
Understanding Liver Resection

A liver resection (hepatectomy) is surgery to remove a part of the liver. It's most often done to remove cancerous (malignant) tumors in the liver. Less often, the surgery is done to remove certain non-cancer (benign) tumors in the liver. Sometimes a healthy person's liver is removed to be transplanted into a sick person who needs a liver transplant.

Liver resection is only an option for people with a tumor in a part of the liver that is safe to be operated on. The part of the liver left behind must also be healthy. Within a few months after the surgery, the liver can grow back to near its original size.

The liver is an important organ that has many jobs. It makes bile, a substance that helps the body break down fats. It also makes proteins and blood-clotting factors that the body needs. The liver releases sugar (glucose) into the blood to give you energy. And it works with the stomach and intestines to digest food. The liver helps filter the blood and removes toxins from the body.

Before the surgery

- Before surgery, you will likely have imaging tests such as a CT scan or MRI with angiography.
- Your surgeon will discuss the types of resection that may be done and how much of your liver will be removed.
- Tell the surgeon about all medicines you take. This includes herbs and other supplements. It also includes any blood thinners, including daily aspirin. You may need to stop taking some or all of them before the surgery.
- Follow any directions you are given for not eating or drinking before surgery.

During the surgery

The surgery takes about 3 to 5 hours. Here is what to expect during the surgery.

On the day of surgery, arrive on time. Before the surgery begins, an IV line is put into a vein in your arm or hand. This line supplies fluids and medicines. To keep you free of pain during the surgery, you're given general anesthesia. This puts you in a state like deep sleep through the surgery. A thin tube (catheter) may be placed into your bladder. This tube drains your urine. It may stay in place for a few days after the surgery.

The surgery

The procedure may be done with a technique called laparoscopy or a technique called open surgery. The doctor may begin with laparoscopy, but safety may require them to change to open surgery during the procedure.

- **For laparoscopy**, a laparoscope or "scope" is used. This is a thin, lighted tube with a camera on the end. The surgeon makes 2 to 4 small cuts (incisions) in your belly (abdomen). Then the scope is put through one of the incisions. As the scope is advanced, it sends live pictures of the inside of the abdomen to a video screen. The abdomen is filled with carbon dioxide gas. This makes room for the surgeon to see and work. They place tools through the other incisions.

- **For open surgery**, the surgeon makes a larger incision in the right side of your abdomen under the ribs. The surgeon sees and works through this incision.

During either surgery, the liver is examined. This is to confirm the size and location of any tumors. If the surgery can proceed, the part of the liver that contains the tumor is removed. In some cases, the gallbladder is also removed. The gallbladder sits under the liver and stores bile.

Throughout the surgery, blood flow through the liver is carefully controlled to help prevent bleeding. When the surgery is finished, all tools are removed. The incisions are closed with stitches (sutures), staples, surgical glue, or surgical tape.

One or more tubes (drains) may be placed near the incisions to remove extra fluid and blood. These drains may be removed while you're in the hospital. Or they may be removed during a later visit with the doctor.

After the surgery

- You'll be taken to a recovery room to rest. From there, you may be transferred to a special care unit to be closely monitored. Or you may be moved right away to a hospital room. You'll be given medicine to help manage pain and prevent infection. You may also be given medicine, special stockings or boots to wear to help prevent blood clots. As soon as you're able, you'll need to stand and walk for brief periods. A nurse or therapist will help you. Blood tests will be done to check the health of your liver.
- If you had laparoscopy, you'll likely stay in the hospital for days. If you had open surgery, you'll likely stay in the hospital for days. The actual amount of time will vary for each person. Your doctor will tell you when it's OK for you to go home.
- Have an adult family member or friend ready to drive you. Before leaving the hospital, make sure you have all the prescriptions and home care instructions you'll need. Also, make sure you have a contact number for the doctor or hospital. This is in case you have problems or questions after the surgery.
- After a liver resection, you'll need to stay away from alcohol and certain medicine for a time while your liver recovers. How long this is needed depends on the health of your liver.
- If you have cancer, your doctor may recommend other treatments such as radiation or chemotherapy after surgery. These treatments help kill any stray cancer cells that remain in the body. They may also help keep cancer cells from coming back. Your doctor can tell you more about these treatments if they're needed.

Risks and possible complications

All surgeries have risks. The risks of this surgery include:

- Bleeding
- Infection
- Bile leak
- Yellowing of the skin and whites of the eyes (jaundice)

- Liver or other organ failure
- Risks of anesthesia
- Blood clots
- Pneumonia
- New liver cancer

When to call your healthcare provider

After you get home, call your doctor if you have:

- Chest pain or trouble breathing (**call 911**)
- Fever of 100.4°F (38°C) or higher that lasts longer than 24 hours
- Increased pain, redness, swelling, bruising, bleeding, or drainage at any incision site
- Nausea or vomiting
- Pain in your abdomen or near your right shoulder blade that gets worse
- Any other symptoms your doctor tells you to watch for