

# Understanding radiotherapy



This resource helps to explain radiotherapy and has tips to help you during treatment. There is some information about side effects. Side effects will differ for each person. Ask staff at your treating hospital to discuss any likely side effects of your treatment.

No resource can replace discussion with your doctor or nurse. Feel free to ask them any questions. Call **Cancer Council Helpline 13 11 20** to speak to a nurse/health counsellor for general information about radiotherapy treatment or cancer in general.

The section entitled 'Notes' on page 5 is a good place to write down questions before your treatment or appointment, jot down answers to your questions and any other useful information.

## What is cancer?

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Cancer is a disease of cells, the building blocks of the body. Normally all cells divide and reproduce themselves in an orderly and controlled manner. This allows our bodies to grow and to heal. In cancer cells get out of control and may multiply to form a lump or tumour. A tumour can cause damage to other tissues surrounding it and can interfere with how our body works. Cancer cells are malignant and can break away from a tumour and spread to other parts of the body through the bloodstream or lymphatic system. These tumours are called secondary growths or metastases.

Benign tumours do not behave the same way as cancer cells but can interfere with how our body works. They also need medical attention.

Many cancers can be successfully treated especially if they are found early. The main methods for treating cancer are:

*surgery*—removing the cancer from the body

*radiotherapy*—using high energy radiation to destroy cancer cells

*chemotherapy*—using drugs to kill cancer cells

*adjuvant treatments*—a combination of any of the above.

## What is radiotherapy?

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Radiotherapy is high-energy radiation such as X-rays and/or gamma rays used to destroy cancer cells and stop them from growing and multiplying. The terms radiation therapy, X-ray therapy, ray therapy or irradiation are also used.

There are many different types of radiotherapy and the type chosen depends on the individual patient and what type of cancer they have.

The medical speciality of treatment of cancer by radiation is called radiation oncology and the doctor treating you is a radiation oncologist.

## Where would you be treated?

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Radiotherapy requires specially trained staff and very expensive equipment. Radiotherapy departments are located in large regional and teaching hospitals and some private hospitals.

## How does radiotherapy work?

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Radiotherapy targets a specific area of the body. It can kill cancer cells in the area of the body being treated because cancer cells are more sensitive to radiation than normal cells.

Treatments are planned to minimise damage to healthy cells. Most normal cells in the treated areas will repair themselves, but it's important to ask the doctors about any possible permanent side effects caused by radiation.

## How is it used in treating cancer?

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For some kinds of cancer, radiotherapy alone is enough to destroy the cancer. In other cases, it is used with surgery and/or chemotherapy. This is called adjuvant treatment.

Sometimes it is used before surgery to 'shrink' a cancer or after surgery to stop cancer cells from growing again. Radiotherapy can also help with cancer symptoms by reducing pressure, bleeding or pain.

## How is radiotherapy given?

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There are two main types of radiotherapy:

- external radiotherapy
- internal radiotherapy.

# External radiotherapy

External radiotherapy is produced by a linear accelerator, deep therapy or superficial therapy machine. It is painless and is similar to having an X-ray. Some machines are better at treating cancers near the surface of the skin, while others are used to treat cancers deeper in the body. These machines may make noises something like a vacuum cleaner and are moved up and down and around you so that the radiation can be directed at the tumour from different angles. The machines are operated by trained staff called radiation therapists.

It is normal to feel anxious, especially at the first treatment but try to relax and talk to the nurses and doctors if you are finding it hard. You'll get to know the staff and procedures at the treatment centre and will feel more at ease.

## Your first visit

During your first visit with the radiation oncologist, they will look at your records, talk about your general health and examine you. The radiation oncologist will discuss how radiotherapy will help you and what type of radiation is recommended for you. Other tests may be ordered to give the radiation oncologist more information about the cancer.

It is helpful to have a family member or friend at the consultation. It is a good time to ask questions and discuss any concerns.

## What is planning?

Planning usually occurs on your second visit—it is the essential preparation for your treatment. During planning, an X-ray or CT scan is taken on a special machine called a simulator. Staff find a comfortable position for your treatment and record measurements.

The amount of radiation and how it is given depends on what type of cancer you have, the area being treated, your body's response and your size.

Once treatment is prescribed, tiny dot-like marks (tattoo like) are put on your skin with ink that cannot be wiped off. This shows the exact areas that need to be treated.

Sometimes special equipment is used to make sure you are in the same position each time. For instance, if your treatment is on your face or neck, a perspex mask called a shell will be made during planning. This is worn during every treatment. The mask is not uncomfortable and you can hear, speak and breathe normally while wearing it.

During planning you will meet the radiation therapists who deliver your treatment. Sometimes changes will be made to your treatment plan along the way. You may also meet the radiation oncology nurse, who can help to answer questions about the treatment and any side effects.

## How long is a course of treatment?

Treatment varies from one single dose to between 30 and 37 doses. Treatments are usually given once a day, Monday to Friday, to reduce the effects of radiotherapy on healthy cells. The treatment period may be up to 6–8 weeks,

depending on the total dose needed. Some treatments are given only once or twice a week but each person's treatment will be different.

## Will the treatment be painful?

Radiotherapy is not painful. A radiation therapist will take you to the treatment room where you will be positioned on a table beneath the machine, using the marks on your skin as a guide. While the machine is operating, the therapist will be watching you through a window or TV monitor and an intercom is usually available.

Nobody will be allowed to stay with you whilst the treatment machine is on.

It is important to breathe normally and lie as still as possible, as this ensures the treatment is accurate. The machine is only turned on after the therapists have made sure you are in the correct position. The actual treatment usually takes a very short time—a few minutes at most.

## Will I be radioactive?

No. External radiotherapy does not make you radioactive. It is safe to be with your children, family and friends throughout the treatment and after the treatment is finished.

# Internal radiotherapy

Internal radiotherapy (also known as brachytherapy) involves placing an implant of radioactive material such as iridium into the body, close to the cancer.

Radiotherapy with implants is most commonly used to treat cancers of the prostate, uterus, cervix, soft tissue and sometimes mouth and neck.

Your doctor and nurse will tell you about any specific requirements or side effects of your treatment. If unsure ask them.

## How is the implant placed in my body?

Implants are made from different radioactive materials and come in different shapes. The type of implant you'll have will depend on what type of cancer you have.

Sometimes, brachytherapy or internal radiotherapy is a capsule or an injection of a very small amount of fluid into a vein or a body space such as a joint. Or radioactive material may be put into your body through an applicator. Treatment takes approximately 5–10 minutes.

Some implants have to be done in hospital under an anaesthetic. You may need to be in hospital for several days.

## How long will the implant stay in my body?

Most implants are left in place from one to six days—you may stay in hospital for this time. With some cancers (e.g. prostate cancer) an implant may be left in place permanently. Other inserts (e.g. iridium) may be in place for a few minutes.

## Will the implant be painful?

You should not have severe pain or feel ill during implant therapy. If your implant is held in place by an applicator, you may feel uncomfortable. Tell your doctor if you are uncomfortable.

## Will I be radioactive?

Your implant may send some radiation outside your body. This is why hospitals do not let children under 18 years of age, pregnant women or women who might get pregnant to visit people with implants.

Once the implant is removed all radioactivity goes. If you have a permanent implant, you may need to stay in an isolated room in the hospital for the first few days while it is most radioactive. The implant becomes less radioactive each day, so by the time you are ready to go home, radiation in your body will be very weak. You will be checked thoroughly before you are allowed to go home.

## Possible side effects

Radiotherapy can sometimes affect normal tissue, causing side effects. These side effects do not happen to everyone. It will depend on the person, the cancer, how much radiation you're given and which part of your body is being treated. Side effects usually appear after you are well into your treatment. Talk to your doctor, radiation therapist or nursing staff at the treatment centre and they will help you manage them.

Most side effects are temporary. Tell your doctor and nurse about them, as they can be treated. Side effects may continue for some weeks after your treatment is finished while the cells return to normal.

The most common side effects of radiotherapy are tiredness, skin problems and loss of appetite. Other problems can occur, however they are specific to the area that is treated—discuss them with your doctor.

Some effects of radiotherapy may be more severe if you are also having chemotherapy.

## What can I do about tiredness?

Your body uses a lot of energy to fight the cancer and to rebuild normal cells. This can cause you to tire easily. Moderate daily exercise (like walking) can help you with your tiredness. Discuss with your doctor about what is best for you.

You may want to try quieter activities such as handicrafts, relaxation techniques or reading. If you feel tired on waking or are not sleeping well at night, tell your doctor or nurse.

If you are working consider talking to your employer about taking some time off or reducing your working hours throughout treatment.

Many people benefit from a break from their work and other responsibilities after finishing radiotherapy, as this is when any side effects and tiredness can be worse.

## Skin problems

Some people develop a skin reaction while having treatment. Sometimes the skin on the area being treated may look red and irritated, like sunburn. This is normal and usually clears up within seven to ten days after completing treatment.

Your skin will be more sensitive than usual to the sun. Keep treated areas out of the sun during and after treatment. Ask your doctor about using a sunscreen on treated areas.

Tips to make you comfortable:

- wear soft loose clothing—avoid tight clothing, tight fitting collars or belts over the part of your body being treated
- do not scrub or scratch the treated area—try not to wash off the treatment guide marks made at the beginning of your treatment
- check with your doctor before using soap, perfume, deodorant, talcum powder, creams or cosmetics on the treated area
- do not put hot-water bottles or ice packs on the treated area
- if you need to shave the area being treated use an electric razor.

## Hair loss

You may lose some or all of your hair over the area being treated. Hair on your face/body tends not to grow back while hair on the head may grow back slowly.

If you have lost or are losing hair from your head you may wish to wear a wig, hair piece or turban for a while. Contact the welfare worker, social worker or nurse in the treatment centre who will be able to help you. If you have private health insurance, staff there will provide information on rebates for wigs. You can call **Cancer Council Helpline 13 11 20** for more information.

## Loss of appetite

Depending on the treatment site, you may lose interest in food or find eating difficult. The doctor or hospital dietician can help if you have problems with loss of appetite, nausea, eating or weight changes. Eating a healthy and varied diet is important throughout radiotherapy as it will help repair normal cells damaged during treatment.

It is important to maintain your weight. Talk to your doctor if you are overweight, as it may not be best to try to lose weight until you have finished all treatments.

Helpful hints for loss of appetite:

- eat when you are hungry, even between mealtimes
- eat smaller meals more often i.e. six small meals a day

- keep nutritious snacks like fresh and dried fruit and vegetables, cottage cheese, milk and fruit juices handy for when you feel like eating something
- vary your diet and try new recipes
- create a pleasant dining atmosphere, use soft lighting, quiet music or brightly coloured table accessories
- eat with family or friends, or if eating alone, turn on the radio, television or music for company
- eat more on days when you do feel like eating
- buy some canned or fresh fruit, juices or dairy foods, they make well-balanced and easy-to-make meals when you are not feeling up to cooking
- drink plenty of fluids.

If these suggestions don't help, talk to your doctor, nurse or dietician or call **Cancer Council Helpline 13 11 20** Monday to Friday 8:30 am – 8:00 pm to talk with a nurse/health counsellor.

## Nausea and diarrhoea

If you're having radiation treatment to the stomach or abdominal area, you may get an upset stomach, diarrhoea, nausea or vomiting. Let your doctor, radiation therapist or a nurse know if you have any of these as there are medications that can help especially if they're taken just before each treatment.

Radiotherapy to any part of the body can cause nausea. If you don't feel well after radiotherapy, try not eating for a few hours before your next treatment. If your stomach is upset before radiotherapy, try eating light meals (toast, dry biscuits and juice) before your treatment.

Check with your doctor, radiation therapist or nurse before taking anything not prescribed by your doctor, during your treatment.

## Face, mouth and neck problems

If you are having radiotherapy to your face, mouth or neck, your mouth and throat may become dry and sore and you may notice changes in the taste of food. Your voice may become hoarse or husky. Most of these usually settle down after your treatment is finished. Your taste will often return to normal but it might take some weeks. Dryness in the mouth may be permanent.

You will be asked to see a specially trained dentist, who will advise you about tooth and mouth care during and after your treatment. The doctor, radiation therapist and nursing staff can also help if you have any problems. It is good to ask questions if you are unsure.

## What about check-ups and follow-up care?

After treatments you will be told of any follow-up visits. It is normal to have one or more visits to the radiation oncologist. The follow-up visits are to check the effectiveness of treatments and any problems you may be having. The number of check-ups will vary for each person but will become less frequent.

If you have any problems between check-ups contact your treatment centre or doctor. The doctor who referred you to the radiation oncologist will receive a complete report on your treatment and will discuss it with you when you visit.

## Getting to and from treatments

Radiotherapy is usually given on an outpatient basis. You will need to travel to and from hospital regularly. If you're not feeling well, you may need to get a friend or neighbour to drive you. Check with the doctors, nurses, social worker, welfare worker or call **Cancer Council Helpline 13 11 20** for more information about transport.

## Your feelings

Having treatments for cancer can cause many different emotions. Some people report feeling 'down' or nervous, others just unsure of what to expect.

The changes in your everyday life can make you feel different about things. It's normal to feel this way. There are people who can help you cope with the emotions.

It may help to talk to someone you feel comfortable with, such as a doctor, nurse, social worker, chaplain or family and friends. Counselling is available from many providers including Cancer Council SA. Call **Cancer Council Helpline 13 11 20** to talk with a nurse/health counsellor. It may also be helpful to talk to a clinical psychologist. Talk to your doctors about a referral.

Some people find meditation or relaxation exercises help them to feel better. You can ask your doctor or nurse about ways to relax. Yoga, meditation or other relaxation exercises can be helpful. Books and short courses are available on these subjects. *How can I relax?* is a booklet available from **Cancer Council Helpline 13 11 20**.

## Relationships and sexuality

Having treatment for cancer can change the way you feel about yourself and about your partner. Some people find the experience of cancer draws them closer together while others feel no different. Some are people are less interested in intimacy and sex while others feel a greater need.

It is difficult to predict how you may feel during and after treatment. If you are worried about possible changes to your body talk about them with your partner. Open



## Helping yourself during treatment

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Try to maintain as normal a lifestyle as possible. Keep as physically fit as you are able. Maintain a healthy and varied diet.

It is important to tell your doctor and pharmacist about any other medication, pills (like vitamins) or drugs that you are taking.

Complementary therapies can improve your well-being. They are used together with conventional medical treatments. They are not used to treat cancer. Some complementary therapies, such as relaxation or visualisation and imagery techniques, can help you cope with side effects and feel more in control. They also distract you from waiting room annoyances or delays. Staff at your hospital or local community health centre may be able to help you with this.

Plan easy-to-cook meals which can be prepared in advance. Or contact the social worker at your treatment centre for help. If you need help caring for young children investigate child and day-care groups in your area or discuss your needs with nearby relatives and friends who may be willing to help.

You may be able to get someone to help with the laundry and household chores on a regular basis. Check with your hospital social worker, welfare worker or **Cancer Council Helpline 13 11 20**.

## Help is available

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Your doctor or nurse can refer you to a wide range of allied health professionals such as dietitians, physiotherapists and social workers, if needed. Social workers can provide help with personal, family and financial problems. They are available in hospitals, community health centres, domiciliary care services and through **Cancer Council Helpline 13 11 20**.

The Royal District Nursing Society, Domiciliary Care Services and other community agencies can provide essential services such as nursing, other professional services and home help to people in their own homes.

You might like to join a cancer support group to meet other people who have faced the same or similar issues. Other groups such as the *Look Good... Feel Better* workshops or meditation groups teach practical skills to help you cope with your treatment.

## For more information

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Contact **Cancer Council Helpline 13 11 20** to talk with a nurse/health counsellor.

Cancer Council SA  
202 Greenhill Road, Eastwood 5063  
PO Box 929, Unley BC SA 5061  
t 08 8291 4111 f 08 8291 4122  
chl@cancersa.org.au www.cancersa.org.au

Services are available at no charge to all patients, relatives or friends, Monday–Friday, 8.30 am to 8.00 pm.

Other resources produced by Cancer Council SA are:

About cancer

About chemotherapy

About surgery

Cancer information on the internet

Caring for the person with advanced cancer

Clinical trials

Emotions and cancer

Guide for partners of women with breast cancer

Guide to cancer services in Adelaide

Hair loss

How can I relax?

I want to help

Complementary therapies and cancer

Meeting the challenge of advanced cancer

Nutrition for people having cancer treatment

Oral health during cancer treatment

Questions you might like to ask your doctor

Sexuality for men with cancer

Sexuality for women with cancer

Skin care during cancer treatment

Understanding and controlling cancer pain

What About Me? (for children when a parent has cancer)

What do I eat now?

When a parent has cancer: how to talk to your kids

When you're diagnosed with cancer

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