Liver resection for benign lesions

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Discovery has made every effort to ensure that we obtained the information in this brochure from a reputable source. We have adapted the content to reflect the South African market or healthcare environment.

You should not only depend on the information we have provided when you make any decisions about your treatment. The information is meant to act only as a guide to the treatment you are considering having. Please discuss any questions you may have about your treatment with your treating healthcare professional.
What are benign liver lesions?

Benign liver lesions are either cysts (collections of fluid) or growths that are not cancers. Up to 3 in 100 people have some form of benign liver lesion. Most cysts are present from birth (congenital), usually caused by abnormal development of your bile duct. Some cysts can happen as a result of injury or from infection (such as hydatid cysts that are caused by a parasite). More women than men have abnormal growths. The most common abnormal growths are caused by groups of blood vessels connected by fibrous tissue (haemangiomas) and solid lumps of abnormal liver tissue (focal nodular hyperplasia – FNH).

Adenomas are less common growths that start in glandular tissue and are usually found in women who use the oral contraceptive pill. Adenomas can change into cancer, a malignant growth that can spread to other areas of your body. It is often difficult to tell if a growth is an adenoma or FNH.

A liver resection (or hepatectomy) involves removing the part of your liver affected by the lesion (see figure 1). It is a major operation and serious complications can happen.

About this document

We understand this can be a stressful time as you deal with different emotions and sometimes have questions after seeing your surgeon. This document will give you a basic understanding about your operation. We tell you about the things you can do to help make the operation a success. It is also important to remember to tell your surgeon about any medicine you are on so he or she can manage this, if necessary. It will also tell you about what to expect after the operation – while in hospital and in the long term. Your surgeon remains the best person to speak to about any questions or concerns you may have about the operation. If you have any questions that this document does not answer, ask your surgeon or the healthcare team.

What are the benefits of surgery?

Most lesions are small and can be safely left alone. Sometimes a cyst or growth can get large enough to cause pain and put pressure on your liver or other organs, or it can rupture or bleed. The aim is to remove the lesion and your symptoms should improve. You should no longer have the risk of serious complications that certain lesions can cause.

Are there any alternatives to surgery?

If the lesion is not causing any symptoms and your surgeon is certain it is benign, it can usually be safely left alone. Your surgeon may recommend a liver biopsy, where small pieces of abnormal tissue are removed using a needle. This will help to find out what the lesion is. However, a liver biopsy can cause serious complications.

What will happen if I decide not to have the operation?

If you have symptoms, these are likely to continue.

If you have a large growth, there is a risk that it will rupture or bleed. This can be life-threatening. Your surgeon may not be able to diagnose if a growth may change to a cancer.

What does the operation involve?

The healthcare team will carry out a number of checks to make sure you have the operation you came in for. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.
The operation is performed under a general anaesthetic and usually takes 4 to 5 hours. You may be given antibiotics during the operation to reduce the risk of infection. Your surgeon will free your liver from the tissues that hold it in place. They may use an ultrasound probe to find exactly where any lesions are. Your surgeon will separate your bile ducts and the blood vessels that supply your liver, preserving as much as possible of the healthy liver. They will remove the lesion leaving behind as much healthy liver as possible.

The healthcare team will place a small tube in a vein in your arm (drip) and in your neck (called a central line). They will also place a catheter (tube) in your bladder to help you to pass urine. They may also place a tube (nasogastric or NG tube) into your nostrils and down into your stomach to keep your stomach empty.

All organs and tissues removed will be examined carefully for evidence of cancer and will be stored. They may be used in the future to help find new treatments for cancer. Let your surgeon know if you do not want your organs and tissues used in this way.

**Open surgery**
Your surgeon will usually use open surgery, where the operation is performed through a single cut across the upper part of your abdomen, just under your ribcage.
Your surgeon will close the cut. They may insert drains (tubes) in your abdomen to drain away fluid that can sometimes collect.

**Laparoscopic (keyhole) surgery**
Your surgeon may use keyhole surgery as this is associated with less pain, less scarring and a faster return to normal activities. However, this technique is suitable for fewer than 1 in 7 people. Your surgeon will make a small cut on or near your umbilicus (belly button) so they can insert an instrument in your abdominal cavity to inflate it with gas (carbon dioxide). They will make several small cuts on your abdomen so they can insert tubes (ports) into your abdomen. Your surgeon will insert surgical instruments through the ports along with a telescope so they can see inside your abdomen and perform the operation (see figure 2).

Your surgeon will remove the instruments and close the cuts.

For about 1 in 20 people it will not be possible to complete the operation using keyhole surgery. The operation will be changed (converted) to open surgery.

**What should I do about my medicine?**
Let your doctor know about all the medicine you take and follow their advice. This includes all blood-thinning medicine as well as herbal and complementary remedies, dietary supplements, and medicine you can buy over the counter.

**What can I do to help make the operation a success?**
If you smoke, stopping smoking several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.
Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.
You can reduce your risk of infection in a surgical wound.
- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Try to have a bath or shower either the day before or on the day of the operation.
- Keep warm around the time of the operation.
Let the healthcare team know if you feel cold.
What complications can happen?
The healthcare team will try to make the operation as safe as possible but complications can happen. Some of these can be serious. Using keyhole surgery means it is more difficult for your surgeon to notice some complications that may happen during the operation. When you are recovering, you need to be aware of the symptoms that may show that you have a serious complication. You should ask your doctor if there is anything you do not understand. Your doctor may be able to tell you what the risk of a complication for you is.

1 Complications of anaesthesia
Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation
• Pain can be severe with this operation. The healthcare team will give you strong painkillers either by an epidural or through the drip. It is important that you take the medicine as you are told so you can move about and cough freely.
• Bleeding during or after the operation. The liver has a good blood supply. The healthcare team will monitor you closely for signs of bleeding. You may need a blood transfusion (risk: 3 in 10). You may need another operation to stop the bleeding (risk: less than 1 in 30).
• Infection of the surgical site (wound) (risk: 1 in 20). It is usually safe to shower after two days but you should check with the healthcare team. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need another operation (risk: 1 to 2 in 100).
• Developing a hernia in the scar, if you have open surgery, caused by the deep muscle layers failing to heal. This appears as a bulge or rupture called an incisional hernia. If this causes problems, you may need another operation.
• Blood clot in your leg (deep-vein thrombosis – DVT). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medicine, or special stockings to wear. Let the healthcare team know straightaway if you think you might have a DVT.
• Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. Let the healthcare team know straightaway if you become short of breath, feel pain in your chest or upper back, or if you cough up blood. If you are at home, call an ambulance or go immediately to your nearest casualty unit.

3 Specific complications of this operation
a Keyhole surgery complications
• Damage to structures such as your bowel, bladder or blood vessels when inserting instruments into your abdomen (risk: less than 3 in 1 000). The risk is higher if you have had previous surgery to your abdomen. If an injury does happen, you may need open surgery. About one in three of these injuries is not obvious until after the operation.
• Developing a hernia near one of the cuts used to insert the ports (risk: 1 in 100). Your surgeon may try to reduce this risk by using small ports (less than a centimetre in diameter) where possible or, if they need to use larger ports, using deeper stitching to close the cuts.
• Surgical emphysema (crackling sensation in your skin caused by trapped carbon dioxide gas), which settles quickly and is not serious.

b Liver resection complications
• Jaundice, where your eyes and skin turn yellow, because the remaining liver has to work harder. This usually improves as your liver regenerates (grows back).
• Liver failure, where your liver stops working (risk: 1 in 10). The risk depends on how much liver needs to be removed and how healthy your liver is. This is a life-threatening complication.
• Bile leaking from the surface of your liver where tissue has been removed (risk: 1 in 20). This can cause pain and infection. The bile may need to be drained.
• Continued bowel paralysis (ileus), where your bowel stops working for more than a few days, causing you to become bloated and to be sick. You may need an NG tube until your bowel starts to work again.
• Tissues can join together in an abnormal way (adhesions) when scar tissue develops inside your abdomen. Adhesions do not usually cause any serious problems but can lead to bowel obstruction. You may need another operation. The risk is lower if you have keyhole surgery.
• Death sometimes happens with a liver resection (risk: 1 in 100). The risk depends on how much liver needs to be removed, how healthy your liver is and how fit you are.

How soon will I recover?

• In hospital
After the operation you will be transferred to the intensive care unit or high care unit for one to two days so the healthcare team can monitor you more closely. You will then go to the ward. The healthcare team will help you with deep breathing, coughing and moving about. Your bowels will usually slow down or stop working. You will not be given anything to eat or drink for a few days while your bowels get back to normal. You will be given fluid through the drip. The healthcare team will use the central line to monitor the pressure of blood returning to your heart. This will help your doctor to know how much fluid to give you. When you are ready to drink, the NG tube will be removed and you can drink small amounts of water. Over a few days you should be able to drink and then eat normally. You may need to take laxatives if you get constipated. The drains, drips and catheter will usually be removed after 2 to 5 days. You need to be aware of the following symptoms as they may show that you have a serious complication.
• Pain that gets worse over time or is severe when you move, breathe or cough.
• A high temperature or fever.
• Dizziness, feeling faint or shortness of breath.
• Feeling sick or not having any appetite (and this gets worse after the first one to two days).
• Not having any bowel movements and not passing wind.
• Swelling of your abdomen.
• Difficulty passing urine.

If you do not continue to improve over the first few days, or if you have any of these symptoms, let the healthcare team know straightaway. You should be able to go home after 2 to 5 days if you had keyhole surgery or after 7 to 14 days if you had open surgery. However, your doctor may recommend that you stay a little longer. If you are worried about anything, in hospital or at home, contact the healthcare team. They should be able to reassure you or identify and treat any complications.

• Returning to normal activities
To reduce the risk of a blood clot, make sure you follow carefully the instructions of the healthcare team if you have been given medicine or need to wear special stockings.
A liver resection is a major operation and it will take you up to three months to recover fully. If you have keyhole surgery, you should recover within four weeks. You can expect to feel tired once you return home. Your appetite may be affected and it is normal to feel low or depressed for a while. Exercise gently, especially walking, doing a little more each day. Gradually get back to your normal activities. Before you start exercising, ask the healthcare team or your GP for advice. Do not drive until your doctor tells you that you can.

• The future
You will not usually need any further treatment. If your surgeon removed a hydatid cyst, you may need to take medicine for a few months to reduce the risk of the problem coming back. Any tissue removed will be examined under a microscope to check if there is any cause for concern.

Summary
Benign liver lesions are either cysts (collections of fluid) or growths that are not cancers. The aim is to remove the lesion and your symptoms should improve. You should no longer have the risk of rupture or bleeding that certain lesions can cause. However, a liver resection is a major operation and serious complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.
Keep this information leaflet. Use it to help you if you need to talk to the healthcare team.

Acknowledgements
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You can access references online at www.aboutmyhealth.org. Use reference UG23.