

Computed Tomography (CT)

What is a CT scan?

A computed tomography (CT) scan is a medical imaging tool used to visualise areas of interest within your body. The machine is commonly known as the “doughnut”. It uses x-rays and digital computer technology to create detailed cross sectional (slices) and/or three-dimensional images of your body that a doctor would like investigated. CT scan images show a greater amount of detail compared with plain x-ray, which can only create two-dimensional images of the body.

A CT scan does use higher doses of radiation than a standard x-ray because multiple x-ray images are taken in a very short time.

Why would I need a CT scan?

Your healthcare professional may request a CT scan for many reasons. They are used not only to diagnose disease and injuries, but also for with surgical planning and treatment. Any region or organ within your body can be scanned. Examples include:

- Tumours, infections and blood clots can be demonstrated
- Liver masses, cancer, heart disease and lung nodules can be diagnosed and monitored for progression
- Trauma imaging (checking for injuries)
- Muscle and bone disease/injuries
- Look at the structure of your body
- Needle guidance

How to prepare for a CT scan?

A Heart of Australia staff member will contact you to set up an appointment time for your scan. There are different preparations required depending on the region being scanned and your personal medical requirements. CT scans are done differently depending on the person and reason for the scan, so your preparations may be different compared with somebody else’s too. You will be guided during the booking call regarding what preparations you may be required to follow. Different preparations may or may not include:

- Fasting
- Drinking water
- Having a blood test
- Avoiding caffeine
- Blood pressure medication
- Remove all metal (e.g. jewellery, belts, shirts with metal buttons)

What happens during a CT scan?

When you arrive on the truck, the radiographer will discuss with you if there is a need for a contrast injection. CT contrast is not radioactive. CT contrast may be needed to be used to

assist with differentiating between the soft tissue organs during the scan. A CT contrast consent form will be completed with the assistance of the radiographer. If contrast is being used, they will insert a cannula.

They will also explain that during the injection you may or may not feel one or all of the following:

- a hot flush
- a metallic taste in your mouth
- the sensation you have wet yourself (but don't worry – you haven't)

Depending on the area being scanned, you are positioned on the CT table accordingly by the radiographer.

The machine or radiographer may give you breathing instructions to follow during the scan. The CT table will move you in and out of the doughnut.



While the CT table is moving, the doughnut will move in a circular motion around you, taking x-rays which are transferred to a computer and used to create the images.

It is very important to lay very still during your scan. The CT is sensitive to movement, the same as a camera. If there is movement, the images are blurry.

All CT scans are relatively quick procedures.

What are the risks with a CT scan?

A CT scan does use ionising radiation (x-rays). This type of radiation is linked with cancer. You are at a heightened risk if you have multiple CT scans. Children are more sensitive to this type of radiation. CT scans should only be used when the benefits outweigh the risks.

CT scans are best avoided in pregnancy.

There are risks associated with CT contrast injections. Some patients are allergic and have a reaction. Symptoms may or may not include:

- Rash
- Nausea
- Sweating
- Itchiness
- Difficulty breathing
- Full anaphylaxis

It is important to fully discuss your allergy history, particularly if you are allergic to iodine, with your doctor as well as the radiographer prior to your CT scan.

Some patient's kidney function may be affected by the CT contrast injection. It is important to fully discuss your current and prior kidney function history, as well as if you are diabetic, with your doctor, the bookings team, and the radiographer prior to your scan.