



Living Liver Donation: Medical Toolkit

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Living liver transplants for children

What is a living donation liver transplant for children?

A living donation liver transplant (LDLT) for children is a type of surgery where surgeons remove part of an adult's healthy liver to transplant into a child whose liver is no longer working.

This transplant is possible because the liver is the largest organ in the body, and it can regrow (regenerate) in both the donor and the child who gets the liver (recipient) within a few months after the surgery.

What are the benefits of LDLT for children?

Your child's transplant team may recommend living liver donation for your child because it can:

- Help your child get a liver transplant sooner – before they get sicker
- Be scheduled at a convenient time for both the donor and your family
- Offer your child a liver that lasts longer and has fewer problems after surgery than a liver from a deceased donor

A shorter wait time for a transplant is important for children

The longer a child waits for a transplant, the sicker they may become. This can lead to:

- Delays in social, emotional, and intellectual development (developmental delays)
- Harm to other organs in their body as their liver function gets worse
- Needing to be hospitalized more often
- Needing other medical procedures

A living liver donation may keep your child healthy enough to live a more normal life filled with school, sports, friends, and other activities.

What happens during the LDLT surgery?

Your child's transplant will be timed closely with the donor surgery. Your child and the donor will have their surgeries in 2 operating rooms near each other.

For the donor:

1. Doctors put the donor to sleep with general anesthesia (medicine) for the entire surgery
2. Next, the transplant surgeon removes a portion of the donor's liver through an incision (cut) in their upper belly (abdomen)
3. The operation takes a few hours
4. The donor will wake up in the recovery room and a team of specialists will manage their care

For your child:

1. Doctors put your child to sleep with general anesthesia for the entire surgery
2. Surgeons will make an incision across the upper part of your child's belly and remove the sick liver
3. The new piece of liver will be inserted into the right part of the belly
4. The child will be sent to a unit that has a team of specialists to care for transplant recipients

How does the surgeon know which part of the donor's liver my child needs?

The surgeon will choose which part of the donor's liver based upon the size of your child and the size of the living donor's liver.

The liver is divided into 2 lobes (the left and right) and 8 segments. The 3 most common parts of the liver transplanted into children are:

1. **Left lateral segment** – surgeons often choose this type of surgery for babies and small children



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- 2. **Left lobe of the liver** – used more commonly if your child is a small adolescent or adult size
- 3. **Right lobe of the liver** – for adolescents or adult-sized children

What will my child’s recovery from LDLT surgery be like?

Your child will be in the pediatric intensive care unit (PICU) for several days after the surgery. The team will closely check on their recovery. They will use medicine to control your child’s pain and to prevent rejection of the new liver (called immunosuppressive medicine). Once your child’s condition is stable, they will be transferred to the general transplant unit.

What are some of the possible problems after LDLT surgery in children?

Your child’s transplant team will closely check your child’s healing to avoid any health problems. They will watch for:

- Changes in your child’s liver function through blood tests
- Bleeding
- Blood clots
- Bile leakage – bile is an important substance made by the liver that helps your body digest fats. During LDLT surgery, surgeons connect the new liver’s bile ducts (tubes that carry bile) to your child’s bile ducts. Bile leakage happens if this is not a tight connection

What is the long-term follow-up and care plan for my child after LDLT surgery?

The long-term follow-up for a living donor transplant will be the same as for a deceased donor transplant.

Living Donor Liver Transplantation

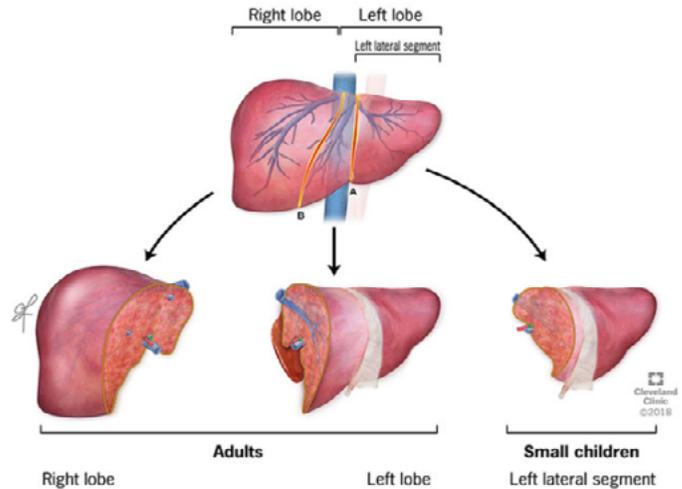


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<https://consultqd.clevelandclinic.org/living-donor-liver-transplantation-a-better-option-for-pediatric-patients/>

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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.