

# CT SCAN

## What Is CT?

CT or Computed Tomography uses x-rays and computer technology to image the body. Traditional x-rays show only the outlines of bones and organs, while CT shows much more detail. It can create cross-sectional images, as well as a three-dimensional, computerized images by combining narrow-slice views of the area being scanned. Because it can show very detailed anatomical pictures from all angles, physicians use CT to diagnose and treat many different diseases.

## What To Expect

The length of time a CT scan takes varies, depending on which specific area of the body is being scanned. During the scan you will be lying down on a table. The x-ray tube will rotate around the table, taking pictures from all angles. The images taken will then be sent to a radiologist for interpretation. The radiologist will want to compare these images to any previous studies you may have had, so please let us know if you have had any CT exams before. When the radiologist is finished interpreting your scan, a full report will be sent to your physician.

## Patient Preparation

Preparation for a CT scan is different from one exam to another, depending on what area of the body is being imaged. For some scans, for example, you'll be asked to drink an oral contrast agent beforehand; for others, you might receive an injection of intravenous contrast through a vein in your arm. Others require no contrast at all. Before you come in for your CT, our staff will give you specific instructions for your exam.

### **Preparation required for:**

- **Abdomen:** Nothing to eat or drink for four hours before your scan.
- **Pelvis:** Nothing to eat or drink for four hours before your scan.
- **Chest:** Nothing to eat or drink for four hours before your scan.
- **Head with and without contrast:** Nothing to eat or drink for four hours before your scan.
- **Angiogram:** Nothing to eat or drink for four hours before your scan.
- **Colonography:** A bowel preparation to clean the colon before the test is required to ensure a successful exam. Our staff will give you precise instructions when your test is scheduled.

# MRI SCAN

## ***What Is an MRI Scan?***

MRI (magnetic resonance imaging) is one of the most powerful and advanced tools available to radiologists today. It uses magnetic fields and radio waves instead of x-rays to create highly detailed images of the human body. It is a non-invasive imaging procedure that detects many diseases and conditions in their very earliest stages.

## ***What To Expect***

An MRI scan takes about 30 minutes. While the scan is taking place you will be lying on a flat exam table, and you will hear a knocking sound. Sometimes a contrast material is given through a vein. If you need the technologist's attention at any time during the scan, you can use the intercom in the scanner. It is very important that you remain very still while the scan is taking place in order to obtain the best possible images. When the scan is complete, the technologist will help you off the table. Your images will then be sent to a radiologist for interpretation, and will be compared to previous studies that you may have had. The radiologist will prepare and send a report to your physician.

## ***Patient Preparation***

No special preparation is required for this exam. Metal objects such as jewelry, hairpins, and car keys are not allowed in the scan room. The technologist will also ask you about metal implants and pacemakers. Some patients with these devices may not be able to have an MRI.

# PET/CT

## ***What is PET/CT?***

In one continuous full-body scan, PET captures images of miniscule changes in the body's metabolism caused by the growth of abnormal cells. CT images simultaneously allow the physician to pinpoint the exact location, size, and shape of the diseased tissue or tumor. Essentially, small lesions or tumors are detected with PET and then precisely located with CT.

## ***What To Expect***

The technologist will start an intravenous line in your arm. You will then be injected with a radioactive glucose (sugar) that will be detected on our PET/CT scanner. You will not feel the injection of the glucose. After the injection, the technologist will lead you to a quiet room where you can rest for about an hour. This will allow the glucose to circulate through your system. The PET/CT scan itself usually takes 20 to 50 minutes, depending on the areas of the body being scanned. You will need to lie on your back and remain as still as possible. Images from the PET/CT scan will be reviewed by the radiologist and correlated with your history, other available x-rays, and related studies. The radiologist will send a report to your physician.

## ***Patient Preparation***

You should not have anything to eat or drink for at least 6 hours before arriving for your PET/CT scan. You should not engage in strenuous exercise for 48 hours before your exam. If you need to take medications, they can be swallowed with a small amount of water. If there are medications you need to take with food, you may have a few saltine crackers. Diabetic patients need to regulate their blood sugar, because the glucose in the blood competes with the radioactive glucose that will be administered during your exam. Your **blood glucose level needs to be less than 200** at the time of your scan. If you take insulin (injection or pill form), it must be taken **at least 4 hours** before your scan. If your glucose levels are over 200, please contact Chattanooga Imaging before coming in for your scan so that we can work with you and your physician to obtain a high-quality scan. You should bring medications for pain, anxiety, or claustrophobia if you need them.