

# Understanding Radiation Therapy

*A guide for people affected by cancer*

**This fact sheet has been prepared to help you understand more about radiation therapy, a treatment offered to some people with cancer.**

## What is radiation therapy?

Radiation therapy uses targeted radiation to kill or damage cancer cells. Radiation therapy generally affects only the area being treated. It can be used to treat early cancer or advanced cancer.

In English, this treatment is called “radiation therapy” or “radiotherapy”. It is prescribed by a specialist called a radiation oncologist, and the treatment is given by radiation therapists.

## Why have radiation therapy?

Radiation therapy is used for different reasons including to:

**Reduce or cure cancer** – Radiation therapy can cure some cancers. It can also make some cancers smaller or stop them from spreading.

**Help other treatments** – Radiation therapy can be used before, after, or with other treatments, like chemotherapy or surgery.

**Relieve symptoms** – If the cancer can’t be cured, radiation therapy can help reduce symptoms and make you feel better.

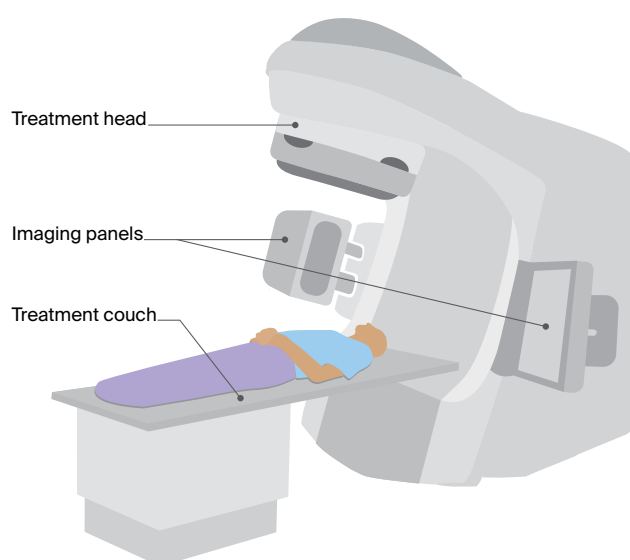
*“The actual treatment took only a few minutes each visit. I didn’t find it hard to keep still, as the therapists positioned me very well and I was kept in place with a mould shaped like a wedge.”* JACKIE

## How is radiation therapy given?

Radiation therapy is given in 2 main ways – from outside the body or inside the body. You may have one or both types of radiation therapy, depending on the cancer type and other factors.

**External beam radiation therapy (EBRT)** – This is like having an x-ray. You lie on a table while a machine moves around you and aims radiation beams at the cancer (see illustration below). The treatment only takes a few minutes, but getting everything ready can take longer.

**Internal radiation therapy** – Brachytherapy is the most common type of internal radiation therapy. It involves placing sealed radioactive implants (seeds, wires or capsules) inside the body, close to or inside the cancer. The implants give off radiation that damages or kills cancer cells while limiting how much radiation reaches nearby tissues and organs.



This is a general illustration of a linear accelerator (LINAC), which is the most commonly used machine for delivering EBRT. The LINAC used for your treatment may look different.

### How many treatment sessions will I have?

Radiation therapy treatment is tailored to each person. The number of sessions needed depends on the type of cancer, where it is, its size and the person's general health. Some people will need only one treatment, while others will need radiation therapy 5 days a week for several weeks.

If brachytherapy treatment is used, the implants may be left in place for a few minutes, a few days or permanently.

### Does radiation therapy hurt?

**External beam radiation therapy (EBRT)** – You won't feel anything and the machine does not touch you. You may hear a buzzing sound when the machine is on. It is safe to be in contact with other people when you are having treatment.

**Brachytherapy** – You may need to have a local or general anaesthetic. You should not have any severe pain or feel ill during a course of brachytherapy. If you do experience some pain, your doctor can prescribe medicine to help. People with temporary implants may need to stay in hospital while the source is in place. During this time, visits from family and friends may be restricted to protect them from potential radiation exposure.

*“The nurses gave me cream and gel to put on the skin of the treatment area. I used it every day as soon as treatment started and for a short time after it finished. I developed dark marks that looked like burns, but most of them have faded.”* JACKIE

### Side effects of radiation therapy

Many things can affect the side effects you may have, including the type and dose of radiation therapy and the body part treated. Talk to your cancer treatment team if you have any side effects.



#### Fatigue (tiredness)

The most common radiation therapy side effect, fatigue builds up during treatment and can last months after treatment ends.



#### Skin changes in treatment area

Radiation therapy may make skin in the treated area dry, itchy and flaky. Sometimes skin can become quite irritated.



#### Hair loss in treatment area

If you have hair in the area being treated, you may lose some or all of it. Usually it will grow back after treatment ends.



#### Bowel and bladder changes

Radiation to the pelvic area can cause loss of bladder control, diarrhoea and discomfort when passing urine or faeces.



#### Appetite loss and nausea

Radiation therapy to the abdomen, pelvic region and head can make people feel sick or lose interest in food.



#### Lymphoedema

This is when fluid builds up under the skin and causes swelling. Having radiation therapy after surgery increases the risk.



#### Mouth and throat problems

Radiation therapy to head, neck or chest can cause changes in taste, difficulty swallowing and a dry mouth.

Side effects are often temporary and can usually be treated. Some side effects may last longer or show up after treatment ends. Your doctor can help you manage long-term or late side effects.

### What is chemoradiation?

Chemoradiation is when someone has radiation therapy at the same time as chemotherapy. The chemotherapy drugs make the cancer cells more sensitive to the radiation. Having radiation therapy and chemotherapy together can be more effective for some cancers. You may have chemotherapy and radiation therapy at different times on the same day or on separate days.

The side effects of chemoradiation will vary depending on the chemotherapy drugs you have, the dose of radiation, the part of the body being treated and the length of treatment. Talk to your treatment team about what to expect and how to manage any side effects.

► See our *Understanding Chemotherapy* fact sheet in your language.

### Does radiation therapy affect fertility?

The risk of infertility (difficulty getting pregnant) will depend on the area of the body treated, the dose of the radiation and the number of treatment sessions.

If infertility is a possible side effect, your radiation oncologist will discuss it with you before treatment starts. Let them know if you think you may want to have children in the future and they will talk to you about the options.

### Questions to ask your doctor

Asking questions can help you make an informed choice. Questions you may want to ask are:

- Why do I need radiation therapy?
  - What are the advantages and disadvantages of radiation therapy for me?
  - How successful is radiation therapy for the type of cancer I have?
  - What kind of radiation therapy will I have?
  - How long will treatment take? How will it be given?
  - Where can I have this treatment?
  - What are the risks and possible side effects of radiation therapy?
  - Is it safe to have sex during radiation treatment?
- For more questions, see our *Questions to Ask Your Doctor* fact sheet in your language.

### Where to get help and information in your language



- **Call Cancer Council 13 11 20.** We can connect you with interpreter services and provide resources in your language.
- **Call TIS National on 131 450.** This is a free interpreting service that can connect you with an interpreter you can use for your medical appointments or to contact Cancer Council.

- **How to find this resource in English and other languages.**  
Visit our multilingual hub at [cancercouncil.com.au/multilingual](https://cancercouncil.com.au/multilingual) or scan this QR code.



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### Acknowledgements

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See our [website](#) for the list of expert and consumer reviewers for this fact sheet.

### Note to reader

Always consult your doctor about matters that affect your health. This fact sheet is intended as a general introduction and is not a substitute for professional medical, legal or financial advice. Information about cancer is constantly being updated and revised by the medical and research communities. While all care is taken to ensure accuracy at the time of publication, Cancer Council Australia and its members exclude all liability for any injury, loss or damage incurred by use of or reliance on the information provided in this fact sheet.

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Cancer Council NSW acknowledges Traditional Custodians of Country throughout Australia and recognises the continuing connection to lands, waters and communities. We pay our respects to Aboriginal and Torres Strait Islander cultures and to Elders past and present.

