



University Hospitals Birmingham
NHS Foundation Trust



A patient guide to treatment for rectal cancer

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This leaflet is for patients who have been recommended to receive radiotherapy to the pelvis. 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. 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 around 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 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 trained staff. Your radiotherapy is delivered by radiographers, both male and female.

Why do I need radiotherapy?

Radiotherapy can be used as the main treatment for cancer or it can be used in combination with surgery and/or chemotherapy

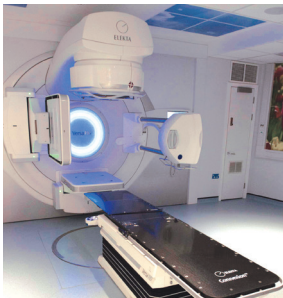
Your doctor will discuss this with you in more detail at your first appointment in clinic.

What are the benefits of radiotherapy?

For most patients, the benefit of radiotherapy will be to potentially cure or improve the control or the symptoms of your cancer. Your doctor will discuss this with you in more detail at your first appointment in clinic.

Are there any alternative treatments to radiotherapy?

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 this with you.



Linear accelerator



Tomotherapy unit - delivers the same treatment as a linear accelerator

Please see the table below for potential treatment options when treating rectal cancer, to be discussed with your cancer doctor.

	Short course of radiotherapy BEFORE surgery	Long course of radiotherapy BEFORE surgery	Radiotherapy AFTER surgery (if you did not receive radiotherapy before)
Aim	Reduces the chance of the cancer coming back after surgery	Shrinks the cancer before the operation and reduces the chance of the cancer coming back	Reduces the chance of the cancer coming back after surgery
Chemotherapy	Not during radiotherapy	Some patients receive capecitabine (chemotherapy drug) depending on their overall health	Some patients receive capecitabine depending on their overall health
Duration of radiotherapy	five days	four to five weeks	four to five weeks

What will happen if I do not have treatment?

Without treatment, the cancer will continue to grow, which may mean the symptoms get worse. The cancer may then spread away from the area and become incurable.

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 through 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 can 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, The Cancer Centre, Queen Elizabeth Hospital.

What happens at my CT appointment?

The radiographers will talk to you before the CT procedure and explain what will happen during the CT planning scan. Please feel free to ask any questions you may have about your CT scan or treatment.

Having a full bladder for the CT scan and for each daily treatment helps ensure your treatment is accurate as well as helping to reduce potential side effects.

When you arrive for your CT appointment the radiographers will ask you to drink four cups, or 500ml, of water within 5 minutes, 30

minutes before they are planning to scan you to ensure you have a full bladder for your CT scan.

There is a water machine available in the Radiotherapy Department but you are welcome to bring your own bottle of water with you if you wish.

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 prior to the procedure.

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.

For the scan you will need to take off all clothing below the waist except underwear. It may be easier to wear a skirt or trousers than a one piece garment. You will be covered with a paper sheet to maintain your dignity and modesty during the procedure.

After the scan the radiographers will ask permission to make 3–4 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.

The appointment will take approximately 60 minutes and once completed 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 working 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 your CT scan.

Filling your bladder

It is important that you keep hydrated throughout the day . The recommended daily intake is 1.5L to 2L of fluids.

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 to reduce side effects that you may experience and to ensure treatment is accurate.

Each time you undergo treatment please empty your bladder and then drink four cups or 500ml of fluid, within 5 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 bottle of water if you prefer.

What happens when I arrive for my first radiotherapy appointment?

When you arrive for treatment, you can go directly to your allocated room. If you are unsure where it 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 that the radiographers know that you have arrived.

Please ensure that you arrive 30 minutes before your appointment to give yourself enough time to fill your bladder.

When the radiographers are ready to start 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 or appointment times.

When you go into the treatment room, you will be asked to lie down on the couch, in the same position you were in the CT scanner. You will be asked to remove your clothes below the waste as it is important that the radiographers can see your tattoos and that there is no clothing in the treatment area. 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. You will be covered with a sheet of paper.

They will then put some pen marks on your skin. These marks are used to check your position during treatment and monitor if you have moved.

The treatment machine will move around you but 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 where they can still 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 short scan of your pelvis before treating you. This allows us to look at more images to ensure you are in the correct position. These images 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.

What happens at my other treatment appointments?

Your other treatment appointments normally take around 15 minutes. Please remember to arrive 30 minutes prior to each appointment to give yourself enough time to 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?

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 if you are unsure of what to do.

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 fizzy cola. 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 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 doctor 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 you should mention it 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 your treatment has finished are called late 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 be at their worst at completion of radiotherapy. They should gradually settle down in the weeks after your radiotherapy has finished and by the time you attend your post radiotherapy follow-up appointment.

Please see the below acute side effects table to summarise the acute side effects commonly experienced by patients undergoing radiotherapy.

Acute side effects	
Skin	The skin around the area being treated can become pink, irritated and sometimes sore. More information on how to help look after your skin can be found further on in the leaflet.
Diarrhoea	Irritation of the back passage can lead to loose and more frequent bowel movements. Speak to a member of staff as dietary changes and/or medication can help. It is important that you drink plenty of fluids throughout the day to replace the fluids you lose if you do suffer from diarrhoea.
Bladder problems	Radiotherapy irritates the lining of the bladder, which can upset your usual bladder habits. You may need to pass urine more frequently and with more urgency. You may also have a burning sensation (cystitis) when emptying your bladder. You may notice blood in the urine. Please inform a member of staff if this occurs.
Blood in stool	It is not uncommon to notice blood in your stools. You may also notice mucous in your stools. Just let a member of staff know if you are concerned.
Haemorrhoids	If you have or have had haemorrhoids, the radiotherapy can make them worse or make them come back. Just let a member of staff know if you are concerned.
Hair loss	Pubic hair in the area may stop growing. It should come back but may be thinner.
Tiredness	Treatment can make you tired and can last for a few weeks after you finish.

Please let the radiographers know if you are experiencing any side effects as they may be able to help.

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. Please see the table below which summarises the possible late side effects.

Late side effects	
Tiredness/ lethargy	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.
Bowels	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. Sometimes people experience a permanent change in their bowel habits. Your motions may become more frequent or looser. Let your doctor know as soon as this starts 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 very rare.
Bladder	Scarring from the radiotherapy may result in the need to go to the toilet more regularly and the feeling being more urgent. You may also experience a small amount of urine leakage (incontinence), especially when laughing, coughing or sneezing.
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 very small, the benefit of your radiotherapy treatment far outweighs this risk. Your consultant will discuss this with you.

Late side effects		
Sexual function	Female	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. It is important that you still continue to use contraception and do not start treatment if pregnant or become pregnant whilst on treatment. Discuss this with your consultant 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 consultant or clinical nurse specialist.
	Male	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.
		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 consultant as there are medications that can help and specialist staff you can discuss this with.
		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

- The skin may become more sensitive during radiotherapy and it is important to keep the area clean when having treatment
- You may bath and shower as normal but use warm water rather than hot and avoid soaking the area for long periods
- Be gentle with the skin receiving treatment and do not use a washcloth or anything similar
- Pat the area dry with a soft towel or let the skin dry naturally
- Avoid rubbing the area

You can continue to use your normal shower/bath products but if your skin becomes irritated, it is advisable to stop using that product and ask the radiographers for advice.

Moisturising

Moisturising your skin can help if your skin becomes dry and itchy. Ask the radiographers for advice before using any creams.

It is usual for any skin reactions during treatment to last two to four weeks after treatment.

What can affect my skin reaction?

- Having treatment to areas (groin, buttocks) where there are skin folds can make your skin reaction worse as the skin is warm, moist and may rub together causing friction
- Having chemotherapy alongside radiotherapy can make your skin reaction worse
- Smoking can make your skin reaction worse – if you need help to stop, please ask for advice
- A skin reaction is more likely if you are overweight due to more skin folds

Your treatment team will talk to you about your usual daily skin care routine. They will let you know if any changes are advised. Please talk to them about any worries you have.

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 if you need urgent advice, please contact the oncology hotline on **07789 651 543**.

In the event that your call is not answered, please leave a message stating your name, hospital number, contact number and a short message.

What do I need to do once 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.

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 months/years. 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 manage any late side effects in the best way possible.

Travelling to your treatment appointments

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.

Driving: Car parking in Car Park D is free for patients attending daily radiotherapy treatment appointments. Car Park D is located directly opposite the doors to the Cancer Centre, Heritage Building, Queen Elizabeth Hospital. 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 can 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 **0800 035 6511**.

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 this organisation helpful:

Macmillan: **www.macmillan.org.uk** or **0808 8080000**

Radiotherapy contact numbers

Patrick Room – Cancer Centre, Queen Elizabeth Hospital
Information and support for people with cancer and their families
Telephone: **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
Telephone: **07789 651543**

Treatment Review Radiographer

Contact for advice on radiotherapy side effects

Tel: **0121 371 3553**

Monday to Friday, 09:00 to 17:00 hours

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

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**.

Radiotherapy

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