RADIOTHERAPY FOR PRIMARY BREAST CANCER

BREAST CANCER NOW The research & support charity

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About this booklet

If you're having radiotherapy as part of your primary breast cancer treatment, it's normal to have questions about what to expect.

This booklet explains what radiotherapy is, when and how it's given, and possible side effects.

You may find it helpful to read it with our **Treating primary breast cancer** booklet, which gives an overview of breast cancer treatment.

What is radiotherapy?

Radiotherapy uses high-energy x-rays to destroy cancer cells.

It's given to destroy any cancer cells that may have been left in the breast or chest and surrounding area after surgery. You may hear this called adjuvant radiotherapy.

When radiotherapy is given

Your treatment team or breast care nurse will explain when you'll start radiotherapy.

If you're having chemotherapy after surgery, you'll usually have radiotherapy after the chemotherapy.

If you don't need chemotherapy, you'll usually start radiotherapy 6 to 8 weeks after your surgery.

Radiotherapy may be delayed for a medical reason, for example if you need to wait for a wound to heal or if you develop a seroma (a collection of fluid that sometimes forms under a wound after an operation).

You can speak to your treatment team if you're worried about waiting times for radiotherapy.

Radiotherapy may not be suitable if:

- You have previously had radiotherapy to the same area
- You have a medical condition that could make you particularly sensitive to its effects
- You're pregnant
- You have an altered TP53 gene

Which areas are treated?

Your treatment team will look at the features of your cancer when deciding which areas to treat. The features of your cancer include its:

- Location
- Grade
- Size
- Stage

You can find out more about how treatment decisions are made in our booklet **Understanding your pathology results**.

After breast-conserving surgery

If you've had breast-conserving surgery (also known as a wide local excision), you'll usually have radiotherapy to the remaining breast tissue on that side.

Your treatment team may consider giving radiotherapy to the area of your breast or chest where the cancer was removed, rather than the whole breast area. This is known as partial breast radiotherapy. It may be considered if the risk of the cancer coming back is low and you're going to be taking hormone (endocrine) therapy for at least 5 years.

Research has shown that partial radiotherapy is just as effective as whole breast radiotherapy for certain people.

If the risk of your cancer coming back is very low, you may not need radiotherapy after breast-conserving surgery. Your treatment team will discuss your risk and explain whether you need radiotherapy.

After a mastectomy

Your treatment team may recommend you have radiotherapy to the chest wall if you've had a mastectomy for an invasive breast cancer.

This may be the case if:

- The cancer was large or near the chest wall
- There's a high risk cancer cells may have been left behind after surgery
- Cancer is found in the lymph nodes under the arm (axilla)
- You have a type of cancer called inflammatory breast cancer

If you're having breast reconstruction, radiotherapy may affect the timing and type of reconstruction.

See our **Breast reconstruction** booklet for more information.

Radiotherapy to the lymph nodes

Radiotherapy can be given to the lymph nodes under the arm to destroy any cancer cells that may be there.

It may also be given to the lymph nodes that cannot be removed by surgery, such as in the:

- Lower part of the neck around the collarbone
- Area near the breastbone (sternum)

If your treatment team recommends you have radiotherapy to the lymph nodes, they will explain why.

How radiotherapy is given

Radiotherapy can be given in several ways and at different doses.

The total dose of radiotherapy is split into a course of smaller treatments. These are called fractions.

The x-rays from radiotherapy for primary breast cancer do not make you radioactive. When you leave the treatment room you can safely mix with other people, including children.

External beam radiotherapy (EBRT)

External beam radiotherapy (EBRT) is the most common type of radiotherapy used to treat primary breast cancer.

X-rays are delivered by a machine which directs beams of radiation at the breast or chest area.

Intensity modulated radiotherapy (IMRT)

Intensity modulated radiotherapy (IMRT) is a way of giving external beam radiotherapy.

The dose of radiotherapy can be varied (modulated), allowing different amounts of radiation to be given to different areas.

IMRT is not available in all radiotherapy treatment centres.

Volumetric modulated arc therapy (VMAT)
This is a type of IMRT. The radiotherapy machine rotates round the area being treated, continuously changing the shape and intensity of the radiation beams.

Other ways of giving radiotherapy

The following types of radiotherapy are less commonly used and not widely available:

- Intraoperative radiotherapy (also known as IORT)
- Brachytherapy

However, your treatment team may discuss them if they're suitable for you.

How long will I have radiotherapy for?

Your treatment team will explain how long you will have radiotherapy for.

You'll usually have radiotherapy for between 5 and 15 days. This will usually be Monday to Friday. You will have a break at weekends. Most hospitals do not give radiotherapy on bank holidays.

Depending on local guidelines and your personal situation, you may be given radiotherapy in a slightly different way. For example, you may have a smaller daily dose over a longer period of time.

Breast boost

You may have radiotherapy for longer if you need an extra amount or dose (called a boost). Your treatment team may recommend a boost of radiotherapy to an area where invasive breast cancer was removed following radiotherapy to the whole breast.

The boost is usually given as 4 to 8 extra sessions at the end of treatment. However, it can be given at the same time as radiotherapy to the breast.

You'll have your treatment at hospital as an outpatient, so you can go home the same day. Radiotherapy is not available in every hospital, but each breast unit is linked to a hospital that has a radiotherapy department. You may have to travel for treatment.

Your appointments may be arranged for a similar time each day so you can settle into a routine, but this isn't always possible.

It's important to attend all your radiotherapy appointments and avoid any gaps in treatment as much as possible. If you have a holiday booked, tell your treatment team or therapeutic radiographer so you can decide what arrangements to make together.

Before radiotherapy starts

Your treatment team will explain the details of your treatment, its benefits, risks and potential side effects. You will then be asked to sign a consent form.

This is a good time to ask any questions you may have. You can see our list of suggested questions below.

You may be asked if you'd like to take part in a clinical trial. For more general information on clinical trials, see our website or visit cancerresearch.org.uk for listings of some current UK trials.

If you're worried about what will happen and how radiotherapy works, you can speak to your treatment team. They may be able to arrange for you to see the radiotherapy suite before your treatment.

Questions to ask your treatment team

- Why are you recommending radiotherapy for me?
- What are the benefits and risks?
- Are there any clinical trials I could take part in?
- Which area will be treated?
- How is treatment given?
- How long will the radiotherapy take and how often will each treatment be given?
- Will I need to take any time off work?
- How long will I have to wait before starting treatment?
- Which hospital will I have radiotherapy at?
- Will having radiotherapy affect my reconstructed breast or my options for breast reconstruction in the future?
- What are the side effects?
- Will I need to have radiotherapy tattoos (see page 10)?
- What is my risk of developing lymphoedema (see page 20)?

Treatment planning

You will have a treatment planning session before your treatment with radiotherapy begins.

Treatment planning helps identify the exact area to be treated and the most effective dose of radiation. This also helps to limit the amount of radiation to surrounding tissue.

The planning session will usually take between 15 minutes and an hour. Treatment planning is usually done using a CT (computerised tomography) scanner.

Image of a CT scanner used in radiotherapy planning appointments

You'll need to lie very still while your arms are positioned above your head and supported in an arm rest. You may be asked to raise only the arm on the side being treated. You may be asked to hold your breath for a short period of time (see page 14).

If holding the position feels uncomfortable, let your treatment team know. They may be able to offer you a back support or knee support to make you more comfortable.

Your whole chest area may be exposed during both your planning and radiotherapy sessions. There may also be multiple people in the room while the equipment is being set up. Some people find this uncomfortable. If you're nervous, speak to the therapeutic radiographers who can try to help you feel more comfortable.

Tell your treatment team or therapeutic radiographer before or during your planning appointment if:

- You have a pacemaker
- You have an implantable cardioverter defibrillator (ICD)
- You think you might be pregnant

If you have any issues with your mobility, you can discuss this with your treatment team. They may be able to make adjustments, such as changing your position or helping you on and off the treatment couch.

Marking the area

Once the treatment area has been decided, it needs to be marked. This is so you can be positioned precisely for each treatment.

To do this, 3 tiny dots of permanent ink (tattoos) are made on your skin.

If you don't want permanent tattoo markers, you should be given the option to have semi-permanent marker dots applied instead. If you choose this option, you may need to be more careful when washing so they don't fade away.

A newer technique called surface guided radiation therapy (SGRT) involves using 3D imaging to help position you. This doesn't use tattoos or semi-permanent ink to mark the area. However, it's not available in all hospitals. Your treatment team will let you know if this is an option for you.

Once the planning and marking is complete, your therapeutic radiographer will arrange your first treatment appointment.

Some people prefer to have their radiotherapy tattoos removed after finishing treatment. Tattoo removal is not routinely available on the NHS and the results can vary.

Regaining arm movement

Before you start radiotherapy, you need to be able to move your arm and raise it above your head. This is so treatment can be given to your whole breast or chest area.

After surgery, it can be difficult or painful to lift your arm above your head and keep it there. You will be given exercises to help you regain arm and shoulder movement.

If your arm movement isn't improving, it's important to talk to your breast care nurse or ask to see a physiotherapist as early as possible.

You can also take pain relief before each radiotherapy appointment to help you feel more comfortable holding the position.

Our **Exercises after breast cancer surgery** leaflet can help you regain arm and shoulder movement after surgery. You can also watch videos showing how to do these exercises on our YouTube channel at **youtube.com/@BreastCancerNowCharity**

During radiotherapy treatment

The therapeutic radiographers treating you will check how you are before each treatment. They can also answer any questions you have. They'll give you advice on side effects and arrange an appointment with your treatment team if necessary.

Image showing a radiotherapy machine. Credit: Rad Chat

Getting into position

You'll be asked to undress above the waist. You may find it helpful to wear a top that's easy to take off and put on.

You will usually be given a gown to wear.

You'll lie down on the treatment couch with your arms or arm above your head. If you're wearing a gown, the therapeutic radiographer will adjust it to expose the treatment area. They'll help position you carefully so you're in the same position each time you have treatment.

Having radiotherapy

You'll need to remain still during treatment. You can breathe normally unless you're asked to do the breath hold technique (see page 14).

Radiotherapy to the breast or chest wall is usually given from a number of different angles. The therapeutic radiographer will reposition the machine for each angle. This is done remotely from outside the room.

Illustration of a person having breast radiotherapy

Although you'll be alone in the room, cameras will allow the therapeutic radiographers to watch you on a television screen. Most radiotherapy departments also have an intercom system so you and the therapeutic radiographers can talk to each other and stop the treatment if needed.

The radiotherapy machine makes a buzzing noise while it's on. The machine may come quite close to you but it won't touch you. You won't feel the radiotherapy being given.

The treatment itself only takes 2 to 3 minutes. Your whole appointment is likely to take 15 to 30 minutes, but most of that time will be spent getting you into the correct position before the treatment starts.

You can watch videos about what to expect during radiotherapy on the Radiotherapy UK website and the RESPIRE Project website (see "Further information" on page 27).

Breath hold technique

A technique called deep inspiration breath hold (DIBH) can help protect the heart from being affected by radiotherapy given to the left side.

It involves taking a deep breath in and holding it for a short time. The aim of this is to lift your ribs up and outward, away from your heart.

DIBH is done both at the treatment planning appointment (see page 9) and at each external beam radiotherapy (EBRT) appointment.

If you need to use breath hold, you will be given simple instructions and time to practise the technique. Your therapeutic radiographer will tell you how and when to hold your breath.

Not everyone having their left side treated will need, or be able to use, this method. Your treatment team or therapeutic radiographer can talk to you about other ways to protect your heart.

You can watch a video about what to expect if you will be using the breath hold technique during radiotherapy on the RESPIRE Project website (see page 27).

Side effects of radiotherapy

Like any treatment, radiotherapy can cause side effects. Everyone reacts differently to treatment and some people have more side effects than others. These side effects can usually be managed and those described here will not affect everyone.

If you're worried about any side effects, regardless of whether they're listed here, talk to your treatment team.

Some side effects are temporary, but some may be permanent. You may notice side effects immediately or they may appear months or years after treatment finishes.

If you're going to be taking hormone (endocrine) therapy, your treatment team may suggest waiting until you've finished radiotherapy. This is so you don't have to manage side effects from 2 treatments at the same time. However, it is safe to take hormone therapy while you're having radiotherapy. You can read more about hormone therapy on our website **breastcancernow.org**

Immediate side effects

Immediate side effects may also be called early or acute side effects. They occur during treatment and up to 6 months after treatment has finished.

Skin reactions

Most people have some skin reactions around the area being treated. Skin reactions are sometimes called radiation dermatitis.

Your skin may:

- Become pinker or darker over time
- Feel tender, dry, itchy and sore
- Peel or flake as treatment goes on
- Blister or become moist and weepy

Skin changes may look different on different skin tones.

Skin reactions may start during or after treatment. Most skin reactions are mild. They are normally at their worst 2 to 3 weeks after treatment. They should heal within 3 to 4 weeks of your last treatment, but some may need treating or monitoring more closely. For example, skin that has blistered or is peeling will take longer to heal.

It's important to know how your skin normally looks before you start radiotherapy. This will help you notice any skin changes. Let your treatment team know if you develop a skin reaction.

The Society of Radiographers has information on their website about skin reactions and how to care for your skin at sor.org/skincare

Caring for your skin during radiotherapy

It's important to look after your skin during treatment. This will help prevent infection, reduce pain and help keep the area being treated comfortable.

Speak to your treatment team or therapeutic radiographer about skincare products before using them on the skin in the treatment area. They may suggest you continue to use your regular soap, deodorant and moisturiser on the area.

You'll be given skincare instructions by your treatment team. The following tips may also help:

- Wash your skin gently with warm water and pat dry with a soft towel
- Avoid exposing the treatment area to very hot or cold temperatures, such as heat pads, hot water bottles, saunas or ice packs
- Avoid exposing the treatment area to the sun during radiotherapy. Use a high factor suncream, like factor 50, on your skin and under clothes during and after radiotherapy

Swimming

Skin changes from radiotherapy can be irritated by chlorine or chemicals in swimming pools. Speak to your treatment team if you want to go swimming during or shortly after treatment.

Clothing, bras and prostheses

Clothes rubbing on your skin can cause skin reactions or make existing skin reactions worse.

Wearing loose fitting clothing made from natural fibres, such as a soft cotton bra or vest, may help.

If your skin is affected, you'll usually be advised not to wear an underwired bra until your skin heals. You may prefer to not wear a bra.

If you've had breast reconstruction, your treatment team may recommend you wear a post-surgery bra for 6 to 8 weeks after your surgery.

If you've had a mastectomy, you may find it more comfortable to wear the soft, lightweight prosthesis (softie or comfie) you used after surgery than a silicone prosthesis.

You can find more about this in our booklet **Breast prostheses, bras and clothes after surgery**.

Swelling (oedema) of the breast or chest

Your breast or chest area may look swollen and feel uncomfortable. This usually settles within a few weeks after treatment. If it continues after this time, talk to your treatment team. You may need to be assessed by a lymphoedema specialist (see page 20).

Pain in the breast or chest area

You may have aches, twinges or sharp pains in your breast or chest area. These are usually mild.

They may continue for months or years after treatment, but they usually become milder and less frequent over time.

You may also have stiffness and discomfort around your shoulder and breast or chest area during and after treatment. Continuing to do arm and shoulder exercises during radiotherapy and for several months afterwards may help minimise or prevent any stiffness or discomfort.

See our **Exercises after breast cancer surgery** leaflet for arm and shoulder exercises that can help with stiffness or discomfort. You can find tips on managing pain after treatment in our **Moving Forward** book.

Hair loss in the armpit

If you have radiotherapy to the armpit, you will lose your underarm hair on that side. You will also lose any hair on the area of the chest that's being treated.

Hair in the treatment area usually starts to fall out 2 to 3 weeks after treatment begins. It may take several months to grow back. For some people, hair loss from radiotherapy may never grow back.

Sore throat

If you have treatment to the area around your collarbone or near your breastbone, you may develop a sore throat or discomfort when swallowing. If this happens, talk to your treatment team.

It may help to take pain relief in liquid form, particularly before eating, until the discomfort improves.

Extreme tiredness (cancer-related fatigue)

Fatigue is extreme tiredness that does not go away with rest or sleep. It's a common side effect of radiotherapy and may last for weeks or months after your treatment has finished.

If you think you have fatigue, tell your treatment team or GP. They can assess you and offer advice on how to manage your energy levels.

You can find more information on our website or by calling our helpline on **0808 800 6000**. Macmillan Cancer Support produces information on coping with fatigue.

Tips to help manage fatigue

- Keep a fatigue diary – recording your level of fatigue every day can help you identify causes and plan activities
- Plan your days so you have a balance of activity and rest
- Do small amounts of physical activity each day, even a short walk can help
- Prepare for a special occasion by getting some rest beforehand
- Try to eat well – if your appetite is poor, it may help to eat smaller amounts more often and drink plenty of fluids to keep hydrated. You could also ask to be referred to a dietitian for advice
- Accept offers of help from other people to save your energy for things you enjoy

Lymphoedema

Lymphoedema is swelling of the arm, hand, breast or chest area. It's caused by a build-up of lymph fluid in the surface tissues of the body.

It can happen because of damage to the lymphatic system, for example because of surgery or radiotherapy to the lymph nodes under the arm and surrounding area.

Lymphoedema can occur at any time after treatment, sometimes years later. Lymphoedema is a long-term condition. This means it can be controlled after it has developed but it's unlikely to go away completely.

Contact your treatment team or GP if the arm, hand, breast or chest area on the side where you had radiotherapy or surgery swells or feels uncomfortable and heavy.

For more information see our **Reducing the risk of lymphoedema** booklet. If you develop lymphoedema you may find it useful to read our **Managing lymphoedema after breast cancer** booklet.

Changes in breast shape, size and colour

If you've had radiotherapy after breast-conserving surgery, the breast tissue and nipple on the treated side may:

- Feel firmer than before
- Change colour

Your breast may be smaller and look different.

Although these changes are normal, you may be concerned about differences in the size of your breasts or worry the difference is noticeable.

You can discuss this with your breast surgeon to see if anything can be done to make the difference less noticeable. You can also talk to your treatment team or call our helpline on **0808 800 6000** to discuss how you feel about your new shape.

It's completely natural if side effects change how you feel about your body, including how you feel about intimacy and sex. You may find our booklet **Your body, intimacy and sex** helpful.

Tenderness over the ribs

You may have tenderness over the ribs during treatment. This discomfort can be long-lasting, but it usually improves over time.

Late side effects

Some side effects can develop months or years after radiotherapy treatment ends. But these side effects are much less common.

Serious side effects are very rare. The benefits of the treatment in reducing the chances of breast cancer returning outweigh the risk of possible side effects.

Hardening of the tissue

Although rare, it's possible for breast tissue to harden (called fibrosis) several months or years after radiotherapy has finished. If this is severe, you may notice your breast becomes smaller and firmer.

Changes to the reconstructed breast

If you have a breast reconstruction using an implant, radiotherapy can cause the reconstructed breast to:

- Become firmer
- Change shape
- Become uncomfortable

You may hear this called capsular contracture. You can find out more about capsular contracture in our **Breast reconstruction** booklet.

If you have a breast reconstruction using your own tissue (tissue flap), radiotherapy can cause the tissue of the reconstruction to change shape or shrink.

If you notice changes to your reconstructed breast, talk to your treatment team or GP.

Broken blood vessels

You may see tiny broken blood vessels under your skin in the area radiotherapy was given. This is known as telangiectasia. Although it's harmless, it's permanent and there's no treatment for it.

Changes to the lungs

Sometimes part of the lung behind the treatment area can become inflamed. This may cause a dry cough or shortness of breath. It usually heals by itself over time.

More rarely, hardening of the upper lung tissue can occur. This is known as lung fibrosis. This can also cause a dry cough or shortness of breath, but it may need treatment.

Speak to your treatment team if you notice any of these symptoms.

Heart problems

If you have radiotherapy on the left side, there is a small risk of heart problems in the future. The risk is very low because radiotherapy is carefully planned to make sure it avoids the heart as much as possible.

Speak to your treatment team if you're worried about possible heart problems.

Risk of another cancer developing

If you have radiotherapy, there is a small risk of developing another cancer in the future. However, this is very rare and much less of a risk than your breast cancer returning if you do not have radiotherapy. Your treatment team will discuss this risk with you.

Other side effects

Other side effects include:

- Weakening of the bones in the treated area – this can lead to rib and collarbone fractures
- Damage to the nerves in the arm on the treated side – may cause tingling, numbness, pain, weakness and possibly some loss of movement
- Long-term skin reactions (chronic radiation dermatitis) – see "Skin reactions" on page 15

If you're concerned about late side effects, speak to your treatment team.

If you experience side effects not listed here, they may be the result of other treatments such as chemotherapy. Speak to your treatment team about this.

Other medications and supplements

Some people wonder whether certain supplements, such as vitamins, herbal remedies or probiotics, might help ease their symptoms or treatment side effects. But there's conflicting evidence about the safety and effectiveness of many products.

Supplements do not have to comply with the same regulations or go through the same rigorous testing as conventional medicines. They may also affect how certain cancer treatments work, such as chemotherapy and radiotherapy.

Tell your treatment team about any medications you're taking or considering taking. This includes:

- Vitamin and mineral supplements
- Herbal remedies
- Any treatments bought over the counter or online

The evidence isn't clear whether high-dose antioxidants (including vitamins A, C and E, co-enzyme Q10 and selenium) are harmful or helpful during your radiotherapy. Because of this uncertainty, many treatment teams recommend that you do not take high-dose antioxidant supplements during radiotherapy.

You can also find information about supplements on the Memorial Sloan Kettering Cancer Center website mskcc.org

Transport and costs

Travelling to and from the hospital for your radiotherapy, or paying for parking, can be expensive.

If you think going to appointments will be difficult because of the cost or other travel issues, talk to your breast care nurse or treatment team to find out what help is available. If you have a local cancer information centre, they can tell you if any financial help or voluntary community transport is available in your area.

Macmillan Cancer Support produces a booklet called “Help with the cost of cancer”, which outlines what you may be entitled to.

You can also find out about help with health costs on the NHS website nhs.uk

Finishing radiotherapy

Once you've completed your radiotherapy treatment, it may take some time to get back to your everyday routine. Try not to push yourself too hard in the early days and weeks after your treatment.

You may continue to feel tired (fatigue) for some time. Tiredness sometimes gets worse after radiotherapy finishes, but you should start to feel better with time. For some people this can take several months and sometimes longer.

It's natural to feel a range of emotions when you finish radiotherapy. You may feel a sense of achievement. However, you may feel worried or lacking support when hospital appointments and contact become less frequent.

You can talk to your treatment team about how you feel, and they can direct you towards support.

There are also lots of support services available to help you, see page 28 for more information.

Follow-up

You'll continue to be monitored once hospital treatment has ended. This is known as follow-up. People are followed up in different ways.

How you're followed up after treatment finishes depends on your individual needs, such as how likely you are to have side effects from treatment and the risk of the cancer coming back. It also depends on the arrangements at the hospital where you've been treated.

If you have any questions or concerns between appointments or after your radiotherapy has finished, you can talk to your breast care nurse or treatment team.

For more information about follow-up, see our booklet **After breast cancer treatment: what now?**

Further information

Facebook Lives about radiotherapy

You can watch our Facebook Lives about radiotherapy on our YouTube channel. Visit our YouTube channel **youtube.com/@BreastCancerNowCharity** for our most recent recorded Lives.

Radiotherapy UK

You can find more information about radiotherapy on Radiotherapy UK's website radiotherapy.org.uk

They also have a video to help you prepare for radiotherapy, which includes information about the machine and what to expect. Search for "VIDEO: External beam radiotherapy for breast cancer" on their website.

RESPIRE Project

You can find a range of resources designed for people having radiotherapy to their breast or chest following a breast cancer diagnosis on the RESPIRE Project's website respire.org.uk

Their "Coming for radiotherapy" and "Coming for radiotherapy if you are having breath hold" videos may help you prepare for your treatment.

They also have a self-monitoring booklet you can use to record any skin reactions you experience to show your treatment team. You can find this on respire.org.uk/skincare

Further support

You can find out more about the support services we offer on our website at **breastcancernow.org/support-for-you**

Helpline

You can talk to our specialist nurses on our free helpline **0808 800 6000** or speak to us online through our Ask Our Nurses service at **breastcancernow.org**

Forum

You can talk to other people going through radiotherapy treatment for tips and advice on our online forum **forum.breastcancernow.org**

Someone Like Me

Through our Someone Like Me service, we can match you with a trained volunteer who has experience of what you're going through.

Moving Forward

Moving Forward gives you the tools to help you adjust to life beyond primary breast cancer treatment.

Younger Women Together

If you're aged 18 to 45, our Younger Women Together service will give you specialist support and the chance to meet other younger women diagnosed with breast cancer.

NOTES

BREAST CANCER NOW The research & support charity

We're Breast Cancer Now, the research and support charity. However you're experiencing breast cancer, we're here.

Life-changing support

Whoever you are, and whatever your experience of breast cancer, our free services are here. Whether you're worried about breast cancer, dealing with a diagnosis, working out life with or beyond treatment – or someone you love is.

World-class research

We support over 290 of the brightest minds in breast cancer research. They're discovering how to prevent breast cancer, live well with the disease, and save lives. Every day, they get closer to the next breakthrough.

Change-making campaigns

We fight for the best possible treatment, services and care for everyone affected by breast cancer, alongside thousands of dedicated campaigners.

Could you help?

We don't get any government or NHS funding for our support services or health information. So, we rely on donations and gifts in wills to make our vital work happen. If you'd like to support us, go to **breastcancernow.org/give**

ABOUT THIS BOOKLET

Radiotherapy for primary breast cancer was written by Breast Cancer Now's clinical specialists, and reviewed by healthcare professionals and people affected by breast cancer.

For a full list of the sources we used to research it:
Email **health-info@breastcancernow.org**

You can order or download more copies from
breastcancernow.org/publications

We welcome your feedback on this publication:
health-info@breastcancernow.org

For a large print, Braille or audio CD version:
Email **health-info@breastcancernow.org**

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We make every effort to ensure that our health information is accurate and up to date, but it doesn't replace the information and support from professionals in your healthcare team. So far as is permitted by law, Breast Cancer Now doesn't accept liability in relation to the use of any information contained in this publication, or third-party information included or referred to in it.

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BREAST CANCER NOW The research & support charity

We're here

Information you can trust, support you can count on

Whatever breast cancer brings, we're here for you.

Whether you're looking for information about breast cancer or want to speak to someone who understands, you can rely on us.

Call **0808 800 6000** to talk things through with our helpline nurses.

Visit **breastcancernow.org** for reliable breast cancer information.

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Trusted Information Creator
Patient Information Forum