ROY CASTLE
LUNG CANCER
FOUNDATION

# My lung surgery

# Introduction

If you or someone you care for has lung cancer and surgery is a possible treatment, then it's almost certain that you will have a lot of questions.

We have produced this booklet in partnership with lung cancer experts and people affected by lung cancer to help you make positive, informed choices about your care and treatment. Use this booklet along with the information provided by your healthcare team.

Remember that healthcare professionals are only too happy to answer your questions and help with things that may be unclear or causing you concern.

We hope that this booklet answers your questions about lung surgery. If you would still like to talk to someone about this, call our free and confidential **Ask the nurse** service on: **0800 358 7200** or email: **lungcancerhelp@roycastle.org**

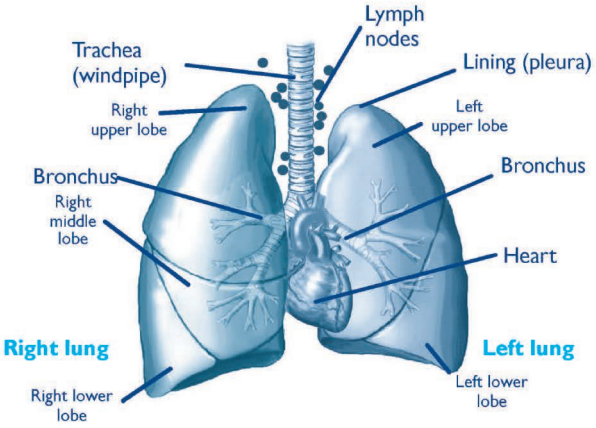
You can also contact one of the many support organisations available in our *Living with lung cancer* booklet. Order a copy by calling us on **0333 323 7200 (option 2)**, or look on our website: **www.roycastle.org/usefulcontacts**

> *Our patients who have gone through surgery said knowing what to expect helped them cope with the journey.*
>
> Nicola Oswald and Amy Kerr
> *Heart of England NHS Foundation Trust*
> *Thoracic Surgery Research Department*

# Contents

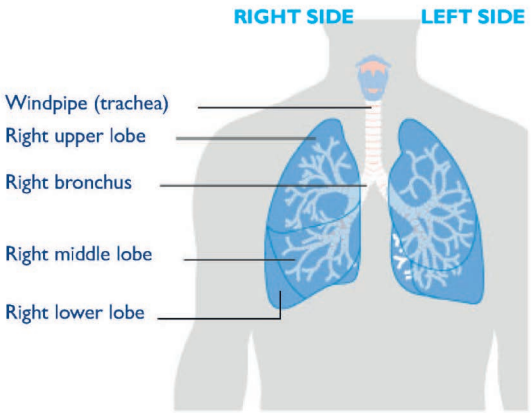
# About your lungs

You have one lung in each side of your chest. The right lung has three lobes and the left has two to allow space for the heart (see diagram below), with each lobe divided further into segments. There are 19 segments in total, 10 in the right lung and 9 in the left.




The insides of your lungs are like a large sponge. Every part of your body needs oxygen to function. When you breathe in, fresh air brings new oxygen into your body and when you breathe out, "used" breath is removed.

Each time you breathe in, the air flows into your nose or mouth down through your throat and into your windpipe (*trachea*). This then divides into two main airways (bronchi), one going to the right lung and one to the left. These air passages divide repeatedly until they end in tiny air sacs called *alveoli*. Within these air sacs, oxygen and carbon dioxide are exchanged.



# Understanding lung surgery

Treatment for lung cancer can be very complex and you may be offered several treatment options, one of which may be lung surgery. Advances in lung surgery and in other treatments and novel combinations of treatments means that more people may be suitable for surgery than previously was the case.

While this booklet focuses on surgery, it may well be something you are considering in the wider context of other treatments offered to you around the time of your surgery (described later in the section) or some time after your operation.

Surgery is usually the best treatment option for people with lung cancer that has not spread (early-stage disease), that is operable and if they are fit enough for an operation. Current treatment options may mean that some people whose lung cancer has begun to spread may also be offered surgery as part of a broader treatment plan.

If you are offered lung surgery, it would typically be the first treatment you receive. Under certain circumstances, it may be offered to you following other treatment options that reduced your lung cancer enough to make lung surgery possible. Though rare, it is possible that you may be considered for surgery for a second time if, for example, your first operation removed no more than a single segment or lobe.

Your medical team will speak to you about what is best for you and how lung surgery fits into your treatment plan.

> *Being told I was going to have surgery was the 'best' possible news for me personally, as I felt there was going to be a 'positive outcome'.*
>
> Pat

## What does lung surgery involve?

Lung surgery involves an operation to remove parts of the lung containing confirmed or suspected lung cancer and surrounding lymph nodes. The tissue and lymph nodes removed are sent to the laboratory for testing. These results help confirm the presence of cancer, and its type and if it has spread, a process known as *staging*.

Occasionally, this testing happens during the operation. The tissue sample is frozen (known as a *frozen section*) and examined under a microscope. A specialist in the laboratory can tell the surgeon if it is cancer or not. The process can extend the time someone is under anaesthetic by around 30 minutes. The surgeon then continues with the most suitable operation depending on the result.

There are different types of lung surgery described on pages 14 to 16.

A team of health professionals (including a thoracic surgeon) will work together on your care, directly or indirectly. This is the multi-disciplinary team or MDT. This team will review your CT scans, PET scans, biopsy results (if you have already had a biopsy) and lung function tests before offering you the best treatment options for your lung cancer (see pages 9 to 14 for more information on these tests).

They will also decide if further tests are needed to accurately diagnose your tumour. You will then see the appropriate specialist to treat your lung tumour, such as a thoracic surgeon or oncologist. An oncologist is a cancer doctor who specialises in chemotherapy, immunotherapy and radiotherapy treatments.

## Who will carry out my operation?

Lung operations are done by thoracic or cardiothoracic surgeons. Your surgeon will have regular experience of lung cancer surgery, and should work as part of the multi-disciplinary team (MDT). Your surgery will be carried out in a specialist thoracic (chest) surgery department or unit.

## What will affect whether I am able to have lung surgery?

Deciding whether surgery is right for you depends on three factors:

- the type of tumour you have
- how far it has spread (known as *stage*)
- how fit you are

Surgery is usually offered for lung cancer that hasn't spread beyond the lung, lymph nodes or local structures in the chest.

Occasionally, if your cancer is more advanced (where the cancer has spread to outside the chest) you may be offered surgery together with other treatments. Some people may be offered surgery after a good response to a combination of chemotherapy and radiotherapy.

For more information on the MDT and staging for lung cancer, see our *Managing your lung cancer diagnosis* booklet. See page 2 for details on how to get a copy.

## What other treatments may I be offered along with surgery?

Depending on the results of tests done before and after surgery, and the final pathology report, the MDT may also offer other treatments as part of your treatment plan. This may be a few weeks after your surgery. Your medical team will speak to you about any options you may be offered.

You may be offered *adjuvant* treatment. This is a treatment given in addition to your surgery to maximize its effectiveness.

The standard adjuvant treatment is chemotherapy. For some others whose lung cancer is suitable (especially for people with larger tumours and/or lymph node involvement and identified PD-L1 receptors), an adjuvant treatment of immunotherapy may be used.

If your lung cancer is an adenocarcinoma that has tested positive for an EGFR mutation, this adjuvant treatment may be a targeted therapy (osimertinib), given as a daily tablet.

These treatments have been shown to decrease recurrence of the lung cancer.

You may receive radiotherapy that focuses on the area around where the cancer was removed. This can help maximise the effectiveness of the surgery by killing any remaining cancer cells that may remain at the margin of the removed tumour.

Research is underway into the possible benefits for some people of having a combination of immunotherapy and chemotherapy before surgery (*neoadjuvant* treatment) leading to better outcomes.

Some people with early-stage lung cancer may not be able to have surgery if their tumour is too close to their heart or other major structures in their chest such as large blood vessels.

We have a range of booklets that will give you more information about some of these treatment options if you are offered them:

- *Radiotherapy for lung cancer*
- *Chemotherapy for lung cancer*
- *Immunotherapy for lung cancer*
- *Mutation driven lung cancer and its treatment* (*targeted therapy*)

## Imaging tests

Imaging tests use X-rays, magnetic fields, ultrasound, or radioactive substances to create pictures of the inside of your body. Imaging tests might be done for a number of reasons both before and after a diagnosis of lung cancer.

Some people feel a bit anxious about getting a scan. If you do, let the radiographer know. They are experienced in supporting people having scans and they may be able to help you to feel calmer, give you a break, or perhaps arrange for you to have a sedative, or support you with some deep breathing exercises.

*CT (computerised tomography) scan:* This scan is carried out by a radiographer and takes a series of X-rays to build up a 3D image of the inside of your body. This helps to find the exact area and size of a cancer and whether it has spread to other organs in your body, your lymph nodes (a key part of your immune system) or your blood vessels.

The scan is painless and should take around 10–30 minutes. You may be given a drink or an injection of a dye to highlight areas in your body more clearly. Once the scan is over, you'll probably be allowed to go home.

*MRI (magnetic resonance imaging) scan:* This test uses magnetism rather than X-rays to create detailed images of areas of your body. Sometimes people are injected with a dye (*contrast medium*) to help make the images show up more clearly. The procedure is painless and carried out by a radiographer. Because you have to lie in a long tube for about 30 minutes, you may find it a little uncomfortable.

Having something metallic in your body doesn't necessarily mean you can't have an MRI scan, but make sure you tell the radiographer if you have a metal plate, an artificial joint or a cochlear implant, for example.

If you have a pacemaker, you may not be able to have a scan. Tell the radiographer if you have one as it can reduce the quality of the images. Your pacemaker may need to be adjusted and checked before and after the procedure.

*PET (positron emission tomography) scan:*
A scan that gives pictures showing where there is active cancer throughout the body. A PET scan should be used before lung cancer surgery and radical radiotherapy to make sure that curative treatment is possible (a PET scan is more accurate than a CT scan for this). A PET scan can also be used to investigate a suspected cancer if diagnosis has not been possible using other tests.


*Photo kindly supplied by The Christie*

You will be given an injection containing a radioactive substance to highlight any active cancer cells. The scan is painless and quiet and you will not be fully encased during the examination. Modern PET scans are usually combined with a CT scan and performed at the same time – a PET-CT scan.

*CT guided biopsy:* A radiology doctor will decide the best place to take a sample by using the CT scanner. You will be given an injection of local anaesthetic by your doctor to numb part of your chest. The doctor will then pass a needle through the numbed area into the tumour to take a tissue sample.

Occasionally, air can find its way into the space between the lung and the chest wall. This is called a pneumothorax (new-mo-thor-ax). It may be treated by putting a drain (tube) into the chest to let the air escape. You will likely need to stay in hospital for a few days if this happens.

## Tests with local or general anaesthetic or sedation

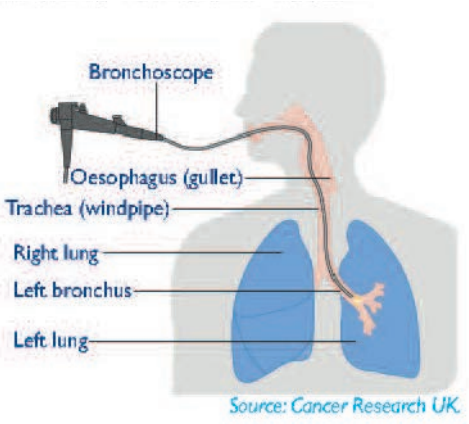
One or more of the tests below may be carried out under local or general anaesthetic to assess your cancer to find out if surgery is an option. Diagnosis is usually based on a tissue sample (*lung biopsy*). There are several biopsy procedures:

*Bronchoscopy:* This normally involves a doctor or specially trained nurse using a thin, flexible tube (*bronchoscope*) to examine inside the lung airways and take sample cells. The procedure isn't painful, but it can be uncomfortable, as the tube will be inserted down your nose or throat.

You will usually have this procedure as an outpatient, or day case. You may be given a mild sedative to help you relax. A local anaesthetic will be sprayed in your throat to numb it.

If you need a *rigid bronchoscopy*, where the tube is not flexible, you would have a general anaesthetic.

A *navigational bronchoscopy*, which uses CT images to guide the bronchoscope, can help to get a biopsy in some more difficult-to-reach areas.




*Endobronchial ultrasound (EBUS):* This uses a bronchoscope with a small ultrasound probe that creates images of the area around your heart and lungs. It can show if any nearby lymph nodes are bigger than normal. A needle may be passed down the bronchoscope to take a sample of tissue.

Your doctor will carry out the procedure under local anaesthetic and you will also be offered a mild sedative to help you relax. It will usually take less than an hour and you should be able to go home the same day.

*Fine needle aspiration:* This type of biopsy involves a doctor inserting a fine needle into an area of abnormal swelling or lumps located under the skin such as cysts (fluid-filled lumps), nodules or masses (solid lumps) and enlarged lymph nodes. A numbing medication may be injected under your skin to reduce discomfort. This should take less than ten minutes.

*Mediastinoscopy:* This is a surgical procedure used to examine the lymph nodes under the breastbone (those closest to the lungs). A doctor will make a small cut at the base of your neck, just above the breastbone, and insert a thin, flexible tube with a camera on the end of it. This procedure is done under general anaesthetic. Though often done as a day case, some people may need a short stay in hospital.

## Getting the results

The results from these tests will help doctors find out if you have lung cancer and if so, they will be able to tell you its type and stage. Results can take time to come through. Though some may be available in a few days, other can take two to three weeks. Your doctor may ask you to go to the hospital for an appointment to talk to you about the results.

This can be a very anxious time for many people. You can contact your thoracic nurse specialist or respiratory team if you have any concerns or questions, or call our free and confidential **Ask the nurse** service on **0800 358 7200**.

## Other pre-operative tests

Before your operation, your surgeon and their team of nurses and other healthcare specialists will make a plan regarding your tests and treatment. Some tests will not involve anaesthetic and some will be performed under anaesthetic. It is usual to be admitted on the day of your surgery.

It may be necessary to admit you earlier for some final tests and to help prepare you for surgery. Take all your medicines, tablets or inhalers with you into hospital, with their original containers and instructions.

Before your operation, other checks will be arranged to assess your general state of health and fitness for surgery.

## Tests without anaesthetic

*Blood test:* This can help in finding out about your general health. It can provide information on many aspects of health including:

- how well your kidneys are working (creatinine levels)
- checking your liver function (liver blood tests)
- if your body's biochemistry is balanced (for example, does it have enough calcium and protein)
- ongoing/vulnerability to infection (white cell count)
- low red blood cells (anaemia)
- susceptibility to bruising/bleeding (platelets)

*Echo (echocardiogram):* This is an ultrasound scan of your heart. Jelly and a probe are placed on the skin, in the same way pregnant women have scans. The test is not painful but the operator may need to press on the skin. It may be needed if you have had heart problems or breathing problems.

*Exercise tests:* Exercise tests measure your overall fitness. They are sometimes needed if other tests show you may have a problem with your heart or your breathing. These tests may be done in various ways, such as measuring how far you can walk or how long you can exercise on a bike whilst monitoring your pulse and fitness levels.

*Perfusion or ventilation scan:* This tests the function of different parts of the lung. A perfusion scan measures blood flow, while a ventilation scan measures airflow. A small dose of radioactive fluid is needed for the scan.

*Lung function tests:* As a surgical patient, you may be asked by your doctor to do some breathing tests. These will help to determine how well your lungs are working. Follow the directions of your technician and blow into machines via a mouthpiece as long and hard as you can.

This will record how much air you can breathe in and out and how much air (oxygen) your lungs absorb. The results will be accurate and help to predict how your body would cope if part of a lung was removed.

*Provided by the North West Lung Centre*

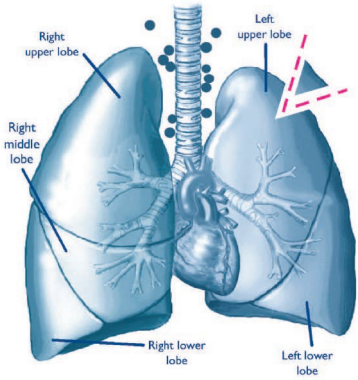
> *I felt prepared for the tests. The respiratory consultant kept me informed about what the tests would entail. There were leaflets that provided information about the tests.*
>
> Tracey

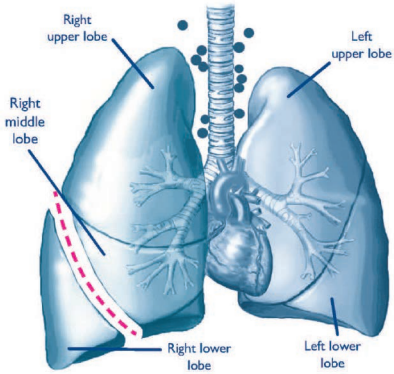
# Types of lung surgery

During surgery, a part or all of a lung may need to be removed, particularly if it contains a tumour, and there are different types of operation that can be performed to do this. The amount of lung removed will depend on the location and size of your tumour, biopsy results, spread of your cancer and sometimes on your levels of fitness before surgery.

After your operation, you will be encouraged to keep active in order to make the remaining lung tissue recover and work harder for you.

*Segmentectomy/wedge resection:* Each lobe of the lung is made up of several segments. If your fitness will not allow more extensive surgery, or the cancer is small, your surgeon may be able to remove just a segment, or a small piece of lung tissue surrounding the cancer, rather than the whole lobe.



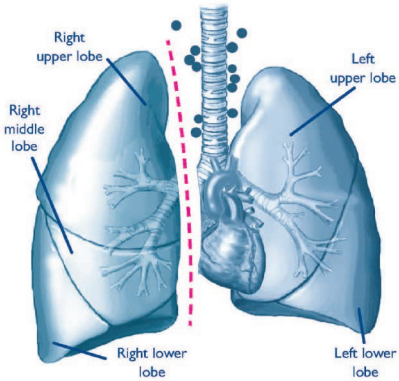

*Lobectomy:* This is the most common operation for lung cancer. It is chosen if your cancer is contained in a single lobe, and you are reasonably fit. There are two lobes on the left and three on the right.

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

*Bi-lobectomy:* This is the removal of two lobes of the lung on the right side.

*Sleeve lobectomy:* This is removing part of the main airway or lung artery, with the lobe being removed. The two ends are sewn together. This procedure can avoid removing the whole lung for some patients.

*Pneumonectomy:* This means removing a whole lung and is chosen when the tumour extends beyond just one lobe.




You may experience breathlessness after surgery. This is a little more common after this procedure.

Along with removing the tumour using one of these techniques, the surgeon will remove lymph glands or nodes from your chest. This helps decide if further treatment, such as chemotherapy, is needed after surgery.

## Methods for lung surgery

Your surgeon will discuss with you which operation is most suitable to remove your tumour and give you the quickest possible recovery, and best quality of life after your treatment.

*Thoracotomy:* An incision is made around the side of your body, below your shoulder blade and between your ribs. The ribs are spread to get access to the lungs.

*RATS – Robotic Assisted Thoracoscopic Surgery:* An alternative, minimally invasive approach to lung surgery using three-dimensional, high-definition (3DHD) video, and a fully articulated robotic arm that can allow surgeons to perform complex operations in tight spaces through small openings in the chest wall. RATS is becoming more widely available, with perhaps 10-15% of lung surgeries being done using this technique.

*VATS – Video Assisted Thoracoscopic Surgery (Keyhole Surgery):* Your surgeon uses a video camera and one to three small cuts (between 1 and 5cm) to perform the operation. Incisions are generally made under the arm and/or just below the shoulder blade. The ribs are not spread.

For both RATS and VATS procedures, the surgeon may decide during the procedure that a thoracotomy is necessary instead. They will speak to you before your operation about the possibility of this happening.

*Median sternotomy:* This is a cut made vertically down the chest over the breastbone, which allows the surgeon to see both the left and right side of the chest. It is occasionally used for some lung operations.

## Deciding if lung surgery is right for you

At your pre-assessment appointment with your surgeon, you will discuss removing your lung tumour and the possible benefits and risks of the operation. Your surgeon will give you as much information as they can to help you make your decision. Everyone is different and it isn't possible to know exactly how you will be affected.

All lung cancer treatments come with risk and they will not be offered to you if your surgeon or oncologist considers the risk too high. You will need to consider your health outcomes with or without surgery along with those for other treatments, such as chemotherapy, or if you decide not to have treatment at all.

For lung surgery, generally speaking, risk, including possible complications and the low risk of dying, increases with the size and scope of the operation (described above). For example, segment removal carries less risk than a lobectomy which in turns carries less risk than having a whole lung removed. There are also different risks relating to the operations methods used and any other health conditions you may have. Your surgeon can tell you more about this.

The main benefit of the operation is your tumour will be removed (*resected*). If you have an early-stage lung cancer, then surgery offers you the best chance of a cure. After their surgical recovery period, some people experience less breathlessness and improved lung function, as well as living longer.

The decision to go ahead with lung surgery is a big one but it is entirely your decision to make. Take your time and think carefully about what your hospital team tell you and speak to your family and loved ones if you think it will help. Deciding against surgery does not mean you are ruling out other treatments that may be available to you. In making your decision, you may think about any immediate and short term benefits alongside possible side effects. Some of the side effects and other complications of surgery are on pages 44 and 45.

As lung health checks and screening for lung cancer increase in the UK, more people will have their lung cancer detected at an earlier stage. This is good news. Earlier, less extensive operations reduce risk and improve outcomes.

Another factor that affects the outcome is the type of operation you are having, including whether the surgery will be open or keyhole (see pages 15 to 17), and how much of the lung will be removed. Where your lung cancer is (within your chest area) also plays a part, as does whether you have other medical problems that may impact your surgery or recovery and your fitness for surgery.

As with surgery, other treatments that may be offered to you, such as chemotherapy or radiotherapy, are also likely to have side effects (some significant). It is important for you to think about these as well so you are able to make a balanced decision and one that is right for you. You should also consider the risks associated with choosing not to have surgery or any other treatment.

# Preparing for your operation

## What will happen before my operation?

If you have been to a pre-surgical assessment clinic, it is more than likely you will be admitted on the day of your surgery. Sometimes you may need to be admitted sooner to make sure you are ready for surgery.

Some hospitals are implementing Enhanced Recovery After Surgery (ERAS) programmes where your GP and hospital team will work to optimise your health before your operation and assess your risks and fitness for surgery. It should improve your overall experience of having surgery and reduce the length of time you stay in hospital.

## Can I do anything to help prepare me for the surgery?

The weeks before surgery are a good opportunity to prepare yourself physically and emotionally. You can increase your fitness significantly in just a few weeks.

*Activity and fitness:* Exercise is good for your body and for your wellbeing. Walking for 20 to 30 minutes every other day is enough, if you are able to do so. Everyone's different, but try to build up your activity over time.

You should do enough that you feel mildly short of breath. Being active before surgery can improve your fitness for the operation and support your recovery. The exercise you choose will depend on your level of fitness, but it is important that you introduce exercise into your daily routine.

Some people swim or cycle, potter about in the garden, or do slower sports like bowls. You can also make small changes such as taking the stairs instead of the lift.

Your hospital may offer exercise and education classes and other support as part of prehabilitation programmes.

Here are three simple exercises you may want to try at home. You don't need to do them every day but try to do them as often as you feel able, perhaps just four of five times in the week.

*Marching on the spot. This is a good lower limb exercise to improve lower leg strength and overall fitness. It can be done in a variety of ways.*

*Walking upstairs or doing step-ups.*

*Raising a ball above your head. This is a good exercise to improve your shoulder mobility and improve your breathing.*

You can watch these and other exercises here:

- www.thoracicsurgery.co.uk/exercise-videos

If you have any questions or concerns about the level of exercise that is right for you, speak to your surgical team or GP before you start.

## Stopping smoking before surgery

If you are a smoker and are waiting for an operation, then it's important that you stop smoking as soon as possible, immediately if you can. The longer you allow yourself between stopping smoking and your operation, the more your body can reduce the mucus creation and coughing that happens when you stop. This process can take several weeks.

Your anaesthesia and operation will be safer. It will also improve your body's ability to heal and how well you recover from the anaesthetic.

Even having a smoke on the morning of your surgery can increase the chance of complications from the anaesthetic. Stopping smoking will also reduce your risk of complications after surgery. Ask your GP, cancer doctor or lung cancer nurse specialist for advice on giving up smoking.

## Should I change my diet before my operation?

Before your operation, it is important to eat a balanced diet as this will help your body recover after surgery. If you are underweight and/or losing weight, recovery can be more difficult and it can take longer for you to feel better.

Try to make sure that you are eating regularly, including snacks and nutritious drinks, such as milkshakes or fruit smoothies, to keep your weight stable. Drinks and soups can be easier to eat if you are feeling breathless. Do what you can to keep your calories up.

> *Good nutritional care and adequate hydration can improve health and wellbeing. Eat a varied, balanced diet.*
>
> Mhairi Donald
> *Consultant Dietitian, Sussex Cancer*

If you are concerned, talk to your healthcare professional or ask to be referred to a dietitian who will be able to give you further advice on fortifying foods and can recommend a prescription for oral nutritional supplements if you need them.

## Alcohol units

Limit the amount of alcohol you drink. The current UK guidelines recommend men and women consume no more than 14 units per week. For information on calculating units, see NHS Choices Alcohol units: **www.nhs.uk/Livewell/alcohol/Pages/alcohol-units.aspx**

## When will I have to go into hospital?

Before you go into hospital, you will likely have an appointment at a pre-surgical assessment clinic. At this appointment you will hear about the details of your surgery and care. You will be asked about your general health, previous operations, allergies and medications. It is also a good opportunity for you to ask any questions about your surgery.

You may also have a medical examination with your height, weight, blood pressure and other details recorded. Blood tests, swabs and other tests needed before surgery may be done. You may also meet other members of your medical team such as the anaesthetist or physiotherapist.

You will also be asked to read and sign the consent form for your operation.

Once everything has been checked out, your doctors will let you know when your operation is planned and how long you may be expected to stay in hospital. You will be given advice about not eating or drinking for a certain length of time before your surgery. It is important to follow these instructions.

Some people are invited to take part in research but this is entirely your choice. Research doesn't always involve treatments and procedures. It may be a questionnaire about your experience or look at how doing additional physical activity, such as walking, before or after surgery affects your recovery.

Taking part may help others in the future and many people who have taken part in research feel good about it. The treatments you are offered now have been made possible by people taking part in research in the past.

## Preparing your home

Before you go into hospital, it is a good idea to think ahead to when you are able to go back home. By being organised ahead of time, it will help reduce stress and let you concentrate on getting better.

This checklist will help you tick off the things you may need:

- ☐ Stock up on food that will not go off, like tea, coffee, sugar and tinned, dried or frozen food.
- ☐ Cook extra portions and freeze them.
- ☐ Keep some ready meals in your freezer for when you don't feel like cooking.
- ☐ If you live alone, you may like to have a friend or relative stay with you, or stay with them, when you first leave hospital.
- ☐ Arrange for a relative or friend to call during the day to check if you need anything.
- ☐ Make sure you have a good supply of your regular medications.
- ☐ If you have young children, arrange help to care for them for at least the first week after you leave the hospital.
- ☐ Arrange for a friend or relative to look after your pets, like walking the dog or feeding the cat.

## What will I need to take to hospital?

You will need to check with your own hospital but as a general rule pack a bag with the following:

- ☐ All tablets that you are taking, in the correct container.
- ☐ At least two sets of nightwear, ideally front-fastening pyjamas/ loose fitting tops.
- ☐ Dressing gown and well-fitting slippers.
- ☐ Toiletries – such as soap, toothbrush, toothpaste, tissues, comb.
- ☐ Something to occupy your time – like magazines, books and music.
- ☐ A small amount of loose change.

**Remember to take any of these if you need them:**

- ☐ Walking aids – frames/sticks/crutches, false limbs, these could be labelled with your name, address and hospital number.
- ☐ Hearing aids, spectacles or dentures.

**TOP TIP**

It is not advisable to take expensive items or large amounts of money. Your property is your responsibility unless you decide to hand it to the hospital for safe keeping.

# When you are in hospital

## What happens when I arrive at hospital for my surgery?

Each hospital will have its own procedure for what happens when someone is going in for surgery.

When you arrive, a member of the nursing staff will usually meet you and show you to your bed or waiting area.

Once you have settled in, the nurse will come and ask you a range of questions.

Your temperature, pulse and blood pressure will be taken. You will have the chance to ask questions and talk about your planned care.

If you have a Living Will or Advance Directive, take a copy with you and make sure it's added to your notes.

You may also meet other members of the hospital team who will be responsible for your care such as a doctor from the thoracic surgical team, member of the nursing team, the anaesthetist and the physiotherapist.

Your operation will be explained to you. If you haven't already done so, you will be asked to sign a consent form.

Please feel free to ask further questions at this point. Remember to mention any previous adverse reactions to medications, so that alternatives can be found.

The above will vary slightly from hospital to hospital.

## What happens to me before my operation?

You may not be allowed to eat or drink for several hours before your operation. This is to stop you from being sick during the anaesthetic.

You will be given special compression stockings to wear. These help to improve your circulation and prevent blood clots developing in your legs (*deep vein thrombosis* or *DVT*).

A nurse will be able to help you with the stockings (see page 41 for more information).

A member of the surgical team will mark the site of the surgery on your skin.

## What will happen to me in theatre?

When it is your turn to go to theatre you will be taken by a member of staff. The theatre staff will check your details and then take you into the anaesthetic room. Here you will have a small needle inserted into the back of your hand. This will be used to give you the medication that will help you to fall asleep.

The theatre staff may start a 'drip' to prevent you from becoming dehydrated. If necessary, a catheter may be passed into your bladder to enable you to pass water easily and to monitor your urine output. A fine tube (*epidural* or *paravertebral*) may be passed into your back as a way of giving you pain relief after the operation (see page 29).

## What happens to me after I leave theatre?

After the operation, you will go to the recovery room. This is where you will wake up from your anaesthetic. You may feel a little confused and unsure where you are. The nurses and doctors will monitor you closely until they feel you are ready to leave the recovery area. They will give you oxygen and check that you have enough pain relief.

As you wake up, you may notice that you have some tubes and wires attached to you. These are in place to help your medical team monitor your condition. Chest drains are usually put in to remove any fluid that may build up in your chest because of the surgery.

You will then go to a ward or to the high dependency unit or intensive care unit.

You will feel drowsy but will be able to wake up.

During the first hour of your return, the nurses will make sure you are comfortable and will set up the monitoring equipment, drips and other equipment.

You will be given extra oxygen to help your breathing.

Your chest drains will remove any blood or air in the chest. This is completely normal. The drains are removed when the drainage is minimal and there is no air leaking from the lung. They may be put on suction to help the lungs expand. You will be encouraged to get up and about.

### When will I be able to eat and drink?

When you are fully awake you will be able to have sips of water. Once you can manage sips of water, you will be able to have a cup of tea or squash. This will usually be about one to two hours after returning from theatre. You may not feel like eating much until the following day.

## Am I allowed visitors?

Once the nurses have set up the monitoring equipment and you are comfortable, you will be allowed to see your visitors. You will need plenty of rest, so a short visit only is recommended at this point. Your family or friends can contact the ward at any time for information.

If there is a change in your condition a member of the nursing staff will contact your next of kin.

## Will I be in pain after my operation?

After your operation, you are likely to be uncomfortable and it is not possible to take all the discomfort away. However, it should be controlled. Let the nurse or doctor know if you have any pain. They will regularly ask you about your pain relief. You may also feel tired (*fatigue*) for several weeks after your operation.

Pain relief after surgery is tailored to your unique situation. This includes the type of surgery you have had, any other medical conditions you may have (such as impaired kidney function) as well as your current medication and allergies.

After surgery, you may feel short of breath. The purpose of pain relief is to enable you to breathe deeply, easily clear secretions with an effective cough, move freely and undertake physiotherapy.

The pain relief offered should include a combination of background pain relief (*ongoing*) as well as additional pain relief you can access if you are in more pain or are about to do something the is likely to cause you pain.

Effectively managing any acute pain you may have after your operation reduces your risk of developing chronic post operative surgical pain.

If you take pain killers regularly, for the lung condition or any other condition, then you should continue to use these unless you are told to stop. All pain relief options have benefits and risks and your anaesthetist will talk these through with you. These options include:

*Epidural:* This is a small plastic tube inserted to coat the spinal cord in local anaesthetic and sometimes painkillers. It offers very good pain relief and is mostly used if you have a thoracotomy. It will normally be in place for a few days after your operation. Some side effects to be aware of include headaches, failure of analgesia (when the pain relief stops working), an itch, and very rarely, nerve damage (that can be temporary or permanent). You can give yourself additional pain relief using an epidural button.

*Paravertebral catheter:* This is a small tube placed into the space between the back bones (*vertebrae*) and the lung that delivers local anaesthetic to the nerves as they leave the spinal cord.

*Intercostal nerve block:* This is an injection of local anaesthetic around an intercostal nerve. These nerves travel underneath the ribs from the spine at the back to the breast bone (*sternum*) at the front. These may be given at the time of your operation instead of using a paravertebral catheter.

*Patient controlled analgesia (PCA):* This uses a small pump that allows you to take control of your own pain relief. You can give yourself a small dose of morphine (commonly used to treat cancer pain), by pressing the button on the handset. It is injected through a thin plastic tube in the back of your hand through a thin plastic tube that is left in a vein on the back of your hand.

It is often used in the initial period after surgery. You cannot overdose with a PCA no matter how often you press the button.

It is a good idea to use the PCA before doing anything physical, like moving around or doing your physiotherapy exercises. If you still have pain despite using the PCA regularly then other methods of pain relief can be used.

*Oral pain relief:* These will include pain killers you will take regularly after your operation to minimise any discomfort and painkillers you can ask for as needed if you need additional treatment for breakthrough pain.

Depending on which tablets you are given, you may experience constipation, feeling sick (*nausea*), drowsiness, itchiness or mental confusion (*delirium*). Speak to your medical team if you experience any of these symptoms and they may be able to adjust your medication.

## Wearing a bra after chest surgery

After chest surgery, many women find it very uncomfortable to wear the bras they wore before surgery. This may be because of discomfort around the area of the operation. It may also be because of post operative neuropathic pain where nerves have been damaged by the procedure.

Some women find it more comfortable to increase the band size and wear a non-wired bra after chest surgery. Several manufacturers, including some supermarkets, offer a range of non-wired, post-surgery bras. You may benefit from a fitting in a specialist lingerie shop.

## Will I feel sick after my operation?

Pain relief and anaesthetic can make some people (around 1 in 6) feel sick. It is more common in women, people who get travel sick or people who have been sick after anaesthetic before.

Most people do settle within 1 to 2 hours. Good pain relief and drinking plenty of water can reduce the risk. If you do feel sick, the nurse can give you anti-sickness medicine to help.

# Milestones to your recovery after surgery

This table outlines the key milestones in your recovery. It covers a typical stay in hospital. The length of time that you spend in hospital depends on several factors including your fitness and the operation you have had.

| Milestones | | | | | Checklist |
|---|---|---|---|---|---|
| **Day of surgery** | **+1 day** | **+2 days** | **+3 days** | **From +4 days** | **Last day in hospital** |
| Coughing and deep breathing exercises | Help with coughing and deep breathing | Help with coughing and deep breathing | Increase walking | Prepare for going home | Getting up and down on my own ☐ |
| Drink once awake | Sit in chair | Wash independently | Dress independently | Collect tablets to take home | Able to eat and drink ☐ |
| Eat when ready | Wash with assistance | Walk independently | Fitness assessment with physiotherapist | | Passing urine freely ☐ |
| Walk with support | Removal of some tubes, drips & drains | Use of tablet pain relief | | | Bowels working ☐ |
| | | Removal of tubes, drips & drains | | | Discharge summary collected ☐ |
| | | | | | Tablets to take home ☐ |
| | | | | | Organised transport home ☐ |
|  |  |  |  |  | *My lung surgery* booklet ☐ |

## What will happen on the first day after my operation?

Your team will visit and speak to you about how your operation went. It may be possible to remove your drips and monitoring equipment. A chest X-ray and blood tests may be taken.

You will see a physiotherapist or specialist nurse who will encourage you to cough, deep breathe, move around and exercise your arms and shoulders. This is particularly important on the operation side of your body to prevent stiffness or a frozen shoulder.

You should be able to eat a light breakfast. After this the nurse will help you to have a wash. You will be helped to get up and out of bed on the first morning after your surgery and encouraged to walk.

## What will happen on the second day after my operation?

Your team may be able to remove further tubes, drips and drains. Another chest X-ray might be taken. The order in which these things happen will vary from hospital to hospital and from person to person.

## How will my wounds heal?

It will take two or three weeks for your wound(s) to heal. While you are in hospital, nurses will check them regularly. After surgery like this, it is quite common for there to be some numbness around any scars and the front of your chest, though this may improve.

Any stitches, clips or staples that are not dissolvable may need to be taken out by your GP, practice nurse or district nurse after you leave hospital. This would include stitches used to close the hole when your chest drain is removed. These stitches would usually be taken out after 5 to 7 days.

Avoid using soap, cream and talcum powder directly on any healing scars as they can cause irritation.

## How soon will I be active?

As soon as you are out of bed, you should start to move about. When sitting in your chair or lying in bed, your lungs are not fully expanded. They need to be exercised to get them working properly again.

Mucous and blood can collect in your airways after a lung operation and the physiotherapist or nurse can show you breathing and supported coughing techniques that can help get rid of this. They may also take you for a short, assisted walk and otherwise help rebuild your mobility.

If your chest drain is attached to wall suction the distance you can move is restricted. If you have a digital drain it can be picked up when you need to walk. If the drain becomes disconnected or alarms let the staff know immediately.

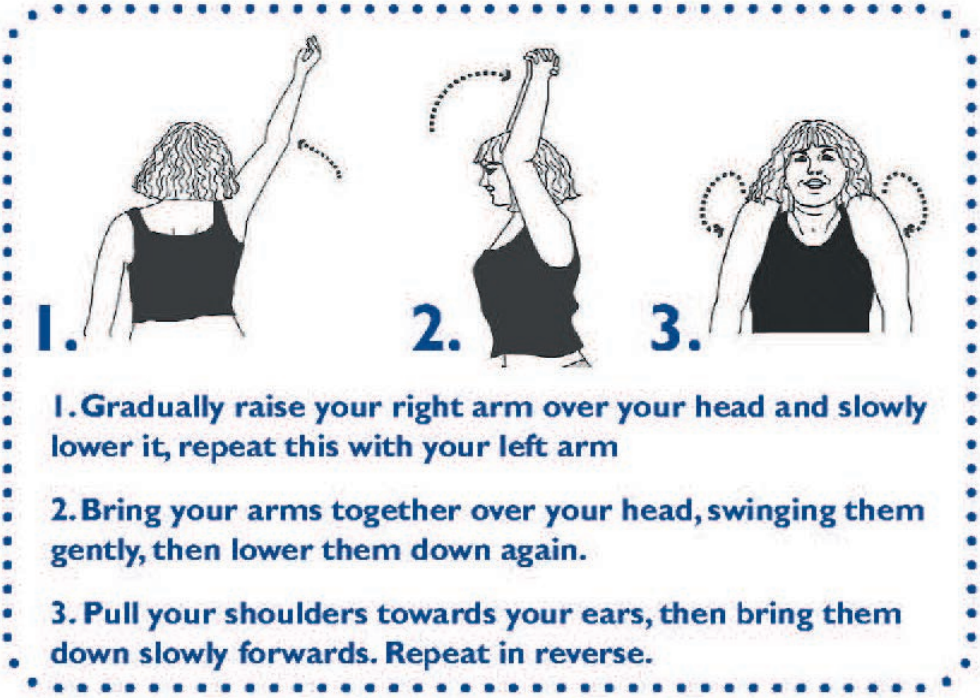
The physiotherapist or nurse may ask you to walk on the spot or try a short session on an exercise bike. You may feel short of breath following exercise. This is normal and shows that you are exercising at the correct level. However, you should not be gasping for breath.

Once you are steady on your feet you can walk around on your own, as long as you feel comfortable. This encourages your lungs to expand and may let you get home faster.

Keeping active after lung surgery will improve your recovery. It will have a positive effect on your heart, muscles, breathing and lung capacity. It can also boost your mood and general wellbeing.

## Shoulder exercises

After your surgery, you may find your shoulder feels stiff. The following exercises will help maintain your shoulder range of movement. Try and do these exercises regularly. Spend a few minutes on these exercises daily.




## Will I be able to rest?

It can be difficult to sleep in hospital and you may have a few unsettled nights. You will feel more tired than usual, drowsy and sleepy. Once you are discharged and you become more active your sleep pattern should return to normal.

Sleeping propped up with pillows or back support for the first few days may help. Try to avoid sleeping on your side, especially the side of your operation, to avoid putting pressure on the area. Some people find using a reclining chair works for them. Others can get comfortable using a pillow designed to help pregnant women.

## When will I be able to go home?

This depends on your fitness, the operation you have had and whether you experience any complications. Hospital stay is usually between 2 and 10 days, with an average of 3 to 5 days.

You will be able to go home when your doctors are satisfied that you are eating and drinking, and any problems identified before discharge are addressed.

Any chest drains should be taken out before you go home though it is possible that you could go home with a chest drain if longer-term drainage is needed.

This could happen if you have a small, persistent air leak. This will eventually stop but can take a few weeks. Being at home and able to move about can help.

## What will I be given before I go home?

To go home you may be given:

- Medication. In most cases the hospital will supply you with 7-14 days of your necessary tablets. Your nurse or pharmacist will discuss with you how and when to take your tablets. You will need to see your GP for further supplies of medication.
- Thoracic/lung cancer nurse specialist contact details.
- Chest drain information and equipment, if required.
- Spare pair of stockings, if required.
- A copy of your discharge summary (the same summary will be sent to your GP).
- A practice/district nurse letter and date for removal of any clips or stitches.

## When will I know that my operation has been successful?

The surgeon will be able to tell you straight away how much of your lung was removed during your operation, however, they will not be able to tell you for sure if all the cancer has been removed.

Pathologists will find this out when they test the tumour, the surrounding lung tissue and lymph nodes. You may find out the results around 7 to 14 days after your operation, though post-operative pathology like this can take longer, perhaps 4 to 6 weeks in some areas. Ask your medical team how long it is likely to be for you.

The results from your operation will be discussed again at the MDT meeting to decide if further treatment is necessary (*adjuvant* treatment, for example, see page 7) . These results along with any recommended treatment will be discussed with you at your next appointment.

## Patient transport service

A patient transport service is a non-emergency service that may be available in your area for people who need special support getting to and from healthcare appointment.

Speak to your medical team to find out if you are able to use your local service.

# Recovering at home — what to expect

This section 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.

Once home, you should continue to walk regularly, gradually increasing distance and pace. If you do any specific activities, for example, swimming, golf or bowls, ask your physiotherapist for advice on returning to these hobbies. Some of these activities may happen earlier for you.

| | Everyday activities | Outside activities | Seek advice |
|---|---|---|---|
| **Week 1** | - Walk around the house<br>- Breathing exercises<br>- Arm exercises<br>- Shower | | Speak to your surgeon before:<br><br>Heavy lifting<br>Sexual activity<br>Playing sport<br>Flying/holiday |
| **Week 2** | - Light tasks (washing up, cooking, dusting)<br>- Arm exercises<br>- Shower | - Walking outside the house | |
| **Weeks 4-6** | - Ironing<br>- Arm exercises | - Light shopping<br>- Gentle gardening<br>- Cleaning the car | |
| **Weeks 6-12** | - Hoovering<br>- Light lifting | If you are taking medicines, check with your doctor or pharmacist if you are fit to drive.<br>Resume driving (check with your insurance provider) | |
| **After 12 Weeks** | - Return to full activity around the house | - Resume normal outside activities | |

> *Patients feel reassured that there is someone who they can contact if they are unsure or need advice about their recovery.*

Sandra Dixon Macmillan
*Thoracic Surgical Nurse Specialist*

## How will I feel when I get home?

After your operation, you may feel stressed, anxious or depressed. Being affected emotionally is normal. It may help to talk about how you feel with a member of your family, a friend or your nurse specialist. Sometimes your friends and family need to talk things over as well.

It can help to set yourself realistic goals so that you can see your progress. It can also help you to think more positively.

Learning some relaxation techniques can also help calm your mind and relax your body, reducing stress and anxiety. For example, simply paying attention to breathing more deeply and slowly can really help.

Here are some general relaxation guidelines:

- Choose a place and time where you will not be disturbed for at least 15 minutes.
- Practise your chosen technique at least twice daily (minimum four days a week).
- It may take a few weeks before you notice any benefit – stick with it and do not expect instant success.
- Relaxation should be helpful. If you find it makes you more anxious or increases your pain, speak to your nurse specialist who may be able to suggest other ways to relax.

Please see our *Living with lung cancer* booklet for more information on relaxation, guided imagery and complementary therapies. See page 2 for details on how to get a copy.

## How should I look after my wound?

Try not to touch your wound. If you do, there is more chance of infection.

Use a mirror or get a member of your family to check your wound(s) every day. If your wound is clean and dry it should be left without a dressing. This will help it to heal more quickly.

Don't worry about the scabs. They will fall off in their own time. You will usually have at least one stitch where your drains were placed. These should be removed by the practice nurse at your GP surgery. The stitches should be removed around 5 to 7 days after drain removal.

Some swelling around the wound is perfectly normal and should go down after a few weeks.

You should consult your GP for advice if your wound becomes red and inflamed, if you have pain from around the wound, or if fluid is coming from the wound.

## I need to go home with a chest drain – how do I look after it?

If you need to go home with a chest drain it will be because a small amount of fluid is still draining into the bag or you have a small air leak caused by the internal wounds taking a while to heal.

You will not be sent home with a drain unless the doctors and nurses are sure that you are able to confidently manage it.

If you live alone and do not have anyone to support you, tell the nurses on the ward.

Your practice nurse or a district nurse will check the drain every few days and change the dressing if necessary. The doctors and nurse specialist may want to see you approximately one week after you have gone home to see whether the drain needs to be removed.

They will want to know how much fluid has drained each day. Record the drainage every night and then empty the bag to prevent spillage. Here are some simple rules for you to remember:

**DO**

- Follow and read the instructions you will have been given.
- Empty your bag before you go to bed each night, if that is recommended by your hospital, making sure to record the amount and colour.
- Continue to exercise. Get advice if your breathing becomes difficult.
- Contact the ward you were on or your nurse specialist if you are worried.

**DON'T**

- Disconnect your drain.
- Pull at the drain or the stitches.
- Allow the bag to lay flat as it may spill.
- Block the port for emptying the bag.
- Forget that the bag is connected to you.

## Will I be able to look after myself?

You will be able generally to care for yourself, for example, washing and dressing. You will probably be most comfortable in loose fitting clothing. You may have a bath or a shower but do not scrub the wound or use perfumed products.

Although you will be able to cook, don't lift heavy pots and pans. Ready meals are often ideal for the first few days after going home. You may have a reduced appetite and may even lose some weight. Try to eat small meals often that are high in calories.

**TOP TIP**

For the first few nights after you come home from hospital, you may find it more comfortable to sleep propped up in bed with extra pillows.

> *Initially I was able to walk around the house to get to the toilet or bed. It was useful to sleep in an upright position.*
>
> Brian

## How long do I need to wear compression stockings after surgery?

You will have been given special compression stockings to wear. These help to improve your circulation and help prevent blood clots developing in your legs (*deep vein thrombosis* or *DVT*).

You should wear the stockings, including in bed at night, until you have returned to your normal level of activity. Your healthcare team will confirm how long you should wear them. Tell your healthcare team if you have difficulty putting on/taking off the stockings. They may be able to give you techniques to make it easier or suggest you use a compression sock application aid.

Ideally you will have more than one pair so you can continue to wear compression stockings while another pair is in the wash.

## How do I improve my posture and shoulder movement?

Having a pain in your side can make you tend to lean into it to try to reduce the pain. However, after your operation, it is important to maintain an upright posture as much as you can.

Check your posture in a mirror and keep your shoulders moving. Gentle stretches away from the operated side can help. Taking your pain medication as prescribed will help you be able to do this.

If problems with your shoulders or posture persist, you may need a referral to a physiotherapist. Your GP should be able to help you with this. The shoulder movement exercises on page 34 can also help.

## Will I be able to get out and about?

The amount of activity you can do (both in the short term and the long term) will depend on a number of factors, including how much lung you have had removed. You may feel that you lack confidence for a few days after you go home – this is normal. Your confidence will soon return.

Try to get a balance between activity and rest. It is important that you try to remain active. Aim to take a walk once or twice a day. Gradually increase how far and how quickly you walk. You can also go shopping with your family and friends – lean on the trolley if it helps.

## Swimming after lung surgery

Speak to your surgeon about how quickly you may be well enough to go swimming. There should be no problems once you are well enough.

If you have had a lung removed, there can be a change in how well you float in water, but it shouldn't stop you from swimming. When you first go swimming, it may be helpful to take someone with you in case you get into difficulty. It's also a good idea to have a flotation aid to hand in case you need it.

Swimming can help improve your lung function but don't expect too much of yourself too soon. Regular shorter swims can help you more than occasional longer ones. Scuba diving or snorkelling may remain too risky for you so check with your surgeon first.

## Will I have any side effects from the surgery?

Surgery for lung cancer is a serious operation. While most people have side effects and medical complications of one sort or another (some of which are mentioned below), many of the immediate side effects improve and heal over time without the longer term side effects some other treatments may have. Side effects depend on the type of lung cancer surgery you have had and vary from person to person.

Some of the more immediate side effects and complications can improve quite quickly. Your surgeon or lung cancer nurse specialist will be able to look at ways to treat and manage any complications or side effects you may have. Many people find their breathlessness improves in the first 4 to 8 weeks after their operation. Breathlessness after surgery can also depend on how breathless you were before surgery, and how much lung your surgeon has removed.

### Medical complications

Common, less serious complications from surgery that may occur in around 1 in 10 people, include irregular heart rate (atrial fibrillation), chest infection (pneumonia), lung collapse (pneumothorax) or prolonged air leak.

You may experience wound infection, excessive bleeding (and need for blood transfusion), blood clot in your leg (deep vein thrombosis or DVT) or in your lung (pulmonary embolism), which may delay your discharge home.

| Side effects | Practical advice |
|---|---|
| **Breathlessness** | This will depend on the type of surgery you have had and your general fitness level before your surgery. Some shortness of breath is to be expected and is normal. When you are up and about you may feel more breathless. This is normal and shows that you are working hard enough. You may have to adapt your lifestyle to cope with longer term breathlessness. |

*Continued overleaf…*

| Side effects | Practical advice |
|---|---|
| **Constipation** | You may find your bowel habit is altered. You may become constipated because of the change in eating habits or the painkillers you are taking. Eating three to five pieces of fruit and vegetables a day can help with constipation. Ask your GP or your nurse specialist for advice. |
| **Cough** | If your cough was caused by the tumour, it may get better, but a cough is often not due to your cancer. You may cough up some mucous or blood after a lung operation. If this continues when you are at home, ask your GP or your nurse specialist for advice. You may develop a cough for other reasons. Speak to your medical team if you have concerns. |
| **Pain** | It is normal to feel occasional shooting or stabbing pains. The nerves and tissues damaged at the time of surgery require time to repair themselves. It is very important to take your pain relief as prescribed. Paracetamol works well if taken regularly (two 500mg tablets four times a day for most adults). **Pain due to your surgery should ease with time.** If the tablets are not controlling your pain ask your GP or your nurse specialist for advice. When you feel ready to stop your pain tablets, reduce them slowly over a period of time. |
| **Weight loss/ change in appetite** | It is common to lose some weight after the operation. This is due to the physical demands of going through a major operation, the natural emotional reaction and worry around the time of the surgery.<br><br>Many patients following the surgery lose or have a change of appetite. Sometimes food tastes different. Try eating small meals that contain more calories than you normally eat. With time your appetite should return to normal and you will return to your normal weight. |

# Your follow-up to lung surgery

## How will I be followed up?

After you go home, you will usually be sent a follow-up appointment by the hospital. This will vary from hospital to hospital, but is usually after two to six weeks. At this appointment, you may have a chest X-ray and your wounds checked to see they are healing. You will be given the results of your operation.

You will need to be followed up long term following your lung cancer operation. This is called *lung cancer surveillance* and is important as, even though the operation may have been a complete success, there is still unfortunately a chance your lung cancer may recur.

Your follow up will vary depending on your hospital's local policy but will involve clinic appointments with a chest X-ray and CT scans over a period of five years. It may be with your surgeon, specialist nurse, your cancer doctor if you had further treatment such as chemotherapy after the surgery or with respiratory doctors who have looked after you.

> *Surgical follow up will differ slightly from region to region in terms of who sees the patient and when.*
>
> *In Leeds the patient is seen once in the surgical clinic with a chest X-ray and then discharged back under the care of the referring physician.*
>
> Sandra Dixon
> *Macmillan Thoracic Surgical Nurse*

## Can I stop the lung cancer coming back?

Try and stay as healthy as possible by keeping active, watching your weight and eating a healthy and balanced diet.

If you are a smoker, the most important thing you can do to reduce your chances of having the lung cancer return is to stop smoking.

# Life after surgery

## How long will it take me to recover from my operation?

You are an individual and will recover in your own time so try not to compare your recovery with anyone else's.

At times, you will feel more tired than usual. You may need to adapt some daily activities. Try to remember the four Ps: **Problem solve**, **Prioritise**, **Plan** ahead and **Pace** yourself.

See our *Living with lung cancer* booklet for more information on managing everyday activities.

## Will I be able to return to work?

Talk to your GP or cancer doctor about when you will be fit enough to return to work. It will depend upon how fit you were before the operation, the type of operation you have had, whether the surgery was performed as a keyhole (VATS) or open operation (thoracotomy) and whether you need further treatment, such as chemotherapy.

Returning to work may take anywhere between 1 and 3 months and will depend on how quickly you recover from the operation.

It will also depend on the type of work you do, for example, how physically demanding your job is or whether you have to stand for long periods of time.

**TOP TIP**

Ask your GP or lung cancer nurse specialist for advice and support if you are at all concerned.

## Where can I get support after surgery?

*Roy Castle Lung Cancer Foundation one-to-one services*

Our **Ask the nurse service** is a nurse-led helpline offering advice on all aspects of lung cancer including diagnosis and treatment. Please call our experienced team of nurses free on: **0800 358 7200** or email: **lungcancerhelp@roycastle.org**

Our **Keep in touch support service** offers confidential telephone contact for people with lung cancer and their carers. This service is primarily if you are socially isolated and would like some extra contact. You can have a fortnightly or monthly call over an agree timescale.

*Roy Castle Lung Cancer Foundation group services*

We have a range of group support online, by telephone and face to face. Our **lung cancer support groups** and **information days** take place around the UK. These groups meet regularly when restrictions relating to COVID-19 permit and are organised by local lung cancer nurse specialists.

Our **Lung Cancer Connect** services offers online and phone programmes as well as video content to help you adjust to diagnosis, treatment and managing with lung cancer.

Our **online lung cancer community** lets you share your experience through blog posts and questions with other people affected by lung cancer. You can join free and anonymously at: **www.healthunlocked.com/lungcancer**

For information on our services please call our Information and Support Team on **0800 358 7200**, or email: **info@roycastle.org**

## How long will it be before I can drive?

Don't drive until you have been reviewed by the doctor and are thought to be fit. You must be able to do an emergency stop without pain before you start driving again. The time taken varies from one person to another. Remember, your insurance may be affected if you drive before you are fully fit. See further DVLA guidance here:
**www.gov.uk/lung-cancer-and-driving**

## When will I be able to fly?

Lung surgery is a major operation and after such major surgery, you may have to allow up to three months before flying. Speak to your surgeon about your fitness to fly at your first outpatient appointment after the surgery.

It will also depend on the regulations of your airline. Each airline will have its own regulations about flying after surgery, so always check with them. The Civil Aviation Authority (**www.caa.co.uk**) also give guidelines.

Remember to let your insurance company know about your chest operation.

## Sex and intimacy

Sexual relations can be resumed when your wounds are healed, when you feel comfortable and when you and your partner are ready. This may take several weeks. Remember your partner may be worried about hurting you. Try taking a passive role until you feel more confident.

You may find your confidence or interest in sex has decreased. For some people, close contact, such as kissing and cuddling is important to remind them they are loved. Do what is right for you and your partner when you feel ready.

# Questions to ask your thoracic surgeon or nurse

Before choosing surgery as a treatment option, you should understand the expected benefits, side effects and risks. Ask your thoracic surgeon or nurse these questions at your next visit. Learn as much as you can about your treatment, and get an idea of the expected outcome.

1. What type of surgery will I be getting?
2. What is the aim of the surgery?
3. Are there other types of treatment that could be suitable for me instead of surgery?
4. What are the risks and side effects of the surgery I will be having? How do these side effects compare with side effects of other treatments?
5. How long will I have to wait before I get the surgery?
6. Where will I go for the surgery?
7. What can I do to prepare for treatment and reduce the chance of side effects?
8. Will I need to change my lifestyle in any way?
9. If the surgery isn't successful, are there any other treatments I can get?
10. Are there any clinical trials I would benefit from?

**Thoracic surgeon**

Name:

Phone number:

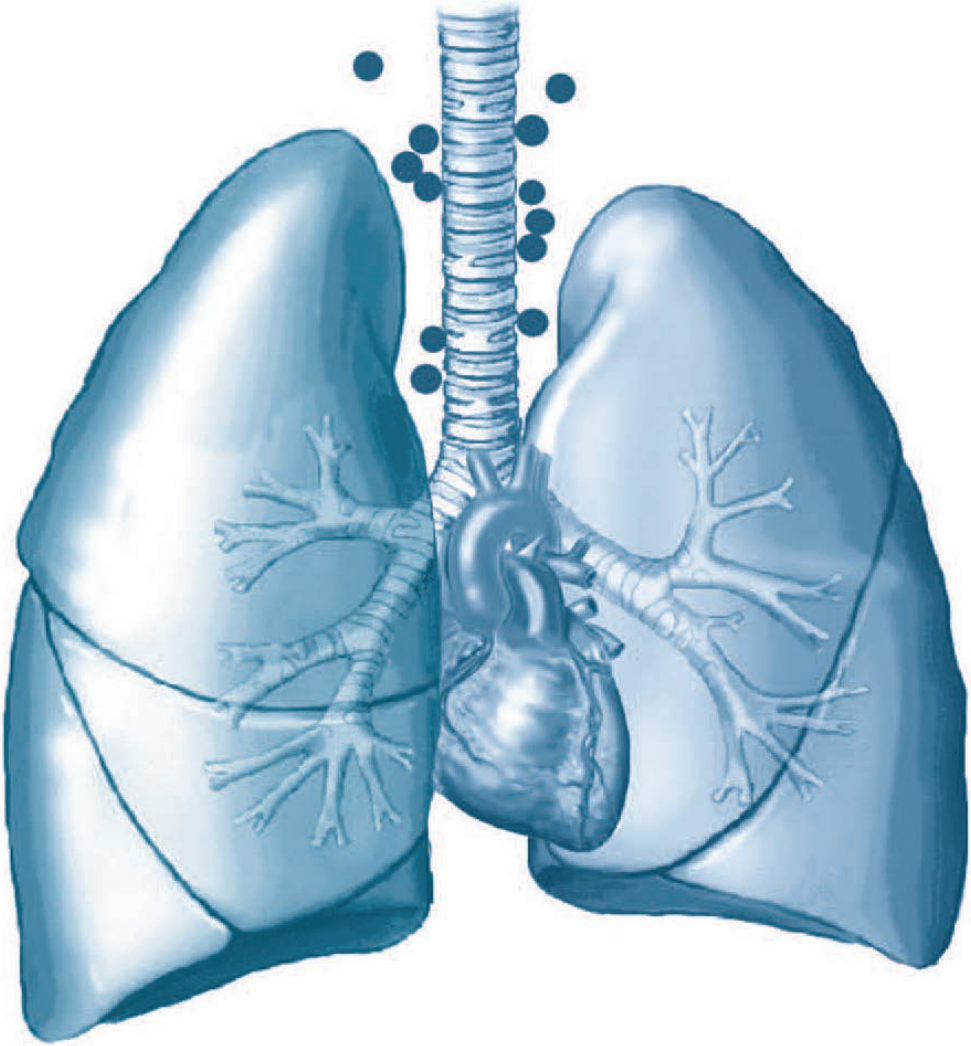
**Thoracic nurse specialist**

Name:

Phone number:

# Your surgery diagram

You might find it useful to ask your surgeon to draw the location of your tumour and the kind of surgery that is planned on the diagram below.



# About our lung cancer information

We follow established quality standards and production principles to make our information trustworthy and easy to read. It is evidence based, following national clinical guidelines and best practice for managing lung cancer.

We believe information that is clear, accurate, evidence based, up to date and easy to use allows people to become better informed and more involved in their health and care.

Our information is written either by our information team or by lung cancer experts. We have a panel of lung cancer experts made up of doctors, nurse specialists and other health professionals involved in the treatment and care of people affected by lung cancer. These people help us on a voluntary basis. You can find out about our Expert Panel at **www.roycastle.org/expertpanel**

This booklet has been published in partnership with Lung Cancer Nursing UK.

Our information is also reviewed by members of our Reader Panel (made up of people who have experience of lung cancer). This makes sure our lung cancer information meets their needs. You can find out about our Reader Panel at **www.roycastle.org/readerpanel**

You can find references to sources of information within this booklet at **www.roycastle.org/evidence**

If you have suggestions for new publications or additions or improvements to our existing range of booklets and factsheets, please let us know at **info@roycastle.org**

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ROY CASTLE
LUNG CANCER
FOUNDATION

Roy Castle Lung Cancer Foundation is the charity that gives help and hope to people affected by lung cancer. The charity has two aims – supporting people living with lung cancer and saving lives.

## Supporting people living with lung cancer

Working closely with lung cancer nurses, we provide information, run lung cancer support groups and offer telephone and online support. Our patient grants offer some financial help to people affected by lung cancer.

## Saving lives

We fund lung cancer research, campaign for better treatment and care for people who have lung cancer, and raise awareness of the importance of early diagnosis. Our lung cancer prevention work helps people to quit smoking and encourages young people not to start smoking.

## Contact us

For more information, call our Lung Cancer Information and Support Services:
0333 323 7200 (**option 2**)
or visit our website: **www.roycastle.org**


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