

## CT (Computed Tomography)

### WHAT IS CT?

**CT (Computed Tomography)** uses a combination of x-rays and high-powered computers to obtain cross-sectional images of the body. These images show all types of tissue, including lungs, brain, bone, muscles and abdominal organs with great clarity. CT scans are often used to guide fine needle biopsies, nerve root injections and other minimally invasive procedures. As well as obtaining detailed two-dimensional images of the nearly all parts of the body, advanced software also enables 3D reconstruction of some scans, including the coronary arteries (CTCA) and the bowel (Virtual Colonoscopy).

### REASONS FOR THE PROCEDURE:

**CT scan images can provide much more information than plain x-rays.** They may be used to:

- Diagnose muscle and bone disorders, such as bone tumours and fractures.
- Pinpoint the location of a tumour, infection or blood clot.
- Guide procedures such as surgery, biopsy and radiation therapy.
- Detect and monitor diseases and conditions such as cancer, heart disease, lung nodules and liver masses.
- Detect internal injuries and internal bleeding after trauma.
- Look at the coronary arteries and heart vessels.
- Construct a 3D image of the inside of the bowel.

### BEFORE THE PROCEDURE:

How you prepare for a CT scan depends on which part of your body is being scanned. You may be asked to:

- Change into a gown.
- Remove any metal objects, such as a belt or jewellery.
- Stop eating for a few hours before your scan.

A special x-ray dye, called contrast, is needed for some CT scans to help visualise blood vessels, intestines or other structures. Contrast can be introduced to your body in a variety of ways:

- **Orally:** If you are having an abdominal and/or pelvic scan, you will be asked to drink several glasses of liquid containing contrast before your scan. The contrast will highlight your bowel on the scans and differentiate it from other organs and soft tissues.

- **By injection:** Contrast can be injected through a vein in your arm during the scan, to help visualize certain blood vessels. You may experience a feeling of warmth during the injection or a metallic taste in your mouth.

Because CT scans use x-rays, women should always inform their doctor, or the radiographer prior to the scan, if they think they maybe pregnant.

### DURING THE PROCEDURE:

- CT scanners are shaped like a large doughnut standing on its side.
- You will be lying on a table that will move into the middle of the scanner just before the scan begins.
- Straps and pillows may be used to help you stay in position.
- The table will move slowly through the scanner during the imaging.
- If you need an injection of contrast, it will be administered while you are being scanned.
- You may be asked to hold your breath at certain points during the scan to avoid blurring the images.

## CT (Computed Tomography) CONTINUED

- Due to the advanced technology of modern CT scanners, the actual time you spend being scanned is very low. You may spend as little as 5 minutes on the CT table.

### **AFTER THE PROCEDURE:**

- After the scan you can return to your normal routine.
- If you were given contrast, you may be asked to wait for a short time before leaving the department.
- You will be told to drink lots of fluids to help your kidneys flush the contrast material from your body.
- Results from your CT scan will be sent to your referring doctor, usually in 1-2 days, although this timeframe does depend on the type of CT scan you have had.

### **RISKS OF THE PROCEDURE:**

- Because CT scanning uses x-rays, you will be exposed to some radiation during the scan.
- If you are pregnant or think you may be pregnant, you should not have a CT scan due to this radiation exposure.
- 1 person in 40,000 has an allergic reaction to contrast. If this reaction occurs, you will be given appropriate treatment in the x-ray department.