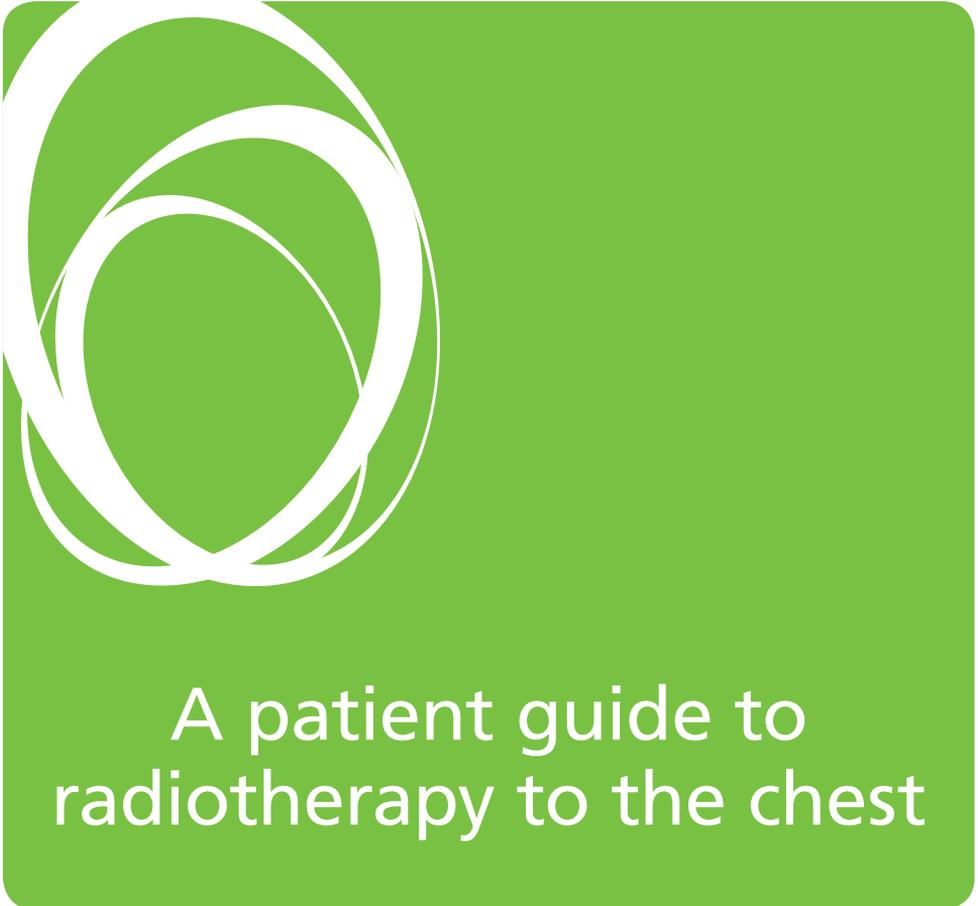




**University Hospitals Birmingham**  
NHS Foundation Trust



# A patient guide to radiotherapy to the chest

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This leaflet is for people who have been recommended to receive radiotherapy to the chest. It will highlight the important details that you will have already discussed with your doctor. This leaflet is intended to be a guide as details and side effects of treatment will vary from one patient to another.

## What is radiotherapy?

Radiotherapy uses high energy X-rays. The aim of radiotherapy is to slow down or stop tumour growth. Radiotherapy is similar to having a scan, it is painless, and you will not see or feel anything. You do have to lie still for a few minutes.

Radiotherapy treatment is sometimes called external beam radiotherapy and is carried out on a machine called a linear accelerator.

Treatment is normally given in short daily treatment sessions, Monday to Friday. The number of treatment sessions you will be having will depend on your condition. Your doctor will discuss this with you in more detail.

Unfortunately, some healthy cells within the treated area can also be affected, resulting in some side effects. The side effects will be discussed at a later point in this leaflet.

The treatment will not make you radioactive so it is safe to be around children and other people after your treatment.

We are a teaching hospital and have student radiographers in the department every day who are supervised by trained staff. Your radiotherapy will be delivered by radiographers, both male and female.

## Why do I need radiotherapy?

Radiotherapy can be used as the main treatment for cancer or it can be used after surgery. This is to ensure that small cancer cells have not been missed.

## What are the benefits of radiotherapy?

For most patients, the benefit of radiotherapy will be to potentially cure or improve the control or the symptoms of your cancer. Your doctor will discuss this with you in more detail at your first appointment in clinic.

## Are there any alternative treatments to radiotherapy?

Cancer may also be treated with surgery, chemotherapy and or/ other drug therapies. It may be that you receive a combination of these treatments and your doctor will discuss your options with you.

## Pacemakers

It is important that you inform your doctor or a radiographer if you have a pacemaker. Radiation may affect your pacemaker so checks will need to be organised through your treatment.

## Pregnancy

It is extremely important that you are not pregnant or become pregnant during your course of radiotherapy. Even a small amount of radiation may harm an unborn foetus (baby) so it is very important to let the radiographers know at once if you think there is even a small possibility that you may be pregnant before being exposed to any radiation on the CT scanner or treatment machine.

## What happens before my radiotherapy begins?

Radiotherapy treatment has to be carefully planned and your first appointment will be for a computed tomography planning

scan (CT scan). You will be sent an appointment to attend the CT scanner in Radiotherapy, The Cancer Centre, Queen Elizabeth Hospital Birmingham.

This CT scan of your chest enables your radiotherapy treatment to be planned and the scan needs to be carried out regardless of any other scans you may have had recently. The appointment can take up to one hour.

## What happens at my CT appointment?

When you arrive for your appointment you will be given a gown and asked to change into it, removing all of your clothes above the waist. Ladies may find it easier to wear a skirt or trousers rather than a dress to the appointment.

The usual position for planning and treatment is lying down flat with the chest area being exposed. Please let the radiographers know if you cannot manage this position.

Depending on the area to be treated, contrast agent (dye) may be used with your scan to highlight important areas that the doctors may want to treat or avoid

If you require contrast a small cannula (fine plastic tube) will be placed into a vein in your arm using a fine needle. This will be connected to a machine which will give the contrast agent when you are having your scan.

After the scan the radiographers will ask permission to make three to four tiny permanent dots, called tattoos which are the size of a small freckle. These do not indicate where you need treatment or the position of the tumour but are used to ensure you lie in the correct position each day. Any pen marks put on the skin by the radiographers during the CT scan can then be washed off when you get home.

Once your scan procedure is complete you will be given an appointment for your first radiotherapy treatment. There will be a time delay between your CT planning scan and the start

of your radiotherapy because your treatment now needs to be planned and this can be a complex process involving your doctor and a team of other professionals.

The working hours of the radiotherapy department are between 08:00–18:00. If you have a need for a certain appointment on a specific day it is best to ask at the earliest available opportunity once you have started radiotherapy to avoid disappointment. It may not always be possible to accommodate all patient requests as we are a very busy department, with approximately 250 – 300 patients on treatment each day.

If you require hospital transport for your radiotherapy treatment please discuss this with the radiographers at CT.

## What happens when I arrive for my first treatment appointment?

Your treatment will be carried out on a machine called a linear accelerator. On your first day of treatment you can go directly to your allocated treatment room. If you are unsure where this is, please ask at the reception desk in the Radiotherapy Department, or any member of staff. Place your appointment card in the box outside the room so that the radiographers know that you have arrived.



Linear accelerator

You will be required to remove your top clothes and change into a gown the same as you did at the CT appointment.

The gowns and changing rooms are located in the waiting room. Please ask a member of staff to show you the changing rooms. Once you are changed please take a seat in the waiting room.

If you prefer not to change into a gown, please inform a member of staff.

When the radiographers are ready to start your treatment they will come and talk to you and explain the procedure. Please feel free to ask any questions that you may have about your treatment, side effects or appointment times.

When you enter the treatment room, you will be asked to lie down on the couch, in the same position as you were in the CT scanner. You will be asked to open your gown and expose your chest, as it is important that the radiographers can see your tattoos and that there is no clothing in the treatment area.

The radiographers will then move you closer to the machine and line up your tattoos to ensure you are in the correct position for treatment. They will then make some pen marks on your skin. The marks do not indicate where you are having treatment but are used to check your position during treatment and monitor if you have moved.

When you are in the correct position the treatment machine will move around but it will not touch you at any point during your treatment. The radiographers will inform you when they are leaving the room to commence treatment and you will hear an alarm sound which is part of the safety procedure. The radiographers will operate the machine from the control area and they can hear and see you at all times. If you need assistance just call out or raise your hand. For your own safety, please do not try to get off the bed as it is raised up off the floor.

For some treatments, the radiographers may move the machine around you to perform a quick scan of your chest before starting treatment. This allows us to look at more pictures to ensure you

are in the correct position. These pictures cannot be used to assess your response to radiotherapy. If this scan is part of your procedure it will be explained to you at your first treatment.

When the machine switches on you may hear some noises such as buzzing and beeping. This is normal and they are the noises that the machine makes whilst delivering the treatment. When the treatment has finished please remain in position until the radiographers enter the treatment room and tell you that everything is finished. This is for your safety.

Your first treatment appointment normally takes around 20 minutes.

## What happens at my other treatment appointments?

After your first treatment the appointments are normally quicker because on the first day additional checks and measurements are performed.

When you arrive, please put your appointment card in the box outside your treatment room.

Please collect a gown and remove your top clothes and change into it as you did on your first appointment. Once changed, please have a seat in the waiting room.

Appointments usually take around 15 minutes.

## CCTV monitors

The treatment rooms are monitored during your preparation for treatment, positioning and treatment delivery by television cameras. This is part of ensuring the accuracy of your treatment and your safety and wellbeing in the rooms at all times. We assure you that the camera image feed is live and it is not possible to make a recording.

The images are viewable on screens situated in the machine control areas. The control areas are only accessible by authorised radiotherapy staff, some who may not be directly involved with your care at that time.

If you have any concerns about your privacy or dignity that you have not already discussed then please do not hesitate to highlight your concerns during the information discussion with the radiographers at your first treatment appointment.

## Is there anything that I need to do whilst receiving my radiotherapy treatment course?

Whilst receiving radiotherapy treatment it is important to eat a healthy well balanced diet and make sure that you drink plenty of fluids ,especially if you are also receiving chemotherapy.

If you are diabetic please ensure you bring your insulin and some food each time you attend in case there are any delays.

We also recommend you bring any medication you are required to take regularly for example painkillers etc.

## Will I see a doctor during my treatment course?

During the course of your treatment you will be monitored by your treatment radiographers and you will be seen by your specialist radiographer, doctor or one of their team in the radiotherapy clinic. The treatment radiographers will let you know when this is. Please be aware that your treatment appointment time will be made to coincide with the clinic so that you do not have to make two visits in one day.

Please make sure you tell your doctor or their team of any side effects or problems that you are having. If you need any repeat medication that you have been given from your consultant you should mention this during your clinic appointment. A list of current medications may be useful to bring to this clinic consultation.

## Are there any side effects?

When you were consented for your radiotherapy, your doctor will have explained the potential side effects.

The most common side effects often occur during the course of radiotherapy treatment and may continue for a few weeks after treatment has finished. Side effects which occur six months or longer after treatment has finished are called late side effects.

If you have any questions about side effects, please ask any member of the treatment team.

## What are the possible early (acute) side effects?

These side effects are usually mild and normally start to occur approximately two weeks into your treatment and be at their worst at completion of radiotherapy. They should gradually improve in the weeks after your radiotherapy has finished and should have settled by the time you attend your post radiotherapy follow up appointment.

Below is a table to summarise the acute side effects commonly experienced by patients undergoing radiotherapy.

<b>Acute side effects</b>	
<b>Coughing</b>	Irritation of the lungs and windpipe can result in a cough. This can either be a dry or productive (wet and chesty) cough. You may also notice blood in your sputum/phlegm.
<b>Breathlessness</b>	Irritation of the lungs can make you short of breath.
<b>Eating and swallowing</b>	Irritation of the gullet can make it difficult or painful to swallow food. You may also experience sensations similar to indigestion or heartburn. We can arrange for you to see a dietitian if you require advice or nutritional support.
<b>Chest pain</b>	Mild chest pain can occur but normally settles down quickly. If the pain is severe, please let a member of the radiotherapy team know.
<b>Tiredness</b>	Treatment can make you tired and can last for a few weeks after you finish.
<b>Hair loss</b>	Chest hair in the area may stop growing. It should come back but may be thinner.

**Please let the radiographers know if you are experiencing any side effects as they may be able to help.**

## What are the possible late side effects?

These may occur months or years after finishing your course of radiotherapy. With the improvements in radiotherapy planning and treatment techniques, these are much more unlikely.

Late side effects	
<b>Tiredness/lethargy</b>	This can last for six weeks or longer. This duration of tiredness can cause people to worry but this is quite a normal reaction to the treatment. This will settle down.
<b>Breathlessness</b>	Radiotherapy treatment can cause some scarring to the lung which can result in an increase in shortness of breath in the future.
<b>Rib fracture</b>	Radiotherapy can also weaken the ribs in the treated area. This can make them more likely to fracture (break) in the future, but this is very rare.
<b>Narrowing of the oesophagus</b>	If you have had radiotherapy to the oesophagus, the treatment can cause scar tissue to form which can narrow the oesophagus. This can lead to difficulty swallowing and sometimes a minor procedure is needed to stretch the oesophagus.
<b>Radiation-induced tumours</b>	Radiotherapy can cause cancer and there is a very small risk of a secondary cancer developing in the area that has been treated. However, because the risk of this happening is so small, the benefit of your radiotherapy treatment far outweighs this risk. Your doctor will discuss this with you.

## Skin care during your radiotherapy

The skin may become more sensitive during radiotherapy and it is important to keep the area clean when having treatment. You may bath and shower as normal but use warm water rather than hot and avoid soaking the area for long periods. Be gentle with the skin and do not use a washcloth or anything similar. Pat the area dry with a soft towel or let the skin dry naturally.

You can continue to use your normal shower /bath products but if your skin becomes irritated it is advisable to stop using that product and ask the radiographers for advice. It is not advisable to put hot water bottles or cooled creams or packs on the skin receiving treatment.

Your skin will be more sensitive to the sun in the area treated so you will need to be careful in the sun for at least a year after you have finished treatment. Use a sunscreen with a minimum UVB sun protection factor (SPF) of 50 and UVA protection or keep you skin covered.

**Moisturising** - Moisturising your skin can help if your skin becomes dry and itchy. You may use your normal moisturiser. Apply any cream sparingly, gently smooth it on and avoid rubbing the skin.

## Who do I contact if I have any questions or concerns whilst on treatment?

All our staff are here to make sure your treatment goes as smoothly as possible and to support you through this difficult period. If you have any questions about your treatment or side effects, please do not hesitate to ask your doctor or any of the radiographers for advice.

During your treatment and for up to six weeks after treatment finishes if you need **urgent advice** due to side effects or are feeling unwell, please contact the oncology hotline on: 07789 651543.

In the event that your call is not answered, please leave a message stating your name, hospital number and contact telephone number.

For patients with lung cancer and their families, the Lung Specialist Radiographer can be contacted on:

**0121 371 3554**

Monday to Thursday (9am–5pm)

Answer phone available outside office hours

## What do I need to do when I have finished my treatment?

Once you have completed your treatment, the acute side effects may continue for a few weeks even though you are no longer receiving treatment. Continue with the advice that was given to you during your radiotherapy until the side effects stop. If you are unsure of what to do please ask a radiographer or your doctor before you finish your treatment.

You will be seen by your doctor when you have completed your treatment and this will be 6–12 weeks after the end of your radiotherapy. If you do not receive an appointment in the post within this time then please contact the secretary of your doctor who will be able to check this for you.

Your follow-up appointments will continue for months/years. During these appointments it is important that you mention any side effects or problems that have occurred since completing your treatment. This enables your medical team to optimally manage any late side effects.

# Attending for your treatment appointments

## By train

University station is the closest train station to the hospital and is only a 5–10 minute walk away. There is also a shuttle bus running from the train station to the Cancer Centre for those patients who have difficulty walking.

## By car

Car parking in Car Park D is free for patients attending for daily radiotherapy treatment. Car Park D is located directly opposite the doors to the Cancer Centre. The postcode for your satellite navigation device is B15 2GW.

If you do drive, please bring in the ticket you have taken to access the car park and the radiographers will exchange this for a prepaid one so you may exit the car park without charge.

## Hospital transport

Hospital transport is only provided if you have a medical need that stops you from using private or public transport. If you need any help/advice please contact: Patient Transport Services on 0800 035 6511 (Monday–Friday 08:00–18:00).

If you use hospital transport it can mean spending many hours away from home and travelling long distances (you will be collected/returned on a schedule), therefore we recommend you use other forms of transport if you can. Please ask a member of staff for details.

## Bromley Wing accommodation

Patients who live some distance away can stay at the Bromley Wing at the Queen Elizabeth Hospital. It is comfortable accommodation with meals from Monday– Friday for people who are able to look after themselves. Outside treatment

times you are free to entertain yourself, have visitors or go out. Accommodation here is free and can be arranged by contacting the Bromley Wing on 0121 371 4506.

You may also find this organisation helpful:

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

Tel: 0808 8080000

## Radiotherapy contact numbers

### **Patrick Room – Cancer Centre, Queen Elizabeth Hospital**

Information and support for people with cancer and their families.

Telephone: 0121 371 3537/9

### **Oncology hotline**

For urgent medical problems out-of-hours when attending for treatment and up to 6 week after radiotherapy or chemotherapy has finished.

Telephone: 07789 651543

### **Lung Specialist Radiographer**

Information and support for patients with lung cancer and their families

Telephone: 0121 371 3554

## Radiotherapy treatment rooms – direct telephone numbers

Room 1: 0121 371 5703

Room 2: 0121 371 5076

Room 4: 0121 371 5090 (tomotherapy)

Room 5: 0121 371 5085

Room 6: 0121 371 5098 (tomotherapy)

Room 7: 0121 371 5084

Room 10: 0121 371 5079

Room 11: 0121 371 5080



The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit [www.uhb.nhs.uk/health-talks.htm](http://www.uhb.nhs.uk/health-talks.htm)

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