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MACMILLAN.  
CANCER SUPPORT

A practical guide to understanding cancer

# UNDERSTANDING LUNG CANCER



# About this booklet

This booklet is about cancer that starts in the lung. This is called primary lung cancer. We can send you separate information about cancer that starts in another part of the body and spreads to the lung, which is called secondary lung cancer.

The booklet explains what lung cancer is, and how it is diagnosed and treated. It also talks about your feelings when you are diagnosed with cancer and has practical advice on dealing with work and finances.

We hope it helps you deal with some of the questions or feelings you may have. We cannot give advice about the best treatment for you. You should talk to your doctor, who knows your medical history.

Throughout this booklet, we have included quotes from people who have had lung cancer. Some are from **healthtalk.org** and others are from people who have shared their experiences with us by becoming a Cancer Voice. To share your experience, visit **macmillan.org.uk/shareyourstory**

## For more information

If you have more questions or would like to talk to someone, call the Macmillan Support Line free on **0808 808 00 00**, Monday to Friday, 9am to 8pm, or visit **macmillan.org.uk**

If you would prefer to speak to us in another language, interpreters are available. Please tell us, in English, the language you want to use.

If you are deaf or hard of hearing, call us using NGT (Text Relay) on **18001 0808 808 00 00**, or use the NGT Lite app.

We have some information in different languages and formats, including audio, eBooks, easy read, Braille, large print and translations. To order these, visit **macmillan.org.uk/otherformats** or call **0808 808 00 00**.

## How to use this booklet

The booklet is split into sections to help you find what you need. You do not have to read it from start to finish. You can use the contents list opposite to help you.

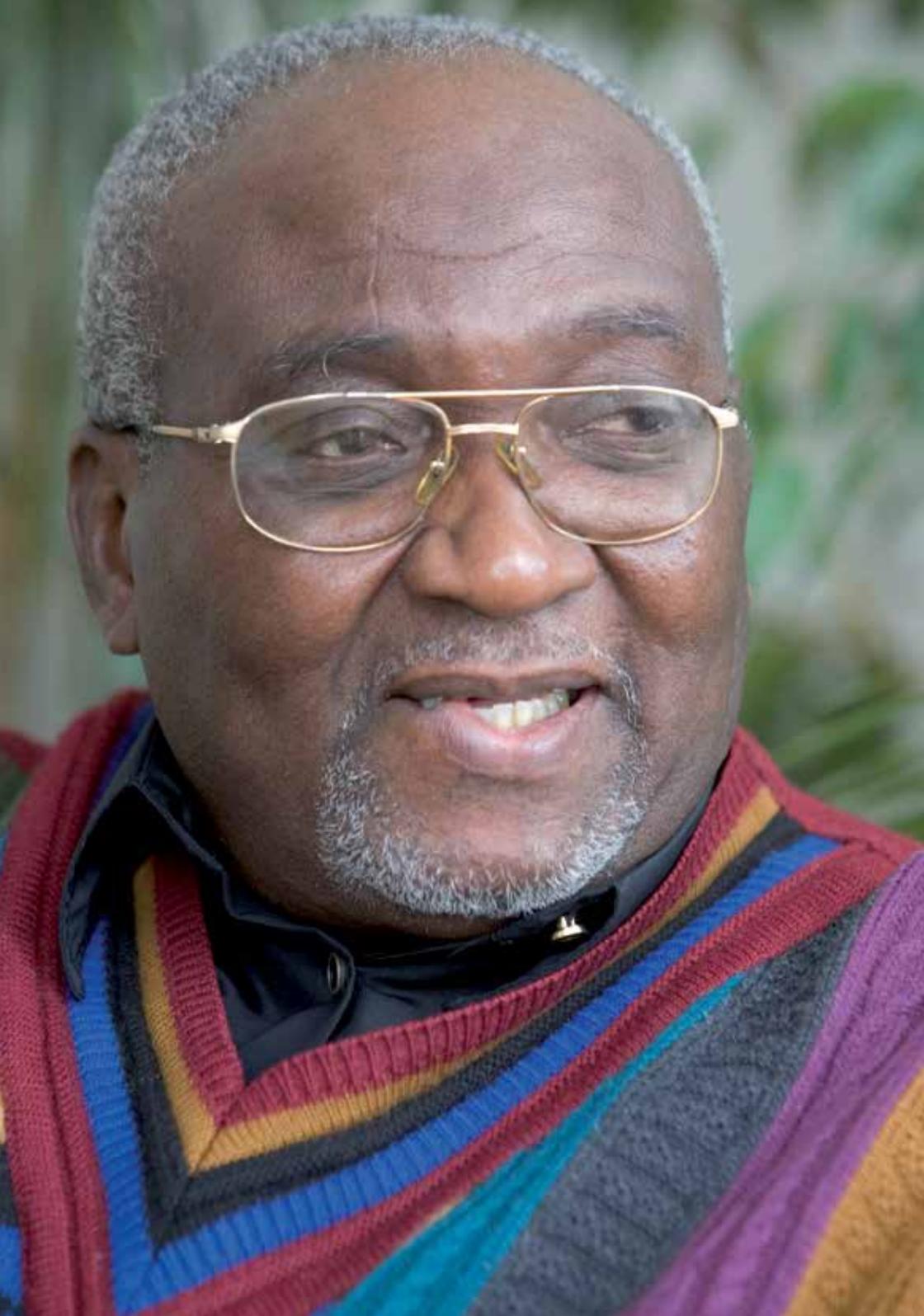
### Your data and the cancer registry

When you are diagnosed with cancer in the UK, some information about you is collected in a national database. This is called the cancer registry. It helps the NHS and other organisations plan and improve health and care services. Your hospital will give information about you, your cancer diagnosis and treatment to the registry automatically, unless you ask them not to. As with all medical records, there are strict rules to make sure the information is kept safely and securely. It will only be used for your direct care or for health and social care planning and research.

Talk to your doctor or nurse if you have any questions about the registry. If you do not want your information included in the registry, you can contact the cancer registry in your country to opt out. You can find more information at **macmillan.org.uk/cancerregistry**. To find details about the cancer registry in your area, see page 143.

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# THE LUNGS AND LUNG CANCER

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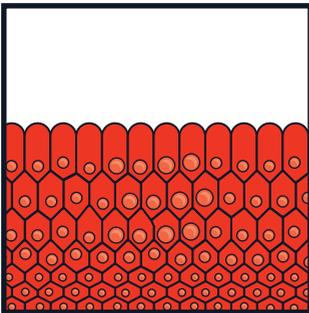
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# What is cancer?

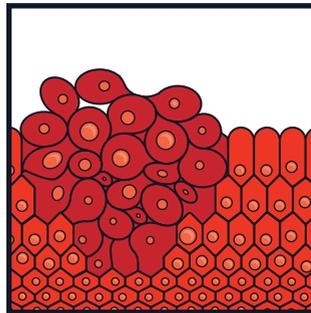
Cancer starts in cells in our body. Cells are tiny building blocks that make up the organs and tissues of our bodies. They divide to make new cells in a controlled way. This is how our bodies grow, heal and repair. Cells receive signals from the body telling them when to divide and grow and when to stop growing. When a cell is no longer needed or can't be repaired, it gets a signal to stop working and die.

Cancer develops when the normal workings of a cell go wrong and the cell becomes abnormal. The abnormal cell keeps dividing making more and more abnormal cells. These eventually form a lump (tumour). Not all lumps are cancerous. Doctors can tell if a lump is cancerous by removing a small sample of tissue or cells from it. This is called a biopsy. The doctors examine the sample under a microscope to look for cancer cells.

Normal cells



Cells forming a tumour



A lump that is not cancerous (benign) may grow but cannot spread to anywhere else in the body. It usually only causes problems if it puts pressure on nearby organs.

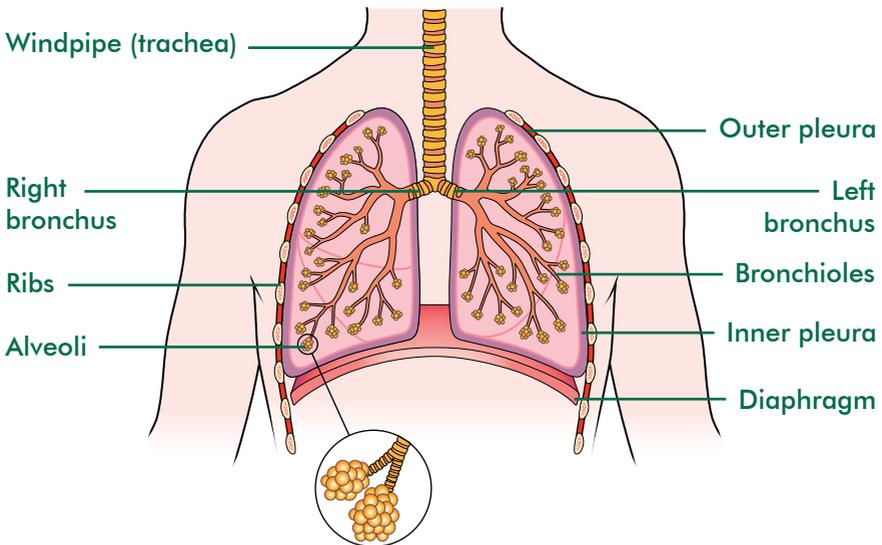
A lump that is cancer (malignant) can grow into nearby tissue. Sometimes, cancer cells spread from where the cancer first started (the primary site) to other parts of the body. They can travel through the blood or lymphatic system (see page 11). When the cells reach another part of the body, they may begin to grow and form another tumour. This is called a secondary cancer or a metastasis.

# The lungs

The lungs are the parts of the body that we use to breathe. We have two lungs (right and left). They supply oxygen to the organs and tissues of the body. The lungs are divided into areas called lobes. The right lung has three lobes and the left lung has two lobes.

The lungs are covered by a lining called the pleura, which has two layers. The inner layer covers the lungs. The outer layer lines the ribcage and a sheet of muscle called the diaphragm. The diaphragm separates the chest from the upper tummy (abdomen).

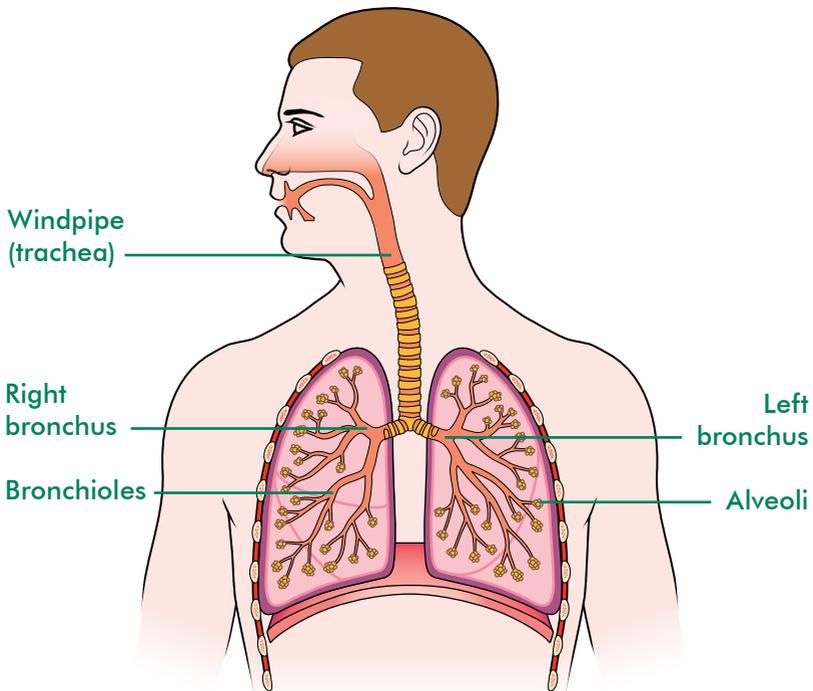
## Structure of the lungs and pleura



The lungs are part of our respiratory (breathing) system. This system includes the:

- nose and mouth
- windpipe (trachea)
- two tubes (bronchi) that go to each lung
- lungs.

## The respiratory system



When we breathe in, air passes from our nose or mouth through the windpipe (trachea). The trachea divides into two tubes (airways) that go to each lung. These tubes are called the right and left bronchus.

Air passes through each bronchus into the lungs through smaller tubes called bronchioles. At the end of the bronchioles, there are tiny air sacs called alveoli. This is where oxygen from the air we have breathed in (inhaled) passes into the blood. Then oxygen is circulated through the blood around the body.

A waste gas called carbon dioxide passes from the blood into the air sacs (alveoli). We get rid of carbon dioxide when we breathe out (exhale).



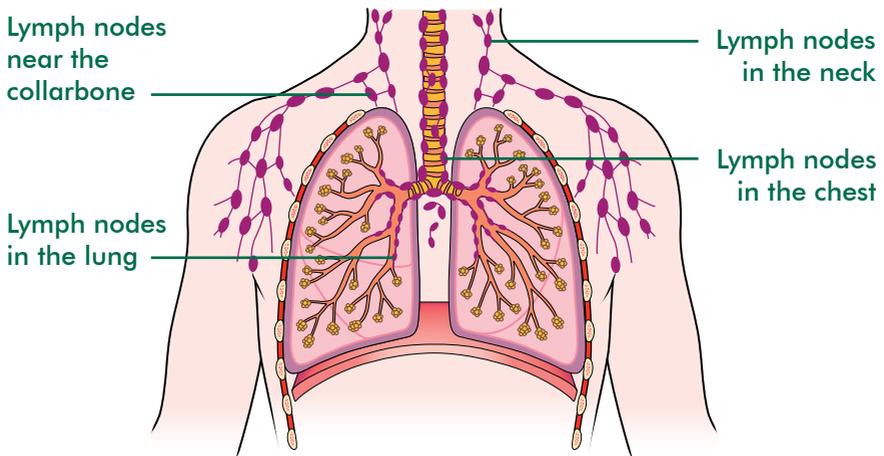
# The lymphatic system

The lymphatic system helps protect us from infection and disease. It also drains lymph fluid from the tissues of the body then returns it to the blood.

The lymphatic system is made up of fine tubes called lymphatic vessels that connect to groups of lymph nodes throughout the body. Lymph nodes (sometimes called lymph glands) are small and bean-shaped. They filter bacteria (germs) and disease from the lymph fluid. When you have an infection, lymph nodes often swell as they fight the infection.

Sometimes, cancer can spread through the lymphatic system. If the cancer cells spread outside the lungs, they are most likely to go to lymph nodes nearby in the chest.

## Lymph nodes close to the lungs



# Risk factors and causes

Lung cancer is the third most common cancer in the UK. About 46,400 people are diagnosed with it each year. The number of men diagnosed with lung cancer is reducing. But the number of women diagnosed with it is increasing.

Most lung cancers are caused by smoking. There are other risk factors that can increase the chances of developing lung cancer.

## Smoking

Smoking tobacco is the cause of most lung cancers and the biggest risk factor. This includes smoking cigarettes, cigars and pipes. The more you smoke, the bigger your risk. Around 9 out of 10 people who get lung cancer (90%) are smokers or ex-smokers. Starting smoking at a young age means the risk is higher.

People who do not smoke can also get lung cancer, but their risk is much lower. About 1 in 10 people who get lung cancer (10%) have never smoked.

When people stop smoking, their risk of lung cancer gets lower over time. After 12 years of stopping smoking, your risk of lung cancer is about 70% lower than people who do smoke. After about 15 years, it is almost the same as a non-smoker.

We can send you our booklet **Giving up smoking**. To order, visit **[be.macmillan.org.uk](http://be.macmillan.org.uk)** or call us on **0808 808 00 00**.

## Passive smoking

Breathing in other people's cigarette smoke (passive or second-hand smoking) can slightly increase the risk of lung cancer. The risk is much lower than if you smoke yourself.

In the UK, smoking is now banned in most enclosed public places and workplaces.

## Age

Lung cancer is more common in older people. More than 4 in 10 people (44%) who are diagnosed are aged 75 and over. Lung cancer can affect younger people, but it is rare under the age of 40.

## Radon gas

In certain parts of the UK, a natural gas called radon can pass from the soil into the foundations of buildings. Exposure to high levels of radon is not common. But it can increase the risk of developing lung cancer, particularly in people who smoke as well.

## Asbestos

Asbestos was previously used in building industries. People who have been in prolonged or close contact with asbestos have a higher risk of getting lung cancer. The risk is also bigger if they smoke.

Exposure to asbestos also increases the risk of mesothelioma. This is a cancer of the pleura (membranes that cover the lungs – see page 8). If you worked with asbestos and have lung cancer or mesothelioma, you may be able to claim compensation. Your lung cancer specialist nurse can give you advice on this.

We can send you more information about mesothelioma. Call us on **0808 808 00 00**.

## Previous cancer treatment

People have a slightly increased risk of lung cancer if they have previously had radiotherapy to the chest to treat:

- lymphoma
- testicular cancer that has spread.

The risk is bigger if they smoke.

The benefits of this treatment far outweigh the risk of developing lung cancer, especially as these cancers can be cured.

## Lowered immunity

Having a lowered immunity because of illness or treatment can increase the risk of lung cancer. People have a lowered immune system if they:

- have HIV or Aids
- take immunosuppressant drugs after an organ transplant.

## Family risk

People with a parent who had lung cancer have an increased risk of developing it. People who have a brother or sister with lung cancer, especially when diagnosed at a younger age, have a higher risk.

Doctors do not know if this could be caused by a lung cancer gene that runs in the family (inherited), or shared risk factors such as smoking.

If you are worried about lung cancer in the family, you may find it helpful to talk to your GP.

## Other causes

Rarely, contact with certain chemicals and substances can cause lung cancer – usually through work.

Recent research has shown that air pollution can cause lung cancer. But it is difficult to know the risk for individual people, as it depends on:

- the air quality where they live
- how much pollution they are exposed to.

For most people, the risk is very small. Smoking is the major risk factor for lung cancer.

Lung cancer is not infectious and cannot be passed on to other people.

# Signs and symptoms of lung cancer

The symptoms of lung cancer may include:

- a cough for three weeks or more
- a change in a cough you have had for a long time
- a chest infection that does not get better, or getting repeated chest infections
- feeling breathless and wheezy for no reason
- coughing up blood
- chest or shoulder pain that does not get better
- a hoarse voice for three weeks or more.

Other possible symptoms are:

- losing weight for no obvious reason
- feeling tired.

If you have any of these symptoms, it is important to get them checked by your GP. Some of these symptoms can be caused by other lung conditions or by smoking.

Lung cancer is occasionally diagnosed by chance when a person is having tests for another condition.

# Types of lung cancer

There are two main types of primary lung cancer. They behave in different ways and respond to treatment differently.

They are:

- **non-small cell lung cancer (NSCLC)** – this is the most common type
- **small cell lung cancer (SCLC)** – this makes up about 1 in 7 lung cancers (about 15%).

## Non-small cell lung cancer

There are three main types:

- **Adenocarcinoma.** This develops from mucus-producing cells that line the airways.
- **Squamous cell carcinoma.** This develops in the cells that line the airways.
- **Non-small cell lung cancer not otherwise specified (NOS).** This is when the pathologist cannot say for certain which type of NSCLC it is. This type is uncommon.

## Small cell lung cancer

Small cell lung cancer (SCLC) gets its name from how the cancer cells look under a microscope.

## Mesothelioma

This is a cancer of the covering of the lungs (the pleura). It is less common. We have separate information about mesothelioma that we can send you. Call us on **0808 808 00 00**.

## Rarer types of lung cancer

Some people may get another type of cancer that starts in the lung. For example, a neuroendocrine tumour (sometimes called carcinoid tumour) is a rare cancer type that sometimes starts in the lungs.

We have more information about neuroendocrine tumours that we can send you.



# DIAGNOSING LUNG CANCER

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## Having a chest x-ray



# How lung cancer is diagnosed

Most people are diagnosed after going to see their GP when they notice symptoms. Your GP will ask you about your symptoms and examine you. If they think your symptoms could be caused by lung cancer, they will arrange a chest x-ray or possibly a CT scan straight away.

It can take a few days to get the results. If your x-ray shows anything abnormal, your GP will refer you to a chest specialist urgently. You should see the specialist within two weeks.

Sometimes GPs may make an urgent referral before getting the result of the chest x-ray.

## At the hospital

The specialist will ask you about your general health and any previous medical problems. Then they will examine you.

They will explain which tests you need. You may see a specialist nurse before or after you have these tests.

Your doctor may arrange for you to have one or more of the following tests to diagnose lung cancer.

### Chest x-ray

If you have not already had one, you will have a chest x-ray to check your lungs for anything that looks abnormal.



Having a CT scan

## CT (computerised tomography) scan

Most people have a CT scan. Even if your chest x-ray does not show signs of lung cancer, you might have a CT scan if you have certain symptoms.

A CT scan takes a series of x-rays, which build up a three-dimensional picture of the inside of the body. The scan takes about 10 minutes and is painless. It uses a small amount of radiation, which is very unlikely to harm you and will not harm anyone you come into contact with.

You may be given a drink or injection of a dye, which allows particular areas to be seen more clearly. This may make you feel hot all over for a few minutes. It is important to let your doctor know if you are allergic to iodine or have asthma, because you could have a more serious reaction to the injection. You will probably be able to go home as soon as the scan is over.

CT scans can also be used to guide a biopsy. This is where a doctor or nurse takes a small amount of tissue from the abnormal area and checks it for cancer cells. You can usually have this as a day patient. There is more information about having a lung needle biopsy on page 27.

## **PET-CT scan**

This is a combination of a CT scan, which takes a series of x-rays to build up a three-dimensional picture and a positron emission tomography (PET) scan. A PET scan uses low-dose radiation to measure the activity of cells in different parts of the body. PET-CT scans give more detailed information about the part of the body being scanned. You may have to travel to a specialist centre to have one. You can't eat for six hours before the scan, although you may be able to drink. A mildly radioactive substance is injected into a vein, usually in your arm. The radiation dose used is very small. The scan is done after at least an hour's wait. It usually takes 30–90 minutes. You should be able to go home after the scan.

## **Biopsy**

You usually have a biopsy to find out if you have lung cancer. This is where a doctor or nurse takes samples of cells or tissue from the abnormal area. They check the samples for cancer cells. There are different ways of doing a biopsy. Your cancer doctor or nurse will talk to you about the type of biopsy you will have.

## **Bronchoscopy and biopsy**

A doctor or nurse uses a thin, flexible tube (bronchoscope) to look inside your airways (bronchus) and lungs. It has a tiny camera and ultrasound probe on the end. This shows a picture of the area on a screen. The doctor or nurse can take samples of cells (biopsies) from your lung or airways using the bronchoscope.

Before the test, you should not eat or drink anything for a few hours. The nurse or doctor gives you a sedative to help you relax. They also spray a local anaesthetic on to the back of your throat to numb it.

After this, the doctor or nurse gently passes the bronchoscope through your nose or mouth and down into your windpipe (trachea). You can see the windpipe in the illustration on page 9.

A bronchoscopy usually takes about 15 minutes. It will take longer if you are having biopsies taken.

After the bronchoscopy, you should not eat or drink for at least an hour. You can go home as soon as the sedation has worn off. You should not drive for 24 hours after having the sedation, so someone will need to collect you from the hospital. You may have a sore throat for a couple of days.

## Lung needle biopsy

You usually have this test during a CT scan. This helps your doctor find the exact area to take the biopsy from.

Your doctor gives you an injection of local anaesthetic into the skin to numb the area. Then they pass a thin needle through your skin into the lung and remove a sample of cells (biopsy). You may feel a pushing sensation when they take the biopsy, but it only takes a few minutes.

After the biopsy, you need to stay in hospital for a few hours to make sure there are no problems. You may also have a chest x-ray.

With this test, there is a small risk of air getting into the space between the pleura. You can see the pleura in the illustration on page 8. If this happens, it can make the lung collapse (pneumothorax). Tell your doctor or nurse if you:

- have any tightness or pain in your chest
- become more breathless.

If you get a pneumothorax, it is usually minor and gets better by itself. If it does not get better, your doctor can treat it with a simple procedure. You would need to stay in hospital for a bit longer to have the procedure.

## Endobronchial ultrasound scan (EBUS)

Some people have an EBUS instead of a bronchoscopy and biopsy to diagnose lung cancer. An EBUS lets the doctor look into the lungs and through the walls of the airways. They use an ultrasound to see the area and take samples of the lymph nodes in the centre of your chest.

Before the test, the doctor gives you a sedative to help you relax and feel drowsy. They also spray a local anaesthetic on to the back of your throat to numb it.

Then they gently pass a thin, flexible tube (bronchoscope) through your mouth into your windpipe (trachea). It has a tiny camera and ultrasound probe on the end. This shows a picture of the area on a screen. The doctor passes a needle through the wall of the airway and takes samples (biopsies) of the lung and lymph nodes.

An EBUS takes less than an hour. You can usually go home on the same day.

## Endoscopic ultrasound (EUS)

This is similar to an EBUS.

The doctor gives you a sedative to help you relax. They also spray a local anaesthetic on to the back of your throat to numb it.

The doctor passes a small, flexible tube (endoscope) through your mouth and into your gullet (oesophagus). The gullet is just behind your windpipe and close to some lymph nodes inside the chest.

The endoscope has an ultrasound probe on the end of it. This shows a picture of the area on a screen. The doctor passes a thin needle along the endoscope to take biopsies from the lymph nodes.

An EUS takes less than an hour. You can usually go home on the same day.

## Biopsy of neck lymph nodes

Sometimes the doctor may take a sample of cells from the lymph nodes in the neck (see page 11). Before your doctor does it, they use an ultrasound scan to examine the lymph nodes. Then they pass a thin needle into a lymph node and take a sample of cells. They will look at the sample under a microscope to check for cancer cells.

You can have this test as an outpatient and go home on the same day.

## Biopsy results

A pathologist is a doctor who advises on the type and extent of cancer. They examine the biopsy samples in the laboratory. The results of the biopsy tell your doctor the type of lung cancer that you have.

## Molecular testing

Your doctors may arrange more detailed tests on:

- the cancer cells they took during the biopsy
- any cancer cells they take later during surgery.

This is sometimes called molecular testing. If you have NSCLC (see page 18), the results of these tests can tell your cancer doctor if certain targeted and immunotherapy drugs are likely to work for you.

A pathologist does the tests in the laboratory. The tests may involve:

- looking for certain changes (mutations) in the genes of the tumour
- looking at levels of specific proteins that are in the cancer cells.

## Further tests

If tests show you have lung cancer, your specialist will arrange further tests. These may be to find out:

- more about the size and position of the cancer
- if it has spread outside the lung.

This is called the stage of the cancer (see pages 34 to 37). Knowing the stage helps you and your doctor decide on the best treatment for you.

## Mediastinoscopy

People sometimes have this instead of an EBUS or EUS (see page 28). It lets the doctor look at the area in the middle of your chest (the mediastinum) and nearby lymph nodes. You have it under a general anaesthetic. You may need to stay overnight in hospital to have it done.

The doctor makes a small cut in the skin at the base of your neck. They pass a long, thin tube through the cut into your chest. The tube has a camera on the end. This shows a picture of the area on a screen. The doctor takes samples of:

- the tissue (biopsies) in the area
- the lymph nodes.

## Thoracoscopy

This lets the doctor look at the pleura and the area around the lungs (see page 8). They usually do it under a general anaesthetic, but some people may have it under a local anaesthetic.

The doctor makes one or two small cuts in your chest. Then they pass a thin tube called a thoracoscope through the cuts into your chest. They take a biopsy of the pleura. They can also remove any fluid that may have collected there. Sometimes doctors use a video camera attached to the tube so they can see the area more clearly. This is called video-assisted thoracoscopy.

## MRI (magnetic resonance imaging) scan

This test uses magnetism to build up a detailed picture of areas of your body. The scanner is a powerful magnet so you may be asked to complete and sign a checklist to make sure it's safe for you. The checklist asks about any metal implants you may have, such as a pacemaker, surgical clips or bone pins, etc. You should also tell your doctor if you've ever worked with metal or in the metal industry as very tiny fragments of metal can sometimes lodge in the body. If you do have any metal in your body, it's likely that you won't be able to have an MRI scan. In this situation, another type of scan can be used. Before the scan, you'll be asked to remove any metal belongings including jewellery.

Some people are given an injection of dye into a vein in the arm, which doesn't usually cause discomfort. This is called a contrast medium and can help the images from the scan to show up more clearly. During the test, you'll lie very still on a couch inside a long cylinder (tube) for about 30 minutes. It's painless but can be slightly uncomfortable, and some people feel a bit claustrophobic. It's also noisy, but you'll be given earplugs or headphones. You can hear, and speak to, the person operating the scanner. There is a photo of an MRI scan on the next page.



Having an MRI scan

## Ultrasound scan

Ultrasound scans use sound-waves to look at parts of the body, such as the liver, to see if the cancer has spread.

Once you are lying comfortably on your back, a specialist spreads a gel on to the area they will scan. Then they pass a small device that produces sound-waves over the area. The sound-waves are converted into a picture by a computer. The test only takes a few minutes.

## Breathing and heart tests

If your treatment plan involves having surgery or sometimes radiotherapy, your doctor will arrange:

- breathing tests (lung-function tests)
- exercise tests.

You have these to see how well your lungs are working. You may also have tests to check how well your heart is working.

The results of these tests can, for example, tell the surgeon if surgery is a good option for you.

## Waiting for test results

Waiting for test results can be a difficult time. It may take from a few days to a couple of weeks for the results of your tests to be ready. You may find it helpful to talk with your partner, your family or a close friend. Your specialist nurse or one of the organisations listed on pages 137 to 143 can also provide support. You can also talk things over with one of our cancer support specialists on **0808 808 00 00**.

# Staging of lung cancer

The stage of a cancer describes its size and position, and if it has spread from where it started. Knowing the stage helps your doctors advise you on the best treatment for you.

Doctors use the same staging system for non-small cell lung cancer and small cell lung cancer. Your doctor may tell you the stage of the cancer using a number staging system, from 1 to 4.

The staging looks at:

- the size of the tumour
- whether it has spread into nearby parts of the lung, or outside the lung
- whether it is in lymph nodes nearby, in the chest, or further away (see page 11)
- whether it has spread further outside the lung or to other parts of the body.

The staging also looks at other things, such as whether the lung has partly or fully collapsed.

Most of the number stages are also sub-divided. We have not included these here, to try to keep it simple. Your doctor or nurse can explain more about your stage of lung cancer.

## Stage 1

This is when the cancer is no bigger than 4cm. It has not spread outside the lung or to any lymph nodes.

This is called early or localised lung cancer.

## Stage 2

The cancer can be different sizes. It may have spread to nearby lymph nodes, other parts of the lung, or areas just outside the lung.

Stage 2 lung cancer is usually called locally advanced lung cancer.

## Stage 3

The cancer can be any size and has usually spread to lymph nodes. It may also be growing into other parts of the lung, or the airway, or to surrounding areas outside the lung. It may also have spread to tissues and structures further from the lung. But it has not spread to other parts of the body.

Stage 3 lung cancer is usually called locally advanced lung cancer.



## Stage 4

The cancer can be any size. It may have spread to lymph nodes and one of the following:

- The cancer has spread to the lung on the other side.
- There are cancer cells in fluid in the pleura or around the heart.
- The cancer has spread to another part of the body, such as the liver, bones or brain.

Stage 4 lung cancer is called metastatic or secondary lung cancer.

## Small cell lung cancer

Doctors may divide small cell lung cancers into two stages:

- Limited stage – the cancer cells can be seen in one lung and in nearby lymph nodes.
- Extensive stage – the cancer has spread outside the lung, to the chest area or to other parts of the body.

Small cell lung cancer (SCLC) can spread outside the lung quite early on. Because of this, doctors usually treat SCLC as if it has spread, even if scans don't show this. Some cancer cells are likely to have spread through the blood or lymphatic system. But this can be too small to show up on scans.



# TREATING LUNG CANCER

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# Treatment overview

Treatment for lung cancer can include surgery, chemotherapy, radiotherapy, immunotherapy and other targeted therapy drugs. You may have a combination of treatments. Some people have a number of different treatments in a row, to keep the cancer under control.

The treatment you have will depend on:

- the stage of the cancer (see pages 34 to 37)
- the type of lung cancer you have (see pages 18 to 19) – small cell lung cancer and non-small cell lung cancer are treated in different ways
- your general health.

Your doctor and specialist nurse will involve you in treatment decisions, so you can talk about your preferences. They can also help you if you need to make decisions about treatment.

## Surgery

If you have NSCLC (see page 18), it may be possible to remove the cancer with surgery. The type of operation will depend on the size and position of the cancer. For some people, surgery may not be suitable. This might be because of other health problems that would make it unsafe or difficult to cope with a major operation.

Surgery is rarely used to treat SCLC (see page 18), unless the cancer is small and has not spread outside the lung. Other treatments are usually more suitable for SCLC, such as chemotherapy or radiotherapy.

## Chemotherapy

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. It is used to treat both types of lung cancer:

- For SCLC, chemotherapy is usually the main treatment.
- For NSCLC, people usually have chemotherapy before or after surgery.

For both types of lung cancer, people sometimes have chemotherapy with radiotherapy. This is called chemoradiation.

Chemotherapy can also be used to control symptoms when lung cancer has spread to other parts of the body.

## Radiotherapy

Radiotherapy treats cancer by using high-energy x-rays. It can be used to treat both types of lung cancer. It may be given:

- on its own instead of surgery, to try to cure early-stage NSCLC
- with or after chemotherapy (chemoradiation), for both NSCLC and SCLC
- to the head, to stop any lung cancer cells that have spread from growing into a secondary cancer in the brain (for people with SCLC)
- to control symptoms, if the cancer is more advanced or has spread to other parts of the body (palliative radiotherapy).

## Targeted therapy or immunotherapy drugs

Targeted therapy or immunotherapy drugs are usually used to treat advanced NSCLC.

Targeted therapy drugs interfere with the way cancer cells signal or interact with each other. This stops them growing and dividing. Immunotherapy drugs help stimulate your immune system to recognise and destroy cancer cells.

Your doctor does tests on the cancer cells to find out if some of these drugs are suitable options for you.

## Other treatments

Tumour ablation treatments destroy cancer cells using:

- heat (radiofrequency ablation)
- laser light (photodynamic therapy).

Doctors sometimes use it to treat very early-stage lung cancers. They also use it if the cancer is blocking an airway. This is to relieve breathlessness.

Newer treatments are being developed. Your cancer doctor may talk to you about taking part in research, such as a clinical trial.

If the cancer has spread to other parts of the body, you can have treatments and drugs to help relieve your symptoms. This is sometimes called supportive care (palliative care). You can see a specialist doctor or nurse for expert help with your symptoms.

## How treatment is planned

In most hospitals, a team of specialists will plan the treatment they think is best for your situation. This multi-disciplinary team (MDT) will include:

- a surgeon (who specialises in lung cancer)
- an oncologist (a cancer doctor who specialises in radiotherapy, chemotherapy and targeted therapies)
- a doctor who is an expert in chest and breathing conditions
- a specialist nurse
- radiologists (who analyse x-rays and scans)
- pathologists (who advise on the type and extent of the cancer).

The team may also include other healthcare professionals, such as:

- a palliative care doctor or nurse (who specialises in symptom control)
- a dietitian
- a physiotherapist
- an occupational therapist (OT)
- a psychologist or counsellor.

After the MDT meeting, your doctor and specialist nurse will talk to you about the best treatment plan for your situation. They will explain the benefits and disadvantages of different treatments.

Treatment can also depend on how much your health affects you being able to do day-to-day things. Your doctor or nurse may ask:

- how active you are
- if you need help to look after yourself.

These things can affect how well some treatments might work for you.

Doctors want to make sure you get the most effective treatment. But they also have to make sure it is right for you and the risks do not outweigh the possible benefits.

## Advice on smoking

If you smoke, your doctor will usually advise you to stop smoking. Giving up smoking can:

- make your treatment more effective
- reduce side effects
- improve your long-term health.

Your hospital or GP can offer different treatments to help you stop. But if you do not stop smoking, this should not affect the treatment plan your doctors offer you.

We can send you our booklet **Giving up smoking**. To order, visit **[be.macmillan.org.uk](http://be.macmillan.org.uk)** or call us on **0808 808 00 00**.

## Giving your consent

Before you have any treatment, your doctor will explain its aims. They will usually ask you to sign a form saying that you give permission (consent) for the hospital staff to give you the treatment. No medical treatment can be given without your consent, and before you are asked to sign the form you should be given full information about:

- the type and extent of the treatment
- its advantages and disadvantages
- any significant risks or side effects
- any other treatments that may be available.

If you don't understand what you've been told, let the staff know straight away, so they can explain again. Some cancer treatments are complex, so it's not unusual to need repeated explanations. It's a good idea to have a relative or friend with you when the treatment is explained, to help you remember the discussion. You may also find it useful to write a list of questions before your appointment.

People sometimes feel that hospital staff are too busy to answer their questions, but it's important for you to know how the treatment is likely to affect you. The staff should be willing to make time for your questions.

You can always ask for more time if you feel that you can't make a decision when your treatment is first explained to you.

You are also free to choose not to have the treatment. The staff can explain what may happen if you don't have it. It's essential to tell a doctor or the nurse in charge, so they can record your decision in your medical notes. You don't have to give a reason for not wanting treatment, but it can help to let the staff know your concerns so they can give you the best advice.

## The benefits and disadvantages of treatment

Many people worry about the idea of having cancer treatments because of the side effects that can happen. But these can usually be controlled with medicines. Treatment can be given for different reasons. The possible benefits will depend on your individual situation.

In people with early-stage lung cancer, surgery or radiotherapy may be done with the aim of curing the cancer. If the cancer has spread outside the lung, treatments can help shrink the cancer. This can improve your symptoms and help you live longer.

If the cancer has spread to other parts of the body, treatment may help control it and improve symptoms and quality of life. But for some people, the treatment may have no effect on the cancer but they have the side effects to deal with.

When the aim of treatment is to try to cure the cancer, deciding whether to accept it may be easy. But if a cure is not possible and the aim is to control the cancer for a time, it may be harder to decide. Making treatment decisions in this situation can be difficult. You may want to talk it over with your cancer doctor, nurse and people close to you. If you decide not to have treatment, you will be given medicines to control any symptoms. This is sometimes called supportive or palliative care.

We can send you our booklet **Making treatment decisions**. Visit [be.macmillan.org.uk](http://be.macmillan.org.uk) or call us on **0808 808 00 00** to order a free copy.

## Second opinion

Your multidisciplinary team (MDT) uses national treatment guidelines to decide on the most suitable treatment for you.

You may still want another medical opinion. If you feel it will be helpful, you can ask your specialist or GP to refer you to another specialist for a second opinion. Getting a second opinion may delay the start of your treatment, so you and your doctor need to be confident that it will give you useful information.

If you do get a second opinion, it may be a good idea to take a relative or friend with you. Take a list of questions, so you can make sure your concerns are covered during the discussion.



# Surgery

Your doctor will explain if surgery is a possible treatment for you. It depends on:

- the type of lung cancer you have
- its stage (see pages 34 to 37)
- your general health.

A lung operation is major surgery, so you need to be well enough to cope with it. Before surgery, your doctor will arrange for you to have tests to check how well your lungs and heart are working.

Your operation will be done by a surgeon who is an expert in lung surgery. Surgery for lung cancer involves removing the cancer and the lymph nodes in the chest. Your doctor may advise surgery if you are well enough and have:

- **non-small cell lung cancer (NSCLC)** that is stage 1 or 2, or occasionally stage 3
- **small cell lung cancer (SCLC)** that is very small and has not spread outside the lung.

After surgery, a doctor looks at the lung tissue they removed in the laboratory. This helps them confirm the type and the stage of the cancer.

You may have other treatments before or after surgery. If you had surgery to remove all of the cancer, you may have chemotherapy after it. This is to reduce the risk of the cancer coming back.

If surgery does not remove all of the cancer, your doctor may advise you to have radiotherapy or chemotherapy.

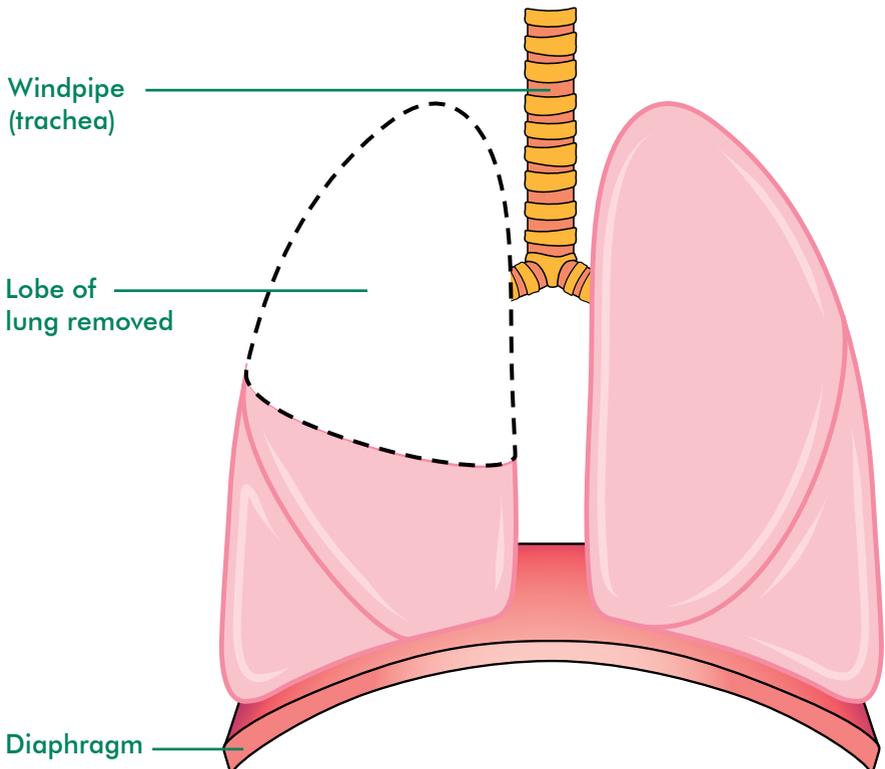
## Types of operation

The type of operation you have depends on the size and position of the cancer. Over the next few pages, we describe the main operations to remove lung cancer.

### Removing one of the lobes of the lung

If you have early-stage lung cancer, you usually have surgery to remove one of the lobes of your lung. This is called a lobectomy. The surgeon removes the whole lobe that contains the tumour. This is about a third to a half of one lung (33 to 50%).

### Removing a lobe of the lung (lobectomy)

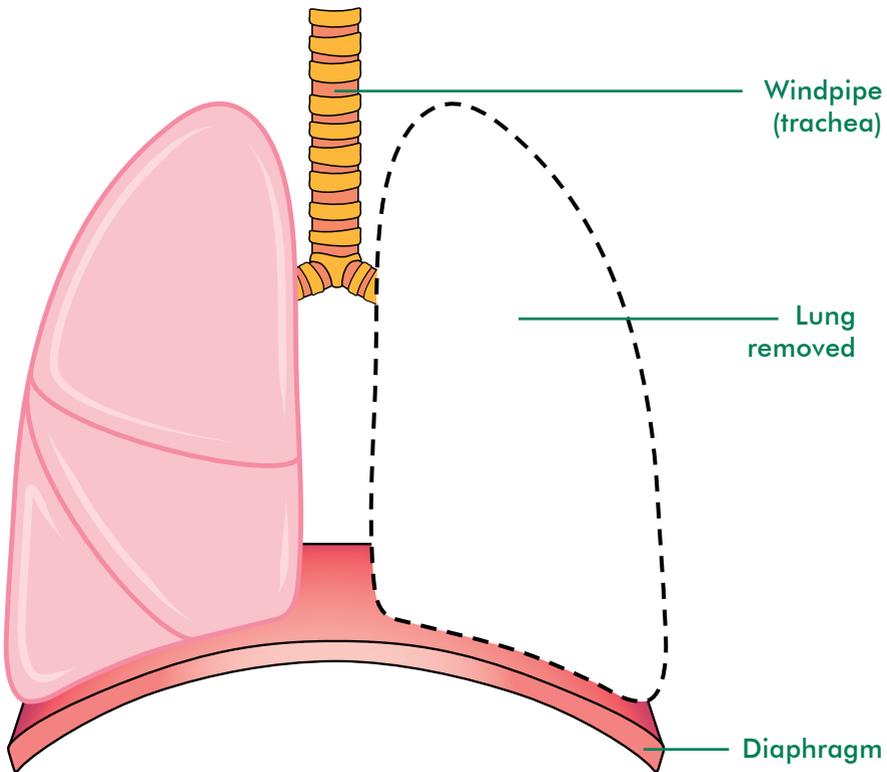


## Removing a whole lung

You may have surgery to remove all of one lung. This is called a pneumonectomy. This may be the most suitable operation for you if the cancer is close to the middle of the chest.

You can still breathe normally with only one lung. But if you had breathing problems before the operation, you may still be breathless afterwards.

## Removing one of the lungs (pneumonectomy)



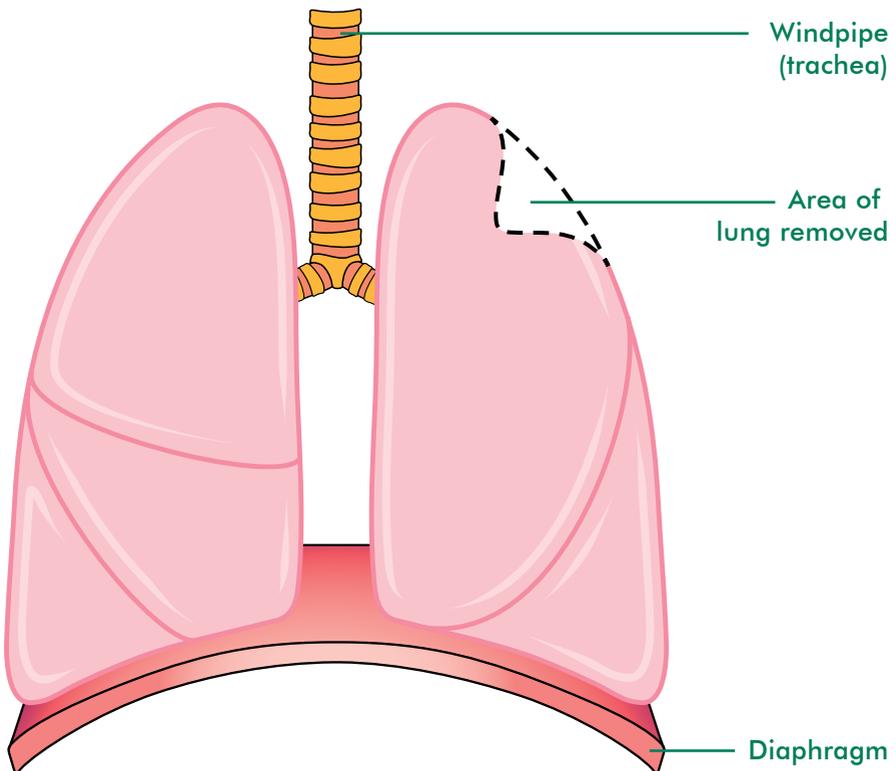
## Removing a section of a lung

You may be able to have surgery to remove a small section of the lung if:

- you have a very early-stage lung cancer
- your lung is not working well enough to safely have a lobectomy.

Removing a very small part of the lung is called a wedge resection. Removing a slightly larger part of the lung is called a segmentectomy.

## Removing a small part of the lung (wedge resection)



## Removing lymph nodes

During your operation to remove the cancer, your surgeon also removes lymph nodes close to the cancer (see page 11). A doctor examines them under a microscope to check for cancer cells.

Knowing if the cancer has spread to the lymph nodes helps your doctors decide if you need further treatment.

Your doctor or specialist nurse will help you understand what your operation involves. Make sure you ask any questions or let them know about any concerns you have.

## Open lung surgery

To remove all or part of a lung, the surgeon usually makes an opening (cut) around the side of the chest, in the area between the ribs. This is called a thoracotomy. Afterwards, you usually have a 10 to 20cm-long scar.

## Keyhole lung surgery

Sometimes a surgeon uses keyhole surgery to remove early-stage cancers. This means they do not make one big cut. Instead, they make lots of small (2cm) cuts in the skin between the ribs.

They pass a thin tube (thoracoscope) through a cut. It has a tiny camera on the end. This shows a picture of the area on a screen. The surgeon removes the cancer using small instruments they pass through the cuts. This is called video-assisted thoracoscopic surgery (VATS). It is not suitable for everyone and it can only be done by surgeons who have had specialist training.

After keyhole surgery, the scars are much smaller than after open surgery. You usually have less pain and recover more quickly. This also means you usually stay in hospital for less time.

## Before your operation

Before your operation, you may have an appointment at a pre-operative assessment clinic. You have tests to check how well your lungs are working and tests to check your general health. These may include:

- blood and urine tests
- a chest x-ray
- a recording of your heart (ECG).

Some people have more heart tests. They may also have further scans to check the cancer has not spread.

At this appointment, you can ask questions and talk about any concerns you have about the operation. The nurse may show you some simple breathing exercises to help with your recovery after surgery.

When you have the surgery, you go into hospital on the day of your operation or the day before. The nurses give you elastic stockings (TED stockings) to wear during and after surgery, to help prevent blood clots.

## Stopping smoking

If you smoke, your doctor and nurse will advise you to stop smoking a few weeks before your operation. This will help reduce the risk of you getting breathing problems and other complications after surgery. It may help you recover more quickly and spend less time in hospital.

Your doctor or nurse can give you information and support to help you to stop. We have more information about stopping smoking.

## After your operation

You may be looked after in an intensive-care or high-dependency unit for a few days after your operation.

The nurses and your physiotherapist will encourage you to start moving around as soon as possible. This is very important to help with your recovery. They will encourage you to go for short walks as soon as you can.

Even if you have to stay in bed, it is important to move your legs regularly. This helps your circulation and prevents blood clots.

The nurses will give you elastic stockings (TED stockings) to wear. Keep wearing them until the nurses say you can stop.

## Your breathing

The nurses may give you oxygen through:

- a mask over your mouth and nose
- small, soft tubes in each nostril.

Your physiotherapist or nurse will show you simple breathing exercises to do. These help prevent chest infections and other complications.

You will have regular x-rays after your operation to make sure your lung is working properly.

*'Although a big operation, it wasn't as bad as I anticipated, because the pain control and after-care were so excellent.'*

**Ken**

## Pain

After lung surgery, it is normal to have some pain or discomfort. There are different ways it can be managed. Your nurse will assess you to make sure your pain is well controlled. This is important so you can do your breathing exercises. These exercises help reduce your risk of a chest infection.

Tell your nurse or doctor if you are in pain, so they can treat it as soon as possible.

For the first few days after surgery, you may have painkillers in one of the following ways:

- **Into a vein in your hand or arm.** This could be through a drip (infusion), or a syringe connected to a small pump. These give you a constant dose of painkillers. You may be able to give yourself more painkillers when you need them, by pressing a button.
- **Into the space around your spinal cord (an epidural).** This is through a thin tube that the surgeon puts into your back during the operation.
- **Into the chest area (a paravertebral block).** This is through a thin tube that the surgeon puts into your chest during the operation.

Your doctor will give you painkiller tablets to take when you go home. You may have mild discomfort or pain in your chest. This can last for up to several weeks or months after surgery.

Some people get new pain weeks or months after their operation. This is usually caused by nerves starting to repair after surgery. Tell your doctor or nurse about any new pain. They can check it and make sure you have the right painkillers.

## Drips and drains

After your operation, you will probably have the following tubes:

- **A drip (infusion) into a vein in your hand or arm.** The nurse gives you fluids through it. They remove it when you are eating and drinking normally again.
- **Chest drain.** You may have one or more tubes into your chest. The tubes drain fluid and air into a big bottle. Your nurse checks it regularly. They will show you how to take care of it when you are walking about. They usually take it out after a few days.
- **A small tube (catheter).** This goes into your bladder. It drains urine into a collection bag. The nurses usually remove the catheter when you start walking about.

## Your wound

You usually have your stitches, clips or staples removed about 7 to 10 days after your operation. Or if you have dissolvable stitches, they disappear over a few weeks.

Your nurses and surgeon check your wound regularly while you are in hospital. Tell them if:

- you have any redness, pain or swelling
- it feels hot
- there is any fluid leaking.

These are possible signs of a wound infection.

## Going home

You will usually be ready to go home 3 to 7 days after your operation.

You will have an appointment to come back to the outpatient clinic a few weeks later. At the appointment, the doctor checks your wound is healing and you are recovering well. They talk to you about the results of your operation and any more treatment you might need. You can also ask any questions you have.



## Recovering

It may take many weeks or months to recover from a lung operation. Some people recover more quickly than others. You need to pace yourself and try not to do too much, too soon. You need to avoid:

- heavy lifting
- straining your arm on the affected side.

You can slowly build up your strength and fitness with light exercise, such as short walks. It is important to keep doing any exercises the physiotherapist has given you. To help your recovery, try to:

- eat healthily
- get enough rest
- do light exercise.

We can send you more information about healthy eating and physical activity. Call us on **0808 808 00 00** or visit **[be.macmillan.org.uk](http://be.macmillan.org.uk)**

Keep taking your painkillers as your pharmacist explained. Contact your nurse if:

- the pain is not controlled
- you have any problems with your wound.

You can have sex again when you feel comfortable to.

## Driving

Your doctor will tell you when it is safe to drive after your operation. It can take about 4 to 6 weeks for you to be fit enough. At first, you may find the seatbelt presses on your wound and makes it sore. You can buy padding for seatbelts that may help reduce this.

Some car insurance policies give specific time limits for not driving after chest surgery. Check with your insurance company.



# Chemotherapy

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. They interfere with the way cancer cells grow and divide. The drugs also affect normal cells. This causes side effects.

The type of chemotherapy you have depends on:

- the type of lung cancer you have (see pages 18 to 19)
- its stage (see pages 34 to 37)
- how side effects are likely to affect you.

Your cancer doctor and specialist nurse will talk to you about the aims of your treatment.

We can send you our booklet **Understanding chemotherapy**. Visit [be.macmillan.org.uk](http://be.macmillan.org.uk) or call us on **0808 808 00 00**.

## Chemoradiation

This is when you have both radiotherapy and chemotherapy. Chemoradiation is often used when:

- the cancer is locally advanced (see pages 34 to 37)
- surgery is not possible because of health reasons.

Some people have both treatments at the same time. This is called concurrent chemoradiation. It can make treatment more effective. But you may have more side effects, so you need to be well enough to cope with these. Your doctor or nurse will explain how they can manage or treat side effects.

Other people have a course of chemotherapy, then a course of radiotherapy. This is called sequential chemoradiation.

## Small cell lung cancer (SCLC)

Chemotherapy is the main treatment for small cell lung cancer.

Depending on your situation, you may have chemotherapy:

- at the same time as radiotherapy (concurrent chemoradiation)
- before a course of radiotherapy (sequential chemoradiation)
- after lung surgery – to get rid of any remaining cancer cells (but surgery is rarely an option for SCLC)
- on its own – to control advanced cancer, help you live longer and improve symptoms.

### Limited-stage SCLC

If you are well enough, chemoradiation is the most effective treatment. If you cannot cope with the side effects of concurrent chemoradiation, you can have sequential chemoradiation.

Afterwards, you usually have radiotherapy to the brain called preventative cranial radiotherapy (PCR) – see page 77.

The chemotherapy drugs used for SCLC are usually etoposide with either cisplatin or carboplatin.

### Extensive-stage SCLC

At first, you usually have chemotherapy on its own.

If it works well for you, you usually have radiotherapy to the chest afterwards (sequential chemoradiation). Your doctor may also talk to you about having radiotherapy to the brain (PCR).

## Non-small cell lung cancer (NSCLC)

Chemotherapy to treat non-small cell lung cancer may be given:

- after surgery or radiotherapy – to get rid of any remaining cancer cells and reduce the risk of the cancer coming back (adjuvant chemotherapy)
- before surgery or radiotherapy – to shrink the cancer (neo-adjuvant chemotherapy)
- at the same time as radiotherapy (concurrent chemoradiation)
- on its own – to control advanced cancer, help you live longer and improve symptoms.

Some people also have chemotherapy as maintenance treatment. This is when chemotherapy is keeping the cancer stable or has shrunk it. Instead of stopping chemotherapy after your course has finished, you have a chemotherapy drug called pemetrexed every three weeks. You have it on its own.

You keep having it for as long as:

- it is working
- the side effects are not causing problems.

The aim of maintenance treatment is to keep the cancer under control for as long as possible.

## The chemotherapy drugs used

Most people have a combination of at least two drugs. Some people can have treatment with one drug. For both types of lung cancer, you usually have either cisplatin or carboplatin, with one of the following drugs:

- etoposide
- vinorelbine
- gemcitabine
- paclitaxel
- docetaxel
- pemetrexed.

Other chemotherapy drugs may also be used. Your doctor or nurse will give you more information. We have more information about individual chemotherapy drugs and some combined drugs.

### If you need more treatment

If the cancer comes back, you can usually have more chemotherapy with different drugs.

For small cell lung cancer, your doctor may recommend a combination of the chemotherapy drugs cyclophosphamide, adriamycin and vincristine (CAV). Or you may have a drug called topotecan that you can take as a tablet.

For non-small cell lung cancer, your doctor may recommend having docetaxel. Some people have chemotherapy with a targeted therapy drug.

If the cancer comes back some time after you were first treated, your doctor may advise having the same chemotherapy drugs again.

## Having chemotherapy



## How you have chemotherapy

You have the treatment in the chemotherapy day unit and go home after it. Occasionally some people need to stay in hospital for a couple of days.

You have most drugs given into a vein (intravenously). Some of the drugs are given as tablets, such as topotecan.

If you are having chemotherapy into a vein, a nurse will put a small tube (cannula) into a vein in your hand or arm. Or they may put a soft, plastic tube called a central line or PICC line into a vein. We can send you more information about central lines and PICC lines.

You have chemotherapy into the vein as one or more sessions of treatment. A nurse gives you the chemotherapy drugs through a drip (infusion) or through a syringe.

Each session takes a few hours. After the session, you have a rest period of a few weeks. The chemotherapy session and the rest period together are called a cycle of treatment. Most cycles are three weeks. Your doctor or nurse will explain more about this. You usually have 4 to 6 cycles.

## Possible side effects

We explain the most common side effects of this treatment over the next few pages. We also include some less common side effects.

You may get some of the side effects we mention, but you are unlikely to get all of them. If you are also having treatment with other cancer drugs, you may have some side effects that we haven't listed here. Always tell your doctor, nurse or pharmacist about any side effects you have.

Your doctor can give you drugs to help control some side effects. It is important to take them exactly as your nurse or pharmacist explains. This means they will be more likely to work for you. Your nurse will give you advice about managing your side effects. After your treatment is over, most side effects start to improve.

We can send you more information about all these side effects. Call us on **0808 808 00 00** to order the information you need.

## Risk of infection

Chemotherapy can reduce the number of white blood cells in your blood. These cells fight infection. If the number of white blood cells is low, you are more likely to get an infection. A low white blood cell count is called neutropenia.

If you have an infection, it is important to treat it as soon as possible. Contact the hospital straight away on the 24-hour contact number you have if:

- your temperature goes over 37.5°C (99.5°F) or over 38°C (100.4°F), depending on the advice given by your chemotherapy team
- you suddenly feel unwell, even with a normal temperature
- you have symptoms of an infection, such as:
  - feeling shivery
  - a sore throat
  - a cough
  - diarrhoea
  - needing to pass urine often.

The number of white blood cells will usually return to normal before your next treatment. You will have a blood test before having more chemotherapy. If your white blood cell count is low, your doctor may delay your treatment for a short time.

## **Bruising and bleeding**

Chemotherapy can reduce the number of platelets in your blood. Platelets are cells that help the blood to clot. Tell your doctor if you have any bruising or bleeding that you can't explain. This includes:

- nosebleeds
- bleeding gums
- tiny red or purple spots on the skin that may look like a rash.

Some people may need a drip to give them extra platelets. This is called a platelet transfusion.

## **Anaemia (low number of red blood cells)**

Chemotherapy can reduce the number of red blood cells in your blood. These cells carry oxygen around the body. If the number of red blood cells is low, you may be tired and breathless. Tell your doctor or nurse if you feel like this. If you are very anaemic, you may need a drip to give you extra red blood cells. This is called a blood transfusion.

## **Feeling tired**

Feeling tired is a common side effect. It is often worse towards the end of treatment and for some weeks after it has finished. Try to pace yourself and plan your day so you have time to rest. Gentle exercise, like short walks, can give you more energy. If you feel sleepy, do not drive or operate machinery.

## Feeling sick

You may feel sick in the first few days after chemotherapy. Your doctor will give you anti-sickness drugs to help prevent or control sickness. Take the drugs exactly as your nurse or pharmacist tells you. It is easier to prevent sickness than to treat it after it has started.

If you feel sick, take small sips of fluids and eat small amounts often. If you continue to feel sick, or if you vomit more than once in 24 hours, contact the hospital as soon as possible. They will give you advice and may change the anti-sickness drug to one that works better for you.

*'When I came home from my first chemotherapy, I felt quite sick. But once I started getting the right anti-sickness medication, it cleared away.'*

**Pam**

## Sore mouth

You may get a sore mouth or mouth ulcers. This can make you more likely to get a mouth infection. Use a soft toothbrush to clean your teeth or dentures in the morning, at night and after meals.

If your mouth is sore:

- try to drink plenty of fluids
- tell your nurse or doctor – they can give you a mouthwash or medicines to help.

## Constipation

This treatment can cause constipation. Here are some tips that may help:

- Drink at least two litres (three and a half pints) of fluids each day.
- Eat high-fibre foods, such as fruit, vegetables and wholemeal bread.
- Do regular gentle exercise, like going for short walks.

If you have constipation, contact the hospital for advice. Your doctor can give you drugs called laxatives to help.

## Hair loss

Your doctor or nurse will tell you if the drugs you are going to have cause hair loss.

If they cause hair loss, you may lose all the hair from your head. Your eye lashes, eyebrows and other body hair may also thin or fall out.

Hair loss usually starts after your first or second treatment. It is almost always temporary and your hair will usually grow back after treatment ends. Your nurse can talk to you about ways to cope with hair loss.

## Numb or tingling hands or feet (peripheral neuropathy)

This treatment affects the nerves, which can cause numb, tingling or painful hands or feet. You may find it hard to fasten buttons or do other fiddly tasks.

Tell your doctor if you have these symptoms. They sometimes need to lower the dose of the drug. The symptoms usually improve slowly after treatment finishes, but for some people they may never go away. Talk to your doctor if you are worried about this.

## Changes in hearing

Cisplatin can affect your hearing. You may have a hearing test before you start treatment. During treatment, you may get ringing in your ears (tinnitus) and not be able to hear some high-pitched sounds. Tinnitus usually gets better after your course of chemotherapy ends. Some hearing changes can be permanent. Tell your doctor if you notice any changes in your hearing.

## Contraception

Your doctor will advise you not to get pregnant or father a child while having this treatment. The drugs may harm the developing baby. It is important to use effective contraception during your treatment.

## Sex

If you have sex in the first few days after chemotherapy, you need to use a condom. This is to protect your partner in case there is any chemotherapy in semen or vaginal fluid.

## Fertility

Some chemotherapy drugs can affect whether you can get pregnant or father a child. If you are worried about this, it is important to talk with your doctor before you start chemotherapy treatment.

# Radiotherapy

Radiotherapy uses high-energy x-rays to destroy cancer cells, while doing as little harm as possible to normal cells. It can be used in different situations, depending on the type of lung cancer you have.

## Radiotherapy for NSCLC

Radiotherapy for non-small cell lung cancer may be given:

- on its own instead of surgery, to try to cure early-stage NSCLC
- after surgery, to reduce the risk of cancer coming back (adjuvant radiotherapy)
- at the same time as chemotherapy, if the cancer is locally advanced (concurrent chemoradiation)
- before or after chemotherapy, if the cancer is locally advanced (sequential chemoradiation)
- to control symptoms, if lung cancer has spread to other parts of the body (palliative radiotherapy).

## Radiotherapy for SCLC

Radiotherapy for small cell lung cancer may be given:

- before or after chemotherapy, if the cancer is locally advanced (sequential chemoradiation)
- at the same time as chemotherapy, if the cancer is locally advanced (concurrent chemoradiation)
- after chemotherapy, if the cancer has responded well to treatment
- to the head, to stop any lung cancer cells that have spread growing into a secondary cancer in the brain
- to control symptoms, if the cancer is more advanced or has spread to other parts of the body (palliative radiotherapy).

## Having radiotherapy

You have the treatment in the hospital radiotherapy department. Usually radiotherapy is directly aimed at the lung from a radiotherapy machine. This is called external-beam radiotherapy.

You usually have a course of radiotherapy for 4 to 7 weeks. Each treatment lasts for a few minutes. You usually have treatment every day from Monday to Friday, with a rest at weekends. Your doctor or nurse will tell you how many treatments you will have.

Some people might have radiotherapy over different times or in different ways. People with SCLC sometimes have radiotherapy twice a day over three weeks. People with NSCLC may have radiotherapy three times a day over a shorter number of weeks. This is called CHART radiotherapy (see page 76). If you have radiotherapy to control symptoms, you have it over a shorter course of treatment.



Having radiotherapy

Rarely, if the cancer is blocking an airway, some people have radiotherapy given from inside the body. This is called internal radiotherapy or brachytherapy (see page 79).

## Planning your radiotherapy

Radiotherapy has to be carefully planned to make sure it's as effective as possible. It's planned by a cancer specialist (clinical oncologist) and it may take a few visits.

On your first visit to the radiotherapy department, you'll be asked to have a CT scan or lie under a machine called a simulator, which takes x-rays of the area to be treated.

You may need some small marks made on your skin to help the radiographer (who gives you your treatment) position you accurately and to show where the rays will be directed. These marks must stay visible throughout your treatment, and permanent marks (like tiny tattoos) are usually used. These are extremely small, and will only be done with your permission. It may be a little uncomfortable while they are done.

## Treatment sessions

At the beginning of each session of radiotherapy, the radiographer positions you carefully on the couch and makes sure you are comfortable. Radiotherapy is not painful, but you have to lie still for a few minutes during the treatment. You are alone in the room during treatment. But you can talk to the radiographer, who is watching from the next room.

## Types of radiotherapy for lung cancer

Depending on your situation, you might have radiotherapy in different ways or over different times.

### **CHART for NSCLC**

Continuous hyper-fractionated accelerated radiotherapy (CHART) is a way of giving radiotherapy.

Instead of one session of radiotherapy a day, you have three sessions. You have them every day, including weekends, for 12 days. Each treatment must be at least six hours apart. You usually have to stay in the hospital or somewhere nearby during treatment.

CHART may work better than standard radiotherapy for some people with NSCLC. It may be a possible treatment if you have:

- stage 1 or 2 NSCLC and surgery is not possible
- stage 3 NSCLC and you are not well enough to have chemoradiation.

Your doctor can tell you if CHART is suitable for you. It is not available at every hospital, so you may have to travel further to have it.

### **Stereotactic radiotherapy for NSCLC**

Stereotactic ablative radiotherapy (SABR) is a specialised type of radiotherapy. Doctors use scans and specialist machinery to make the radiotherapy beams more precise. This means they can reach small cancers with a high dose of radiotherapy, and only give a low dose to healthy tissue around the tumour. This helps reduce side effects.

People with NSCLC that is small may have SABR instead of surgery. It is only suitable for some people. It is not available at every hospital, so you may have to travel further to have it.

People usually have SABR over less time than standard external radiotherapy. For example, they might have three, five or eight treatments over two weeks.

We have more information about stereotactic radiotherapy.

## **Preventative radiotherapy to the brain for SCLC**

If chemotherapy has worked well for SCLC, doctors sometimes recommend having radiotherapy to the brain. This is called prophylactic cranial radiotherapy (PCR).

With SCLC, there is a risk that tiny numbers of cancer cells may have spread to the brain. Over time, they would grow into secondary cancers in the brain. Your specialist may recommend PCR to stop this happening. It can help people with SCLC live longer.

You have the treatment every day from Monday to Friday, with a rest at weekends. Your doctor or nurse will tell you how many treatments you will have. Before treatment, you usually have a mask made from a plastic mesh. You wear this during your treatment. It helps keep your head still so the treatment is effective. You can breathe through it and it should not be uncomfortable.

The side effects of PCR can include:

- losing the hair on your head – it usually starts to grow back a few weeks after treatment finishes
- being very tired
- headaches
- dry or sensitive skin on your scalp.

We can send you more information about coping with these side effects.

## Palliative radiotherapy

Sometimes people have radiotherapy to shrink the cancer and improve their symptoms. It can help them feel better so they can do more. This is called palliative radiotherapy. It is usually given when the cancer:

- is advanced in the lung
- has spread to other parts of the body.

It may be given to improve:

- breathlessness
- chest pain
- a cough
- coughing up blood.

Some people have just one session of treatment. Other people have it over a few days. Or they might have a higher dose over one or two weeks. Your cancer doctor or nurse will explain more about this.

Doctors may use radiotherapy to treat superior vena cava obstruction. This is when the cancer is pressing on a vein in the chest and blocking the blood-flow. See page 101 for more information about this.

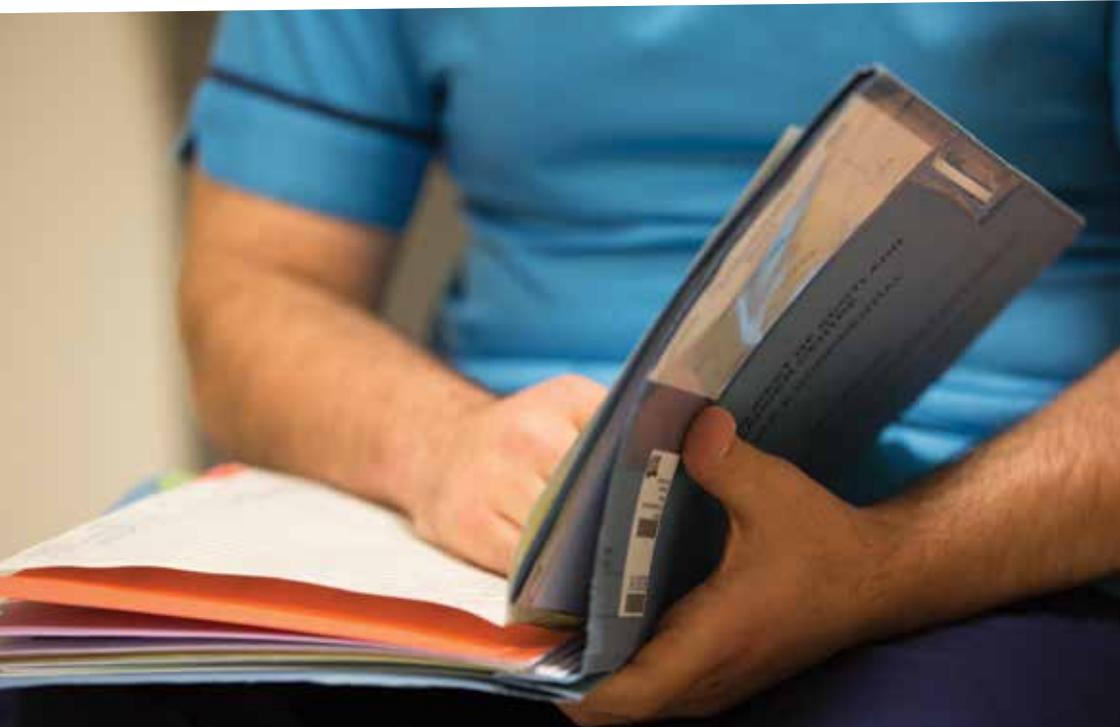
People can also have palliative radiotherapy to relieve pain if the cancer has spread to areas such as the bones. They can usually have this over one or two treatments.

### Internal radiotherapy

If the cancer is blocking one of the airways, you may have a type of internal radiotherapy (brachytherapy).

Most people have only one session of treatment. It is usually done in an operating theatre. The doctor passes a thin tube (catheter) down the nose or throat into the lung, using a bronchoscope. They put a small piece of radioactive material inside the catheter, next to the cancer. They leave it in place for a few minutes to give a dose of radiation to the cancer. Then they remove it together with the catheter.

We can send you more information about internal radiotherapy.



## Side effects of radiotherapy

You may get some side effects over the course of your treatment. Your doctor, nurse or radiographer will talk to you about this so you know what to expect.

They will give you advice on managing side effects. Always tell them about any side effects you have. There are often things they can do to help. It can take one or two weeks after treatment before side effects start getting better. After this, most side effect usually slowly go away.

We have listed the side effects of radiotherapy to the chest over the next few pages. We can send you more information about all these side effects.

### Tiredness

Radiotherapy often makes people feel tired. This can build up over your treatment. If you are having other treatments, such as surgery or chemotherapy, you may feel more tired.

It can help to:

- pace yourself and get plenty of rest
- do some light exercise, such as short walks – this will give you more energy.

Sometimes tiredness can continue for weeks or months after treatment finishes. If it does not get better, tell your doctor or nurse.

### Skin changes

The skin in the treated area may get dry and irritated. Do not use perfumed soap or bodywash during treatment, as it could irritate the skin. The hospital staff will advise you on how to look after your skin. If it becomes sore, your doctor can prescribe cream to help.

## Difficulty swallowing

You may have:

- difficulty swallowing
- heartburn
- indigestion.

This is because radiotherapy can cause inflammation in the gullet (oesophagus).

These side effects usually happen towards the end of treatment and continue for a few weeks after it finishes. Your doctor can prescribe medicines to help reduce the symptoms.

If you have difficulty eating, you can replace meals with nutritious, high-calorie drinks. You can get these from most chemists, and your GP can prescribed some.

## Breathlessness and a cough

You may find your breathing gets worse during radiotherapy and for a few weeks or months after it finishes. This is because radiotherapy can cause inflammation in the area of the lung being treated. It may also give you a dry cough. Always tell your doctor or nurse if:

- you have these symptoms
- these symptoms get worse.

## Hair loss

This only happens in the treatment area. Men may lose hair on their chest, but it usually grows back. Occasionally hair loss is permanent.

## Late effects of radiotherapy

Late effects are side effects that:

- you have during treatment that do not completely get better
- develop months or years later.

Most people do not get late effects after radiotherapy to the lung. Some possible late effects are:

- inflammation or scarring (fibrosis) in the treated area, which can cause breathlessness or a cough
- narrowing of the gullet (oesophagus), which makes it difficult to swallow
- a slight increase in the risk of heart problems, which might cause pain or tightness in the chest
- thinning of the bones in the chest area, which may cause pain in that area.

If you get any of these side effects or any others, tell your cancer doctor or nurse straight away. Also let them know if any side effects you have do not improve.

We can send you more information about managing these side effects.

# Tumour ablation

Tumour ablation involves treatments that destroy cancer cells using:

- heat (radiofrequency or microwave ablation)
- laser light (photodynamic therapy).

Doctors sometimes use these to treat small, very early-stage lung cancers.

Doctors give other tumour ablation treatments to relieve breathlessness when the cancer is blocking the airways into the lungs (see pages 94 to 95). These treatments may shrink the cancer using:

- cold (cryotherapy)
- an electrical current (diathermy)
- a laser.

## Radiofrequency ablation (RFA)

This treatment uses heat to destroy cancer cells. It is usually only used in people with small, early-stage lung cancers if:

- surgery is not suitable
- they choose not to have surgery.

Some people have it at the same time as radiotherapy or chemotherapy.

Before having RFA, you may have a local anaesthetic and sedative to make you sleepy. Some people have a general anaesthetic. You usually need to stay in hospital overnight to have the treatment.

You might have RFA during one or more treatment session.

The doctor puts a needle into the tumour, usually using a CT scan to make sure it is in the right place. An electrical current (radio-waves) is passed through the needle into the tumour. The current heats the cancer cells to a high temperature. This destroys (ablates) them.

It is common to have some pain or discomfort after having RFA. You will be given painkillers to control this. You may also feel tired afterwards.

Always contact your doctor if you become more breathless after having RFA.

## **Microwave ablation**

Microwave ablation is done in a similar way to RFA. The doctor sends microwave energy through the needle and into the tumour. This heats and destroys the cancer cells.

## **Photodynamic therapy (PDT)**

This treatment destroys cancer cells using lasers or other light sources, together with a light-sensitive drug. Photodynamic therapy is sometimes used if you have early-stage lung cancer that has not spread to the lymph nodes and you cannot have surgery. For example, this might be because:

- you have other lung conditions that make surgery unsuitable
- the cancer is in both lungs.

PDT can only treat cancer if it is in the lung and can be reached by a bronchoscope (see page 26). PDT may help shrink the cancer and improve symptoms of breathlessness. You can have PDT on its own, but you are more likely to have it with other treatments. PDT is only available at some hospitals.

## How it is given

You have PDT in two stages. First a nurse gives you a light-sensitive drug as an injection into a vein. They do this at the hospital. The drug makes the cancer cells more sensitive to the laser.

Then you have the laser light treatment a few hours later. You have this after the light-sensitive drug has been taken up by the cancer cells. The doctor may give you a drug to help you to relax. Then they direct the laser light at the tumour using a bronchoscope. The laser makes the light-sensitive drug destroy cancer cells.

## Side effects

The light-sensitive drug makes you temporarily sensitive to light. You may need to avoid bright light, by covering your skin and wearing sunglasses in daylight. How long you need to do this for depends on the drug you have. The nurse will explain what you need to do.

Some side effects of PDT include breathlessness and a cough. Your doctor can give you more information.



# Targeted therapy and immunotherapy drugs

Targeted therapy or immunotherapy drugs are used to treat non-small cell lung cancer that has spread outside the lung or to other parts of the body.

Your doctor does tests on the cancer cells called molecular testing. These tests help find out if some of these drugs are suitable options for you. The doctor does the tests on the tissue they take during a biopsy or surgery, or occasionally on a blood test.

The drugs can cause different side effects. Your doctor or nurse will talk to you about this. Always tell them about any side effects you have. They will explain how you can manage them. There are also often things they can do to improve your side effects. We can send you free information about coping with the side effects of these drugs. To order, visit [be.macmillan.org.uk](https://www.be.macmillan.org.uk) or call us on **0808 808 00 00**.

Your doctor might talk to you about having some of these drugs as part of a clinical trial. Newer targeted and immunotherapy drugs are being developed and becoming available.

## Targeted therapy drugs

These drugs interfere with the way cancer cells signal or interact with each other. This stops them growing and dividing. The drugs may help:

- shrink the cancer
- stop it growing
- improve your symptoms.

Targeted therapies do not always work for everyone with non-small cell lung cancer. You may need molecular testing on the cancer cells to find out if certain drugs are right for you. Some people who have already had other treatments may not need this.

Your doctor may recommend a targeted therapy drug after you have already had other treatments. They often give the drug on its own, or sometimes with chemotherapy. Or if molecular testing shows targeted therapy drugs are the most effective treatment for you, you might have it as your first treatment.

Not every targeted therapy drug is widely available in the UK. Your cancer doctor or specialist nurse will tell you if they are suitable for you. Different targeted therapy drugs for lung cancer are being tested in clinical trials.

## EGFR inhibitors

These drugs block signals from a protein called epidermal growth factor receptor (EGFR). Too much of this protein makes the cancer cells grow. Blocking the signal from EGFR to the cancer cells can stop them growing.

These drugs only work well for cancers with an abnormal form of the EGFR protein. Your doctor can do tests on the cancer cells to check for this change (mutation) of the EGFR gene that makes too much of the protein.

If they find the mutation, they might give you one of these EGFR inhibitor drugs:

- Gefitinib (Iressa®).
- Afatanib (Giotrif®).
- Erlotinib (Tarceva®).

You take them as tablets. We can send you more information about these drugs – call us on **0808 808 00 00**.

After you have had an EGFR inhibitor, you might have a blood test (liquid biopsy) or tests on the cancer cells from another biopsy. These tests look for a certain EGFR mutation called T790M. If they show the mutation, your doctor might give you a drug called osimertinib (Tagrisso®). You take it as a tablet.

### Side effects

Common side effects of EGFR inhibitors include:

- skin and nail changes
- diarrhoea
- feeling sick
- tiredness.

## ALK inhibitors

A small number of people with non-small cell lung cancer have a cancer that has a change (mutation) in a gene. The mutation is called anaplastic lymphoma kinase (ALK). This makes an abnormal protein that can make the cancer cells grow. Molecular testing can check if the cancer cells have this mutation in the ALK gene.

If they have the mutation, your doctor may give you an ALK inhibitor called crizotinib (Xalkori®). After you have had treatment with crizotinib, they might give you another ALK inhibitor called ceritinib (Zykadia®).

You take both these drugs as capsules.

### Side effects

Common side effects of ALK inhibitors include:

- feeling sick
- tiredness
- diarrhoea
- constipation
- changes to eyesight.

## Other targeted therapy

Nintedanib is another targeted therapy drug called a cancer growth inhibitor. People with adenocarcinoma NSCLC may have it with the chemotherapy drug docetaxel. Your doctor might give you nintedanib if the cancer comes back or spreads after your first treatment with chemotherapy.

Nintedanib stops proteins sending signals to cancer cells to grow. It can also stop the cancer cells making new blood vessels.

You take it as a capsule. We can send you more information about nintedanib.

### Side effects

Common side effects of nintedanib include:

- diarrhoea
- feeling sick
- an increased risk of infection.

'Before my treatment, I couldn't stand people talking to me about the cancer. But when I went into hospital, there was a Macmillan nurse who talked to me and explained things to me. It helped me greatly.'

**Arthur**

## Immunotherapy drugs

Immunotherapy drugs help stimulate your immune system to recognise and destroy cancer cells. Certain immunotherapy drugs are available to treat some non-small cell lung cancers. Newer immunotherapy drugs are being developed and are becoming available.

Pembrolizumab (Keytruda®) and nivolumab (Opdivo®) are drugs that target a protein (receptor) called PD-1. This is on the surface of T cells, which are part of the immune system. When the PD-1 receptor is blocked, it stimulates the immune system to fight the cancer cells. This can help:

- shrink the tumour
- make it grow less quickly.

You have both drugs as a drip (infusion) in the outpatient clinic. You usually have them after you have already had chemotherapy or other targeted drugs. Or if molecular testing shows pembrolizumab is likely to work well for you, you might have it as your first treatment.

### Side effects

Some of the common side effects of these immunotherapy drugs are:

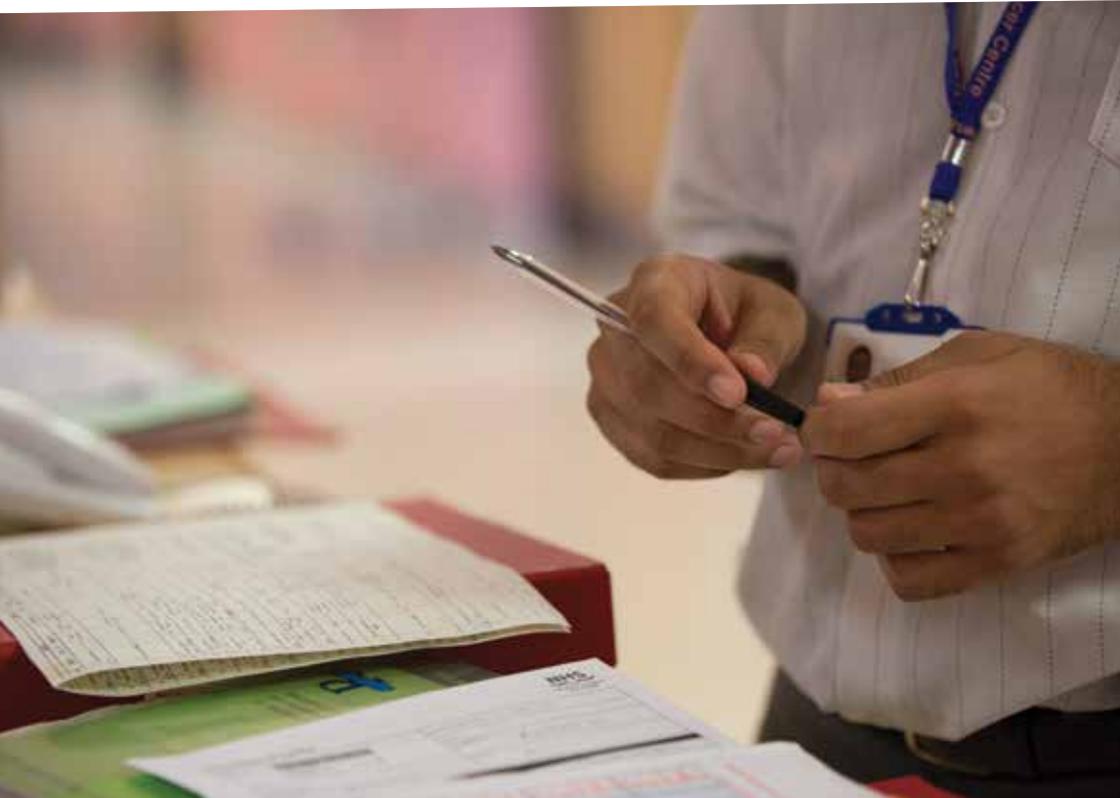
- diarrhoea
- tiredness
- a skin rash.

Because of the way immunotherapy drugs work, they can make the immune system attack other parts of the body. This is not common, but it can cause serious side effects in the:

- lungs
- other organs
- glands that make certain hormones.

Sometimes the treatment may need to be stopped. You may need to take steroids to suppress your immune system.

Your doctor or nurse will explain all these side effects to you. It is very important to tell them about any side effects you get.



# Controlling blocked airways

When the cancer is causing a blockage or narrowing the airways, doctors usually use the following treatments to relieve symptoms. You usually have them under a general anaesthetic using a bronchoscopy (see pages 26 to 27).

Another treatment called photodynamic therapy is occasionally used for people with advanced cancer (see pages 84 to 85).

## Cryosurgery

Cryosurgery (cryotherapy) uses extreme cold to freeze and destroy cancer cells. It is usually used if the tumour grows into the main lung airway (trachea) and makes it narrow. This is not common, but if it happens you can become very breathless.

You may have a general anaesthetic for this treatment. The doctor uses a bronchoscope to guide a thin, flexible tube with a rounded end (probe) close to the tumour. They pass liquid nitrogen through the probe into the tumour. This freezes and destroys the cancer cells. You can have this treatment again if the tumour grows back.

## Diathermy or electrocautery

These use an electrical current to destroy cancer cells. Sometimes both treatments are given together.

You usually have diathermy under a general anaesthetic. Your doctor uses a bronchoscope to guide a probe into your windpipe. They pass an electrical current through the probe into the tumour to destroy the cancer cells.

## Laser therapy

Doctors can use laser therapy to shrink the cancer and prevent it from blocking the airways. It can help reduce or get rid of breathlessness.

You usually have laser therapy under a general anaesthetic. The doctor passes a flexible tube through a bronchoscope, to aim the laser beam at the tumour. The laser beam uses heat to destroy as much of the tumour as possible.

Usually there are no side effects from laser therapy. You can go home from hospital on the same evening or the next day.

Laser treatment can be used more than once.

## Stents to open the airway

If the cancer presses on the airway, it can become narrow. A small tube called a stent can be used to open the airway to help you breathe more easily. You usually have a stent put in under a general anaesthetic.

The doctor puts the stent inside the airway using a bronchoscope. The stent is folded flat when it is first inserted. As it comes out of the bronchoscope, it opens up like an umbrella. This pushes the walls of the narrowed airway open. It can stay in your lung permanently.

## Controlling symptoms

You may have symptoms, such as breathlessness or a cough. Some people may develop new symptoms during their illness. Chemotherapy and radiotherapy help reduce symptoms, but there are also other ways to manage and control symptoms.

You may be referred to a doctor or nurse who is an expert in symptom control. They are sometimes called palliative care experts.

If you have any new symptoms, always tell your doctor or cancer nurse straight away. Some lung cancers make hormones or antibodies that upset the body's chemical balance. These may cause symptoms such as:

- feeling sick
- being sick
- feeling drowsy.

'My breathing gradually improved after I came out of hospital, but I still found that sudden activity could leave me gasping. So I started doing breathing and relaxation exercises and going for short walks, which helped build up my lung capacity.'

**Frances**

## Breathlessness

Breathlessness is a common symptom in people with lung cancer. It can be distressing to deal with. It may take a while for treatments to improve your breathing.

Your doctor or nurse will explain if there are suitable treatments to help treat blocked airways (see pages 94 to 95), or if oxygen therapy would be useful. Different drugs can help ease breathlessness.

There are things you can do to help manage breathlessness. It is important to pace yourself. Save your energy for the things that you need to do or that are important to you.

You may also find the following tips helpful:

- Sit by an open window or use a fan, so you have cool air blowing on or across your face.
- Wear loose-fitting clothes and sit down to do things like washing, dressing or preparing food.
- Make it easier to get around your home. For example, put a chair in a hallway so you can rest when you are going between rooms.
- Ask an occupational therapist about aids that can help, such as grab rails or a raised toilet seat.
- Ask your nurse or physiotherapist about controlled breathing exercises or relaxation exercises to make living with breathlessness easier.

There are different drugs that can help relieve or manage breathlessness. For example, you may have:

- bronchodilator drugs to widen your airways – you have these through an inhaler or a mask called a nebuliser
- steroid drugs to reduce inflammation in your lung
- drugs called diuretics to help you pass more urine
- small doses of morphine, which helps ease breathlessness
- drugs that help relieve anxiety.

We have more information about managing breathlessness.



## Cough

If you have a cough, there are different treatments that can help. You may have some types of painkiller tablets. You can have other drugs as a vapour that you inhale. Sometimes a short course of radiotherapy may help improve a cough.

## Pain

Tell your doctor or nurse if you have pain. There are different ways to control it, and they can explain the best way to manage pain in your situation.

There are different types of painkiller and they can be given in different ways. You can take drugs:

- by mouth
- as a patch on the skin
- as an injection
- as a continuous infusion through a small electrical pump.

If you have cancer that has spread to your bones and it causes you pain, you may be given bone-strengthening drugs called bisphosphonates. You may be given one or two sessions of radiotherapy to treat bone pain. We can send you more information about this.

## Treating other lung conditions

Lung cancer may cause other conditions that cause breathlessness and other symptoms. Cancer treatments can help improve these, but there are other ways they can be treated. Your doctor or nurse will give you more information about these.

### Pleural effusion

Cancer in the lung can cause fluid to build up between the layers that cover the lung (the pleura – see page 8). This is called a pleural effusion.

To treat a pleural effusion, the fluid has to be slowly drained. You may need to stay in hospital for a couple of days to have this done. Your doctor gives you an injection of local anaesthetic to numb the area, so you do not feel any pain during the procedure. You have an ultrasound scan to find where the fluid is collecting. The doctor makes a small cut in your skin and puts a chest drain through it into your chest. The drain is attached to a bag or bottle. When your doctor thinks most of the fluid has drained, you have a chest x-ray to see how well your lung has re-expanded. If it has re-expanded, the drain will be removed.

Sometimes a pleural effusion comes back, and you may need to have the fluid drained again. Some people may have a pleural catheter (tube) put in so they or their relatives can drain off further fluid at home.

Or it may be possible for your doctor to seal the two layers of the pleura together. This is called a pleurodesis. They usually do this by injecting sterile talcum powder through the drain. This helps the layers seal together. They leave the drain clamped for some time and ask you to lie in different positions. This helps the drugs circulate around the lining of the lung. The drain may then be attached to a suction machine to help the pleura to seal together. After a pleurodesis, you usually have the drain in place for 24 hours.

## Superior vena cava obstruction (SVCO)

The superior vena cava (SVC) is a big vein in the middle of the chest. It carries blood from the upper body to the heart. If lung cancer presses on the SVC, it may block the flow of blood along this vein. This is called superior vena cava obstruction (SVCO).

Symptoms can develop quickly. They include:

- a feeling of fullness in the face when you bend over
- breathlessness
- headaches
- swelling in the face, neck, arms, hands, and veins in the chest
- feeling dizzy
- changes in your eyesight.

SVCO needs to be treated quickly. The symptoms can be distressing, but they can usually be controlled quickly.

You may be given:

- oxygen
- steroids to reduce swelling
- painkillers.

The treatment will depend on your situation. Doctors may use radiotherapy to shrink the cancer or give you chemotherapy. Or they may put a small tube (stent) into the vein to keep it open.

# Research – clinical trials

Cancer research trials are carried out to try to find new and better treatments for cancer. Trials that are carried out on patients are known as clinical trials. These may be carried out to:

- test new treatments, such as new chemotherapy drugs or targeted therapies
- look at new combinations of existing treatments, or change the way they are given to make them more effective or reduce side effects
- compare the effectiveness of drugs used to control symptoms
- find out how cancer treatments work
- find out which treatments are the most cost-effective.

Trials are the only reliable way to find out if a different type of surgery, chemotherapy, hormone therapy, radiotherapy, or other treatment is better than what is already available.

## Current research

There are currently many trials for people with lung cancer. We have information about current clinical trial databases. Some current trials are looking at:

- how to diagnose lung cancer earlier
- giving combinations of chemotherapy drugs along with radiotherapy
- using new targeted and immunotherapy drugs
- new ways of improving symptoms, such as breathlessness or coughing.



## Taking part in a trial

You may be asked to take part in a treatment research trial. There can be many benefits in doing this. Trials help to improve knowledge about cancer and develop new treatments. You will be carefully monitored during and after the study.

Usually, several hospitals around the country take part in these trials. It's important to bear in mind that some treatments that look promising at first are often later found not to be as good as existing treatments or to have side effects that outweigh the benefits.

If you decide not to take part in a trial, your decision will be respected and you don't have to give a reason. However, it can help to let the staff know your concerns so that they can give you the best advice. There will be no change in the way that you're treated by the hospital staff, and you'll be offered the standard treatment for your situation.

We describe clinical trials in more detail in our booklet **Understanding cancer research trials (clinical trials)**. We can send you a free copy.

## Blood and tumour samples

Blood and tumour samples may be taken to help make the right diagnosis. You may be asked for your permission to use some of your samples for research into cancer. If you take part in a trial you may also give other samples, which may be frozen and stored for future use when new research techniques become available. Your name will be removed from the samples so you can't be identified.

The research may be carried out at the hospital where you are treated, or at another one. This type of research takes a long time, and results may not be available for many years. The samples will be used to increase knowledge about the causes of cancer and its treatment, which will hopefully improve the outlook for future patients.



# AFTER YOUR TREATMENT

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## Follow-up

After treatment, you will have regular check-ups with either CT scans or chest x-rays. Your appointments will be every few months at first, but eventually they may be once a year. Appointments are a good opportunity for you to talk to your doctor or nurse about any concerns you have. But if you notice any new symptoms between appointments, you can contact your doctor or lung specialist nurse for advice.

Many people find they get anxious before the appointments. This is natural. It can help to get support from family, friends, a support group or an organisation (see pages 137 to 143). You can also talk to one of our cancer support specialists on **0808 808 00 00**.

## Driving after lung cancer

Lung cancer may affect your ability to drive safely. You need to tell the DVLA (England, Scotland or Wales) or the DVA (Northern Ireland) if:

- you get any problems with your brain or nervous system
- your doctor says you might not be fit to drive
- the medicines you are taking cause side effects that could affect your driving
- you have a bus, coach or lorry licence
- you are restricted to certain vehicles or to vehicles that have been adapted for you.

Talk to your doctor or nurse if you are worried that the cancer, its treatments, or symptoms may affect your driving.

There is more information about driving and medical conditions in England, Scotland and Wales on the Gov.uk website – visit [gov.uk/browse/driving/disability-health-condition](https://www.gov.uk/browse/driving/disability-health-condition) Or you can call **0300 790 6801**.

In Northern Ireland, you can get more information about licensing after cancer from the DVA licensing website – visit [nidirect.gov.uk/articles/how-tell-dva-about-medical-condition](https://nidirect.gov.uk/articles/how-tell-dva-about-medical-condition) Or you can call **0845 402 4000**.



# Taking care of yourself

During and after treatment, you are likely to feel very tired. You may also still have some side effects or be coping with symptoms.

Recovering from treatment takes time, so don't expect too much of yourself too soon. It is important to take care of yourself and to give your body time to recover.

## Stopping smoking

It is important to follow your doctor's advice on smoking. There is a lot of advice and support to help people who have been advised to stop. Your hospital may provide advice to help you. Or you can get help from your GP or national stopping-smoking service (see pages 137 to 138). We can send you our booklet **Giving up smoking**.

Stopping smoking will help reduce your risk of other health conditions, such as heart disease. It will improve your lung health and it also reduces the risk of other smoking related cancers.

## Managing tiredness

It may take weeks or months for tiredness to improve after treatment. If you are very tired, it may make problems with breathlessness worse.

Ask family or friends for help with day-to-day things that use more energy. An occupational therapist may be able to help you manage your tasks. We can send you more information about managing tiredness.

## Being active

Going for regular short walks can help build up your energy levels after treatment. You can slowly build up the amount of exercise you do to improve your lung and heart health. Being more physically active can help reduce stress. It can also help keep your weight to a healthy level.

We can send you more information about physical activity.

## Try to eat well

Eating healthily can help you feel better and have more energy. Try to eat:

- plenty of fruit and vegetables
- more chicken and fish
- less red or processed meats.

Even if you do not have much of an appetite, make sure you have regular snacks. There are also supplement drinks you can take to make sure you are getting enough energy and nutrients. You can get some supplement drinks on prescription.

Ask your doctor or nurse to refer you to a dietitian if you want more advice on eating problems.

We can send you more information about healthy eating and managing eating problems.

## Stick to sensible drinking

NHS guidelines suggest that both men and women should:

- not regularly drink more than 14 units of alcohol in a week
- spread the alcohol units they drink in a week over three or more days
- try to have several alcohol-free days every week.

A unit of alcohol is:

- half a pint of ordinary-strength beer, lager or cider
- one small glass (125ml) of wine
- a single measure (25ml) of spirits.

There is more information about alcohol and drinking guidelines at [drinkaware.co.uk](http://drinkaware.co.uk)

## Emotional help

Talk to your cancer specialist or nurse if you:

- think you may be depressed
- feel helpless or anxious a lot of the time.

They can refer you to a psychologist or counsellor who specialises in the emotional problems of people with cancer. Our cancer support specialists can tell you more about counselling and let you know about services in your area. Call us on **0808 808 00 00**.

## Complementary therapies

Some people find that using some complementary therapies helps them relax or cope with treatment side effects. Some hospitals or support groups may offer therapies, such as relaxation or aromatherapy.

We can send you more information about cancer and complementary therapies.

## Support groups

Self-help or support groups offer a chance to talk to other people who understand what you're going through. You can call us on **0808 808 00 00** to find out about support groups across the UK.

## Online support

Many people get support on the internet. There are online support groups, social networking sites, forums, chat rooms and blogs for people affected by cancer. You can use these to:

- share your experience
- ask questions
- get and give advice based on your experience.

Our Online Community is a social networking site where you can talk to people in our chat rooms, write blogs, make friends and join support groups. Visit **[community.macmillan.org.uk](https://community.macmillan.org.uk)**



# YOUR FEELINGS AND RELATIONSHIPS

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# Your feelings

It's common to feel overwhelmed by different feelings when you're told that you have cancer. We talk about some of these here. Partners, family and friends may also have some of the same feelings.

You might have different reactions to the ones we describe here. There is no right or wrong way to feel. You'll cope with things in your own way. Talking to people close to you or other people affected by cancer can often help.

## Shock and disbelief

You may find it hard to believe it when your doctor tells you that you have cancer. It's common to feel shocked and numb. You may not be able to take in much information and find that you keep asking the same questions again and again. At first, you might find it hard to talk to family and friends about the cancer. This usually gets easier as the shock wears off and it becomes more real to you. You may find you can't think or talk about anything but the cancer. This is because your mind is trying to process what you're going through.

## Fear and anxiety

People can be very anxious or frightened about whether treatment will work and what will happen in the future. This uncertainty can be one of the hardest things to cope with. It can help to try to focus on what you can control. You may want to find out more about the cancer, its treatment and how to manage side effects. It can also help to talk about your feelings and to take time to do things that are important to you and that you enjoy.

Doctors often know roughly how many people can benefit from a type of treatment. But they can't be sure what will happen to an individual person. Although they may not be able to answer your questions fully, they can usually talk through any problems with you and give you some guidance.

## Avoidance

Some people cope by not wanting to know very much about the cancer and by not talking about it. If you feel like this, let your family and friends know that you don't want to talk about it right now. You can also tell your doctor if there are things you don't want to know or talk about yet.

Occasionally, this avoidance can be extreme. Some people may not believe that they have cancer. This is sometimes called being in denial. It may stop them making decisions about treatment. If this happens, it's very important for them to get help from their doctor.

Sometimes, avoidance is the other way around. Family and friends may seem to avoid you and the fact that you have cancer. They may not want to talk about it or they might change the subject. This is usually because they are also finding the cancer difficult to cope with, and they may need support too. Try to let them know how this makes you feel and that talking openly with them about your illness will help you.

## Anger

You may feel angry about your illness and sometimes resent other people for being well. These are normal reactions, especially when you feel frightened, stressed, out of control or unwell. You may get angry with the people close to you. Let them know that you are angry at your illness and not at them. Finding ways to help you relax and reduce stress can help with anger. This can include talking about or writing down how you feel, gentle exercise, breathing or relaxation therapy, yoga or meditation.

## Guilt and blame

Some people feel guilty or blame themselves or others for the cancer. You may try to find reasons for why it has happened to you. Most of the time, it's impossible to know exactly what has caused a person's cancer. Over time, several different factors may act together to cause a cancer. Doctors don't fully understand all of these factors yet. Instead, try to focus on looking after yourself and getting the help and support you need.

## Feeling alone

Some people feel alone because they don't have enough support. Family and friends may live far away, have other commitments or feel uncomfortable because of their own fears about cancer. Try to let your family and friends know how you feel and how they could support you more.

If you need more support, you can call the Macmillan Support Line free on **0808 808 00 00** and talk to one of our cancer support specialists. Our website can help you find out about

local support groups – visit [macmillan.org.uk/supportgroups](https://www.macmillan.org.uk/supportgroups)  
You can also talk to other people going through the same thing on our online community at [macmillan.org.uk/community](https://www.macmillan.org.uk/community)

It's normal to have times when you want to be left alone to sort out your feelings. But if you find you're avoiding people a lot of the time, then try to talk to your doctor or nurse.

'I felt very alone after my diagnosis. But this is why the lung cancer support group I'm a part of has been so good. Before I joined, I'd never met anyone else with lung cancer.'

**Edward**

## If you need more help

These feelings can be very difficult to cope with and sometimes people need more help. This happens to lots of people and doesn't mean you're not coping.

If you feel anxious, panicky or sad a lot of the time, or think you may be depressed, talk to your doctor or nurse. They can refer you to a doctor or counsellor who can help. They may also prescribe medicine to help with anxiety or an antidepressant drug.

Our booklet **How are you feeling? The emotional effects of cancer** discusses the feelings you may have in more detail, and has suggestions for coping with them.

## If you are a friend or relative

Some people find it hard to talk about cancer or share their feelings. You might think it's best to pretend everything is fine, and carry on as normal. You might not want to worry the person with cancer, or you might feel you're letting them down if you admit to being afraid. Unfortunately, denying strong emotions can make it even harder to talk, and may lead to the person with cancer feeling very isolated.

Partners, relatives and friends can help by listening carefully to what the person with cancer wants to say. It may be best not to rush into talking about the illness. Often it's enough just to listen and let the person with cancer talk when they are ready.

You may find some of the courses on our Learn Zone website helpful. There are courses to help with listening and talking, to help friends and family support their loved ones affected by cancer. Visit [macmillan.org.uk/learnzone](https://www.macmillan.org.uk/learnzone) to find out more.

Our booklet **Talking to someone who has cancer** has more suggestions if you have a friend or relative with cancer.

If you're looking after a family member or friend with cancer, you may find our booklet **Looking after someone with cancer** helpful. It's based on carers' experiences and has lots of practical tips and information.

We have more information about supporting someone with cancer at [macmillan.org.uk/carers](https://www.macmillan.org.uk/carers)

# Talking to children

Deciding what to tell your children or grandchildren about your cancer is difficult. An open, honest approach is usually best. Even very young children can sense when something is wrong, and their fears can sometimes be worse than the reality.

How much you tell your children will depend on their age and how mature they are. It may be best to start by giving only small amounts of information, and gradually tell them more to build up a picture of your illness.

## Teenagers

Teenagers can have an especially hard time. At a stage when they want more freedom, they may be asked to take on new responsibilities and they may feel over-burdened. It's important that they can go on with their normal lives as much as possible and still get the support they need.

If they find it hard to talk to you, you could encourage them to talk to someone close who can support and listen to them, such as a grandparent, family friend, teacher or counsellor. They may also find it useful to look at the website [riprap.org.uk](http://riprap.org.uk) which has been developed especially for teenagers who have a parent with cancer.

We have more information about this in our booklet **Talking to children and teenagers when an adult has cancer**. For a free copy, call **0808 808 00 00** or visit [be.macmillan.org.uk](http://be.macmillan.org.uk)

# What you can do

One of the hardest things to cope with can be the feeling that the cancer and its treatment have taken over your life. This is a common feeling, but there are lots of things you can do.

There may be days when you feel too tired to even think about what could help. You'll have good and bad days, but if you're overwhelmed by these feelings, let your doctor or nurse know. It may be that you have depression, and this is treatable so they should be able to help.

## Finding ways to cope

You may find it helps to try to carry on with life as normally as possible, by staying in contact with friends and keeping up your usual activities. Or you may want to decide on new priorities in your life. This could mean spending more time with family, going on the holiday you've dreamed about or taking up a new hobby. Just thinking about these things and making plans can help you realise that you still have choices.

Some people want to improve their general health by eating a more healthy diet, by getting fitter or by finding a relaxing complementary therapy.

Understanding about the cancer and its treatment helps many people cope. It means they can discuss plans for treatment, tests and check-ups with their doctors and nurses. Being involved in these choices can help give you back control of your life.

# Who can help?

Many people are available to help you and your family.

District nurses work closely with GPs and make regular visits to patients and their families at home if needed.

The hospital social worker can give you information about social services and benefits you may be able to claim. These may include meals on wheels, a home helper or money to help with hospital transport fares. The social worker may also be able to arrange childcare for you during and after treatment.

In many areas of the country, there are also specialist nurses called palliative care nurses. They are experienced in assessing and treating symptoms of advanced cancer. Palliative care nurses are sometimes known as Macmillan nurses. However, many Macmillan professionals are nurses who have specialist knowledge in a particular type of cancer. You may meet them when you're at a clinic or in hospital.

Marie Curie nurses help care for people approaching the end of their lives in their own homes. Your GP or hospital specialist nurse can usually arrange a visit by a palliative care or Marie Curie nurse.

There's also specialist help available to help you cope with the emotional impact of cancer and its treatment. You can ask your hospital doctor or GP to refer you to a doctor or counsellor who specialises in supporting people with cancer and their families. Our cancer support specialists on **0808 808 00 00** can tell you more about counselling and can let you know about services in your area.



# WORK AND FINANCIAL SUPPORT

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# Work

You may need to take time off work during your treatment and for a while afterwards. It can be hard to judge the best time to go back to work, and this will depend mainly on the type of work you do and how much your income is affected. It's important to do what's right for you.

Getting back into your normal routine can be very helpful, and you may want to go back to work as soon as possible. It can be helpful to talk to your employer about the situation – it may be possible for you to work part-time or job share.

On the other hand, it can take a long time to recover fully from cancer treatment, and it may be many months before you feel ready to return to work. It's important not to take on too much, too soon. Your consultant, GP or specialist nurse can help you decide when and if you should go back to work.

## Employment rights

The Equality Act 2010 protects anyone who has, or has had, cancer. Even if a person who had cancer in the past has been successfully treated and is now cured, they are still covered by the act. This means their employer must not discriminate against them for any reason, including their past cancer. The Disability Discrimination Act protects people in Northern Ireland.

Our booklets **Work and cancer**, **Working while caring for someone with cancer** and **Self-employment and cancer** have more information that may be helpful. There's also lots more information at [macmillan.org.uk/work](http://macmillan.org.uk/work)

# Financial help and benefits

If you are struggling to cope with the financial effects of cancer, help is available.

If you cannot work because you are ill, you may be able to get Statutory Sick Pay. Your employer will pay this for up to 28 weeks of sickness. If you qualify for it, they cannot pay you less.

Before your Statutory Sick Pay ends, or if you do not qualify for it, check whether you can get **Employment and Support Allowance (ESA)**. This benefit is for people who cannot work because they are ill or disabled. There are two different types of ESA:

- contribution-based (contributory) – you can get this if you have paid enough national insurance
- income-related (means tested) – you can get this if you don't qualify for contribution based ESA or if your income is low.

ESA is gradually being replaced by a new benefit called **Universal Credit**. This benefit is for people below retirement age who are out of work or on a low income.

**Personal Independence Payment (PIP)** is a new benefit for people aged between 16 and 64. It is for people who have problems moving around and looking after themselves. You must have had these difficulties for at least three months and expect them to last for at least nine months. PIP replaces an older benefit called **Disability Living Allowance (DLA)** for adults.

**Attendance Allowance (AA)** is for people aged 65 or over who have problems looking after themselves. You may qualify if you have problems with personal care, for example getting out of bed, having a bath or dressing yourself. You don't need to have a carer, but you must have had these problems for at least six months. If you are terminally ill, and may be expected to live for less than six months, you can apply for PIP, DLA or AA under the special rules. It does not have to be certain and it does not matter if you live longer than six months. This means your claim will be dealt with quickly and you will get the benefit you applied for at the highest rate.

## Help for carers

Carer's Allowance is a weekly benefit that helps people who look after someone with a lot of care needs. If you don't qualify for it, you can apply for Carer's Credit. This helps you to build up qualifying years for a State Pension.

## More information

The benefits system can be hard to understand, so it's a good idea to talk to an experienced welfare rights adviser. You can speak to one by calling the Macmillan Support Line on **0808 808 00 00**.

We've just listed some benefits here, but there may be others you can get. You can find out about state benefits and apply for them online at **gov.uk** (England, Scotland and Wales) or **nidirect.gov.uk** (Northern Ireland). These websites have information about financial support, your rights, employment and independent living. You can also get information about these issues from the relevant Department for Work and Pensions helplines (see page 141) or Citizens Advice (see page 140).

Our booklet **Help with the cost of cancer** has more detailed information. You might also find our video at **macmillan.org.uk/gettingfinancialhelp** useful.

## Insurance

People who have, or have had, cancer may find it hard to get certain types of insurance, including life and travel insurance. A financial adviser can help you look at your needs and find the best deal for you. You can find a financial adviser by contacting one of the organisations on pages 141 to 142.

Our booklets **Insurance** and **Travel and cancer** may also be helpful.



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# About our information

We provide expert, up-to-date information about cancer. And all our information is free for everyone.

## Order what you need

You may want to order more leaflets or booklets like this one. Visit **be.macmillan.org.uk** or call us on **0808 808 00 00**.

We have booklets on different cancer types, treatments and side effects. We also have information about work, financial issues, diet, life after cancer and information for carers, family and friends.

## Online information

All of our information is also available at **macmillan.org.uk/information-and-support**

There you'll also find videos featuring real-life stories from people affected by cancer, and information from health and social care professionals.

## Other formats

We also provide information in different languages and formats, including:

- audiobooks
- Braille
- British Sign Language
- easy read booklets
- eBooks
- large print
- translations.

Find out more at **macmillan.org.uk/otherformats**

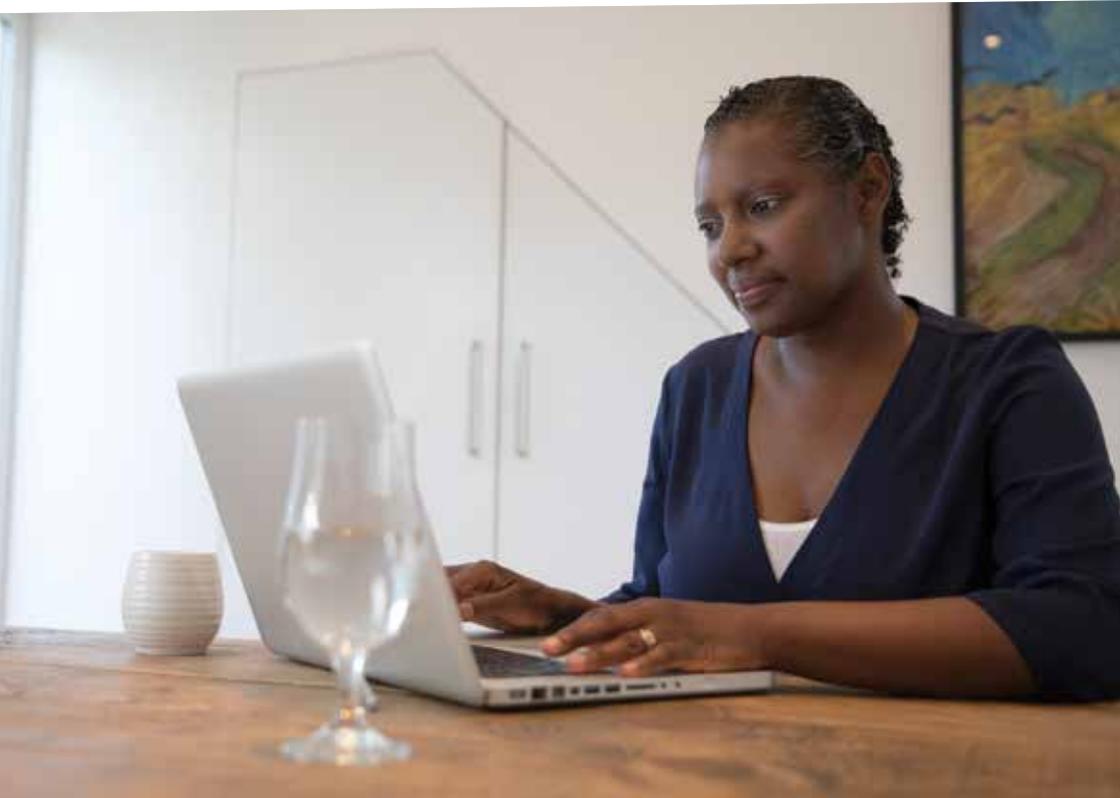
If you'd like us to produce information in a different format for you, email us at **cancerinformationteam@macmillan.org.uk** or call us on **0808 808 00 00**.

## Help us improve our information

We know that the people who use our information are the real experts. That's why we always involve them in our work. If you've been affected by cancer, you can help us improve our information.

We give you the chance to comment on a variety of information including booklets, leaflets and fact sheets.

If you'd like to hear more about becoming a reviewer, email [reviewing@macmillan.org.uk](mailto:reviewing@macmillan.org.uk). You can get involved from home whenever you like, and we don't ask for any special skills – just an interest in our cancer information.



# Other ways we can help you

At Macmillan, we know how a cancer diagnosis can affect everything, and we're here to support you.

## Talk to us

If you or someone you know is affected by cancer, talking about how you feel and sharing your concerns can really help.

### Macmillan Support Line

Our free, confidential phone line is open Monday to Friday, 9am to 8pm. Our cancer support specialists can:

- help with any medical questions you have about cancer or your treatment
- help you access benefits and give you financial guidance
- be there to listen if you need someone to talk to
- tell you about services that can help you in your area.

Call us on **0808 808 00 00** or email us via our website, **[macmillan.org.uk/talktous](https://www.macmillan.org.uk/talktous)**

## Information centres

Our information and support centres are based in hospitals, libraries and mobile centres. There, you can speak with someone face to face.

Visit one to get the information you need, or if you'd like a private chat, most centres have a room where you can speak with someone alone and in confidence.

Find your nearest centre at **[macmillan.org.uk/informationcentres](https://www.macmillan.org.uk/informationcentres)** or call us on **0808 808 00 00**.

## Talk to others

No one knows more about the impact cancer can have on your life than those who have been through it themselves. That's why we help to bring people together in their communities and online.

## Support groups

Whether you are someone living with cancer or a carer, we can help you find support in your local area, so you can speak face to face with people who understand. Find out about support groups in your area by calling us or by visiting [macmillan.org.uk/selfhelpandsupport](https://www.macmillan.org.uk/selfhelpandsupport)

## Online Community

Thousands of people use our Online Community to make friends, blog about their experiences and join groups to meet other people going through the same things. You can access it any time of day or night. Share your experiences, ask questions, or just read through people's posts at [macmillan.org.uk/community](https://www.macmillan.org.uk/community)

## The Macmillan healthcare team

Our nurses, doctors and other health and social care professionals give expert care and support to individuals and their families. Call us or ask your GP, consultant, district nurse or hospital ward sister if there are any Macmillan professionals near you.

'Everyone is so supportive on the Online Community, they know exactly what you're going through. It can be fun too. It's not all just chats about cancer.'

Mal

## Help with money worries

Having cancer can bring extra costs such as hospital parking, travel fares and higher heating bills. If you've been affected in this way, we can help.

### Financial guidance

Our financial team can give you guidance on mortgages, pensions, insurance, borrowing and savings.

### Help accessing benefits

Our benefits advisers can offer advice and information on benefits, tax credits, grants and loans. They can help you work out what financial help you could be entitled to. They can also help you complete your forms and apply for benefits.

### Macmillan Grants

Macmillan offers one-off payments to people with cancer. A grant can be for anything from heating bills or extra clothing to a much-needed break.

Call us on **0808 808 00 00** to speak to a financial guide or benefits adviser, or to find out more about Macmillan Grants. We can also tell you about benefits advisers in your area. Visit **[macmillan.org.uk/financialsupport](https://www.macmillan.org.uk/financialsupport)** to find out more about how we can help you with your finances.

## Help with work and cancer

Whether you're an employee, a carer, an employer or are self-employed, we can provide support and information to help you manage cancer at work. Visit **[macmillan.org.uk/work](https://www.macmillan.org.uk/work)**

### My Organiser app

Our free mobile app can help you manage your treatment, from appointment times and contact details, to reminders for when to take your medication. Search 'My Organiser' on the Apple App Store or Google Play on your phone.

# Other useful organisations

There are lots of other organisations that can give you information or support.

## Lung cancer support organisations

### British Lung Foundation

**Helpline** 03000 030 555

(Mon to Fri, 9am to 5pm)

**[www.blf.org.uk](http://www.blf.org.uk)**

Supports people affected by any type of lung disease.

### NHS Smokefree Helpline

**Tel** 0300 123 1044

(Mon to Fri, 9am to 8pm,

Sat to Sun, 11am to 4pm)

**[www.nhs.uk/smokefree](http://www.nhs.uk/smokefree)**

Offers information, advice and support to people who want to stop smoking or have already stopped and do not want to start again.

## NHS Inform – Quit your Way Scotland

**Tel** 0800 84 84 84

**[www.nhsinform.scot/care-support-and-rights/nhs-services/helplines/quit-your-way-scotland](http://www.nhsinform.scot/care-support-and-rights/nhs-services/helplines/quit-your-way-scotland)**

Scotland's national stop-smoking support service.

Offers advice and information about how to stop smoking.

You can also chat online to an adviser.

## NHS Direct – Stop Smoking Wales

**Tel** 0800 085 2219

**[www.helpmequit.wales](http://www.helpmequit.wales)**

Offers information, advice and support in English and Welsh.

## NHS Northern Ireland

**[www.nidirect.gov.uk/smoking](http://www.nidirect.gov.uk/smoking)**

Has information and advice, and links to support organisations for people in Northern Ireland who want to give up smoking.

## **Quit**

**Quitline** 0800 00 22 00

**www.quit.org.uk**

Offers practical help and advice to people who want to stop smoking.

## **Roy Castle Lung Cancer Foundation**

**Helpline** 0333 323 7200

(Mon to Fri, 9am to 5pm)

**www.roycastle.org**

Provides information and practical and emotional support for anyone affected by lung cancer.

## **General cancer support organisations**

### **Cancer Black Care**

**Tel** 020 8961 4151

#### **Email**

[info@cancerblackcare.org.uk](mailto:info@cancerblackcare.org.uk)

**www.cancerblackcare.org.uk**

Offers UK-wide information and support for people with cancer, as well as their friends, carers and families, with a focus on those from BME communities.

### **Cancer Focus**

#### **Northern Ireland**

**Helpline** 0800 783 3339

(Mon to Fri, 9am to 1pm)

#### **Email**

[nurseline@cancerfocusni.org](mailto:nurseline@cancerfocusni.org)

**www.cancerfocusni.org**

Offers a variety of services to people affected by cancer in Northern Ireland, including a free helpline, counselling and links to local support groups.

### **Cancer Research UK**

**Helpline** 0808 800 4040

(Mon to Fri, 9am to 5pm)

**www.cancerresearchuk.org**

A UK-wide organisation that has patient information on all types of cancer. Also has a clinical trials database.

### **Cancer Support Scotland**

**Tel** 0800 652 4531

(Mon to Fri, 9am to 5pm)

#### **Email**

[info@cancersupportscotland.org](mailto:info@cancersupportscotland.org)

**www.cancersupport  
scotland.org**

Runs cancer support groups throughout Scotland. Also offers free complementary therapies and counselling to anyone affected by cancer.

## **Maggie's Centres**

**Tel** 0300 123 1801

### **Email**

[enquiries@maggiescentres.org](mailto:enquiries@maggiescentres.org)

**[www.maggiescentres.org](http://www.maggiescentres.org)**

Has a network of centres in various locations throughout the UK. Provides free information about cancer and financial benefits. Also offers emotional and social support to people with cancer, their family, and friends.

## **Penny Brohn Cancer Care**

**Helpline** 0303 3000 118

(Mon to Fri, 9.30am to 5pm)

### **Email**

[helpline@pennybrohn.org.uk](mailto:helpline@pennybrohn.org.uk)

**[www.pennybrohn.org.uk](http://www.pennybrohn.org.uk)**

Offers a combination of physical, emotional and spiritual support across the UK, using complementary therapies and self-help techniques.

## **Riprap**

**[www.riprap.org.uk](http://www.riprap.org.uk)**

Developed especially for teenagers in the UK who have a parent with cancer. Has an online forum where teenagers going through similar experiences can talk to each other for support.

## **Tenovus**

**Helpline** 0808 808 1010

(Daily, 8am to 8pm)

### **Email**

[info@tenovuscancercare.org.uk](mailto:info@tenovuscancercare.org.uk)

**[www.tenovuscancercare.org.uk](http://www.tenovuscancercare.org.uk)**

Aims to help everyone in the UK get equal access to cancer treatment and support. Funds research and provides support such as mobile cancer support units, a free helpline, benefits advice and an online 'Ask the nurse' service.

## **Counselling and emotional support**

### **British Association for Counselling and Psychotherapy (BACP)**

**Tel** 01455 883 300

**Email** [bacp@bacp.co.uk](mailto:bacp@bacp.co.uk)

Promotes awareness of counselling and signposts people to appropriate services across the UK. You can search for a qualified counsellor at **[itsgoodtotalk.org.uk](http://itsgoodtotalk.org.uk)**

**UK Council for  
Psychotherapy (UKCP)**  
**Tel** 020 7014 9955  
**Email** [info@ukcp.org.uk](mailto:info@ukcp.org.uk)  
**[www.psychotherapy.org.uk](http://www.psychotherapy.org.uk)**

Holds the national register of psychotherapists and psychotherapeutic counsellors, listing practitioners who meet exacting standards and training requirements.

**Financial or legal advice  
and information**

**Benefit Enquiry Line  
Northern Ireland**  
**Helpline** 0800 220 674  
(Mon, Tue, Wed and Fri, 9am to 5pm, Thu, 10am to 5pm)  
**Textphone** 028 9031 1092  
**[www.nidirect.gov.uk/  
money-tax-and-benefits](http://www.nidirect.gov.uk/money-tax-and-benefits)**

Provides information and advice about disability benefits and carers' benefits in Northern Ireland.

**Citizens Advice**

Provides advice on a variety of issues including financial, legal, housing and employment issues. Use their online webchat or find details for your local office in the phone book or by contacting:

**England**  
**Helpline** 03444 111 444  
**[www.citizensadvice.org.uk](http://www.citizensadvice.org.uk)**

**Scotland**  
**Helpline** 0808 800 9060  
**[www.citizensadvice.org.uk/  
scotland](http://www.citizensadvice.org.uk/scotland)**

**Wales**  
**Helpline** 03444 77 2020  
**[www.citizensadvice.org.uk/  
wales](http://www.citizensadvice.org.uk/wales)**

**Northern Ireland**  
**Helpline** 0800 028 1181  
**[www.citizensadvice.co.uk](http://www.citizensadvice.co.uk)**

**Civil Legal Advice****Helpline** 0345 345 4345(Mon to Fri, 9am to 8pm,  
Sat, 9am to 12.30pm)**Minicom** 0345 609 6677**www.gov.uk/  
civil-legal-advice**

Has a list of legal advice centres in England and Wales and solicitors that take legal aid cases. Offers a free translation service if English isn't your first language.

**Department for Work and Pensions (DWP)****Disability Living Allowance****Helpline** 0345 712 3456**Textphone** 0345 722 4433**Personal Independence Payment****Helpline** 0345 850 3322**Textphone** 0345 601 6677**Carer's Allowance Unit****Tel** 0345 608 4321**Textphone** 0345 604 5312**www.gov.uk/browse/  
benefits**

Manages state benefits in England, Scotland and Wales. You can apply for benefits and find information online or through its helplines.

**Gov.uk****www.gov.uk**

Has information about social security benefits and public services in England, Scotland and Wales.

**The Money Advice Service Helpline**

0800 138 7777 (English)

0800 138 0555 (Welsh)

(Mon to Fri, 8am to 8pm,  
Sat, 9am to 1pm)**Typetalk**

18001 0300 500 5000

**Email** enquiries@  
moneyadvice.org.uk**www.moneyadvice  
service.org.uk**

Runs a free financial health check service and gives advice about all types of financial matters across the UK. Has an online chat service for instant money advice.

**Money Advice Scotland****Tel** 0141 572 0237**Email** info@moneyadvice  
scotland.org.uk**www.moneyadvice  
scotland.org.uk**

Use the website to find qualified financial advisers in Scotland.

### **National Debtline (England, Scotland and Wales)**

**Tel** 0808 808 4000

(Mon to Fri, 9am to 8pm,  
Sat, 9.30am to 1pm)

**[www.nationaldebtline.org](http://www.nationaldebtline.org)**

A national helpline for people with debt problems. The service is free, confidential and independent. Has an online chat service with an expert debt advisor.

### **Personal Finance Society – 'Find an Adviser' service**

**[www.thepfs.org/yourmoney/  
find-an-adviser](http://www.thepfs.org/yourmoney/find-an-adviser)**

Use the website to find qualified financial advisers in your area of the UK.

### **Unbiased.co.uk**

**Helpline** 0800 023 6868

**Email** [contact@unbiased.co.uk](mailto:contact@unbiased.co.uk)

**[www.unbiased.co.uk](http://www.unbiased.co.uk)**

You can search the website for qualified advisers in the UK who can give expert advice about finances, mortgages, accounting or legal issues.

### **Support for older people**

#### **Age UK**

**Helpline** 0800 055 6112

(Daily, 8am to 7pm)

**[www.ageuk.org.uk](http://www.ageuk.org.uk)**

Provides information and advice for older people across the UK via the website and advice line. Also publishes impartial and informative fact sheets and advice guides.

### **Support for carers**

#### **Carers Trust**

**Tel** 0300 772 9600

**Email** [info@carers.org](mailto:info@carers.org)

**[www.carers.org](http://www.carers.org)**

Provides support, information, advice and services for people caring at home for a family member or friend. You can find details for UK offices and search for local support on the website.

## **Carers UK Helpline**

**(England, Scotland and  
Wales)** 0808 808 7777

(Mon and Tues, 10am to 4pm)

**Helpline (Northern Ireland)**  
028 9043 9843

**Email** [advice@carersuk.org](mailto:advice@carersuk.org)

**[www.carersuk.org](http://www.carersuk.org)**

Offers information and support to carers across the UK. Has an online forum and can put people in contact with support groups for carers in their area.

## **Cancer registries**

### **The cancer registry**

A national database that collects information on cancer diagnoses and treatment. This information helps the NHS and other organisations plan and improve health and care services. There is one in each country in the UK:

## **National Cancer Registration Service**

**Tel** 020 7654 8000

**Email** [enquiries@phe.gov.uk](mailto:enquiries@phe.gov.uk)

**[www.ncr.nhs.uk](http://www.ncr.nhs.uk)**

**Tel (Ireland)** 021 4318 014

**[www.ncri.ie](http://www.ncri.ie) (Ireland)**

## **Scottish Cancer Registry**

**Tel** 0131 275 7777

**Email** [nss.csd@nhs.net](mailto:nss.csd@nhs.net)

**[www.isdscotland.org/  
Health-Topics/Cancer/  
Scottish-Cancer-Registry](http://www.isdscotland.org/Health-Topics/Cancer/Scottish-Cancer-Registry)**

## **Welsh Cancer Intelligence and Surveillance Unit (WCISU)**

**Tel** 029 2037 3500

**Email** [general.enquiries@  
wales.nhs.uk](mailto:general.enquiries@wales.nhs.uk)

**[www.wcisu.wales.nhs.uk](http://www.wcisu.wales.nhs.uk)**

## **Northern Ireland Cancer Registry**

**Tel** 028 9097 6028

**Email** [nicr@qub.ac.uk](mailto:nicr@qub.ac.uk)

**[www.qub.ac.uk/nicr](http://www.qub.ac.uk/nicr)**



You can search for more organisations on our website at [macmillan.org.uk/organisations](http://macmillan.org.uk/organisations) or call us on 0808 808 00 00.



## Disclaimer

We make every effort to ensure that the information we provide is accurate and up to date but it should not be relied upon as a substitute for specialist professional advice tailored to your situation. So far as is permitted by law, Macmillan does not accept liability in relation to the use of any information contained in this publication, or third-party information or websites included or referred to in it.

## Thanks

This booklet has been written, revised and edited by Macmillan Cancer Support's Cancer Information and Development team. It has been approved by our Senior Medical Editor, Dr David Gilligan, Consultant Oncologist.

With thanks to: Carol Davies, Macmillan Lung Cancer Nurse; Clair Haslop, Clinical Nurse Specialist, Lung Cancer; Professor Sam Janes, Professor of Respiratory Medicine; Mr David Lawrence, Cardiothoracic Surgeon; Dr Fiona MacDonald, Consultant Clinical Oncologist; Dr Rhona McMenemin, Consultant Clinical Oncologist; Dr Sanjay Popat, Consultant Thoracic Medical Oncologist; and Professor Denis Talbot, Professor of Cancer Medicine. Thanks also to the people affected by cancer who reviewed this booklet, and those who shared their stories.

We welcome feedback on our information. If you have any, please contact [\*\*cancerinformationteam@macmillan.org.uk\*\*](mailto:cancerinformationteam@macmillan.org.uk)

## Sources

We've listed a sample of the sources used in this publication below. If you'd like further information about the sources we use, please contact us at **[cancerinformationteam@macmillan.org.uk](mailto:cancerinformationteam@macmillan.org.uk)**

European Society for Medical Oncology (ESMO). Early stage non-small cell lung cancer consensus on diagnosis, treatment and follow-up. ESMO Consensus Guidelines. 2014.

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Scottish Intercollegiate Guidelines Network (SIGN). Management of lung cancer. 2014.

# Can you do something to help?

We hope this booklet has been useful to you. It's just one of our many publications that are available free to anyone affected by cancer. They're produced by our cancer information specialists who, along with our nurses, benefits advisers, campaigners and volunteers, are part of the Macmillan team. When people are facing the toughest fight of their lives, we're there to support them every step of the way.

We want to make sure no one has to go through cancer alone, so we need more people to help us. When the time is right for you, here are some ways in which you can become a part of our team.



## **Share your cancer experience**

Support people living with cancer by telling your story, online, in the media or face to face.

## **Campaign for change**

We need your help to make sure everyone gets the right support. Take an action, big or small, for better cancer care.

## **Help someone in your community**

A lift to an appointment. Help with the shopping. Or just a cup of tea and a chat. Could you lend a hand?

## **Raise money**

Whatever you like doing you can raise money to help. Take part in one of our events or create your own.

## **Give money**

Big or small, every penny helps. To make a one-off donation see over.

**Call us to find out more**

**0300 1000 200**

**[macmillan.org.uk/getinvolved](http://macmillan.org.uk/getinvolved)**

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Macmillan Cancer Support and our trading companies would like to hold your details in order to contact you about our fundraising, campaigning and services for people affected by cancer. If you would prefer us not to use your details in this way please tick this box.

In order to carry out our work we may need to pass your details to agents or partners who act on our behalf.



If you'd rather donate online go to [macmillan.org.uk/donate](https://macmillan.org.uk/donate)

Please cut out this form and return it in an envelope (no stamp required) to:  
Supporter Donations, Macmillan Cancer Support, FREEPOST LON15851,  
89 Albert Embankment, London SE1 7UQ

This booklet is about lung cancer. It is for anyone who has been diagnosed with lung cancer. There is also information for carers, family members and friends.

The booklet explains the signs and symptoms of lung cancer, and how it is diagnosed and treated. It also has information about emotional, practical and financial issues.

If you have more questions or would like to talk to someone, call the Macmillan Support Line free on **0808 808 00 00**, Monday to Friday, 9am to 8pm, or visit **macmillan.org.uk**

Would you prefer to speak to us in another language? Interpreters are available. Please tell us in English the language you would like to use. Are you deaf or hard of hearing? Call us using NGT (Text Relay) on **18001 0808 808 00 00**, or use the NGT Lite app.

Need information in different languages or formats? We produce information in audio, eBooks, easy read, Braille, large print and translations. To order these visit **macmillan.org.uk/otherformats** or call our support line.

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