



**Royal Berkshire**  
NHS Foundation Trust

# Long course radiotherapy for lung cancer

Information for patients on  
radiotherapy treatment

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# What happens next?

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In the clinic today, you and your doctor have decided that you will have radiotherapy treatment for your cancer. This booklet discusses what you can expect during and after your treatment and gives some general advice and information.

You will be given time to discuss any concerns with the radiographer (a person trained to give radiotherapy) at your planning appointment.

## Planning treatment

You will be contacted by telephone to arrange an appointment for the CT Scan which forms part of the planning of your radiotherapy treatment and which can take up to 1 hour. During this call please mention if:

- You have not had a blood test taken in the last 12 weeks as we may require you to take one prior to the planning scan date.
- You have any problems with travel or appointment times and we will do our best to help you.

If you have not been called by the Radiotherapy Planning Department within a week of today's appointment, then you can contact us on the number below.

Telephone: 0118 322 7872

Monday-Friday

8.30am-9.30am

3.30pm-4.30pm

Your treatment will then be scheduled to start approximately 2-3 weeks after the planning CT.

## What are the benefits of radiotherapy?

The benefits of radiotherapy are due to its effect against cancer in the area being treated. Radiotherapy uses high energy x-rays to kill cancer cells. Our bodies are made up of different cells, and all cells have the capacity to divide. If radiation hits a cell that is dividing, it will be damaged. Unlike normal cells, cancer cells are much less able to repair the damage so more of them will be destroyed.

**When recommending radiotherapy, your doctor will have taken into account the risks and benefits of the treatment. Although there are risks and side effects, it is felt that the advantages for you outweigh the disadvantages.**

## Radiotherapy for lung cancer

Depending on the results of your surgery or biopsy, you will have been prescribed between 12 and 32 treatments. Your treatment will be given daily and your oncologist will discuss with you the number of treatments you need.

## Pregnancy

Patients with child-bearing capacity must not be pregnant or become pregnant at any time during a course of radiotherapy as radiation can be harmful to the unborn child. It is important to let the radiographers know if you have missed a period or suspect that you may be pregnant, before you are exposed to any radiation.

Patients with child-bearing capacity will be asked to confirm their pregnancy status prior to planning the radiotherapy and again on the first day of radiotherapy treatment. This applies to all those with child-bearing capacity between the ages of 12-55 years and is a legal requirement.

## CT scan – your planning appointment

Before the scan starts, one of the radiographers will explain what is going to happen and answer any of your questions.

During the CT you will lie on the CT couch with your clothes removed from the waist up. The radiographers will then help to position you on a wing board which is a device that allows your arms to be supported in a position raised above your head. This is to ensure your arms are clear of the area to be treated. See the pictures overleaf. They will also use a knee rest to allow you to be more comfortable for your treatment. Depending on the requirements of the oncologist, some patients may be scanned with their arms by their sides.



CT scanner with wing board and knee rest.



Photograph showing the treatment position using the wing board.

During this planning session the radiographers will draw some pen marks on your chest with a washable pen. The radiographers will then place some markers on your skin which will show up on the scan. Measurements are then taken to record the position for treatment. The radiographers will then leave the room to start the scan. During the scan you will move through the scanner, however you will not see or feel anything. You can breathe normally throughout the scan.

The scan will take approximately 2 minutes. It will not hurt but it is very important that you stay very still during the scan. The radiographers are watching you throughout the whole procedure.

The final part of the planning procedure is to tattoo three points around your chest. This involves pricking the skin with a needle, which you may find a bit uncomfortable. This will produce very small, pinpoint sized permanent black marks, which, used with the arm rest and knee supports, will allow the radiographers to make sure exactly the same area gets treated each time.

### Contrast injection ('dye')

The doctor may have asked for you to have an injection of contrast for the scan. Not everyone will have this but for some patients it is helpful as it shows more detail in the chest scan.

You may have had an injection of contrast for scans before. It involves having a cannula, which is bendy tube inserted into your arm or hand using a needle. The needle is only used to position the cannula and is removed once the cannula is in place. The cannula that is left in your vein is there to inject the contrast through and it is injected just before the scan starts.

The contrast injection may create a very warm feeling for about 20 seconds. This is often concentrated around the pelvis and groin area spreading down the thighs. It may also give you a metallic taste in your mouth. These are all common and disappear quickly.

The cannula will be removed about 15 minutes after your CT scan is finished.

If you have had an allergic reaction to contrast dye before, you must tell the radiographers before your scan.

After your CT scan you will be given the date and time for your treatment appointment. This will be approximately 2-3 weeks after your CT scan. This allows us to use your CT scan images to produce a computerized plan of your treatment. You will be given a parking permit if you or a friend or relative drives you to the hospital for your appointments. You will also be shown where to report for your first treatment appointment.

### Your first radiotherapy treatment

When you arrive for your treatment, please report in to the radiotherapy receptionist who will show you where to wait. A member of the radiotherapy team will call you in for your treatment.

On your first treatment you will have a chat with one of the team of radiographers who will be treating you. They will:

- Check your details.
- Give you a list of the first week's appointment times.
- Discuss the treatment procedure.
- Outline the potential side effects.
- Tell you which day your doctor will see you during the treatment.
- Answer any questions you may have.

The Berkshire Cancer Centre is a training centre, so you may meet radiography students who may be involved with the delivery of your treatment under close supervision.

## What happens during treatment?

Each time you attend the department for treatment we need to ensure we are treating the correct person. As you enter one of the treatment rooms, we will ask you to identify yourself by telling staff your name, date of birth and first line of your address. The staff will check this information against the treatment sheet that has your radiotherapy prescription.

You may be asked to change into a hospital gown before treatment. If you prefer, you can bring in your own dressing gown each day. The radiographers will take you into the treatment room and position you on the treatment couch in the same position as you were for your planning scan by lining up the tattoo marks on your chest.

Our treatment machines have a camera system attached which uses infra-red lights to help us get you into the correct position and will also detect movement during the radiotherapy. We will need to remove your clothing from the waist up in order to use the camera system. You may feel a bit exposed, but it will only be your treatment team that is present with you. You will not feel anything from the infra-red light and it will not affect or hurt your eyes so you can keep them open if you wish. Please do let us know if you are light sensitive.

All the measurements for your treatment will then be set and checked. This preparation may take quite a bit of time, and is often longer than the treatment itself. As part of this preparation, you will hear the radiographers calling out some numbers and measurements; this is how they check your position. You should breathe and swallow normally but try to stay as still as possible.

Once the radiographers are happy with your position, the machine will then be moved to the first treatment position. The treatment machine will not touch you.

It is very important you remain still, breathing gently during your treatment, as during the CT scan.

The radiographers will leave the room, take a short scan to check your position and then start the treatment. Although you are alone in the room, the radiographers will watch you through closed-circuit monitors. If you need a radiographer during the treatment, raise your hand clearly and a radiographer will stop the machine and come into the room.

The machine will move around you and give you treatment from different angles. This is controlled by the radiographers outside. They may enter the room during the treatment, if so please try to keep as still as possible. You will not feel anything during the treatment, but you will hear a buzzing noise as the treatment is delivered.

During your treatments we will take x-ray scans to confirm your treatment position; there will not be any results from these, they are to help us get you in the right position for treatment.

An additional check will also be conducted using a dose measurement device which is taped to your skin surface for the duration of one of your treatment sessions. This is done to confirm the dose given according to your treatment plan.

The total time of your first treatment will be approx 30 minutes.

Subsequent treatments should take between 10 and 15 minutes.

Once we have started your course of radiotherapy treatment, we aim to go through it without any breaks or days off.

## After treatment

While radiotherapy can destroy cancer cells it may also have an effect on some of the surrounding normal cells and so you may experience some symptoms and side effects.

Side effects and their intensity will vary from patient to patient – everyone is different and reacts differently to the treatment. It is important you keep the radiographers informed of any side effects you experience.

Most side effects will gradually start from approximately 1-2 weeks into your course of treatment and may continue for 2-3 weeks after your treatment is completed.

Radiotherapy does not make you radioactive and it is perfectly safe for you to be with other people, including children, after your treatment.

## Possible side effects

Tiredness: Your body will use a lot of energy over the course of the treatment and added to the travelling and anxiety of this you may feel tired. The tiredness will start whilst you are on treatment and could continue for up to 6-8 weeks after treatment has finished. You should try and pace the activities that you do during the day and have a sleep or nap if needed. There is no reason why you shouldn't continue with your usual daily activities as you feel able.

Problems with swallowing: Towards the end of your course of treatment, you might experience difficulty in swallowing. This may be very uncomfortable. You may notice heartburn and indigestion. This happens because the radiotherapy can irritate your gullet (oesophagus). Tell your doctors, radiographers or specialist nurses if you have problems swallowing, as they can arrange to give you medicine and painkillers to help. Some of these medicines are only available through the hospital but other painkillers can be obtained from your GP as well.

It may be uncomfortable to drink very hot or very cold drinks. It is also helpful to avoid spicy foods.

If you don't feel like eating, or have problems with swallowing, you can replace meals with nutritious, high-calorie drinks. These are available from most chemists and can be prescribed by your GP. We can also arrange for you to see a dietitian at the beginning of your radiotherapy, for advice about the best types of food to eat.

The soreness will get better by itself, but often takes a couple of weeks after treatment has finished.

Skin reaction: One of the side effects you may experience from the treatment is a skin reaction in the area we are treating. This begins as a mild reaction similar to sunburn and may become dry and itchy. The reaction may become more severe, like very red sunburn.

To reduce the skin reaction, we advise that you:

- After showering or gentle washing, towel dry the treatment area by patting not rubbing the skin, ideally allow the skin to dry naturally.
- Apply a moisturising cream twice a day to moisturise the treatment area, although you should avoid applying cream one hour before your treatment.
- Avoid applying hot or cold heat sources to the treatment area.
- Avoid exposing the treatment area to the sun.
- Try to keep natural fibre clothing against your skin.

If you experience any itching in the treatment area, please let the radiographers know and they will advise you further.

Pain or discomfort: If you experience any pain or discomfort, you can take painkillers, such as paracetamol, following the dosage instructions on the packaging.

Cough: The radiotherapy may cause some temporary inflammation and irritation in your lung, which may cause or increase an already present cough; this can be treated with cough medicine prescribed by your oncologist.

Shortness of breath: As already mentioned, the radiotherapy may cause some inflammation in your lung and this may cause or increase any already present shortness of breath. This can be relieved with medications prescribed by your oncologist and by resting as required to help you catch your breath.

Haemoptysis (blood in the sputum): As the radiotherapy can cause some temporary inflammation in your chest there may be some bleeding from some of the small blood vessels in your lungs, which you may cough up. This is nothing to worry about but please inform the radiographers at your next appointment.

### Long term side effects

Lung fibrosis: Your lung may lose some elasticity following radiotherapy and this may cause a decrease in your lung volume and cause you to become short of breath more quickly than you may have experienced previously.

Oesophageal stricture: Some patients experience a narrowing of the oesophagus (gullet) some time after radiotherapy. Any difficulty in swallowing should be reported to your GP so a plan to help with the symptoms can be made.

Please ask your team of radiographers or your specialist nurse if you have any questions or concerns. If you have questions, it may help to write them down and discuss them when you next visit the hospital.

### Contact details.

Lung Nurse Specialists: 0118 322 8994

Berkshire Cancer Centre: 0118 322 7888 (9am-5pm)

Radiotherapy Clinic: 0118 322 7890 (9am-5pm)

Macmillan Cancer Information Centre: 0118 322 8700

Patient Relations Team: 0118 322 8338

### Further information

Macmillan Cancer Support

0808 808 2020

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

British Lung Foundation

[www.lunguk.org](http://www.lunguk.org)

08458 505020

For more information about the Trust, visit our website at [www.royalberkshire.nhs.uk](http://www.royalberkshire.nhs.uk)

Notes:

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This document can be made available in other languages and formats upon request.

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