

About Liver Transplant

Liver Transplantation is a sophisticated, effective therapy for end stage liver disease. In this procedure, as its name implies, a patient's diseased liver is removed and replaced with a healthy liver from a recently deceased organ donor. The liver transplant program at Duke University Medical Center began in 1984. Since then, we have performed over 500 liver transplant procedures. Our work in this exciting field has also enhanced the prospects of liver transplant patients around the nation by contributing to advancements in transplant techniques, treatments, and research.

For many patients and their families, the prospect of undergoing a liver transplant makes them a little anxious and uncertain. This information may help relieve some of those feelings by explaining what you may experience as a liver transplant patient at Duke. We have included information about your health prior to surgery, the surgery, and what to expect during your recovery.

This information is intended to answer many of your questions. However, you may find that you have several more. If so, we suggest that you write your questions in the space provided in the last section. This will help you remember to discuss them with the members of the transplant team at your clinic visits.

About Your Liver

The liver is the largest and most important organ in the body. It is located under the rib cage on the right side of your body. It serves many purposes, but there are three that are most important. First, the liver receives all of the blood and nutrients absorbed from the intestine. The liver acts like a processing station for these nutrients. In addition, any toxins absorbed from the intestine are neutralized in the liver. Second, the liver produces bile that is emptied into the intestine through bile ducts that connect the liver to the intestine. The bile is required to

help the intestines digest all of the food that you eat. Finally, the liver is the factory that produces almost all of the proteins found in your blood. These proteins help your body perform many of its important functions like helping you to clot your blood after you cut yourself, and helping the body fight off infection.

Because the liver does so many different things, when it doesn't work many of the normal functions of your body break down. You can't process nutrients from your intestines and therefore you may develop fatigue and weakness. Fluid may build up in your abdomen because of abnormal blood flow in the liver. These and other symptoms may appear as your liver function worsens. All of these problems may be reversed with a transplanted liver.

Reasons for Transplantation

Liver transplantation is indicated when the liver is so diseased that it can no longer perform vital functions and when the liver disease can not be corrected in any other way.

The causes of end-stage liver disease vary. The following liver diseases can be indications for transplantation:

- Alcoholic Cirrhosis
- Alpha-1 Antitrypsin Deficiency
- Autoimmune Hepatitis
- Biliary Atresia
- Hepatitis B
- Hepatitis C
- Primary Biliary Cirrhosis
- Sclerosing Cholangitis

Some other liver diseases are also possible indications for transplantation. Consult your Transplant Hepatologist if you wish to learn more about transplantation as a possible therapy for your liver disease.

Liver Donation and Allocation

When listed as a candidate for liver transplantation, your name is placed on a national transplant waiting list. All transplant candidates in the country are listed in a national donor computer system through the United Network for Organ Sharing (UNOS). The Carolina Donor Service (CDS) works with UNOS to coordinate transplants in this region of North Carolina. Donor livers are matched with recipients according to the following criteria:

- ◆ blood type (O, A, B, or AB);
- ◆ body size
- ◆ severity of disease

Quality of the donor liver is of the utmost priority; it must be healthy and without evidence of damage or disease. Before the liver is accepted for a transplant, it is thoroughly evaluated. This evaluation includes examination of the donor's medical history, social history and liver function studies. Donors are also carefully tested to be as sure as possible that they have no transmissible disease, such as AIDS, hepatitis or cancer.

When a donor liver becomes available, it is given to the sickest person on the waiting list who matches the donor size and blood type. How sick you are is based on a score that is calculated using recent blood work results. These results are entered into the national waiting list computer when you come to clinic or have labs done at home at our request. You may need to blood work done without seeing the doctor at times so we may recertify your score in the computer.

Living Donation

Living liver donation has become one method of creating more donors for those who may not be able to wait for a cadaveric donor. Living donors may be related or have a close personal relationship with the person who is sick. Living donation allows part of the liver of an adult donor to be removed and transplanted into the person

with liver disease. In about 8 weeks, each person will have a liver nearly the size of a normal one. All functions that the liver performs will be able to be completed by both parts of the liver.

There have been hundreds of these procedures performed in the United States.

Donors must be in perfect health to donate. Careful assessment and evaluation is given to both the donor and the recipient to ensure that each person will be able to survive and that each will have no other effects from such a large procedure. Your hepatologist or nurse coordinator are available to speak with you about living donation.

Waiting for Your Transplant

Unfortunately, there are more people waiting for a liver transplant than there are livers donated each year. Because of the small number of donors, the waiting period for a liver transplant varies. How long you wait will depend upon your blood type and the severity of your liver disease. We have no way to predict when you will get a liver transplant. This period is understandably frustrating, stressful, and can be discouraging.

It's important to remember during this difficult time that no one has any control over when a donor liver becomes available. You will be seen in the Liver Transplant Clinic during your pre-transplant waiting period on a regular basis to be sure you are not having worsening complications of your liver disease. Our goal is to maintain your health at the best possible level so you will be able to have a transplant when available. While you are waiting, we strongly encourage you to participate in an exercise program. Physical exercise will help you build your strength and endurance in preparation for your transplant, and increase your chances to do well afterward. Good nutrition is also a must while you wait for your new liver. A nutritionist is available as a resource for diet counseling.