Introduction
Radiotherapy is given using high energy X-Rays on treatment machines called Linear Accelerators. Treatment is normally given every day Monday to Friday, for 5 weeks and takes 10 to 15 minutes each day. This is what is known as 'external beam' radiotherapy. Often patients with cervical and endometrial cancer (and sometimes vaginal cancer) will also receive internal radiotherapy, known as 'brachytherapy', and this will discussed separately if this is right for you.

Before treatment begins, each patient attends for a planning session so an individualised treatment plan can be produced which meets their own requirements.

Most radiotherapy is now given using advanced methods such as Intensity Modulated Radiotherapy and Image Guided Radiotherapy (IGRT). These make the treatment more accurate and so help to reduce any side-effects.

Preparing for treatment
For both your scan and for each treatment session, you will need to have a comfortably full bladder to reduce the side-effects of treatment. You will be asked to drink the same amount of water before your planning scan and before each treatment session.

Where possible, it is also helpful to have your bowels empty before your planning scan and before each treatment session. This may help to reduce the movement of your internal organs, such as the cervix or uterus and therefore reduce possible side-effects from the treatment. This is explained further in the next section.
Sometimes patients need some laxatives to help the bowels move. If your GP has prescribed laxatives for you, fybogel or movicol are not recommended. However, GP prescribed laxatives such as senna and sodium docusate are acceptable to use. In most cases, if you do need to use laxatives while having radiotherapy, it is better of they are prescribed through the hospital Oncology department – just ask your oncologist or gynae advanced practitioner. You should be seeing your treatment team regularly for reviews during the radiotherapy course.

**Smoking** increases side effects during radiotherapy, so the best time to stop is before you start your treatment. It can be hard to stop but there is support available. If you would like help to stop, you can talk to your Advanced Practitioner or Oncologist.

**One week before your planning scan:**
- It is useful to practise drinking 2 small cups of water (approximately 300-350ml) of water within 10 minutes and trying to hold it for 30 minutes to 1 hour before emptying your bladder.
- If possible, try to practise this 2-3 times a day, as it also helps to hydrate your body.
- If you are not able to drink this amount and hold it comfortably, don’t worry, just tell your radiographer at your radiotherapy planning scan and they will record the amount that is comfortable for you.
- If you have a bladder catheter, this does not apply. The radiographer at your radiotherapy planning scan will give advice. Sometimes we suggest clamping the catheter tube to keep the bladder full, but this shouldn’t cause any discomfort.

**Planning Your Radiotherapy Treatment**
Your first visit to the radiotherapy department will be for a ‘planning scan’ which is performed on our CT scan simulator.

**Before you arrive/on-arrival for your planning scan:**
- It is helpful if you have opened your bowels, wherever possible, before your scan. If your bowel is full of gas or faeces when you are scanned you will be asked to visit the toilet so that you can be re-scanned with empty bowels.
- Getting rid of excessive wind before you arrive may be useful. Once here, there are several private toilets available.
- Sometimes patients require laxatives to assist the emptying of their bowels before their planning scan: this will be given by your doctor if needed.

**When you arrive for your planning scan:**
- Try to arrive **40 minutes** before your planning scan appointment time.
- On arrival in the department, please empty your bladder as much as possible, then drink 2 cups of water/diluted squash (approx. 350ml) within 10 minutes and try to hold it.
There are water fountains and juice, with cups, available in the department.

There should be about 40 minutes from finishing drinking and your planning scan.

If you feel very uncomfortable so that you need to empty your bladder, please do so but let the radiographers know so they can start the process again.

If you have a urinary catheter please tell the staff so the catheter can be clamped in order to allow your bladder to fill.

If your appointment is delayed for any reason, the radiographers will let you know so that you can re-empty your bladder for comfort and start the filling process again.

Planning scan:

- You will not normally see your oncologist during this visit, but if you have any questions or concerns, please ask the radiographers.
- For your planning scan, you will lie on your back on a hard, flat couch with supports for your head and legs. This is the position you will be in each time you have your treatment.
- We may need to examine you very gently internally whilst you are lying on the scanning bed and insert a small marker just inside your vagina. This may feel a little bit uncomfortable but should not be painful. The marker will be removed when your scan has finished.
- When you are scanned, if your bowel is full of gas or faeces, you will be asked to visit the toilet and then will be re-scanned. Sometimes patients may need laxatives to help to empty their bowels. If this is necessary you will be given instructions at the time of your scan.
- After the scan is complete the radiographers will mark your skin with 3 permanent tattoos the size of a pinhead. You are then free to go - your future appointments will either be posted to you or given before you leave.
- The information from the planning scan will be used to plan and calculate how to give the radiotherapy tailor-made for you.

Radiotherapy Treatment

Treatment is painless and usually takes 10-15 minutes per day. You will be asked to lie in the same position as for your scan with a comfortably full bladder and empty bowels, following the same processes as for your scan, so try to arrive 40 minutes before your appointment time so you can drink the required amount of fluid after emptying your bladder.
Alternatively you can empty your bladder before you set off to the department, but remember to do this AND THEN drink the required amount of fluid (300-350mls) 40 minutes before your treatment time. However, if the treatment unit is delayed you may be asked to empty your bladder when you arrive and begin drinking again when instructed.

The radiographers will adjust your position on the treatment couch to make certain that you are in the correct place, then leave the room to switch on the treatment but will watch you at all times on close circuit television and can hear you over the intercom.

X-ray images are taken (sometimes the X-ray unit moves around you) to check that you are in the right position.

You will not feel anything during the treatment; you will not become radioactive or be a danger to pregnant women or children.

You will soon become used to the radiotherapy and get to know the radiographers who are treating you. If you have any questions or problems with the treatment then please tell them. There should be no problems with driving to and from your radiotherapy treatment.

**Side Effects**

Radiotherapy is a localised treatment so most of the side effects occur only in the part of your body that is being treated. With radiotherapy to the pelvis this can affect your bladder and bowel. Side effects can happen during, or shortly after the treatment (acute effects) or can start months or even years after the treatment has finished (late effects). Not all patients have side effects and some have worse side effects than others.

Which side effects you, personally, will get from the radiotherapy cannot be predicted before you start treatment. It is important that you do not miss any treatments unless it is unavoidable.

**Acute Side Effects**

Side effects usually start during the second week of the radiotherapy and gradually build up throughout the remainder of the treatment.

Irritation of your bladder can lead to an increase in the frequency of passing urine including overnight. It can also cause burning or stinging when you pass urine. Drink plenty of liquid, at least 2 litres a day, but do not increase your tea, coffee or alcohol intake as this may dehydrate you. We may wish to take a urine sample to rule out a urine infection, if you have moderate or severe bladder problems. Your radiographer or doctor will advise you if they feel it is necessary.

Inflammation of your bowel can cause increased flatulence (wind), loose bowel motions and increased frequency of opening your bowels. You may also pass a small amount of blood or mucus or experience some discomfort in your back passage. We may wish to give you extra dietary advice, tablets or steroid suppositories to ease the side effects.

You may become more tired as the treatment progresses. Take regular, gentle exercise and ensure that you have adequate rest.
Your skin may become a little uncomfortable or red in the treatment area. Do not use any cream or ointment without checking with your Oncologist/Advanced Practitioner first. You can wash daily, using a mild un-perfumed soap, such as Simple soap or aqueous cream as a wash off soap substitute. Have a shower if possible, or have a quick bath with water at body temperature. It is very unusual for patients to have ‘radiation burns’ with cervix radiotherapy.

If you have any side effects please tell the Advanced Practitioner/Oncologist or radiographers treating you. Some side effects may get a little worse in the first 1-2 weeks following radiotherapy. Acute side effects usually wear off within 4-6 weeks of finishing radiotherapy although some people find it takes a little longer. If you need repeat prescriptions of any medication prescribed during your treatment to help with the side effects, these should be available from your G.P. Continue to drink plenty of liquid and follow the dietary advice until the side effects settle. As soon as any skin irritation has settled you can return to using your usual soap and creams.

**Late Effects**

Late effects can be a continuation of the acute side effects that you experienced, or can develop months, or less commonly, years after your treatment.

About 5-10% of patients experience a problem with their bladder after radiotherapy. This can be passing urine more frequently, which is usually not more than a minor inconvenience, or passing blood in their urine. If you do see blood in your urine you should report it to your G.P. Incontinence is very unlikely.

Many people will notice a minor change in their bowel habit following radiotherapy but this is rarely troublesome. You may also pass mucus from your rectum. About 5-10% of patients will require tablets to help with diarrhoea or treatment for bleeding from the back passage. If you do experience bleeding from your bowel you should discuss it with your G.P. as many other conditions, such as piles, can cause bleeding. If bleeding persists you may be referred for investigations to rule out causes of rectal bleeding other than the radiotherapy.

The vagina can often become less stretchy following radiotherapy and can sometimes form some scar tissue. To help with this, we often suggest the use of vaginal dilators which can help reduce the likelihood of this happening. We usually discuss this in clinic six weeks after the treatment has finished and whilst it might sound a bit daunting it shouldn't be uncomfortable or painful.

Rarely, it is possible the radiation might cause a communication between two of your pelvic organs, for example, the bladder or bowel might form a direct passage with the cervix or upper vagina. This is rare, but is more common in advanced cancers which have already started to grow into these organs.

For more detailed information please see the following Macmillan information booklets:

- *Pelvic radiotherapy in Women – Managing Side Effects during Treatment*
- *Managing The Late Effects Of Pelvic Radiotherapy In Women*
If you have not been given these, please ask your radiographer or at the Macmillan information area within the RT reception.

**What should I eat and drink before and during radiotherapy?**
You can help us optimise your treatment by what you eat and drink. The cervix (bottom of the womb) and womb itself can move from day to day and even during the time of the treatment itself due to the change in size and shape of your bladder and particularly if there are faeces or gas in the bowels.

To reduce the motion of these organs during radiotherapy treatment it is important to have as little faeces or gas in your bowels as possible. It is important to go to the toilet (open bowels) regularly preferably in the morning. In addition, if you have a comfortably full bladder each day that you are treated, it is less likely to be in the treatment field and so side effects to your bladder will be minimised.

**Some dietary tips (below) may help minimise bowel and bladder upset during the radiotherapy:**
- Eat meals at regular intervals and try not to eat too much food at one sitting.
- Chew food well with your mouth closed.
- Try to avoid talking whilst eating.
- If you feel the urge to open your bowels, try to do so and not wait.
- Taking regular physical exercise will help keep your bowels regular eg a short brisk walk (30mins) each day.

**Drink 2 litres of fluids a day**, even at weekends.
- Try to vary the types of drink and spread your drinks throughout the day.
- This will help the fluid to bind with your bowels. To check if you drink enough look at the colour of your urine, it should be clear to light yellow.
- You should urinate at least one litre/day.

**Avoid all fizzy drinks and beer (wine is ok in moderation, although some medications may interact with alcohol).**

**Reduce your tea and coffee intake (due to caffeine) to no more than 4 cups a day and/or try decaffeinated products instead.**

**Avoid smoking, which can make side effects worse.**

**How will I be followed up after the radiotherapy?**
You will receive an appointment to see your oncology team, about 6 weeks after the radiotherapy has finished. If you have not received notification of that appointment 6 weeks after the end of your treatment please telephone Addenbrookes Hospital and ask to speak to your Oncology Consultant’s secretary. At this appointment, we would discuss any residual side effects that you may have, and we will talk about the vaginal dilators too. Usually each time you attend a clinic follow-up, a member of the team would examine you internally so please wear comfortable clothing that can be removed easily.
Follow up for:

**Cervix cancer**
Follow-up is typically 3 monthly for the 1st year, then 6-monthly for years 2 and 3, then annually until year 5. Sometimes it may be slightly different, if that’s the right thing for you.

We organise a follow-up MRI or CT scan just before you attend for your 3 month appointment, and you should get the results in the clinic appointment.

We routinely organise MRI or CT scans at 3 months and at 12 months post treatment to assess how the treatment has worked. Sometimes other scans might also be required.

**Vaginal cancer**
Follow-up is typically 3 monthly for the 1st year, then 6-monthly for years 2 and 3, then annually until year 5. Sometimes it may be slightly different, if that’s the right thing for you.

We sometimes arrange an MRI scan at 3 months and this will usually have been discussed as your radiotherapy finishes.

**Endometrial cancer**
Follow up is typically 3 months, 6 months and at 1 year following radiotherapy. Sometimes it may be slightly different, if that’s the right thing for you. If Addenbrookes is not your nearest hospital you will be discharged back to your local hospital.

We don’t routinely organise an MRI scan after radiotherapy for endometrial cancer but sometimes may be required.

**Vulval cancer**
Follow up is typically 6 weeks, and then you will be discharged back to the surgeons.

**Contact numbers**
Katie Bradshaw
Advanced Practice Radiographer 01223 256710 (has answer-phone)

Radiotherapy Reception 01223 216634
(Radiotherapy appointment enquiries)

Secretary 01223 217074

Oncology Day Unit 01223 217099
(Chemotherapy enquiries)
We are now a smoke-free site: smoking will not be allowed anywhere on the hospital site.
For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language, large print or audio, please ask the department where you are being treated, to contact the patient information team: patient.information@addenbrookes.nhs.uk.

Please note: We do not currently hold many leaflets in other languages; written translation requests are funded and agreed by the department who has authored the leaflet.