



The Clatterbridge
Cancer Centre
NHS Foundation Trust



Palliative radiotherapy for lung cancer

Radiotherapy

A guide for patients and carers

Contents

Radiotherapy and how it helps treat your cancer	2
The planning stage of your radiotherapy	3
Getting to your planning session	3
Radiotherapy planning	3
Planning CT scan	4
Your radiotherapy sessions	6
Possible side effects	8
Additional information	12
Follow-up after the course of radiotherapy treatment	13
Frequently-asked questions	14
Who to contact for advice and support	15
Additional information and contacts	16



You are being offered a course of palliative radiotherapy for lung cancer.

Before you have any treatment, your cancer doctor will explain why you need treatment, its effectiveness and possible side effects. If you agree to have the treatment, you will be asked to sign a consent form.

This guide will explain:

- What radiotherapy is and how it helps treat lung cancer
- What to expect during the planning stage of your treatment
- What to expect when you have your radiotherapy sessions
- The possible side effects during and after treatment and how they can best be managed
- Follow-up after radiotherapy treatment finishes
- Answers to frequently-asked questions
- Details of who you can contact for advice and support

The Clatterbridge Cancer Centre Hotline 0800 169 5555

If you are unwell during or up to eight weeks following your cancer treatment please call The Clatterbridge Cancer Centre Hotline.

Your call will be answered by a dedicated nurse advisor. This line is available 24 hours a day, seven days a week.

Radiotherapy and how it helps treat your cancer

Radiotherapy is the treatment of cancer using high energy x-rays (radiation). It is given from outside the body by a machine called a linear accelerator. It accurately delivers radiation to the area requiring treatment. Treatment takes approximately 10 minutes and is completely painless.

The aim of palliative radiotherapy is to improve symptoms from lung cancer. In most cases it can slow or stop the tumour's growth for a time, in some cases it can shrink the cancer.

The cancer doctor, usually called a clinical or radiation oncologist, is the person who is responsible for prescribing and supervising your course of treatment. The Therapeutic Radiographers are the people who operate the radiotherapy machines and deliver your treatment.

Radiotherapy is usually given as out-patient treatment either in one session (single fraction), two sessions (fractions) or a series of five or 12 daily sessions (fractions); it is usually given on weekdays Monday to Friday and can start on any day of the week. Very occasionally, some people may need to stay as in-patients during part of their treatment and this generally only happens if they cannot attend daily or become unwell.



The planning stage of your radiotherapy

To deliver the radiotherapy treatment accurately to the tumour a preparation period is needed which is described as radiotherapy planning. It involves a CT scan, followed by a process called 'computer planning' which is carried out by the planning team at the hospital and does not need your presence.

Getting to your planning session

Before you begin actual radiotherapy treatment, you will be asked to come as an out-patient for a planning session at one of the Clatterbridge Cancer Centres (Liverpool or Wirral). The planning session will not make you feel tired or unwell, but many people like to come with a family member or friend for support. The planning session will last about an hour in total. If you are also to receive your radiotherapy treatment, on the same day, please be prepared that your visit may take 3-5 hours.

Please refer to the information leaflet 'About The Clatterbridge Cancer Centre' for details of transport arrangements available.

Radiotherapy planning

Radiotherapy planning involves a CT scan of the chest, as you will have had previously. The CT scan is taken in the same position as you will be in for the actual



radiotherapy treatment and is necessary to work out exactly how and where to give radiotherapy. It is used by the radiotherapy team to prepare the treatment plan.

Planning CT scan

You will be taken to the room with the CT scanner, where you will spend 15-20 minutes. You will have a private space to remove clothing and jewellery from your waist up to your chin.

Very occasionally, an intravenous injection is given during the scan. We will discuss this with you, if it applies to you. This is a contrast dye, which allows blood vessels to be seen more clearly on the CT scan to help the cancer doctor plan the treatment. If you are going to have contrast dye, you will be cannulated before you go on the scanner - a little needle will be inserted into a vein in your arm in preparation for the dye to be injected. It is important to inform the Therapeutic Radiographer if you have had a reaction to IV contrast previously.

You will be asked to lie on the 'couch' part of the CT scanner with your arms above your head or by your side. This couch, which looks more like a narrow table than a couch, has a hard surface, but most people don't find it particularly uncomfortable. Because the treatment delivery is very precise, it is important for you to be comfortable and to try to keep as still as possible. For this reason, there are rests for your knees, arms and hands. Very occasionally, an "immobilisation cast" is required, depending on where in the lung



is being treated. This ensures that your shoulders and neck are kept in the correct position during treatment. A cast is a form of plastic netting which can be stretched over your upper chest and neck when warm and then hardens when it cools down.

Before the scan, the Therapeutic Radiographers will need to put up to four tiny dots on your skin using a felt-tip pen. At the end of the planning session, your permission will be asked to make these marks permanent by tattooing very small dots. These tattoo dots are used during treatment to ensure that you are in exactly the same position every day. As felt-tip pen marks can get smudged and wash off, we recommend permanent marks so you can wash normally before and during the treatment.

We aim to start your treatment within a couple of days of your planning session. Your treatment appointment details will be discussed with you in person, and we will aim to supply you with a list of your treatment appointments. If this is not possible you will be contacted by the following day by our bookings team.

If you have been given the contrast dye injection, you will be asked to wait about 30 minutes after the scan in the waiting area. This will be discussed with you before we administer the injection.

Your radiotherapy sessions

Your radiotherapy treatment will be at any of the Clatterbridge Cancer Centres (Liverpool, Wirral or Aintree). The treatment will be daily on weekdays and appointments are for 15 minutes. Please be prepared to spend somewhere between ½ and 1 hour in the hospital each day.

At your first treatment session we will explain the process and tell you if there is anything you need to do or to know before you come into the treatment room. You can ask us any questions at this point or raise any matter you need to discuss.

For treatment you will lie in the same position as you were in for your planning session. Although you will be asked to undress the upper part of your body before treatment, once you are on the treatment couch we will cover you up as much as possible.

We usually dim the lights in the treatment room while getting you into position. Setting you up in the correct treatment position can take a few minutes, and the Therapeutic Radiographers often need to talk to each other rather than to you, to ensure you are in the correct and safe position. They often use technical words or abbreviations at this point. Please try to lie still and relax. If you have any questions about the words used, please do not hesitate to ask the Therapeutic Radiographers.

If you have permanent marks from your pre-treatment planning on your skin, the Therapeutic Radiographers may also mark the skin



with a felt-tip pen. These pen marks are only required at the time of the treatment and can be removed with gentle washing if you wish to remove them.

When the Therapeutic Radiographers have finished setting up, they leave the room to switch on the treatment machine. When they are outside the room, the Therapeutic Radiographers need to confirm the details of your treatment, so it is usual to have a short delay before the machine is switched on.

Before starting the actual treatment, we take either x-ray images or a scan using the treatment machine known as a cone beam CT. These are used to check the position of the area being treated before the machine is turned on. All you will see is the machine rotating around you and making a buzzing noise. The cone beam CT scans or x-rays then take a few minutes to analyse and it may be necessary to adjust the position of the treatment couch. At this point, you may feel the couch being moved a little.

The linear accelerator will then be turned on to give the radiation treatment. It will be delivered either from a number of different



directions or as it rotates around you. The machine will make a noise as it moves around you, and beeps will be heard when the radiation is being delivered. You will not feel anything during the treatment.

Throughout the treatment, the Therapeutic Radiographers watch you through closed-circuit television and can hear and see you at all times.

When the treatment session is over, a member of the team will come to help you get off the couch and take you to where you can get dressed. You will be free to leave the hospital as soon as the treatment is finished.

Possible side effects

Side effects during and after treatment

Please be assured that many people experience few or no side effects. The reason for letting you know what may happen is not to frighten. It is just to be informed, so you understand if side effects happen how to deal with them.

Side effects may develop during treatment, but both the timing and how they appear vary from person to person. However, side effects may continue beyond treatment and some may peak up to two weeks after the completion of the radiotherapy before they start to improve.

Some side effects will be specific to the area of the body being treated, and some will be more general, such as feeling tired. We



strongly advise you not to smoke during radiotherapy treatment as it may reduce its effectiveness and may make side effects more likely and they can be more severe.

Here is a list of the possible side effects which you may experience during, and shortly after treatment, and how to deal with them.

Possible side effects	Advice
Discomfort when swallowing (dysphagia)	<p>If the cancer is close to the oesophagus (food pipe or gullet), that area may become inflamed, and this sometimes makes swallowing a bit difficult and uncomfortable. With palliative radiotherapy this is rarely severe and, if so, may be apparent a few days after the treatment finished.</p> <p>Medication can be prescribed to help, as well as nutritional drinks if eating is a problem. It's best to avoid spicy or hot food, smoking and alcohol during treatment. It also helps to have softer foods with liquid such as sauces and gravies. We also advise to eat smaller meals more often. Any problems usually get better within a few days.</p> <p>Please refer to our 'Eating well and coping with side effects' or our Eating well & coping with side effects on a vegan diet leaflet for further advice.</p>

Tiredness	<p>This often starts after treatment and may continue for up to four to six weeks after the end of treatment. Give yourself plenty of rest, however remaining active can help with the tiredness. Try to include things that you enjoy, no matter how simple the activity.</p>
Breathlessness and coughing	<p>Radiation may cause inflammation of the lung (pneumonitis) during treatment and you could experience symptoms of breathlessness and a dry cough. If this happens, let the cancer doctor or Therapeutic Radiographer know, as steroids can be given to treat these symptoms. However, with palliative radiotherapy this rarely happens.</p> <p>You may produce more phlegm (sputum) during treatment. If the phlegm is thick and yellow/green, it may indicate you have a chest infection not related to treatment and you may need treatment with antibiotics. Please mention this when you come for treatment and we can arrange for you to see one of our radiotherapy cancer doctors.</p>
Other side effects	<p>Depending on the area treated, there may be some risk of rarer side effects. If this is a possibility, your cancer doctor will identify this prior to starting treatment and will discuss it in detail with you as part of the consent process.</p>



Long-term side effects a few months after radiotherapy

Long-term side effects are rarely, if ever, seen after palliative radiotherapy. We mention them for completion if you become concerned in the future. The long-term side effects include potential damage to the lung and the gullet (oesophagus). The details are described below, but please be assured they are generally not seen following palliative lung radiotherapy.

Radiotherapy for lung cancer can cause side effects such as inflammation or hardening and thickening (fibrosis) of the lungs. This can cause symptoms such as shortness of breath and a cough.

The oesophagus (food pipe or gullet) may also be affected and become narrower, making swallowing difficult; this can be treated. Very rarely, the inflammation of the oesophagus may lead to the development of a small hole (fistula) which would need repair.

These long term side effects can take months or even years to develop.

Please seek medical advice if you develop any symptoms by contacting your Clinical Nurse Specialist or your cancer doctor via their secretary.



Additional information

If you are limited in how far you can walk, you should consider getting a Motability Badge (Blue Badge) so that you can use the designated parking spaces. These are issued by your local council.

It may be useful to get a wheelchair as many people find it is helpful for certain activities such as shopping. For further information, please contact your GP surgery.

People having palliative treatment become entitled to particular benefit payments or the rate of any current payment may be increased. Often, an application is addressed by hospital staff on your behalf, however if you are unsure you should contact the Disability Living and Attendance Allowance helpline. If you need advice, we can arrange for you to see our Macmillan Welfare Benefits Advisor.

You and/or your carers may find it useful to talk to others who have been treated for lung cancer by contacting a support group. Contact the local Cancer Information and Support Centres or the Roy Castle Lung Cancer Foundation for details. Alternatively, if you are familiar with using the internet, the major cancer charities have online communities.



Follow-up after the course of radiotherapy treatment

Following completion of radiotherapy, generally 1-4 weeks later, you will be seen by your cancer doctor to discuss what happens next.

The effect of the treatment you received takes some time to show and it is important to allow enough time before checking how successful the treatment has been.

If you have contact with other teams for ongoing supportive care, such as a Macmillan or district nurse who visits you at home, consider contacting them and/or your GP if you have any concerns.

Frequently-asked questions

Question	Answer
Can I eat and drink before my CT scan and radiotherapy treatments?	Yes, you can eat and drink normally both before and after your CT scan and radiotherapy treatments.
Will I be well enough to get to my radiotherapy sessions by myself?	<p>Many people like to have family or a friend with them when they receive radiotherapy, although they cannot come into the actual treatment room. The radiotherapy session will not make you feel any better or worse than you felt immediately before it, so it's possible for you to come by yourself. If you feel tired, please don't drive to your appointment. If you are using your own transport, you may wish to have a friend or family member with you for company and they will be most welcome. If you are using hospital transport, an escort can be arranged for the days you are seen in clinic.</p>
Am I radioactive after having radiotherapy?	Radiotherapy does not make you radioactive, so it is safe to be with anyone, including pregnant individuals, children and babies.



Will I be able to wear my glasses/contact lenses, and keep my hearing aid and/or dentures in while having my CT scan and radiotherapy sessions?

In general, yes, you can - none of these need to be removed.
If you are having an immobilisation cast made, glasses, dentures and hearing aids may occasionally need to be removed and this will be discussed at the time of the planning CT scan.

Do I need to take off all items of jewellery during my CT scan and radiotherapy sessions?

Only jewellery on the body below the chin and above the waist needs to be removed. Watches, bracelets and earrings do not need to be removed.

I know someone who started their radiotherapy only a few days after their CT scan. Why am I having to wait longer? Is this a good or bad sign?

Everyone has their own treatment plan for their own particular tumour. It's best not to compare yourself with anyone else because their tumour is different, so their plan will be different from yours.

Who to contact for advice and support

Whenever you come to the hospital there will be opportunities to talk to a member of staff including the Lung Cancer Clinical Nurse Specialist (CNS). This service is available to patients with a diagnosis of lung cancer and their carers to ensure they receive the written and verbal information on the management of their cancer

and any symptoms, advice on treatment options and psychological support. Appointments into this service may be automatically booked as part of your care. If you do not receive an appointment to see our Clinical Nurse Specialist, please discuss this with your treatment radiographers.

Are you a smoker?

If so, you should be aware that there is evidence that side effects are worse if you smoke. We can support you in giving up smoking; please ask your treatment team or speak to the staff in PharmaC, located on the ground floor at Clatterbridge Cancer Centre - Wirral or level M1 at Clatterbridge Cancer Centre Liverpool, for more information.



Additional information and contacts

Clatterbridge Cancer Centre - Liverpool

65 Pembroke Place, Liverpool, L7 8YA

Tel: 0151 556 5000

www.clatterbridgecc.nhs.uk

Clatterbridge Cancer Centre - Wirral

Clatterbridge Road, Bebington, Wirral, CH63 4JY

Tel: 0151 556 5000

www.clatterbridgecc.nhs.uk



Clatterbridge Cancer Centre - Aintree

Lower Lane, Fazakerley, Liverpool, L9 7AL

Tel: 0151 556 5959

www.clatterbridgecc.nhs.uk

Lung Cancer Clinical Nurse Specialist (CNS) based at Clatterbridge Cancer Centre

Tel: 0151 556 5346

You and/or your carers may find it useful to talk to others who have been treated for lung cancer by contacting a support group. Contact the local Cancer Information and Support or the Roy Castle Lung Cancer Foundation for details. Alternatively, if you are familiar with using the internet, there are lots of cancer charities that have online communities.

If you need advice regarding financial issues, we can arrange for you to see our Welfare Benefits

Roy Castle Lung Cancer Foundation

0333 323 7200 or www.roycastle.org

Macmillan Cancer Support

www.macmillan.org.uk telephone 0808 808 0000

Cancer Information and Support Centre at: Clatterbridge Cancer Centre Liverpool

Tel: 0151 318 8805

Maggie's Centre - Wirral

Tel: 0151 334 4301

Society of Radiographers

www.sor.org

How we produce our information

All of our leaflets are produced by staff at The Clatterbridge Cancer Centre and this information is not sponsored or influenced in any way. Every effort is made to ensure that the information included in this leaflet is accurate and complete and we hope that it will add to any professional advice you have had. All our leaflets are evidence based where appropriate and they are regularly reviewed and updated. If you are concerned about your health in any way, you should consult your healthcare team.

We rely on a number of sources to gather evidence for our information. All of our information is in line with accepted national or international guidelines where possible. Where no guidelines exist, we rely on other reliable sources such as systematic reviews, published clinical trials data or a consensus review of experts. We also use medical textbooks, journals and government publications.

References for this leaflet can be obtained by telephoning 0151 556 5570.

If you need this leaflet in large print, Braille, audio or different language, please call 0151 556 5570.

If you have a comment, concern, compliment or complaint, please call 0151 556 5203.

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