



What is a CT?

CT stands for computed tomography. It is an advanced imaging technology which uses many x-rays taken from different angles of a part of the body. These images are combined by a computer to produce cross-sections of internal organs and 3D images. CT scans are typically used to evaluate internal organs of the head, chest, abdomen or pelvis. It is also useful in evaluating bone pathology, including tumours and fractures.



CT imaging can be compared to looking into a loaf of bread by cutting the loaf into thin slices. When the image slices are reassembled by computer software, the result is a very detailed multidimensional view of the body's interior.

Radiologists are able to study these slices and interpret the area of interest, allowing the Clinician to look at it from the inside. When considered, this is revolutionary as previously Clinicians could have only seen similar detail through surgery.

The key features that determine the quality of the image are the number of slices taken in one rotation, the thinness of each slice (the thinner the slice, the greater the resolution) and the speed of the rotation of the x-ray. The greater each of these factors the better the image, the better the

examination and the better the diagnosis.

Refinements in detector technology allow new CT scanners to obtain multiple slices in a single rotation that allow thinner slices to be obtained in a shorter period of time, resulting in more detail and additional view capabilities. These scanners are called multislice CT.

Modern CT scanners are so fast that they can scan through large sections of the body in just a few seconds and even faster in small children. Such speed is beneficial for all patients but especially children and elderly patients. At Allied Medical Center we have a 64-slice low dose CT scanner.

What does the CT scanner look like?

The CT scanner is typically a large, "doughnut-like" machine with a table that slides in and out of the centre of the "doughnut". The table weight limitation is 220kg for our CT scanner.



IS CT SAFE?

Because CT involves x-rays, radiation exposure is a risk. However, the scanner has been designed to the highest standards of radiation safety.

At Allied Medical Center, we have ultra-low radiation dose software and our Radiologists will always

select the appropriate dose reduction method(s) to accomplish the lowest possible dose necessary to answer the clinical question at hand. Our CT can reduce radiation dose by up to 50% on all Body Imaging and up to 85% on Cardiac Imaging without compromise on image quality and definition.

How do I prepare for my scan?

Different CT procedures require different preparation. At the time of booking your appointment, you will be advised if any specific preparation is required. For procedures where oral or IV contrast is given, you will be required to fast for 4-6 hours from any solid food or drinks except for water.

If you require oral contrast for your CT study, you will be instructed to arrive at the centre 60-90 min prior to your scan in order to drink the oral contrast.

For cardiac angiography studies, you will be instructed to arrive at the centre 60 min prior to your scan to monitor your heart rate. If required medication in the form of a tablet will be given to you to lower your heart rate.

In accordance with international Guidelines, Allied Medical Center requires all patients referred for CT studies where contrast may be required, to have a serum **creatinine blood test** in order to establish your renal function. We require having a recent creatinine result of not more than 6 weeks old.

Diabetic Patients who are taking Metformin and Metformin based



derivatives (such as Glucophage) are advised to consult with the referring Clinician with regards to withholding the medication for the day of the examination and two days after the scan.

Insulin and other medications can be taken as usual as prescribed by the Clinician, unless otherwise instructed.

Premedication may be required if you are asthmatic or have any allergies to food or medication.

On the day of your appointment you will need to arrive about 15 minutes before your appointment time to complete a CT safety questionnaire. It is very important to be accurate when answering the questions.

It is very important to bring the request form from your Clinician, all post-surgery documentation as well as any previous related imaging reports and images on CD or film with you on the day of your CT study for the Radiologist to review and compare for a comprehensive impression of your health.



How long will the scan take?

The actual scan will usually only take a few minutes – sometimes even seconds. Preparation for the scan and the time you'll be on the table will depend on the body part being scanned and can take anything from 10 minutes to one hour. You will be advised of the duration of your scan at the time of booking your appointment.

What can I expect during my scan?

A specially qualified CT Technologist will position you on the examination table in a comfortable position and will explain the procedure to you. The table will move through the scanner to determine the correct starting position for the required study. Then, the table will move slowly through the machine as the actual scan is performed. You will only hear slight buzzing and clicking sounds as the CT scanner revolves around you during the study.

It is important that you remain perfectly still while the images are being recorded and you may be asked to hold your breath during some sequences, which is typically no more than a few seconds.

Will I need an injection?

Depending on which part of your body is being scanned, we may give you a contrast solution to drink or inject it into your blood vessels. This will help the blood vessels, organs, and any abnormalities stand out. During the contrast injection, you will feel a minor pinprick as the needle is inserted into your vein. You may experience a flush of warmth and a metallic taste in your mouth as the contrast begins to circulate throughout your body. This feeling will subside after a few seconds and is harmless. Following an imaging exam with contrast material, the material is absorbed by the body and eliminated through urine.

Can I be sedated?

No sedation will be given to any patients at Allied Medical Center. For children and claustrophobic patients, a relative or friend may be permitted to stay with the patient during the CT study if absolutely necessary. The relative or friend will be required to complete a CT safety questionnaire and will have to consent to radiation exposure which will be documented on the CT safety questionnaire. The attending Technologist will provide lead shielding to the relative or friend.



What happens after my scan?

You may eat and drink as usual and return to your normal daily routine straightaway. If you have had an injection or contrast solution to drink, we advise you to drink plenty of fluids, especially water, to help flush the contrast out of your system.

When will I get my results?

Your study will be reported within 24 hours and a written report will be sent to your referring Clinician upon completion. You will be asked to wait a few minutes while we burn your images on a CD which will be given to you to take back to your Clinician at your follow-up appointment. Your Clinician will discuss the findings with you.