

# Patient Information for Radiotherapy to the Prostate



This leaflet is for patients receiving radiotherapy to the prostate. It describes your radiotherapy planning and treatment. It also explains the effects that you may experience during and after treatment, and how best to cope with them.

We treat each patient as an individual and the effects of treatment may vary from one person to another. Your doctor, radiographer, and clinical nurse specialist will explain specific aspects of your treatment.

## **What is Radiotherapy?**

Radiotherapy is the use of carefully measured doses of radiation to treat cancer. It damages the 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, by a machine called a linear accelerator. The rays are used to treat the tumour and a small surrounding area.

Radiotherapy is often given in several small doses over a specified period of days or weeks.

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

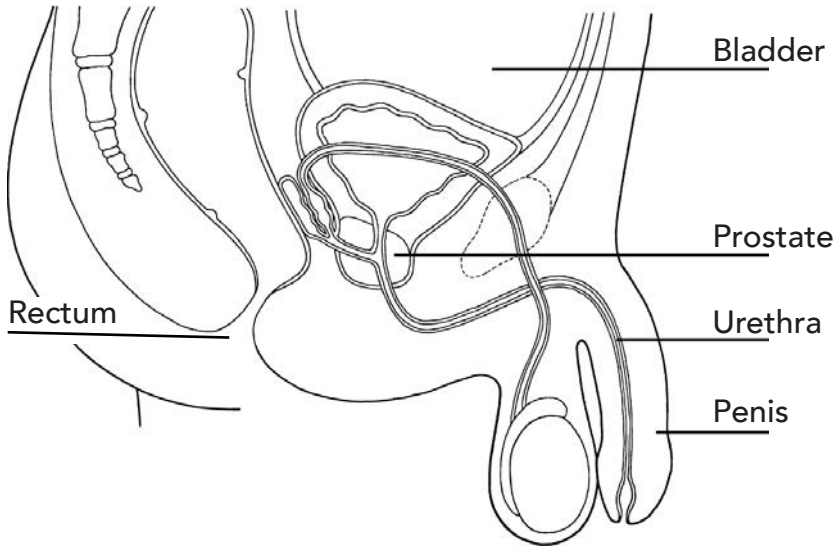
You will receive a list of appointments which will include planning, treatment and review dates and times.

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

## **Fertility**

If you are planning to have children please remember that radiotherapy to the prostate can cause infertility. You may be able to store sperm before your treatment starts. Please ask your doctor or nurse for more information if this concerns you.

## Location of the prostate gland



## Preparation for treatment

Before your course of radiotherapy can begin we need to plan your treatment carefully to allow us to produce an individual plan for you.

Most patients will be asked to attend the outpatient department prior to starting their radiotherapy. This is to have 3 markers placed into their prostate gland. This procedure isn't suitable for everyone. Your doctor will discuss this with you.

## Insertion of 3 markers into your prostate gland

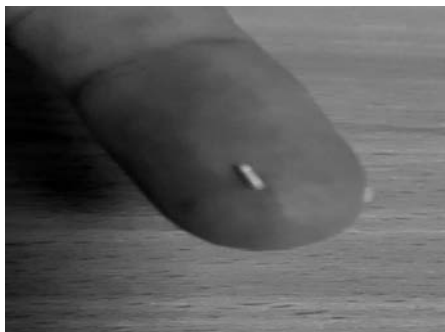
Accuracy is always important in radiotherapy as it ensures the tumour is treated with the correct dose. It also ensures that the surrounding tissues receive as little radiotherapy as possible. Research has shown that these markers can improve accuracy and reduce the size of the area treated.

Your prostate can move a little from day to day. We will check the position of your prostate daily using the markers, and make adjustments to your treatment as necessary. If you don't have the markers, we will carry out a scan to check the position of your prostate.

## **What are prostate markers?**

Each marker is a small cylinder and measures about 1mm in diameter and 3-4 mm in length. Usually 3 are inserted. The markers are not radioactive and remain in your prostate permanently.

### **Marker**



## **How are the markers inserted?**

The procedure is very similar to the prostate biopsy you had when your diagnosis was made. We will send you an appointment to attend The Beatson West of Scotland Cancer Centre, Out-Patient department. There is no need to fast.

**If you are taking blood thinning medication, your doctor will confirm if or when it is safe for you to stop taking your medication. This is a guide to some of the more common ones:**

- **Ticagrelor- stop 7 days before marker insertion.**
- **Warfarin- stop 5 days before marker insertion.**
- **Rivaroxaban, Apixaban or Edoxaban- stop 72 hours before marker insertion.**
- **Aspirin or Clopidogrel- no need to stop.**

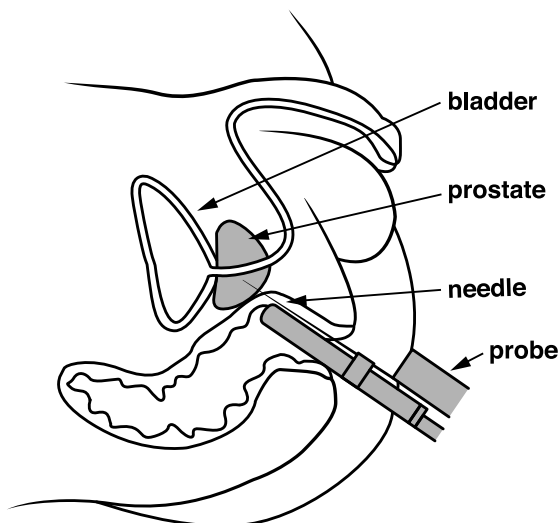
**Your doctor may feel it is not recommended for you to stop taking your blood thinning medication. They will discuss this with you. However, in such cases, it is still possible to proceed safely with radiotherapy without the insertion of markers.**

Your doctor or nurse specialist will discuss the procedure and you will be able to ask any questions before you sign a consent form.

- A sample of your urine will be checked for signs of infection. If you have a urine infection, we will delay the procedure. As you will need to produce a urine sample when you arrive at the clinic, please try to avoid going to the toilet until you have spoken to a member of staff. This should help to reduce your waiting time.
- We will also check for sugar in your urine. If you have diabetes and your glucose is above 12mmol/l we will delay this procedure due to an increased risk of infection.
- We will check your blood pressure, pulse and temperature. If any of these results are out with the normal range, we may need to delay or cancel your procedure.
- We will ask you to take a single dose of antibiotic tablets 1 hour before the procedure.

- If it has been a day or two since your last bowel movement, you may need a small enema before the procedure. This will help to empty your rectum (back passage). We will supply this if needed. You can administer this yourself.
- We will ask you to lie on your left hand side with your knees drawn up.
- An ultrasound probe will be inserted gently into your rectum to locate your prostate. We will ensure your dignity is maintained by covering you whenever possible.
- The ultrasound probe remains in place during the whole procedure.
- A needle, with a marker loaded in it, is introduced through the ultrasound probe.
- This marker is then implanted into your prostate. One needle is used for each marker.

The procedure may last 10-15 minutes, however you could be in the department for up to 2 hours. This includes pre-procedure checks and antibiotic administration. We wait at least 30 minutes after your antibiotic has been given before we carry out the procedure.



# What should I expect after the procedure?

The procedure is likely to be less traumatic than a prostate biopsy.

- You may experience some discomfort. This usually settles quickly but simple painkillers such as paracetamol can help.
- You may notice a small amount of bleeding from the rectum, in your urine or in your semen for up to 7 days after the procedure. This usually settles without any further treatment being required. If bleeding persists seek advice from your GP or NHS 24.
- There is a potential risk of infection in the prostate and urinary tract. Therefore, if you develop flu like symptoms (fever, shivers, general aching, pain or burning when passing urine) you should seek medical assistance from your GP or call NHS 24 immediately.

We would encourage you to drink at least 2 litres of fluid during the 24hrs after the insertion of markers.

Please ask your doctor or nurse specialist for advice if you have any questions or concerns.

## Hydration before your radiotherapy

It is important that you are well hydrated (drinking plenty of fluids) even before you start your treatment. **We ask that you aim to drink 1.5-2 litres (6-10 average mug sizes) of fluid a day.** Try to drink water or decaffeinated drinks. It is best to avoid caffeinated, fizzy and alcoholic drinks.

**Please follow these instructions for at least one week before your CT planning scan and throughout treatment to ensure you are well hydrated.**

You will receive a phone call from one of our radiographers before you attend for your first appointment. They will explain about hydration and go over any instructions you will need to

follow for your radiotherapy and planning. This may come from a withheld number or the NHS number which is ☎ **0141 232 4000**.

## **Preparing for your radiotherapy appointments**

The position of your prostate can vary daily depending on the fullness of your bladder and rectum. To help minimise any change in position, you will need to have an empty rectum and a comfortably full bladder. This is important for your planning scan(s) and for each radiotherapy treatment.

**Following the preparation instructions below will help to ensure your prostate is in a similar position each day. This is important as it helps to:**

- **Limit the amount of bladder and bowel in the treatment area. This may help reduce any side-effects you may experience.**
- **Ensure treatment accuracy each day.**

If your bladder is not comfortably full or your rectum is not completely empty, it can make planning and delivering your treatment more difficult. This means we sometimes need to repeat your planning scan. Once you start your treatment, it may mean that we have to get you off the couch and give you advice on how to fill your bladder or empty your bowel before we can go ahead with your treatment. This is important to ensure your treatment is accurate.

**It is important that you follow these instructions. If you have any questions or problems, please speak to your radiographer.**



# Bowel preparation for radiotherapy planning and treatment

We will give you a supply of small enemas to use. **These will be given to you when you attend to have your markers inserted. If you are not having markers, your enemas will be posted out to you with your appointment letter.**

- **CT planning scan:** You will need to use 2 enemas before your CT scan. You should use the enemas at home. Please use 1 the evening before your planning scan, and 1 on the day of your scan, 1 to 2 hours before your appointment time.
- **MRI planning scan:** If you have been booked for an MRI planning scan, please use 1 enema on the day of your scan. You should use the enema at home, 1 to 2 hours before your appointment time.
- **Treatment:** Please use 1 enema each day for your first 7 treatments. You should use the enema at home, 1 to 2 hours before your appointment time.

## To use the enema:

- Pull or twist the cap off the tube.
- If you want to lubricate it before inserting, squeeze a drop of liquid out onto the nozzle.
- Insert the full length of the nozzle into your back passage.
- Gently squeeze the tube until it is empty.
- Keep squeezing the tube as you remove the nozzle from your back passage.
- Wait for the enema to work- approximately 10-15 minutes.
- If you have no bowel movement within 15 minutes it means your rectum is already empty. Do not strain.

You will be given a box with 12 enemas. Please keep any remaining enemas as they may be required during treatment. Your radiographers will advise you on this.

**Diet:**

- Try to eat a balanced diet, however it may be an idea to try to avoid foods or drinks that you know give you wind- this may include spicy food, beans, pulses, lentils, onions and fizzy juice. However, it is important that you do not cut out fibre entirely.

**Exercise:**

- Taking regular physical exercise, for example a 30 minute walk each day, will help keep your bowels regular.
- If you feel you have wind before your appointment, try walking around, moving your legs, bending or twisting at the waist to see if it helps to release it.

## **Bladder preparation for radiotherapy planning and treatment**

When you arrive in the department, your radiographers will ask you to empty your bladder and then drink **500ml of water**. This helps to ensure you have a comfortably full bladder. It is important that you drink the water quickly (within 5 minutes). You will then **wait around 30 minutes** before having your scan or treatment.

Your radiographer may use an ultrasound scanner to check how much fluid is in your bladder before your CT scan or treatment.

**As it is important that these instructions are followed, please remember the following:**

- **You will need to be well hydrated before coming to these appointments. Try to drink at least 2 litres of fluid every day.**
- **Avoid caffeinated drinks- tea, coffee, energy drinks and some fizzy juices. Try decaffeinated options.**
- **Limit your alcohol intake.**
- **You will need to be in the department at least 30 minutes before your treatment appointment time.**
- **If you are coming to the department with hospital transport, please arrange to be brought in 30 minutes before your appointment.**
- **When you arrive in the department, your radiographers will tell you when to start drinking. Please do not drink your water until you are asked to.**
- **Once you drink the water you should not empty your bladder until after you have had your scan or treatment.**
- **Your radiographers will give you advice if there are any issues with your bowel or bladder.**

## **The CT Simulator planning appointment**

Approximately 2 weeks after the insertion of the markers you will visit the CT simulator to have your treatment planned. This involves a special X-ray scan taken when you are lying flat on your back with a shaped rest under your legs and feet. This helps to keep you in the correct position. This will allow us to plan your treatment accurately.



## **CT Simulator**

When you are in the planning or treatment room, your radiographers will ask you to remove your trousers. This makes it easier to lie in the correct position and is more comfortable. Once you are lying on the CT couch, we will also ask you to slip your underwear down to uncover the area that is being treated. Your radiographers will ensure your dignity is maintained by covering you whenever possible.

You may need to have an injection of contrast (dye) that will help us to see the area we want to treat more clearly. Your doctor or radiographer will put a small hollow tube (cannula) into a vein. It is inserted using a fine needle which is removed once the cannula is in place. We will use a piece of tape to keep the cannula in position during the scan. We will inject the dye through this. It may feel a little cold but you should not feel any discomfort. You may need this dye for the CT planning process, but not for treatment appointments.

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

It is important that you stay as still as you can during the scan. The scan takes 10-15 minutes.

Following your CT scan we will put 3 tiny permanent marks called tattoos on the skin on your pelvis. They are barely visible but help the staff to position you correctly each time you are treated.

## **MRI planning scan**

Your doctor **may** request that you also have an MRI planning scan. This gives your doctor additional information to help with planning your treatment. Your MRI scan will usually be the day after your planning CT scan. It will be done here in the Beatson. Your radiographers will explain this to you.

## **Treatment**

Your radiographers will explain the procedure before treatment starts. They will check you know what to expect and how many treatments you will have. This can vary, but in general your treatment will last between 4 and 8 weeks. Your doctor will discuss this with you. Your radiotherapy will be given in small daily doses, Monday to Friday, but not at the weekend.

You will have your treatment on a machine called a linear accelerator as shown below.

### **Linear accelerator**



When you start treatment your radiographers will position you just as you were in the CT simulator. The lights in the room will dim for a few minutes while they position you. Your radiographers have to leave the room while the machine is on but they will monitor you on closed circuit TV. The treatment machine moves round about you but doesn't touch you.

Immediately before we begin your treatment, we will take X-ray pictures or a scan to confirm you are in the correct position. If your position is not correct, or your bowel and bladder are not the correct size, we will not go ahead with the treatment at this point. Your radiographers will come back into the room and discuss this with you.

Each treatment lasts no more than 10 minutes, is painless and you will feel no different immediately afterwards.

Please check with your radiographers if you have any questions or problems.

### **General advice during treatment**

There is no reason to change your lifestyle during treatment but it may help to:

- Try to get plenty of rest, especially if you feel tired, although it is important that you try to continue your normal daily activities and interests. We would, however, advise that you avoid cycling during your treatment.
- A sensible balance between rest and activity is best. Some people are happy to continue to work during their treatment.
- The radiation from radiotherapy does not stay in your body so it is safe to be near other people, including children and pregnant people.
- It is important to drink plenty of fluids throughout your treatment to keep hydrated. You should try to drink 2 litres of fluid every day.

## Early effects of radiotherapy treatment

During radiotherapy, the area being treated will gradually respond in a way similar to an 'inflammation'. This area will include the prostate, part of the bladder, part of the back passage (rectum/anus) and occasionally the skin. The effects usually start a few weeks after the start of treatment and settle about 3-4 weeks after treatment ends.

Some of the effects you **may** experience are:

- **Tiredness:** You may begin to feel quite tired during treatment. This tends to start 2-3 weeks into your course of treatment and will last a number of weeks afterwards.
- **Bladder:** After about two weeks of treatment, the inside of the bladder may become inflamed (like cystitis). You may need to pass urine more often than usual, and have a burning sensation when passing urine. Let us know if this is a problem. Drinking plenty of water and cutting out caffeine and alcohol can help.
- **Prostate:** During treatment your prostate may be inflamed and swollen. This can cause pressure on the urethra (the tube urine passes through). You may find your urine flow becomes slower, is slow to start or you may notice a slight dribble at the end of urination. You may feel your bladder doesn't completely empty, or you have a desire to go again soon after urinating.
- **Rectum (back passage):** The wall of your back passage may become inflamed and you may feel the urge to go to the toilet more often during the day and perhaps at night. If you have piles (haemorrhoids) or have had these treated in the past, they may get a little worse during treatment.
- **Bowel:** You may notice a change in your bowel movements. You may need to move your bowels more frequently and the stools you pass may be softer. You may also pass more wind than usual which may be accompanied by colicky pains. Some people may develop

diarrhoea which may be accompanied by an urge or feeling of incomplete emptying. You may pass a clear jellylike mucus from your back passage, and there might be a little blood. Avoiding very spicy foods can help.

- **Sexual Activity:** Your treatment will cause a general inflammation in the prostate gland. It may also cause some discomfort in the pelvic area, including your back passage. This can make sexual intercourse uncomfortable or painful. It may be best to avoid having sexual intercourse until the effects of radiotherapy settle after the end of treatment. After treatment a small number of people find ejaculation is uncomfortable. Sexual intercourse during radiotherapy will not harm your partner.
- **Skin:** The skin in the treated area may become more sensitive. This can be treated with creams. It is very important that you use only those recommended or given to you by Beatson staff.
- **Hair:** You may lose some body hair in the treated area. This is usually temporary, although in some patients it may not regrow.

During your treatment a radiographer, nurse or doctor will be available each week to review you if you have any problems. They will assess and treat any side effects, give advice and answer any questions you may have.

## Diet

During your treatment, it is important to eat well and choose from a wide variety of foods to help you feel stronger. Keep to a normal diet at the start of your treatment, although it is best to avoid foods that you are sure make your bowels move unduly, for example prunes, rhubarb, hot spicy foods etc.

## Skin care during treatment

Radiotherapy only affects the skin in the area being treated.



- You may bath or shower during treatment, provided the water is not too hot. Pat the skin in the treated area dry with a soft You may find that you are more comfortable if you wear loose fitting clothes, particularly with cotton next to your skin.

## After treatment ends

Most symptoms that you develop during treatment will settle down a few weeks after the radiotherapy is completed.

Tiredness can persist a little longer than other symptoms.

An out patient appointment will be arranged 8 -12 weeks after treatment ends, either at the Beatson or at your local hospital. You will be seen regularly thereafter. It would be helpful to arrange a blood test to check your PSA one week before the date of the appointment.

## Late effects of treatment

We believe that the benefits of your radiotherapy treatment outweigh any longer term risks involved. You should be aware of some **potential** long-term effects that **may** affect a small number of people. It is important to point out again that effects can vary from person to person and your doctor will explain specific individual issues to you personally.

- Occasionally the diarrhoea or the slight discharge of mucus that can occur during treatment does not settle and long term medication may be needed to control it. Some people may notice an urge to move their bowels more often, particularly in the morning.
- About a year after treatment is finished, small blood vessels can form in the lining of the bowel and bladder. These vessels are more delicate than normal and may break down causing bleeding from the back passage or in the urine. If this happens, it may seem very frightening at first but is not usually serious. You should let your GP or

specialist know as they may wish to arrange some tests to check the cause of the bleeding.

- A very small number of patients may develop some uncontrolled leakage of urine (urinary incontinence) after treatment.
- After radiotherapy to the prostate there is a small risk of a narrowing of the urethra (tube that takes urine from the bladder). If this develops, the flow of urine will be reduced and there may be dribbling or spraying. A small operation may be needed to correct it.
- Following treatment, there is a risk of losing sexual function. In particular you might find it difficult to get and keep an erection due to damage to some of the pelvic nerves. Patients who can get and maintain an erection may find that they produce little or no semen on ejaculation. If you develop problems, you can be referred to a specialist who may be able to offer help and advice, so please let your doctor know if this becomes a problem. Your own GP is also a useful source of support and help.
- There is a **very small** chance radiotherapy could increase your risk of bladder or bowel cancer. Although this is a serious possible consequence of your radiotherapy, it is important to bear in mind that this is very rare. If it does happen it is likely to arise years after treatment.

Remember, any of these risks should be balanced against the risk of not having radiotherapy.

# Where can I get help?

## Information and support

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 you may have. Further specialist help is available from:

- Uro-Oncology Nurse Specialist ☎ **0141 301 7614**
- Information and Support Radiographer ☎ **0141 301 7427**

The Beatson Cancer Centre has a **Radiotherapy Advice Line** available for patients who have completed treatment. This is an answer phone service, which is available Monday - Friday. Please leave your name, contact telephone number and a brief description of your concern. We will return your call as soon as possible. It can help us if you also leave your CHI number or date of birth. ☎ **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 Helpline 8pm-8am ☎ 0800 917 7711**

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. ☎ **0141 301 7390**

## Clinical Psychology

This leaflet deals mainly with the physical aspects of your treatment, but your emotional well being is just as important to us. Being diagnosed with cancer can be a deeply distressing for you and those closest to you. Within the department we have a clinical psychology service that can help with worries and difficulties you might be having. If you think this may be helpful to you, please ask staff to put you in touch.

There are also voluntary organisations providing information and support. These include:

<b>Prostate Cancer UK:</b>	<b>Helpline:</b> ☎ <b>0800 074 8383</b>
There are support groups throughout the country. Please check the website to find your local group.	
🌐 <b>www.prostatecanceruk.org</b>	or call ☎ <b>0141 314 0050</b>

<b>Prostate Scotland</b>
A Scottish charity set up to provide information, advice and help on prostate health and diseases test and treatments.
🌐 <b>www.prostatescotland.org.uk</b>

<b>Macmillan Cancer Support:</b>	<b>☎ 0808 808 0000</b>
Providing practical, medical, emotional and financial advice for those affected by cancer.	
🌐 <b><a href="http://www.macmillan.org.uk">www.macmillan.org.uk</a></b>	
<b>Maggie's Gartnavel</b>	<b>☎ 0141 357 2269</b>
<b>Maggie's Lanarkshire, Monklands Hospital</b>	<b>☎ 01236 771 199</b>
<b>Maggie's Forth Valley</b>	<b>☎ 01324 868 069</b>
Provides information and support with a regular programme of courses. Counselling service available.	
🌐 <b><a href="http://www.maggies.org">www.maggies.org</a></b>	
<b>Cancer Support Scotland, The Calman Centre, Gartnavel Complex.</b>	<b>Freephone</b> <b>☎ 0800 652 4531</b>
Provides emotional and practical support on a one-to-one basis and through community based groups. Complementary therapies available.	
🌐 <b><a href="http://www.cancersupportscotland.org">www.cancersupportscotland.org</a></b>	
<b>Macmillan Benefits Team (within the Beatson)</b>	<b>☎ 0141 301 7374</b>
Provides free and confidential advice for people affected by cancer and their carers.	
<b>Beatson Cancer Centre</b>	
if you want to find out more about our Centre please visit	
🌐 <b><a href="http://www.beatson.scot.nhs.uk">www.beatson.scot.nhs.uk</a></b>	
<b>NHS 24</b>	<b>☎ 111</b>

If you are interested in finding out about becoming more active, please visit:


 [www.nhsggc.org.uk/getactive](http://www.nhsggc.org.uk/getactive)

**You may find some useful information on the websites listed above. However, it is important to note that The Beatson West of Scotland Cancer Centre cannot accept responsibility for the quality and content of any information provided by other organisations.**

## Care Opinion

We welcome your comments and feedback about our service. If you would like to give us feedback please go to:

 [www.careopinion.org.uk](http://www.careopinion.org.uk) or telephone:

 0900 122 3135 or scan the QR code:





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