

Liver transplant

A liver transplant is a surgery that removes a liver that no longer functions properly (liver failure) and replaces it with a healthy liver from a deceased donor or a portion of a healthy liver from a living donor.

Your liver is your largest internal organ and performs several critical functions, including:

- Processing nutrients, medications and hormones
- Producing bile, which helps the body absorb fats, cholesterol and fat-soluble vitamins
- Making proteins that help the blood clot
- Removing bacteria and toxins from the blood
- Preventing infection and regulating immune responses

Liver transplant is usually reserved as a treatment option for people who have significant complications due to end-stage chronic liver disease. Liver transplant may also be a treatment option in rare cases of sudden failure of a previously healthy liver.

The number of people waiting for a liver transplant greatly exceeds the number of available deceased-donor livers.

Receiving a portion of a liver from a living donor is an alternative to waiting for a deceased-donor liver to become available.

Why it's done

Living-donor liver transplant is possible because the human liver regenerates and returns to its normal size shortly after surgical removal of part of the organ.

In 2018, about 8,200 liver transplants were performed in the U.S. among adults and children. Of those, about 390 involved livers from living donors. At the same time, about 12,800 people were registered on the waiting list for a liver transplant.



Liver transplant is a treatment option for some people with liver cancer and for people with liver failure whose condition can't be controlled with other treatments.

Liver failure may happen quickly or over a long period of time. Liver failure that occurs quickly, in a matter of weeks, is called acute liver failure. Acute liver failure is an uncommon condition that is usually the result of complications from certain medications.

Although a liver transplant may treat acute liver failure, it is more often used to treat chronic liver failure. Chronic liver failure occurs slowly over months and years.

Chronic liver failure may be caused by a variety of conditions. The most common cause of chronic liver failure is scarring of the liver (cirrhosis). When cirrhosis occurs, scar tissue replaces typical liver tissue and the liver doesn't function properly. Cirrhosis is the most frequent reason for a liver transplant.

Major causes of cirrhosis leading to liver failure and liver transplant include:

- Hepatitis B and C.
- Alcoholic liver disease, which causes damage to the liver due to excessive alcohol consumption.
- Nonalcoholic fatty liver disease, a condition in which fat builds up in the liver, causing inflammation or liver cell damage.
- Genetic diseases affecting the liver. They include hemochromatosis, which causes excessive iron buildup in the liver, and Wilson's disease, which causes excessive copper buildup in the liver.
- Diseases that affect the tubes that carry bile away from the liver (bile ducts). They include primary biliary cirrhosis, primary sclerosing cholangitis and biliary atresia. Biliary atresia is the most common reason for liver transplant among children.

Liver transplant may also treat certain cancers that originate in the liver.

Risks

Complications of the procedure

Liver transplant surgery carries a risk of significant complications. There are risks associated with the procedure itself and with the drugs necessary to prevent rejection of the donor liver after the transplant.

Risks associated with the procedure include:

- Bile duct complications, including bile duct leaks or shrinking of the bile ducts
- Bleeding
- Blood clots
- Failure of the donated liver
- Infection
- Rejection of the donated liver
- Mental confusion or seizures

Long-term complications may also include the liver disease returning in the transplanted liver.

Anti-rejection medication side effects

After a liver transplant, you'll take medications for the rest of your life to help prevent your body from rejecting the donated liver. These anti-rejection medications can cause a variety of side effects, including:

- Bone thinning
- Diabetes
- Diarrhea
- Headaches
- High blood pressure
- High cholesterol

Because anti-rejection drugs work by suppressing the immune system, they also increase risk of infection. Your doctor may give you medications to help you fight infections.

Exercise

Exercise and physical activity should be a regular part of your life after a liver transplant to continue improving your overall physical and mental health.

Soon after your transplant, you should walk as much as you can. Then, depending on your progress, you can start incorporating more physical activity into your daily life.

Walking, bicycling, swimming, low-impact strength training and other physical activities you enjoy can all be a part of a healthy, active lifestyle after transplant. But be sure to check in with your transplant team before starting or changing your post-transplant exercise routine.



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