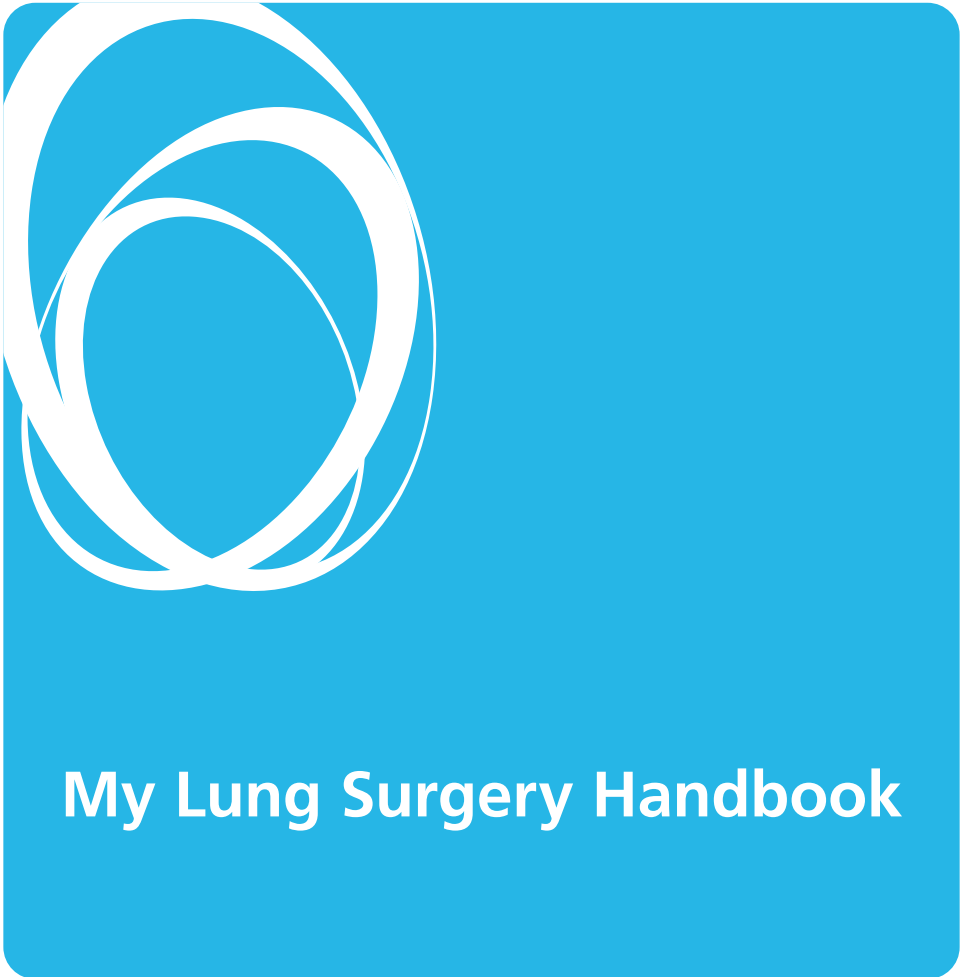


Patient sticker



University Hospitals Birmingham
NHS Foundation Trust



My Lung Surgery Handbook

Building healthier lives

UHB is a no smoking Trust

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Introduction

If you or a family member are coming into hospital to have surgery on your lungs or chest you may have lots of questions.

The aim of this handbook is to add to the information about your surgery that you have already received from your medical team.

Understanding what happens before, during and after surgery will help prepare you, your family and your friends for the journey ahead.

This will help you to recover while you are in hospital and also when you get home.

If you have any questions or concerns about any of the topics in the handbook please ask:

- The nurse on the ward when you are admitted
- The doctor looking after you
- The lung nurse specialist

They will be happy to answer your questions. There is space at the back of this handbook to write any questions down that you may have. Further information is available on our website

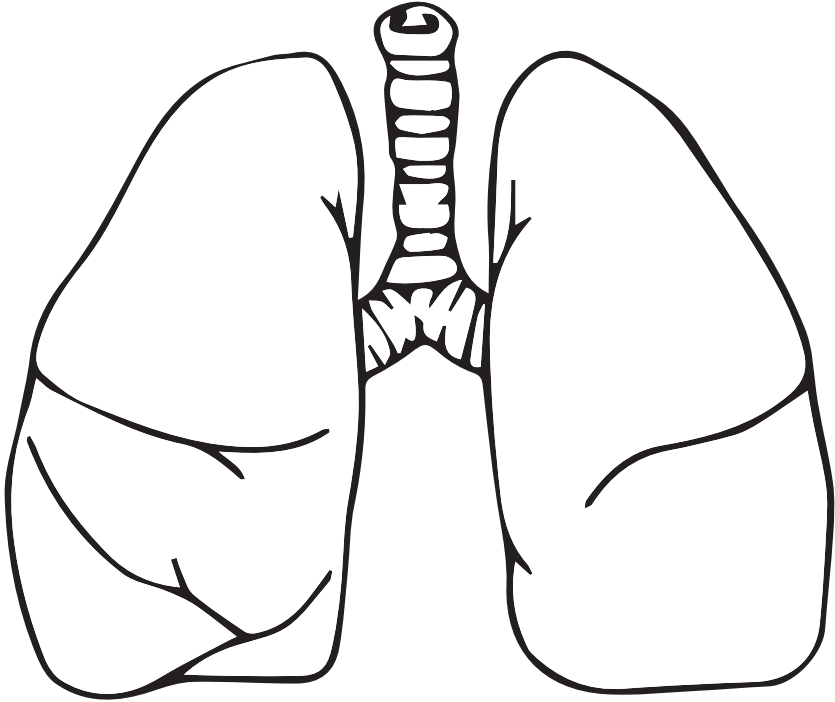
www.thoracicsurgery.co.uk

Please remember to bring this booklet into hospital with you.

Your surgery

If you wish, request your surgeon to draw your surgery below:

Front view:



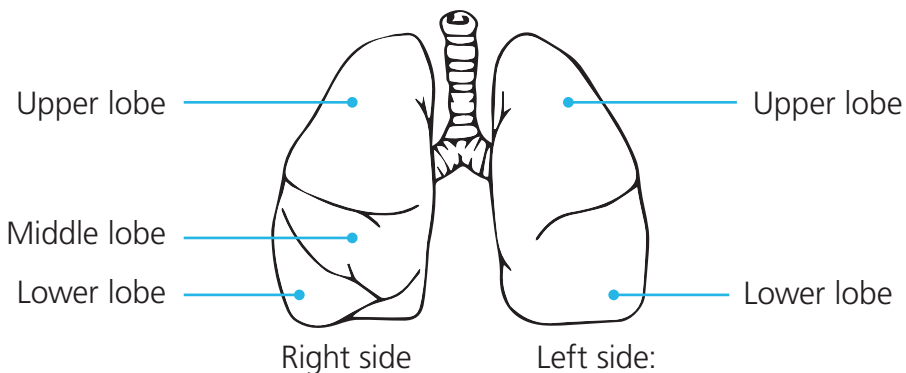
Right side:

Left side:

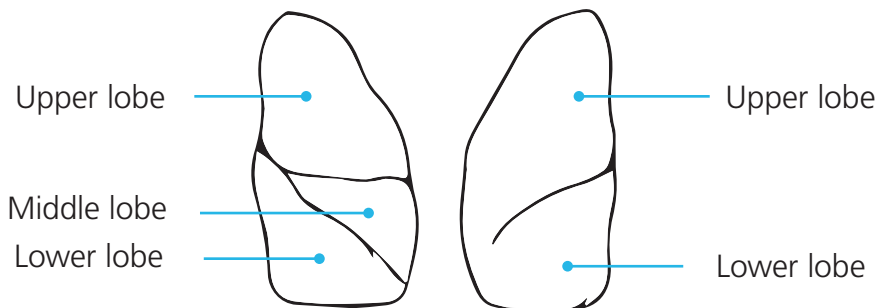
About your lungs

You have one lung on each side of your chest. Each lung has a number of subdivisions called lobes. The right lung has three lobes and the left lung has two, with each lobe divided further into segments. There are 19 segments in total, 10 in the right lung and 9 in the left.

Front view:



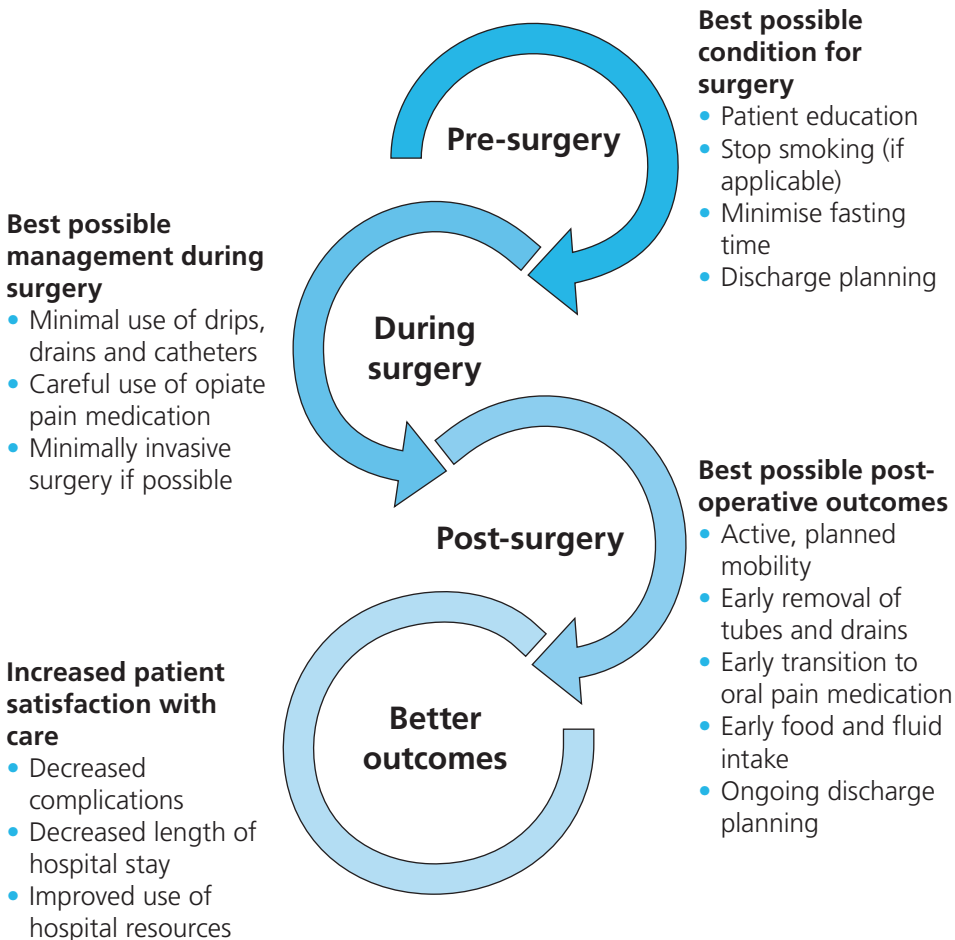
Side view:



When you breathe in through your nose or mouth, the air passes down your windpipe (trachea) which then divides into two airways (bronchi) one going into each lung. These air passages then divide into smaller airways (bronchioles) which end in tiny air sacs called alveoli. Within the tiny air sacs, oxygen and carbon dioxide are exchanged.

Enhanced recovery in thoracic surgery at Queen Elizabeth Hospital Birmingham (QEHB)

At QEHB all of our patients are looked after on an Enhanced Recovery After Surgery pathway (ERAS). Enhanced recovery is about minimising the stress on the body to allow you to recover quicker and get back to normal faster.



As partners in your journey, we have listed a number of milestones for you to aim for, to aid your recovery. See page 18.

Length of stay in hospital

The length of time you spend in hospital does vary from person to person but will typically be between one to seven days. Some people will stay less time and others longer, this is normal.

How the surgeon operates on your chest

There are two main methods that a surgeon can use to get into the chest:

Video Assisted Thoracoscopic Surgery (VATS)

This is 'keyhole surgery' where a surgeon inserts a camera through one to three small cuts, two to five cm in size, into your chest to look at the lung and operate. The cuts are generally made under the arm and/or just below the shoulder blade.

Robot Assisted Thoracoscopic Surgery (RATS)

This is 'keyhole surgery'. Your surgeon will make 4 to 5 cuts (incisions) in your chest and insert the robotic camera (thoracoscope) and any other robotic instruments that are needed to perform the operation. The instruments are attached to the robot and the surgeon operates it from a control console.

Thoracotomy

This is a cut made around the side of your body below your shoulder blade and between your ribs.

Your surgeon will talk to you about which method they plan to use.

Main types of lung surgery

The type of surgery chosen will depend on:

- The condition being treated
- How fit you are

There are three main types:

Segmentectomy or wedge resection

Each lobe of the lung is made up of several segments and the surgeon may remove just a segment, or small piece of lung tissue (wedge), rather than the whole lobe. Sometimes the surgeon will send a sample off at the time of surgery to be analysed while you are still asleep to confirm the diagnosis, this is known as a frozen section.

Lobectomy

This involves the removal of a lobe of the lung. The remaining lung will usually expand and fill the space left by the lung tissue that has been removed.

Pneumonectomy

This involves removing a whole lung. The other lung will expand in size but a space is left where the lung is removed. You will be able to do most things you did before, but at a slower pace.

Breathlessness after surgery depends on how breathless you were before surgery and how much lung your surgeon has removed.

Breathlessness after surgery improves over two to eight weeks after your operation.

How best to prepare for surgery

1. Stop smoking

If you smoke and are waiting for an operation then it's very important that you stop smoking as soon as possible. This will increase both your body's ability to heal and your ability to recover from the anaesthetic. Stopping smoking will also reduce your risk of complications after surgery. Please discuss stopping smoking with the Advanced Clinical Practitioners. They can support you during your attempt to quit.

For other available information, please call:
NHS Smoking Helpline **0300 123 1044**

2. Activity and fitness

- Research has found that patients who are fit and active before surgery develop fewer complications after their operation. Therefore before surgery we advise that patients try to undertake increased exercise and activity (brisk walks, swimming, keep fit classes, etc).
- We advise about 20 minutes of activity every day. You should aim to get mildly short of breath during the activity
- The amount of activity possible will differ from person to person, but those who consider themselves fit usually walk around two to three km per session
- If this is much further than you usually walk, just try to walk that little bit extra. You could also climb the stairs, instead of using escalators and lifts where possible
- You may be referred to rehabilitation for specific exercise and education classes to prepare you for surgery

Please visit our website for exercises www.thoracicsurgery.co.uk

3. Eat well

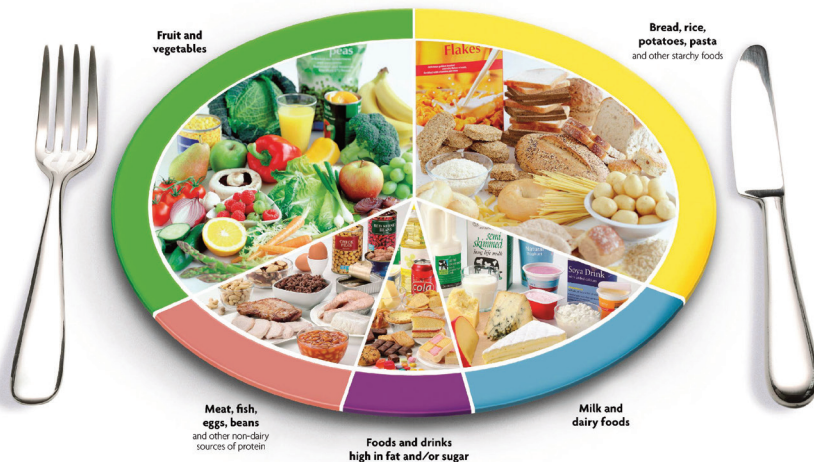
It's important to be a healthy weight and to be nutritionally balanced before surgery. This helps you to recover quicker from surgery and have fewer complications.

So, try to eat each day:

- Plenty of fruit and vegetables, (at least five portions a day)
- Plenty of bread, rice, potatoes pasta and other starchy foods.
Choose wholegrain varieties whenever you can
- Some milk and dairy foods
- Some meat, fish (two portions a week), eggs, beans and other non-dairy sources of protein
- Small amount of foods and drinks high in fat and/or sugar
- Limit the amount of alcohol you drink. Do not exceed the national recommendations – currently 14 units for men and women

The eatwell plate

Use the eatwell plate to help you get the balance right. It shows how much of what you eat should come from each food group.



Department of Health in association with the Welsh Government, the Scottish Government and the Food Standards Agency in Northern Ireland

© Corbis/Bettmann

What happens before surgery?

Pre-operative assessment clinic

You will be asked to attend our pre-operative assessment clinic, usually one to two weeks before your date for surgery. This is to assess your fitness for an anaesthetic and surgery. It is also an opportunity to identify any issues before coming to hospital. At this appointment you will be asked questions about your general health, allergies and any medications you are taking.

It is very important for you to bring an up-to-date list of medications that you take to all appointments.

This is an opportunity to talk to our experienced staff about your **anaesthetic and pain control** after your operation.

The options include:

- **Epidural** – Small tube into your back, put in when you are awake, which numbs the nerves going to your chest. Those patients having an epidural also need a catheter in the bladder
- **Paravertebral catheter** – Small tube put in your side, whilst you are asleep. This numbs the nerves around the cut(s) in your side. You do not need a catheter in the bladder
- **Intra-thecal injections** – injections of anaesthetic placed in your back before the operation starts. These last for many hours
- **Patient controlled analgesia (PCA)** – Similar to intravenous morphine except that you press a button yourself to get the painkiller when you need it. These are commonly used on top of other forms of pain control

The appointment

- This may take a few hours as you will be asked to have an X-ray, heart tracing (ECG) and blood samples taken along with some other minor routine tests. Your height and weight will be measured and a nose swab will also be taken
- You will be given instructions about not eating and drinking for a certain length of time before your surgery, this is usually six hours for food and two hours for clear liquids
- You will also be advised on what to bring with you to hospital and how to prepare for returning home
- You may be asked to take part in a research study. You do not have to do this, but taking part will add to the information we are collecting to help us improve what we are doing

Day of surgery admission

You will be asked to come to the Thoracic Surgery Ward, or Ambulatory Care or the admission lounge admissions lounge on the day , or the evening before surgery.

You will be told before you arrive when to stop eating and drinking. Take your regular medication unless told not to. Here, you will meet your anaesthetist. They will review your medical history, discuss your anaesthetic and pain control after your operation. You will also meet your surgeon who will go through the details of your operation and get you to sign a consent form. This will be an opportunity to have any remaining questions answered.

- Admission time to the unit is 07:30. Occasionally some patients will be asked to arrive at different times (e.g. 10:30), but you will have been given clear instructions before hand
- The length of time you wait will depend on your position on the operating list. You may have to wait several hours
- **Do not eat or drink anything** once you have arrived unless told to by the nursing staff. You may be told you can sip water until your surgery this is called 'Sip until Send'

- We ask that **only one relative** waits with you due to limited space
- Staff will admit and prepare you for theatre in order of the list
- Your post-operative ward will be identified once the ward rounds have been completed and a bed allocated to you
- Your property will be safely stored until after your operation has taken place. We encourage your relatives to take home your valuables and extra luggage until visiting time
- Once you have been admitted you will be asked to change into your theatre gown and shown to the theatre waiting areas
- You will be asked to walk to theatre if you are able to do so. Relatives are able to walk to the theatre reception doors but not beyond
- If there is any chance that your surgery will be cancelled due to lack of beds on the wards, we will do our best to tell you as soon as possible. Please understand that this would be as a last resort and the decision would have been made by Trust management

Your stay in hospital – after your operation

What happens after the operation?

When your operation has finished you will wake up in theatre recovery. Here you can start to drink when the nurse tells you that you can. When you have woken up and you are comfortable, you will then be taken back to Ward 517 or the High Dependency Unit (HDU) or Enhanced Post Operative Care unit (EPOC).

Chest drains

You will wake up with one or more chest tubes in your side, which are attached to either a digital pump or to bottles on the floor. These are there to take away air and fluid from where the surgery was performed. These are monitored regularly and will be removed when the amount of fluid or air has reduced to satisfactory levels (usually one to four days).

If the chest drain bottle becomes disconnected or alarms please let the staff know immediately.



Pain relief

Different methods of pain relief are available. Good pain relief is important for your comfort and recovery. It is important to let the staff know if you are in pain so that we can give you more pain relief or review your current pain medication. **Do not let yourself be in pain.**

Medications

In addition to painkillers, we routinely add anti-sickness and laxatives tablets to your list of medicines. We give these to help with the nausea, sickness and constipation that some patients suffer from. Initially after your operation you will be given oxygen whilst you recover. You may wake up with drips into your arm. These allow the medical team to give drugs and fluids or are used to monitor you. Occasionally you may wake up with a catheter in your bladder. These will be removed as soon as possible after your operation.

Exercise and physiotherapy

We want you to be up and about as quickly as possible after chest surgery to exercise the lungs. The day of your operation you will be helped to sit out in a chair. The next day you will be helped to sit out in a chair and you may be asked to walk with assistance, which will be provided by more nurses or physiotherapists depending on your needs. Each day you remain in hospital you will be encouraged to sit in your chair and take regular walks, with assistance provided if necessary.



Your mobility and independence should improve daily as pain lessens and fitness returns.

It is very important to be active early and as regularly as possible after your surgery to help re-expand your lungs and prevent chest infections (pneumonia), constipation and blood clots from forming.

It can be normal to experience some shortness of breath while walking in the first few days, and even weeks, after surgery. This is often a normal side effect of the surgery and will improve with time as you become more active. Before you go home the physiotherapists will make sure you are fit to do so if you have had issues with shortness of breath. Your fitness may be tested by trying a flight of the hospital stairs.

You may need to do breathing exercises after your surgery, to expand the lungs or move mucus – your physiotherapist will assess if this is necessary, and show you what to do if needed.

If coughing hurts you will be taught how to support your wound. You may be given a device called an 'incentive spirometer' (see picture below) to assist with deep breathing expansion exercises if the team think it will be beneficial.



Shoulder exercises

You might experience pain and stiffness in your shoulder after surgery. This can ease with regular gentle movement. Do these exercises 10 times each, twice per day.



Clasp your hands in front of you. Lift your hands and stretch your arms up above your head



Lift your arm sideways with your thumb leading the way. Also touch your hand to your shoulder, and then circle your elbow forwards and backwards




Place the back of your hand as close as you can to the small of your back. Then reach up and touch the back of your neck with your hand

Your aims

This table outlines the key aims in your recovery. It covers a typical stay in hospital.

Aims		
After operation	Day 1	Day 2
Drink once awake	Wash with assistance	Wash independently
Eat when ready	Physiotherapy; clear chest and cough	Walk independently
Sit in chair	Breathing exercises if needed	Physiotherapy check
Walk with support	Walk with support/ independently	Use of tablet pain relief
	Removal of some tubes, drips and drains	Removal of tubes, drips and drains
		

Milestones	Checklist
Day 3 onwards	Please tick
Increased walking and general activity	I am mobilising by myself <input type="checkbox"/>
Prepare for going home	I am able to eat and drink <input type="checkbox"/>
Collect tablets to take home	I can cough and deep breathe comfortably <input type="checkbox"/>
Continue physiotherapy advice	I can pass urine freely <input type="checkbox"/>
	My bowels are working <input type="checkbox"/>
	I have been given my discharge summary <input type="checkbox"/>
	I have my tablets to take home <input type="checkbox"/>
	I have organised transport home <input type="checkbox"/>
	Discharge information <input type="checkbox"/>

Day of discharge – what to expect

It is usual on the day of discharge for patients to be transferred to the discharge lounge to wait for medications and for their transport home. Medications can take a few hours to arrive so please make sure that you have had your pain medication prior to leaving the ward. You will be shown a video and given instructions on your discharge letter about how to recover well at home.

What to expect at home

This chapter gives key information so that you know what is considered normal, when to ask for advice and who to contact if there is a problem once you have been discharged home.

Mobility and exercise

It is important that you continue with daily 'walks' and every day activities like washing, dressing and cooking. Building up your fitness gradually is essential, with gentle short 'walks' and stair climbing at first, progressing to longer walks out of the house. Start off slowly so you can gauge how much is right for you (aim to get slightly short of breath) and build up pace and distance weekly.

From six to eight weeks you can build up to exercises such as swimming, walking, cycling and light jogging. Remember you may be breathless for several weeks following your surgery, but it should show gradual improvement. However, if your lung function was reduced before surgery there will be a limit to the improvement in your breathlessness.

After discharge from hospital continue with deep breathing exercises for the first week at home if you were given them by physiotherapist, and use a cushion to support your cough as necessary.

Remember you may feel breathless for several weeks following your surgery.

After care at home

You may need some specific care immediately after your operation but most patients are well enough when they return home to look after themselves. However, the support from your family and friends will help you to recover quicker.

You may receive a phone call from an Advanced Care Practitioner to see how you are or if you have any concerns please call ward 517 or one of the numbers on the back of this booklet.

Pain relief

A supply of tablets will be given to you to take home. You will be told how and when to take your tablets by the nurse. This may happen on the ward or at the discharge lounge. If you require further medication you will need to see your GP.

Do not let yourself be in pain

You may need pain relief for a few weeks or months. When you feel that you no longer need pain relief, do not just stop your medication suddenly, cut down gradually.

You may feel quite well after six weeks but allow three to six months for full recovery. You may also have good days and bad days and it can feel like you are taking forward and backward steps. This is normal.

Wound dressings

While you are in hospital, your wound dressing will be checked daily. Once the dressing is clean and dry, it can be removed completely. Normally the wound stitches do not have to be removed as they will dissolve completely. The chest tube stitch will need to be removed approximately seven days after your drain removal by your practice or district nurse. If your wound becomes red and angry in appearance or starts discharging fluid, then please contact your GP or district nurse. Please refer to your discharge booklet for advice regarding showering.

Chest tubes

Most people have their chest tubes removed before discharge but sometimes you may need to go home with the chest tubes. If so, then you will be monitored by the hospital in our drain clinic where you will be given more information. You may also need a district nurse.

Rest and sleep

During the first few weeks at home you will find that you tire easily, so adequate rest is as important as exercising for your recovery. Have a rest in the afternoon for about two hours. You should find that after a few weeks you will need less rest through the day.

It may take several weeks for you to settle back into your normal sleeping routine. Taking your painkillers at night can help with the uncomfortable feeling and any soreness from the wound.

Follow-up

You will be seen in outpatient clinic about two to six weeks after your surgery (depending on your operation). Here we can talk to you about how you are recovering and your on-going care.

	Everyday activities	Outside activities	Seek advice
Week 1	<ul style="list-style-type: none"> • Walk around the house • Shoulder exercises • Continue breathing exercises if taught • Shower 		<p>Speak to your surgeon prior to attempting:</p> <p>Heavy lifting</p> <p>Sexual activity</p> <p>Playing sport</p>
Week 2	<ul style="list-style-type: none"> • Light tasks (e.g. washing up, cooking, dusting) • Shoulder exercises • Shower 	Walking outside the house	Flying/holiday
Week 4–6	<ul style="list-style-type: none"> • Ironing • Shoulder exercises 	<ul style="list-style-type: none"> • Light shopping • Gentle gardening • Cleaning the car 	
Week 6–12	<ul style="list-style-type: none"> • Hoovering • Light lifting 	<p>When you are safe and not taking painkillers with drowsiness as side effect</p> <ul style="list-style-type: none"> • Driving (check with your insurance provider) 	
After 12 weeks	Return to full activity around the house	Resume normal outside activities	

Other sources of information

The Roy Castle Foundation

0333 323 7200

www.roycastle.org

Marie Curie Cancer Care

0800 090 2309

www.mariecurie.org.uk

Lung Cancer Nursing UK

www.lcnuk.org

Macmillan Cancer Support

0808 808 00 00

Cancer Research

www.cancerresearchuk.org

Mesothelioma UK

0800 169 2409

NHS Free Smoking Helpline

0800 022 4332

Contact information

Ward 517

Advanced Clinical Practitioner

Medicine information and patient hotline

0121 371 5211 / 5253

Secretary's number below

0121 424 4682

Your consultant's secretary:

Mr M S Kalkat

0121 371 2128

Mr U B V Naidu

0121 371 2128

Mr H Fallouh

0121 371 2128

Ms Menon

0121 371 2128

Mr R Wotton

0121 371 2128

Your lung/specialist nurse:

..... Tel:

You can donate at www.hospitalcharity.org/donate or get in touch with us at charities@uhb.nhs.uk or 0121 371 4852
Thoracic Surgery Research Fund, charity number 53-3-334

How did we do? 😊 😐 😞

If you have recently used our services we'd love to hear about your experience. Please scan the QR code or follow the link to share your feedback to help us improve our services. **Thank you.** www.uhb.nhs.uk/fft



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