

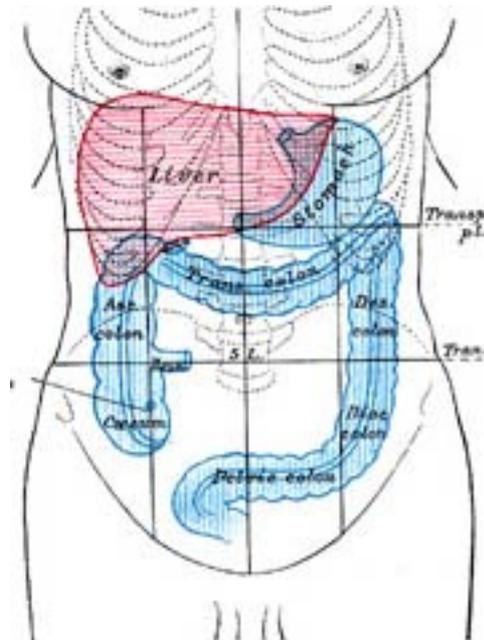
## Patient information

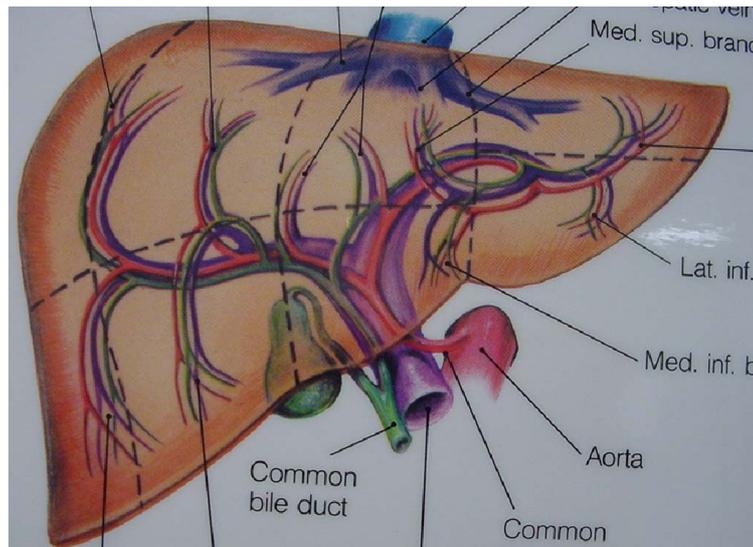
### A patient guide to liver surgery

You have been advised by your doctor to have surgery on your liver. This guide will help you to understand about liver surgery and answer some of the common questions patients have about this surgery.

#### LIVER

The liver is located in the right upper half of the abdomen. Most of the liver is tucked up under the rib cage and we cannot feel the normal liver by palpating (feeling with our hands) the abdomen.





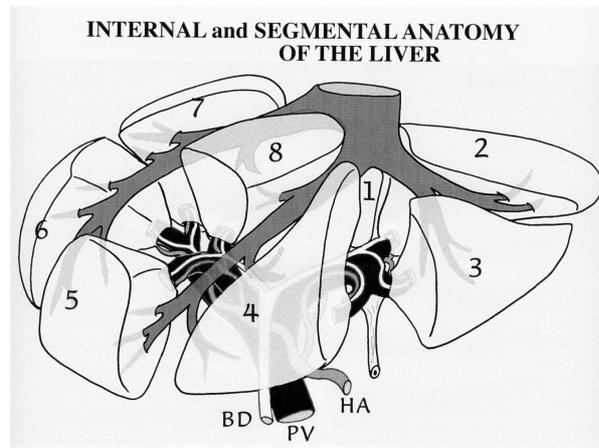
The liver is supplied blood by two sources, from the heart (like every other organ in the body) and also from the bowels. The liver drains blood by three main veins into the main vein in the back of the abdomen called the inferior vena cava (IVC). As soon as the IVC receives blood from the liver it enters the heart. The liver makes bile which helps with digestion. The bile is drained by the liver by two tubes called the hepatic ducts which join together to form one tube called the common hepatic duct (CHD). The gall bladder is stuck to the underside of the right side of the liver. It stores bile and drains through a small tube into the CHD. This tube then enters the bowel to drain the bile.

### Functions of the liver

The liver is an important organ of the body without which we cannot survive. The liver is an organ which makes, breaks or stores substances in the body. It makes bile to help digest food, proteins which help with many functions in the body including clotting of blood. It helps break many 'bad' substances in the body and excretes them. The liver also helps deal with many of the drugs we take for many illnesses. The liver is an important storage organ for glucose and fat.

## Liver surgery

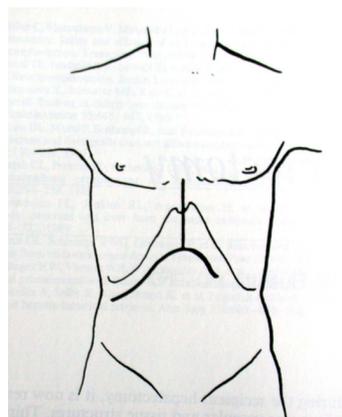
You have a tumour or some other condition which requires part of the liver to be removed. Although the liver looks like one organ, for technical purposes we can divide the liver into 8 parts.



We can remove each part on its own or with others depending on the location of the tumours in the liver.

We can survive with just 20 to 30% of the liver. This allows the surgeon to remove as much as 80% of the liver if necessary without any problems. The liver has a very good capacity to grow back (regenerate).

The doctor will explain to you which parts of the liver he/she proposes to remove and why. There may be occasions where the surgeon may have to remove more liver because of the findings during the operation. They will proceed if this is to your benefit and if they can leave behind enough liver, to survive. The operation is done through a large incision on the top of the abdomen. (Fig)



## **Potential Complications after liver surgery**

### **Bleeding**

Liver is an organ full of blood and there is a risk of severe bleeding while cutting the liver. We use special techniques to cut the liver which reduces the risk significantly. We do not give blood transfusion most of the time as bleeding is not much during the operation. However bleeding remains the most serious risk during the operation which on some occasions can be life threatening.

### **Bile leak**

Bile can leak from small bile ducts on the cut surface of the liver. This complication occurs infrequently. If it happens it settles most of the time without any further therapy. However the hospital stay may be prolonged. On some occasions we have to perform an endoscopy (a tube with camera passed via the mouth) to place a stent (small tube) in the main bile duct.

### **Liver failure**

Liver failure may occur if the amount of liver left behind is not enough. If this happens you may lose consciousness, become jaundiced and develop a bleeding tendency. This is a serious complication for which supportive therapy is given until the liver function recovers. This complication has a high risk of death following the operation.

### **Chest infection**

There is a risk of this complication as patients may not be able to breathe deeply due to pain in the operation wound. The secretions stay in the lungs leading to an infection. The risk can be reduced by taking deep breaths a few times every hour and coughing to bring up phlegm. The doctor will ensure that pain relief is adequate.

### **Other infections**

There is a risk of infection developing within the abdomen, in the wound or in the urine. Most of these can be treated with antibiotics.

### **Other complications**

The following complications can happen after any major operations and are true for liver surgery as well; Heart attacks, pulmonary embolism (clot in the lung). These are serious complications which can lead to death.

## **How long will the operation take?**

Liver operations are complicated and major operations. The exact time depends on the type of liver resection. The anaesthetic doctor will take around an hour and a half to prepare you for the operation. After this, the operation, on an average, takes about 6 hours. However some operations can take as long as 12 to 15 hours.

## **Where will I go from the operating theatre?**

You will usually go to the High Dependency Unit (HDU) after the operation. On some occasions the anaesthetic doctor may want you to be on the machine to help with your breathing for a few hours. If this is the case then you will go to the Intensive Care Unit (ICU). Patients normally stay in the HDU/ITU for about 12 to 16 hours. You will then be transferred to the surgical ward.

## **When can I eat after the operation?**

You should be able to drink small amounts of water on the first day after the operation. If you tolerate that well you will be allowed to drink more later that day. You will be allowed to have some soft diet on the second day. Most patients are able to eat normal diet in about 3 or 4 days after the operation.

## **How long will I stay in the hospital?**

The average hospital stay, after the operation, for most patients is around 8 days. The stay may be prolonged if there is any complication after the operation.

## **When can I drive after the operation?**

You will be able to drive in about 6 to 8 weeks after the operation. You will have to perform an emergency stop in a quiet road to make sure that you don't have any 'catch' in your abdomen. If this is the case then you should inform your insurance company before you start to drive.

## **Can I drink alcohol after going home?**

It is wise to avoid any alcohol for at least 3 months after liver resection. This is the time when the liver will be regenerating. After this period you may take alcohol in moderation (the usual maximum weekly allowance)