

Information for Patients

Receiving Radiotherapy to the Pancreas

This leaflet is for patients receiving radiotherapy treatment for pancreatic cancer. It describes:

- What is radiotherapy?
- How your radiotherapy is planned and treated.
- The effects that you may experience during and after treatment, and how best to cope with them.
- Who to contact if you have any questions or concerns.

We treat each person 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 uses 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 X-rays are used to treat the tumour and a small surrounding area.

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

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

Before agreeing to this treatment it is important that you understand it and the possible effects. If you are in doubt about anything or have any questions or problems, please let us know as soon as possible.

Planning and Treatment Preparation

It may be necessary to follow some instructions before your planning scan and daily treatment. You may have to fast (not eat) for 2 hours, drink water or a flavoured water before your appointment(s). Your doctor or radiographer will discuss this with you.

Your CT scan appointment

Before your course of radiotherapy can begin, the treatment must be carefully planned. You will visit the CT simulator. This is very similar to a normal CT scanner and is specially designed for planning your radiotherapy treatment. You will usually have 2 CT scans, both done in the one appointment.



CT Simulator

You will not get any results from the scans.

You will need to drink an aniseed flavoured drink called gastrografin. This allows areas of the body such as the bowel, oesophagus (gullet) and stomach to be seen more clearly. This helps your doctor to ensure that all of the area needing treatment is included while avoiding other areas as much as possible. Your radiographers will let you know when you need to drink the gastrografin.

Your radiographers will explain the scanning procedure to you. They will ask you to undress from the waist up. Your dignity is maintained by covering you whenever possible.

You will be shown into the scanning room and asked to lie on the CT simulator table. It is flat and very hard, but you won't have to lie on it for very long. Usually you will lie on your back with your arms raised above your head. Your head and arms are supported by a special headrest and arm supports (see pictures below).

If you have difficulty with this your radiographers will help you. It is important you stay as still as you can, but you should try to relax as much as possible.



Head and arm supports

Your radiographers will place 3 pen marks on your skin along with 3 sticky markers which show up on your scan. They may also place a very small box on your chest. This helps them to monitor your breathing during the scan. Your radiographers may give you instructions to breathe out (exhale) and hold this position for around 20 seconds at a time. They will guide you through this.

Your radiographers will be outside the room during your scans. They are watching you at all times. The scans only take a few minutes each, but the whole appointment is likely to last around 60 minutes.

Once the scans are finished, your radiographers will need to make the pen marks on your skin permanent. They do this by giving you 3 small tattoos, which look like tiny freckles on your skin. These tattoos will be used every day to make sure you are in the correct position for your treatment.

The images from your scans will be used to produce a unique treatment plan for you. This is a complicated process and takes time; therefore you may not start your treatment until a few weeks after your scans.

Contrast injection

For your scans 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 radiographer will put a small needle (cannula) into a vein, usually on the back of your hand or arm. The needle will be removed and will leave a small tube of plastic in your vein. It is taped in place and will stay in during the CT scan. We will then inject the dye through this plastic. It may feel a little cold but you should not feel any discomfort.

Some people can have an allergic reaction to the contrast. 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.

MRI scan

Your doctor may request for you to have an MRI scan on the same day you attend for your CT scanning appointment. Your doctor, specialist nurse or radiographer will discuss this with you.



MRI Scanner

You will lie in the same position as you did for your CT scan. The scan can be noisy. Your radiographers will give you headphones to wear and can play music. They may also give you instructions to breathe out (exhale) as you did at your CT. The appointment will last about 45 minutes.

Treatment

Your treatment will be given on a machine called a linear accelerator which is a special X-ray machine used to give radiotherapy treatment. Your radiographers will explain everything before treatment starts.

As a guide, treatment can often last between 2 and 5 and a half weeks. Your radiotherapy will be given in small daily doses, usually Monday to Friday but not at the weekend. Your treatment can be delivered daily, or every second (alternate) day. This will be explained to you. It is important that you attend for every treatment. Please let your radiographers know if you have any problems.



Linear Accelerator

Your doctor, specialist nurse or radiographer will have explained if you need to follow any preparation before your daily treatment. This may involve drinking gastrografin or water each day. If you have been asked to fast, you will need to do this 2 hours before you come in for your treatment.

Each day you come for treatment your radiographers will position you just as you were in the CT scanner. They leave the room while the machine is on but they are monitoring you closely on closed circuit TV.

Before your treatment starts, your radiographers will take some X-ray pictures or scans to confirm your treatment position. You may have to breathe out (exhale) and hold this position during your treatment. If you have to do this, radiographers will place the small box on your chest, just like you had at your CT appointment. Your radiographers will explain this to you.

There is nothing to feel during treatment or immediately afterwards. Your treatment usually takes around 45 minutes. It is important that you stay as still as you can during treatment.

General advice during treatment

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

Try to get enough rest and sleep, especially when the treatment begins to make you feel tired. It is also important that you try to continue with some of your normal daily activities. A sensible balance between rest and activity may be most beneficial. Research has shown that gentle exercise is also beneficial for people who have had a cancer diagnosis both in the short and longer term. There are programmes available that can help with this. Please let us know if you are interested in finding out more.

Skin Care during treatment

- You may bath or shower during treatment, but don't have the water too hot (lukewarm).
- You may use your usual soap and pat your skin dry with a soft towel.
- If your skin is dry you can use a moisturiser such as Aveeno or Zerobase.
- You will find that you may be more comfortable if you wear loose fitting clothes, preferably with cotton next to your skin.

Please speak to your radiographers or doctor if you have any problems.

Early effects of radiotherapy

It is important to remember that this is a general guide. Everyone is different and the side effects from radiotherapy treatment will vary.

- **Nausea (sickness):** It is likely that you may feel sick or squeamish. This often happens 2-6 hours following treatment and usually settles within a couple of hours. Your doctor may give you anti-sickness tablets to help with this.
- **Bowel:** The treatment might irritate your bowel causing cramp like pain in your abdomen (tummy), bloating, more frequent bowel movements and passing watery bowel motions (diarrhoea).
- **Tiredness:** You may begin to feel quite tired during treatment. This tends to start after 2-3 weeks of treatment and may last for several weeks afterwards.
- **Skin:** Some patients notice a slight reddening or dryness of the skin in the area that is being treated. This should start to settle down within a few days of finishing treatment.

Late effects of radiotherapy

These effects can occur months or years after treatment has finished. These late side effects are rare and harder to predict. They can be permanent. Every effort is made to minimise the risk of developing these side effects.

- **Pancreatic insufficiency:** Enzymes from the pancreas may not work efficiently. This can lead to high sugar levels and diabetes. It may also cause loose stools and issues with food digestion.
- **Damage to your liver:** This can affect how well your liver works and can cause yellowing of your skin and eyes. This risk is greater if you have a previous history of liver disease.
- **Bowel damage:** It is very rare but there is a small risk of long term bowel damage after radiotherapy. Symptoms may include severe tummy pain, persistent nausea or vomiting, vomiting blood, blood in your poo, or poo like black tar.
- **Bowel obstruction:** Scar tissue can form in your bowel which can cause a bowel obstruction. If you have abdominal pain, constipation, vomiting, weight loss or bloating, contact your doctor. If you have severe abdominal pain along with vomiting and constipation, you must go to A&E.
- A very rare but potential effect is that radiation can cause tumours. Although this is a serious possible consequence of your radiotherapy, it is important to bear in mind that it is extremely rare. If it does happen, it is likely to be many years after treatment has ended.

Some of the side effects such as changes in bowel habits and blood sugar levels may need longer term management. It is important to speak to your doctor if you experience any of these side effects.

What do I do if I feel ill?

If you suddenly feel unwell and not able to come for treatment, contact your GP and also let your treatment unit know.

If you feel able to come to the department let your radiographers know you are unwell as soon as you arrive and they can arrange for a doctor to see you. It is important that you try to attend all of your appointments.

Similarly if you are unwell and have completed your treatment you must contact your own family doctor (GP).

After Treatment Ends

Remember any symptoms that have developed because of the treatment will gradually settle down. It's also important to remember that the full benefits of your treatment may take a number of weeks to be felt, and it may be a little while before you feel better. Our hope is that you will notice a gradual improvement in the weeks after your treatment has finished.

Your doctor will arrange to see you about 6 weeks after your treatment is completed. Continue to try to eat and drink plenty of fluids and do as much as you feel able.

Where can I Get Help?

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:

- **Upper GI Specialist Nurse:**
☎ 0141 301 7587 and page 15141.
- **Macmillan Information Radiographer and Counsellor:**
☎ 0141 301 7423
- **Information and Support Radiographer:**
☎ 0141 301 7427

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.

Please visit or phone on ☎ 0141 301 7390.

The Beatson Cancer Centre has a **Radiotherapy Advice Line** available for patients who have completed treatment. This is an answer phone service, available Monday – Friday. Please leave your name, date of birth and telephone number and a radiographer will call you back as soon as possible.

☎ 0141 301 7432

There is also 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. Please call as soon as an issue arises.

For Urgent Calls:

Beatson 8am-8pm: ☎ 0141 301 7990

National 8pm-8am: ☎ 0800 917 7711

Counselling and Clinical Psychology

This leaflet deals 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 time for you and those closest to you. Within the department we have a counselling and 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:

Macmillan Cancer Support	 0808 808 0000  www.macmillan.org.uk
Providing practical, medical, emotional and financial advice for those affected by cancer.	
Maggie's Gartnavel (Gartnavel Complex) Maggie's Lanarkshire, Monklands Hospital Maggie's Forth Valley	 0141 357 2269  01236 771199  01324 868069  www.maggiacentres.org
Open Monday to Friday 9am - 5pm, offering professional support to anyone affected by cancer. Maggie's Centre provides a comprehensive cancer support programme for people and their families affected by cancer.	

Cancer Support Scotland – The Calman Centre, Gartnavel Complex.	Freephone ☎ 0800 652 4531 🌐 www.cancersupport scotland.org
Provides emotional and practical support on a one-to-one basis and through community based groups. Complementary therapies available. Open Monday to Friday 9am – 5pm.	
Beatson Cancer Charity	☎ 0141 301 7667
Provides support for patients and families within the Beatson Cancer Centre. Services available for in-patients.	
Pancreatic Cancer Action Scotland:	🌐 https://www. pancreaticcanceraction.org/
Promotes awareness of pancreatic cancer in Scotland. Support groups offering practical and emotional guidance to patients and families.	
Pancreatic Cancer UK	Support Line: ☎ 0808 801 0707 🌐 https://www. pancreaticcancer.org.uk/
Provides information about pancreatic cancer and offers a range of support services.	
If you are interested in finding out about becoming more active, please visit:	🌐 www.nhsggc.org.uk/ getactive
Beatson West of Scotland Cancer Centre	🌐 www.beatson.scot.nhs.uk
If you want to find out more about our Centre please visit our website.	
NHS 24	☎ 111

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.

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