



CT of the Chest

Patient Information Leaflet

Introduction

This leaflet tells you about CT of the Chest, a test to look at the structures inside your chest. It explains how the test is done, what to expect, and the risks involved. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

What is CT of the Chest?

CT is a non-invasive way of looking inside your body to help diagnose medical conditions and guide treatment. A CT (computed tomography) scanner uses special x-ray equipment and computers to produce images of multiple “slices” of the part of the body being scanned. These images of the inside of the body can then be examined on a computer monitor.

CT Scans provide much greater detail of internal organs, bone, blood vessels and soft tissue than ordinary x-rays and so are often the preferred method of diagnosing a wide range of medical conditions such as cancers, infection, inflammation, cardiovascular disease, trauma and musculoskeletal disorders.

Some scans need to be performed with an injection of special contrast (X-ray dye) which is used to enhance visibility of the area being scanned, particularly the blood vessels and blood flow to organs.

How does it work?

The CT scanner consists of a ‘doughnut-shaped’ structure with a hole, or short tunnel, in the centre. You will lie on a narrow examination table that slides into and out of this tunnel. The x-ray tube and electronic x-ray detectors are located opposite each other in a ring, called a gantry, which rotates around you. A narrow fan-shaped beam of X-rays is produced from inside the gantry, passes through your body and is detected by electronic sensors on the other side of the gantry. This information is sent to a computer that produces a picture of the internal structure of the body. Modern CT scanners are so fast that they can scan through large sections of the body in just a few seconds.

The scanner is operated by a Radiographer, who is a professional trained to carry out X-rays and other imaging procedures. The pictures are displayed on a computer workstation for examination by the Radiologist, who is a doctor specially trained to interpret the images and carry out more complex imaging examinations.

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Are there any risks?

CT scanning involves the use of X-rays. There are strict guidelines in place for the use of x-rays in diagnosing medical conditions so CT scans can only be performed at the request of a Doctor. The amount of radiation used is more than an ordinary X-ray of the chest or body and is equal to the natural radiation that we receive from the atmosphere over a period of approximately three years. Women who are or might be pregnant must inform a member of staff in advance.

Because children are more sensitive to radiation, they should have a CT study only if it is essential for making a diagnosis and should not have repeated CT studies unless absolutely necessary. We will keep the radiation dose as low as we possibly can.

Many CT examinations involve you having a contrast medium (dye) injected into a vein to increase the quality of information obtained from the scan. The injection usually causes nothing more than a warm feeling passing around your body, a metallic taste in your mouth and occasionally a sensation of needing to urinate. These effects subside within a few minutes. The risk of serious allergic reaction to contrast materials that contain iodine is extremely rare, and radiology departments are well-equipped to deal with them.

Despite these slight risks, your doctor believes it is advisable that you should have this examination, and do bear in mind there are greater risks from missing a serious disorder by *not* having your scan.

What do I have to do before my CT?

Taking tablets and medicines

You should continue to take all your normal medication.

If you take Metformin (Glucophage) tablets for diabetes, please let us know on the day of your test. We sometimes ask patients to stop these tablets for two days after their test.

Females

Females are asked to contact the Radiology department if you suspect that you may be pregnant OR if the appointment is more than 10 days after the *start* of your last period. This test uses radiation and there is a risk to the unborn baby if we were to do the X-rays when you are pregnant. When you arrive for your test, you will be asked when your last period started. If it is more than 10 days earlier, your appointment will be postponed.

Allergy to iodine or intravenous contrast medium

You should inform us in advance if you have a known allergy to iodine or intravenous contrast material (dye). Your doctor may prescribe medications prior to the examination to reduce the risk of an allergic reaction.

Where do I go when I arrive at the hospital?

Please report to the reception desk in the Radiology department with your appointment letter 10 minutes before your appointment time. You will be asked to sit in the waiting area until called by a member of staff.

A member of the team will explain the test and answer any questions. If you have to undress for the procedure, you will be shown to a private cubicle and asked to change into a clean gown. You will be asked to remove all jewellery and metal from the area to be scanned. Your clothes and valuables will be secured in a locker until after the procedure.

Can I bring a relative/friend?

You may bring a relative or friend with you to the appointment but, as the examination uses x-rays, for reasons of safety they will not be able to accompany you into the examination room, except in very special circumstances. If the patient is a young child or is un-cooperative, a parent or health worker may stay in the room but will be required to wear a protective lead apron.

If you need an interpreter please tell us when you receive your appointment so that we can arrange this.

Please let us know when you arrive for your test if you have any of the following conditions:

- Diabetes
- Asthma
- Kidney disease
- Heart disease
- Thyroid problems
- Any allergies
- You have had a reaction to iodine or any intravenous contrast medium (if you are not sure about this, please ask us).

What happens during the CT scan?

You will be taken into the CT Scanning Room and asked to lie on the scanner table flat on your back. The radiographer will ensure that you are lying comfortably in the correct position. Straps and pillows may be used to help maintain the correct position and to keep you still during the examination.

If intravenous contrast is used you will have a small tube, called a cannula, inserted into one of the veins in your arm. The contrast is administered through the cannula before or during the scan using a special pump.

You will be asked to hold your breath and will feel the table move in and out of the scanner whilst the scans are taken. Each scan will take approximately 10-20 seconds (one breath hold). You will be alone in the CT room during the scan but the Radiographer will be able to see, hear and speak with you at all times.

When the scan is finished the radiographer will check the images are complete before helping you get off the table. The entire examination takes approximately 15-20 minutes.

What happens after the test?

If you have had an injection of contrast into a vein you will need to stay in the department for 20 minutes after your scan. A radiographer or helper will then take the cannula out. You may eat and drink as normal as soon as the examination is finished.

How do I get my results?

A specialist Radiologist will review the images from your CT scan and send a report to your doctor. Your GP or hospital Consultant who referred you for the test will see you to discuss the results.

Any further questions?

We will do our best to make your visit as comfortable and stress free as possible. If you have any further questions, or suggestions for us, please let us know. If you would prefer information and advice in another language, please contact the Radiology department.

Further Information

For general information about Radiology departments, visit The Royal College of Radiologists' website: www.goingfora.com

For information about the effects of x-rays read the National Radiological Protection Board (NRPB) publication: 'X-rays how safe are they?' on the website: http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947388410

For health advice or information you can call NHS Direct on 0845 4647 or visit the website: www.nhsdirect.nhs.uk

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