



Understanding Radiotherapy

A guide for people with cancer,
their families and friends

Treatment

Cancer Council Helpline

13 11 20

www.cancervic.org.au

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Note to reader

Always consult your doctor before beginning any health treatment. This booklet is intended as a general introduction to the topic and should not be seen as a substitute for your doctor's or other health professional's advice. However, you may wish to discuss issues raised in this booklet with them. All care is taken to ensure that the information in this booklet is accurate at the time of publication.

Interpreting service: Deaf or hearing or speech impaired

If you use text-based communication, call Cancer Council Helpline (13 11 20) through the National Relay Service (NRS) 13 3677. If you can hear and still use your voice, but have a speech impairment, call Cancer Council Helpline through NRS 1300 555 727.

Generous Victorians who fundraise to fight cancer make many Cancer Council services, including the publication of this booklet, possible. For information on how you can help, visit www.cancervic.org.au or call 1300 65 65 85.



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Introduction

This booklet has been prepared to help you understand more about radiotherapy, one of the main treatments for cancer.

Radiotherapy is also known as radiation therapy.

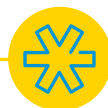
Understanding Radiotherapy may help you cope better with any side effects and assist you to make decisions about your treatment.

We cannot give advice about the best treatment for you. You need to discuss this with your doctors. However, we hope this information will answer some of your questions and help you think about other questions to ask your treatment team.

This booklet does not need to be read from cover to cover – just read the parts that are useful to you. Some medical terms that may be unfamiliar are explained in the glossary. You may also like to pass this booklet to your family and friends for their information.

Cancer Council Helpline 13 11 20 can arrange telephone support in different languages for non-English speakers. You can also call the Telephone Interpreter Service (TIS) direct on 13 14 50.

The information in this booklet is for adults having radiotherapy, although much of the information will also be relevant for children having radiotherapy. Talk to your doctor for specific information about radiotherapy for children.



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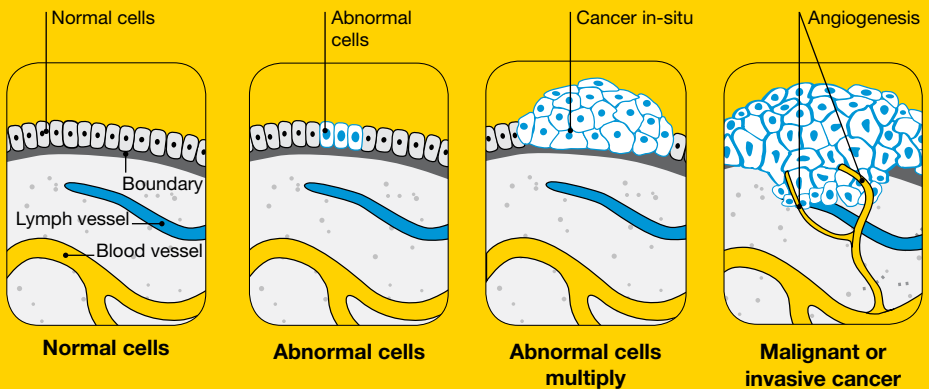
What is cancer?

Cancer is a disease of the cells, which are the body's basic building blocks. Our bodies constantly make new cells to help us grow, to replace worn-out cells and to heal damaged cells after an injury.

Normally cells grow and multiply in an orderly way, but sometimes something goes wrong with this process and cells grow in an uncontrolled way. This uncontrolled growth may result in a lump called a tumour or may develop into abnormal blood cells.

A tumour can be benign (not cancer) or malignant (cancer). A benign tumour does not spread to other parts of the body. However, a malignant tumour is made up of cancer cells, which are able to spread. The cancer that first develops in a tissue or organ is called the primary cancer.

How cancer starts



When it first develops, a malignant tumour may not have invaded nearby tissue. This is known as a cancer in-situ, carcinoma in-situ or localised cancer. As the tumour grows, it may spread and become what is known as invasive cancer.

Cancer cells can spread to other parts of the body by travelling through the bloodstream or the lymphatic system. They may continue to grow into another tumour at this new site. This is called a secondary cancer or metastasis.

A metastasis keeps the name of the original cancer. For example, lung cancer that has spread to the bones is still called lung cancer, even though the person may be experiencing symptoms caused by problems in the bones.

How cancer spreads

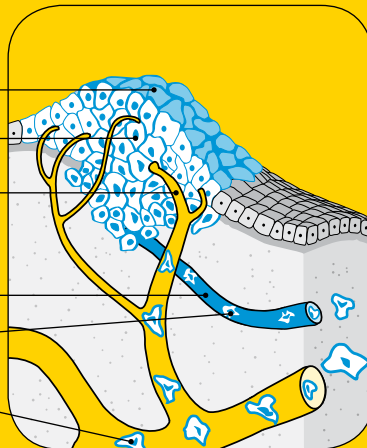
Primary cancer

Local invasion

Angiogenesis –
tumours grow their
own blood vessels

Lymph vessel

Metastasis –
cells invade other
parts of the body via
blood vessels and
lymph vessels





How cancer is treated

Your treatment will depend on several factors, including the type of cancer you have, where it began and whether it has spread to other parts of your body. It will also depend on your general health and the type of treatment you choose.

Treatments for cancer include:

- **surgery** – aims to remove the cancer from your body
- **radiotherapy** – uses radiation to kill or damage cancer cells in the body
- **chemotherapy** – uses drugs to destroy cancer cells or to make them sensitive to radiation
- **immunotherapy** – uses antibodies or vaccines to help the body's immune system fight cancer cells
- **hormone therapy** – uses drugs to reduce the hormones that cause some cancer cells to grow.

Many cancers can be treated using these methods, either alone or in combination. When a cure is unlikely, chemotherapy, radiotherapy or other treatments can relieve symptoms, help you feel as comfortable as possible and may allow you to live longer. This is called palliative treatment.



Key questions

Q: What is radiotherapy?

A: Radiotherapy uses radiation, such as x-rays, gamma rays, electron beams or protons, to kill or damage cancer cells and stop them from growing and multiplying.

Q: How does radiotherapy work?

A: Radiotherapy damages cancer cells in the area being treated. Although the radiation can also damage normal cells, they can usually repair themselves.

Q: Why have radiotherapy?

A: Many people diagnosed with cancer will have radiotherapy as part of their cancer treatment. Research shows that at least one in two people recently diagnosed with cancer would benefit from radiotherapy. It can be used for several reasons:

Cure – Radiotherapy is given with the aim of curing the cancer on its own or combined with other treatments, such as surgery or chemotherapy.

Control – Radiotherapy may be used to control the cancer by making it smaller or stopping it from spreading.

Help other treatments – Radiotherapy is used before (neoadjuvant) or after (adjuvant) other treatments, such as surgery or chemotherapy. The aim is to make the main treatment more effective.

Symptom relief – Radiotherapy is often able to relieve cancer symptoms, such as pain or bleeding, to help you to feel as well as possible.

Q: Where will I have treatment?

A: Radiotherapy needs specially trained staff and takes up a lot of space. For these reasons, it is usually given in a large hospital or at a treatment clinic.

Radiotherapy departments are run in different ways, and their procedures may vary slightly. While the information in this book will apply to most departments, you may find things are done a little differently at the place where you are being treated.

Travelling to treatment

While treatment schedules can vary for individuals, most people have radiotherapy as outpatients, travelling to the radiotherapy department each day. If you are driving to the treatment centre, you may find you feel tired after awhile. You may want to arrange for a family member or friend to drive you to treatment.

If you have to travel a long way each day to treatment, you may be able to get some financial assistance towards the cost of accommodation or travel. To check your eligibility or to make an application, speak to the hospital social worker or call Cancer Council Helpline **13 11 20**.

Q: How is radiotherapy given?

A: It can be given in two ways:

External radiotherapy – A machine from outside the body aims radiation beams towards the cancer and surrounding tissues where the cancer may have spread.

Internal radiotherapy (brachytherapy) – A radiation source is put inside the body on or near the cancer.

Depending on the type and size of the cancer, and where it is in your body, you may have one or both types of radiotherapy. The different types of radiotherapy are described in more detail in the following chapters.

Q: How do I know the treatment has worked?

A: In the weeks and months following your course of treatment, you will talk with your doctor, be examined and may have some tests. Cancer cells begin to die during a course of radiotherapy and this may continue for weeks or months after treatment ends. The examination and tests will show if the cancer has gone away, although it may be some time after treatment finishes before the full benefit can be confirmed. This is because sometimes cancer can come back (recur) at the same place or in another part of the body. If radiotherapy is given as palliative treatment, the relief of symptoms will tell you if the treatment has worked. This may take a few weeks.

Q: Which health professionals will I see?

A: Health professionals who care for people having radiotherapy include:

Health professional	Role
radiation oncologist	a specialist doctor who prescribes and coordinates the course of treatment and advises about side effects
radiation therapist	plans and delivers the radiation treatments
radiation oncology nurses	help you manage emotional and physical problems such as side effects that you may experience during treatment
radiation physicist	ensures that treatment is delivered accurately and safely
dietitian	recommends the best eating plan to follow while you are in treatment and recovery
social worker, psychologist, physiotherapist and occupational therapist	advise you on support services and help you get back to your usual activities
pastoral carer	helps with religious and spiritual concerns



Key points

- Radiotherapy uses radiation to kill or damage cancer cells and stop them from growing and multiplying.
- It also affects normal cells but they are better able to repair themselves.
- Radiotherapy is used to treat cancer, slow the growth of cancer or relieve symptoms.
- You may have this treatment in hospital or at a treatment clinic.
- Radiotherapy can be given by a variety of machines and devices, depending on which part of the body is affected and the type and stage of the tumour. The two main types are external and internal (brachytherapy) radiotherapy.
- Most patients will only have one type of radiotherapy. Some will need both external and internal radiotherapy depending on the site and type of cancer.
- You will be treated by a team of health professionals, including a radiation oncologist, a radiation therapist and radiation oncology nurses. They will all work together to plan your treatment.



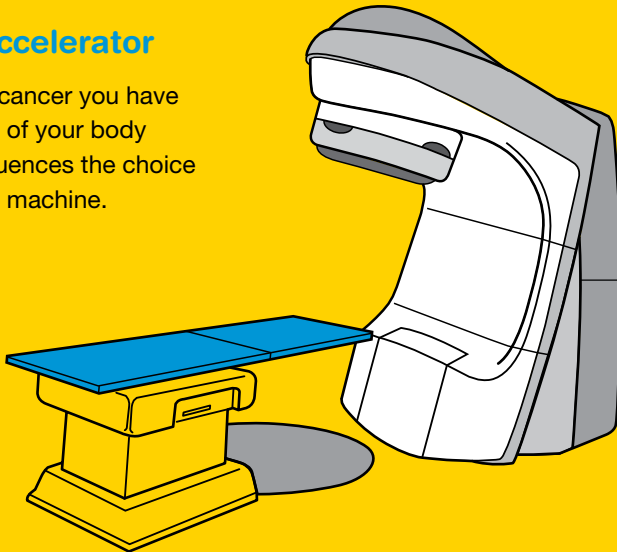
External radiotherapy

In external radiotherapy high-energy x-rays are directed at the cancer from a machine outside the body. Different types of machines may be used, and they each vary slightly in how they look and how they work. The machine used will depend on the part of your body being treated and why radiotherapy is being given. Some are better at treating cancer near the skin, others are better for cancers deeper in the body.

Often external radiotherapy is given using a machine called a linear accelerator. Several specialised types of external radiotherapy may be used to treat certain cancers, such as three-dimensional conformal radiation therapy (3D-CRT), intensity modulated radiation therapy (IMRT) and image guided

Linear accelerator

The type of cancer you have and the part of your body affected influences the choice of treatment machine.



radiation therapy (IGRT). Many of these techniques allow the radiation beams to be delivered from several different directions. This reduces the amount of radiation to normal tissues.

How long is a course of treatment?

A course of treatment refers to the number of treatments.

The number of radiotherapy treatments needed varies between people depending on the total dose required to treat your cancer, its location and the reason for the treatment. In general, higher doses are given for curative treatment and usually over a longer period of time.

The total dose is usually divided into smaller doses called fractions. Most people have radiotherapy Monday to Friday for 6–8 weeks. Weekend rest breaks allow the normal cells to recover. Some people have only one or a few treatments, and occasionally, two treatments per day may be recommended.

Each dose of radiation causes a little more damage to cancer cells, so it's important you go to all your scheduled sessions to ensure you receive enough radiation to eventually kill the cancer cells or relieve symptoms.

tip

Stopping smoking during and after treatment can make the treatment more effective. Call the Quitline on **13 7848** for support.

Planning treatment

Before you start radiotherapy treatment it will need to be planned. This is an important part of radiotherapy and may take several visits. Planning helps ensure that enough radiation reaches the cancer but does as little damage as possible to the surrounding healthy tissues and organs. Planning consists of several steps:

Examination – Your radiation oncologist will examine you and may request further x-rays or scans to find out more about the cancer. They will then decide which part of your body to treat, how much radiation to use (the dose) and the number of treatments you will have.

Planning appointment – Your planning appointment may take several hours but the actual treatment will be much shorter.

Simulation – You will be asked to lie still on a table while the radiation therapist uses a special x-ray machine called a simulator to pinpoint the exact area on your body where the radiation beams will be aimed. This is like having an x-ray but may take a little longer. At the same time, a radiation therapist will take measurements of you.

Some simulators use CT (computerised tomography) scans instead of x-rays. A CT scan takes pictures of the cancer from different angles to build up a three-dimensional picture of the area. You will lie in exactly the same position as when you have your treatment. You may also have an MRI (magnetic resonance imaging) scan, PET (positron emission tomography) scan or an ultrasound.

The measurements and the information from the scans are fed into a computer that helps the radiation oncologist plan your treatment precisely.

Moulds and casts – Depending on the type of radiotherapy treatment you receive, you may need a special device to help keep an area of your body still during treatment sessions so that radiation is directed at the same place each time. For example, if you need radiotherapy to the head and neck area you will wear a plastic mask called a shell or cast, and markings (see below) can be made on the shell rather than your skin. You will be able to hear, speak and breathe normally while wearing the shell, but it may feel strange and claustrophobic at first. Tell the staff if you feel worried or anxious as they may be able to offer you strategies to help you cope.

“ I found wearing the mask uncomfortable but the staff gave me meditation exercises to relax me. ” Jane

Skin markings – To ensure the radiation is aimed at exactly the same position at each treatment session, two or three very small semi-permanent ink marks or tattoos may be placed on the skin. These tattoos are less than the size of a freckle and are too small to be seen easily. If marks are made on your skin, ask the radiation therapist if you can wash off the ink or if you need to keep it until your full course of treatment is finished. The ink will gradually fade, but it can be redrawn periodically during the course of your radiotherapy treatment.

Having treatment

You will probably be asked to change into a hospital gown before you are taken into the treatment room. The treatment itself takes only a few minutes but each session can last 15–20 minutes because of the time it takes to set up the equipment and put you in position. The room will be in semi-darkness while this is done.

tip

You will be given instructions about what to wear or what you should avoid using during radiotherapy. You will be advised if any specific instructions (e.g. full or empty bladder) are needed for your planning and treatment appointments.

If you have had a support device made (such as a mask), it will be used during treatment.

A shield made of thick lead-like metal may be placed between the machine and the parts of the body not being treated to protect them. This is called a multileaf collimator. An extra piece of rubber-like material or a block of specially made wax may also be placed on the skin. This makes sure that the skin gets the computer-planned dose of radiation.

Once you and the machine are in the correct position, the radiation therapist will go into a nearby room to operate the machine. You will be alone in the treatment room, but you can talk to the radiation therapist over an intercom, and they will watch you on a television screen or through a window.

You can breathe normally during treatment but you need to stay very still while the machine is working. This ensures that the treatment is accurate. You can often listen to music while you are having radiotherapy to help you relax.

If treatment is needed from different angles, the radiation therapist will move the machine several times. This is often done from outside the treatment room. It is important that you remain still while the machine is being rotated around the treatment table. The radiation therapist will tell you when it is okay to move. If you feel uncomfortable, tell the therapist as they can switch off the machine and start treatment again when you're ready.

You may hear the term EPID. This means electronic portal imaging device. This makes pictures of the radiation beam as it passes through your body. It helps to ensure your treatment is being given accurately – it is not used to see if the tumour is changing.

Will radiotherapy be painful?

No, radiotherapy is painless. During treatment you will not see or feel anything, but you may hear the machine buzzing. You may find that while lying on the treatment table you have pain due to the cancer or discomfort from the position you are in. If you feel ill, tell the radiation therapist, who will pause the treatment.

tip

Waiting for radiotherapy to begin may be difficult. Bring activities to help distract you or to help pass the time.

Fear of radiotherapy

The machines used for radiotherapy are large and may be confronting when seen for the first time.

Some people find having radiotherapy a bit frightening

at first but feel more at ease as they get to know the staff and procedures at the treatment centre. If you suffer from claustrophobia, let your doctor know as they can help you to overcome this issue.

Will I be radioactive?

No. External radiotherapy does not make you radioactive because the radiation doesn't stay in your body. It is safe for you to be with children, family and friends, and anyone who might be pregnant. This includes throughout the course of treatment and afterwards.



Key points

- High-energy x-rays are directed at the cancer from a machine outside the body.
- Radiotherapy doesn't hurt, doesn't make you radioactive and can't be seen or felt.
- The length of your treatment varies depending on the location, type and stage of the cancer. Most treatments take 6–8 weeks.
- Most people have radiotherapy Monday to Friday. Weekend rest breaks allow the normal cells to recover.
- Before treatment begins, the precise area to be treated will be worked out using a special x-ray machine called a simulator. CT, MRI or PET scans may also be needed. This will also help the radiation therapist work out the dose you need.
- Most treatment sessions last for 15–20 minutes but you will only get radiotherapy for 1–5 minutes.
- Your radiation therapist will put small marks (dots of coloured ink or tattoos) on your skin. These markers show where to aim the radiation.
- A mask might be made at the planning meeting. This will help you stay still during your treatment sessions.
- During treatment you will lie on a table. Your radiation therapist will be in the next room to control the machine. They will be able to see you and talk with you through a speaker.
- You will need to stay very still but you can breathe normally.



Internal radiotherapy

Internal radiotherapy is only used for certain types of cancer. It delivers radiation close to the tumour, giving a high dose of radiation directly to the cancer while limiting the dose to the surrounding normal tissues. This is given in several ways.

- **Brachytherapy** – The radioactive sources are placed in the body, close to, or inside the cancer. This is called an implant. The type of implant used depends on the type of cancer you have, and may include seeds, needles, wires, capsules or other devices.
- **Radioisotope therapy** – This uses radioactive liquid that is taken by mouth as a capsule or given by injection.

Your doctor may recommend internal radiotherapy alone or in combination with external radiotherapy.

Brachytherapy

How is the implant placed in the body?

The doctor may use an applicator to hold the implant against the surface of the tumour. This may require admission to hospital or it may be done as a day procedure. You may need anaesthetic while the doctor positions the applicators using an imaging test, such as an x-ray, to look at the exact area where they need to go.

The applicators come in different shapes and sizes, and can contain different radioactive materials. Once the applicators are in the right position, the radioactive sources are passed into the applicator by a machine.

How long will it be in place?

Implants can be temporary or permanent. Some implants deliver low doses of radiation; others deliver high doses.

- **Temporary implants** – These may be in place for 1–6 days before being taken out. You will stay in hospital during this time. In other cases, the implant delivers radiation over a few minutes during several sessions.
- **Permanent implants** – Seeds or pellets about the size of a grain of rice are left in place permanently to gradually decay. Over a period of weeks or months the radiation level drops but the seeds remain in place with no lasting effect.

Will the implant be painful?

You should not have any severe pain or feel ill during implant therapy. If your implant is being held in place by an applicator, it may be uncomfortable, but your doctor can prescribe medicine to relax you and relieve any pain.

Once the applicator is removed you may be sore or sensitive in the treated area for some time. In some cases, your doctor might suggest that you limit physical and sexual activity for a while.

tip

Internal radiotherapy may only be available at some hospitals, and the procedures can vary between hospitals. If this treatment is recommended, the staff involved will give you more information.

Will I be radioactive?

While the radioactive applicator is in place, some radiation may pass outside your body. For this reason, hospitals take several safety precautions to avoid unnecessary exposure to hospital staff or your family and friends while the implant is in place. The hospital staff will explain any restrictions to you before you start treatment. These may include the following requirements:

- You may be nursed alone, or in a room away from the main ward.
- Hospital staff will only stay in the room for short periods of time, and visitors may be limited while the implant is in place – children under 18 or pregnant women usually can't enter the room.
- You can use an intercom to talk to hospital staff and visitors.

Once the temporary implant is removed, you are not radioactive and there is no risk to others.

If you have a permanent implant, you will be radioactive for a short while and may need to stay in an isolated room for a few days. You may have temporary restrictions placed on your activities such as being around small children or pregnant women.

tips

- Let the staff know if you feel claustrophobic or lonely.
- Take in reading material and other items to keep you occupied while you're in the single room. You may also be able to watch television or listen to the radio.

Radioisotope therapy

This uses radioactive material that is taken by mouth as a capsule or given by injection.

Different radioisotopes are used to treat different cancers, including liver cancer and non-Hodgkin lymphoma. The most common radioisotope treatment is radioactive iodine, which is used to treat thyroid cancer.

This treatment requires a short stay in hospital. During this time you will be in an isolation room while you are temporarily radioactive. The radioactive iodine taken up by the thyroid cells becomes less radioactive each day. Any iodine not taken up by the thyroid cells is passed out of the body in urine, sweat or faeces.

The amount of radiation that is in your body is measured regularly during your hospital stay. Once the radiation level in your body reaches a safe level, you will be able to go home.

There may be some special precautions or care that you need to take for a short while after you are home. Talk to your radiation oncologist or nurse about what to bring to hospital with you, and about any special care that may be required after discharge.

Treating secondary bone cancer

Radioisotopes can be used to treat secondary bone cancer. The radioisotope is injected into a vein and circulates to the area of the cancer in the bone. This is a simple procedure and a hospital stay is usually not needed.

Selective internal radiotherapy treatment (SIRT)

SIRT is a way of delivering high doses of internal radiotherapy to treat liver tumours. It uses tiny pellets called microspheres, which contain a radioactive substance.

The pellets are injected into a thin tube called a catheter, which is inserted into the main artery that supplies blood to the liver (hepatic artery). The radiation from the microspheres damage the tumours' blood supply so the tumours can't get the nutrients

they need and shrink. This process is sometimes called radioembolisation.

Each pellets gives out radiation to a small area. This means normal liver cells should only receive a small amount of radiation. The pellets deliver radiotherapy continuously for 10–14 days. After they have stopped working, the pellets remain in the body permanently but don't cause any problems.



Key points

- Brachytherapy uses radiation to destroy cancer cells and shrink tumours.
- The radiation source, which looks like seeds, ribbons or wires, is put into your body through or around the tumour.
- How long the radiation source is left in place varies, depending on the strength of the source and the dose required. Some stay in place for minutes, hours or days. If you have a permanent implant, it will not be taken out. You may need to stay in hospital in an isolated room.
- Brachytherapy uses low-dose and high-dose radiation sources.
- Once the implant is removed, there will be no radiation left in the body.
- Radioisotope therapy uses radioactive material that is taken as a tablet or given as an injection.
- The most frequently used radioisotope treatment is radioactive iodine, which is taken as a tablet. This treatment requires a short stay in hospital, usually in a special isolation room. You will be able to go home as soon as the radiation levels in your body drop to a safe level.
- Radioisotopes may also be used to treat secondary bone cancer. It is injected into a vein and it circulates to the area in the bone where there is cancer.
- Selective Internal Radiotherapy Treatment (SIRT) delivers high-dose internal radiotherapy using tiny beads.



Managing side effects

Radiotherapy is an effective treatment for many cancers, but it can cause side effects. People react differently to radiotherapy, and some people may have no side effects.

Side effects vary depending on the part of the body being treated. Reactions can also vary from one period of radiotherapy to the next. Before your treatment begins, talk to your radiation oncologist about the possible side effects from your particular treatment. You will be asked to give your consent to having treatment so it's useful to have all your questions answered.

There are ways to reduce discomfort and most side effects go away in time. Other less common side effects may be permanent, and some may not start until treatment has finished.

During your course of treatment, tell your radiation oncologist, radiation therapist or nurse of any side effects you notice. These can usually be controlled with the right care and medicine.

If you have severe side effects, the doctor may change the treatment or prescribe a break in your course of treatment. However, this may not be possible if your doctor thinks pausing the treatment could affect how well it's working. Check with your doctor.



Always ask your radiation oncologist first before using any medicines, home remedies or creams to ease side effects. Some of these remedies can affect how radiotherapy works in your body.

Fatigue

During radiotherapy, your body uses a lot of energy dealing with the effects of radiation on normal cells. Fatigue usually builds up slowly during the course of treatment, particularly towards the end, and may last for a few months after treatment finishes.

Many people find that they cannot do as much, but others are able to continue their usual activities without much change.

tips

- Do fewer things and spread out daily activities.
- Rest or take naps during the day if you can.
- Let family and friends assist you. They can help with shopping, child care, housework and driving.
- Take a few weeks off work during or after your radiotherapy, or reduce your hours. You may be able to work at home. Some people feel well enough to continue working full time and organise treatment appointments to suit their work hours.
- Do light exercise, such as walking, and keep up with your normal exercise routine. Research shows that regular exercise can boost energy levels and make you feel less tired. Talk to your health care team about suitable activities for you.
- Limit caffeinated drinks like tea, coffee and soft drinks. While they may boost your energy, caffeine can make you feel jittery and irritable. It can also cause insomnia.
- Eat a healthy, well-balanced diet and don't skip meals.
- Smoking reduces your energy. If you smoke, talk to your doctor or call the Quitline on **13 7848** about stopping.

Skin problems

Radiotherapy may make your skin dry and itchy in the treatment area. Your skin may peel and look red, sunburnt or tanned.

These reactions fade with time and you'll be given special dressings. Some of the radiation passes through your body and out the other side, so the skin in that part of your body may also be mildly affected.

tips

- Ask your treatment staff before using any soap, deodorant, perfume, talcum powder, creams, cosmetics, medicines or other products on the treatment area. Many leave a coating that can interfere with radiotherapy. If needed, you may be prescribed a special moisturiser.
- Wear loose soft clothing, such as cotton, next to your skin. Don't wear tight-fitting clothes, girdles, close-fitting collars or belts over the treatment area.
- Tell your doctor about changes to your skin, e.g. cracks or blisters, moist areas, rashes, infections or peeling.
- Choose loose, old clothes that you can throw out if the dye or ink marks rub off on them.
- Stay out of the sun where possible, and cover your treated skin before going outside. Ask your doctor about using a sunscreen (SPF 30+).
- Let the dye outlines wear off gradually.
- Don't put hot water bottles, heat packs, wheat bags or ice packs on the treatment area. Bathe or shower in lukewarm water – hot water can damage your sensitive skin. Pat skin dry with a soft towel.
- Don't use a razor blade on the treatment area. Check before using an electric razor.

Loss of appetite

Try to eat a healthy, balanced diet during treatment. Good nutrition helps you remain as well as possible and get the most from your treatment.

Some people lose interest in food during radiotherapy. This can depend on where on the body the radiotherapy is targeted. You may be advised to maintain adequate nutrition to complement how well radiotherapy is working.

tips

- Eat smaller amounts as often as possible.
- Try to eat extra on days when you have an appetite.
- Ask the hospital dietitian for advice on the best diet during treatment and recovery.
- You may be advised to try a nutritional supplement. You can buy these at a pharmacy without a prescription, and you can use them alone or with other foods.
- Do not use any supplements or medicines without getting your treating doctor's advice. Some supplements could interfere with treatment.
- If you don't feel like eating solid foods, try enriching your drinks with powdered milk, yoghurt, eggs, honey, or weight-gain supplements. Sip water regularly to avoid becoming dehydrated.
- Sometimes cooking smells can put you off eating. It may help if someone else prepares your food, if possible, or you could consider heating pre-cooked meals.
- If you have radiotherapy to the head and neck area, chewing or swallowing might be difficult or painful. See page 34 for suggestions.

Hair loss

If you have hair in the area being treated (e.g. scalp, face or body), you may lose some or all of it during radiotherapy. Your hair will usually grow back a few months after the treatment has finished. Sometimes hair loss is permanent.

In general, you will only lose hair in the treated area. However, when tumours on the face are treated, hair on the back of the head may be lost due to small amounts of radiation passing through the head and out the other side.

tips

- Wear a wig, toupee, hat, scarf or turban. Do whatever feels comfortable and gives you the most confidence.
- If you plan to wear a wig, choose it early in your therapy so you can match it to the colour and style of your own hair. Cancer Council Helpline, your doctor or nurse may be able to help you find a wig.
- If you plan to leave your head bare, protect it against sunburn and the cold.
- Expect the hair that grows back to be different, perhaps thinner or curly where it was once straight. After a large dose of radiotherapy, the new growth may be patchy for awhile.
- Ask your hairdresser to make your hair look as good as possible. In time, your hair will probably return to its normal condition.
- Contact Look Good...Feel Better. This program teaches techniques to help restore appearance and self-image during treatment. For more details see www.lgfb.org.au or call **1800 650 960**.

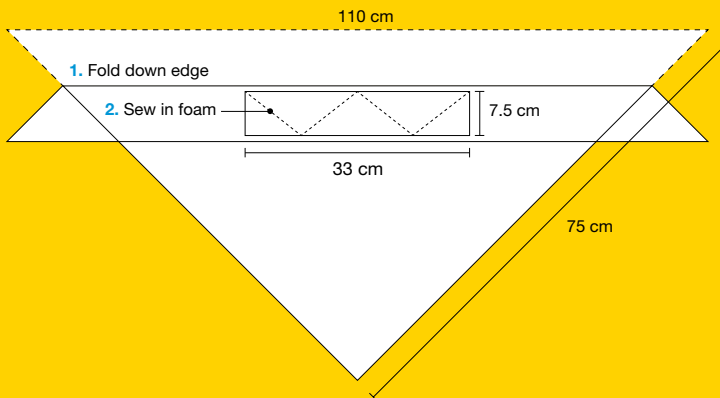
How to make a head scarf

A head scarf can be a comfortable and attractive way to cover your head if treatment causes you to lose hair.

- Cut out a triangle, 110 cm by 75 cm by 75 cm, from a piece of material. Choose fabric that doesn't slip such as soft cotton.
- Hem the short edges of the fabric (75 cm) if you wish.
- Attach a piece of foam to help keep the scarf in place. Lay

a piece of foam (33 cm by 7.5 cm and about 1.25 cm thick) along the long edge. Fold over the fabric and sew in the foam, as shown below.

To wear the scarf, place the foam edge at the front of your forehead and tie the ends of the fabric behind your head. Push the foam edge up, until it is sitting comfortably on your head. Some people put a shoulder pad in the front of the scarf to give it some lift.



We thank the Royal North Shore Hospital (NSW) occupational therapy unit for this pattern.

Nausea

If you have radiotherapy to your stomach area, you may have an upset stomach.

These problems will usually get better when your treatment is over. Some people feel queasy for a few hours after external radiotherapy. To help with nausea:

- eat a bland snack such as toast, dry biscuits or apple juice before treatment
- ask your doctor for medicine to prevent nausea
- sip on fluids throughout the day to prevent dehydration
- nibble dry biscuits.

Anti-nausea medication can help. This medicine can be taken before, during or after radiotherapy treatment. You may be given anti-nausea tablets to take at home. These are best taken regularly. It may take some time before you find an anti-nausea medication that works for you, so let your nurse or doctor know early on if your symptoms aren't being relieved. If you still feel nauseous after a few days, or are vomiting for more than 24 hours, contact your doctor.

For more information, talk to your doctor or nurse or call Cancer Council Helpline 13 11 20 for information on eating well.

“ At first I couldn't think about eating without thinking about throwing up. Drinking ginger beer helped control the nausea. ” *Simon*

Diarrhoea

If you have radiotherapy to your stomach or part of your lower abdomen, you may have diarrhoea. Diarrhoea can occur because the radiation irritates the lining of the bowel or stomach.

Symptoms include frequent loose, watery bowel movements, abdominal cramps, and feeling an urgency to go to the toilet. It often begins in the third or fourth week of treatment.

tips

- Ask your treating doctor or nurse about what to expect and when to report diarrhoea.
- Avoid high-fibre foods, e.g. wholegrain bread and cereals, and nuts and legumes, such as beans and lentils. You may also want to avoid spicy foods.
- Drink lots of clear liquids as soon as diarrhoea starts, or when you feel it is going to start, to avoid becoming dehydrated. Apple juice, peach nectar, weak tea and clear broth will not worsen diarrhoea.
- Ask your radiation oncologist to prescribe medicine to relieve diarrhoea.
- After the diarrhoea has cleared up, it is important to slowly reintroduce a healthy eating plan that includes fresh fruits and vegetables and wholegrain breads and pasta.
- Check with your radiation oncologist, radiation therapist or nurse before taking any home remedies during your radiotherapy treatment. If you feel ill, eat or drink as well as you can so your body gets the energy and nutrients it needs.
- Contact your doctor immediately if you have blood in your faeces.

Mouth and swallowing problems

Radiotherapy is often used to treat cancer in the mouth, throat, neck or upper chest area. Depending on the area treated, radiotherapy may affect your mouth and teeth, and make eating and swallowing difficult.

After several weeks of treatment, your mouth or throat may become dry and sore, and your voice may become hoarse. This will gradually improve after treatment is completed, but may take several weeks or even months depending on the treatment you've had. You may also have thick phlegm in your throat, or a lump-like feeling that makes it hard to swallow.

Recovery of normal taste can sometimes take a long time after treatment is completed.

tips

- Suck ice chips and sip cool drinks to keep your mouth wet.
- Avoid tobacco and alcohol because they will dry your mouth even more.
- Try to have more liquids or soft food if chewing and swallowing are painful.
- If your sense of taste changes during radiotherapy, try different ways of preparing food. For example, add lemon juice to meat and vegetables, marinate foods or add spices.
- If eating is uncomfortable or difficult, ask for something to relieve the pain. Good pain relief will help you eat well and feel better.
- Ask your doctor or nurse for information about artificial saliva to moisten your mouth.

Dental problems

Radiotherapy to the mouth may increase the chance of tooth decay or other problems in the long term. Future dental work can be more difficult due to problems with healing. It is often recommended that you have a dental check-up before treatment begins so that any dental work you need done can be carried out prior to treatment.

Your dentist will give you detailed instructions about caring for your mouth and teeth, to help prevent tooth decay and to deal with problems such as mouth sores. You will need ongoing dental care after treatment is completed.

Some cancer patients may be able to obtain dental services under Medicare. Visit www.health.gov.au/dental or call 13 20 11.

- Rinse your mouth regularly with a non-alcoholic mouthwash recommended by your doctor or dentist.
- Your doctor may also refer you to a dietitian who can suggest nourishing foods that will not hurt your mouth.
- If you lose too much weight, you may need extra feeding through a tube that goes into your stomach. Your doctor will discuss this with you.
- See a speech pathologist if you have difficulty swallowing.

Sexual intercourse and radiotherapy to the pelvic area

Radiotherapy to the pelvic area can make sexual intercourse uncomfortable for awhile. You may notice a change in your sexual desire (libido). This is common and may only be short term. Radiotherapy may make you feel too tired or nauseated to want to be intimate. Some people may also feel less sexually attractive to their partner because of changes to their body. Talking to your partner about your concerns may help.

Effects on women – Radiotherapy may cause changes in the vagina. It may feel dry, itchy or burning. Treatment may also cause vaginal tissue to shrink and stiffen making sex painful. If you have these problems, tell your doctor or nurse, as the

Using contraception

During treatment – Although radiotherapy can affect fertility, it is still possible for a woman to become pregnant while having radiotherapy. A man receiving radiotherapy could still make his partner pregnant.

Women having radiotherapy or whose partners are having radiotherapy are usually advised

not to become pregnant. In a woman, radiotherapy to the pelvic area may affect either her eggs (ova) before conception or her unborn child. Radiotherapy to an area close to a man's testicles may cause him to produce abnormal sperm.

If pregnancy is possible, you and your partner will be strongly

symptoms can usually be relieved. They may advise you to use vaginal lubricant or an instrument to expand the vagina (dilator), or to have regular intercourse. Some women stop having their periods during treatment and may experience menopause. The signs of menopause include hot flushes, dry skin and vaginal dryness.

Effects on men – Men may have problems getting and maintaining erections, or ejaculation may be painful for a few weeks after treatment.

For more information about self esteem and managing the effects of radiotherapy on your sexuality, call the Helpline on 13 11 20.

advised to use contraception or abstain from sex during radiotherapy. If you or your partner becomes pregnant, talk to your doctor as soon as possible.

After treatment – It may be recommended you use a barrier method (such as a condom or a female condom) for a certain

period of time. This is to prevent the risk of infection if you have any sores that are healing.

Talk to your doctor for more information about using contraception. Your health care team can also give you advice if you are planning on starting a family after cancer treatment.

Fertility issues

Having radiotherapy near your reproductive organs could affect your ability to have children naturally (fertility).

Effects on women – Radiotherapy to the pelvic area can cause periods to become irregular or stop for a short time. For some women their periods stop permanently (menopause). Talk to your doctor about ways to relieve the symptoms of menopause.

Effects on men – Radiotherapy to an area which includes the testicles may reduce sperm production temporarily. You may feel the sensations of orgasm, but ejaculate little or no semen. This is called a dry orgasm. Usually, semen production returns to normal after a few months, but for some men, infertility is permanent. If you want to father a child, you may wish to have sperm stored before your treatment starts. This would allow your partner to conceive through artificial insemination later. Discuss this with your doctor.

tip

Speak to your doctor about the effects on fertility before you start radiotherapy treatment.



Key points

- The side effects you have depend on the type and dose of radiotherapy you receive, and the part of your body being treated.
- Talk to your health care team about any of the symptoms you experience as they may be able to suggest ways to manage them.
- Fatigue is a common problem. Try to plan activities around your energy levels, and talk to your family and friends about ways they can help you.
- If your skin is red or sore, avoid using creams, perfumes or talcum powder. Protect your skin when going out in the sun.
- Some people find the marks on their skin rub off on their clothes. Wear loose old clothes during treatment. Soft cotton fabrics are best.
- People may lose hair only in the area where they have radiotherapy.
- Radiotherapy can affect your appetite. This will depend on where you have radiotherapy.
- Nausea and diarrhoea are also common if you have radiotherapy to the stomach area. Drink lots of fluids each day to prevent dehydration. Ask your doctor or nurse about medicine that will help.
- Visit a dentist before treatment begins and let them know you will be having radiotherapy.
- Sexuality issues following treatment are common. Your fertility may also be affected.
- It's advised that you don't get pregnant while having radiotherapy. You will need to use birth control or avoid having sexual intercourse.



Making treatment decisions

Sometimes it is difficult to decide on the right treatment. You may feel that everything is happening so fast you don't have time to think things through. If you are feeling unsure about your options, check with your doctor how soon your treatment should start, and take as much time as you can before making a decision.

Understanding details about the disease, the available treatments and their possible side effects will help you make a well-informed decision. This decision will also take into account your personal values and the things that are important to you and your family. It is common to feel overwhelmed by information so it may help if you read and talk about the cancer gradually.

- Weigh up the advantages and disadvantages of different treatments, including the impact of any side effects.
- If only one type of treatment is recommended, ask your doctor why other choices have not been offered.
- If you have a partner, you may want to discuss the treatment options together. You can also talk to family and friends.

You have the right to accept or refuse any treatment offered by your doctors and other health care professionals. Some people with advanced cancer choose treatment even if it only offers a small benefit for a short period of time. Others want to make sure the benefits outweigh the side effects so that they have the best possible quality of life. Some people choose options that focus on reducing symptoms and make them feel as well as possible.

Talking with doctors

When your doctor first tells you that you have cancer you may not remember all the details about what you are told. You may want to see the doctor again before deciding on treatment. Ask for the time and support to make your decision.

If you have questions, it may help to write them down before you see the doctor. You can also check the list of suggested questions on page 52. Taking notes or recording the discussion can help too. Many people like to have a family member or friend go with them to take part in the discussion, take notes or simply listen.

If your doctor uses medical terms you don't understand, ask for an explanation in everyday language. You can also check a word's meaning in the glossary (see page 53).

tip

If you have several questions for your doctor, ask if it is possible to book a longer appointment.

A second opinion

Getting a second opinion from another specialist may be a valuable part of your decision-making process. It can confirm or clarify your doctor's recommendations and reassure you that you have explored all of your options.

Some people feel uncomfortable asking their doctor for a second opinion, but specialists are used to people doing this.

Your doctor can refer you to another specialist and send your initial results to that person. You can get a second opinion even if you have started treatment or still want to be treated by your first doctor. Alternatively you may decide you would prefer to be treated by the doctor who provided the second opinion.

Taking part in a clinical trial

Your doctor may suggest you consider taking part in a clinical trial. Doctors conduct clinical trials to test new or modified treatments to see if they are better than current treatments. Over the years, clinical trials have improved cancer treatments and led to better outcomes for people diagnosed with cancer.

If you are unsure about joining the trial, ask for a second opinion from an independent specialist.

If you join what is called a randomised trial, you will be chosen at random to receive either the best existing treatment or a promising new treatment.

If you decide to participate in a trial, you have the right to withdraw from it at any time; doing so will not jeopardise your ongoing treatment for cancer.

For more information about clinical trials and other research, including questions to ask your doctor and how to find a suitable study, call Cancer Council Helpline 13 11 20. You can also find trials on the website www.australiancancertrials.gov.au.



Looking after yourself

Cancer can cause physical and emotional strain. It can also impact on your body image, relationships and outlook for the future. It's important to take time to look after yourself by eating well, exercising, reducing stress and improving your well-being.

Healthy eating

Eating nutritious food will help you keep as well as possible and cope with cancer and treatment side effects. Depending on your treatment, you may have special dietary needs. A dietitian can help you manage any eating difficulties, and choose the best foods and meals for your situation.

Cancer Council Helpline can send you free information about nutrition and cancer.

Staying active

Research shows it is helpful to stay active and exercise regularly if you can. Physical activity, even if gentle or for a short duration, helps to improve circulation, reduce tiredness and elevate mood. The amount and type of exercise you do will depend on what you are used to, how well you feel and what your doctor advises.

If you aren't used to exercise or haven't exercised for a while, make small changes to your daily activities. You could walk to the shops, take the stairs, do some gardening or join a gentle exercise class. If you want to do more vigorous or weight-bearing exercise, ask your medical team what is best for you.

Complementary therapies

Complementary therapies are treatments that may help you cope better with side effects such as pain. They may also increase your sense of control over what is happening to you, decrease your stress and anxiety, and improve your mood.

There are many types of complementary therapies, such as herbal medicine, acupuncture, massage, relaxation and meditation. Some cancer treatment centres offer these therapies as part of their services, but you may have to go to a private practitioner. Self-help CDs or DVDs can also guide you through different techniques.

Let your doctor know about any complementary therapies you are using or thinking about trying. Some therapies may not be appropriate, depending on your medical treatment. For example, herbs and nutritional supplements may interact with your medication or surgery, resulting in harmful side effects. Massage, acupuncture and exercise therapies should also be modified if you have lowered immunity, low platelets or fragile bones.

Call Cancer Council Helpline 13 11 20 for more information and resources about complementary therapies.



Alternative therapies are often defined as those used instead of conventional medical treatments. These therapies may be harmful if people with cancer delay or stop using conventional treatments in favour of them. Examples are coffee enemas and magnet therapy.

Relationships with others

For many people, the experience of having cancer and any ongoing challenges causes them to make some changes in their life. You may also have a new outlook on your values, priorities and life in general. Some people find that these changes can affect their relationships. However, sharing your thoughts and feelings with family, friends and colleagues may help to strengthen your relationships with them.

If you feel uncomfortable talking about your feelings, take your time and approach others when you are ready. People usually appreciate insight into how you are feeling and guidance on providing support during and after treatment. Calling Cancer Council Helpline may help you build your confidence to discuss your feelings with others.

Give yourself time to adjust to your cancer diagnosis, and do the same for friends and family. People may react in different ways, for example being overly positive, playing down fears, or keeping a distance. They are also dealing with the diagnosis and the changes.

If someone's behaviour upsets you, it might help to discuss how you both feel about the situation.

Changing body image

Cancer treatment can change the way you feel about yourself (your self-esteem). You may feel less confident about who you are and what you can do. This is common whether your body has

changed physically or not. Give yourself time to adapt to any changes. Try to see yourself as a whole person (body, mind and personality) instead of focusing only on the parts of you that have changed.

For practical suggestions about hair loss, weight changes and other physical changes, call Cancer Council Helpline.

Look Good...Feel Better program

Cancer treatments, such as radiotherapy and chemotherapy, can sometimes cause side effects such as hair loss and skin irritation. These changes can make you feel self-conscious.

Look Good...Feel Better is a free two-hour program for men

and women to teach them techniques using skin care, hats and wigs to help restore appearance and self-esteem during and after treatment.

Call **1800 650 960** or visit **www.lgfb.org.au** for more information and to book into a workshop.



Seeking support

When you are first diagnosed with cancer, and during different stages of treatment and recovery, you may experience a range of emotions, such as fear, sadness, anxiety, anger and frustration. If sadness or anxiety is ongoing or severe, talk to your doctor.

It may help to talk about your feelings. Your partner, family members and friends can be a good source of support, or you might prefer to talk to:

- your treatment team
- a counsellor, social worker or psychologist
- your religious or spiritual adviser
- a support group or someone who has had a similar experience to you – see page 49
- Cancer Council Helpline.

If you need practical assistance, such as help around the house, it may be hard to tell people what would be useful. You might prefer to ask a family member or friend to coordinate offers of help.

You may find that while some people you know are supportive, others may struggle to know what to say to you. If you have children, the prospect of telling them you have cancer can be unsettling. Cancer Council has a range of free resources to help people talk about cancer and deal with the emotions that cancer may bring up. Publications are available for people with cancer, partners, carers, children, friends and colleagues.

Call Cancer Council Helpline 13 11 20 for resources and support. You can also download booklets from the Cancer Council website.

Practical and financial help

A serious illness can cause practical and financial problems. Many services are available to help you deal with these difficulties:

- Financial or legal assistance – through benefits, pensions and programs – may help pay for prescription medicines, transport costs to medical appointments, utility bills or basic legal advice.
- Home nursing care may be available through community nursing services or local palliative care services.
- Meals on Wheels, home care services, aids and appliances can be arranged to help make life easier at home.
- Subsidised travel and accommodation may be available for patients who have to travel long distances for treatment.

Ask Cancer Council Helpline or your hospital social worker, occupational therapist or physiotherapist, which services are available in your area and if you are eligible to receive them.

Cancer Council library*

Following a cancer diagnosis many people look for information about new types of treatment, the latest research findings and stories about how other people have coped. Cancer Council has a range of books, CDs, DVDs and medical journals that may be helpful for you. Call the Helpline for more information.

** Not available in Victoria and Queensland*

Talk to someone who's been there

Coming into contact with other people who have had similar experiences to you can be beneficial. You may feel supported and relieved to know that others understand what you are going through and that you are not alone. There are many ways for you and your family members to connect with others for mutual support and to share information.

In these support settings, people often feel they can speak openly and share tips with others. You may find that you are comfortable talking about your diagnosis and treatment, your relationships with friends and family, and your hopes and fears about the future.

Ask your nurse or social worker to tell you about support groups in your area. Cancer Council Helpline staff can also let you know about suitable support groups or peer support programs.

Types of support services*

Face-to-face support groups – often held in community centres or hospitals

Online discussion forums – where people can connect with each other at any time – see www.cancerconnections.com.au

Telephone support groups – for certain situations or types of cancer, which trained counsellors facilitate

Peer support programs – match you with a trained volunteer who has had a similar cancer experience, e.g. Cancer Connect.

** Not available in all areas*



Caring for someone with cancer

You may be reading this booklet because you are caring for someone with cancer. Being a carer can be stressful and cause you much anxiety. Try to look after yourself – give yourself some time out and share your worries and concerns with somebody neutral such as a counsellor or your doctor.

Many cancer support groups and cancer education programs are open to carers, as well as people with cancer. Support groups and some types of programs can offer valuable opportunities to share experiences and ways of coping.

Support services such as Home Help, Meals on Wheels or visiting nurses can help you in your caring role. There are also many groups and organisations that can provide you with information and support, such as Carers Australia, the national body representing carers in Australia. Carers Australia works with the Carers Associations in each of the states and territories. Phone 1800 242 636 or visit www.carersaustralia.com.au for more information and resources.

You can also call Cancer Council Helpline 13 11 20 to find out more about different services and to request free information for carers and families looking after someone with cancer.



Useful websites

The internet has many useful resources, although not all websites are reliable. The websites below are good sources of support and information.

Australian

Cancer Council Australia.....	www.cancer.org.au
Cancer Australia.....	canceraustralia.gov.au
Cancer Connections.....	www.cancerconnections.com.au
Carers Australia.....	www.carersaustralia.com.au
Department of Health and Ageing.....	www.health.gov.au
HealthInsite	www.healthinsite.gov.au

International

Macmillan Cancer Support	www.macmillan.org.uk
American Cancer Society.....	www.cancer.org
US National Cancer Institute.....	www.cancer.gov



Question checklist

You may find this checklist helpful when thinking about the questions you want to ask your doctor about your disease and treatment. If your doctor gives you answers that you don't understand, it is okay to ask for clarification.

- Why do I need radiotherapy?
- What do you expect the radiotherapy to do to the cancer?
- What kind of radiotherapy treatment will I have?
- Will it be my only treatment or will I have other treatments too?
- What side effects should I expect? Will they be long- or short-term side effects?
- How long will treatment take (each treatment individually and the series of treatments overall)?
- Where will I have the treatment? Do I have the radiotherapy treatment as an inpatient or outpatient?
- Will I be radioactive? Will my partner?
- Is it safe to have sex if I'm having radiotherapy treatment?
- Will treatment interact with any other medication or vitamins I am taking?
- When will we know whether the radiotherapy treatment has been successful?
- How much will treatment cost?
- Will the cost of my treatment be covered by health insurance?
- If needed, can I get help with travel expenses or accommodation?



Glossary

You may come across new terms when reading this booklet or talking to health professionals. You can check the meaning of other health-related words at www.cancercouncil.com.au/words or www.cancervic.org.au/glossary.

abdomen

The part of the body between the chest and hips, which contains the stomach, liver, bowel, bladder and kidneys.

anaesthetic

A drug that stops a person feeling pain during a medical procedure. A local anaesthetic numbs part of the body; a general anaesthetic causes a person to lose consciousness for a period of time.

benign

Not cancerous or malignant.

brachytherapy

See internal radiotherapy.

cells

The basic building blocks of the body. A human is made of billions of cells, which are adapted for different functions.

chemotherapy

The use of drugs to treat cancer by killing cancer cells or slowing their growth.

conformal radiotherapy

A type of external radiotherapy that uses a computer to shape the radiation beams to the shape of the tumour, and delivers the beams from several different directions.

CT scan

A computerised tomography scan. This type of scan uses x-rays to create a picture of the body.

external radiotherapy

A type of radiotherapy delivered to the cancer from outside the body.

fertility

The ability to conceive a child.

fraction

Dividing the total dose of radiotherapy into several smaller doses that are delivered over a period of days.

genes

The microscopic units that determine how the body's cells grow and behave. Genes are found in every cell of the body and are inherited from both parents.

hormone treatment

A treatment that blocks the body's natural hormones, which sometimes help cancer cells grow. Also called hormone therapy.

immunotherapy

The prevention or treatment of disease using substances that change the immune system's response. Also called biological therapy.

intensity modulated radiation therapy (IMRT)

A type of external radiotherapy

in which the radiation beams are aimed from several directions, while the intensity (strength) is controlled by computers. This reduces the radiation to healthy tissues.

internal radiotherapy

A type of radiotherapy treatment that implants radioactive material sealed in needles or seeds into or near cancerous cells. Also called brachytherapy.

linear accelerator

A machine used in external radiotherapy to treat cancer.

malignant

Cancer. Malignant cells can spread (metastasise) and eventually cause death if they cannot be treated.

metastasis

A cancer that has spread from another part of the body. Also known as secondary cancer.

MRI scan

A magnetic resonance imaging scan. A scan that uses both

magnetism and radio waves to take detailed cross-sectional pictures of the body.

multileaf collimators

Moveable pieces of metal built into the head of radiotherapy machines to shield normal tissue and organs from the radiation beam.

oncologist

A doctor who specialises in the study and treatment of cancer.

palliative treatment

Medical treatment for people with advanced cancer to help them manage pain and other physical and emotional symptoms of cancer.

radiation

Energy in the form of waves or particles, including gamma rays, x-rays and ultraviolet (UV) rays. This energy is harmful to cells and is used in radiotherapy to destroy cancer cells.

radiotherapy

The use of radiation, usually x-rays, or gamma rays, to kill cancer cells or damage them so they cannot continue to grow and multiply.

selective internal radiation therapy

A type of internal radiotherapy used to treat liver tumours.

simulator

A machine that takes x-rays to pinpoint where radiotherapy should be targeted.

three-dimensional conformal radiation therapy (3D-CRT)

A type of external radiotherapy that uses computers to precisely map the location of the cancer within the body.

tissue

A collection of cells that make up a part of the body.

tumour

A new or abnormal growth of tissue on or in the body. A tumour may be benign or malignant.



How you can help

At Cancer Council we're dedicated to improving cancer control. As well as funding millions of dollars in cancer research every year, we advocate for the highest quality care for cancer patients and their families. We create cancer-smart communities by educating people about cancer, its prevention and early detection. We offer a range of practical and support services for people and families affected by cancer. All these programs would not be possible without community support, great and small.

Join a Cancer Council event: Join one of our community fundraising events such as Daffodil Day, Australia's Biggest Morning Tea, Relay For Life, Girls Night In and Pink Ribbon Day, or hold your own fundraiser or become a volunteer.

Make a donation: Any gift, large or small, makes a meaningful contribution to our work in supporting people with cancer and their families now and in the future.

Buy Cancer Council sun protection products: Every purchase helps you prevent cancer and contribute financially to our goals.

Help us speak out for a cancer-smart community: We are a leading advocate for cancer prevention and improved patient services. You can help us speak out on important cancer issues and help us improve cancer awareness by living and promoting a cancer-smart lifestyle.

Join a research study: Cancer Council funds and carries out research investigating the causes, management, outcomes and impacts of different cancers. You may be able to join a study.

To find out more about how you, your family and friends can help, please call your local Cancer Council.



Cancer Council Helpline 13 11 20

Cancer Council Helpline is a telephone information service provided by Cancer Council Victoria for people affected by cancer.

For the cost of a local call (except from mobiles), you, your family, or friends can talk about your concerns and needs confidentially with experienced cancer nurses. Helpline nurses can send you information and put you in touch with support services in your area.

If you need information in a language other than English, you can call the Multilingual Cancer Information Line (see the back cover).

Helpline is open Monday to Friday, 9am to 5pm. If calling outside business hours, you can leave a message and your call will be returned the next business day.

Cancer Council Publications

If you found this booklet helpful, you might want to request another free resource from the Cancer Council. Call the Helpline if you would like a copy of any of the following resources:

Treatment and side effects

- Understanding chemotherapy
- Complementary and alternative cancer therapies

Coping with cancer and recovery

- Nutrition and exercise
- Coping with cancer fatigue
- Life with cancer
- Sexuality and cancer
- Common questions about cancer pain
- When cancer won't go away



Cancer information in your language

For the cost of a local call (except from mobiles), you can talk confidentially to a Cancer Council nurse with the help of an interpreter.

Simply follow these steps:

- 1.** Call **13 14 50**, Monday to Friday, 9am to 5pm.
- 2.** Say the language you need.
- 3.** Wait on the line for an interpreter (may take up to 3 minutes).
- 4.** Ask the interpreter to contact Cancer Council Victoria Helpline **13 11 20**.
- 5.** You will be connected to the interpreter and a cancer nurse.

For further information and details please visit our website: www.cancervic.org.au