

# Computed Tomography



# What is a Computed Tomography (CT) scan?

Computed Tomography, or CT scan, is a special examination using x-rays and special softwares to produce cross-sectional images of the body, giving detailed information for diagnosis.

The fast, multi-slice CT equipment allows for the acquisition of massive amount of data in a very short duration with one 360 degree rotation. The advanced computing power enables the acquired data to be reconstructed in various planes to produce 3D images with surface rendering for studies such as virtual colonoscopy, angiography of the blood vessels including cardiac coronary vessels. More advanced applications including brain perfusion, multiphasic studies as well as joint motion studies can also be performed.

## How should I prepare for the procedure?

- You should fast for about four hours if intravenous contrast (a drug that better defines blood vessels and accentuates the appearance between normal and abnormal tissue in organs and helps detection of abnormalities) injection is required. Most studies require this injection.
- Please inform our staff if you have any history of drug, food allergies or impaired/poor renal functions.
- Please be punctual for your appointment.

## On the Day of the Examination Before the Examination

- You will be asked if you have any history of allergies or impaired kidney function.
- Informed consent will be obtained if intravenous contrast is required.
- If the CT is required to examine your abdomen, you may be asked to drink a liquid contrast media that will enable better visualization of the stomach and bowels. Usually it will be necessary for you to wait up to an hour while the contrast material reaches the bowels. If the lower bowels are to be studied, we may require to administer contrast material by enema.
- An intravenous injection line may be set up in preparation for the injection of contrast.

## During the Examination

- You will be positioned on a padded table and moved into the scanner.
- The radiographer will be able to see and hear you at all times.
- You may be asked to hold your breath a few times during the scan. It is important to follow the instructions given to ensure that the examination is successful.
- If the intravenous injection is given, a warm sensation will be felt as the contrast goes through the body. Some people report feeling a flush of heat or a metallic taste in the back of the mouth. These sensations usually disappear within a minute or two.

## How long will it take?

Depending on the parts to be examined, the total examination from preparation could be from 15 minutes to 90 minutes.

## What are the benefits versus risks?

### BENEFITS

- Unlike other imaging methods, CT scanning offers detailed views of many types of tissue, including the lungs, bones, soft tissues and blood vessels.
- CT scanning is painless, non-invasive and accurate.
- CT examinations are fast and simple. For example, in emergency cases, they can reveal internal injuries and bleeding quickly enough to help save lives.
- CT scanning can identify both normal and abnormal structures, making it a useful tool to guide radiotherapy, needle biopsies and other minimally invasive procedures.
- CT has been shown to be a cost-effective imaging tool for a wide range of clinical problems.

### RISKS

- CT does involve exposure to radiation in the form of x-ray, but the benefit of an accurate diagnosis far outweighs the risk. The effective radiation dose from this procedure is small and varies with the type of examination but generally it is about the same as an average person receiving background radiation from the sun and atmosphere every year.
- Women should always inform their doctor or nurse or radiographer if there is any possibility that they are pregnant.
- Nursing mothers should wait for 24 hours after contrast material injection before resuming breast feeding.
- The risk of severe allergic reaction to contrast is 1 in 10,000.
- The risk of extravasation where injury to blood vessel causes leakage of contrast to surrounding tissues which may cause arm swelling, is 0.1% or 1 in 1,000.

# When can you expect the results to be ready?

Images will be reviewed by the doctor (radiologist) to check that they are clear. The report will be sent to your doctor who will then discuss the scan results with you.

For further queries or information please contact our staff.



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