Pancreatic CANCER UK

Radiotherapy for pancreatic cancer

This fact sheet is for people with pancreatic cancer who are having radiotherapy to treat their cancer, or to manage pain. It explains what radiotherapy is, how it is used depending on your diagnosis, how it is given, and the possible side effects and ways to manage these.

Each hospital may do things slightly differently, so use this fact sheet as a general guide. If you have any questions, speak to your doctor, nurse or another member of your radiotherapy team.

Contents

Key facts

- Radiotherapy uses radiation to destroy cancer cells.
- If you have pancreatic cancer, you may have radiotherapy on its own, or together with chemotherapy. This is called chemoradiotherapy (see page 7).
- Chemoradiotherapy may be suitable for some people with borderline resectable pancreatic cancer (see page 3). The aim is to shrink the cancer enough to make it possible to remove it with surgery.
- Chemoradiotherapy may be offered to people with locally advanced pancreatic cancer (see page 4). It may help control the cancer and slow down its growth.
- SABR (stereotactic ablative body radiotherapy) (see page 4) may be another option for locally advanced cancer. SABR delivers higher doses of radiotherapy to a very specific area over fewer treatments. You will have up to three months of chemotherapy first.
- Pancreatic cancer that has spread to other parts of the body (advanced or metastatic cancer) can cause pain. You may be able to have radiotherapy to help relieve the pain. This is called palliative radiotherapy (see page 4).
- You will usually go to the hospital Monday to Friday for your radiotherapy. How long treatment goes on for will vary, but it is usually three to six weeks. SABR will take one to two weeks. Palliative radiotherapy may be a single dose or a few sessions over one to three weeks.
- If you are having chemoradiotherapy, you will usually have chemotherapy on its own for three to six months to begin with. If the cancer has not grown, you will then have radiotherapy and chemotherapy every day from Monday to Friday, for three to six weeks.
- The chemotherapy drug most often used with radiotherapy is capecitabine, which is taken as a tablet.
- Radiotherapy can cause side effects (see page 10), but these are often mild. They may include fatigue, feeling and being sick, and runny poo. Your medical team will help you manage them. If you have chemoradiotherapy, you may also get side effects from the chemotherapy.

If you have any questions about radiotherapy, you can speak to our specialist nurses on our Support Line. Call free on **0808 801 0707** or email **nurse@pancreaticcancer.org.uk**

What is radiotherapy?

Radiotherapy uses radiation to destroy cancer cells. A machine called a linear accelerator (linac) is usually used to deliver radiotherapy for pancreatic cancer. This directs beams of radiation at the cancer from outside the body, destroying the cancer cells.

If you have pancreatic cancer, you may have radiotherapy on its own, or together with chemotherapy. This is called chemoradiotherapy (see page 7).

Who can have radiotherapy?

Radiotherapy is used in different ways depending on your diagnosis and the stage of the cancer.

Radiotherapy for borderline resectable pancreatic cancer

Borderline resectable cancer is cancer that has grown very close to the major blood vessels near the pancreas. It may be possible to remove the cancer, but it depends which blood vessels are affected and how far the cancer has grown.

Chemotherapy together with radiotherapy (chemoradiotherapy) may be suitable for some people with borderline resectable pancreatic cancer. These treatments aim to shrink the cancer enough to make it possible to remove it with surgery. You will usually have a CT scan four to six weeks after chemoradiotherapy, to see if surgery might be possible.

Radiotherapy for locally advanced pancreatic cancer

Locally advanced pancreatic cancer is cancer that has spread to the large blood vessels near the pancreas, or to several lymph nodes.

You may be offered radiotherapy together with chemotherapy (chemoradiotherapy – see page 7). Chemoradiotherapy may help control the cancer and slow down its growth. For a very small number of people with locally advanced cancer, chemoradiotherapy may shrink the cancer enough so it can be removed with surgery. A CT scan is usually done 12 weeks after chemoradiotherapy to see how well it has worked.

What is SABR (stereotactic ablative body radiotherapy)?

Another option may be a type of radiotherapy called SABR (stereotactic ablative body radiotherapy). You may hear it called Cyberknife. This delivers higher doses of radiation to a very specific area over a shorter time – usually five sessions. The aim is to help control the cancer and slow down its growth.

You will have at least three months of chemotherapy before having SABR. The SABR will start at least two weeks after the last dose of chemotherapy, and you won't have any chemotherapy during SABR treatment. You may have a CT scan six to eight weeks after treatment to see how well it has worked.

Radiotherapy for advanced pancreatic cancer

If you have cancer that has spread to other parts of the body (advanced or metastatic cancer) it may cause pain by pressing on other organs or nerves near the pancreas. You may be able to have radiotherapy to help relieve the pain. This is called palliative radiotherapy.

Palliative radiotherapy may also be helpful if the cancer has spread to other places such as the bones.

Sometimes the cancer can spread to the bones in the spine or tissues around the spinal cord, and can press on the spinal cord. This is called malignant spinal cord compression (MSCC). It is rare but it can be serious. Radiotherapy is the most common treatment for MSCC. Macmillan Cancer Support has more information about MSCC, including the signs and symptoms.

You can talk to our specialist nurses on our free Support Line with any questions about radiotherapy and your treatment options.

Read more about chemotherapy in our fact sheet: **Chemotherapy for pancreatic cancer**
Or on our website at: **pancreaticcancer.org.uk/chemotherapy**

Read about surgery in our fact sheet: **Surgery to remove pancreatic cancer**
Or at: **pancreaticcancer.org.uk/surgery**

Read more about ways to manage pain in our booklet: **Pain and pancreatic cancer**
Or at: **pancreaticcancer.org.uk/pain**

Advantages and disadvantages of radiotherapy

If you are offered radiotherapy, speak to your doctor about the advantages and disadvantages of this treatment. We have a list of questions that might help on page 15.

Advantages

- The main advantage of radiotherapy is that it may help to control the growth of the cancer.
- For a small number of people with borderline resectable cancer and locally advanced pancreatic cancer, radiotherapy may help to make surgery possible.
- Each treatment session will take about 30 minutes, or longer for SABR. You won't usually need to stay in hospital.
- You may be able to carry on with your daily life, such as going to work, if you feel up to it.
- If you have advanced cancer, radiotherapy can help control symptoms and relieve pain.

Disadvantages

- Radiotherapy can cause side effects including tiredness, sickness and runny poo (diarrhoea), but these are usually mild.
- If you have chemoradiotherapy, you may also get side effects from the chemotherapy. There are ways to manage side effects.
- If you have borderline resectable or locally advanced cancer, you may have to go to hospital five days a week for several weeks for your treatment, although this may vary.

Types of radiotherapy

There are different ways of giving radiotherapy. We explain the types used for pancreatic cancer in the UK.

Radiotherapy for pancreatic cancer is usually image guided radiotherapy (IGRT). This means you will have scans or X-rays taken while you are having radiotherapy to check that you are in exactly the right position during treatment.

The different types of radiotherapy all aim to focus the radiation on the cancer and limit the amount of radiation to surrounding organs and healthy tissues. The radiotherapy team will decide which is the best and safest treatment for you.

- **Intensity modulated radiotherapy (IMRT)** uses at least five radiation beams arranged at different angles so that the tumour gets the maximum amount of radiation.
- **Volumetric modulated arc radiotherapy (VMAT)** is a type of IMRT that uses one continuous beam to deliver radiotherapy as it moves around your body.
- **Stereotactic ablative body radiotherapy (SABR)** or stereotactic body radiotherapy (SBRT) delivers higher doses of radiation in a shorter time and over fewer sessions than IMRT or VMAT.
- **3D conformal radiotherapy** also shapes the radiation beam to the cancer. It may be used for palliative radiotherapy.

Clinical trials

Clinical trials are medical research studies that involve patients. You could ask your doctor about any clinical trials using radiotherapy or chemoradiotherapy that might be suitable for you.

Read more about clinical trials in the UK on our website at:
pancreaticcancer.org.uk/clinicaltrials

How is radiotherapy given?

Radiotherapy treatment will vary depending on your pancreatic cancer diagnosis and the type of radiotherapy you are having. You will go to the hospital for each treatment but you won't need to stay overnight.

Each treatment session is called a fraction. You will usually have radiotherapy every day, Monday to Friday. Most treatment courses last three to six weeks (15-30 fractions). This will vary with the type of radiotherapy you have and the hospital where you are being treated. For example, if you have SABR you will have five fractions spaced out over one to two weeks.

If you are having palliative radiotherapy, you will usually have fewer treatment sessions (1, 5 or 10) over one to three weeks. The overall dose is usually lower. This can reduce the risk of side effects. You may still get some short term side effects, depending on the area being treated.

What is chemoradiotherapy?

Sometimes radiotherapy is used with chemotherapy. This is called chemoradiotherapy. The chemotherapy may make the cancer cells more sensitive to the radiotherapy, making it more effective.

You will usually have chemotherapy on its own for three to six months to begin with. You will then have a CT scan. If this shows that the cancer has not grown, you will start chemoradiotherapy.

The chemotherapy drug most often used with radiotherapy is capecitabine, which is a tablet that you can take at home. You will have radiotherapy and capecitabine every day from Monday to Friday, for three to six weeks.

Ask your oncologist if chemoradiotherapy is a suitable treatment for you, and if it's available in your hospital. You could also ask about clinical trials using chemoradiotherapy.

Read more about chemotherapy in our fact sheet:
Chemotherapy for pancreatic cancer

Read about capecitabine on our website at:
pancreaticcancer.org.uk/capecitabine

Who will treat me?

The team who will plan and deliver your treatment may include these health professionals.

- A **radiologist** is a doctor who reads and understands images such as X-rays and CT scans.
- **Oncologists** are doctors who use radiotherapy (clinical oncologists) and chemotherapy (medical oncologists) to treat and manage cancer. They will be responsible for your treatment.
- A **therapy** or **therapeutic radiographer** is a technical specialist. They take X-rays and scans which are used to plan your radiotherapy and deliver the radiotherapy treatment. A small team of therapeutic radiographers will see you at every treatment session.
- **Dosimetrists** help create a personal radiotherapy plan. This is to make sure the cancer gets the maximum dose of radiotherapy while reducing the dose to the surrounding organs.
- A **medical physicist** is a healthcare scientist who helps work out the doses of radiotherapy and checks all aspects of your treatment plan.

The team will work together to make sure your radiotherapy is delivered accurately and safely.

What should I expect when coming for treatment?

Planning the radiotherapy

Before your radiotherapy starts you will normally have a planning session, which takes around 45 minutes. You will have a CT scan to work out the best position for you to lie in on the radiotherapy table during treatment. It is important you are comfortable as you will be in the same position every day for your treatment. Some people may also have an MRI scan to help with planning. The radiographers will then make tiny permanent dots (tattoos) on your skin around the area being treated. These help make sure they get you into exactly the right position for each treatment session.

You may be asked not to eat for two hours before your planning session, but you might be given some water to drink. To make sure everything is exactly the same for treatment, you will normally have to do the same before each treatment session.

Different hospitals do things slightly differently and your oncologist and the radiotherapy team will discuss the process in detail with you. Ask them any questions you have about what will happen.

After the planning session, the radiotherapy team will produce a treatment plan for you. This means there will usually be a gap of two to three weeks between planning and the start of treatment. Your radiotherapy team will be able to tell you exactly how long you may need to wait.

Read about CT and MRI scans on our website at:
pancreaticcancer.org.uk/tests

Having treatment

The radiographers will position you on the radiotherapy table (often called a couch) using the tattoos. You might feel the couch move as the radiographers adjust the position from outside the room. The radiotherapy machine is called a linear accelerator or linac. They may move the radiotherapy machine around you to different angles to check the measurements. Another type of linac may be used, where the couch slides into it like a CT or MRI scanner.

The radiographers will leave the room to deliver your treatment but will watch you all the time using cameras. They can talk to you over an intercom and you may be able to talk to them. You might feel the couch move as they adjust the position from outside the room.

Radiotherapy machines are very big and can be noisy. You should try to relax and lie as still as you can. You may be able to listen to music. The machine will not touch you and the treatment isn't painful.

With most standard radiotherapy machines, you will have a scan before the treatment is delivered. This is to help make sure the radiotherapy is delivered accurately, but it won't check how well the treatment is working.

The whole process will take about 30 minutes. For SABR it will be longer – 45 minutes to more than an hour. The treatment itself only takes a few minutes. The rest of the time is spent making sure you are in the right position and doing pre-treatment checks. You can go home as soon as each treatment session is finished. After radiotherapy, it's safe to be around other people, including pregnant women and children.

Radiotherapy and chemoradiotherapy can be tiring, so having someone to drive you to hospital can be helpful, especially towards the end of treatment.

Side effects of radiotherapy

Side effects of radiotherapy affect everyone differently. We explain some of the side effects you may get.

Many people will only have mild side effects and severe side effects are not common. If you have chemoradiotherapy, you may also get side effects from the chemotherapy.

Your radiotherapy team will explain the possible side effects before treatment starts. Ask them how they will plan your treatment to reduce these. Side effects can usually be managed and you will have regular check-ups during treatment where you can discuss them. Let the radiographers know as soon as you start to get any side effects.

Side effects usually last for a few weeks after your treatment has finished but can sometimes last longer. They may get worse after your final treatment before they start to get better.

If you have questions about side effects speak to your doctor or nurse.

Or speak to our specialist nurses on our free Support Line.

Read about the side effects of chemotherapy in our fact sheet:
Chemotherapy for pancreatic cancer

There is information about the side effects of the chemotherapy drug used in chemoradiotherapy, capecitabine, on our website at:
pancreaticcancer.org.uk/capecitabine

Fatigue (extreme tiredness)

Fatigue is a common side effect of radiotherapy for pancreatic cancer. Travelling to hospital every day can make it worse. Tiredness can last for several weeks or months after treatment has finished.

Read about managing fatigue on our website at:
pancreaticcancer.org.uk/fatigue

Feeling and being sick (nausea and vomiting)

During radiotherapy, organs such as the stomach and bowel will get some of the radiation. This may make you feel sick (nausea). A few people might be sick (vomiting). Nausea or vomiting may get worse as treatment goes on, and last for a few weeks after treatment. It may be worse if you have chemoradiotherapy.

What helps?

You may be given anti-sickness medicines. Your medical team will tell you how to take these.

Read about coping with nausea and vomiting on our website at:
pancreaticcancer.org.uk/sickness

Runny poo (diarrhoea)

You might get diarrhoea because the stomach and bowel get some of the radiation during treatment.

What helps?

- Try to drink as much fluid as you can to avoid getting dehydrated (where your body loses more water than it takes in).
- If you have diarrhoea more than four to six times a day or if you can't drink much fluid, speak to your medical team. They can give you tablets to control the diarrhoea.
- Ask a dietitian at the hospital about any changes to your diet that might help.

Read our tips for coping with diarrhoea on our website at: **pancreaticcancer.org.uk/tipspoo**

Problems with eating and drinking

You might not feel like eating and may lose weight. Keeping your weight stable may improve how you feel and help you cope better with pancreatic cancer and treatment.

What helps?

- Speak to your dietitian, nurse or doctor if you are struggling to maintain your weight. They can give you advice.
- They can also prescribe pancreatic enzyme replacement therapy (PERT) if you haven't already been given it, which might help.
- If you haven't seen a dietitian, ask to be referred to one.

Read more about eating, pancreatic enzymes and dealing with weight loss in our booklet: **Diet and pancreatic cancer**

Or on our website at: **pancreaticcancer.org.uk/diet**

Indigestion

Some people also find that they have indigestion or heartburn after radiotherapy. Talk to your medical team about this if it's a problem. They might be able to give you medicine to help.

Skin reactions

Some people's skin can react to radiotherapy although this is rare. The skin may become drier and more rarely, sore, itchy or darker, often on your back. Any skin reaction will usually settle down two to four weeks after treatment finishes.

Your medical team may suggest you use moisturiser to reduce the risk of skin problems. If you do get any skin reactions, your medical team can give you advice on managing them.

Bowel damage

It is very rare, but there is a small risk of long term bowel damage from radiotherapy. This can happen months or years after treatment. Symptoms include severe tummy pain, persistent nausea and vomiting, vomiting blood, or poo like black tar. If you have any of these symptoms at any time, go to A&E straight away.

Tummy pain

Sometimes SABR can cause tummy pain. This is usually worse after two weeks and settles down within six weeks. Your medical team can give you painkillers to manage it.

It's important you tell your medical team about any pain after radiotherapy. They will check what's causing it and how best to treat it.

If you have any questions or concerns during or after treatment talk to your nurse or treatment team.

You can also speak to our specialist nurses on our free Support Line. They can answer questions and talk through any worries.

Check-ups after radiotherapy

Locally advanced pancreatic cancer

If you have locally advanced cancer, you will usually have your first check-up (follow-up appointment) with your oncologist four to six weeks after you finish radiotherapy treatment. This may vary depending on what treatment you have had.

Radiotherapy may continue to have an effect on the cancer after your treatment has finished. You will have a CT scan about 12 weeks after radiotherapy to check how well the treatment has worked. If you had SABR, you may have a CT scan six to eight weeks after having treatment. Ask your doctor or nurse when you will have a scan.

You can use the check-up appointment to discuss any questions or concerns. It's a good idea to write down any questions you have before the appointment. We have some suggested questions you could ask (see page 15).

Palliative radiotherapy

If you had palliative radiotherapy to control symptoms, you will continue to be cared for by your oncologist or palliative care team. They will check how well the radiotherapy has worked, whether you need any more radiotherapy, and help manage any other symptoms you have.

The palliative care team provide specialist care which aims to prevent and manage complex symptoms, including pain, and emotional symptoms, such as depression and anxiety. They also offer people practical and spiritual support, and support for family members.

Questions to ask your doctor or nurse

Why is radiotherapy recommended for me?

Will radiotherapy help control my cancer?

Will radiotherapy help me to live longer?

Will radiotherapy help any of my symptoms?

How long will I have radiotherapy for?

How long will each session last?

Will I have chemotherapy as well as radiotherapy?

What side effects might I get?

How can the side effects be managed?

Who do I contact if I have side effects?

Will I have any long term side effects?

Which hospital will I go to for radiotherapy?

Are there any clinical trials using radiotherapy or chemoradiotherapy that I could take part in?

How soon will I know if the treatment is working?

Are there any other treatment options that would be suitable for me?

More information and support

Pancreatic Cancer UK support

We are here for everyone affected by pancreatic cancer.

Our specialist nurses are here to talk now

If your world has been turned upside down by a diagnosis, we are here to talk now. We can answer your questions, recommend practical steps and provide the emotional support you and those close to you need, when you need it most.

Call free on **0808 801 0707** or email **nurse@pancreaticcancer.org.uk**

Expert information

Our free information covers everything about pancreatic cancer to help you understand your diagnosis, ask questions, make decisions and live as well as you can.

Go to: **pancreaticcancer.org.uk/information**

Download or order our free publications at:
pancreaticcancer.org.uk/publications or call **0808 801 0707**

Real life stories

Read other people's experiences of pancreatic cancer to find out how they coped with their diagnosis and treatment and their tips on looking after themselves.

Go to: **pancreaticcancer.org.uk/stories**

Useful organisations

Cancer Focus Northern Ireland
cancerfocusni.org
Nurse line: 0800 783 3339 (Mon, Weds, Fri, 9am-1pm)
Care and support for people affected by cancer and their families in Northern Ireland.

Cancer Research UK
cancerresearchuk.org
Helpline: 0808 800 4040 (Mon-Fri 9am-5pm)
Information for anyone affected by cancer.

Macmillan Cancer Support
macmillan.org.uk
Support Line: 0808 808 00 00 (7 days a week, 8am-8pm)
Provide practical, medical, emotional and financial support for anyone affected by cancer.

Maggie's
maggies.org
Tel: 0300 123 1801
Centres around the UK and online offer free, comprehensive support for anyone affected by cancer.

Tenovus Cancer Care
tenovuscancercare.org.uk
Tel: 0808 808 1010
Advice and support for people affected by cancer in Wales.

This fact sheet has been produced by the Support and Information Team at Pancreatic Cancer UK.

We make every effort to make sure that our services provide up-to-date, accurate information about pancreatic cancer. We hope this will add to the medical advice you have had, and help you make decisions about your treatment and care. This information should not replace advice from your medical team – please speak to your doctor, nurse or other members of your medical team about any questions.

Email us at **publications@pancreaticcancer.org.uk** for references to the sources of information used to write this fact sheet.

Give us your feedback

We hope you have found this information helpful. We are always keen to improve our information, so let us know if you have any comments or suggestions. Email us at **publications@pancreaticcancer.org.uk** or write to our Information Manager at the address below.

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