

## Information for patients:

### A guide to radiotherapy simulation (radiation planning)



This information sheet provides general information about radiotherapy simulation. The radiotherapy treatment you will be having is worked out to suit you. If you have any questions about your radiotherapy it is best to speak to your radiotherapy treatment team.

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### What is radiotherapy simulation?

It is when the radiotherapy team works out how your body will be positioned to have radiotherapy.

- Simulation is not the same as radiotherapy and it is done before radiotherapy starts. It is called a simulation or planning appointment.
- During this appointment the radiotherapy team will determine how your body will be positioned. This position will be the same for each day of your treatment.
- Sometimes special props or equipment will be used or made to help you stay in position.
- If the position is too uncomfortable to stay in for 20 minutes tell the radiotherapy team.
- When you are in a suitable position an imaging scan is usually taken. This is called a planning scan.
- Important information and measurements of your body and the area to be treated with radiotherapy is collected by the radiotherapy team. They may take photos of the position you are in.
- This information is then used to plan exactly how to deliver your radiotherapy treatment.
- You may have marks made on your skin. These may be temporary and made with marker pen or special stickers, or permanent (tattoos). These are used as reference marks to position you correctly for each treatment.



### Important information

**BEFORE** your planning simulation scan tell your radiotherapy team if you:

- are pregnant or if there is any chance that you may be pregnant.
- have an implantable cardioverter device (ICD) or pacemaker.
- have implanted metal or devices such as prosthetic hips or metal plates.

### Do I need to prepare for radiotherapy simulation?

- Your radiotherapy team will tell you if you need to do anything to prepare for the simulation appointment.
- At the appointment, you may be asked to change into a gown. You may also be asked to remove dentures, hearing aids or metal objects such as jewellery and hair clips.

## Will I feel claustrophobic or nervous?

- Some people may feel claustrophobic or nervous before or during their radiotherapy simulation. Talk to the radiotherapy team about this and ask them to explain what is happening.
- They can support you by giving you some options that may help. This may include:
  - listening to music or podcasts.
  - breathing exercises or meditation.
  - medication prescribed by your doctor.

## Who is at the radiotherapy simulation?

Health professionals that are part of the radiotherapy team will be present at your radiotherapy simulation appointment. The radiotherapy team includes:

<b>Radiation oncologist</b>	Doctors that specialise in radiotherapy. They plan and manage your care during radiotherapy.
<b>Radiation oncology registrar</b>	Doctors training to specialise in the field of radiotherapy.
<b>Radiation therapist</b>	Allied health professionals trained in radiotherapy. They work with radiation oncologists to plan and deliver radiotherapy.
<b>Radiation oncology nurse</b>	Nurses trained in caring for patients undergoing radiotherapy.

Other professionals that may be involved in your care include social workers, dietitians, occupational therapists, speech therapists, psychologists and physiotherapists.

## Tattoos

### What are tattoos?

- Radiotherapy tattoos are permanent dots placed on your skin. They are about the size of a small freckle.
- They are used as reference marks to position you correctly for each treatment.
- The tattoos may not be in the same area of your body receiving radiotherapy.
- They are usually dark blue or black in colour. Sometimes they can be made with special ink that cannot be seen under normal light.
- Tattoos do not wash off; so you can shower and wash as normal during treatment.
- Speak to your radiotherapy team about what other options may be available if you do not want to have tattoos.

### How are tattoos made?

- The radiation therapist will place a small amount of ink on your skin and use a small needle to prick the skin.
- You may feel a pin prick when this is done.



## Imaging scan (planning scan)

### What is the imaging scan?

The imaging scan is used to plan your radiotherapy.

- It gives a detailed picture of the part of your body to be treated. It includes the tumour or the area where the tumour was before surgery or other treatments, as well as any surrounding internal organs.
- It is usually a CT or MRI scan. A CT scan uses x-rays and an MRI scan uses electromagnetic radiation to make an image of your internal body.
- These images are only used for radiotherapy planning and do not give other information. You will not receive a result letter for this imaging scan.
- You may have other imaging scans such as PET (positron emission tomography) or MRI before or after your radiotherapy simulation. Usually these scans alone cannot be used for radiotherapy planning as they don't have the correct position for your radiotherapy.

### What happens during the imaging scan?

- Once you are in the proposed treatment position the radiotherapy team will leave the room and take the imaging scan.
- The radiotherapy team will watch you through a window or on a video monitor from outside the room. They can hear you and will be able to speak to you via microphones and speakers if needed.
- Sometimes during the scan you may be given special breathing instructions.
- It is important to lie still during the scan.
- The bed will move during the scan and you will hear the scanner making whirring or thumping sounds.
- The imaging scan usually takes 1-2 minutes, but can take up to 15 minutes.



### Important information

- You will not see or feel anything during the scan.
- The scan does not hurt.
- The scan will not make you radioactive.
- You are NOT being given treatment during the imaging scan.

## Contrast

- Some people may need to have contrast (dye) for their imaging scan.
- Contrast can be given in a number of ways including through a vein (IV contrast) or swallowed (oral contrast). The way it is given depends on the area being scanned.
- If you need contrast for your scan the radiotherapy team will tell you before your appointment.
- Tell the radiotherapy team if you have had a reaction to contrast in the past.

### When is my radiotherapy simulation appointment?

- Your radiotherapy simulation appointment comes after your initial appointment with your radiation oncologist (specialist doctor). The radiotherapy team will contact you to give you an appointment for simulation.
- It is usually on a different day to your initial appointment with the radiation oncologist. Sometimes it is on the same day.
- If you live a long way from the treatment centre ask the staff if it is possible to have the appointments on the same day or close together to minimise travel.

### How long does radiotherapy simulation take?

- The appointment usually takes 30 minutes to an hour.
- The majority of this time is used to set you up in your treatment position and record this information.
- Some people will also get information and education about their radiotherapy treatment on this day. This may make your appointment longer.

## What do I need to bring?

Items you may need to bring with you include:

- Medicare or any concession cards that you may have
- any relevant imaging scans
- a list of your current medications and allergies
- your device information ID card if you have a pacemaker or an implantable cardioverter defibrillator (ICD).

Ask the radiotherapy team if there is anything else they need you to bring.

## What happens after radiotherapy simulation?

- There may be days or weeks between your radiotherapy simulation and the start of your treatment.
- This is when your radiotherapy team uses the information from the radiotherapy simulation and plans the treatment that is tailored to you. It is a very detailed and complex process. This is called treatment planning.
- You do not need to attend the radiotherapy department for treatment planning.
- Sometimes you may also need to have other imaging scans and appointments, for example MRI or PET scans. Your radiotherapy team will tell you if these are needed.

## When do I start radiotherapy treatment?

- The radiotherapy team will contact you and tell you when your radiotherapy is to start.
- Sometimes this information is given to you at your simulation appointment.
- Ask your radiotherapy team when you will be given your radiotherapy treatment appointment schedule.



### Things to ask your radiotherapy team

- How long will my appointment go for?
- What problems should I tell you about?
- Do I need to do any preparation before my radiotherapy simulation or treatment?
- What do I need to bring with me?
- Is there any parking, and how much does it cost?
- Is there anything I need to do after my radiotherapy simulation?
- When will I be given my radiotherapy treatment start date and future appointments?
- How do I contact the radiotherapy department?
- Who do I talk to if I have any questions or concerns?



### Cancer information and support resources

eviQ Cancer Treatments Online – [eviQ.org.au](http://eviQ.org.au)

Cancer Council Australia – visit [cancer.org.au](http://cancer.org.au) or call 13 11 20

Cancer Australia – [canceraustralia.gov.au](http://canceraustralia.gov.au)

Carers Australia – [carersaustralia.com.au](http://carersaustralia.com.au)

Beyondblue – [beyondblue.org.au](http://beyondblue.org.au)

Targeting Cancer - [targetingcancer.com.au](http://targetingcancer.com.au)



### Quit smoking information and support

Quitting smoking is helpful even after you have been diagnosed with cancer. The following resources provide useful information and support to help you quit smoking. Talk to your doctor, nurse or pharmacist about any other questions you may have.

Call Quitline on 13 QUIT (13 78 48)

iCanQuit – [iCanQuit.com.au](http://iCanQuit.com.au)

Quitnow – [quitnow.gov.au](http://quitnow.gov.au)