
a series of fact sheets written
by experts in the field of liver
disease

What is Iron Overload?

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When the body stores excess iron, this is referred to as *iron overload*. Iron overload can have many causes, the most common being genetic. Other causes include too much iron in the diet (particularly from supplementation), chronic transfusion therapy, iron injections, chronic hepatitis, and other disorders.

The terms *iron overload* and *hemochromatosis* are often used interchangeably, but they are not the same. According to the Centers for Disease Control (CDC), “hemochromatosis is a disease that occurs as a result of significant iron overload.” Not all iron overload is hemochromatosis, but all hemochromatosis is iron overload.

The CDC states, “Hemochromatosis can have genetic and non-genetic causes.” However, for the most part, when we talk about hemochromatosis, we are referring to the genetic variety – hereditary hemochromatosis. The next statement may scare you so be sure to read the sentence following it. More than a million people in the U.S. carry the gene for hereditary hemochromatosis. However, carrying the gene is not the same as having

hemochromatosis. In fact, the chances of having hemochromatosis are low.

Back to the broader category of iron overload, the CDC estimates that between 1% and 6% of Americans have too much iron. Not everyone with iron overload develops signs and symptoms. However, because the consequences can be so serious, it is important that those with iron overload are monitored and treated accordingly. Prevention of progression is critical.

Why is this important to people living with hepatitis C? Researchers are interested in the relationship of iron overload in people with HCV. It would seem that liver disease would be more likely to progress in patients who have both conditions. Some studies have come close to staking that claim. However, the current research findings are inconclusive and open to debate. What we can agree upon is that iron overload, with or without HCV, is a potentially serious condition. Diagnosis and early intervention can prevent disease progression.

Basically, hemochromatosis is the accumulation of iron in the joints and organs, chiefly the liver, pancreas, heart and skin. It takes a long time for symptoms to develop. Men typically show signs beginning in their 40's; women tend to develop symptoms about 15 years after menopause. The early symptoms of iron overload are vague and similar to the symptoms of HCV. Fatigue, weakness and joint pain are the most common. If the condition progresses, one might experience abdominal pain. Weight loss, diabetes, arthritis, breathing difficulties and hormonal changes may occur as the disease progresses. A change in skin pigmentation (usually bronze), cirrhosis, and liver cancer are late stage signs.

The CDC does not recommend routine genetic testing for the general population. The genetic test is expensive and inconclusive. The CDC does

recommend testing for anyone with a family history of hereditary hemochromatosis and those who have signs or symptoms of iron overload. If you have hepatitis, arthritis, diabetes, and unexplained hormonal changes you should talk to your medical provider. You may request testing if you experience any of the symptoms of iron overload such as unexplained fatigue or weakness.

The initial test is a simple blood test – the *fasting transferrin saturation* test. In addition to fasting the day of the test, patients should abstain from iron supplements for 24 hours prior. The placebo pill in oral contraceptives sometimes contains iron, so you may need to skip this. Talk to your medical provider about how to prepare for the test.

If the transferrin saturation test is abnormally high, it is usually followed with another blood test – the *serum ferritin* level. If this is elevated, then your medical provider may advise iron removal. The only way to remove iron is by blood loss. This is done by blood donation – just as if you were donating blood. Good news – this blood is a donation. There is a national shortage of our blood supply. The blood you donate helps you stay healthy and may save someone else's life. How cool is that!

The blood donation process for iron overload is called de-ironing. You may need to do this once or twice a week for 3 months to a year. Once your body returns to safer iron levels, you may need to do this several times a year. The procedure is safe and free. You should be well hydrated before and after the procedure. Avoid strenuous exercise and alcohol for 24 hours after de-ironing.

If you have iron overload, there are a few measures you can take to help you stay healthy. Avoid iron supplementation, including iron in your multivitamin or multi-mineral. Vitamin C intensifies iron absorption, so limit C to 500 mg daily. It is all right to eat foods that are naturally high in vitamin C. Avoid eating raw shellfish.

Avoid alcohol consumption if you have liver damage, hepatitis or other alcohol-limiting diseases. There is no proven supplement that will remove excess stored iron.

If you have hereditary hemochromatosis, tell your blood relatives. The CDC recommends testing and routine surveillance of parents, grandparents, children and siblings. Don't wait until this treatable condition does irreversible damage. Those who have early testing and treatment for iron overload have the same life expectancy as the general population. Don't wait until it is too late.


For more information:

- Centers for Disease Control
www.cdc.gov/ncbddd/hemochromatosis
- Iron Disorders Institute (888) 565-4766 or (864) 292-1175
www.irondisorders.org
- Medline
www.nlm.nih.gov/medlineplus/hemochromatosis.html

For more information about hepatitis C, hepatitis B and HCV coinfections, please visit www.hcvadvocate.org.

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