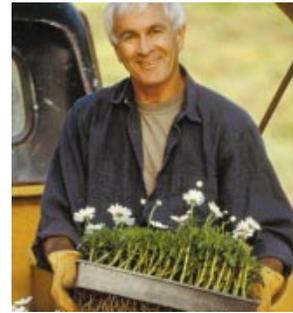


# liver donation

## Living Liver Donation

The long wait-time for a liver transplant and the increase in risk during this period has motivated many families to consider living liver donation. A small portion of the left lobe of the liver may be transplanted from an adult to an infant or child. Adult to adult living donor transplant is achieved using the entire right lobe of the donor's liver. Not all potential living donors are suitable for donation and extra precautions are taken by the transplant team to try to minimize any coercion the potential donor may feel. The living liver donation operation itself is a major surgery requiring a 5-10 day hospitalization and 2-3 month period of convalescence and rehabilitation. Within the first few months, however the liver regenerates to within 90 per cent of its original size.

### Are any lifestyle changes required after a liver transplantation?



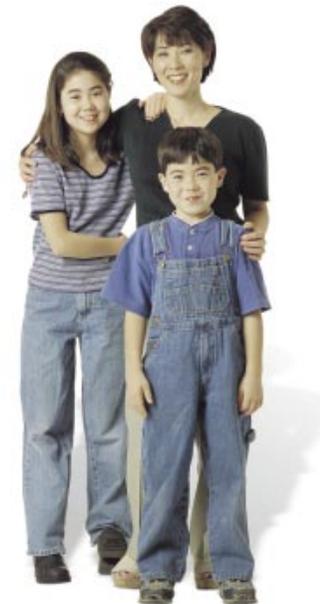
Most recipients are able to return to a normal lifestyle. In most cases, since the liver disease is now cured, people are healthier and feel better than ever before. They can participate in physical exercise six to 12 months after a transplant, and several women have had normal post-transplant pregnancies and deliveries. For most patients, no restrictions are placed on either their activity or their diet.

### Can there be a recurrence of the original disease in the transplanted liver?

This is a theoretical possibility, but in most cases does not occur. However, some diseases, such as viral hepatitis and cancer, may recur.

Recurrence of hepatitis C virus may be a serious problem in some patients. New antiviral drugs may be effective in controlling this recurrence. Recurrence of hepatitis B virus may be controlled with lamivudine. The autoimmune diseases (PBC, PSC and autoimmune hepatitis) may recur after many years.

A liver transplant is a life-giving operation that replaces a diseased liver with either a whole or portion of a healthy, donated liver.



Since its inception in 1969, the Canadian Liver Foundation (CLF) has been committed to reducing the incidence and impact of liver disease by providing support for research and education into the causes, diagnosis, prevention and treatment of the more than 100 diseases of the liver. If you would like more information on this and other liver-related issues, please call 416-491-3353 or 1-800-563-5483.

This is a rapidly changing field of medicine. Information in this brochure is current for February 2002.

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### CANADIAN LIVER FOUNDATION

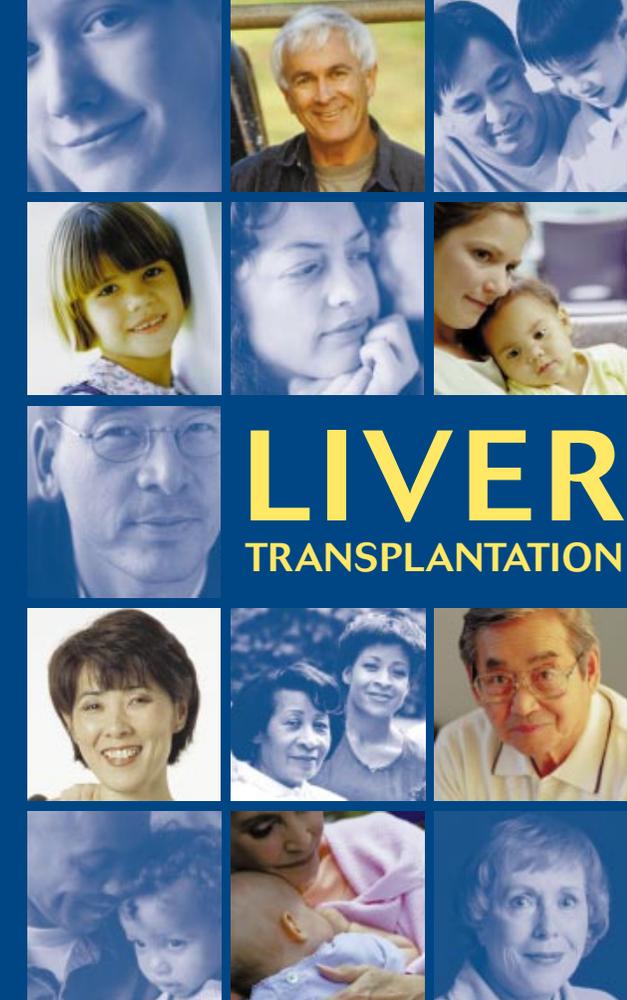
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## LIVER TRANSPLANTATION

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# liver transplant

## What is a liver transplant?

A liver transplant is a life-giving operation that replaces a diseased liver with either a whole or portion of a healthy, donated liver.

In Canada, over 300 such operations are performed every year. Livers are donated, either from individuals who are brain dead with consent of next of kin or from a living donor such as a relative or close friend.

Transplant centres match donors with recipients based on compatible liver size and blood type.

### What diseases are most commonly treated by liver transplants?

The most common indications for liver transplantation in adults include chronic hepatitis (hepatitis C, hepatitis B, autoimmune hepatitis), primary biliary cirrhosis (PBC), primary sclerosing cholangitis (PSC) and alcoholic cirrhosis. In children, biliary atresia, failure of bile ducts to drain bile from the liver, is often treated by liver transplantation.

### Are people with liver cancer considered for transplantation?

Most cancers of the liver begin elsewhere in the body and are spread to the liver. These cancers are not curable through liver transplantation. Tumours that originate in the liver are usually detected in an advanced stage; thus, they are also rarely cured by a liver transplant. If the cancer is small and confined to the liver, a transplant may be considered.

### Are people with alcohol-related liver disease considered for transplantation?

Most people who develop cirrhosis of the liver due to excessive use of alcohol do not require a liver transplant. Abstinence from alcohol and medication will usually treat cirrhosis by giving the liver time to regenerate. For those in whom prolonged abstinence and medical treatment fails to restore health, transplantation may be considered. Patients that continue to drink alcohol despite medical advice are not considered for transplantation in Canada.

### At what stage of liver disease is transplantation considered?

When medical treatment is effective, transplantation is reserved for the future. When a patient develops life-threatening complications, liver transplantation should be considered, ideally well before the very terminal stages of the disease. At this stage, the person may not be able to withstand major surgery, or might not survive long enough to allow a suitable donor liver to be found.

The actual time for placement on an active transplant waiting list is a medical decision made in consultation with all individuals involved in the patient's care, including the patient and family.

### What risks are involved?

Severe complications arising from liver disease may jeopardize the patient's survival during transplant surgery.

The technical difficulties in removing the diseased liver and getting the donor liver "hooked up", major bleeding, shock and the metabolic consequences of briefly being without liver function, are some of the surgical risks. However, many of the risks after transplant surgery are common to all forms of major surgery.

Soon after the operation, bleeding, infections and poor function of the transplanted liver are major risks. Rejection of the new liver by the immune system is a major risk particularly during the first few months after transplantation.



### What is the success rate?

This depends on many factors, but overall 80 to 90 per cent of adult patients and 75 to 85 per cent of children survive surgery and leave the hospital well.

### What is involved after the operation?

This part depends on how ill the individual was prior to the surgery. Most patients spend several days in an intensive care unit and about two to four weeks in the hospital.

During the first six weeks after transplantation, frequent tests are done to monitor liver function and detect any evidence of rejection. The patient must also take anti-rejection medication for the rest of his/her life. Most patients convalesce and return to good health by 3 to 6 months after the surgery.

Routine follow-up consisting of monthly blood tests and blood pressure checks, as well as regular physical examinations are also required.

### What are the side-effects of the anti-rejection medications?

Various medicines are used, and each has its own effects, but all drugs used to prevent rejection increase a patient's susceptibility to infections.

Cortisone-like drugs all cause some fluid retention and puffiness of the face, risk of worsening diabetes and osteoporosis (mineral loss from the bones).

Cyclosporine and tacrolimus may cause high blood pressure. Kidney damage can occur from these drugs, but the risk is reduced through careful monitoring of the drug levels in the blood.

### What happens if the transplanted liver fails to function or is rejected?

There are varying degrees of liver failure. Often failure is associated with imperfect function, but the patient remains quite well. If rejection occurs, it is usually successfully treated with an increased dose of an anti-rejection or immunosuppressive drug.

### Do liver transplant recipients have to take these medications for the rest of their lives?

Yes. However, the risk of rejection is greatest in the first few weeks; thereafter, the dose of medication is gradually reduced. By six months after the transplant, relatively low doses are required.

Occasionally, when circumstances and time permit, a failing transplanted liver may need to be replaced by a second (or third) transplant.