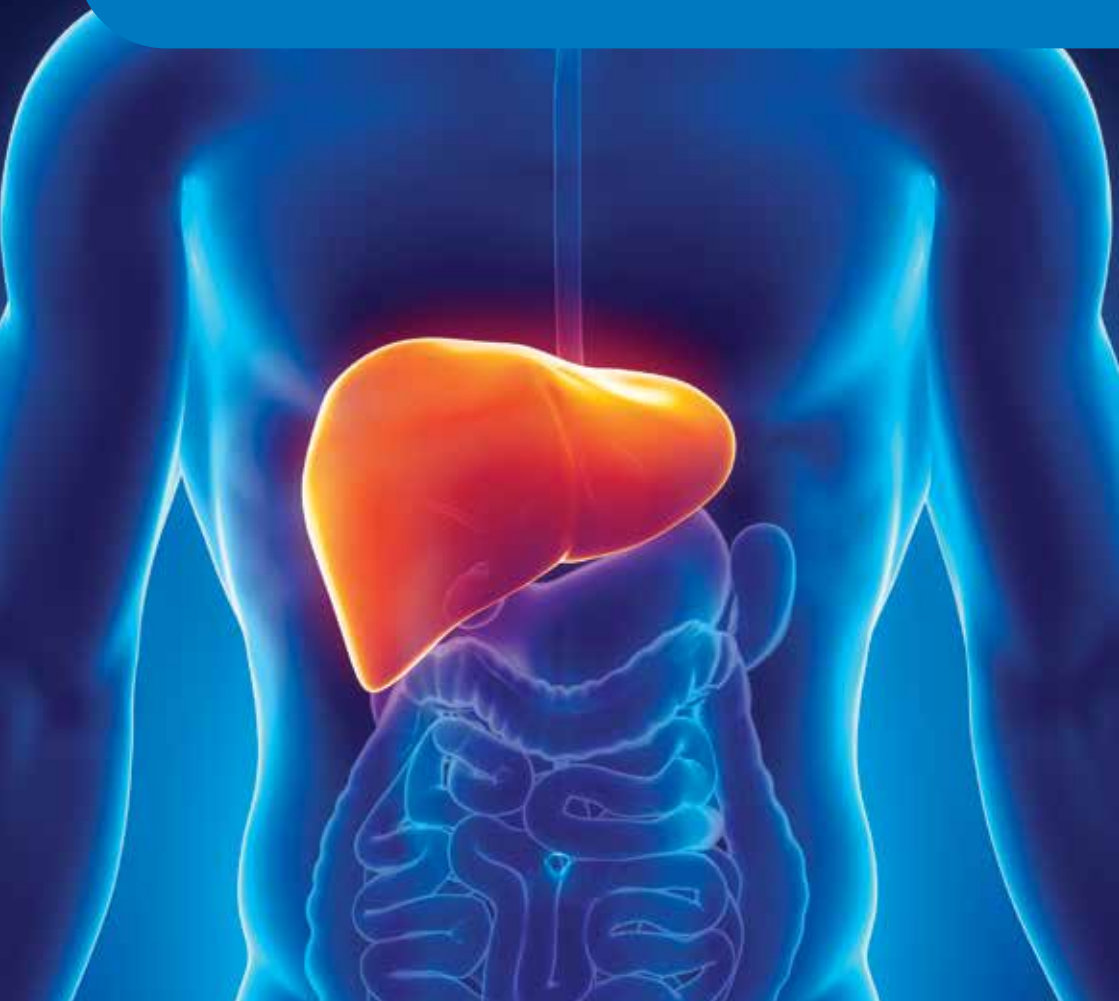


Liver enhanced recovery programme

Information for patients and carers



Welcome to the hepatobiliary surgical unit.

This booklet explains what to expect in the days before and after your liver resection operation and introduces our liver enhanced recovery programme (ERP).

The enhanced recovery programme is an evidence-based approach that is designed to help people recover more quickly from surgery. Research shows that the earlier a person gets out of bed and starts walking, eating and drinking after having an operation, the shorter their recovery time will be.

This booklet is designed to explain your surgery and the enhanced recovery programme in detail, so that you and your family know what to expect before, during and after your operation. It explains the things that you can do to help prepare yourself and helps you to take an active part in your recovery.

If you have any further questions, please ask at your pre-assessment appointment or contact the hepatobiliary ERP nurse using the details on page 15.

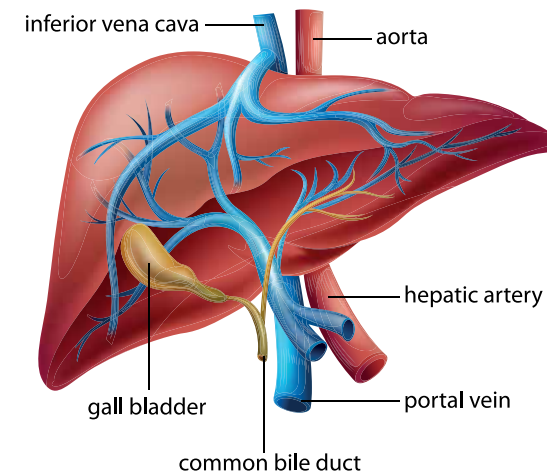
The liver

The liver is a large organ found on the right hand side of your body under the rib cage. It has many important functions including:

- processing digested food from the intestine
- combating infections
- manufacturing bile

Surgery to remove part of the liver is known as a 'resection'.

Diagram of the liver



Why do I need to have surgery?

Your doctor will have explained why you need an operation, but if you have any further questions please ask a member of your healthcare team.

The difference between keyhole and open surgery

Liver resection surgery can be done in two ways:

- using multiple small keyhole incisions (laparoscopy)
- one long incision (open surgery)

Your surgeon will discuss this with you at your surgical clinic appointment.

Preparing for your operation

Before your operation you will be asked to attend some appointments to help you get ready. These include:

Surgical clinic

You will meet your surgical team who will explain the operation along with any risks, benefits and alternatives. You will have the opportunity to ask any questions you may have.

Pre-assessment clinic

Here we will complete a number of routine tests, such as blood tests, height and weight measurements and electrocardiogram (ECG) heart tracing.

We will advise you of any restrictions on what you can eat and drink, and which medications you should take before your surgery.

We will also take your medical history and discuss your current home circumstances. If you have any concerns about how you will manage at home after the operation it's important to let us know, so that we can help you make the right arrangements.

Cardiopulmonary exercise testing (CPET)

CPET is used to assess the response of the heart and lungs to exercise. The test involves being monitored whilst cycling a static bike and provides useful information about cardiac and respiratory function.

Preparing your body for surgery

Having liver surgery can be a major physical challenge, similar to running a marathon, so it's important to prepare your body to cope with this.

Taking some simple steps in the weeks leading up to your operation can help you recover more quickly.

The most important ones are:

- stopping smoking
- reducing your alcohol intake
- eating a healthy balanced diet
- taking regular exercise, for example swimming or walking

We will talk to you about this in more detail when you come for your appointments, and before your operation you will be invited to take part in our Fit for Surgery school.

Fit for Surgery school

This two-hour classroom-based session for patients and families looks at the things you can do to help improve your wellbeing and fitness before your operation, in order to help you recover quickly afterwards. The session offers advice on exercise and nutrition, reducing alcohol intake and stopping smoking, as these are all things that have the potential to improve your recovery time.

Medicines

Do I need to stop taking any medicines before the operation?

We will tell you if you need to stop any medicines before the operation (for example aspirin, warfarin, clopidogrel, dipyridamole, rivaroxaban and any diabetic medication).

You will be given written information at the pre-assessment clinic to remind you which medicines to stop, and when.

What medicines should I bring into hospital with me?

Bring all of your usual medicines with you when you come into hospital. It's very important that you keep them in their original packaging, as we cannot use them if they have been transferred into anything else. We will always try to make sure that you have enough medicines when you leave hospital. However, please make sure you have plenty of your usual medicines at home.

Eating and drinking before your operation

We will talk to you about this at your pre-assessment appointment.

Day before surgery	<ul style="list-style-type: none">• Eat and drink as normal until 2am on the day of surgery.
Morning of surgery	<ul style="list-style-type: none">• After 2am, please drink water only.• You must drink two cartons of PreOp drink between 5.30am and 6am (unless you are diabetic).• After 6am, you should have nothing more by mouth.

The PreOp drinks are designed to be taken before an operation and contain nutrients to help your body recover (however they are not suitable for patients with diabetes). If you are coming into hospital on the day of your operation, we will give you the drinks at your pre-assessment appointment.

What to expect on the day of surgery

- After your two cartons of PreOp drink you should have nothing more to eat or drink (nil by mouth).
- You will be asked to have a shower either at home, before you come in, or on your arrival in hospital.
- We will give you a theatre gown and measure you for surgical stockings. Wearing the stockings will help prevent deep vein thrombosis (DVT) or blood clots.
- Your nurse will go through a checklist with you before taking you to the operating theatre.

What happens after the operation?

After your operation you will be transferred to a surgical ward or the surgical high dependency ward, depending on the type of procedure you have had. You will be closely monitored by nurses who will check your observations, including:

- blood pressure
- temperature
- heart rate
- breathing rate
- oxygen levels

You will also have daily blood tests.

We will regularly assess your pain levels, and check whether you are feeling sick (nausea). If you need help with either of these, please speak to the nurse looking after you.

You may also need oxygen via a mask.

Eating and drinking after your operation

Nutrition and hydration are important after your operation and will help with your recovery. Your nurses will advise you how much you should eat and drink each day, as it is important to build up fluids slowly on the first day.

We can provide you with nourishing drinks (Fortisips or Fortijuices) for the first few days after your operation. These come in a range of flavours so please ask for an alternative if you do not like the one you have been given. The drinks can be diluted with water or milk if you find them too rich.

Your ability to eat and drink may be affected by feelings of sickness. This is nothing to be concerned about. Please tell the nurse looking after you and they will provide you with medication to help.

Pain relief

It's possible that during the operation you were given a pain-relieving infusion into the surrounding muscles. This can stay in place for up to three to five days. We will stop this when you no longer need it and give you oral pain relief as required.

You may also have patient controlled analgesia (PCA). This is a device featuring a button that you press to give yourself a set dose of pain relief medication (usually morphine) intravenously (via a vein in your arm) when you need it. We will stop this when you no longer need it and give you oral pain relief as required.

Getting out of bed and walking

After you wake up from your operation, it is important to start deep breathing exercises to help prevent a chest infection developing. We will give you an information sheet to explain how to do these exercises. If you need any further help with them please speak to the nurse looking after you.

We will help you to get out of bed the day after your operation. You should spend time sitting in a chair. We will also help you to walk on the spot with help, to encourage blood flow around your body.

On the enhanced recovery programme we encourage three to four walks a day, increasing in length as you progress with the assistance of a nurse. By being out of bed in an upright position, and by walking regularly, your lungs will work better and there is less chance of getting a chest infection.

After your operation you will be encouraged to wear your own day clothes as soon as you are able to, as these are more practical for walking around in. Loose t-shirts and tracksuit bottoms are ideal.

If you need a little longer to recover

In some cases, your surgeon may decide that you should not follow the enhanced recovery programme anymore. This is likely to be because you need longer to get better. Your medical team will advise you if this is the case, and the reasons for this.

Potential complications

Liver surgery is a major operation and carries a risk of complication. The complication risk is different for everyone and these complications will be discussed with you in the surgical clinic.

The most common complications are:

- **Chest infection** – which can be prevented by breathing exercises and walking.
- **Wound infection** – which can be prevented by good nutrition.
- **Bile leak** – cut surface bile leaks can occur, so we will place an abdominal drain to identify and manage this.
- **DVT** – to help reduce the risk of developing blood clots in your legs after your operation you may receive a daily blood-thinning injection. It is also important to wear the white anti-clot stockings for the duration of your stay.

Leaving hospital – thinking ahead

We aim for you to be able to leave hospital before 11am on the day your doctors say you can go home.

The ward nurses, doctors and pharmacists will try their best to ensure that your paperwork and medications are organised on time.

It's important that certain things are in place to enable this to happen, so please give the following points some thought:

You will need a clean set of clothes to change into for your journey home. Perhaps you could ask a friend or relative to bring some in for you.

Arrange your transport home. Consider asking a friend, relative or neighbour to collect you. It is a good idea to give this some thought a few days before you are due to leave hospital.

There is a hospital discharge lounge where you can wait for medications to be processed by our pharmacy. Your friend or relative may collect you from here and the nursing staff will give them directions.

Your nurse will give you a copy of your discharge summary. This will be sent to your GP. Please keep this in a safe place as it contains useful information about your surgery and medications in the event that you are readmitted to hospital.

A follow-up clinic appointment will be sent to you in the post within two weeks of leaving hospital. If you do not hear anything, please contact your consultant's secretary. Details can be found at the back of this leaflet.

Looking after yourself at home

Wound care

If you have had keyhole surgery (laparoscopy), you will usually have three to five small cuts on your tummy. These usually heal within five to seven days.

If you have had open surgery, you will have a larger cut on your tummy. Your wound may also have clips or stitches and will be covered with a dressing when you go home. Your practice nurse or district nurse will need to remove these after a week or so.

We will talk to you about removal of the clips and how often your wounds need to be dressed before you leave hospital. We will contact your GP surgery to arrange the practice nurse visits.

Wounds are likely to be slightly red and uncomfortable during the first week or two. Let us know if any redness is spreading, or if your wounds are becoming painful, swollen or leaking any kind of fluid.

Bathing and showering

Avoid getting your wounds wet for five days after your operation. When showering or bathing, cover your wounds with a waterproof dressing. Avoid using talcum powder or highly perfumed soap as these may irritate your wound.

Pain control

You will be sent home with pain relieving medication and should continue to take this regularly for the first two weeks. This will help you to regain full mobility and be comfortable to resume normal activities. The nurses will explain to you when you should be taking your pain relief, as some must be taken with food. You will also be given other medications to take home which may include laxatives, anti-acid and anti sickness medication. A list of these will be sent to your GP.

It is normal to experience gripping pains during the first few weeks after surgery. The pain usually lasts for a few minutes and will go away completely in between spasms.

Diet and fluids

Unless given specific advice by your specialist nurse, dietitian, or doctor, you should try to eat a healthy, balanced diet once you leave hospital. However, most people report having a poor appetite after surgery. If this is the case and/or you have lost weight, try to eat little and often.

Your bowels

Your bowel movements are likely to change after your operation, but will settle with time. You may develop constipation during the first two weeks. Try to make sure you eat regular meals (three or more times a day), drink plenty of water and take regular walks. You may be given laxatives to prevent constipation.

Contact the enhanced recovery phone or your GP for advice if:

- you are passing loose stools more than three times a day for more than three days, or
- you have not had a bowel movement for more than three to four days

Passing urine

Sometimes after abdominal surgery you may experience a feeling that your bladder is not emptying fully. This usually resolves in time. If it does not, or if you experience stinging when passing urine, contact your GP as you may have a urine infection.

Exercise

Activity is encouraged from the first day after your operation. You should continue to take regular daily exercise when you go home.

Walking is the best form of exercise at this stage. Try to walk a little further each day, and to gradually increase the amount of exercise you take during the six to eight weeks following your operation until you are back to your normal activity level.

Avoid anything which may cause strain on the abdominal muscles as these have been weakened by the surgery. It is normal to feel rather tired when you first start exercising. Ensure you take regular rests.

Rest

It is often helpful to plan a rest period during the day, at a time when you will not be disturbed. You may need to accept some help from family/friends and neighbours until you have regained your strength. Allow common sense to guide you regarding this. Once your wounds are pain free, you can do most activities.

Driving

This will depend on the type of operation you have had. You should ask the medical staff for specific advice. You should not start driving again until your level of concentration, strength and mobility have improved enough for you to drive safely.

It is important to ensure you are able to perform an emergency stop and this should be practised in a stationary car when you feel ready. It is advisable to check with your insurance company before driving.

Work

Your surgical team will be able to advise you on when you should return to work. Generally, you will need to take four to six weeks off, but this may be less if you have keyhole surgery.

Please ask the nursing staff to organise a fit certificate which will cover the time spent in hospital and the first couple of weeks at home. You may then need to visit your GP to review this further.

Potential complications to look out for

Complications after surgery do not happen very often, but it is important that you know what to look for.

The enhanced recovery nurse practitioner will phone you at home once you have left hospital to check how you are, and discuss any questions or concerns that you might have relating to your surgery.

Please call us if you experience any of the following:

- wound problems such as increasing redness, pain or swelling, or leaking any kind of fluid
- high temperature or fever, shivering or shaking
- vomiting (being sick)
- shortness of breath
- chest pain
- abdominal pain

DVT, shortness of breath or chest pain

Moving around decreases the likelihood of developing a DVT (deep vein thrombosis or blood clot).

However you should seek urgent medical attention if you develop:

- pain or swelling in the back of your leg
- breathlessness or chest pain

Severe abdominal pain

If you have severe abdominal pain lasting more than one to two hours, you should seek urgent medical attention and contact us as soon as possible on the numbers provided on the next page.

If you are admitted to a different hospital within four weeks of discharge, please ask them to inform University Hospital Southampton NHS Foundation Trust of your admission. Our main switchboard number is **023 8077 7222**.

Contact numbers

• Enhanced recovery nurse telephone: 07500 975 734

You can call this number 24-hours a day for the first two weeks after you leave hospital. It will be held by the nurse practitioner from 8am to 4pm, Monday to Friday. Outside of these hours it will be held and answered by a senior nurse within the surgical unit.

• Ward E8, telephone: 023 8120 6510

• Secretary for Professor Primrose, Mr Armstrong and Mr Hamady: telephone 023 8120 6796

• Secretary for Mr Takhar and Mr Arshad: telephone 023 8120 6977

For follow-up clinic appointment queries please call the consultants' secretary from Monday to Friday, between 8am and 4pm.

We hope you have found this booklet helpful. We welcome any feedback or suggestions on how it can be improved for future patients.

University Hospital Southampton
NHS Foundation Trust
Tremona Road
Southampton
SO16 6YD

Main switchboard: **023 8077 7222**

For a translation of this document, or a version in another format such as easy read, large print, Braille or audio, please telephone **023 8120 4688**.

For help preparing for your visit, arranging an interpreter or accessing the hospital please visit: **www.uhs.nhs.uk/additionalneeds**

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