

Understanding

# Radiotherapy

Caring for people with cancer

## Understanding

# Radiotherapy

This booklet has been written to help you understand more about radiotherapy. It has been prepared and checked by cancer doctors, radiation therapists, other relevant specialists, nurses and patients. The information in this booklet is an agreed view on radiotherapy, how it is given and how this treatment may affect you.

If you are a patient, your doctor, radiation therapist or nurse may go through the booklet with you and mark sections that are important for you. You can make a note below of the contact names and information that you may need.

>>>



	Name	Telephone
Specialist nurse		
Radiation therapist		
Radiation oncologist		
Medical oncologist		
Surgeon		
Medical social worker		
Family doctor (GP)		
Emergency number		
Treatments		Review dates

This booklet has been produced by the Irish Cancer Society to meet the need for improved communication, information and support for cancer patients and their families throughout diagnosis and treatment. We would like to thank all those patients, families and professionals whose support and advice made this publication possible. We also acknowledge the contribution of the many consultants, nurses and other healthcare professionals who so kindly gave up their time and expertise to contribute to previous editions of this booklet.

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- *Imaging for Oncology: Collaboration Between Clinical Radiologists and Clinical Oncologists in Diagnosis, Staging and Radiotherapy Planning*, Royal College of Radiologists, 2004.
- *Radiation Therapy and You: Support For People With Cancer*, National Cancer Institute, 2012.
- *Cancer Nursing: Principles and Practice*, CH Yarbrow, MH Frogge, M Goodman & SL Groenwald, Jones and Bartlett, 8th Edition, 2018.
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## Quick facts

### Why am I being offered radiotherapy?

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Radiotherapy can kill cancer cells, to help cure your cancer or stop it spreading. It can also help to relieve pain and other cancer side-effects.

### Does it hurt?

Page 22 ►►

No. Getting external radiotherapy is a bit like getting an X-ray. You won't feel anything, but you will have to keep very still, which may be a bit uncomfortable. Sometimes skin in the treated area gets sore afterwards. With internal radiotherapy (brachytherapy) the radioactive source is usually put in your body under anaesthetic, so you shouldn't feel any pain.

### How long will I have radiotherapy for?

Page 24 ►►

It depends on your treatment plan. Often a course of external radiotherapy lasts around 3-8 weeks, where you go to hospital every week day for treatment. If you're having internal radiotherapy or radiotherapy to help with symptoms, you will only have a few sessions or maybe only 1 session.

### Will I get side-effects?

Page 37 ►►

Radiotherapy can affect normal cells in the treated area, as well as cancer cells. This can cause general side-effects like tiredness, as well as specific side-effects related to the area being treated. For example, diarrhoea or constipation after stomach / pelvis radiotherapy, a cough after chest radiotherapy. Most side-effects ease in the weeks and months after treatment. Sometimes side-effects develop some time after treatment.

### Clinical trials

Page 14 ►►

Clinical trials are when cancer patients get a new type of treatment to see if it works better than existing treatments. Ask your consultant if there are any trials suitable for you.

### We're here for you

Page 68 ►►

If you or your family have any questions or worries, want to know where to get support, or if you just need to talk, you can talk to one of our cancer nurses.

#### Ways to get in touch

- Call our Cancer Nurseline on 1800 200 700
- Drop into a Daffodil Centre
- Email us: [cancernurseline@irishcancer.ie](mailto:cancernurseline@irishcancer.ie)

See page 68 for more about our services.

## Introduction

This booklet has been written to help you understand more about radiotherapy treatment for cancer.

We hope this booklet answers some of your questions and encourages you to discuss them with the radiotherapy team.

Treatment practices may vary a little between patients, doctors, hospitals or treatment centres. Talk to your doctor about your treatment and care, as the best choice for you will depend on your particular cancer and your individual circumstances.



### Reading this booklet

Remember you do not need to know everything about radiotherapy straight away. Read a section that you're interested in. Then read another section when you want to know more. If you do not understand something that has been written, discuss it with your doctor, radiation therapist or nurse. You can also call our Cancer Nurseline on Freephone 1800 200 700 or email the nurses at [cancernurseline@irishcancer.ie](mailto:cancernurseline@irishcancer.ie).

You can also visit a Daffodil Centre. See page 68 for more about Daffodil Centres. You can email [daffodilcentreinfo@irishcancer.ie](mailto:daffodilcentreinfo@irishcancer.ie) to find your local Daffodil Centre.



National Cancer Helpline Freefone 1800 200 700

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## Patient journey for radiotherapy



## What is radiotherapy?

Radiotherapy uses carefully measured doses of high-energy radiation to kill cancer cells in the affected area by damaging their DNA. This will stop the cancer cells from dividing and growing. Unlike chemotherapy, which usually exposes the whole body to cancer-fighting drugs, radiation therapy is usually aimed at and affects only the part of the body being treated (local treatment).

## Why is radiotherapy given?

The aim of radiotherapy is to destroy cancer cells with as little damage as possible to normal cells. Radiotherapy can be used to treat many kinds of cancer. It is particularly effective for head and neck cancers, lung and breast cancers, and cancers in the abdomen and pelvic area. Radiotherapy may be used:

- **To cure cancer (radical treatment):** This type of treatment aims to cure cancer and prevent it returning.
- **To shrink cancer before surgery:** This can make a tumour easier to remove.
- **To stop cancer from coming back (recurring) somewhere else:** Cancer can spread from where it started to other body parts. Sometimes your medical team will recommend radiotherapy to kill any cancer cells that remain after surgery or that have spread to other parts of your body.
- **To treat cancer that has returned (recurred):** Radiation can treat cancer that has come back after an initial diagnosis and treatment. If the cancer has come back in a part of the body that has already been treated with radiation, it is sometimes possible to give more radiation in the same place.
- **To relieve symptoms (palliative radiotherapy):** Palliative radiotherapy can help to relieve symptoms like pressure, pain or bleeding. If a cure is not likely, palliative treatment can lead to a better quality of life. Often a short course, sometimes only a single treatment, is needed.

## How is radiotherapy given?

There are 3 main ways of giving radiotherapy:

**External beam radiotherapy:** External beam radiotherapy is where a beam of radiation is directed into your tumour (or the tumour site if you have already had surgery to remove the tumour). The beams of radiation come from a machine called a linear accelerator (LINAC for short). The radiation is also aimed at a small area of normal tissue around the tumour site just in case any cancer cells have spread. External radiotherapy is the most commonly used type of radiotherapy. See page 15 for more about external radiotherapy.



**Internal radiotherapy (brachytherapy):** This is where the radiation sources (implants) are put inside your body, on or near your tumour. The implants may be removed after a short time — maybe only 20 or 30 minutes — or they may be left in place to give the radiation over a long period of time. See page 29 for more about internal radiotherapy.

**Systemic radiotherapy:** Liquid radioactive drugs called radionuclides or radioisotopes are given by mouth or put into a vein to treat certain types of cancer like thyroid and advanced (metastatic) prostate cancer. These drugs travel throughout the body. See page 34 for more.

Email: [cancernurseline@irishcancer.ie](mailto:cancernurseline@irishcancer.ie)

## Planning your treatment

Radiotherapy must be carefully planned so that the highest dose is given to the tumour area and as little as possible to the nearby cells. You will have to go to the hospital for a planning (simulation) scan before your treatment so that your medical team can work out the best dose for you and mark out the area to be treated. The diagram on page 8 is a step-by-step guide to your radiotherapy treatment. You can read more about planning radiotherapy on page 16.

## When is radiotherapy given?

Radiotherapy can be given on its own or in combination with other treatments, such as surgery, chemotherapy, hormone therapy and targeted therapies. For some cancer patients, radiotherapy is the only treatment needed.

### Radiotherapy and surgery

You may have radiotherapy either before or after surgery.

- **Neoadjuvant radiotherapy:** You may have radiotherapy some weeks before surgery to shrink a tumour and make it easier for surgeons to remove. As a result, you may need less radical surgery, that is, less tissue removed.
- **Adjuvant radiotherapy:** In most cases radiotherapy is given after surgery to prevent the growth of any cancer cells that might remain in your body. You may also have other treatments such as chemotherapy.

### Radiotherapy and chemotherapy

Radiotherapy can be given:

- Before chemotherapy to reduce the size of the tumour.
- With chemotherapy, using drugs that make the cancer cells more sensitive to radiation (radiosensitisers), so that the radiotherapy treatment works better. This is called chemoradiation.
- After chemotherapy to kill any cancer cells left in your body.



## Where is radiotherapy given?

Radiotherapy is normally given in special cancer treatment centres, usually hospitals or clinics. These centres need highly trained staff and space for the large equipment involved. As a result, the centre may be some distance from the hospital where you received surgery or chemotherapy.

Most people receive radiotherapy as outpatients, travelling to the radiotherapy unit each day. For some internal radiotherapy you may have to stay in hospital for a few days.

## Will I get side-effects?

Radiotherapy can temporarily damage or destroy healthy cells leading to short-term and long-term side-effects. If you have radiotherapy and chemotherapy together, you are likely to get worse side-effects. See page 37 for more about side-effects.



## Staff in the radiotherapy unit

The staff you will meet regularly in the radiotherapy unit will be your doctors, radiation therapists and nurses. Depending on your needs, you may also come across physiotherapists, dietitians, speech and language therapists, medical social workers, clinical psychologists and counsellors.

**Radiation oncologist:** A consultant who specialises in treating cancer patients using radiotherapy. He or she usually heads a team of doctors.

**Medical oncologist:** A consultant who specialises in treating cancer using chemotherapy and other drug treatments.

**Radiation therapist:** A healthcare professional who specialises in planning and delivering radiation to patients with cancer and other conditions. They will monitor your progress during your treatment, explain any side-effects and help with any needs you have during treatment, including psychological ones.

**Radiation physicist:** A radiation expert who helps to plan your treatment with the radiotherapy team. They make sure that the equipment is working properly and that the machine delivers the right amount of radiation. Most patients do not meet the radiation physicist.

**Dosimetrist:** A scientist who plans and calculates the proper radiation dose for your treatment. They work closely with the radiation oncologist, physicist and radiation therapist. Most patients do not meet the dosimetrist.

**Radiographer:** A specially trained person who takes X-rays, CT and MRI scans, mammograms, etc. that you may need before or during your cancer treatment.

**Radiation oncology nurse:** A nurse who specialises in radiation oncology. They will co-ordinate your care, help you learn about your radiation treatment, tell you how to manage the side-effects, and take care of any dressings, medicines or other needs you have.

**Mould room technician:** A specially trained person who makes devices to prevent you moving during treatment. For example, for head and neck cancers, they will make a special mask so that your head and shoulders can keep still during treatment. This is often a radiation therapist.



## Clinical trials

Research into new ways of delivering radiotherapy and reducing side-effects goes on all the time, in Ireland and worldwide. The research looks at how, when and where radiotherapy can be given and the dosage.

Many patients with cancer take part in research studies. Your doctor may ask you to try a new radiotherapy treatment. There are many benefits in doing this. You will be helping to improve knowledge about cancer and radiotherapy. You will also be carefully checked during and after the study, so you will be quite safe.

You cannot be included in a clinical trial without your permission. If you decide not to take part, you will still be given the best treatment available. For more information on clinical trials, see the Irish Cancer Society's factsheet *Cancer and Clinical Trials*. For a free copy, call our Cancer Nurseline on 1800 200 700, visit a Daffodil Centre or download a copy from **[www.cancer.ie](http://www.cancer.ie)**



### To sum up

- Radiotherapy is a treatment used to cure or control cancer.
- Radiotherapy involves careful planning before treatment.
- There are different ways of giving radiotherapy.
- The benefit of radiotherapy is that it can destroy or shrink cancer cells and relieve pressure, pain or bleeding.
- Radiotherapy can temporarily damage or destroy healthy cells, leading to short-term and sometimes long-term side-effects.
- With high doses of radiotherapy there is a small risk of some permanent damage.
- Radiotherapy can be used together with other treatments like surgery and chemotherapy.

## External radiotherapy treatment planning

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## Tests and planning

Radiation beams can damage normal cells as well as cancer cells. To make sure your treatment is as precise as possible to avoid damage to healthy cells, you will have at least one planning appointment at the hospital before you have your radiotherapy. The radiation oncologist will examine you, review your medical history and test results, and pinpoint the exact area to be treated.

Planning your treatment may take time – anything from one day to weeks – and then waiting for treatment may take more time. Try not to worry if you think it is taking too long. It just means that the doctors and staff are making sure that the treatment is specially designed for your needs. There is less complex planning involved in palliative treatment.

**>>> Ask plenty of questions if you are unsure about any part of your treatment planning.**

Treatment planning includes:

**Physical exam:** A physical exam will be done to check the general state of your health. You may need to have some X-rays, scans and blood tests done as well. Before starting treatment, make sure to tell your doctor about any medicines you are taking, including herbal remedies. He or she may advise you to stop taking these remedies during your course of radiotherapy. If you have any allergies or sensitive skin, it is worth mentioning these too.

**CT planning:** Your first visit to the radiotherapy unit will involve a CT planning session. The main purpose of the scan is to pinpoint the area to be treated (treatment field) and decide on the position you will be in when you have your radiotherapy treatment. It's important that your position is comfortable, as you will need to stay in the same position every time you have radiotherapy.

You will lie still on a flat surface. Laser lights will be used to make sure you're lying in a straight position on the bed. After the scan, your skin will be marked with tiny tattoo dots, so that the machine

can be lined up using these marks as a guide when you actually have your treatment. CT planning can last for up to 30 minutes.

**Skin markings:** The radiation therapist will mark the treatment field with dots of semi-permanent ink or with tiny tattoo dots to make sure that you are in the same position each time for treatment. With the semi-permanent ink, the marks will fade away over time, but they're needed until your treatment is finished, so don't use soap or scrub these marks.

The tattoos are permanent, so you may need to sign a consent form before you have them. The dots are very tiny, though. They can be removed later with a laser.

**Immobilisation:** You need to stay as still as possible during the planning and treatment sessions. Every effort will be made to make you as comfortable as possible. Foam pads, special vacuum bags and immobilisation devices may be used to help you stay in the treatment position. Sometimes the mould room technician or radiation therapist can make special devices or supports for you. For example, a body mould, mask, mouth bite or head frame. For more on immobilisation see page 18.

**Pregnancy test:** For women, it's important to check that you're not pregnant before you start treatment. Radiation can harm a growing baby. You will have a pregnancy test if there's any chance that you could be pregnant.

Once all your tests and planning are completed, you can go home. Your doctor, the radiation physicists, radiation therapists and the dosimetrist will work together to calculate the dose of radiation you need based on the treatment goals. Talk to the information and support radiation therapists if you have any worries or concerns.

## Immobilisation devices

Immobilisation devices help to keep you in the right position every time you have treatment. There are different types, depending on which part of the body is being treated.

### Body mould / 'Vac bag'

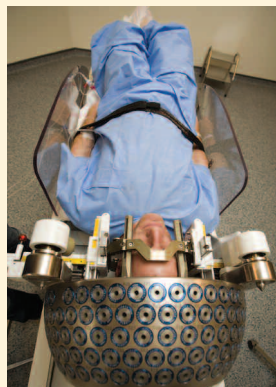
You will be asked to lie down and hold your arms above your head. You will then lie on a bag (like a bean bag) the length of your body. Once you are comfortable and in the correct position for treatment, a vacuum will be attached to the bag and the air sucked out.

This will make a mould around your body so that you are always in the same position for your planning and treatment.



### Head frame

A head frame is used for intracranial stereotactic radiosurgery only (see page 25). A circular metal frame is held in place by four attachments that line up with your skull. Two are in your forehead and two are in the back of your head. Your neurosurgeon (specialist brain doctor) will put your head frame on. An anaesthetic will be used to numb the skin where the frame will be attached. You will feel some pressure at first but you should not feel any pain.



### Mask

If you are having radiotherapy to your head or neck, you may need to wear a mask during treatment. The mask can be made from either clear plastic (Perspex) or a type of mesh plastic (thermoplastic).

For the Perspex mask, the mould room technician will put some cream on your face. They then put strips of plaster of Paris bandage on top of this to make a mould. This takes a few minutes to set and is then removed. A Perspex mask is made from this mould.

A thermoplastic mask uses a type of mesh plastic that becomes soft and pliable when heated in warm water. The warm plastic is draped carefully over your head. It will feel like a warm face cloth placed over your face at first but it cools very quickly. The holes in the plastic will allow you to breathe easily through it. The radiation therapist and mould room technician mould the plastic to the shape of your head as it cools.



### Dental mouth bite

To make a dental mouth bite, you will be asked to bite into a plastic mould full of putty. This mould is like a gum shield. The putty will dry in 10 minutes and make a mould of your upper teeth. The radiation therapist will then attach a small frame to your mould. Your radiation therapist might ask you to remove your mouth bite a few times to check that it fits correctly.

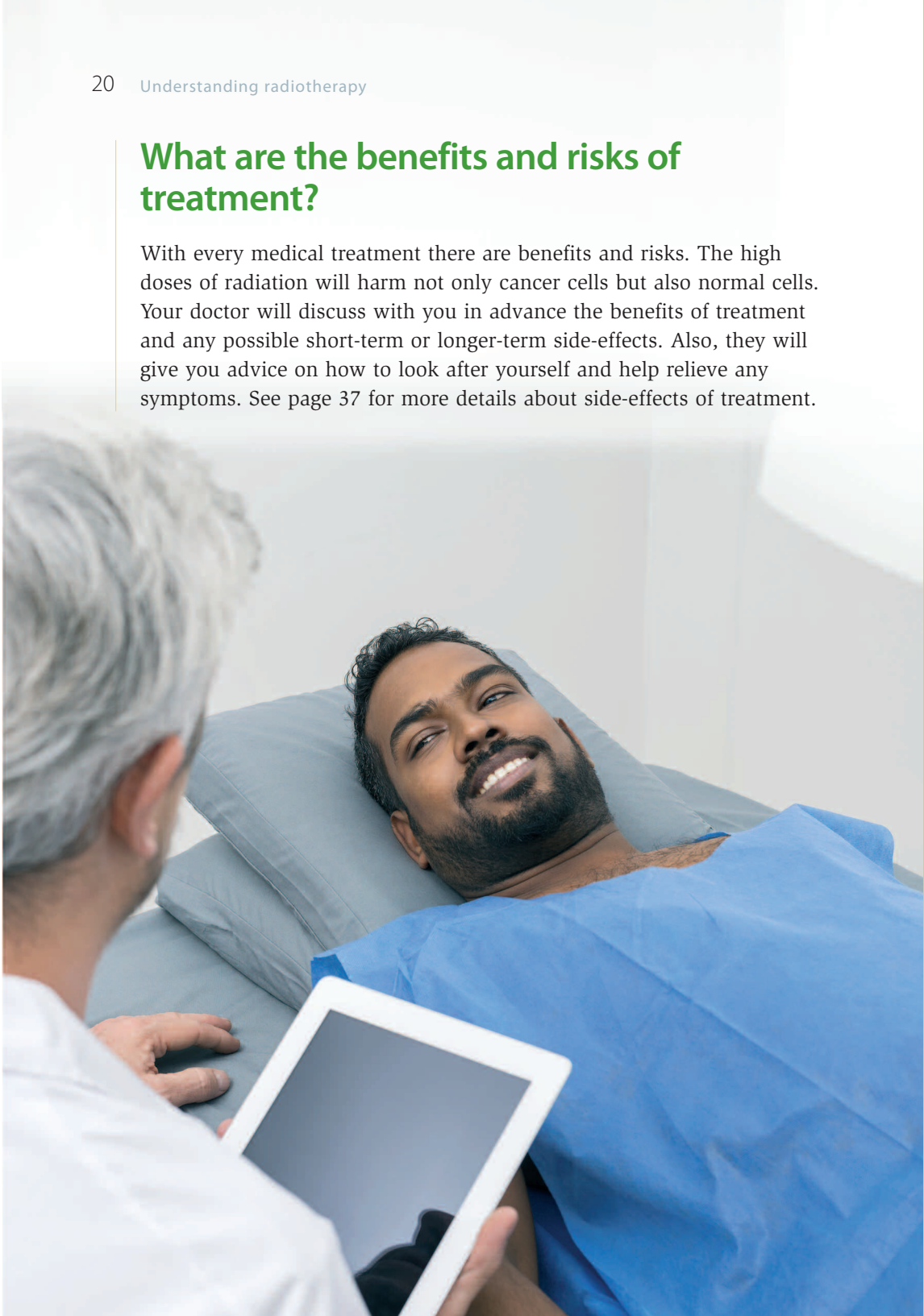


## Giving consent for treatment

Before you receive any radiotherapy (external or internal), your doctor should ask you to sign a consent form for the hospital staff to give you the treatment. This is a written record stating that you have agreed to the planned radiotherapy. It is important to take time to consider what the treatment involves. The benefits and risks of the treatment should be explained to you, and also any side-effects that may occur. Any other treatments that are available should also be discussed. You are also free not to agree to the treatment or to stop it at any time. However, it is best to discuss your reasons and concerns with your doctor first.

## What are the benefits and risks of treatment?

With every medical treatment there are benefits and risks. The high doses of radiation will harm not only cancer cells but also normal cells. Your doctor will discuss with you in advance the benefits of treatment and any possible short-term or longer-term side-effects. Also, they will give you advice on how to look after yourself and help relieve any symptoms. See page 37 for more details about side-effects of treatment.



## Getting external radiotherapy treatment

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## First day of treatment

On the day of your first treatment, you will come to the radiotherapy unit. It is best to wear comfortable clothes that are easy to take off and put on again. Some hospitals provide gowns.

The radiation therapists who deliver the treatment will explain to you what happens and what to expect – all the sights, sounds and likely side-effects. It is natural to feel anxious about radiotherapy, so every effort will be made to put you at ease. If you have any questions or concerns, no matter how small, talk to your radiation therapist.

The radiation therapists will help you onto the treatment table and will adjust both the table and the machine to the exact positions needed. You will be put in the same position as at your CT planning scan. Because you need to keep still for a few minutes during treatment, they will make you as comfortable as possible.



When you are ready, the radiation therapist will leave the room to set up the machine. The lights will be turned down and laser lights will be used to line up the beam with the marks on your skin that show where the radiation will be aimed. Relax as much as you can and just breathe normally.

## Getting your treatment

The radiation therapists will leave the treatment room just before your treatment begins. The radiation machines are operated from outside the room in the control area. The radiation therapists will be watching you carefully on a closed-circuit television. They can hear and see you and can talk to you through an intercom. If you need them, just speak

and they will immediately stop the treatment and enter the room. If you are wearing a mask, just wave your hand. The machines can be stopped at any time. The radiation therapists control all of the movements of the machine at all times.

You need to stay as still as possible during the treatment so that radiation only reaches the treatment areas and so that the same area is treated each time. Just breathe normally. The machine may move around you, but it will not touch you. After a few minutes, your treatment will be over for that day.

Receiving radiation is painless – just like having an X-ray. Even though it is painless you still may feel anxious about the machines. They are large and most of them make a buzzing noise as they move around your body aiming at the treatment area from different angles. Some people worry that they will be completely enclosed by the machine, but this does not happen. To help you relax, some treatment rooms have music and you can always talk to the radiation therapist at any time during your treatment.

**>>> You must remain as still as possible during treatment – just breathe normally.**

## How long will treatment take?

From start to finish, the treatment session can take up to 20 minutes, allowing time for getting on and off the treatment table and for the machine to be set up. This routine will go on each weekday until your course of treatment is finished. You will usually go home after each day's treatment.

If you have any problems at home between sessions, your radiation therapist will give you information about who to contact and when.

Cancer Nurseline Freephone 1800 200 700

## How much radiotherapy will I have?

The total dose of radiation and the number of treatments you need will depend on:

- The size, location and type of your cancer
- Your general health
- Other treatments you are receiving, such as chemotherapy, surgery, or targeted therapies

This means the dose and length of treatment can vary between patients, even those with the same type of cancer. Depending on the hospital you attend, sometimes your appointment can be made for the same time each day. Normally, there is no radiotherapy treatment on Saturdays and Sundays. Each treatment is called a fraction so you will receive, for example, five fractions per week.

External radiotherapy is usually given once daily, 5 days a week for 3 to 8 weeks.

When the aim is not to cure cancer but to control its symptoms, the course of treatment is much shorter, usually 1 to 10 doses.



### To sum up

- External radiotherapy involves careful planning.
- A CT planning scan will be used to pinpoint the area to be treated.
- The skin in the treatment area will be marked.
- Each treatment session will last about 20 minutes.
- A course of treatment will last from a few days to a few weeks.

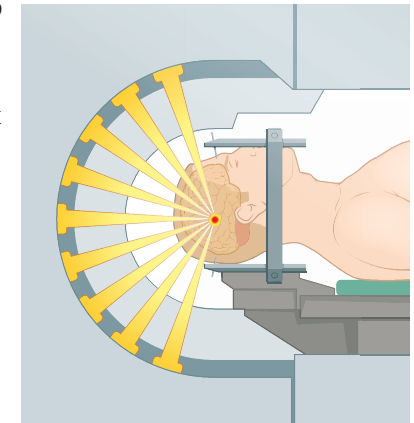
## Different types of external radiotherapy

Techniques in radiotherapy are developing all the time. Ones that are currently available in Ireland include:

**Conformal radiotherapy:** Conformal radiotherapy is also called three-dimensional (3D) conformal radiotherapy. It is a very commonly used type of radiotherapy. Conformal radiotherapy uses a device inside the linear accelerator that can be adjusted to match your tumour. The radiation beams are precisely focused so that nearby healthy tissue is spared. This results in fewer side-effects, allowing a higher dose of radiation to be given.

**Stereotactic radiotherapy and radiosurgery:** Stereotactic radiotherapy is a very technical and accurate way of giving radiotherapy. It uses smaller, more precise radiation beams than standard radiotherapy. These beams are targeted at your tumour from several different angles, which combine to give a high dose of radiation. Stereotactic radiotherapy is generally used on small tumours that are not suitable for surgery, such as brain or lung tumours.

If stereotactic treatment is given to your brain, it is called intracranial stereotactic radiotherapy. If it is given to any part of your body but not your head, it is called extracranial stereotactic radiotherapy or stereotactic body radiotherapy. Stereotactic radiosurgery is like stereotactic radiotherapy, except that it is given in just one dose. It is used to treat tumours in your head (intracranial radiotherapy).



Stereotactic radiosurgery is like stereotactic radiotherapy, except that it is given in just one dose.

**Deep-inspiration breath-hold (DIBH) treatment:** DIBH is used when radiotherapy is given to the chest area. The idea is that you take deep breaths and hold them for short periods while the radiation is delivered, to shift your heart and other structures away from the beam of radiation. For example, when giving radiotherapy to the left breast, which is near the heart. When you stop holding your breath, the radiation beam is switched off. Your radiation therapist will help you during your DIBH treatment so that you know how to breathe the right way.

**Intensity-modulated radiotherapy (IMRT):** Intensity-modulated radiotherapy (IMRT) can shape the radiotherapy beams so that different doses of radiotherapy can be given to different parts of the treatment area. For example, if you are having radiation to your throat for throat cancer, the lymph nodes in your neck will also need treatment but at a much lower dose. With IMRT you will receive a higher dose to your throat and a lower dose to your neck lymph nodes. IMRT also helps to reduce doses of radiation to normal, healthy tissues compared to standard radiotherapy.

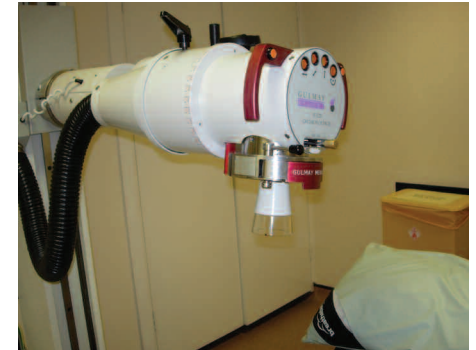
Volumetric-modulated arc therapy (VMAT) is a newer form of IMRT that allows for even more efficient and accurate use of intensity-modulated radiotherapy.

**Image-guided radiotherapy (IGRT):** Often tumours can move between and during radiotherapy. For example, when you breathe, swallow or fill your bladder. Image-guided radiotherapy (IGRT) allows for changes in your tumour's location. Images are taken of your body every time you have treatment. These images help your therapists to adjust your radiotherapy so that it is targeting the tumour. By constantly checking the size and location of your tumour, your doctors can make sure that your treatment is as accurate as possible.

**Total body irradiation (TBI):** For some types of leukaemia, lymphoma or myeloma, doctors may use radiotherapy to the whole body. This is called total body irradiation. This is part of the preparation for a bone marrow transplant or a stem cell transplant. The radiation kills off all bone marrow, including cancer cells, before healthy bone marrow is given back to you.

For more information on total body irradiation see our website [www.cancer.ie](http://www.cancer.ie) or talk to one of our cancer nurses by calling our Cancer Nurseline on Freephone 1800 200 700 or by visiting a Daffodil Centre.

**Contact/electron radiotherapy:** Contact radiotherapy can be used to treat cancers on the surface of your skin. This includes basal cell carcinomas (BCCs), squamous cell carcinomas (SCCs) and other skin conditions. It uses energies much lower than those of the linear accelerators. Sometimes it is used to treat secondary cancer in the bone, for example in the ribs. Different sizes of applicators can be used, depending on the size of the treated area. The applicator is put into the head of the machine and then placed on the skin surface. This is why it is called contact radiotherapy.



A radiotherapy treatment room





## Internal radiotherapy – brachytherapy

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## How is internal radiotherapy used?

In brachytherapy ('brack-ee-there-a-pee') radiation sources are placed directly into the body. This means doses of radiation can be given to cancer cells, while avoiding damage to the area around the cancer. The radiation is sealed in an implant, which can be in the form of a tube, seed or capsule.

You may need internal radiotherapy only once or a small number of times. You might have external radiotherapy or other treatments too, or you might only have brachytherapy. It depends on the type of cancer you have and what your consultant thinks will work best for you. Brachytherapy is mainly used to treat cancers of the:

- Cervix, womb and vagina
- Head and neck, including mouth and lip cancers
- Prostate
- Eye (ocular)
- Lung
- Oesophagus, rectum and bile duct
- Breast

**>>>** With internal radiotherapy, a high dose of radiation is given directly to the tumour, sparing normal tissue. The course of treatment is usually shorter than with external radiotherapy.

Brachytherapy can be given in several ways either as an outpatient (where you will go home after treatment) or inpatient (where you stay in hospital). It depends on the type of implant used.



A brachytherapy unit



Size of brachytherapy seeds

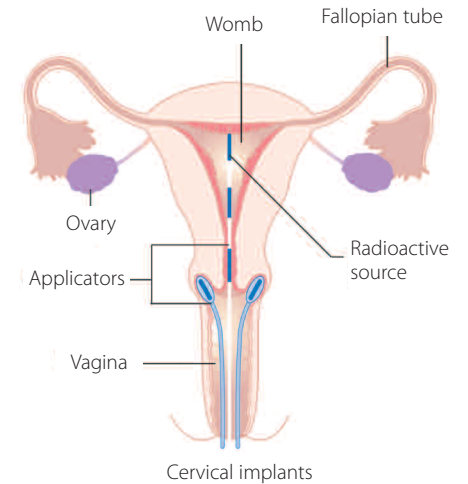
## Types of implants

The implants may be temporary or permanent.

**Temporary implants:** The implants are put into your body and removed after a short time (often 20-30 minutes), once the prescribed dose is given. For most types of cancer you will have temporary implants.

**Permanent implants:** These are mainly used to treat prostate cancer. Tiny radioactive 'seeds' are left in the body and lose their radiation gradually over time.

See page 33 for more about prostate brachytherapy.



Picture: Cancer Research UK / Wikimedia Commons

## Planning your treatment

You may be admitted to the hospital or radiotherapy unit the day before your treatment.

**Tests:** Depending on the location of your tumour, you may need extra tests such as blood tests, X-rays, ultrasounds, or CT scans.

**Method of delivery:** Your doctors will decide what kind of implant you need. It depends on the size and location of your tumour, and the type of cancer you have.

**Dosage:** The dose of radiation will be carefully calculated by your radiation oncologist, physicist, dosimetrist and radiation therapist. The dose will depend on:

- Your type of cancer
- Where the cancer is located
- Your general health
- Any other cancer treatments you have had

**High-dose rate (HDR):** This means giving a high dose of radiation for a short time – so the implant will only be left in for a few minutes (20-30 minutes).

**Low-dose rate (LDR):** This means the implants are left for a longer time (up to a few days), to give a lower dose of radiation over a longer period. You'll normally stay in hospital until it's time for the implants to be removed.

For prostate cancer, seeds are left in the body permanently and gradually stop giving off radiation after a few months. You don't normally need to stay in hospital if you're having permanent implants.

**Consent:** Your doctor should ask you to sign a consent form before any treatment begins. Ask as many questions about this treatment as you wish. It can be hard to understand when explained for the first time. Your doctor may draw diagrams to help with any explanations. See page 19 for more information on giving consent.

## Getting your treatment

Usually the applicator or seeds will be put in under anaesthetic, but you may have a local anaesthetic (just to numb the area being treated), depending on the type of implant you're having. For brachytherapy to the pelvis, usually a spinal anaesthetic is given. Applicators may be thin wires or plastic tubes called catheters. The applicator can be placed directly into the tumour or put into a body cavity, for example the womb. Or it may be placed in the area where your tumour was removed during surgery. Depending on your cancer you may have one or more applicators. Once the applicators are in place, an X-ray or CT scan will be taken to check if they are in the correct place.

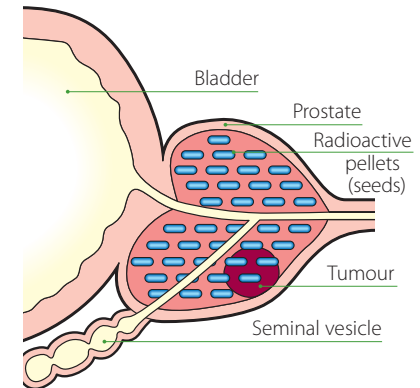
You will be taken to a special room for treatment. The applicators will first be attached to a machine. When this machine is switched on it passes a small radioactive source into the applicator. You may hear this referred to as 'afterloading'. What happens during treatment can vary depending on the location of your tumour and the dose you receive.

Your doctor, radiation therapist and nurse will carefully explain what will happen during treatment, how long the applicator and implant must stay in place, when you can go home, and any precautions that you must take.

## Brachytherapy for prostate cancer

Brachytherapy to the prostate can be given in two ways: low-dose rate (LDR) or high-dose rate (HDR). Your doctor will decide which rate you need depending on the stage of your cancer.

With low-dose rate brachytherapy, small radioactive seeds (or pellets) are put into your tumour. This happens under general anaesthetic so you will not feel anything. About 50–100 of the seeds are put in using long needles and an X-ray to control where they go. The seeds are left in place and slowly release radiation over a number of months, but it stops within 1 year.



The treatment is usually over in a single visit. You will also have a long tube (catheter) put in to drain your urine. Once the catheter is removed and you can pass urine again, as well as eat and drink, you will be allowed home. You may be prescribed antibiotics to prevent an infection afterwards.

High-dose rate brachytherapy uses a temporary implant. This is where applicators (rods) are put into your tumour to allow a radioactive material to reach the area for a few minutes. After the treatment all the rods are removed. There is no radiation source left in your prostate gland. You will be given a general anaesthetic so you do not feel anything during the operation.



## Will I get side effects?

In the days after having prostate brachytherapy, you may notice:

- Mild soreness in the area between your testicles and your back passage (perineum)
- Bruising and discolouration between your legs
- Blood in the urine. Drinking plenty of water helps prevent blood clots and flushes the bladder.
- Needing to wee more often, irritated bladder

Talk to your specialist nurse if you are worried about any symptoms you have after treatment. For more about other side-effects of radiotherapy to the pelvic area, see page 48.

## Systemic treatment

Some cancers may be treated with a radioactive source called a radionuclide or radioisotope. These are given in tablet form or through an injection into your blood. Thyroid cancer and advanced (metastatic) prostate cancer in your bones are 2 cancers commonly treated with this type of radiotherapy. Sometimes this is referred to as radioisotope treatment.

Because the radiation source is not sealed within an implant, you will have radioactivity in your body for a few days after treatment. You will be given advice on what safety precautions you need to take. For example, not kissing or having sex, flushing the toilet twice and washing hands well, using separate kitchen utensils and towels.

With radioactive drug injections for prostate cancer you should be able to go home and mix with other people straight after treatment, although you may be advised to avoid long periods of close physical contact. With thyroid treatment will stay in a separate en-suite room for a day or 2 until your body has got rid of the radiation. Then you will be able to go home, following the safety advice from your hospital team.

For more information, call 1800 200 700 for a copy of our booklets *Understanding Advanced (Metastatic) Prostate Cancer* and *Understanding Cancer of the Thyroid*. You can also pick up copies at a Daffodil Centre or download them from [www.cancer.ie](http://www.cancer.ie)



## To sum up

- Internal radiotherapy uses a radioactive source that is placed inside your body on or near the tumour.
- Internal radiotherapy can be given in a shorter space of time than with external radiotherapy.
- Large treatment machines are not used for internal treatment.
- The radiation source is sealed in an implant, which can be a tube, seed or capsule.
- Implants can be either temporary or permanent.
- Temporary implants need an applicator to keep them in place – usually thin wires or plastic tubes called catheters.
- Permanent implants do not need an applicator but use radioactive seeds placed directly into the tumour.
- Applicators are usually put in during an operation.





## Managing side-effects

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## What side-effects does radiotherapy cause?

Radiotherapy will affect normal tissue within the treatment area. Any side-effects you get will depend on which part of your body is being treated and the number of treatments you get. Radiotherapy is not painful, but may cause discomfort in the treated area afterwards.

Most side-effects are temporary and are rarely severe.

**Short-term (acute) side-effects** normally develop within 2 weeks of starting treatment. These usually last for a few weeks.

**Long-term (chronic) side-effects** are much less common. They may happen months to years after treatment and may sometimes be permanent.

**General side-effects** are side-effects that are not linked to the area of the body being treated. For example, fatigue.

>>> Tell your doctor, nurse or radiation therapist about any symptoms or side-effects that you notice.

Before treatment, your doctor will discuss any likely short- or long-term side-effects with you and ways to manage them.

They will also meet with you weekly to see how you are getting on. Being aware of the side-effects beforehand can help you to cope with them if you do get any. Always tell your medical team as soon as possible if you notice any change in yourself or your normal routine, such as a change in diet, weight, sleeping habits, increased discomfort or pain.

### What can I do to reduce side-effects?

To make sure that your radiotherapy works as well as possible and to reduce side-effects, it may help to stop smoking during treatment. Your doctor may recommend that you give up alcohol and smoking completely, especially if you are being treated for head and neck or lung cancers. If you would like to stop smoking contact the HSE Quit Team on 1800 201 203 or visit [www.quit.ie](http://www.quit.ie). You can also get advice and help about quitting from your doctors or nurses.

It's also important to eat a balanced diet and drink plenty of fluids during treatment to promote healing and good health. Many people think

that radiotherapy causes nausea and vomiting, as with chemotherapy. But nausea and vomiting will only happen if your abdomen or pelvic regions or brain are being treated.

## Tiredness and fatigue

Tiredness is quite common during radiotherapy, especially towards the end of treatment. There may be many reasons for feeling tired or fatigued. The body uses a lot of energy for healing during radiotherapy. Travelling to and from the hospital each day for weeks can make you more tired than usual.

You may feel tired for some weeks or even months. Most people recover from their tiredness within a couple of months of finishing treatment. Tell your doctors, radiation therapist or nurse if tiredness becomes a problem for you. They can advise on ways to save your energy and cope with everyday activities. You could also read our booklet *Coping with Fatigue*. Call our Cancer Nurseline on 1800 200 700 or drop into a Daffodil Centre for a free copy. You can also download it from [www.cancer.ie](http://www.cancer.ie)

>>>

### Tips & Hints – fatigue



- **Try to do some exercise** – ask your doctor for advice about the best exercise for you.
- **Build rest periods into your day** and save your energy for doing the things that are most important to you.
- **Ask for help at work or at home**, especially with cooking, preparing meals, housework or childcare.
- **Try to eat well and drink plenty of fluids.** If you are not eating well or your appetite is poor it can drain your energy. Ask to speak to the dietitian at the hospital to get advice and support if you are having any problems with appetite or eating.
- **Try to avoid stress.** Talk to friends and family about any worries you have and take time to enjoy yourself.
- **If you are not sleeping well, try relaxation techniques** and avoid stimulants like caffeine and alcohol before bedtime.
- **Try complementary therapies** like meditation or massage.



## Skin changes

You may have a skin reaction as a result of radiotherapy. Only the skin within the treatment area will be affected. Skin may become red, sore or itchy, or it may peel and flake.

“After radiation on my breast, the areola lost most of its brown colour and was a light pink. Also the nipple appeared to be a little crusty.”

>>> Your radiation therapist and nurse will give you advice on how to look after your skin during and after radiotherapy.

Skin reactions usually happen after 3 to 4 weeks of treatment. During your treatment, your radiation therapists will check for any skin reactions, but you should also let them know straight away if you feel any soreness or have any other changes. Your doctor may prescribe a cream or lotion for you to use. Skin reactions usually settle down 2 to 4 weeks after treatment has finished. After the redness has faded your skin may peel, but it should heal quickly. The skin may also remain a little darker than the surrounding skin.

The tips and hints opposite will help you to care for your skin and keep it in good condition during and after your radiotherapy treatment.

In general you may find it more comfortable to wear loose, casual clothing made from natural fibres. It is best to avoid tight collars and ties if you receive radiotherapy to your head and neck. Also avoid wearing starched or stiff clothing over the treated area. For radiotherapy to the pelvic area, do not wear girdles, corsets or anything tight. Shoulder straps and bra straps rubbing against treated skin can also cause skin irritation. If your breast area is being treated, it may be more comfortable to wear a vest rather than a bra.



## Tips & Hints – skin care



- Do not scratch or rub the treated area as it may become sore. Gently pat yourself dry with a soft towel after a bath or shower.
- Avoid soaps, talcum powders, deodorants, lotions, perfumes as they may irritate the treated area.
- Apply unperfumed moisturisers like aqueous cream to the area.
- Do not apply creams, lotions, dressings, herbal remedies unless prescribed or recommended by your specialist.
- Do not wet shave within the treated area. Also avoid using shaving lotion or hair removal products on the treated area.
- Protect your skin from cold weather by wrapping up well.
- Never expose the treated area to the sun. Always use a total sunblock on the treated area and use a sunscreen (SPF 30) on non-treated skin. Cover treated skin with light clothing when outdoors.
- Do not apply sunscreen before radiation treatment.
- Do not apply heat or cold (heating pads, hot water bottles, ice packs, etc.) to the treated area. Avoid hot baths, saunas and steamrooms.
- Do not use adhesive tape on the treated skin. When bandaging use paper tape outside the treated area.

## Emotional effects

Any cancer treatment can affect your emotions. For more information on managing your emotions see page 62.



## Specific side-effects

There are different side-effects depending on which area of the body is being treated. Some of the most common side-effects are listed in this section, but there may be others which are not listed here. Talk to your treatment team about what to expect from your particular treatment.

## Side-effects from radiotherapy to the head and neck area

Depending on the area of the head and neck being treated you may experience some of the following side-effects:

**Mouth problems:** Radiotherapy to this region can cause a sore mouth and throat because the cells that line these areas are very sensitive to treatment. So it is important that you keep your teeth, gums and mouth very clean, as this will help to control the soreness and reduce the risk of a mouth or throat infection.

**Taste changes:** Radiotherapy can affect the taste buds in your mouth. You may find that food tastes bland, salty, metallic or like cardboard. If this happens, you may lose interest in food. If your appetite is poor, ask your nurse or radiation therapist to refer you to a dietitian who will check your weight and give you further advice. Your taste and appetite should improve greatly once treatment has ended.

**Dry mouth (xerostomia – “zero-sto-mee-a”):** You may notice that your mouth and throat feel dry all the time. This is because radiotherapy can cause the salivary glands to make less saliva (spit) than usual. You may also find that saliva can become thick and stringy, making swallowing and speech a little difficult too. The dryness may improve with time but can be permanent. It may be helpful to sip cool drinks during the day and use sauces or gravy to make food moist and easier to swallow. Keep your lips moist with aqueous cream. There are also many types of artificial saliva available which help to keep your mouth moist. Sugar-free chewing gum can help to stimulate saliva.

**Sticky mucus:** You may find that you have a lot of sticky mucus in your throat. If the mucus turns green or yellow, tell your doctor. It may need to be treated with medication.

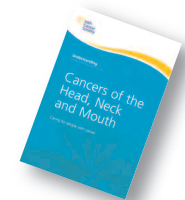
**Soreness:** Your mouth and throat will most likely become red and sore, and mouth ulcers may develop (mucositis). Sometimes eating food may become difficult and swallowing painful. Your voice may also become hoarse. Let your doctor or nurse know as soon as possible if these happen. You will be prescribed painkillers if you need them. Your doctor or dietitian will advise you on how to change your diet to make eating more comfortable.

>>> Most side-effects depend on which area of the body is treated.

**Dental problems:** You will need to take special care of your teeth as they will be more prone to decay because of the lack of saliva. Avoid sucking sweets when your mouth feels dry as it increases your risk of both tooth decay and thrush. It is better to use water or a sugar-free chewing gum. You will usually be asked to put fluoride gel on your teeth every day to help prevent decay. After radiotherapy, you will need to have regular dental check-ups (every 4–6 months).

**Mouth stiffness:** Sometimes radiation to your head and neck can cause a stiffness in certain facial muscles. This is called trismus. The stiffness can reduce your mouth opening. You will be shown some simple mouth-opening exercises that should be done at least twice every day to keep your mouth as flexible as possible.

For more information on mouth problems and radiotherapy treatment, call our Cancer Nurseline on 1800 200 700 and ask for a copy of our booklet *Understanding Cancers of the Head, Neck and Mouth*. You can also pick a copy up at a Daffodil Centre or download it from [www.cancer.ie](http://www.cancer.ie)





## Tips & Hints – mouth care

- Gently brush your teeth with a small, very soft toothbrush five or six times a day, especially after meals and before bedtime. It may help to soften the brush in warm water before brushing.
- Use a mild fluoride toothpaste only.
- If you have dentures, remove them every night and if your gums are sore.
- Use special mouthwashes to keep your mouth clean, fresh and to ease mild soreness or pain.
- Only use mouthwashes recommended by your dentist, radiation therapist or nurse. Some mouthwashes contain alcohol and are too harsh.
- Sip cool water during the day. Add ice cubes to keep it cool.
- Avoid eating hot, spicy or very cold food and drink.
- If your mouth is sore, choose soup (not too hot), smoothies and yogurts.
- Avoid alcohol (especially spirits) and tobacco as they can irritate the lining of your mouth and throat. They can also make side-effects more severe.
- If you need teeth pulled (extracted), tell your doctor.
- Visit your dentist at least every 6 months.

**Hair loss (alopecia):** It is true that radiotherapy can cause hair loss, but only in the area being treated. Most hair loss is temporary and will start to grow back within 2 to 3 months of finishing treatment. But hair loss in the treatment area can be permanent, depending on the radiation dose.

There's more about hair loss on our website, [www.cancer.ie](http://www.cancer.ie).

**Difficulty with eating and drinking:** Surgery and radiotherapy to your neck, like your larynx, may cause difficulty with both eating and drinking. For example, you may have difficulty swallowing. If you have any difficulty eating or drinking, talk to your doctor, radiation therapist or nurse as soon as possible. They can give you simple advice on how to solve the problem, the best foods to eat or what to gargle with. The discomfort will usually ease 5 to 8 weeks after you finish treatment.

**Weight loss:** If you continue to lose weight because you have difficulty in eating, you may need to be fed in another way. This may mean that you need to spend a short time in hospital. Liquid food can be given into a vein (intravenously) or by a tube into your stomach called a PEG tube, until you can eat properly again.

## Diet and cancer

If you have difficulty eating or drinking or you are concerned about weight loss, a helpful booklet called *Diet and Cancer* is available from the Irish Cancer Society. Call our Cancer Nurseline on 1800 200 700 for a free copy. You can also pick it up from a Daffodil Centre or download it from [www.cancer.ie](http://www.cancer.ie)



## Tips & Hints – eating and drinking

- Drink about 2 litres of fluid (3 to 4 pints) each day.
- Eat when you are hungry, even if it is not mealtime.
- Eat small snacks during the day rather than large meals.
- If you're trying to put on weight, increase calories by adding butter, spreads or cream to your food.
- Keep simple meals in the freezer, ready to use for when you feel hungry.
- If you live alone, arrange for a friend or relative to bring food to you or find out about meal-delivery services. Ask your GP, nurse, medical social worker or community welfare officer what kind of help is available in your area.

**Voice changes:** Radiotherapy to your neck, in particular your larynx, may cause the sound of your voice to change or you may lose your voice for a while. If you have a voice prosthesis or you're using an electrolarynx, you may notice that the quality of your voice is poor. This common effect of treatment is temporary. Talk to your speech and language therapist who will explain this side-effect to you in more detail.

## Side-effects from radiotherapy to the breast

**Skin changes:** Short-term skin changes can include breast or nipple soreness, changes to the appearance of the skin (e.g. a change in colour) and peeling, flaking skin in the treated area or on the nipple.

**Hyperpigmentation and broken veins:** Hyperpigmentation is where the skin on the treated area becomes deeply tanned. A pattern of tiny broken veins called telangiectasia may also be visible on your skin. These changes are usually permanent.

**Swelling:** Your breast may start to swell a little during your radiotherapy treatment and it may look swollen for a month or two after treatment. This is due to fluid retention (oedema). In rare cases it may last longer.

### Breastfeeding after radiotherapy

You will probably find it hard to breastfeed from a breast treated with radiotherapy, as the amount of milk it produces will be reduced.

**Hardening or thickening of the breast tissue:** This can happen months or years after treatment. If this happens your breast will feel harder and look smaller than before treatment.

**Pain in the chest wall / ribcage:** You might have brief shooting pains in this area, which are caused by the radiotherapy irritating or causing swelling in the tissues there. Over-the-counter painkillers should ease any pain. But let your medical team know if the pain is bothering you or it carries on for more than a few weeks after treatment.

**Restricted arm and shoulder movement:** It is normal for women to have restricted arm movement after their surgery and / or radiotherapy. Your surgeon and radiation therapists can give you advice about exercises you should do to manage this and improve your range of movement.

**Lymphoedema:** If you have radiotherapy to your breast area, you are at risk of developing lymphoedema. This is a swelling caused by a build-up of lymph fluid in your tissues. If you notice swelling anywhere on your arm, hand or breast area, talk to your nurse, doctor or radiation therapist for advice. Ask to be referred to a trained lymphoedema therapist.

For more information, call our Cancer Nurseline and ask for our factsheet *Reducing your Risk of Arm and Leg Lymphoedema*. You can also pick one up at a Daffodil Centre or download it from [www.cancer.ie](http://www.cancer.ie)

## Side-effects from radiotherapy to the chest area

**Difficulty in swallowing and weight loss:** With radiotherapy to your lung or oesophagus (food pipe), you may find it hard to swallow solid foods. You may also lose weight as a result. It may help to have a soft, plain diet for a while. If swallowing is very uncomfortable your doctor may prescribe painkillers or liquid medicines or antacids. After about 5 to 8 weeks the discomfort usually disappears.

**Cough and shortness of breath:** You may notice that you develop a dry or mucus-type cough and some shortness of breath with radiotherapy to your lung or oesophagus. Sometimes this side-effect may not appear until several months after your treatment. If it happens, you should tell your doctor as soon as possible. It is important to report any changes in your breathing at any time during and after your treatment.

## Side-effects from radiotherapy to the abdomen (tummy) and pelvis

**Diarrhoea:** Passing watery bowel motions more than 3 times a day. It is a fairly common side-effect of radiation to this area. You may also have bleeding or a mucous discharge from your back passage.

### >>> Tips & Hints – Diarrhoea

- Drink lots of fluids to replace those you are losing
- Ask your doctor about your diet – for example, you might need to avoid high-fibre foods like raw fruit and vegetables for a while

**Constipation:** Not having a bowel motion often enough. This is common with radiotherapy to the tummy and pelvic area. You may also have stomach cramps and wind.

### >>> Tips & Hints – Constipation

- Drink lots of fluids
- Try resting your feet on something while you are on the toilet, so that your knees are above your hips.

>>> Tell your radiation therapist or nurse if you have any bowel changes. They can give you advice on how to manage them and prescribe medicine to help. These symptoms usually start to settle down a short time after your treatment has stopped.

**Bladder problems:** Sometimes radiotherapy to your pelvis can cause difficulty with passing urine. This can happen with both internal and external radiotherapy. Your bladder may become inflamed (cystitis) after a number of treatment sessions. This may cause pain, discomfort or a burning sensation while passing urine. You may also feel the urge to pass urine frequently, both during the day and at night. Sometimes you may find that you can only pass very small amounts of urine or none at all. Occasionally, blood may appear in your urine.

If you notice any of these changes, do tell your doctor, radiation therapist or nurse straight away, especially if you cannot pass urine.

### >>> Tips & Hints – bladder problems



- Drink as much fluid as possible to help relieve symptoms.
- Drink cranberry juice or lemon barley water. Cranberry juice may not be advised if you are on certain medication, such as a blood thinner, so check this with your doctor first.
- Avoid alcohol, tea, coffee, carbonated drinks, acidic fruit juices such as orange juice, as they irritate your bladder.

**Irritation to the ‘back passage’:** Radiotherapy can cause irritation or itchiness to your rectum or ‘back passage’ (proctitis). This is a common side-effect if the area being treated is in your lower pelvis, such as for prostate or bladder cancer. If you have haemorrhoids (piles), radiotherapy may irritate them.

**Loss of appetite and weight loss:** Radiotherapy to your abdomen and pelvis can cause nausea and loss of appetite. This in turn may lead to weight loss. Some people feel sick at the start of a course of treatment but find that nausea disappears within a day or two. Do tell your radiation therapist or your doctor if you suffer from nausea as medication can be given to control it. If eating becomes a problem for you, your dietitian or doctor can advise you. See page 45 for more details on eating and drinking.

### Sexual problems after pelvic radiotherapy

For both men and women, radiotherapy to your pelvic area can cause sexual problems. Problems can be physical, but treatment can also affect your desire for sex. See page 56 for more about this. It's usually safe to have sex during and after radiotherapy treatment, unless your doctor tells you not to. Women having pelvic brachytherapy won't be able to have sex while the implant is in place.

It's important to use contraception during and after radiotherapy. See page 57 for more.

**For men**

**Erection problems:** Radiotherapy to the pelvic area for men can cause erection problems by affecting the nerves or blood vessels in that area. You may find it hard to get or keep an erection strong enough for sex. The problems might be short term or permanent. Erection problems usually happen in the first year after treatment.

Talk to your doctor if you're worried about this or are having erection problems. There are treatments that may be able to help.

Some men find that an orgasm has less semen or they have a 'dry' orgasm, where no semen is ejaculated.

### Sex after brachytherapy

There is a small risk that a seed may come out in your semen when you are having sex. You should use a condom to catch the semen the first 4-5 times you have sex. Don't worry if your semen is black or brown in colour. This is normal and due to bleeding when the seeds are put in.

**For women**

**Irritation or dryness:** You may have symptoms such as vaginal itching, burning or dryness. This can make sex uncomfortable. There are treatments like lubricants and hormonal creams to help with these problems, so tell your specialist nurse, consultant or radiation therapist if you're having these side-effects.

**Bleeding:** You may also experience light bleeding during sex. This is because radiotherapy can make the lining of the vagina more fragile. It's best to get any bleeding checked out, so let your medical team know if you have this side-effect.

**Menopausal symptoms:** If radiation causes your periods to stop, you may get menopausal symptoms like hot flushes, dry skin, dryness of your vagina, reduced sexual desire, night sweats and mood swings. These can affect you physically and mentally when it comes to having sex.

Most menopausal symptoms can be prevented or reversed by replacing the hormones that your ovaries previously made. This is called hormone replacement therapy (HRT). HRT can be given in different ways. For example, in tablet form or through an implant device put under your skin, or by a slow release patch worn on your arm or leg. If you want advice on managing menopausal symptoms see our website [www.cancer.ie](http://www.cancer.ie)

**Shortening/narrowing of the vagina:** Your vagina may become shorter or narrower if scar tissue forms after pelvic radiotherapy. Also, the walls of the vagina can become less stretchy and drier than before treatment. These changes may make it uncomfortable to have sex. Vaginal dilation may prevent the vagina becoming shorter or narrower by preventing scar tissue developing in the vagina. Regular gentle sex can help too. Dilation means 'stretching and opening'. Dilators are tampon-shaped plastic tubes of different sizes that you use with a lubricant. You can also use a vibrator.

Your specialist nurse will talk to you about dilation and how to use a dilator or vibrator, if it might be helpful to you. You may feel embarrassed or uncomfortable about using a dilator. Your specialist nurse or medical team will understand your concerns and will always respect your feelings.

See page 56 for more details on how radiotherapy can affect your sex life.

### Fertility problems after pelvic radiotherapy

Radiotherapy to the pelvis area can affect fertility for both men and women. Infertility is quite common after radiotherapy to the pelvis.

**Female fertility**

Radiation to the pelvis can affect a woman's ovaries. Some or all of the eggs stored in the ovaries may be destroyed and she may stop producing female sex hormones, which can lead to early menopause. With lower doses of radiation the ovaries may heal. But changes to fertility are more often permanent.

It is sometimes possible to do a small surgery to move the ovaries away from the treatment area. This is called ovarian transposition. Or you may be able to freeze eggs before treatment starts.

»»» Talk to your consultant before treatment starts if you were hoping to start a family or have more children after treatment, to see if there are any options open to you.

### Male fertility

Sperm can be damaged or their number reduced if your testicles are in the area being treated by radiation. For example, treatment for prostate or bladder cancer. This can lead to temporary or permanent infertility. Talk to your doctor and your partner if avoiding infertility is important for you. It's sometimes possible to store sperm before you have radiotherapy. The sperm can then be used at a later date.

### Storing eggs or sperm

Rotunda IVF at the Rotunda Hospital in Dublin provides a service where eggs or sperm can be frozen. This may not be possible for every person. For example, storing eggs can take time, and you may need to start treatment straight away, depending on the type of cancer you have.

Talk to your cancer specialist to see if this service is suitable for you, or call our Cancer Nurseline 1800 200 700 for more information or for advice in confidence.

### Dealing with infertility

Dealing with infertility may not be easy, depending on your age and if you have already had children. It can help to talk through your feelings with someone who is a good listener or with a professional counsellor. You can also call our Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre for information and support from a cancer nurse.

Cancer Nurseline Freephone 1800 200 700

## Life during and after radiotherapy

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## How will treatment affect my lifestyle?

Having a course of radiotherapy treatment can be tiring, as you usually have to go to hospital 5 days a week for a number of weeks. This can be even harder if you have to travel some distance to the hospital or radiotherapy centre for your treatment or if you're experiencing some side-effects of treatment as well. Sometimes it may affect your ability to work or look after your family.

### Travelling to the radiotherapy centre

If you find it tiring to travel back and forth to the hospital every day, see if any friends or family can give you a lift. You can also ask your radiation therapist or nurse if you can speak to the medical social worker at the hospital, who may have suggestions and advice for you.

The Irish Cancer Society's Travel2Care scheme can help with travelling expenses. See page 69 for more details. Your medical social worker, specialist nurse, GP or hospital doctor can apply on your behalf, or any health professional involved in your care.



### Tips & Hints – Asking for help

Radiotherapy can be tiring and time-consuming, so don't be shy about asking for help. Friends and family may not know the best way to help you, so tell them what you need. For example, lifts to the hospital, practical help at home or just some company or support. You could also talk to one of our cancer nurses. Visit a Daffodil Centre or call our Cancer Nurseline on 1800 200 700.

### Guest accommodation

Depending on where you live and your circumstances, it may be possible to stay at the hospital in guest accommodation. Your cancer specialist may have to write a letter requesting this service for you. If a friend or partner is staying with you, there will be a charge to cover their accommodation and meals.

If you need advice about nearby B&Bs or hotels, the radiotherapy staff may be able to give you some advice.

## Fatigue and work

How big an effect radiotherapy will have on you depends on your general health and the extent of your treatment. Some people find that they can carry on as normal and continue working. They may just prefer to take time off for their treatment sessions and return to work after a nap. Others might find it very tiring and prefer to stay at home and take sick leave from work or school or college. Don't be afraid to ask for help if you feel overwhelmed, especially if you have young children or older parents to care for. Call our Cancer Nurseline on 1800 200 700 for a copy of the booklet *Coping with Fatigue*.



### Taking exercise

Try to remain active, and ideally take some exercise both during and after radiotherapy treatment.

Research shows that there are many benefits to exercise:

- It helps to reduce the symptoms of fatigue, the side-effects of cancer treatments, and improves your overall quality of life.
- Regular exercise (ideally 30 minutes of moderate activity 3-5 times a week) builds up your physical fitness level, improves your energy, strength, balance, stamina and co-ordination.
- Regular exercise along with a healthy diet can help reduce the risk of breast cancer and bowel cancer coming back.
- Exercise encourages your body to release endorphins. These are often called 'feel good hormones'. When released, they can lift your mood and sense of well-being, and lower stress levels.

Start gradually if you have not been taking regular exercise before your cancer diagnosis. Remember a little exercise is better than none. Even a short walk is a good place to start. Your doctor, specialist nurse or physiotherapist can all give you advice. You might also be referred to a physical activity programme. Your nearest cancer support centre may run a physical activity programme or have information about one in your area. See page 70 for more about cancer support centres.



## Relaxation

It's important that you make time for activities that relax you. Stress uses up energy and might make you feel tired. The following suggestions may help:

- Talk to others about anything that is worrying you. If you find it difficult to talk to family and friends, ask your doctor to refer you to a counsellor. You can also make an appointment with an Irish Cancer Society-funded counsellor based in your local cancer support centre. See page 70 for more about support centres.
- Try to take your mind off your worries by reading, seeing friends and listening to music.
- Take light exercise such as walking.
- See if there are relaxation classes or groups in your local cancer support centre. For example, meditation or mindfulness. See page 70 for more.
- If you can, try to avoid situations that make you anxious.

More information on how to cope, including more tips on taking exercise and relaxing, is available from the Irish Cancer Society in a booklet called *Coping with Fatigue*. For a free copy, call our Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre. You can also download a copy from [www.cancer.ie](http://www.cancer.ie)

## Will treatment affect my sex life?

Some people go through radiotherapy with no change to their sex lives at all. Others find that their sex lives are temporarily or permanently changed in some way due to treatment. This usually happens with radiotherapy to the pelvic area. For information on sexual side-effects from pelvic radiotherapy, see page 49. Some men who have radiotherapy to the abdomen (tummy) area get a sharp pain when they ejaculate. The pain should ease a few weeks after treatment ends.

There is usually no medical reason to stop having sex during radiotherapy, unless you are receiving treatment to your pelvic area.

However, you may not feel like having sex during or after radiotherapy treatment, especially if you are very tired or have side-effects that are bothering you. Once you return to your usual routine after radiotherapy, your interest in sex is likely to return. If it does not, your doctor may suggest some specialist help.

»» You might have no interest in sex or intimacy while dealing with the side-effects of treatment.

## Sharing your worries about sex

If you're worried that radiotherapy could affect your sex life, talk to your radiation therapist or consultant before your treatment begins. He or she can tell you about any side-effects of treatment that could have an effect on your sex life. Try not to feel embarrassed. Your medical team are used to talking about these things.

Talking to your partner about your feelings and any likely side-effects may also help to put your mind at rest. Even if you do not feel like having sex, you can still enjoy a close and loving relationship with your partner. Cuddling, touching and holding each other can help you to keep the intimacy in your relationship.

If you want to talk to someone not involved in your situation, ask your medical team or your local cancer support centre about counselling. There's more about counselling on page 62.

## Contraception

It's important to use contraception during radiotherapy treatment and for a time afterwards. Even if your treatment is likely to cause infertility, you may still be fertile for a while. Radiation can harm a developing baby, so it's very important to avoid you or your partner becoming pregnant. Talk with your doctor about contraception.

## Will treatment affect my fertility?

Most radiotherapy treatment has no effect on your ability to have children unless your ovaries or testicles are in the area being treated. For more about fertility, see page 51 on side-effects from radiotherapy to the pelvic area.

## Cancer and complementary therapies

Complementary treatments for cancer are treatments that can be given alongside standard medical treatment. For example, yoga, massage or acupuncture. They may help you cope better with the physical side-effects of cancer and the distressing emotions that it can often bring. However, it is important to tell your doctor if you are thinking of having, or you are having a complementary therapy to check it's safe for you, even if you used it safely before your cancer treatment.

### Alternative therapies

Alternative therapies are generally used **instead of** conventional treatments. These include diet therapy, megavitamin therapy and herbalism. Alternative therapies have not been scientifically proven. Some alternative therapies may even harm your health. Always talk to your doctor if you are considering an alternative to conventional treatment.

### If you are thinking of complementary therapies...

Always talk to your doctor if you're having or you're thinking of having any alternative or complementary therapy. More information is available in a free booklet from the Irish Cancer Society called *Understanding Cancer and Complementary Therapies: A Guide for Cancer Patients*. If you would like a copy or for more advice, call our Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre. You can also download a copy from [www.cancer.ie](http://www.cancer.ie)



## Life after radiotherapy treatment

When treatment finishes many people look forward to life returning to normal. But it isn't unusual to feel quite low and lost when the routine of treatment ends. For example you may feel:

- **Worried** about the cancer coming back and every small symptom
- **Lonely** without the support of your medical team and fellow patients
- **Stressed** at having to deal with things that may have been on hold during your treatment, such as your finances, going back to work and family issues.
- **Guilt** if your family and friends expect you to get back to normal before you are ready
- **Anxiety and self-doubt** about sexual and romantic relationships
- **Depression or sadness**

It can take some time to adjust to life after treatment and get used to being back at work, school or college. For some people, it is only when the treatment is over that they reflect on what they have been through.

If you're finding it hard to adjust to life after treatment or need practical advice or information on where to get support, call our Cancer Nurseline or visit a Daffodil Centre to talk to a cancer nurse in confidence. See page 61 for more about coping and emotions

### Hints and tips: Recovering from radiotherapy

**Be kind to yourself.** It can take some months to get over the effects of treatment and get your energy back again. Give yourself time to adjust. Rest and relax, and do things that make you happy.

**Look after your health.** Having a healthy lifestyle can help your recovery and make you feel fitter and more positive. See page 60 for some tips

**Go to any hospital appointments.** It's important to go to any follow-up appointments at the hospital. It means any side-effects or signs of the cancer coming back can be spotted and treated sooner rather than later. It also gives you a chance tell your doctor about any problems you're having.

If you're between check-ups and have a symptom or problem that worries you, let your doctor know, especially if you have one of the following:

- A pain that does not go away, especially if in the same place
- New or unusual lumps or swelling
- Nausea, vomiting, diarrhoea, or loss of appetite
- Unexplained weight loss
- A fever or cough that does not go away
- Unusual rashes, bruises or bleeding
- Any symptom you are concerned about
- Any other warning signs mentioned by your doctor or nurse

**Get support.** You can still use support centres and other services after you have finished active treatment. For example, you may benefit from having some counselling or joining an exercise or relaxation class or a support group. To find out what's available, drop into your local cancer support centre or Daffodil Centre, or call our Cancer Nurseline on 1800 200 700. For more about cancer support centres see page 70.

### Leading a healthy lifestyle

Many people want to make positive changes to their lives after their treatment has ended.

Having a healthy lifestyle can help you to:

- Feel better
- Heal and recover faster
- Keep up your energy and strength
- Cope better with the side-effects of treatment

A healthy lifestyle includes:

- Exercising
- Eating healthy foods
- Staying at a healthy weight
- Not smoking
- Protecting yourself from the sun

If you want more information or advice, call our Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre. You can also go to our website **[www.cancer.ie](http://www.cancer.ie)** for tips and publications on healthy living.

## Coping and emotions

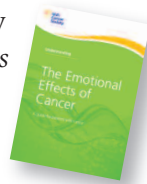
How can I cope with my feelings? 62

You and your family 63

## How can I cope with my feelings?

After any treatment for cancer it can take a long time to come to terms with your emotions. Not only do you have to cope with the knowledge that you have cancer, but also the physical effects of radiotherapy too.

A helpful booklet that discusses in detail how you may be feeling is called *Understanding the Emotional Effects of Cancer*. Call our Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre for a free copy.



### Anxiety and depression

Sometimes a cancer diagnosis can cause anxiety and depression. If you feel that your low moods are getting the better of you or you are finding it hard to cope, it's important to get help. It's not a sign of failure to ask for help or to feel unable to cope on your own. Try to talk with someone you know who is a good listener or tell your GP. Medical social workers can also offer support to you and your family.

If you are finding it difficult to get over a period of depression, your doctor may suggest a treatment. Often a short course of antidepressants can work well. Professional counselling can also be very helpful.

>>> It is not a sign of failure to ask for help or to feel unable to cope on your own.

### Counselling

Sometimes it can be hard to talk to the people closest to you if you are feeling very distressed or finding it hard to cope. You may worry about upsetting or worrying your friends or family. A trained counsellor who is not involved in your situation can help you to express your feelings, worries and fears and make sense of them. Counselling can also give you emotional support, help you to make decisions and learn ways to cope better.

Counselling is available free of charge at some local cancer support centres. To find out more about counselling call our Cancer Nurseline on Freephone 1800 200 700 or visit a Daffodil Centre. Or email the nurses at [cancernurseline@irishcancer.ie](mailto:cancernurseline@irishcancer.ie)

A list of counsellors funded by the Irish Cancer Society is available at [www.cancer.ie](http://www.cancer.ie)

## You and your family

Every family deals with cancer in its own way. You may feel that you don't want your illness to upset family life, feel guilty that you can't join in as much as before, or that you're letting down your partner or children. You may also worry about the emotional or financial impact your illness will have on your loved ones. Our booklet *Who Can Ever Understand?* can help to you find ways to talk about your cancer and to ask for the help and support you need.



If you or your family members need more support or advice, speak to the medical social worker at the hospital or get in touch with one of our cancer nurses. Call us on 1800 200 700 or visit a Daffodil Centre. The nurses can also support you if you have children and aren't sure what to say to them. You could also read our booklet *Talking to Children about Cancer*, which has practical advice about how to talk to children of different ages.





## Support resources

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## Coping with the financial impact of cancer

A diagnosis of cancer often means that you will have extra expenses, like car parking during hospital visits, medication, travel, heating and childcare costs. If you can't work or you are unemployed, this may cause even more stress. It may be harder for you to deal with cancer if you are worried about money.

### Medical expenses

Medical expenses that you might have to pay include:

- Visits to your family doctor (GP)
- Visits to hospital
- Overnight stays in hospital
- Medicines
- Appliances, like wigs

How much you pay towards your medical expenses depends on whether or not you qualify for a medical card and what type of health insurance you have, if any.

**If you have a medical card**, you will probably have very little to pay for hospital and GP (family doctor) care or your medication. If you are over 70 years old, you can get a free GP visit card.

Medical cards are usually for people on low incomes, but sometimes a card can be given even if your income is above the limit. For example, if you have a large amount of medical expenses. This is known as a discretionary medical card.

**An emergency medical card** may be issued if you are terminally ill and in palliative care, irrespective of your income.

**If you do not have a medical card** you will have to pay some of the cost of your care and medication.

**If you have health insurance** the insurance company will pay some of the costs, but the amount will depend on your insurance plan. It's important to contact your insurance company before starting treatment.

## Benefits and allowances

There are benefits available from the Department of Social Protection that can help people who are ill and their family. For example, Illness Benefit, Disability Allowance, Invalidity Pension, Carer's Allowance, Carer's Benefit, Carer's Leave.

If you want more information on benefits and allowances, contact:

- The medical social worker in the hospital you are attending
- Citizens Information – Tel: 0761 074 000
- Department of Social Protection (DSP) – Tel: 1890 662 244 or ask to speak to a DSP representative at your local health centre or DSP office.

Always have your PPS number to hand when you are asking about entitlements and benefits. It's also a good idea to photocopy completed forms before posting them.

### If you have financial difficulties

If you are getting into debt or you are in debt, the Money Advice and Budgeting Service (MABS) can help you. MABS can look at your situation, work out your budget, help you to deal with your debts and manage your payments. The service is free and confidential. Call the MABS Helpline 0761 07 2000 for information.

If you are finding it hard to cope financially, contact your medical social worker in the hospital or your local health centre for advice. The Irish Cancer Society can also give some help towards travel costs in certain cases. See page 69 for more details of the Travel2Care fund.

You can also call our Cancer Nurseline 1800 200 700 or visit a Daffodil Centre and the nurse will suggest ways to help you manage.

## More information

For more information go to [www.cancer.ie/publications](http://www.cancer.ie/publications) and check out our booklet, *Managing the Financial Impact of Cancer – A Guide for Patients and their Families*. This explains:

- Medical costs and help available
- Benefits and allowances that you or your family may qualify for
- Travel services
- Ways to cope with the cost of cancer

The booklet also has lots of other information to help you manage the cost of cancer. For example, disability and mobility supports, help for people in financial difficulty, help for carers and living at home and nursing home supports.



## Irish Cancer Society services

Our Cancer Support Department provides a range of cancer support services for people with cancer, at home and in hospital, including:

- |                        |   |
|------------------------|---|
| ■ Cancer Nurseline     | ■ Patient travel and financial support services |
| ■ Daffodil Centres     | ■ Night nursing                                 |
| ■ Survivor Support     | ■ Publications and website information          |
| ■ Support in your area |   |

- Our **Cancer Nurseline Freephone 1800 200 700**. Call our Cancer Nurseline and speak to one of our cancer nurses for confidential advice, support and information. You can also email us on [cancernurseline@irishcancer.ie](mailto:cancernurseline@irishcancer.ie) or visit our Online Community at **[www.cancer.ie](http://www.cancer.ie)**

For the deaf community, our Cancer Nurseline is using the Sign Language Interpreting Service (SLIS) using IRIS. Contact IRIS by text 087 980 6996 or email: [remote@slis.ie](mailto:remote@slis.ie)

- Our **Daffodil Centres**. Visit our Daffodil Centres, located in thirteen hospitals nationwide. The centres are staffed by cancer nurses and trained volunteers who provide confidential advice, support and information to anyone concerned about or affected by cancer.

- Our **Survivor Support**. Speak to someone who has been through a cancer diagnosis. Our trained volunteers are available to provide emotional and practical support to anyone going through or finished with their treatment.
- **Support in your area**. We work with cancer support groups and centres across the country to ensure cancer patients have access to confidential support including counselling. See page 70 for more information.
- **Patient travel and financial support services**. We provide practical and financial support for patients in need, travelling to and from their cancer appointments. There are two services available through the Society:
  - **Travel2Care** is a limited fund, made available by the National Cancer Control Programme, for patients who are having difficulty getting to and from their treatments while attending one of the national centres of excellence or their approved satellite centres.
  - **Irish Cancer Society Volunteer Driver Service** is for patients undergoing chemotherapy treatments who are having difficulty getting to and from their local appointments in our partner hospitals.

To access either of these services please contact your hospital healthcare professional.

- **Irish Cancer Society Night Nursing**. We provide end-of-life care for cancer patients in their own home. We offer up to 10 nights of care for each patient. Our service allows patients to remain at home for the last days of their lives surrounded by their families and loved ones. This is the only service of its kind in the Republic, providing palliative nursing care at night to cancer patients.
- Our **publications and website information**. We provide information on a range of topics including cancer types, treatments and side-effects, coping with cancer, children and cancer, and financial concerns. Visit our website **[www.cancer.ie](http://www.cancer.ie)** or call our Cancer Nurseline for a free copy of our publications.





## Local cancer support services

The Irish Cancer Society works with cancer support services all over Ireland. They have a range of services for cancer patients and their families, during and after treatment, many of which are free. For example:

- **Professional counselling:** the Irish Cancer Society funds up to 8 sessions of free, one-to-one counselling in many affiliated support services
- **Support groups,** often led by professionals like social workers, counsellors, psychologists, or cancer nurses
- **Special exercise programmes,** like the Irish Cancer Society's *Strides for Life* walking group programme
- **Stress management and relaxation techniques,** such as mindfulness and meditation
- **Complementary therapies** like massage, reflexology and acupuncture
- **Specialist services** such as prosthesis- or wig-fitting and manual lymph drainage
- **Mind and body sessions,** for example, yoga and tai chi
- **Expressive therapies** such as creative writing and art
- **Free Irish Cancer Society publications** and other high-quality, trustworthy information on a range of topics

Cancer support services usually have a drop-in service where you can call in for a cup of tea and find out what's available.

You can call our Cancer Nurseline on Freephone 1800 200 700 to find your nearest cancer support centre. Or see our online directory at <http://www.cancer.ie/support/support-in-your-area/directory>

>>> If you would like more information on any of our services, call our Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre.

## Helpful books

The Irish Cancer Society has a wide range of information on reducing your risk of cancer, different types of cancer, treatments, and coping. For free copies call the Cancer Nurseline on 1800 200 700 or visit a Daffodil Centre. You can also download or order the booklets on our website: [www.cancer.ie](http://www.cancer.ie).

You may find the following helpful:

### Treatment and side-effects

*Understanding Chemotherapy*

*Understanding Radiotherapy*

*Understanding Cancer and Complementary Therapies*

*Diet and Cancer*

*Coping with Fatigue*



### Coping and emotions

*Understanding the Emotional Effects of Cancer*

*Lost for Words: How to Talk to Someone with Cancer*

*Who Can Ever Understand? Talking About Your Cancer*

*Talking to Children about Cancer: A Guide for Parents*

*A Time to Care: Caring for Someone Seriously Ill at Home*

*Caring for Someone with Cancer*



## What does that word mean?

<b>Adjuvant treatment</b>	Radiotherapy or chemotherapy given soon after surgery when a diagnosis of cancer is made.
<b>Alopecia</b>	Loss of hair. No hair where you normally have hair.
<b>Brachytherapy</b>	A form of treatment where solid radioactive material is placed inside your body on or near your tumour. Also called internal radiotherapy.
<b>External radiotherapy</b>	A form of treatment using a machine that aims high-energy rays at a specific part of your body. Also called external beam radiotherapy. See linear accelerator.
<b>Fraction</b>	A single dose of radiotherapy treatment.
<b>Implant</b>	A radioactive material placed inside your body on or near a tumour. It can consist of tubes, wires or seeds and may be temporary or permanent. See also brachytherapy.
<b>Internal radiotherapy</b>	A form of treatment using either solid radioactive material close to or inside your tumour (brachytherapy) or as a radioactive liquid, given either by mouth or as an injection into a vein.
<b>Linac</b>	Short name for a linear accelerator.
<b>Linear accelerator</b>	A machine that uses electricity to create high-energy radiation to treat cancers with great accuracy.
<b>Mould</b>	A mask made from either clear plastic (Perspex) or thermoplastic to prevent movement of your head and shoulders during treatment. Sometimes the mould is called a mask, orfit or shell.
<b>Neo-adjuvant treatment</b>	Radiotherapy or chemotherapy that can be given before surgery to shrink the size of a tumour.

<b>Palliative radiotherapy</b>	A form of radiation treatment that aims to shrink tumours and relieve your pain or other symptoms. It does not cure cancer but can help to make you comfortable and improve your quality of life.
<b>Radiation oncologist</b>	A medical doctor who specialises in treating cancer patients using radiotherapy.
<b>Radiation therapist</b>	A healthcare professional specially trained in the planning, delivery and monitoring of radiation therapy.
<b>Radical treatment</b>	A form of treatment where the main aim is to cure cancer and give long-term benefits.
<b>Radioactive/radioactivity</b>	When radiation is released from high-energy particles.
<b>Radionuclide</b>	A radioactive liquid or capsule used in very specific cases. For example, cancer of the thyroid. Sometimes referred to as a radioisotope.
<b>Radiotherapy</b>	A form of cancer treatment using careful and precise doses of radiation.
<b>Staging</b>	Tests that measure the size and extent of cancer.
<b>Tattoo</b>	Very small marks made on your skin with dark permanent ink. These show where the radiation beam is to be aimed during treatment, and for setting patients up and placing them in the correct position for treatment.
<b>Treatment field (area)</b>	The area of your body that will be treated. The radiation beam will not be aimed outside this area.
<b>Vacuum bag</b>	A special bag (like a bean bag), which helps you to stay in the same position for your radiotherapy treatment.
<b>X-rays</b>	Radiation used in low doses to diagnose disease and in high doses to treat cancer and other diseases. It is painless.

## Questions to ask your doctor

Here is a list of questions you might like to ask. Do ask questions as it is always better to ask than to worry.

- Why do I need radiotherapy?
- How successful is radiotherapy for my cancer?
- How long will my treatment take?
- How long will I have to wait before starting treatment?
- If there is a delay in treatment, will my cancer get worse or will the treatment be less successful?
- Do I have to stay in hospital for radiotherapy?
- What side-effects or after-effects will I have?
- Will I be radioactive?
- Do I need to take any precautions at home?
- Do I need to use contraception during my radiotherapy treatment?
- I already have problems with my health. Will radiotherapy make them worse?
- Do I need to make any changes to my diet, job, lifestyle?
- How will you know if my treatment has worked?

## Your own questions

1

Answer

2

Answer

3

Answer

4

Answer

5

Answer

## Join the Irish Cancer Society team

If you want to make a difference to people affected by cancer, join our team!

### Support people affected by cancer

Reaching out directly to people with cancer is one of the most rewarding ways to help:

- Help people needing lifts to hospital by becoming a volunteer driver
- Give one-on-one support to someone newly diagnosed with cancer as part of our Survivor Support programme
- Give information and support to people concerned about or affected by cancer at one of our hospital-based Daffodil Centres

### Share your experiences

Use your voice to bring reassurance to cancer patients and their families, help people to connect with our services or inspire them to get involved as a volunteer:

- Share your cancer story
- Tell people about our services
- Describe what it's like to organise or take part in a fundraising event

### Raise money

All our services are funded by the public's generosity:

- Donate direct
- Take part in one of our fundraising events or challenges
- Organise your own event

Contact our Cancer Nurseline on Freephone 1800 200 700 if you want to get involved!

## Did you like this booklet?

We would love to hear your comments or suggestions.  
Please email [reviewers@irishcancer.ie](mailto:reviewers@irishcancer.ie)

## More information and support

If you would like more information or someone to talk to, now or at any time in the future, please call our Cancer Nurseline on 1800 200 700.

**Irish Cancer Society**

43/45 Northumberland Road, Dublin 4

T: 01 231 0500

E: [info@irishcancer.ie](mailto:info@irishcancer.ie)

W: [www.cancer.ie](http://www.cancer.ie)

Cancer Nurseline Freephone 1800 200 700

Email: [cancernurseline@irishcancer.ie](mailto:cancernurseline@irishcancer.ie)

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