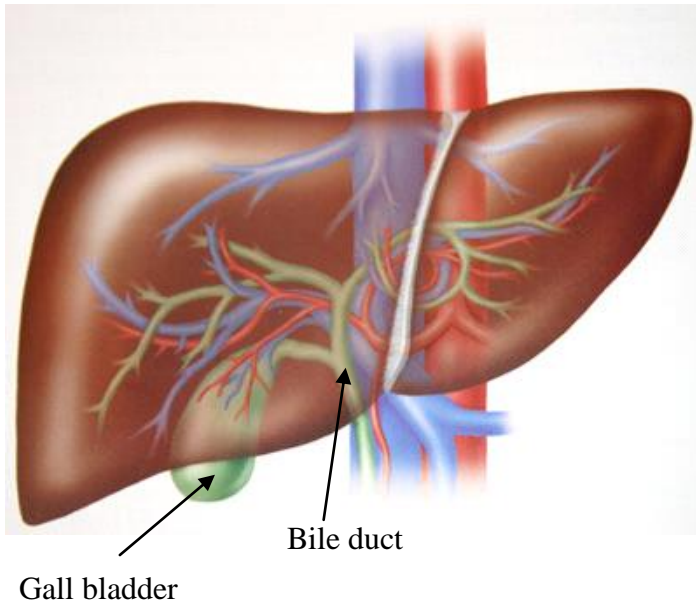


Information to Liver Donor



Ver.: 2/2021

Living Donors

It is now technically feasible to remove part of the liver from a living person and transplant it to a patient who needs a new liver. The operation has been developed for children since 1989 and for adult patients since 1994. Depending on the size matching of the donor and the recipient, either the left side (about 35%) or the right side (65%) of the liver will be removed. The liver remnant in the donor will grow to its original size in 2 to 3 months' time.

In considering the option of living donor liver transplantation, you should **carefully balance the benefits for the recipient against the risks for the living donor.**

Benefits for the recipient:

- Earlier transplantation before the recipient's condition deteriorates
- Avoid the risk of death while waiting for a cadaveric liver graft (40% overall and 90% for patients in intensive care unit)

Risks for the donor:

- Pain, discomfort, and complications of the investigations and the surgical procedure
- Average hospital stay of 7 to 10 days or longer
- Average loss of work of 6 to 8 weeks or longer
- A permanent surgical scar (see photo 1 and 2), some may develop into hypertrophic scar (see photo 3)
- Complication rate of about 20% (wound infection, hernia, bleeding, bile leakage, bile duct problems, liver failure, infection, pneumonia and other medical complications)

- Possibility of death (estimated death rate of 0.1% for donating left lobe of the liver; 0.5% for donating right lobe of the liver)

Points to note for the living donor:

- In order to avoid unstable liver function of unknown cause, the potential donor should stop taking Chinese herbal medicine, tonic medicine, supplements or any oral health products
- Within the first year after donor operation, in order to avoid damage to the liver function, the donor should not take any alcoholic drinks, Chinese herbal medicine, supplements or health food

Who is a suitable living donor?

The most important criterion for a living liver donor is *true voluntarism without any element of coercion*. Anyone who would consider acting as a living liver donor should understand clearly the following points

1. that the donor operation carries suffering and risks (complication rate of 20% and the possibility of death);
2. that the recipient operation may not be successful (average success rate 90%);
3. that his/her decision for donation should be out of his/her own wish without any external pressure from hospital staff or other family members;
4. that there is not and will not be any financial gain related to the act of donation; and
5. that he/she has the right to withdraw at any time without the need of giving any reason to do so.

Besides, to be considered an eligible candidate, the donor must:

- Be between the ages of 18 and 60
- Be in good physical and mental health
- Have a body mass index (BMI) less than 30
- Have a blood type compatible with that of the recipient
- Not a hepatitis B, hepatitis C or human immunodeficiency virus (HIV) carrier
- Not an alcoholic or a drug misuser
- Have no upper abdominal surgery before
- Not pregnant now
- Have a strong support system before and after the surgery

The liver transplant team will consider anyone who understands and meets the above criteria and has demonstrated true voluntarism as a potential living donor. This potential donor will then undergo series of evaluation process including:

1. Health assessment including medical screenings
2. Blood tests
3. Clinical psychologist assessment,
4. CT scan liver with contrast and volumetry measurement,

Some potential donors may need:

- Mammogram or USG breast (for female age ≥ 40)
- Treadmill (for donor age ≥ 50 or hypercholesterolemia)
- Hepatic arteriogram, and
- Percutaneous liver biopsy (if necessary)

Depending on the clinical situation, these procedures will usually take half a day to a week. If abnormal result is shown, the evaluation process may stop immediately. If potential donor is fit,

in certain cases, the Law requires that an approval be obtained from the Human Organ Transplant Board before the transplant can be performed.

Description of donor operation

Depending on the size and requirement of the recipient, the donor may donate the left lateral segment (about 25%), the left lobe (about 35%), or the right lobe (about 65%) of the liver. On the day before the operation, the donor will have his/her bowel cleared by laxative. He/she is not allowed to eat or drink for about 6 hours before the operation. The operation is done under general anesthesia. If there is suspicion of the donor's suitability for liver donation, the surgeon may perform a laparoscopy through a tiny umbilical wound. Otherwise, a long skin incision will be made. Please see photo 1 and 2 for the usual location and approximate length of the incision. After deciding the liver is normal and suitable for donation, the surgeon will remove the gallbladder and cannulate the cystic duct for operative cholangiography. The gallbladder is removed because it lies in the midplane of the liver and will interfere with the liver transection. The absence of the gallbladder in the donor will not affect his/her quality of life afterwards. Next, the relevant inflow and outflow blood vessels and the bile duct are freed. The liver is then transected at the plane depending on the type of liver donation. Finally, the donated part of the liver is removed after all the relevant inflow and outflow blood vessels are divided and ligated. The wound is then sutured.

The duration of the operation is approximately 8 hours, but it may be longer. There are possibilities that the donor operation is stopped because of the following reasons:

1. The donor liver is found to be abnormal and not suitable for donation.
2. The recipient is found for various reasons not suitable for liver transplantation after laparotomy is performed.

The Transplant Team at Queen Mary Hospital is meticulous in preoperative assessment of the donor and the recipient for their suitability of transplantation, but there is always possibility of unexpected finding at laparotomy that deters the transplant operation. In this situation, the donor may have an abdominal wound even though he/she has not gone through the donor operation.

The donor operation is performed simultaneously with the recipient operation in order to match the time of removal of the diseased liver and implantation of the new liver.

The above information is provided by liver transplant centre, Queen Mary Hospital. The purpose is to provide live donor liver transplantation information to the intended donor and his/her family. For those who volunteer to donate part of liver to liver disease patient, please read this information carefully and discuss with their family. If you think you understand the information and the risks of operation, please call the Main Enquiry of Queen Mary Hospital by Tel. 2255 3838 to contact the related department for further actions.

Surgical wound photo

Photo 1



Photo 2



Photo 3



Hypertrophic scar