

Living Donor Transplant

What is a living donor liver transplant?

In a living donor liver transplant (LDLT), a portion of the liver is obtained from a healthy donor—in most cases a family member, spouse, or close friend. The portion of the liver is transplanted into the recipient, or the person awaiting the liver transplant.

Who can receive a portion of a liver from a living donor?

People who are on the liver transplant waiting list can be considered. Each person needs to have their records reviewed by the medical team to see if they have any medical reasons that would keep them from being able to receive part of a liver from a living donor. Also, they must have someone who has a very close relationship with them who is able to be a living liver donor.

Who can donate part of their liver?

People who want to be a living donor must:

- Have a close relationship with the person who will receive part of their liver. A donor can be either a member of the patient's family, spouse, or close friend.
- Be between the ages of 18 and 55.
- Have a blood type that is *compatible* with the blood type of the person they are donating to. This does not always mean that they are the *same* blood type.
- Be in very good physical and mental health.
- Be of sufficient height and weight.
- Not have had multiple abdominal surgeries, coronary heart disease, or severe obesity.

What do I do if I decide to donate part of my liver?

If you are considering living liver donation, please call the transplant office at (717) 531-5002 or 1 (800) 525-5395 to initiate the living donor evaluation process. When you call, you will be asked some questions about your health to ensure that you do not have any obvious conditions that would prohibit you from being a living donor. We may also ask you to have blood tests performed to confirm your blood type and to ensure that you are healthy. If it is decided that you may be able to donate part of your liver, a more complete medical examination will be set-up for you at Penn State Hershey Medical Center.

What happens after I decide that I want to donate part of my liver?

There are two stages to becoming a living liver donor:

Stage 1

The first step in finding out if you qualify to be a donor is to have a check-up by a Donor Advocate Team (DAT). The United Network for Organ Sharing (UNOS) calls for at least one person on this team to have no contact with your liver recipient. This is to ensure that the team members on the DAT have your safety in mind. You are free to talk to anyone on the DAT about any physical, emotional, or family concerns you may have related to the donor surgery.

Next, you will meet with a transplant surgeon and hepatologist, or liver physician, who will explain the surgical procedure for removing a portion of your liver as well as what happens after the operation. They will discuss any side effects you may experience from donating part of your liver. You will also receive a detailed consent form to take home and review. This form explains the operation, risks, and care you will receive after the operation is complete.

If you decide to move forward with donating part of your liver, you will be scheduled for a more complete evaluation which includes:

- A physical exam.
- A meeting with a psychiatrist to help you understand how this operation can change your life and to discuss possible stress.
- Chest X-ray and EKG.
- Liver ultrasound.
- Pulmonary function tests.
- Blood tests.
- Education videos.
- Meetings with a social worker and a financial counselor.
- A CT scan or MRI of the liver.

If the DAT decides that you can be a living liver donor, you will then move to Stage 2 of the process.

Stage 2

The transplant surgical team will perform a very comprehensive study of the anatomy of your liver to decide whether you can safely have the operation to remove part of your liver to give to a liver recipient. This includes:

- A liver biopsy.
- Blood tests.

If both Stages 1 and 2 of your evaluation confirm that you can be a living liver donor, the operation will be scheduled during a time that works best for both you and the liver recipient. This can be in a few days or several weeks later.

What is involved in the donor and transplant operations?

On the day of surgery, the donor is usually taken to the operating room first. Under general anesthesia, an incision is made across the upper part of the donor's abdomen. The gallbladder is removed, and dye is injected into the liver to look at more of the liver anatomy in detail. This is called a cholangiogram. Sometimes, a problem with the liver anatomy is seen on the cholangiogram that was not found in the initial work-up. This may not allow the surgeons to continue with the operation to remove part of the liver. Although rare, it has happened that the surgeons closed the donor's abdomen, and the surgery and donation process was cancelled.

After the cholangiogram is complete and there are no reasons to not continue with the surgery, the recipient is brought to the operating room and prepared for the transplant.

If it is decided to proceed with the operation to remove part of the liver, the donor operation usually lasts between four and six hours.

The person receiving a portion of the donor liver (the right lobe) is in a nearby operating room. The remaining part of the donor's liver as well as the right lobe that is placed into the liver recipient should be enough to keep the body of both the donor and the liver recipient working normally.

The living donor liver transplant operation is performed very much the same as a standard whole organ transplant except that only a portion of the liver that was removed from the donor is transplanted. The operation for the liver recipient can last between eight and twelve hours.

Over the next two months, the part of the liver that was transplanted and the part of the liver that the donor kept will grow to normal size.

How long will I be in hospital and out of work?

Usually, the donor is admitted to the hospital the day of surgery and then stays in the hospital for five to eight days.

Most people can return to work six to eight weeks after surgery depending on how the surgery goes and on the type of job they have. If a donor has a desk job or has work that does not involve physical activity such as lifting heavy objects, they can return to work much sooner.

How will liver donation affect my life after surgery?

The liver is the only organ in the body that is able to grow back. This is known from other patients who have had part of their liver removed for other medical reasons. Regeneration or regrowth of the liver has been noted to return to normal function and size within at least two months.

If you donate a portion of your liver, you can expect it to regenerate in about the same timeframe. Liver donation should not affect the long-term function of your liver. Follow-up care is given both in the immediate period after discharge from the hospital, and on a long-term basis with annual visits to the Medical Center.

What are the risks of becoming a living donor?

There are risks involved in any major surgery. In an LDLT, the risk of problems is about 30 percent (2 in 7 cases), and the risk of death is estimated at 0.15 percent (1 in 670 cases).

Most problems are minor, and get better on their own. The most common problems after donating part of your liver are bleeding, infection, and pain related to the surgery.

Sometimes, the problems are serious enough to require another surgery or medical procedure. The most common liver-related problem is a bile leak. Bile is a secretion of the liver that helps digestion. This can happen in 5 to 15 percent of cases. Most bile leaks get better without the need for surgery. Sometimes, tubes need to be placed through the skin to drain and aid in the healing process of bile leaks. In rare cases, surgery is needed to correct the bile leak. Biliary strictures (narrowing or constrictions of the ducts conveying the bile from the liver) can also occur. Some of the strictures can be fixed by non-surgical means such as the insertion of tubes, but some will require surgical repair.

Am I making the right decision in donating part of my liver?

This is a personal decision that only you can answer. You may find it helpful to find out as much as possible about the operation, its risks, and the effect it may have on your work and family before making a decision. The transplant team can provide you with any information you may need so that you can make an informed decision. The DAT will also make sure that you are told as much as possible about LDLT.

How much will this cost?

The pre-operative evaluation, surgery, hospital stay, and outpatient visits, as well as any medical treatment related to the donor surgery within the first three months will not cost you anything. The recipient's insurance company will pay for all costs that are not covered by your insurance.

Your only direct costs related to liver donation may be medications such as pain pills that you may need after returning home from the Medical Center. You will also need to pay for transportation and non-hospital lodging costs related to the evaluation and surgery. Keep in mind that you should plan your household expenses and finances ahead of time to account for time off from work during the evaluation, surgery, and full recovery. Be sure to check with your company's Human Resources Department to learn what your options are under the Family Medical Leave Act, and for short-term disability and time off. This will be an important part of your decision-making process.