



# A patient guide to receiving radiotherapy to the bladder

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This leaflet is for people who have been recommended to receive radiotherapy to the bladder. 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 patient 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 approximately 15 minutes.

Radiotherapy treatment is sometimes called external beam radiotherapy and is carried out on a machine called a linear accelerator.

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 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 everyday who are supervised by qualified staff. Your radiotherapy is delivered by radiographers, both male and female.

## Why do I need radiotherapy?

For many people with invasive bladder cancer (cancer that spreads at a quicker rate), radiotherapy works as well as surgery in curing the condition. You may have chemotherapy at the same time as radiotherapy. This is called concurrent chemo-radiation. Sometimes you

may have chemotherapy before starting the radiotherapy course. This is called neo-adjuvant chemotherapy.

## **What are the benefits of radiotherapy?**

Radiotherapy treatment is an alternative to surgery to potentially cure your bladder cancer, or it can improve or control your symptoms caused by cancer.

## **Are there any alternative treatments to radiotherapy?**

Bladder cancer may also be treated with surgery and or/chemotherapy. 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 bladder, the cancer will continue to grow, which may mean the symptoms get worse and the cancer may then spread away from the bladder. 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.

## **Pregnancy**

It is extremely important that you are not pregnant or become pregnant during your course of radiotherapy. Even a small amount of radiation may harm an unborn foetus (baby) so it is very important to let the radiographers know at once if you think there is even a small possibility that you may be pregnant before being exposed to any radiation on the CT scanner or treatment machine.

## **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, Heritage Building, The Cancer Centre, Queen Elizabeth Hospital Birmingham.

This 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 will take up to one hour.

## **What happens at my CT appointment?**

Before your scan you will be asked to empty your bladder. If the bladder is empty it will be quite small which means when you come for treatment we only need to treat a small area. This will reduce any side effects from the radiotherapy.

You will be asked to remove your clothes below the waist. It may be easier to wear a skirt or trousers rather than a one piece garment to this appointment. The radiographers will ask you to lie on the couch and lower your underwear. Some pen marks will be drawn on your skin which will help to plan your radiotherapy treatment. The marks can be washed off when you get home.

Some patients will need to be given contrast (dye) as part of the CT scan. If you are to have contrast as part of your CT scan the CT radiographers will discuss this with you. The contrast helps to highlight important areas that the doctors may want to treat or avoid and makes it easier for the doctor to plan your radiotherapy. 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.

After the scan the radiographers will ask permission to make three to four tiny permanent dots, called tattoos, which are the size of a small freckle. The tattoos 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.

Once your scan procedure is complete you will be given an appointment for your first radiotherapy treatment. There will be a time delay between your CT planning scan and the start of your radiotherapy treatment because your treatment now needs to be planned and this can be a complex process involving your doctor and a team of other professionals.

The routine hours of the radiotherapy department are from 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 CT.



Linear accelerator

## What happens when I arrive for my first treatment appointment?

Your treatment will be carried out on a machine called a linear accelerator. On your first day of treatment you can go directly to your allocated treatment room. If you cannot remember where this is, please ask at the reception desk in the Radiotherapy Department, or any member of staff. Place your appointment card in the box outside the room so the radiographers know that you have arrived.

When the radiographers are ready to start your treatment they will come and talk to you and explain the procedure. Please feel free to ask any questions that you may have about your treatment, side effects and appointment times.

You will be asked to empty your bladder before treatment each day just like at your planning CT scan.

When you enter the treatment room, you will be asked to remove your lower clothes and lie down on the treatment couch in the same position as at the CT scan. 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. You will be covered with a sheet of paper.

The treatment couch will be moved closer to the radiotherapy treatment machine. The radiographers will then move you to line up your tattoos to get you into the right position. They will then make some pen marks on your skin. The marks do not indicate where you are having treatment but are used to check your position during treatment and monitor if you have moved.

When you are in the correct position, the treatment machine will move around 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 appointment.

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.

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

After your first treatment the appointments are normally quicker because on the first day additional checks and measurements are performed. When you arrive please put your appointment card in the box outside your treatment room and go to the toilet to empty your bladder before you go in for your appointment. Appointments usually take around 15 minutes.

## **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 well-being 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.

## **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, especially if you are also receiving chemotherapy.

Avoid caffeine as this can irritate the bladder. This is found in tea, coffee and some fizzy drinks. Try decaffeinated versions instead.

Avoid alcohol as this too can irritate the bladder.

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 e.g. painkillers.

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

During the course of your treatment you will be monitored by your treatment radiographers and you will be seen by your doctor or one of their team in the radiotherapy clinic. The treatment 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 may be having. If you need any repeat medication that you have been given from your consultant you should mention this during your clinic appointment. A list of current medications 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 during the course of 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 treatment and last for a few weeks after the completion of your 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.

Below is a table to summarise the acute side effects commonly experienced by patients undergoing radiotherapy to the bladder. Please let the radiographers know if you are experiencing any side effects as they may be able to help.

Acute side effects	
<b>Bladder problems</b>	Radiotherapy can irritate the lining of the bladder creating the need to pass water more frequently and with more urgency. It can also cause a burning sensation (cystitis) and you may see some blood in your urine(haematuria). You can help reduce these side effects by drinking around two litres of fluid a day to keep your urine diluted(clear rather than dark yellow) and less likely to cause irritation to the bladder lining. You can avoid caffeine (in tea ,coffee and some fizzy drinks) and alcohol as these too can irritate the bladder
<b>Diarrhoea</b>	Radiotherapy to the pelvis area can lead to loose and more frequent bowel movements. Speak to a member of staff as dietary changes and/or medication can help
<b>Blood in your stools</b>	It is not uncommon to notice blood in your stools. Just let a member of staff know if this occurs
<b>Haemorrhoids</b>	If you have haemorrhoids the radiotherapy can irritate them further, or cause them to come back if you have had them before. Just let a member of staff know if this occurs
<b>Hair loss</b>	Pubic hair in the area may stop growing. It should come back but may be thinner
<b>Tiredness</b>	Radiotherapy can make you tired and this can last for six to eight weeks after you finish your treatment

## 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 radiotherapy. If they break, they leak blood into the bladder and this shows in your urine. This side effect 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 and blood may leak into your back passage, appearing in your stools.

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 this. This is quite rare.

**Tiredness/lethargy:** Even if you have not experienced 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 as it does not seem to settle down but this is quite a normal reaction to the treatment.

**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 side effects in females**

Infertility and menopause: Radiotherapy to the pelvis can lead to permanent infertility and is also likely to bring on an early menopause for ladies who are still having regular periods. Do discuss this with your doctor before starting treatment.

Vaginal stenosis: There is a chance the radiotherapy will cause the vagina to become narrowed, making sexual intercourse and future examinations uncomfortable. There are different options available to help deal with this issue, from sexual intercourse to vaginal dilators. This can be discussed with your doctor or clinical nurse specialist.

### **Sexual function side effects in males**

Infertility: Radiotherapy to the pelvis can lead to permanent infertility. If this is a concern for you please discuss the possibility of sperm banking with your doctor before you start treatment. If you are sexually active you may notice a reduction in semen production and sperm count.

Erectile issues: Radiotherapy 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.

### **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.

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 and contact telephone number.

## **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.

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 radiotherapy. 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 months/years after your radiotherapy 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 help manage any late side effects.

## **Travelling to your treatment appointments**

### **By 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 for those patients who have difficulty walking.

### **By car**

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 along with the car registration number, 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 need any help/advice please contact: Patient Transport Services on **0121 728 9875** (Monday–Friday 08:00–18:00).

If you use hospital transport, it can mean spending many hours away from home and travelling long distances (you will be collected/returned on a schedule) therefore we recommend you use other transport if you

can. Please ask a member of staff for details.

### **Bromley Wing accommodation**

Patients who live some distance away can stay at the Bromley Wing 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**

### **Radiotherapy contact numbers**

Patrick Room –Cancer Centre, 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 six weeks after radiotherapy or chemotherapy has finished. Tel: **07789 651543**

### **Radiotherapy review radiographers**

For information and advice about side effects from radiotherapy.

Telephone: **0121 371 3553**, Monday to Friday, 08:00–17:00

## **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

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