

# Thoracic surgery

Patient information and diary

Patient's name: .....

Consultant's name:.....

Admission date:.....

Planned discharge date: .....

Type of operation:.....

Date of operation: .....

**Please bring this booklet with you on admission**

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## Introduction

We want you to get better as soon as possible after your operation. To achieve this, we have developed an 'Enhanced Recovery Programme' for thoracic surgery with the aim to:

- Get you as fit as possible for your operation
- Reduce the stress of surgery on your body
- Get you up and about soon after your operation

This booklet gives you information about the things you can do to make sure that you get better as soon as possible after your operation. There is a diary at the end of this booklet for you to monitor your progress and we would encourage you to do this.

The DVD provided to you with this booklet contains video footage to support the explanation in this booklet.

Remember, if after using these materials you still have questions, please get in touch or ask when you are in the clinic or on the ward. You will find our contact information on page 19 of this booklet.

## Before coming into hospital

### 1. Be prepared

Start to make plans for going into hospital and coming home after your operation.

- Think about how you will travel to the hospital. It might involve an early start so try to get to get some rest the day before.
- Think about what you will take into hospital with you. Make sure you have a pair of well-fitting, flat, comfortable slippers or shoes. If you normally use a walking aid or have glasses, dentures or hearing aids, then please make sure you bring these with you.
- Think about how you will get home from hospital. You will be given the date that we expect you to be discharged. Make sure friends and family know when this will be.
- Think about how you will get home from hospital. Hospital transport is not available for discharge.
- Check that you have enough support in place for when you go home. If you live alone, we would prefer for someone to stay with you for at least the first few days. If this is not possible please tell the hospital as soon as you can. You might need extra help initially.
- Before going into hospital it is sensible to stock up your freezer so you do not have to worry about shopping immediately after you are discharged.
- If you are finding it difficult to manage at home prior to your operation, or you cannot get up out of a chair easily without using your arms, do mention this to the nurse at pre-admission clinic.
- Practice getting in and out of bed without using your arms. Learn how to roll onto your side and use your leg as a pivot.
- If you are the primary carer for someone, think how this person will be looked after while you recover from your operation.

### 2. Live well

Stopping smoking is good for your health at any time but is particularly important prior to your operation as smoking increases the risk of complications, such as a serious chest infection.

*If you need some help:*

- Your GP practice may have a registered Stop Smoking Adviser who can help you. Ask for further information at your GP practice.
- Contact your local NHS Stop Smoking Service for free group, or one-to-one help and advice from trained experts. Let them know that you are going to have an operation so they can give you priority.
- Ask your local pharmacist if they have a trained Stop Smoking Adviser you can see for free one-to-one help and support.
- The NHS Smoking Helpline and website are there to give free advice, help and support. Call 0800 169 0 169 or for online help and support visit [www.smokefree.nhs.uk](http://www.smokefree.nhs.uk)

You must also limit the alcohol you drink. Do not exceed national recommendations which are currently 14 units per week for women and 21 units per week for men.

Stopping smoking and limiting your alcohol intake will help your recovery.

### 3. Eat well

Good nutrition is always important but it becomes even more vital before and after surgery. A healthy balanced diet will provide your body with all the nutrients it needs to fight infection and repair tissues.

Studies have shown clearly that people who are underweight and malnourished or overweight have more complications after surgery. People who are a healthy weight and well-nourished will heal and recover more quickly.

Prior to surgery your nutritional state will be assessed. If you are identified as malnourished or at risk of malnutrition (this means you are eating and drinking too little,

or have unintentionally lost weight) you will be provided with some written dietary information to help you to improve your nutrition before surgery. You will also be prescribed supplement drinks and referred to a dietitian for further advice. *For most people a healthy balanced diet includes:*

- **Fruit and vegetables** - aim to eat at least five portions per day. Ensure you have a variety and choose from fresh, frozen, tinned, dried or juiced.
- **Starchy foods** at each mealtime, e.g. rice, bread, pasta and potatoes. Choose wholegrain varieties when you can.
- **Protein-rich foods** such as meat, fish, eggs, beans, lentils or nuts. These should be eaten at least twice a day.
- **Milk and dairy foods each day.** Try lower-fat versions if you need to lose weight.

If you are found to be overweight, then you should try to take steps to lose weight before surgery as this will reduce your risk of complications (particularly breathing and wound problems).

You should do this sensibly by continuing to eat a healthy balanced diet that includes all the four food groups listed above. It is important that you continue to eat regular meals but you could cut down on food and drinks high in fat and sugar and reduce your portion sizes.

If you need to snack between meals, choose healthy snacks such as fruit and low fat yoghurts. Good nutritional habits now will help you after your surgery.

- Limit foods high in fat, sugar and salt.

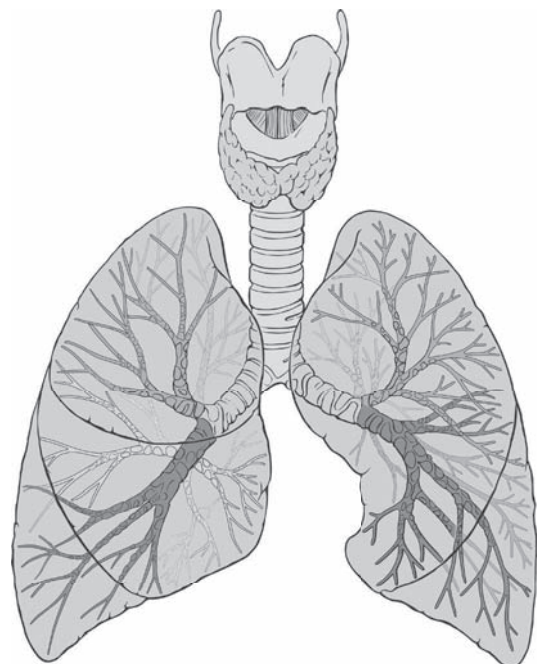
Before surgery	After surgery
Nutritionally balanced + a healthy weight	= Quicker recovery and fewer complications

### What's inside your chest?

The lungs are not a single block. The right lung is divided into three segments (lobes) and the left in two. You can imagine the lungs as a big sponge full of air, with grooves along it, dividing it. The space between the lungs is the mediastinum.

This space contains the heart, major blood vessels, the food pipe (oesophagus) and wind pipe (trachea).

In the mediastinum there are also a number of glands (lymph nodes) that might become enlarged in the presence of disease. These glands work like filters designed to protect the rest of the body. Sometimes the surgeon takes samples from these glands to guide your treatment.



Patrick J. Lynch, Medical Illustrator; C. Carl Jaffe, MD, Cardiologist

#### 4. Stay active

It is important to remain physically active while you wait for your operation. The stronger and fitter you are before the operation the sooner you are likely to be able to go home after your operation.

Physical activity means day-to-day activities like walking and housework or a structured exercise programme. The exercise you choose will depend on your level of fitness, but it is important for you to find ways of introducing exercise into your daily routine.

The following exercises are a combination of cardiovascular exercise and stretches. You do not need to do all of the exercises every day, but you should choose activities from each section and try to do something at least five days of the week if you are able to.

You should use the BORG scale of breathlessness (page 8) to gauge how hard you are working.

#### Warm-up

You should always warm-up your muscles and prepare your body for exercise - 5 to 10 minutes should be enough - by marching on the spot, or starting a very gentle walk or cycle.

#### **Marching on the spot**

Standing on the spot, march your legs up and down picking your knees up high.

You should march at a pace which works you at a level around a BORG score of 2 as this is just a warm-up to prepare you for exercise. If you find it too easy, you can lift your knees higher or march at a faster pace. You should use your walking aid if you need one.

If your exercise tolerance is poor and marching works you at a BORG score of 3-4 then you can use this as part of your cardiovascular exercise instead of stairs/exercise bike.



#### Cardiovascular

Walking, cycling and climbing stairs are all good ways of improving your fitness. You should choose an activity and an intensity that is appropriate for your current level of fitness. Ideally the exercise should raise your heart rate and make you breathless; however you should not be so breathless that you cannot hold a conversation.

You should use the BORG scale of breathlessness (on page 8) to gauge how hard you are working - ideally you will be aiming for 3-4 on the scale. If you feel you are working at a level less than 3, you should consider increasing the amount of time you spend exercising, or increasing your speed.

Try to gradually increase the amount of time you exercise to between 30 and 45 minutes. Then consider increasing your speed or cycling resistance if you are finding it too easy.

If at any time you feel you are working harder than level 4, you should slow down, or stop and just keep your legs moving gently with a slow march on the spot until you have recovered.

By being aware of how hard you are working, you will help to optimise the effect of your exercise on your fitness. Be careful that you do not overdo it but are working hard enough to see improvement.

### **Walking**

It's important to increase the amount of walking you can do before your operation.

Start at a comfortable pace and see how long you can walk for, keeping yourself working at a Borg score of 3-4.

You should increase the distance you are able to walk before increasing your pace.



### **Stairs**

You can climb the stairs at home as part of your cardiovascular exercise, either completing a full flight or by doing step-ups on the bottom step.

This activity should work you at a BORG score of 3-4.



### **Exercise bike**

If you have a static exercise bike you can use this as part of your cardiovascular exercise. Start by pedalling at a low speed of 40-50 revolutions per minute (RPM) with low or no resistance and aim to cycle for 10 minutes.

Increase the amount of time you are able to cycle for, before you increase your speed or the resistance.

Remember to keep yourself working at a BORG score of 3-4.



### **Strengthening**

The following exercises are designed to strengthen the muscles in your legs and arms so that you find it easier to move around after your surgery.

Remember to use the BORG scale - you can then reduce the number of repetitions if it is too hard.

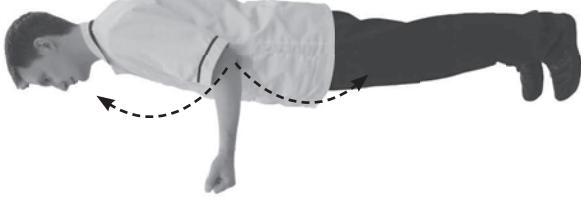
If you feel that the exercises are becoming too easy, you can increase the number of repetitions you complete, or you can add resistance such as ankle/wrist weights, or with something as simple as holding a can of beans!

### **Bicep curls**

Either sitting or standing, bend and straighten your elbow 10 times.

Before your operation you can increase the resistance by holding a hand weight or something like a can of beans.

After your operation you must not use any resistance to allow your wound to heal. Repeat with other arm.



### **Knee extension in sitting**

Sitting on a chair, straighten your knee, hold it for a count of 10, and then bend it again. Repeat this 10 times on each leg.



### **Sit to stand**

Sitting in a chair, stand up and sit back down without using your arms if possible.

Repeat this 10 times.



### **Hip extension**

Standing with a chair in front of you for support, extend your leg out behind you and hold for a count of 5.

Repeat 10 times on each leg





### **Static quads**

Sitting or lying on the bed with your legs straight out in front of you, straighten your knee as much as possible pushing the back of your knee into the bed, and hold for a count of 10.

Repeat 5 times on each leg.



### **Stretches**

The stretches on the next page are to improve your flexibility and posture prior to your surgery. You should feel a stretch but it should not be painful. You will be expected to continue these stretches after your surgery to ensure that your shoulders and back remain flexible whilst your wound heals.

Remember that any increase in activity, however small, will be beneficial for you.

You should not exercise if you feel unwell. You should use the BORG score on page 8 to grade how hard you are working from 0-10. You should aim to be working between 3-4 on the scale. This will ensure you are working hard enough to see a benefit from your exercise, but are not overdoing it.

### ***Shoulder flexion***

Sitting on a chair, raise your arm up above your head in front of you, keeping your arm straight, and slowly lower it again.

Repeat 10 times on each arm.



### ***Trunk rotation in sitting***

Sitting in a chair, cross your arms over your chest and turn to look over your left shoulder making sure you turn at the waist.

Hold for a count of 3, then repeat turning to look over your right shoulder.

Repeat this 5 times in each direction.



### ***Trunk lateral flexion in standing***

Standing up with your arms down straight by your side, slide your left hand down your left leg, bending to the left as you do so.

Slowly return to an upright position, and then repeat with your right hand sliding down your right leg, bending to the right as you do so.

Repeat 5 times in each direction.



### ***Neck rotation***

Sitting in a chair, turn your head to look over your right shoulder and hold it there for a count of 3, then repeat to look over your left shoulder.

Repeat this 5 times in each direction.



## 5. Get practising

You need to practise deep breathing exercises prior to your surgery to get familiar with them. You will be encouraged to do these exercises quite soon after you wake up after your surgery. The exercises will help your lungs recover from the anaesthetic and keep your chest clear of phlegm, reducing the risk of chest infection.

- With your shoulders relaxed, take a deep breath in, hold for one to two seconds and then let the breath out.

- When you have completed three or four breaths, you should cough. After your surgery, you should support your wound as you do this - your physiotherapist will show you how to make it more comfortable. Although pain relief will be provided, coughing will be uncomfortable especially soon after the operation, but it is important to remove any secretions from your lungs.
- These breathing exercises and supported cough should be done at least every hour for the first two days after surgery

## How short of breath are you?

### *Based on the 'Shortness of Breath BORG Dyspnea Scale'*

Please record your activities on the exercise record on page 7 - it will help you monitor your progress.

When your physiotherapist sees you after the operation, he/she will use this diary to gauge what your capability was prior to your operation.

### **BORG scale of breathlessness**

0	No shortness of breath
0.5	Very very slightly (just noticeable) short of breath
1	Very slightly short of breath
2	Slightly short of breath
3	Moderately short of breath
4	Somewhat severely short of breath
5	Severely short of breath
6	
7	Very severely short of breath
8	
9	Very very severely short of breath (almost completely)
10	Completely short of breath

Please record your activities in the following exercise record - it will help you to monitor your progress. When your physiotherapist sees you after the operation, he/she will use this diary to gauge what your capability was prior to your operation.

## Exercise record

Date	Time	Activity	Duration/ repetitions	Borg	Comment
Example	10.00am	Walk	15 mins	3	
	3.00pm	Stretches	3 of each	N/A	

## Consenting to your operation

Your surgeon will explain the operation to you including risks, benefits and any alternative treatment options. If you want to proceed with the operation, the surgeon will ask you to sign a consent form stating that you agree to have the operation and understand what is involved.

### Thoracic pre-admission clinic

You will be asked to attend clinic one to three weeks before your operation date.

Please do not be afraid to ask questions - we are here to help you and to make sure you arrive for your surgery in a condition that allows you to have the best possible recovery.

*A Senior House Officer, or lung specialist nurse will:*

- Examine you and ask you questions about your present symptoms and past medical history.
- Take a history of all your medication - please bring either all your medication or an up-to-date repeat prescription with you.

*An anaesthetist will assess your anaesthetic requirements and discuss pain control with you.*

*You will then see a nurse who will:*

- Tell you how you can prepare for your surgery.
- Tell you about using a skin wash (Octenisan) on the night before and the morning of surgery.
- Tell you when to stop eating and drinking in preparation for your surgery.
- Tell you what to expect during your stay in hospital.
- Discuss your plans for your discharge day - how you will get home from hospital and arrangements you need to make at home for the first few weeks after discharge.
- Ensure that the routine pre-operative tests (see opposite) and any further tests are carried out.

## Who's who

Thoracic Surgeon	A medical doctor who performs operations on the lungs, oesophagus, and other organs in the chest
Specialist Nurse	A nurse with particular expertise in caring for patients undergoing surgery, in this case thoracic surgery
Anaesthetist	A medical doctor responsible for administering anaesthesia and pain relief, and monitoring vital functions during surgery
Senior House Officer (SHO)	A medical doctor undergoing training in a specialty, in this context - surgery
Physiotherapist	A healthcare professional who treats injury or dysfunction with exercises and other physical treatments
Dietitian	A healthcare professional who is an expert on diet and nutrition

### **Routine tests**

You will undergo the following tests at the clinic, these are routine tests that anyone undergoing a general anaesthetic would have.

### **Chest X-ray**

This will look at the size and shape of your heart and the general condition of your lungs.

### **Electrocardiogram (ECG)**

This is a test that will measure the electrical activity of your heart.

### **Blood tests**

Blood samples are taken to assess how certain organs are working within your body, e.g. kidneys and liver, and to identify your blood group.

### **MRSA screening**

MRSA (Methicillin Resistant Staphylococcus Aureus) is an antibiotic-resistant form of a common bacterium called staphylococcus aureus which is found growing harmlessly on the skin and in the nose in around one in three people in the UK. Healthy people may not even be aware that they have MRSA. However, if the bacteria get into the body through a surgical wound, they can cause infection and sometimes a serious infection called septicaemia.

Screening for MRSA is done by taking swabs from your nose, throat and groin.

### **Baseline observations**

Your temperature, pulse, blood pressure, oxygen saturations, height and weight are recorded for your baseline measurements.

### **Additional tests that may be required**

#### **Pulmonary function tests**

These measure how efficiently you breathe, i.e. taking in and expelling air, and exchanging oxygen and carbon dioxide within the blood.

#### **Chest CT scan (Computed Tomography).**

This is an X-ray in which cross-sectional images are taken from many different angles within your chest. These images are then processed through a computer to form a detailed picture of the inside of your chest.

#### **ECHO**

This is a special ultrasound examination of the heart. Ultrasound uses sound waves to create images. It assesses the structure and function of the heart muscle and valves.

#### **Ventilation/perfusion scan (VQ)**

A VQ scan is a test that measures air and blood flow to the different parts of your lungs.

## Coming into hospital

You will be asked to come into hospital on the morning of your surgery. In some cases, you may be asked to come in the afternoon before surgery.

You must not eat any food from midnight before surgery but you can drink water up to two hours before surgery. The nurse looking after you on the ward will tell you when you need to stop drinking. If you suffer some gastro-oesophageal (stomach and gullet) problems such as reflux or hiatus hernia, we may ask you to stop drinking from midnight.

Admission time	No food from	Clear fluids* at home stop	Clear fluids* at hospital stop
--:--	--:--	--:--	--:--
		Amount _____ ml	Amount _____ ml

It is important that you follow the instructions for stopping food and drink otherwise we cannot proceed with your operation because of the risk of aspiration (choking due to food particles coming back up your throat and into your lungs).

**\*Clear fluids:** for safety reasons 'clear fluids' refers exclusively to clear still water.

On the morning of your surgery, the skin on your chest (where the surgical cut will be made) will be shaved and marked. It is best to shave the site close to the time of operation so do NOT shave your chest prior to admission. You will then have a shower using a special skin wash. You will be given a clean theatre gown to put on and if appropriate, a pair of elastic stockings to wear to assist the blood flow in your legs.

### Anaesthesia

When it is time for your operation, you will be transferred into the anaesthetic room. Several people will be there, including your anaesthetist and the anaesthetic assistant. To monitor you during your operation, your anaesthetist will attach you to machines to watch your heart rate, blood pressure

and oxygen in the blood. To give you an anaesthetic, a thin plastic tube (a 'cannula') is inserted into a vein in the back of your hand or arm. Once you are safely anaesthetised, a ventilator will be used to 'breathe' for you. After all 'drips' are in place and you are well positioned for surgery, the operation starts

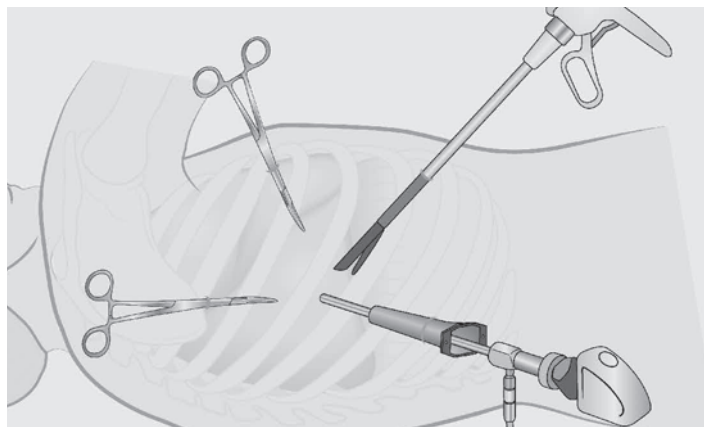
### How does the surgeon operate on my lungs?

There are two main ways that a surgeon can access the lungs to operate on them:

#### 1. Minimally invasive surgery or Video Assisted Thoracoscopic Surgery (VATS)

Commonly referred to as 'keyhole surgery' - in this type of surgery, the surgeon inserts a tiny camera and surgical instruments into your chest to examine the lung and perform the procedure. The picture shows the most common locations of these incisions, though the exact placement and number of incisions might vary according to the type of surgery and the target area.

Some procedures can now be done through just one small incision that is known as a 'uniportal VATS'. Feel free to discuss the specifics of your case with your surgeon.



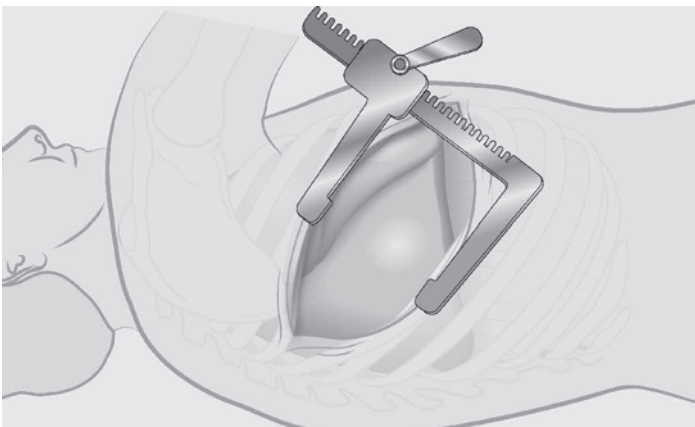
Keyhole surgery produces a reduced inflammatory response, which means that the surgery is gentler on your body and you are likely to recover sooner and leave the hospital sooner. With good pain control, you will also be able to breathe more easily and you will experience a shorter period of discomfort after surgery as the large muscle in your back (latissimus dorsi) is not divided in keyhole surgery.

## 2. Thoracotomy

This the name given to the cut that a surgeon makes around the side of your body below your shoulder blade and between your ribs.

It might be necessary to have this type of access to the inside of your chest as some conditions require a larger view than that offered by the keyhole approach. A thoracotomy may also be necessary if you have had previous procedures that caused the lung to get attached to the chest wall, leaving no space to insert the camera and the instruments required for keyhole surgery.

Though this is a bigger cut than in the keyhole approach, it is routinely used in thoracic surgery. You will take a combination of painkillers and receive a special tube with local anaesthetic in your back to improve pain relief during the first few days.



## Risks

Although advances in chest surgery have brought down the rates of complications and death, as with any operation there are still some risks associated with your operation.

The risks are different for different types of operation and people. Your surgeon will discuss what the risks of the operation may be for you as an individual. It is important for you to understand fully the risks and to ask about anything you are not sure of.

*This is a list of some of the possible risks:*

### 1. Death

The risk of death after surgery is very low in our hospital. Your surgeon will discuss the estimated likelihood of death from surgery in your particular case.

### 2. Prolonged air leak

If you imagine the lung as a big sponge full of air, surgery on the lung creates the risk of an air leak from the lung. The good news is that most air leaks stop on their own within a few days. But, occasionally, if your lungs are damaged, you will have a chest drain in for longer than the usual amount of time. You might have to go home with a drain and be assisted in your home by a district nurse. Your surgeon will review you at regular intervals.

### 3. Bleeding

Most episodes of bleeding inside the chest cavity will settle on their own. You will be looked after by an experienced team who will pick up any sign of deterioration or abnormal drainage and tell your surgeon. Rarely, you might need to be taken back to the operating theatre to stop serious bleeding.

### 4. Chest infections

Serious chest infections/pneumonia can delay your discharge. These can be prevented with good pain control, mobilising early, doing your 'deep breathing' exercises and ensuring you have stopped smoking before your operation.



5. **Infections, e.g. wound/urinary tract**

These are quite rare and are usually resolved with a course of antibiotics.

6. **Risk of general anaesthetic**

General anaesthesia is a very safe procedure nowadays. You will be looked after by very skilled anaesthetists specialised in dealing with heart and lung conditions. However, minor side effects and complications such as feeling sick, sore throat, hoarseness of voice or lip bruises are common (one in ten to one in a hundred people).

Other complications such as awareness or teeth damage are uncommon (one in a thousand people), and serious complications such as severe allergic reaction or death related to anaesthesia are very rare (one in a thousand people).

7. **Worsening of any existing heart problems**

Pre-existing heart conditions do not mean that you cannot have your operation. In fact, we deal with these conditions routinely at our hospital. However, any surgery will put an extra strain on the heart which could, in rare cases, lead to a heart attack. Your doctor will enquire extensively about heart conditions and optimise your heart problems before surgery as necessary.

8. **Blockage of blood vessels in the leg (deep vein thrombosis) or blood clot in the lung (pulmonary embolism)**

These are potentially serious conditions. The hospital has a care package in place to limit the occurrence of DVT. Please follow your nurse's instructions, in particular regarding wearing TED stockings (Thrombo-embolus Deterrent stockings to prevent clots) and keeping active during your hospital stay.

9. **Persistent pain from thoracotomy**

This is quite rare. If this happens, you will receive regular pain medications for a few weeks after your surgery. In case of pain that exceeds the normal threshold, you can be referred to a pain specialist. It is normal to experience some discomfort for up to three to four months after surgery.

The 'Handbook for inpatients' which you would have received with your admission letter provides some more information about your hospital stay.

## After the operation

Your operation will take approximately one to three hours, following which you will wake up in the recovery area. You will have an oxygen mask, drips and tubes in place but these are temporary and will be removed within approximately 24 to 72 hours.

When you wake up, you will be encouraged to do your deep breathing and coughing exercises. It is important that you do these as they help to prevent a build-up of phlegm.

You will spend one to four hours in the recovery area - and then return to the ward.

You will spend two to four days on the ward depending on the type of operation you had.

Occasionally, some patients are not stable enough to be in a general ward and need to be admitted to intensive care until their clinical situation improves

### Pain control

Good pain control is a priority after thoracic surgery. In order to achieve this, a local anaesthetic 'drip' (infusion) will run close to your ribs or your spine. In addition, a pump with an intravenous pain-killer such as morphine will be available for you to use on demand when the pain intensity increases.

The nursing staff will regularly assess your pain and make every effort to minimise this using different methods to control it. It is, however, important that you are honest with the nursing staff and tell them how your pain is. You will be asked to describe your pain as:

- 0 no pain
- 1 mild pain
- 2 moderate pain
- 3 severe pain

When your pain is well controlled you will be able to breathe deeply and move and cough more effectively which will aid your recovery.

### Nausea and vomiting

You should not experience any nausea but if required we will give you an anti-sickness medicine (anti-emetic) to manage this.

### Fluid balance

You will have a cannula (a small plastic tube) placed in a vein either in your arm or your neck through which fluids will be administered.

### Urinary catheter

You may have a urinary catheter (fine tube) in your bladder, which allows urine to drain freely.

### Chest drain

Following surgery, you may have one or two chest drains. These are tubes leading from your chest to a bottle, which drain air and fluid from the space where the lung or a part of it has been removed. Most of these are portable and you will be expected to carry them around with you as you exercise.

In some cases, the chest drain may need to be attached to a suction unit on the wall which creates vacuum suction to help your lung to re-expand more quickly. This may restrict your mobility for a short time, as the drains cannot be disconnected from the suction, unless the doctor feels that your condition allows this.

### Moving around

As soon as possible after surgery and if you are well enough, a physiotherapist or nurse will help you get out of bed and sit in a chair. Please do not attempt this on your own.

### Eating and drinking

A few hours after your operation you will be able to start drinking. You may even have something to eat if you feel up to it. The doctor or nurse will advise you on this.

## After you leave hospital

### Stay active

You should continue with your exercise programme when you get home to aid your recovery and regain fitness. Remember to do the stretching exercises recommended by your physiotherapist to prevent any stiffness in your back or shoulders as a result of your wound.

You should aim to increase your exercise capacity by 1 minute each day for the first 30 days.

Most people find that it takes around six to eight weeks after the operation for them to make a full recovery. Generally people who have had part, or all their lung removed, take longer to recover than people having other types of lung surgery. Age is also relevant, an older person may require a longer period of recovery than someone younger.

Light work, e.g. dusting or drying-up can be introduced into your regime when you feel fit and able for it, usually within the first 1-2 weeks you are at home.

Avoid any heavy lifting, pushing or pulling e.g. vacuuming or carrying the shopping for the first 2-4 weeks after a VATS procedure and 6-8 weeks after a thoracotomy. The physiotherapist will inform you which of these timescales applies to you.

### Eat well

Eat regular, nutritionally-balanced meals and drink at least eight cups of fluid every day. If you are eating less than normal, try to include some snacks between your meals until your appetite improves.

### Pain control

Your painkillers (analgesics) will be identified before you go home; take them regularly to allow you to cough and breathe deeply without discomfort.

When you feel ready to cut them down, try taking one tablet instead of two (i.e. reduce the dose of medication before reducing the frequency).

When you feel ready to reduce the painkillers further stop the ones during the day first, continuing to take them when you get up in the morning and before you go to bed, as this helps to ensure a good night's sleep.

### Constipation

Constipation following surgery is quite common. Prevention is better than cure. Try to:

- Increase the amount of fibre in your diet (whole grains, beans, bran, fresh/dried fruit and vegetables)
- Increase the amount of fluid you drink (this means water!)
- Limit high fat foods
- Keep moving - the more you move your body the more the food moves through your body (you will have been given some laxatives by the hospital to take home)
- Take preventative oral laxatives

Seek advice if you have not had a bowel movement for 2-3 days.

### Wounds

Dissolvable stitches are now used in the majority of operation wounds. These do not need to be removed following surgery. However, if you have had any drains, you will have one stitch per drain that will need to be removed. This should be arranged with your practice nurse. You may notice your wound is swollen at the lower end; this is normal and the swelling will go down.

Once you go home, if you notice that your wound begins to leak, becomes red or hot and tingly, or if you feel feverish, contact your GP for advice. Should your wound require dressing after you have been discharged, this will be done either at your home by a district nurse or by the practice nurse at your doctor's surgery.

### Bathing

This can be done as soon as you feel strong enough. You may find it easier to use a shower if available, as sometimes getting in and out of a bath may be difficult. You may find bathing tiring at first, so bathe before bedtime.

## **Driving**

As a result of your surgery, bones and muscles are temporarily damaged. Driving could therefore be difficult. Please avoid driving for four weeks after leaving hospital and then ask your GP before starting to drive again. Please remember it is illegal to drive without your seat belt on.

## **Work**

This depends on your job and on your recovery. Returning to work can be discussed with your physio. If you feel ready to start work sooner than advised, please ask your GP/ surgeon or specialist nurse.

## **Holidays/flying**

After your chest surgery, our advice is that you avoid flying or taking a holiday, particularly abroad, until after you have had your surgical review with your consultant. This review is usually six to eight weeks after your discharge from hospital.

## **Alcohol**

Alcohol in small amounts is not bad for you. Only drink in moderation, especially if you are taking medicines. Ask for an information leaflet on the subject if you require more assistance.

## **Sexual activity**

Resume sexual intercourse once you feel confident to do so. If you remain relaxed and possibly adopt a more passive role, you may return more easily to your normal routine.

## **Follow-up**

Most patients are seen within four to six weeks following discharge. If you are waiting for histology results you will be seen around two weeks post-discharge.

If you have not received an appointment from Papworth Hospital (or your referring hospital) please contact us.

***Remember we are always here to help you***

## **Contact details**

### **Clinical Nurse Specialist Team (for patients with a malignant condition)**

Tel: 01480 830541 (bleep 064)

Monday to Friday 9.00am - 5.00pm except Bank Holidays

### **Higginson Ward (for patients with a non-malignant condition)**

Tel: 01480 364420

### **Physiotherapy**

Tel: 01480 364215

Monday to Friday 9.00am - 5.00pm

24hr answerphone

### **Consultant Secretaries**

Mr Scarci: 01480 364474

Mr Coonar: 01480 364887

Mr Solli: 01480 364424

## Diary

It might be useful to keep a diary or log so you can track your daily feelings and progress on the road to recovery.  
Be positive about your recovery - remember little steps go a long way!

### Afternoon/evening following surgery - your checklist to complete

*I have done my deep breathing exercises every waking hour*

Yes No

*I have done my arm exercises*  1  2  3 times today

*I have changed my position every two hours to relieve the pressure on my bottom* Yes No

*Pain is scored as follows:*

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

*What is my pain score?*

When resting ..... When moving .....

*What have I had to eat?*

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*Do I feel nauseated?* Yes No

*Have I achieved my goals today?* Yes No

*Why have I had difficulty reaching my goals, e.g. too tired, pain, etc?*

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## Day 1 after surgery

### Hygiene

You will be assisted to have a wash, and if you feel well enough, get dressed.

### Moving around

Today you should sit in the chair for a minimum of six hours, with rests on the bed in between as you need. If you have an extrapleural + PCA pump or epidural the nurses will assist you with this. Please do not attempt it on your own.

### Eating and drinking

You should try to eat and drink today unless you have been advised otherwise.

Aim for at least eight cups of fluid (unless advised to restrict fluid intake) and try to eat something at each mealtime. As nutrition is important for recovery, if you are taking less than half of your meals you should have one to two nutritional supplement drinks between mealtimes.

### Pain control

You can continue to use your extrapleural + PCA or epidural if this remains effective.

### Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every 2 hours to relieve the pressure on my bottom* Yes No

*I have been sitting out of bed for* ..... hours today

*I have walked at least 60 metres*  1  2  3 times today

OR

*I have marched on the spot for 3 minutes*  1  2  3 times today

OR

*I have cycled on the bike for 5 minutes*  1  2  3 today

*What have I had to eat today?*

Breakfast .....

Lunch .....

Supper .....

Snacks .....

*How many nutritional supplement drinks have I taken?*  1  2

*Pain scored as follows:*

0 No pain 1 Mild pain 2 Moderate pain 3 Severe pain

**If your pain score is 2 or above let your nurse know.**

*What is my pain score?*

When resting ..... When moving .....

*Do I feel nauseated?*

Yes No

*Have I passed urine?*

Yes No

*Have I passed wind?*

Yes No

*Have I opened my bowels?*

Yes No

*Discussed my discharge plans with my nurse?*

Yes No

*Checked my transport arrangements for getting home on discharge?*

Yes No

*Have I achieved my goals today?*

Yes No

*Why have I had difficulty reaching my goals, e.g. too tired, pain etc?*

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## Day 2 after surgery

### Hygiene

You will be encouraged to be more independent with your hygiene needs, but please ask a nurse for assistance if required.

### Moving around

Today you should sit in the chair for a minimum of eight hours, with short periods of rest on the bed if needed.

### Eating and drinking

You should continue to eat and drink today unless advised otherwise. As nutrition is important for recovery, if you are taking less than half of your meals you should have 1 to 2 nutritional supplement drinks between mealtimes.

### Pain control

If you are comfortable and considered to be ready, the extrapleural catheter + PCA or epidural will be removed today and you will continue on regular oral pain relief tablets. Tell the nurse at any point if you are in pain. It is important to take regular pain medication so you can walk around the ward, help care for yourself and eat your meals comfortably. The nurses will start to plan your discharge home today in preparation for the next few days.

### Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every two hours to relieve the pressure on my bottom* Yes No

*I have walked at least 80 metres*  1  2  3 times today

OR

*I have marched on the spot for 5 minutes*  1  2  3 times today

OR

*I have cycled on the bike for 7 minutes*  1  2  3 times today

## What have I had to eat today?

Breakfast .....

Lunch .....

Supper .....

Snacks .....

**How many nutritional supplement drinks have I taken?**  1  2

## Pain is scored as follows:

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

What is my pain score?

When resting .....    When moving .....

**Do I feel nauseated?**

Yes No

**Have I passed urine?**

Yes No

**Have I passed wind?**

Yes No

**Have I opened my bowels?**

Yes No

**Discussed my discharge plans with my nurse?**

Yes No

**Checked my transport arrangements for getting home on discharge?**

Yes No

**Planned date of discharge?** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Have I achieved my goals today?**

Yes No

**Why have I had difficulty reaching my goals, e.g. too tired, pain etc?**



## Day 3 after surgery

### Hygiene

You will be encouraged to be more independent with your hygiene needs, but please ask a nurse for assistance if required.

### Moving around

Today you should be sitting out of bed for most of the day.

### Eating and drinking

You should continue to eat and drink today unless advised otherwise. As nutrition is important for recovery, if you are taking less than half of your meals, you should have 1 to 2 nutritional supplement drinks between mealtimes

### Discharge

The nurses will continue to plan your discharge home today in preparation for the next few days.

Please ask your nurse if your discharge medication has been ordered ready for your discharge.

### Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every two hours to relieve the pressure on my bottom* yes no

*I have walked at least 100 metres*  1  2  3 times today

OR

*I have marched on the spot for 7 minutes*  1  2  3 times today

OR

*I have cycled on the bike for 10 minutes*  1  2  3 times today

### What have I had to eat today?

Breakfast .....

Lunch .....

Supper .....

Snacks .....

**How many nutritional supplement drinks have I taken?**  1  2

### Pain is scored as follows:

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

### What is your pain score?

When resting ..... When moving .....

**Do I feel nauseated?**

Yes No

**Have I passed urine?**

Yes No

**Have I passed wind?**

Yes No

**Have I opened my bowels?**

Yes No

**Discussed my discharge plans with my nurse?**

Yes No

**Checked my transport arrangements for getting home on discharge?**

Yes No

**Planned date of discharge?** \_\_\_\_ / \_\_\_\_ / \_\_\_\_

**Have I achieved my goals today?**

Yes No

**Why have I had difficulty reaching your goals, e.g. too tired, pain etc?**

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## Day of discharge

### Hygiene

You will be encouraged to be more independent with your hygiene needs, but please ask a nurse for assistance if required.

### Moving around

Today you should be sitting out of bed for most of the day.

### Eating and drinking

You should continue to eat and drink today unless advised otherwise. As nutrition is important for recovery, if you are taking less than half of your meals you should have 1 to 2 nutritional supplement drinks between mealtimes.

### Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes  No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every 2 hours to relieve the pressure on my bottom* Yes  No

*I have walked at least 100 metres*  1  2  3  4 times today

OR *I have marched on the spot for 7 minutes*  1  2  3  4 times today

OR *I have cycled on the bike for 10 minutes*  1  2  3  4 times today

*I have completed a stairs assessment with the physiotherapy team*

Yes  No

*What have you had to eat today?*

Breakfast .....

Lunch .....

Supper .....

Snacks .....

How many nutritional supplement drinks have you taken?  1  2

**Pain is scored as follows:**

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

*What is my pain score?*

When resting ..... When moving .....

*Do I feel nauseated?*

Yes  No

*Have I passed urine?*

Yes  No

*Have I passed wind?*

Yes  No

*Have I opened my bowels?*

Yes  No

*Discussed my discharge plans with my nurse?*

Yes  No

*Checked my transport arrangements for getting home on discharge?*

Yes  No

*Planned date of discharge? \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_*

*Have I achieved my goals today?*

Yes  No

*Why have I had difficulty reaching your goals, e.g. too tired, pain etc?*

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If you are not well enough to go home on the planned day of discharge then don't worry. We are all different and some of us take longer than others to get better. Don't be surprised if you feel down; this is normal after an operation and your mood will improve. We are here to support you as you recover and your clinical team will be able to explain things to you and answer any questions that you or your family have.

## Additional recovery day 1

Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every 2 hours to relieve the pressure on my bottom* Yes No

*I have walked at least 100 metres*  1  2  3  4 times today

OR

*I have marched on the spot for 7 minutes*  1  2  3  4 times today

OR

*I have cycled on the bike for 10 minutes*  1  2  3  4 times today

*I have completed a stairs assessment with the physiotherapy team (if not already completed)* Yes No

*What have I had to eat today?*

Breakfast .....

Lunch .....

Supper .....

Snacks .....

*How many nutritional supplement drinks have I taken?*  1  2

*Pain is scored as follows:*

0 No pain 1 Mild pain 2 Moderate pain 3 Severe pain

*What is my pain score?*

When resting ..... When moving .....

*Do I feel nauseated?* Yes No

*Have I passed urine?* Yes No

*Have I passed wind?* Yes No

*Have I opened my bowels?* Yes No

*Discussed my discharge plans with my nurse?* Yes No

*Checked my transport arrangements for getting home on discharge?* Yes No

*Planned date of discharge?* \_\_\_\_ / \_\_\_\_ / \_\_\_\_

*Have I achieved my goals today?* Yes No

*Why have I had difficulty reaching my goals, e.g. too tired, pain etc?*

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## Additional recovery day 2

Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every 2 hours to relieve the pressure on my bottom* Yes No

*I have walked at least 100 metres*  1  2  3  4 today

OR

*I have marched on the spot for 7 minutes*  1  2  3  4 times today

OR

*I have cycled on the bike for 10 minutes*  1  2  3  4 times today

*I have completed a stairs assessment with the physiotherapy team (if not already completed)* Yes No

*What have I had to eat today?*

Breakfast .....

Lunch .....

Supper .....

Snacks .....

*How many nutritional supplement drinks have I taken?*  1  2

*Pain is scored as follows:*

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

*What is my pain score?*

When resting .....    When moving .....

*Do I feel nauseated?*

Yes No

*Have I passed urine?*

Yes No

*Have I passed wind?*

Yes No

*Have I opened my bowels?*

Yes No

*Discussed my discharge plans with my nurse?*

Yes No

*Checked my transport arrangements for getting home on discharge?*

Yes No

*Planned date of discharge? \_\_\_\_ / \_\_\_\_ / \_\_\_\_*

*Have I achieved my goals today?*

Yes No

*Why have I had difficulty reaching my goals, e.g. too tired, pain etc?*

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### Additional recovery day 3

Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every 2 hours to relieve the pressure on my bottom* Yes No

*I have walked at least 100 metres*  1  2  3  4 times today

OR

*I have marched on the spot for 7 minutes*  1  2  3  4 times today

OR

*I have cycled on the bike for 10 minutes*  1  2  3  4 times today

*I have completed a stairs assessment with the physiotherapy team (if not already completed)* Yes No

*What have I had to eat today?*

Breakfast .....

Lunch .....

Supper .....

Snacks .....

*How many nutritional supplement drinks have I taken?*  1  2

*Pain is scored as follows:*

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

*What is my pain score?*

When resting .....    When moving .....

*Do I feel nauseated?*    Yes No

*Have I passed urine?*    Yes No

*Have I passed wind?*    Yes No

*Have I opened my bowels?*    Yes No

*Discussed my discharge plans with your nurse?*    Yes No

*Checked my transport arrangements for getting home on discharge?*    Yes No

*Planned date of discharge?* \_\_\_\_ / \_\_\_\_ / \_\_\_\_

*Have I achieved my goals today?*    Yes No

*Why have I had difficulty reaching my goals, e.g. too tired, pain etc?*

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## Additional recovery day 4

Your checklist to complete

*I have done my deep breathing exercises and supported cough every waking hour* Yes No

*I have done my arm exercises*  1  2  3  4 times today

*I have changed my position every 2 hours to relieve the pressure on my bottom* Yes No

*I have walked at least 100 metres*  1  2  3  4 times today

OR

*I have marched on the spot for 7 minutes*  1  2  3  4 times today

OR

*I have cycled on the bike for 10 minutes*  1  2  3  4 times today

*I have completed a stairs assessment with the physiotherapy team (if not already completed)* Yes No

*What have I had to eat today?*

Breakfast .....

Lunch .....

Supper .....

Snacks .....

*How many nutritional supplement drinks have I taken?*  1  2

*Pain is scored as below:*

0 No pain    1 Mild pain    2 Moderate pain    3 Severe pain

*What is your pain score?*

When resting ..... When moving .....

*Do I feel nauseated?* Yes No

*Have I passed urine?* Yes No

*Have I passed wind?* Yes No

*Have I opened my bowels?* Yes No

*Discussed my discharge plans with my nurse?* Yes No

*Checked my transport arrangements for getting home on discharge?* Yes No

*Planned date of discharge?* \_\_\_\_ / \_\_\_\_ / \_\_\_\_

*Have I achieved my goals today?* Yes No

*Why have I had difficulty reaching my goals, e.g. too tired, pain etc?*

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## **Your feedback is important to us**

We would appreciate your feedback on this leaflet so that we can continue to improve it for future patients:

***Did you find this information helped you to prepare yourself for your surgery?***

Yes

In parts

No

***Did you find it helpful to keep a diary of your activity and progress?***

Yes

At times

No

***Any other comments***

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