

Arden Cancer Centre

Radiotherapy information for patients undergoing treatment to the lung

What is radiotherapy?

Radiotherapy is the use of high-energy radiation to kill cancer cells in the area being treated. Radiotherapy can also change normal cells in the treatment area which can cause some side effects. However, radiotherapy is planned very carefully to protect as much healthy tissue as possible to reduce these side effects. The tissues usually heal, and side effects and symptoms improve over time.

Radiotherapy is delivered by highly trained staff called therapeutic radiographers on machines called Linear Accelerators. Both male and female staff will treat you. We are a teaching hospital and have student radiographers on placement in radiotherapy, who are supervised by trained staff.

For more information about radiotherapy and to watch our department video go to <https://www.uhcv.nhs.uk/our-services-and-people/our-departments/radiotherapy/>

Consent forms

Before you undergo this procedure, you will be required to sign a consent form which indicates that your doctor has explained the treatment procedure and any possible side effects to you and that you agree to go ahead with treatment.



Pacemakers

If you have a pacemaker or implantable defibrillator, please mention this to both your doctor and the radiographers before your first treatment. The performance of your device can be altered by the treatment and it may need testing before and after treatment.

Pregnancy

If you are, or become, pregnant at any time before or during your treatment, it is important to inform a member of staff as soon as possible. There is a significant risk to an unborn baby from radiotherapy.

For advice on contraception, please speak to your consultant or GP.

Chemotherapy

Sometimes chemotherapy is given alongside your course of radiotherapy. This may start on the same day as your first radiotherapy treatment. You will be given specific written information and be consented separately for this. It is usually necessary to have weekly blood tests when on chemotherapy and radiotherapy together, if you have not been advised about this please ask.

What is treatment planning?

A period of planning or preparation is required before your treatment can start. This is to allow accurate “aiming” of the radiotherapy at your tumour and to calculate how to deliver the correct dose of radiation to the tumour.

CT planning scan

To treat you accurately and reduce any side effects, your radiotherapy treatment must be carefully planned. This will involve having a CT scan in the radiotherapy department and then a gap of 3 to 4 weeks before your treatment starts. During this time, doctors, physics staff and radiographers are planning your treatment.

Patient Information

For the CT scan and subsequent treatment, you will need to remove the clothing from your chest. Women might like to wear a small crop top which can then be pulled down when required. You may be asked to lie with your arms up beside your head in a special individually made support. This is the same position that you will be in everyday for your radiotherapy treatment.

Some patients with tumours near the neck may also be required to have a plastic face and neck mask made to wear during treatment. This helps to keep your head and neck still so that we don't have to put pen marks on your neck. You will need to wear the mask for the CT scan and subsequent treatment. There is a separate booklet describing how the mask is made. Please ask for more information if this applies to you.

Skin marks

At the scan, felt tip pen marks will be put onto your skin. These marks are used as reference for the planning process and during treatment. With your permission, we can put tiny permanent dots of dye just beneath the skin which will not wash off called tattoos. If we are unable to do this, you will need to keep felt tip pen marks on your skin for all of your treatment.

Contrast

Sometimes, an intravenous contrast medium is used to help the radiographers, doctors and physics team to see organs more clearly on the CT scan. This will involve having a needle put into your arm which will be removed after the CT scan. You will be told if you need contrast and given information about it.

If you have had contrast before and had any kind of reaction to it please let your doctor or the radiographers know. This contrast is only required for treatment planning and not whilst you are on daily radiotherapy.

Patient Information

Treatment

Radiographers will deliver the treatment as prescribed by your consultant. To do this, you will need to remove the clothing from your chest and lie in the same position you were in when you had your CT planning scan. The bed is then raised so it is closer to the machine.

The radiographers will dim the lights and use laser lights to line up your tattoos. When you and the treatment machine are in the correct position the radiographers leave the room to switch the machine on. You will need to lie still but you can breathe normally. The treatment machine will move around you during the treatment, but nothing will touch you. You will not feel anything during the treatment, but the machine will make a buzzing noise.

The treatment times are very short. Images are taken beforehand to check that the treatment is correct before it is given. The radiographers watch you throughout on a monitor and will turn the machine off and enter the room if you move or call for assistance. Most people will be in the treatment room for about 15 to 20 minutes.

Once the machine has switched off, there is no radiation present. You will not be radioactive, and you are safe to be near children and pregnant women.

Your radiotherapy doctor will discuss with you the total number of treatments that you need and how often you will need to attend the department.

Side effects of radiotherapy

Treatment is painless but can cause some side effects. It is unlikely that you will experience all of the side effects listed below. Treatment affects people in different ways, and it can be difficult to predict which side effects will affect you and how severe they will be.

Side effects can be thought of as early (acute) and late (chronic) effects.

Patient Information

Early side effects

These occur during your treatment and for a short while afterwards.

Tiredness:

- Most people will feel tired as result of having radiotherapy treatment. Tiredness will often come on gradually as the treatment progresses and may persist for some weeks after treatment has finished.
- If you feel tired you may need to sleep or rest. However, if you are feeling up to it regular exercise, such as taking a short walk can help.

Difficulty swallowing, loss of appetite and indigestion:

- You may find that food becomes difficult to swallow and your oesophagus (food pipe) becomes sore and painful.
- Softer foods might be easier to eat such as scrambled eggs, soups, and stews.
- Avoid hot or spicy foods and alcohol (particularly spirits).
- Some people find that radiotherapy treatment may change their sense of taste and that they lose their appetite during treatment.
- The oncology Dietitian can see you during treatment to advise you about eating and nutrition.
- You may find you need some soluble pain relief medication.
- Antacids (indigestion / heartburn remedies) may also help soothe the area.

Coughing and breathlessness:

- You may develop a cough and possibly experience some sputum which may change in colour or contain some blood.
- A tickly cough may be relieved with frequent sips of fluid especially at night. Sometimes codeine linctus can help.
- You may feel more breathless.
- Continuing to smoke may make your symptoms worse.

Patient Information

Hair loss:

- You will only lose hair in the area being treated, e.g. chest hair
- This is likely to occur about 2 weeks into your treatment.
- This hair loss can be temporary - however in some cases this may be permanent.

Effects on the skin

The effects of radiotherapy on the skin are usually minimal for this type of treatment.

However, towards the end of treatment and the first one or two weeks after treatment a skin reaction similar to exposure to the sun may develop in the treatment area, this may be red and / or dry and itchy.

We advise that you:

- Bathe / shower daily using your usual soap or shower gel
- Don't have the water too hot or soak for too long
- Use a soft towel to pat yourself dry
- Avoid wearing tight clothes in the area being treated
- Do not use sunbeds
- Do not swim if your skin is visibly red
- Use a moisturising cream to soothe and moisturise the skin
- Avoid extremes of temperature – hot or cold
- Keep the treated area out of the sun during treatment and care should be taken in the future by using a high factor sun cream – factor 30 or above
- Avoid shaving in the area being treated (if you have to shave then use an electric razor for dry shaving only. When the skin becomes visibly red, stop shaving). No wet shaving, hair removal creams, lasers or wax should be used

Patient Information

Late side effects

Late side effects of radiotherapy can occur many months to years after you have completed your treatment.

Breathlessness

- Radiation can cause inflammation of the lung (radiation pneumonitis) 6 to 12 weeks after finishing treatment. This can cause shortness of breath, fever, and cough. It can be mistaken for a chest infection, but does not resolve after a course of antibiotics. It can be treated with steroids to reduce the inflammation. This is rare, but contact your Specialist Lung Nurse if you have these symptoms.
- Scarring (fibrosis) of the lung can occur after 6 months. This scarring is permanent and can cause a small portion of the lung to collapse.
- Please discuss this with your Specialist Lung Nurse who can advise you on techniques to help make breathing easier. You may need to see your GP for antibiotics or other drug treatment to help.

Damage to the bones

- Radiotherapy can make your bones more fragile in areas that are treated, such as the ribs, and can lead to osteoporosis.

Narrowing of your food pipe (oesophagus)

- Rarely, narrowing of the food pipe can occur – this can cause difficulty swallowing.
- The narrowing can usually be relieved by a small operation to stretch the oesophagus and allow food to pass through easily again.

Heart damage

- Occasionally, radiotherapy to the chest can cause inflammation of the lining surrounding the heart (pericarditis) or some weakening of the heart muscle (myopathy) resulting in chest pain and shortness of breath.
- This is rare and may require further investigation and treatment.

Patient Information

Spinal cord damage

- This is extremely rare, but radiotherapy near the spinal cord carries a risk of nerve damage.

Brachial plexopathy:

- For tumours close to the top of the lung, there is a very small chance of damage to the nerves in the upper arm. This could result in weakness or numbness to part of the arm.

The risk of both spinal cord damage and brachial plexopathy is very small, as great care is taken to avoid or minimise dose to these structures.

Second malignancy

- There is a very small risk of developing a second cancer in the area treated 10 years after treatment.

Please discuss any new symptoms that you experience after your treatment with your consultant in the follow up clinic.

If you are concerned about the late effects of radiotherapy treatment, or would like more information, please speak to your Consultant, your Specialist Lung Nurse or the Macmillan Radiotherapy Specialist on 024 7696 7290.

Treatment reviews

At some point during your treatment, you will be booked in for a 'treatment review'. This review can be with a review radiographer, a consultant, or another member of the team. The aim of the review is to discuss any side effects that you may be experiencing as a result of your treatment, and any side effects that may occur as the treatment continues.

It is not usually possible to give you any information on how effective the treatment has been so far at these review sessions for two reasons:

Patient Information

- Firstly, although we take pictures of the treatment area during your radiotherapy, they are to check the position of the treatment field and are not detailed enough to show us how well the treatment is working
- Secondly, there is a delay in the way that radiotherapy works, so the effects of treatment can't be assessed until a number of weeks after the treatment has finished.

After treatment

The early side effects from your treatment will continue for several weeks after the treatment course has been completed.

After finishing treatment, you will receive an appointment to see your consultant between 6 and 8 weeks later. At this appointment, any further treatment or investigations will be discussed with you.

If you haven't received an appointment within 3 weeks of completing treatment, please telephone your consultant's secretary.

If you have any problems concerning your radiotherapy treatment, you can contact the Macmillan Radiotherapy Specialist on 024 7696 7290.

Where is the Arden Centre?

The Arden Centre is part of University Hospital Coventry. The entrance to the Arden Centre is situated to the left of the main hospital entrance. Please ask or visit the University Hospital web site for up-to-date maps and directions: www.uhcv.nhs.uk

Patient Information

How shall I travel?

By car

You can drive whilst having radiotherapy treatment unless you have been advised not to for another reason.

Sat Nav postcode: CV2 2DX

At busy times it can be very difficult to park. Please allow for extra time to park. There are several visitor car parks across the site and there are drop-off points near the main entrance and the Women and Children's entrance which allow 10 minutes of free parking. Disabled car parking facilities are located near the main entrance.

Charges apply in all car parks and Automatic Number Plate Recognition (ANPR) is live across all visitor car parks. This means that our car parks no longer issue tickets at barriers and instead read your number plate as you enter. Payment is then required at one of the payment machines before exiting the car park and can be made using cash, card or contactless. Payment can also be made by telephone or online before midnight. See the Trust website for details.

You are entitled to free parking whilst on radiotherapy treatment.

You will need to give your registration number to the Arden Centre receptionist on arrival. If you don't know your registration number, we suggest you make a note of it or take a photo of the number plate. **Please note that free parking does not include clinic appointments.**

Public transport

Many bus routes include the hospital with buses driving onto the site, stopping close to the main entrance. **For more information about bus services to University Hospital, call the travel line on 0870 608 2608 or visit www.networkwestmidlands.co.uk.**

Patient Information

Hospital transport

Hospital transport is available where there is a medical need, not for social or financial reasons.

If you receive Disability Living Allowance Mobility Component or have a vehicle under the mobility scheme, you may not be entitled to access hospital transport.

If you need hospital transport and feel that you are eligible, you will need to book it yourself giving 48 hours' notice. You will need to telephone:

West Midlands Ambulance Service

01926 310312 (for bookings only)

01926 488410 (for queries on day of travel only)

Leicestershire Ambulance Service / Arriva / Ambuline

0845 2669662

Northamptonshire Ambulance / NSL

0843 2086888

Worcestershire Acute Trust Transport Service

0300 0110017

In most cases you will not be able to bring anyone with you. Whilst your transport will be booked to get you to the hospital for your appointment time this cannot be guaranteed but you will be treated as soon as possible after you arrive.

Due to the demand on the hospital transport service patients will often be waiting at the Arden Centre to be taken home for some considerable time. We advise that, where possible, patients make their own travel arrangements.

Patient Information

If you have to rely on the hospital transport service, please ensure that you bring food, drinks and any medication that you may need for the day with you. There is a refreshment kiosk where you can buy snacks and drinks which is open from 10am to 4pm.

Transport Schemes

There are volunteer transport schemes operating in some areas. These schemes will charge a mileage rate which varies. For more information, please ask to speak to the Macmillan Radiotherapy Specialist.

Travel costs

The NHS Hospital Travel Cost Scheme enables people that receive certain benefits or who are on a low income to claim back some of their travel costs. Please ask to speak to the Macmillan Radiotherapy Specialist for more information.

Prescriptions

All cancer patients are entitled to free prescriptions. If you haven't already got an exemption card, please ask a member of staff for an application form.

Appointments

- The department is usually open from 9am to 5pm, Monday to Friday, and closed at weekends and on public holidays.
- On the first day of treatment you will be given a written appointment schedule. Please check these dates and tell your treatment radiographers as soon as possible if you need to change any dates or times.
- We will try our best to give you times that you prefer, but this cannot be guaranteed.
- Radiotherapy treatment machines are very complex - they are maintained by a team of in-house physicists and technicians. Delays in your treatment can occur due to machine breakdowns and servicing.

Patient Information

- There may be breaks in treatment due to public holidays and machine maintenance. These do not affect most people's treatment. However, some patients may be asked to come in for treatment on these days when a different treatment machine could be used.
- It is not advisable for you to miss any appointments, but if it is unavoidable please talk to the radiographers who are treating you.
- It is important that we have a contact telephone number for you as we often need to telephone patients at short notice about appointments or with other information.
- If your telephone is set to bar incoming calls from withheld numbers, please give us another telephone number.

Counselling

There is a counselling service available at the Arden Centre, for more information speak to your specialist nurse, doctor or radiographer, or telephone 024 7696 7478.

Smoking

It is strongly recommended that you **stop smoking** completely whilst undergoing radiotherapy. Smoking can make treatment side effects more severe and make the treatment harder to tolerate and less effective.

For help to stop smoking contact the hospital's stop smoking service 0800 122 3780 or 07377 558478.

Information and support

Cancer Information Centre 024 7696 6052

We can offer free support, practical advice, and information to anyone affected by cancer. No appointments are required, and an answering machine facility is available. Open Monday to Friday 9am to 4pm, the Centre is located on the ground floor in the main entrance.

Patient Information

Useful telephone numbers:

Arden Cancer Centre: 024 7696 7272

Monday to Friday 9am – 5pm

Radiotherapy Planning: 024 7696 7493

Monday – Friday 9am to 5pm

Macmillan Radiotherapy Specialists: 024 7696 7290

Monday – Friday 9am to 5pm

Acute Oncology (evenings and weekends)

UHCW switchboard 024 7696 4000

Ask to bleep acute oncology on 1641

NHS advice – use the 111 service

Macmillan Cancer Support: 0808 808 00 00 www.macmillan.org.uk

Cancer Research UK: 0808 800 4040 www.cancerresearchuk.org

British Lung Foundation: 03000 030 555 www.blf.org.uk

The Roy Castle Lung Cancer Foundation: 0333 323 7200
www.roycastle.org

Patient satisfaction

We hope that you have found this booklet helpful. We welcome your comments on the care that you experience and the service that we offer within the Arden Cancer Centre.

We ask that specific complaints be addressed to a member of staff so that, in line with University Hospitals Coventry and Warwickshire NHS Trust's complaints policy, they can be dealt with quickly and efficiently.

Patient Information

If you need help, information, or advice, either during, or at any time after your course of treatment has finished, please telephone 024 7696 7290, Monday to Friday 9.30am to 4.30pm, and speak to the Macmillan Radiotherapy Specialist.

Written by Julia Biggs & Alison Crichton
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With help and advice from the medical staff of the Arden Cancer Centre,
University Hospitals Coventry & Warwickshire NHS Trust,
Coventry CV2 2DX

The Trust has access to interpreting and translation services. If you need this information in another language or format, we will do our best to meet your needs. Please contact 024 7696 7272.

This Trust operates a non-smoking policy on the hospital site. Please respect other patients and staff and refrain from smoking whilst visiting the hospital. Thank you.

To give feedback on this leaflet, please email feedback@uhcw.nhs.uk

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