

Breast/Post Mastectomy Radiotherapy

Information for patients

**Edinburgh Cancer Centre
Western General Hospital
Crewe Road South
Edinburgh
EH4 2XU**

Your radiotherapy treatment plan

Your Consultant:

You have been advised to have a course of radiotherapy to left / right

This will be given in ____ treatments every day/week over ____ week(s).

The aim of your treatment is to:

reduce the risk of the cancer returning / control symptoms / control cancer growth.

The side effects are as described in this leaflet and by your team.

Next steps

- Planning appointment before treatment
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-
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Radiotherapy treatment to the breast/chest wall

You are to begin a course of radiotherapy in the Edinburgh Cancer Centre at the Western General Hospital. Radiotherapy can reduce the risk of cancer returning or it can be used to control cancer cells and symptoms within the breast and armpit (axilla).

Your oncology doctor (Clinical Oncologist) will explain to you the aim, benefits and possible side effects of your treatment. They will explain how many treatments you may require (usually 5-15 treatments) and some patients may receive an extra four treatments called a “boost”. Your doctor might discuss any open clinical trials for you to consider.

Before the radiotherapy can start, treatment preparation or 'planning' must be done. This will include a visit to the Western General Hospital a few weeks before your first treatment. You will be sent a letter or telephoned with an appointment date and time.

You will **not** receive any treatment on this first planning visit.

Treatment planning

Your treatment planning will take place in one of the CT (computerised tomography) Scanners in the Edinburgh Cancer Centre. Please go to the radiotherapy reception desk when you arrive. You will then be directed to the correct waiting area.

A CT scanner is a special X-ray machine which produces images of the inside of your body. These images are essential for the team to plan your radiotherapy treatment. There will not usually be a result given from these planning CT images.

You will have to undress to the waist for both the CT scan and treatment. The CT radiographers will ask you to lie on your back and raise your arm(s). This will be your treatment position and we want to make sure you are comfortable. The treatment area will be marked by drawing temporary ink marks onto your skin. Some measurements will be taken and the CT scan will be performed. You

will not feel anything. The radiographers will not be in the room while the CT images are taken but will always be able to see and hear you.



CT scanner



Linear Accelerator

The radiographers will ask your permission to give you some tiny (like a small freckle) permanent marks made with red tattoo ink. These marks are to show where the treatment is to be given. These will allow you to wash the breast area during treatment.

The planning process takes approximately 20-30 minutes and is painless. The CT radiographers will explain what they are doing and why. Please feel free to ask any questions that you may have.

Your oncologist and radiotherapy team will then begin the process of designing your personal radiotherapy treatment plan. This has many steps and can take a few weeks. Occasionally we may need to perform a further CT scan. We will contact you if that is required.

You might find it helpful to watch the “Preparing for Radiotherapy” video found at www.respire.org.uk

In some circumstances your Oncologist will suggest a technique called **Deep Inspiration Breath Hold (DIBH)**. This technique is discussed in detail at the end of the leaflet and is outlined in the “Coming for radiotherapy if you are having breath hold” video at www.respire.org.uk

Preparing for radiotherapy treatment

There's nothing specific you need to do in preparation for radiotherapy although following your post-operative advice and doing your arm exercises regularly can help you achieve a comfortable treatment position. Regular gentle exercise can help your energy levels and help manage any anxiety. We would ask you to avoid any herbal supplements during treatment. Your doctor will have advised you about any changes needed to any of your regular medication. We would advise that any alcohol is drunk in moderation.

You may want to watch the following patient information video if you have online access:

https://youtu.be/Az4qy6U2qfk?si=azCNGpb3led_ahLH



If you have been advised to have a breath holding technique, then please practise taking a comfortable breath in for up to 20 seconds. There are some useful tips on relaxation advice at:

www.respire.org.uk



Smoking

We strongly advise that you **stop smoking** before radiotherapy starts as we know that smoking whilst having radiotherapy to your breast or chest wall can increase the risk of side effects. Smoking increases your risk of long-term heart and lung problems including developing lung cancer. Smoking during breast radiotherapy adds a further small risk of developing lung cancer. This risk might be greater than the benefit of radiotherapy and your consultant will discuss this with you. Stopping smoking will help reduce these risks. We encourage you to use any nicotine replacement support available through your GP or local pharmacy. Further advice can be found at:

www.nhsinform.scot/healthy-living/stopping-smoking



There is no evidence yet about the safety of “vaping” (e-cigarettes) whilst undergoing radiotherapy and therefore, we would ask that you do not use these during your treatment.

Attending for your radiotherapy

You will be asked to report each day to the radiotherapy reception desk. However, if you are staying in a ward, a porter will bring you directly to the treatment machine, known as a Linear Accelerator.

The treatment will be given daily on weekdays and X-rays will be taken regularly during your treatment.

There is regular maintenance and testing of the machines once a month and you may not receive treatment on that day, however you will still receive the same number of treatments in total.

The radiographers will position you carefully and set the treatment machine to the correct areas. The radiographers will be with you to position you for treatment however they must leave the room while the radiotherapy is given. The machine will move around you but will not touch you and is painless. The machine may deliver up to 4 different positions to complete your individual plan. The treatment to each area takes less than a minute each day however the overall appointment time may be up to 20 minutes.

The radiographers will explain what they are doing at each stage in the process.

- If you have any questions or worries about your treatment or planning, please do not hesitate to ask.
- In both the CT and treatment machines we have music players so you can listen to music to help you relax.

During your treatment, you will be seen once routinely by a breast review radiographer. You can discuss any problems with them or ask any questions that you may have.

Possible early/short term side effects

These can start during radiotherapy or shortly after completing treatment. They usually resolve or get better within two to six months. The frequencies are approximate.

Expected (50-100%)

Tiredness: This may happen towards the end of treatment and often after the treatment has finished. Regular, gentle exercise three or more times a week can help. **This can last for several months after treatment is completed.**

Common (10-50%)

Skin reaction in the treatment area: You may develop varying stages of skin soreness, redness and itching. You might develop dry peeling- like sunburn. This is normal. If you have been advised that you need something called “bolus”, you are more likely to have a skin reaction.

- During treatment wash using lukewarm water and a mild soap. Pat your skin dry **gently** without rubbing. A simple roll on deodorant can be used. Shaving of the underarm is **not** recommended during treatment. If possible, wear loose cotton underwear and clothing. You will be supplied with two creams to use during radiotherapy and for two weeks afterwards which will reduce any skin irritation.

Most skin reactions settle within 4 – 6 weeks after completing radiotherapy. You may notice some temporary hair loss in the treatment area. Your skin may be more sensitive to chlorinated water for a few weeks after treatment. You will be more likely to develop sunburn earlier and we encourage you to limit exposure to strong sunlight and to apply a sunblock (SPF50 or above).

Uncommon (1-10%)

Breast/chest wall discomfort, breast swelling or change in skin texture: These effects usually settle in 4-6 months but, in some

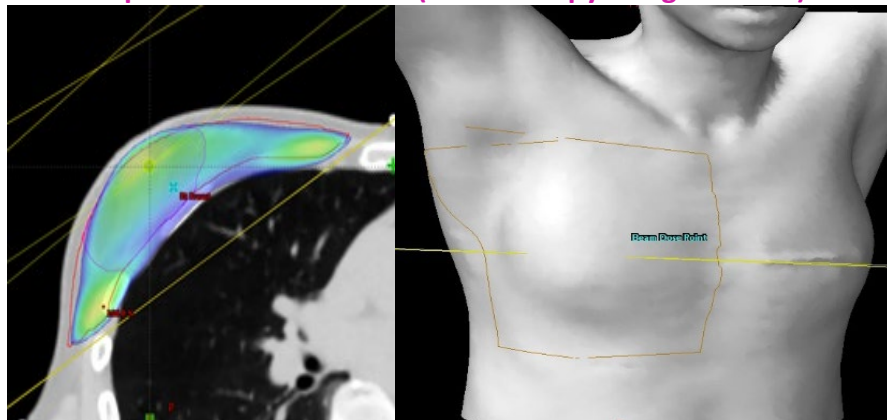
women, may persist for months or years after treatment. Let your doctor know if they persist but they are nothing to be worried about.

Skin blistering may occur. This is more common in the area under the breast and under the arm. Should this happen you will be given another appropriate cream to use.

Rare (less than 1%)

Pneumonitis: A temporary inflammation of the lung that can cause a cough or breathlessness. This usually settles itself but rarely requires a course of steroids.

An example of treatment area (radiotherapy to right breast)



Possible long-term side-effects

Most side-effects from treatment are temporary. However, a small number of patients may develop side-effects that can be permanent. Some may not appear until months or even years after treatment. Please discuss any concerns with your oncologist. The frequencies are approximate.

Expected (50-100%)

Breastfeeding: After breast radiotherapy (and or surgery) you may not produce milk in that breast but the other breast will not be affected.

Common (10-50%)

Skin colour change: This might be lighter, darker or pinker in the treatment area.

Subtle changes to breast appearance

Breast or chest wall sensitivity and tenderness: Aching or shooting pains might occur.

Worsened cosmetic outcome after reconstruction: Radiotherapy can cause some scarring around a breast implant and about 1/3 of patients will need to have further surgery to correct this.

Less common (less than 10%)

Marked change to the breast size, shape or texture: The breast may feel harder. Inform your doctor if you are worried about these changes. If you have had a “boost” you may also experience further change at the site of this additional treatment. The breast surgical team may, after some months, be able to offer treatment, e.g. lipofilling, to help.

Breast/chest wall swelling

Shoulder stiffness: Patients can suffer from stiffness of the shoulder. Exercises can prevent ongoing stiffness. A physiotherapy

appointment can be arranged for patients with persistent shoulder problems.

Rare (less than 1%)

Telangiectasia in the treatment area: Small, visible, red blood vessels may show up within the skin.

Scarring to the lung (fibrosis): A small area of your lung (on the side of your treatment) will receive some radiotherapy dose. Scarring may develop in this area on the lung and may cause increased breathlessness, cough or changes on chest X ray. There is a higher risk of this if you smoke.

Rib fracture: The bones can thin within the treatment area, sometimes this causes small stress fractures but often this is only picked up on X-rays and may not cause any symptoms and will heal.

Increased risk of heart disease later in life: This is a very uncommon late side-effect of treatment if you have received treatment to the left breast. Modern radiotherapy techniques e.g. DIBH (discussed later in the leaflet), can reduce the risk of heart complications.

Radiotherapy associated cancers: Radiotherapy itself can cause cancers within the treatment area. This can occur many years after a course of radiotherapy. However, it is a very rare side-effect. Smoking increases this risk.

Radiotherapy to the lymph node regions

If you have been advised that you are to receive radiotherapy to the lymph nodes under the arm (axilla) or in the lower neck (SCF or supraclavicular fossa) there are some other effects to consider.

Less common (less than 10%)

Lymphoedema or “arm swelling”: Can occur after surgery to remove the lymph nodes in the axilla (armpit) or after radiotherapy. Fluid can collect in the arm which may cause swelling, pain or movement difficulties. Lymphoedema can occur both early after treatment and many years later. A lymphoedema specialist will be able to assess you and help you manage this.

Rare (less than 1%)

Sore throat or discomfort when swallowing: Inflammation of the throat/oesophagus can occur and is temporary. If this occurs, let your treatment radiographers know. You can take simple paracetamol and keep well hydrated. We believe that with modern radiotherapy techniques that this is happening less although we don't have proof of this yet.

Nerve damage (brachial plexopathy): Nerve damage can cause pain, tingling or numbness in the shoulder, arm or hand on the treated side.

Other techniques that might be advised

Deep Inspiration Breath Hold (DIBH)

Your clinical oncologist may review your case and recommend using a breath holding (DIBH) technique to optimise your treatment. Research has shown that by holding a deep breath in, your lungs inflate, and your heart is moved away from the treatment area.

This reduces the long-term risk of radiotherapy causing any damage to your heart.

This will usually be recommended at your initial clinic appointment. Sometimes, after your doctor has reviewed your initial CT planning scan, we may need to ask you to come back for a second planning appointment using DIBH. This can delay the start of your treatment which will be discussed with you.

Preparing for DIBH

If DIBH has been recommended, you do not need to do any specific training, but it may help to practise holding your breath for 20-25 seconds after taking a deep breath in. Practise this while lying flat with your arms above your head which is a similar position to your radiotherapy treatment position. Try to repeat this 3-4 times and you can also access an online resource www.respire.org.uk for further information.

At your planning scan a small box will be placed on your chest to record your chest movements and a special camera will record how the box moves when you breathe. The radiographers will ask you to take a practice breath and tell you when to breathe normally.

We will ask you to hold your breath for up to 25 seconds for your planning CT scan. The radiographers will also help you by counting with you over an intercom.

What happens during treatment with DIBH?

When you are in your treatment position, the radiographers will ask you to take a practice breath. There will be a visual aid to help guide you. Treatment will only start when you are comfortable. Treatment is often delivered in sections, each lasting for about 20 seconds.

What if I need to breathe out?

Not everyone will feel comfortable or be able to hold their breath for the required time. That's fine, your comfort is more important. The radiotherapy machine will automatically pause treatment until you are ready to hold your breath again. The radiographers will speak to you through the intercom and monitor you from outside the room.

Please speak to your oncologist or the radiographers if you have any concerns about this.

What happens if I am not able to do the DIBH technique?

Do not worry - it is more important that you are in a comfortable position for your treatment. You will receive your treatment during normal breathing instead, but your heart will be shielded as much as possible using other standard techniques which decrease the dose of radiotherapy to the heart.

Partial Breast Irradiation (PBI)

Some patients with very early, low risk breast cancers may be advised to have a PBI technique where a smaller volume of breast is given radiotherapy. This has been shown to be as effective but it reduces the risk of some side effects. This will be discussed if it is suitable for you. The radiotherapy treatment planning and delivery are as described above. Very occasionally, when planning for your partial breast treatment we might advise you that “whole breast” radiotherapy is more appropriate for you. Your oncologist will discuss this with you.

Avoidance of radiotherapy

Radiotherapy is effective at reducing the risk of cancer cells recurring within the breast. However, after discussion with your oncology doctor (Clinical Oncologist), some patients with low risk cancers might decide not to proceed.

You should ensure that you attend for annual mammograms or follow up if you do not proceed with radiotherapy.

Internal mammary node radiotherapy

Your oncologist may recommend radiotherapy to the lymph nodes behind the breast bone. This can increase the dose received to the heart and lungs. We will advise the DIBH technique to protect the heart. Any increased side effects will be discussed.

What will happen when my radiotherapy has finished?

Please follow the skin care advice given and take time to recover.

Studies have shown that regular arm and shoulder exercises can help reduce some of the longer-term side effects of radiotherapy.

Maintaining a healthy weight and regular exercise will help your energy levels, your mood and has been shown to reduce the risk of cancer recurrence. There are helpful tips at:

www.nhsinform.scot/healthy-living



Follow up

You will be given details about your post radiotherapy follow up appointment from your local hospital. At this appointment we will check how you are recovering from your treatment and answer any outstanding questions. You would not normally have a mammogram or ultrasound scan at this point. You may also have further input about any ongoing or proposed breast cancer drug treatments.

Your ongoing mammographic or clinical follow up will be arranged by your local surgical unit. If you have any questions, then please contact your local breast care nurses.

There is also helpful information about “Moving Forward” after breast cancer available from Breast Cancer Now:

www.breastcancernow.org



When can I return to work?

There is no “right answer” to this and you should return when you feel recovered. This will also depend on the type of job you have. Some patients can continue to work throughout treatment.

Contact numbers

For any questions related to your radiotherapy appointments, please contact the Radiotherapy Reception on **0131 537 3329**

If you have any questions **during** your radiotherapy, please speak to one of the therapeutic radiographers when you come for your treatment.

Alternatively, during normal working hours, please contact your local breast care nurse team on:

Edinburgh Breast Unit, Western General Hospital **0300 123 1600**

Borders General Hospital **01896 826 830**

Dumfries and Galloway Royal Infirmary **01387 241 489**

Queen Margaret Hospital, Dunfermline, Fife **01383 627 091**

St John's Hospital, Livingston **0300 123 1600**

For any urgent clinical issues whilst during or within 6 weeks of finishing treatment, please contact the Cancer Treatment Helpline on **0800 917 7711**

Other useful sources of support can be found at:

Breast Cancer Now **0808 800 6000** www.breastcancernow.org

Macmillan Cancer Support **0808 808 0000** www.macmillan.org.uk

Maggie's Centres **0300 123 1801** www.maggies.org



Where to find us?

Edinburgh Cancer Centre is located on the Western General Hospital (WGH) site and provides specialist oncology services on behalf of the South East Scotland Cancer Network (SCAN) region.