



CT scans with or without contrast

Patient information sheet

Please read this information prior to having a computed tomography (CT) scan. If you have any questions or concerns, speak to medical imaging staff.

What is a CT scan?

The CT scan is a medical imaging procedure that uses x-rays and computer technology to create cross-sectional pictures of the body. These images look like 'slices' of the body, showing bones, blood vessels and soft tissue.

Before or during the scan, you may have an injection or drink of contrast, which is a clear liquid containing iodine. This helps to highlight areas of your body.

How do I prepare for the scan?

You will be given instructions on how to prepare for your scan when you are booking. It is important to tell healthcare staff if you:

- are pregnant or think you may be pregnant
- have previously had a reaction to a CT contrast injection
- have allergies
- have asthma, kidney or thyroid disease or diabetes.

On the day of your appointment, the procedure will be explained and you will have an opportunity to ask questions.

If you are feeling anxious or claustrophobic (afraid of small or confined spaces), talk to the radiographer or nurse about how you are feeling. They can give you some tips to make you feel better and speak to you during the scan.

If you are having contrast, the staff will complete a CT contrast patient checklist with you.

You will be asked to drink a clear or white fluid before the scan (oral contrast) or a small needle will be inserted into your arm (intravenous contrast).

Please drink plenty of fluids 24 hours before and after the scan.

Who performs the scan?

CT scans are performed by a radiographer, nuclear medicine technologist or radiation therapist in the Medical Imaging Radiology or Nuclear Medicine Department. Nurses and other staff may assist with the scan and preparation.

What is a contrast injection like?

During or immediately after a contrast injection, you may feel:

- a warm, flushing feeling in your body or around your abdomen/groin for about 20 seconds
- a warm sensation around your bladder which may make you feel as if you are passing urine
- a metallic taste in your mouth.

If contrast is injected into your arm, it may leak into the tissues near the needle. This may cause slight pain and swelling, but can be treated with compresses. Please tell staff if this occurs.

Most patients don't have side effects from the injection. Any side effects are usually mild and short-lived.

Please contact your doctor or the Medical Imaging Department if any reactions occur.

Are there any risks?

CT scans use x-rays, which carry a very small radiation risk. The radiation exposure is kept to a minimum, and the benefit of the scan is considered to be much higher than the risk.

It is possible, but very rare, to have a reaction to the contrast.

Mild contrast reactions

(occur in up to 1 in 100 patients)

Flushing, nausea, itchy skin, vomiting, headache and mild rashes. These may be delayed allergic reactions and could occur within hours or up to a week after the scan. They usually go away without any treatment.

Moderate contrast reactions

Severe vomiting, rashes, tightness in the chest, shortness of breath, facial/throat swelling and feeling faint.

Severe contrast reactions

(occur in less than 1 in 100,000 patients)

Shock, stopping breathing (respiratory arrest), cardiac arrest, abnormal heart rhythms and convulsions. These reactions very rarely occur more than one hour after the contrast is given.

What happens during the scan?

Staff will position you on a narrow table, near the CT machine. The scanner looks like a large circle or doughnut, with an x-ray tube rotating within it.

Once you are laying on the table, the staff will leave the room. You can speak to each other through an intercom system.

During the scan, the table slides into the CT machine and you will hear a mechanical noise as the machine operates. You should remain as still as possible. You may be asked to hold your breath for a short time.

The whole procedure is painless and usually takes 15–30 minutes.



Example CT scan image of the abdomen

What happens after the scan?

Most people leave either immediately after the scan (if no contrast is given) or 15–30 minutes after the scan (if you have a contrast injection).

If you had contrast injected during the scan, it is normally passed out in the urine when you next use the toilet. Please drink plenty of water in the 24 hours after the scan.

If you stopped taking medicines for this procedure (e.g. diabetic patients), you will be told by the staff when you can restart taking these.

The scan results are reported by a radiologist or nuclear medicine physician. A report will be sent to your doctor.

More information

Your healthcare team is there to support you and answer any questions.

You can also see the following websites:

- The Royal Australian and New Zealand College of Radiologists – www.insideradiology.com.au or www.ranzcr.com
- The Australian Radiation Protection and Nuclear Safety Agency – www.arpansa.gov.au

Published Mar 2020. Next review 2025. ACI/D20/476
© State of NSW (Agency for Clinical Innovation) CC-ND-BY