



**University Hospitals Birmingham**  
NHS Foundation Trust



# Radiotherapy to the prostate

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This leaflet is for people who have been recommended to receive radiotherapy to the prostate or prostate bed. It will highlight the important details that you will have already discussed with your doctor. This leaflet is intended to be a guide as details and side effects of treatment will vary from one person to another.

## What is radiotherapy?

Radiotherapy uses high energy X-rays in the treatment of cancer. The aim of radiotherapy is to slow down or stop tumour growth. Radiotherapy is similar to having a scan, it is painless, and you will not see or feel anything. You do have to lie still for a between 10–15 minutes.

Radiotherapy treatment is sometimes called external beam radiotherapy. It is carried out on either a machine called a linear accelerator or a tomotherapy machine. Both machines deliver radiotherapy treatment.

Treatment is normally given in short daily treatment sessions, Monday to Friday. The number of treatment sessions you will be having will depend on your condition. Your doctor will discuss this with you in more detail.

Unfortunately some normal healthy cells within the treated area can also be affected, resulting in some side effects. The side effects will be discussed at a later point in this leaflet.

The treatment will not make you radioactive so it is safe to be around children and other people after your treatment.

We are a teaching hospital and have student radiographers in the department every day who are supervised by qualified staff. Your radiotherapy will be delivered by radiographers, both male and female.

## Why do I need radiotherapy?

External beam radiotherapy may lead to a cure in early prostate cancer – giving hormonal therapy before and during the radiotherapy may improve the results. Your doctor will discuss this with you.

## What are the benefits of radiotherapy?

Radiotherapy treatment may be an alternative to surgery to potentially cure your prostate cancer or it can improve or control your symptoms caused by cancer.

## Are there any alternative treatments to radiotherapy?

Prostate cancer may also be treated with surgery and or/hormone treatment. It may be that you receive a combination of these treatments and your doctor will discuss your options with you.

## What will happen if I do not have treatment?

Without treatment to your prostate, the cancer will continue to grow, which may mean the symptoms get worse and the cancer may then spread from the prostate. Please discuss this with your doctor.

## Pacemakers

It is important that you inform your doctor or a radiographer if you have a pacemaker. Radiation may affect your pacemaker so checks will need to be organised throughout your treatment.

## What happens before my radiotherapy begins?

Radiotherapy treatment has to be carefully planned and your first appointment will be for a computed tomography planning scan (CT scan). You will be sent an appointment to attend the CT scanner in Radiotherapy, The Cancer Centre, Heritage Building, Queen Elizabeth Hospital Birmingham.

The CT scan of your pelvis enables your radiotherapy treatment to be planned and the scan needs to be carried out regardless of any other scans you may have had recently. The appointment can take approximately two hours.

## What happens at my CT appointment?

When you have your CT planning scan we would like you to have a full bladder and an empty rectum (back passage).

The radiographers will explain to you how to use a micro-enema (laxative) to empty your rectum (back passage).

They will also explain to you the process to fill your bladder.

You will be asked to repeat these procedures each day you attend for your treatment as all of the internal organs in the pelvis sit very close to each other and this will help to ensure that during treatment they are in the same position each day.

A full bladder can also help to reduce the side effects of your treatment by moving the rectum (back passage), bladder and small bowel away from the treatment area.

Once you have used the micro-enema and been to the toilet you will be asked to drink four cups of water in no more than five minutes.

There will then be a delay of 30 minutes to allow your bladder to fill and then the radiographers will proceed with your CT planning scan.

There is a water machine available in the radiotherapy department but you are welcome to bring your own preferred drink with you if you wish.

Some patients also need to be given contrast (dye) as part of the CT scan. The contrast helps to highlight important areas that the doctors may want to treat or avoid.

If you require an injection of contrast, a small cannula (fine plastic tube) will be placed into a vein in your arm using a fine needle. This will be connected to a machine which will give the contrast agent when you are having your scan.

For the scan, you will need to take off all clothing below the waist, except underwear. You will be covered with a paper sheet to maintain your dignity and modesty during the procedure.

The radiographers will put some pen marks on your skin. These marks help the radiographers plan your treatment.

Once the scan is complete the radiographers will ask permission to make three to four tiny permanent dots, called tattoos, which are the size of a small freckle. These do not indicate where you need treatment or the position of the tumour, but are used to ensure you lie in the correct position each day. Any pen marks put on the skin by the radiographers during the CT scan can then be washed off when you get home.

Your treatment start date may be up to three weeks later, as planning treatment is a complex process involving your doctor and a team of other professionals. The 3D images from your CT scan will be used to create an individualised treatment plan for you.

You will be given an appointment date and time for your first radiotherapy treatment before you go home.

For this appointment, you will need to arrive 60 minutes before the time on your appointment card. This will allow time for you to do your micro-enema and bladder filling prior to treatment.

The working hours of the Radiotherapy Department are 08:00–18:00. If you have a need for a certain appointment time on a specific day it is best to ask at the earliest available opportunity once you have started radiotherapy to avoid disappointment. It may not always be possible to accommodate all patient requests as we are a very busy department, with approximately 250–300 patients on treatment each day. If you require hospital transport for your radiotherapy treatment please discuss this with the radiographers at your CT scan.

## Filling your bladder

Each time you attend for radiotherapy it is important to have a full bladder. This will ensure your bladder is pushed away from the area we are treating which will help reduce side effects you may experience and ensure treatment is accurate.

Each time you undergo treatment please empty your bladder and then drink four cups or 500ml of fluid, within five minutes, approximately 30 minutes before your appointment. There is a water machine available in the Radiotherapy Department, but you are welcome to bring your own drink if you prefer.

## What happens when I come for my first treatment?

On your first day of treatment you can go directly to your allocated treatment room. If you are unsure where it is, please ask at the Radiotherapy reception desk or any member of staff. Place your appointment card in the box outside the room so that the radiographers know that you have arrived.



Linear accelerator



Tomotherapy machine

Before the first treatment is given the radiographers will come and talk to you and explain the procedure. Please feel free to ask any questions that you may have about your treatment and ask any questions you may have regarding, side effects and appointment times etc.

You will be asked to use your micro-enema and fill your bladder each day before treatment, just like at your planning CT scan. When you go into the treatment room, you will be asked to remove your lower clothes and lie in the same position as at the CT scan. To assist the radiographers, please wear either trousers with an elasticated waist or

track suit bottoms and slip on shoes for every treatment appointment. You will be asked to lower your underwear as it is important that the radiographers can see your tattoos and that there is no clothing in the treatment area. This lower area will be covered with a sheet of paper.

The radiographers will then move you closer to the machine and line up your tattoos to ensure you are in the correct position for treatment. They will put some pen marks on your skin. These marks do not indicate where you are having treatment but are used to check your position during treatment and to monitor if you have moved.

When you are in the correct position the treatment machine will move around you but it does not touch you at any point.

The radiographers will inform you when they are leaving the room to commence treatment and you will hear an alarm sound, which is part of the safety procedure.

The radiographers will operate the machine from the control area and they can see you at all times. If you need assistance, just raise your hand. For your own safety, please do not try to get off the bed as it is raised up off the floor.

For some treatments the radiographers may move the machine around you to perform a quick scan of your pelvis before starting treatment. This allows us to look at more pictures to ensure you are in the correct position. These pictures cannot be used to assess your response to radiotherapy. If this scan is part of your procedure it will be explained to you at your first treatment.

When the machine switches on you may hear some noises, such as buzzing and bleeping. This is normal and they are the noises that the machine makes whilst delivering the treatment. When the treatment has finished, please remain in position until the radiographers enter the treatment room and tell you that everything is finished. This is for your safety.

Your first treatment appointment normally takes around 20 minutes. For this appointment, you will need to arrive 60 minutes before the time on your appointment card. This will allow time for you to do your micro-enema and bladder filling prior to treatment.

## **What happens at my other treatment appointments?**

Your other treatment appointments normally take around 15 minutes. Please remember to arrive 60 minutes prior to each appointment to give yourself enough time to use the micro-enema and fill your bladder.

## **CCTV monitors**

The treatment rooms are monitored during your preparation for treatment, positioning and treatment delivery by television cameras. This is part of ensuring the accuracy of your treatment and your safety and wellbeing in the rooms at all times.

We assure you that the camera image feed is live and it is not possible to make a recording.

The images are viewable on screens situated in the machine control areas. The control areas are only accessible by authorised radiotherapy staff, some who may not be directly involved with your care at that time.

If you have any concerns about your privacy or dignity that you have not already discussed then please do not hesitate to highlight your concerns during the information discussion with the radiographers at your first treatment appointment.

## **What if there is a delay?**

Delays are sign posted outside the treatment rooms.

If you are kept waiting and are unable to hold your bladder full, please tell the radiographers.



You may need to empty your bladder, drink and fill again with approximately half the amount of fluid (one to two cups). Please discuss this with the radiographers.

Please bring a spare micro-enema with you each day in case of delays.

## **Is there anything that I need to do whilst receiving my radiotherapy treatment course?**

Whilst receiving radiotherapy treatment it is important to eat a healthy well-balanced diet and make sure that you drink plenty of fluids. Try to aim for two litres (three to four pints) during the day.

We would recommend reducing your caffeine intake (found in tea, coffee and some fizzy drinks) and alcohol intake, as both of these can irritate the bladder during your radiotherapy treatment. Try decaffeinated versions instead.

If you are diabetic please ensure you bring your insulin and some food each time you attend in case there are any delays.

We also recommend you bring any medication you are required to take regularly, for example steroids, anti-epileptic drugs, painkillers etc.

## **Will I see a doctor during my treatment course?**

You will be monitored by your treatment radiographers and seen by your doctor or one of the Review Radiographers during your course of treatment. The radiographers will let you know when this is.

Please be aware that your treatment appointment time will be made to coincide with the clinic so that you do not have to make two visits in one day.

Please make sure you tell your consultant or their team of any side effects or problems that you are having. If you need any repeat medication that you have been given from your consultant, it is a good

idea to mention it during your clinic appointment. A list of current medication may be useful to bring to this clinic consultation.

## Are there any side effects?

When you were consented for your radiotherapy your doctor will have explained the potential side effects. The most common side effects often occur whilst attending for radiotherapy treatment and may continue for a few weeks after treatment has finished. Side effects which occur six months or longer after treatment has finished are called long term side effects. If you have any questions about side effects, please ask any member of the treatment team.

## What are the possible early (acute) side effects?

These side effects are usually mild and normally start to occur approximately two weeks into the treatment and are at their worst at completion of radiotherapy. They should gradually improve in the weeks after your radiotherapy has finished and should have settled by the time you attend your post radiotherapy follow-up appointment. Please read on for more detail.

**Bladder problems:** Radiotherapy can irritate the lining of the bladder leading to:

- **Urinary frequency** - A need to pass water more often than normal. You may already be experiencing this but the treatment may make it worse
- **Urgency** - A feeling that you cannot hold your water, making the need to empty feel desperate
- **Radiation cystitis** - A burning sensation when emptying the bladder
- **Haematuria** - Blood and debris in the urine

**You can help reduce these side effects by following these recommendations:**

- Avoid caffeine, usually found in tea, coffee and fizzy drinks
- Avoid alcohol as this can irritate the bladder
- Drink two litres of fluid a day to keep your urine diluted. Do not be tempted to drink less as this will irritate the bladder further.

**Diarrhoea:** As your back passage (rectum) sits very close to the prostate, it can be irritated by the radiotherapy. This can lead to loose and more frequent bowel movements which may even be watery (diarrhoea). You may also notice mucus in your stools.

Please tell the radiographers as they are able to offer advice on how to alter your diet and recommenced medication which may help ease your symptoms.

**Blood in stool:** You may find a small amount of blood in your stool. This is quite normal but do let a member of staff know.

**Haemorrhoids:** If you have haemorrhoids the treatment can irritate them further, or cause them to come back if you have had them before.

**Hair loss:** You may lose your pubic hair if it is in the area being treated. This should grow back after treatment but may grow back thinner.

**Tiredness:** Radiotherapy can make you feel tired. This can be partly because of the travelling involved in attending the hospital every day as well as the treatment. This may continue for a few weeks after you have finished your treatment.

Please let the radiographers know if you are experiencing any side effects as they may be able to help. There is no need to struggle with them.

## **What are the possible late side effects?**

These may occur months or years after finishing your course of radiotherapy. With the improvements in radiotherapy planning and treatment techniques, these occur less frequently than in the past.

**Bladder:** You may notice there is blood in your urine after your radiotherapy. This does not necessarily mean the cancer is still there or has come back. It is caused by the blood vessels in your bladder being

more fragile after the radiotherapy. If they break, they leak blood into the bladder and this shows in your urine. This may not appear for several months or years after you finish treatment.

You may also experience a small amount of urine leakage (incontinence), especially when laughing, coughing or sneezing.

**Bowel:** You may notice blood in your stools as the blood vessels in your back passage may become more fragile.

Sometimes people experience a permanent change in their bowel habits. Your motions may become more frequent or looser. Do let your doctor know as medications can be prescribed to help regulate your habits. Rarely, small blockages can occur. These are caused by the tissue surrounding the bowel sticking together and sometimes surgery is required to correct for this. This is quite rare.

**Tiredness/Lethargy:** Even if you have not had any tiredness during your radiotherapy, after treatment has finished there may be a period of time when you feel particularly sleepy or that you feel you do not have the energy to do anything. This can last for six weeks or longer. This duration of tiredness can cause people to worry but this is quite a normal reaction to the treatment. It will settle down.

**Radiation-induced tumours:** Radiotherapy can cause cancer and there is a very small risk of a secondary cancer developing in the area that has been treated. However because the risk of this happening is so small, the benefit of your radiotherapy treatment far outweighs this risk. Your doctor will discuss this with you.

### **Sexual function:**

- **Erectile issues:** The treatment can result in difficulty in obtaining an erection due to damage to the nerves in this area. Please discuss this with your doctor as there are medications that can help and there are people to talk to

- **Contraception:** If you are sexually active it is recommended that you use contraception for six months after radiotherapy as sperm production will not stop straight away, however the sperm that is produced may be damaged. This could cause abnormalities if a child was to be conceived during this time
- **Infertility:** Radiotherapy to the pelvis can lead to permanent infertility. If this is a concern for you please discuss the option of sperm banking with your consultant before you start treatment. If you are sexually active you may notice a reduction in semen production and sperm count

## Skin care during your radiotherapy

Sometimes, radiotherapy can cause a skin reaction in the area being treated and make the skin more sensitive. You may bath and shower as normal but use warm water rather than hot and be gentle with your skin in the area being treated. You can continue to use your normal shower/bath product but if your skin becomes irritated please speak to your treatment radiographers and they will let you know if any changes are advised.

## Who do I contact if I have any questions or concerns whilst on treatment?

All our staff are here to make sure your treatment goes as smoothly as possible and to support you through this difficult period. If you have any questions about your treatment or side effects, please do not hesitate to ask your doctor or any of the radiographers for advice.

For non-urgent advice and support on side effects during treatment, please call the Review Radiographers on **0121 371 3553**.

Monday–Friday, 08:00–17:00.

During your treatment and for up to six weeks after treatment finishes if you need urgent advice due to side effects or are feeling unwell, please contact the Oncology hotline on **07789 651543**.

In the event that your call is not answered, please leave a message stating your name, hospital number, contact telephone number and a short message, and your call will be returned as soon as possible.

## What do I need to do when I have finished my treatment?

Once you have completed your treatment, the acute side effects may continue for a few weeks even though you are no longer receiving treatment. Continue with the advice that was given to you during your radiotherapy until the side effects stop. If you are unsure of what to do, please ask a radiographer or your doctor before you finish your treatment or, call the Review radiographers on **0121 371 3553** for advice.

You will be seen by your doctor when you have completed your treatment and this will be 6–12 weeks after the end of your treatment. If you do not receive an appointment in the post within this time then please contact the secretary of your doctor who will be able to check this for you. Your follow-up appointments will continue for a long period of time once treatment has finished. During these appointments it is important that you mention any side effects or problems that have occurred since completing your treatment. This enables your medical team to optimally manage any late side effects.

## Travelling to your treatment appointment

**Train:** University Station is the closest train station to the hospital and is only a 5–10 minute walk away. There is also a shuttle bus running from the train station to the Cancer Centre, Heritage Building, Queen Elizabeth Hospital, for those patients who have difficulty walking.

**Driving:** Car parking in Car Park D is free for patients attending for daily radiotherapy treatment.

Car Park D is located directly opposite the doors to the Cancer Centre. The postcode for your satellite navigation device is B15 2GW.

If you do drive, please bring in the ticket you have taken to access the car park and the radiographers will exchange this for a prepaid one so you may exit the car park without charge.

**Hospital transport:** Hospital transport is only provided if you have a medical need that stops you from using private or public transport. If you use hospital transport it can mean spending many hours away from home and traveling long distances (you will be collected/returned on a schedule) therefore we recommend you use other transport if you can.

If you need to book hospital transport please contact:

Patient Transport Services **0800 035 6511**  
(Monday–Friday 08:00–18:00 hours)

### **Bromley Wing Accommodation**

Patients who live some distance away can stay at the Bromley Wing located in Nuffield House at the Queen Elizabeth Hospital. It is comfortable accommodation with meals from Monday – Friday for people who are able to look after themselves. Outside treatment times you are free to entertain yourself, have visitors or go out. Accommodation here is free and can be arranged by contacting the Bromley Wing on **0121 371 4506**.

### **You may also find these organisations helpful:**

Macmillan: [www.macmillan.org.uk](http://www.macmillan.org.uk)

Tel: **0808 8080000**

Prostate Cancer UK

**[www.prostatecanceruk.org](http://www.prostatecanceruk.org)**

Tel: **08000748383**

## Radiotherapy contact numbers

Patrick Room – Cancer Centre, Heritage Building (Queen Elizabeth Hospital) Information and support for people with cancer and their families: Tel: **0121 371 3537/9**

Oncology hotline for urgent medical problems out-of-hours when attending for treatment and up to 6 week after radiotherapy or chemotherapy has finished.

Tel: **07789 651543**

Radiotherapy treatment rooms– direct telephone numbers

Room 1: **0121 371 5703**

Room 2: **0121 371 5076**

Room 4: **0121 371 5090** (tomotherapy)

Room 5: **0121 371 5085**

Room 6: **0121 371 5098** (tomotherapy)

Room 7: **0121 371 5084**

Room 10: **0121 371 5079**

Room 11: **0121 371 5080**

Treatment Review Radiographer

Contact for advice on radiotherapy side effects:

Tel: **0121 371 3553** Monday to Friday 09:00–17:00 hours

If you require this information in another format, such as a different language, large print, braille or audio version please ask a member of staff or email **[patientexperience@uhb.nhs.uk](mailto:patientexperience@uhb.nhs.uk)**.

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### Radiotherapy

Queen Elizabeth Hospital Birmingham  
Mindelsohn Way, Edgbaston  
Birmingham, B15 2GW  
Telephone: 0121 371 2000