

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. Family members may also find it helpful. 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.

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You can speak to our specialist nurses on our Support Line with any questions you have about radiotherapy. Call them 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 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 5).

Who can have radiotherapy?

Radiotherapy is used in different ways, depending on your diagnosis. Speak to your doctor or nurse about whether it might be suitable for you.

Radiotherapy for borderline resectable pancreatic cancer

Borderline resectable pancreatic 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 – see page 5), or more rarely, radiotherapy on its own, 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.

Radiotherapy for locally advanced pancreatic cancer

Locally advanced pancreatic cancer is cancer that has spread to the large blood vessels near the pancreas, the stomach, spleen or large bowel.

If you have locally advanced cancer, you may be offered radiotherapy together with chemotherapy (chemoradiotherapy – see page 5). Chemoradiotherapy may help control the cancer and slow down its growth.

For a very small number of people with locally advanced pancreatic cancer, chemoradiotherapy may shrink the cancer enough to make it possible to remove it with surgery.

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 the pain. This is called palliative radiotherapy.

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



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 on our website at pancreaticcancer.org.uk/pain

What are the advantages and disadvantages of radiotherapy?

If you are offered radiotherapy, speak to your doctor about the advantages and disadvantages of it. We have a list of questions to ask which might help on page 11.

What are the 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 and 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.

What are the disadvantages?

- Radiotherapy can cause side effects, including tiredness, sickness and runny poo (diarrhoea). Read more about side effects on page 7.
- If you have chemoradiotherapy, you may get side effects from the chemotherapy. Talk to your medical team about the risk of side effects, and find out how they will plan your treatment to reduce them.
- 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 from person to person.

Types of radiotherapy

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.

There are different ways of delivering radiotherapy. They all aim to focus the radiation on the cancer and limit the amount of radiation to surrounding organs and healthy tissues. These are the most common types of radiotherapy used for pancreatic cancer in the UK.

- **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 focuses the radiation on the cancer and reduces treatment time. It normally involves one single beam of radiation, sometimes more, delivered as the machine rotates around you.
- **3D conformal radiotherapy also** shapes the radiation beam to the cancer though it is used less often.

Stereotactic ablative radiotherapy (SABR) or stereotactic body radiotherapy (SBRT) is a type of very precise radiotherapy. You may have heard it called Cyberknife®. SABR delivers higher doses of radiation in a shorter time, which reduces the number of treatments. SABR is not routinely available for pancreatic cancer on the NHS, and is only available in a few hospitals in the UK. You can ask your doctor more about SABR.

Clinical trials for radiotherapy

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



You can talk to our specialist nurses about clinical trials on our free Support Line.



Read more about clinical trials and find out about current trials in the UK on our website at pancreaticcancer.org.uk/clinicaltrials

How will I have radiotherapy?

Radiotherapy treatment will vary depending on your situation. 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).
- If you are having palliative radiotherapy, you will usually have fewer treatment sessions (1, 5 or 10). The overall dose is usually lower which reduces the risk of side effects.

What is chemoradiotherapy?

Chemoradiotherapy is chemotherapy together with radiotherapy. 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 taken as a tablet. You will have radiotherapy and capecitabine every day from Monday to Friday, for five to six weeks.

Ask your oncologist (cancer doctor – see page 6) if chemoradiotherapy is a suitable treatment for you, if it's available in your specialist centre, or if you could join a clinical trial looking into chemoradiotherapy.



Speak to our specialist nurses on our free Support Line if you have any questions about radiotherapy, chemoradiotherapy, or your treatment options.



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, MRI and CT scans.
- **Clinical oncologists** are doctors who use radiotherapy and chemotherapy to treat and manage cancer. They will be responsible for your treatment.
- A **therapy** or **therapeutic radiographer** takes X-rays and scans, and delivers the radiotherapy treatment.
- **Dosimetrists** help create a personal radiotherapy plan 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 to work out the doses of radiotherapy and checks all aspects of your treatment plan.

They will work together to make sure the radiotherapy is accurately delivered.

What happens during treatment?

Planning the radiotherapy

Before your radiotherapy starts you will normally have a planning session, which can take up to two hours.

You will have a CT scan, and the radiographers will make tiny permanent dots (tattoos) on your skin. The radiographers will use the dots to help them get you into exactly the right position for each treatment session.

Some people may also have an MRI scan to help with planning. Your doctor will discuss this with you.

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 this before each treatment session.

After the planning session the radiotherapy team will make a treatment plan for you. This means there will usually be a gap between planning and the start of treatment.



Read more 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) and move the machine around you to different angles to check the measurements. You should try to relax and lie as still as you can.

The radiographers will leave the room but will watch you using cameras. You might feel the couch move as they adjust the position from outside the room. Sometimes 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. When the treatment is delivered, the machine will move around you. It may come close to you but will not touch you.

The whole process will take about 30 minutes. The treatment itself isn't painful and only takes a few minutes.

You can go home as soon as each treatment session is finished. After the treatment, 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. You may be able to get financial help towards hospital parking or travel costs – ask your medical team.

Side effects of radiotherapy

Radiotherapy does cause side effects, although they affect everyone differently. 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 doctor will explain the possible side effects before treatment starts, including anything you need to contact them about straight away. You will also have regular check-ups during your treatment. Let the radiographers know as soon as you start to get any side effects. It's normally possible to manage most of them, sometimes with medicines.

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

If you have any questions about side effects or how to manage them, speak to your doctor or nurse.



Or you can call 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 actually 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 – these help best if you take them regularly.



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

Runny poo (diarrhoea)

You might get diarrhoea and, more rarely, tummy pains.

What helps?

- Drink plenty of fluids to avoid getting dehydrated (where your body loses more water than it takes in).
- Speak to your medical team if diarrhoea continues to be a problem or is severe – for example if you have diarrhoea more than four to six times a day, or if you can't drink enough fluid to replace what you're losing. They can give you tablets to control it.
- 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/diettips

Problems with eating and drinking

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.

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. Speak to your dietitian, nurse or doctor if you are struggling to maintain your weight. They can give you advice, and prescribe pancreatic enzyme supplements if you haven't already been given them. If you haven't seen a dietitian, ask to be referred to one.



Read more about diet, pancreatic enzyme supplements and dealing with weight loss in our booklet, **Diet and pancreatic cancer**, or on our website at pancreaticcancer.org.uk/diet

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 and drink plenty of fluids to reduce the risk of skin problems. If you do get any skin reactions your medical team can give you advice on managing them.

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. This means that it may be up to three months before you have a CT scan to check how well the treatment has worked. When you have the scan will depend on your cancer, whether you have any new symptoms or if you are having treatment as part of a clinical trial.

You can use the follow-up appointment to discuss any questions or concerns. It's a good idea to write down any questions you have before the appointment, and take someone with you for support or to make notes.

Palliative radiotherapy

If you have had palliative radiotherapy to control symptoms, you will continue to be cared for by your oncologist or palliative care team (who specialise in managing symptoms). They will check how well the radiotherapy has worked, and whether any more would help.



You can talk to our specialist nurses about your follow-up on our free Support Line.

? Questions to ask your doctor or nurse

You might want to write down any questions you have for your doctor to take with you so you don't forget to ask them. You may also want to take someone with you when you see your doctor so they can write down the answers and any important information.

- Why is radiotherapy recommended for me?
- Will radiotherapy help control my cancer?
- Will radiotherapy help me to live longer?
- Will radiotherapy make surgery more likely?
- Will radiotherapy help any of my symptoms?
- Will I have chemotherapy as well as radiotherapy?
- What side effects might I get?
- How long will the side effects last?
- How can the side effects be managed?
- Who do I contact if I have side effects?
- Which hospital will I go to for radiotherapy?
- Can I have radiotherapy closer to where I live?
- Are there any clinical trials involving radiotherapy or chemoradiotherapy that I could take part in?
- Are there any other treatment options that would be suitable for me?

Further information and support

Pancreatic Cancer UK services

We are here for everyone affected by pancreatic cancer.

We're here to support and listen

Our free and confidential Support Line is a lifeline for thousands of people affected by pancreatic cancer. Our specialist nurses understand the issues you might be facing and their expert help will support you in coping with pancreatic cancer.

Call free on **0808 801 0707** weekdays 10am-4pm, or email **nurse@pancreaticcancer.org.uk**

We're here with the information you need

We have the most up-to-date information on everything you need to know about pancreatic cancer. We can help you every step of the way through diagnosis and treatment options to managing your symptoms and the care you receive.

Go to **pancreaticcancer.org.uk/informationandsupport**

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

Find an A-Z of medical words at **pancreaticcancer.org.uk/medicalwords**

We're here so you can share

Our Forum is a supportive place where everyone affected by pancreatic cancer can be there for each other online, any time of day or night:

forum.pancreaticcancer.org.uk

Our Living with Pancreatic Cancer Support Days provide local face to face support in an informal setting for people diagnosed with pancreatic cancer:

pancreaticcancer.org.uk/supportdays

Local support groups mean you can meet other people to share your experiences:

pancreaticcancer.org.uk/supportgroups

Useful organisations

Cancer Research UK

www.cancerresearchuk.org

Helpline: 0808 800 4040 (Mon-Fri 9am-5pm)

Information for anyone affected by cancer.

Healthtalk

www.healthtalk.org

Personal and patient experiences presented in written, audio and video formats.

Macmillan Cancer Support

www.macmillan.org.uk

Support Line: 0808 808 00 00 (Everyday 8am-8pm)

Provides practical, medical and financial support for anyone affected by cancer.

Maggie's Centres

www.maggiescentres.org

Tel: 0300 123 1801

Centres around the UK and online offer free, comprehensive support for anyone affected by cancer.

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 the medical team – please speak to your doctor, nurse or other members of your medical team about any questions.

We would like to thank the following people who reviewed this information.

- Andrew Bateman, Consultant Clinical Oncologist, University Hospital Southampton
- Catriona Buchan, Radiotherapy Advanced Practitioner (Pre Treatment), St James' Institute of Oncology
- Mark Collins, Academic Delivery Manager, Department of Allied Health Professions, Sheffield Hallam University
- Maria A Hawkins, University College London
- Ganesh Radhakrishna, Consultant Clinical Oncologist, The Christie NHS Foundation Trust
- Pancreatic Cancer UK Lay Information Reviewers
- Pancreatic Cancer UK Specialist Nurses

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 on the back cover.

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© Pancreatic Cancer UK September 2019
Review date September 2021

Registered charity number 1112708 (England and Wales), and SC046392 (Scotland)