

Patient Information

Radiotherapy to the Lung - CHART



This booklet is for patients who are having a course of radiotherapy treatment to their lung. Your doctor has decided to give you a course of treatment known as **CHART** (Continuous Hyperfractionated Accelerated Radiotherapy). This means that you will have radiotherapy treatment three times a day for 12 consecutive days. The treatment is given at specific times. You will stay in the ward for the duration of your treatment.

What is Radiotherapy?

Radiotherapy is the use of carefully measured doses of radiation to treat cancer. It targets and damages the cancer cells and stops them dividing and growing. Most patients having radiotherapy are treated using a high energy beam of X-rays delivered to a precise area. The X-rays are used to treat the tumour and a small surrounding area.

Therapy radiographers operate the radiotherapy planning and treatment machines. They will be able to answer any questions or concerns that you may have. We have both male and female staff.

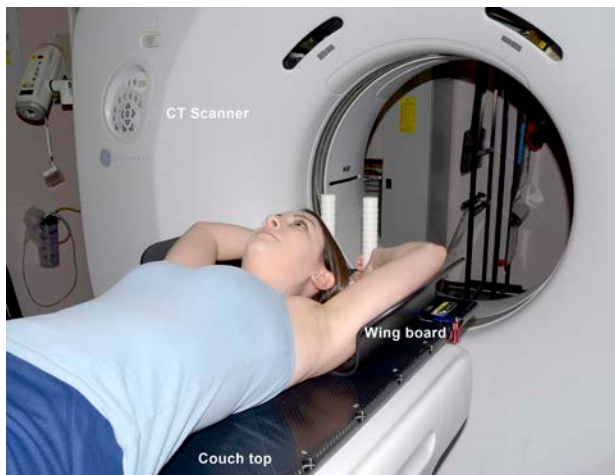
If you are in doubt about anything or have any questions or problems, please let us know as soon as possible.

Preparation for treatment

There are two ways we can position you for your planning and treatment.

You will need to undress to the waist but we will ensure we maintain your dignity by covering you whenever possible.

Option 1- Wing board



Picture 1: Wing board

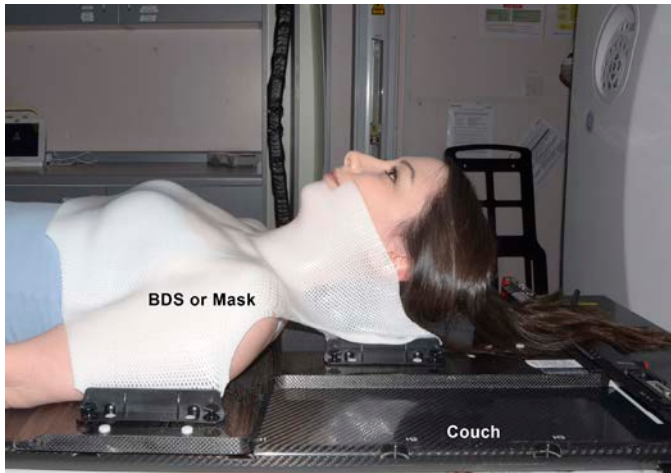
You will lie on your back on a special board. You will have your hands above your head holding onto two short poles. There are ledges at either side that will support your arms. Let your radiographers know if you are uncomfortable as you will have to lie in this position for each treatment.

Option 2- Beam directional shell

You may need a beam directional shell (BDS) for your treatment. Your first visit will be for the mould room where you will have the shell made.

The shell is important because:

- It keeps your head and shoulders still during the treatment.
- Your radiographers use marks drawn on your shell to make sure you are in exactly the same position each day for your treatment.



Picture 2: Beam directional shell

The process of making the shell will be explained to you in detail by the mould room team when you go for your appointment.

If you have a beard, we advise you to shave it off before we make your shell. It is important that your skin is smooth.

You will have to wear your shell when you come for your planning and treatment appointments. Let us know if you are uncomfortable as you will have to lie in this position for each treatment.

Planning appointment- CT Simulator

Before you begin your radiotherapy, the treatment must be carefully planned. You will have an appointment at the CT simulator to have a CT scan.

When you come for your CT scan, your radiographers will give you a gown to wear and ask you to undress to the waist. They will show you into the scanning room and help you to lie in the correct position on the scanning couch. Your radiographers will then slip your gown down, covering you whenever possible. They will draw 3 small marks onto the skin on your chest or onto your shell. It is important to stay as still as you can,

but you should try to relax as much as possible and breathe normally. The scan will only take a few minutes and your radiographers will watch you closely.



Picture 3: CT Scanner

Once the scan is finished your radiographers will need to make the marks on your skin permanent. They will give you three permanent marks called tattoos, which look like tiny freckles on your skin. These tattoos will be used every day to ensure you are in the correct position for treatment. If you have a shell, you will not need tattoos as the marks are on your shell.

Contrast injection

Your doctor may wish you to have an injection of contrast (dye) before your scan. This can help your doctor when planning your treatment.

Your doctor or radiographer will put a small needle (cannula) into a vein, usually in your hand or arm. The needle will be removed and will leave a small tube of plastic in your vein. We will tape it in place and it will stay in during the scan. We will then inject the dye through this plastic tube. It may feel a little cold but you should not feel any discomfort.

Some people can have an allergic reaction to the dye. This is rare but we will ask you some questions before beginning to ensure it is unlikely to happen to you. Your doctor and radiographers will keep a close check on you during the injection and scan. If you feel anything unusual please tell us.

Once your scan is complete, you will be able to dress and leave the department. If you have had the injection of dye, you will have to stay in the department for 15 minutes after your scan.

Pre-verification day (image check)

Before treatment can begin, you will attend for your pre-verification appointment. This will be done at one of our treatment rooms. The machine used to deliver your treatment is called a linear accelerator (shown below).



Picture 4: Linear Accelerator

You will lie on the treatment couch in the same position you were in for your CT scan. Your radiographers will take some measurements and also do a CT scan. This allows them to confirm your treatment position is correct before you start the actual treatment. It will also give you an idea of what to expect when you come for your treatment. There are no results from this scan.

This appointment will be a few days before your treatment starts.

Treatment

Your treatment will be given three times a day for 12 consecutive days, including the weekend. The treatment will be delivered at set times:

8:30am

2:30pm and

8:30pm.

Your treatment starts on a Monday, therefore you will need to come into the ward on the Sunday evening. On the Monday morning you must be ready to leave the ward to go for treatment. The staff on the ward and the hospital porters will be aware of this and will help in any way. If you are having breakfast or have family visiting during these times you must still come down for your treatment. **The times are very important and cannot be altered.**

Your radiographers will help position you on the treatment couch. If you have a shell, you will wear it for each appointment. The lights in the room will dim slightly while your radiographers move you into the correct position. The machine will move around you but it will never touch you.

During treatment your radiographers will leave the room to switch the machine on. They will be watching you all the time on closed circuit TV. The whole procedure will take 10-15 minutes.

Effects of Treatment (early)

Before starting your radiotherapy it is important that you understand about the possible effects of the treatment. These effects will vary from person to person. Some people may experience all of the effects, none of the effects or a combination of the effects. If you experience any of the effects below, please let your radiographers or ward staff know so they can help. This is a general guide.

- **Tiredness/Fatigue:** The treatment will make you tired. This usually happens gradually during treatment and may last for several weeks after it ends.
- **Skin:** Your skin in the treatment area may become a little pink, dry and, or itchy. This tends to happen gradually and will settle down after your treatment finishes. You can use creams and lotions to help soothe your skin. However some creams may make your skin worse, so please check with us first.
- **Gullet:** You may feel a discomfort in your gullet, like a lump is in the way of swallowing food. This is due to the gullet (oesophagus) being irritated by the treatment. There is a liquid medicine which we can prescribe for you if this becomes a problem. This will settle down within a few weeks of completing your treatment.
- **Cough:** Some patients notice an increase in their cough and, or production of sputum. This is quite normal, but if it is causing you difficulty, please let the ward staff know.
- **Chest Pain:** A few patients experience some pain in the chest in the 24 hours following their first treatment. This is usually mild and should settle quite quickly. It is important to let us know if you experience any pain.
- **Nausea:** You should not be sick with the treatment, but some patients find that they feel a little nauseous. If nausea becomes a problem during treatment, your doctor can prescribe some medication to help reduce this feeling.

General advice during treatment

Diet

- When you are having radiotherapy, it is important to try to eat well and choose from a variety of foods.
- If you are having difficulty eating please let us know. We can organise an appointment with a dietitian who will give you advice. If necessary we can also supply you with food supplements. Further help and support with this can be given to you in the ward.

Skin care

Radiotherapy only affects the skin that is within the area being treated. Please follow the advice below when caring for this skin during treatment and until any skin reaction has settled.

- You may bath or shower during treatment, provided the water is not too hot. You may use soap and pat your skin dry with a soft towel.

There is no reason to change your lifestyle during treatment, but do try to:

- Avoid very hot drinks, rough food and strong spices particularly if your gullet has become irritated.
- Avoid smoking and drinking alcohol, especially spirits, as both are likely to make the effects of radiotherapy worse. Cutting back will help if you feel that you cannot cut them out completely.
- Try to get plenty of rest, especially when the treatment begins to make you feel tired. Having treatment three times a day with hours in between can make your days feel very long. The ward nursing staff will also encourage you to be up and about part of the time when you feel able. You may want to bring reading materials and hobby activities that will help to pass the time for you. Once

home it is also important to try to continue your normal daily activities and interests. A sensible balance between rest and activity may be best.

Please speak to your nurses, radiographers or doctor if you have any problems.

After treatment ends

Most of the effects you may have experienced during treatment will wear off within a couple of weeks of finishing your treatment; however the tiredness will take a little longer to settle.

You may begin washing normally if your skin is not red or feeling itchy.

Do not expose the treated area to sunshine. Use a high factor sunscreen with both UVA/UVB protection and minimum SPF 50 following the completion of your treatment.

Your doctor will arrange to see you 4-8 weeks after the end of your treatment. You will usually be seen at the hospital nearest to your home.

If you become unwell after your treatment has finished you should contact your G.P, NHS 24 or the Cancer Treatment Helpline (if within 6 weeks of finishing treatment). Contacts are at the end of this booklet.

Late Effects

Your doctor has recommended this treatment because it is felt that the benefits of your radiotherapy treatment far outweigh any risks involved. However you should be made aware of these potential long-term effects which may affect a small number of people. It is important to point out again that effects can vary from person to person. Your doctor will explain specific issues to you personally. The following effects are a general guide:

- The portion of your lung treated with radiotherapy may not work as well as before and you might notice a slight increase in breathlessness. This is due to scarring of the lung tissue (fibrosis) in and around the tumour area. If the rest of your lung works well then any symptoms you may notice will be very mild.
- To give the necessary treatment to your lung, some small parts of normal tissue will be within the radiotherapy treatment area. Very rarely, if the treatment is close to the spinal cord, it can cause some spinal scarring (fibrosis). This might affect the function of the nerves to your legs. Your doctor will discuss this with you if you are considered to be at particular risk.
- Radiation pneumonitis (inflammation of the lung) can typically occur 6-12 weeks after treatment finishes. This can cause shortness of breath, fever and cough. It can be mistaken for a chest infection but does not improve after a course of antibiotics. This is rare, but do contact your doctor or specialist nurse if you have these symptoms. It can be treated with steroids to reduce the inflammation.
- A very rare but potential effect is that radiation can cause tumours. Although this is a serious possible risk of your radiotherapy, it is important to bear in mind that the effect is very rare. If it does happen it is likely to be many years after treatment.

Remember, any of these small risks should be balanced against the problems of not treating the tumour with radiotherapy.

Where can I get help?

All our staff are here to make sure your treatment goes as smoothly as possible and will try to help with any questions or problems that you may have. Further specialist help is available from:

- **Beatson Clinical Nurse Specialists in Lung Cancer** ☎ **0141 301 7601** or ☎ **0141 301 7598**
- **Information & Support Radiographer** ☎ **0141 301 7427**
- **NHS 24** ☎ **111**

The Beatson Cancer Centre has a **Radiotherapy Advice Line** available for all patients having radiotherapy. This is an answer phone service and is available Monday – Friday. Please leave your name and telephone number and we will call you back as soon as possible. ☎ **0141 301 7432**.

The Cancer Centre also has a **Cancer Treatment Helpline for urgent calls**. This is for patients on or within 6 weeks of treatment who have urgent or severe symptoms such as -

- Shivering or flu-like symptoms.
- Temperature greater than 37.5°C.
- Gum/nose bleeds or unusual bruising.
- Worsening or sudden breathlessness.
- Leg weakness/difficulty walking.
- Severe nausea/vomiting/diarrhoea/constipation.
- Sudden increased or uncontrolled pain.
- Other concerning symptoms associated with your cancer treatment.

The line is available 24 hours for emergencies, although it would be helpful if you called early in the day if this is at all possible.

For Urgent Calls:

Beatson 8am-8pm ☎ 0141 301 7990

National 8pm-8am ☎ 0800 917 7711

Counselling and Psychology Service

This leaflet deals with the physical aspect of your treatment, but your emotional wellbeing is just as important to us. Being diagnosed with cancer can be a distressing time for you and those closest to you. Within the department we have a counselling and clinical psychology service that can help with worries and difficulties you might be having. A member of the lung team will fully assess and help with any social or emotional issues you may have and refer you to this service if necessary.

The Macmillan Information & Support Centre is on Level 1 at the main entrance of the Beatson. They offer emotional support, information and signposting to services within and near to the Beatson and in your own local area. Open Monday to Friday 8:15am to 4:15pm. Please visit or phone on ☎ **0141 301 7390**

Beatson Cancer Charity Wellbeing Centre

You can use the facilities on offer at the Beatson Cancer Charity Wellbeing Centre. It is located on Level 4 in the Beatson. It provides a space to relax away from the ward and offers various relaxing treatments. Ask your ward nurses or treatment radiographers for further details.

Snacks and Refreshments

There is a selection of places available:

- Aroma Coffee shop on Level 1 (open Mon- Fri 8am-4pm).
- Beatson Café, Tom Wheldon Building (open Mon-Fri 9am-4pm).

- WRVS canteen, Gartnavel General Hospital (Open Mon-Fri 8am-3pm, Sat 10am-3pm).
- Deco Coffee shop, Gartnavel General Hospital (Mon-Fri 8am-4:30pm, Weekend 10am-4pm).
- Main dining room with coffee shop, Gartnavel General Hospital (closes at 2pm).
- Vending machines, Level 1.

Newsagent

There is a newsagent in Gartnavel General Hospital which also sells sundry items and flowers.

Voluntary organisations

There are also voluntary organisations providing information and support that you can contact at any time.

These include:

Roy Castle Lung Foundation	Freephone number ☎ 0333 323 7200
Providing information and support for those affected by lung cancer.	
🌐 www.roycastle.org	
Asthma + Lung UK	Helpline ☎ 0300 222 5800
Provides information and publications.	
🌐 www.asthmaandlung.org.uk	
Macmillan Cancer Support	☎ 0808 808 0000
Providing practical, medical, emotional and financial advice for those affected by cancer.	
🌐 www.macmillan.org.uk	

Maggie's Centre Gartnavel	☎ 0141 357 2269
Maggie's Lanarkshire, Monklands Hospital	☎ 01236 771 199
Maggie's Forth Valley	☎ 01324 868 069
Provides information and support with a regular programme of courses. Counselling service available.	
 www.maggies.org	
Cancer Support Scotland, The Calman Centre, Gartnavel campus.	Freephone ☎ 0800 652 4531
Provides emotional and practical support on a one-to-one basis and through community based groups. Complementary therapies available.	
 www.cancersupportscotland.org	
Macmillan Benefits Team (within the Beatson)	☎ 0141 301 7374
Provides free and confidential advice for people affected by cancer and their carers.	
Smokeline	☎ 0800 84 84 84
Provides support and guidance to help you stop smoking.	
Beatson West of Scotland Cancer Centre – if you want to find out more about our Centre please visit	
 www.beatson.scot.nhs.uk	
NHS 24	☎ 111

Vitality exercise classes**☎ 0141 232 1860**

Specifically designed classes for people living with a range of health conditions.

Local authority Activity Opportunities

For more information on what is available in your area visit:

 www.nhsggc.org.uk/getactive

Live Active

A 12 month programme tailored to meet individual needs. One to one consultation with a trained advisor. Supports a healthier active lifestyle. Referral by your local team or GP.