# Living Liver Donation: Medical Toolkit

**CHAPTER** • 8

# Liver donation if you have hemochromatosis (too much iron)

## What is hemochromatosis?

Hemochromatosis is a health condition that causes your body to absorb too much iron from the food you eat. Iron is a mineral that your body needs to make red blood cells and help red blood cells carry oxygen throughout your body. In hemochromatosis, extra iron can build up to harmful levels in your organs, such as your liver and heart. This can cause:

- Liver damage
- Cirrhosis (scarring in your liver)
- Liver cancer
- Heart failure
- Diabetes

### What causes hemochromatosis?

A common cause of hemochromatosis is a genetic change (mutation) passed down from both parents. Here's how it often happens:

1. There is a change in your HFE gene (a gene that helps cells in your liver know how much iron is in your body)
2. This gene change causes your body to absorb too much iron

## How will I know if I have hemochromatosis?

As part of the living liver donor evaluation, you will have blood and MRI imaging tests to see how much iron is in your body. The blood tests measure:

- Iron levels in your blood
- Ferritin levels in your blood (ferritin is a blood protein that contains iron)
- Transferrin saturation, which compares the level of iron and transferrin in your blood (transferrin is the main protein that binds iron in the blood)

The MRI might show that you have a buildup of iron in your liver.

If your blood tests or MRI images show too much iron, you may also have:

- A genetic test to look for changes in your HFE gene
- A liver biopsy to know if you have liver damage (in a biopsy, a doctor takes a small sample of liver tissue to look at it in a lab)

## Can I donate if I have hemochromatosis?

It depends. It may not be safe for you or the liver recipient. Some centers will not let you donate if:

- Blood tests show you have too much iron
- MRI images show a buildup of iron in your liver
- Genetic tests show you have a change in your HFE gene

If you have HFE gene changes and cannot be a liver donor, follow up with your doctor. Your doctor may recommend that your family members get tested to see if they also have hemochromatosis.

## REFERENCES

1. Dwyer JP, Sarwar S, Egan B, Nolan N, Hegarty J. Hepatic iron overload following liver transplantation of a C282y homozygous allograft: a case report and literature review. Liver Int. 2011;31(10):1589-92.
2. Shaked O, Gonzalez A, Bahirwani R, Furth E, Siegelman E, Shaked A, et al. Donor hemosiderosis does not affect liver function and regeneration in the setting of living donor liver transplantation. Am J Transplant. 2014;14(1):216-20.

*Note: This information is the opinion of the Living Donor Community of Practice (LDCOP) of the American Society of Transplantation. The LDCOP is a group of health care professionals and researchers who specialize in living donation. The LDCOP's recommendations are meant to offer you helpful information, but you may find opinions from other groups or organizations that are helpful to you, too.*