron is better absorbed in an acid environment so if you take a medication to reduce stomach acid you may not absorb the iron supplement as well. If you have low iron, you should notice a difference in how you feel, compete and recover in about 2-3 weeks.

Never take large amounts of iron without first checking your ferritin level. A relatively common iron storage disease, hemochromatosis, can be worsened by taking iron supplements. This disease does not cause symptoms until the late stages and people usually don't know they have it until it is too late. If caught early it can be easily treated. Iron can be toxic or even fatal if taken in too large of quantities, so take as directed and make sure it can't be accessed by children. If you have any questions about how much iron you should be taking, talk to your doctor.

SUMMARY

Over time, you will figure out how much iron you need in your diet or as a supplement in order to keep your ferritin level above 25. Many endurance runners who do not take a supplement have low iron stores. If you have low iron, even if you're not anemic, you may be able to improve your performance and your energy level by increasing the amount of iron in your diet or taking a supplement.

*Authored by UW Medicine Sports Medicine Physicians
For more information on UW Medicine Sports Medicine Services visit us at uwmedicine.org/sportsmedicine*