

Having a CT scan / CT chest scan

Patient information leaflet

**If you need this leaflet in a different language or accessible format
please speak to a member of staff who can arrange it for you.**

اگر به این بروشور به زبان دیگر یا در قالب دسترس پذیر نیاز دارید،
لطفاً با یکی از کارکنان صحبت کنید تا آن را برای شما تهیه کند.

Jeśli niniejsza ulotka ma być dostępna w innym języku lub formacie,
proszę skontaktować się z członkiem personelu, który ją dla Państwa przygotuje.

Dacă aveți nevoie de această broșură într-o altă limbă sau într-un format accesibil,
vă rog să discutați cu un membru al personalului să se ocupe
de acest lucru pentru dumneavoastră

如果您需要本传单的其他语言版本或无障碍格式，请联系工作人员为您安排。

إذا احتجت إلى هذه النشرة بلغة أخرى، أو بتنسيق
يسهل الوصول إليه، يرجى التحدث إلى أحد الموظفين لترتيب ذلك لك.

Introduction

This information aims to answer your questions about having a CT scan. It explains the benefits, risks and alternatives, as well as what you can expect when you come to the hospital. If you have any further questions, please speak to your referrer or the Radiographer performing your scan.

What is a CT scan?

CT stands for Computerised Tomography. A CT scan takes a series of pictures of your body using X-rays. CT Scans provide a greater detail of your internal organs, bones, blood vessels and soft tissue than ordinary X-rays, and so are often the preferred method of diagnosing a wide range of medical conditions. A Radiographer will perform this scan for you, a Radiologist (specialist X-ray doctor) looks at these images and makes a report which goes to your referrer.

What is a CT chest scan used for?

A CT scan can identify many conditions that a chest X-ray cannot. For example:

- The lung tissue may show evidence of smoking related lung disease (emphysema) or scarring (fibrosis).
- Airways may show evidence of bronchiectasis (a condition making you more prone to infection).
- Blood vessels may show blood clots.
- It may identify nodules or signs of lung cancer.
- It may show enlarged lymph glands.
- It may show signs of infection.
- It may show signs of fluid in the lining of the lung or lung tissue itself.
- Trauma (such as broken ribs) or other abnormalities.



What is a High Resolution CT (HRCT) scan?

A HRCT scan is a special type of CT scan that uses:

- Thinner imaging slices.
- Special imaging settings.

This produces very detailed images of the lung tissue itself, but does not give as much information about blood vessels and other structures as a scan done with contrast.

What it is used for?

HRCT is mainly used to look closely at the fine structure of the lungs for conditions such as:

- Scarring (fibrosis/interstitial lung disease).
- Inflammation.
- COPD related changes (emphysema).
- Bronchiectasis.
- Long-term lung damage.

HRCT scans do not require contrast dye.

Which scan will I need?

Your clinician will choose the scan based on:

- Your symptoms.
- What your chest X-ray shows.
- What question needs answering.

Sometimes both scans are used at different stages if more information is needed.

Why might I need a CT scan?

A CT scan may be requested for one of the reasons below:

- Investigate ongoing or unexplained symptoms.
- Clarify findings seen on a Chest X-ray.
- Look in more detail at areas of concern.
- Support decisions about further tests or treatment.

Your clinician will only request a CT scan if it is necessary and helpful for your care.

How should I prepare for the scan?

Before your CT scan

Sometimes we will advise you not to eat before your scan. Your appointment letter will tell you how long before the scan to stop. We require that you are hydrated before your exam so it is recommended that you drink about 500ml of water before.

Unless specified in your appointment letter, you do not need a full bladder and you can go to the toilet, unless you are having a scan to look at your kidneys or bladder.

If you are taking any medicines, please continue to take these as usual unless you have been told otherwise by your doctor.

If you need an injection of X-ray contrast (dye), we may need to check your kidney function level before the scan. One of the CT staff will insert a small needle into a vein in your arm or the back of your hand to give the injection of X-ray contrast.

What do I need to wear?

We encourage you not to bring or wear any valuable items or jewellery. If you wear clothing which has no metal, we may not require you to get changed. Metal fastenings like zips, poppers and bras will show up on the scan, so we may ask you to change into a hospital gown.

If we are scanning your head or face, then head coverings, hairbands, hair extensions, grips and earrings will also need to be removed. For certain scans you may need to remove jewellery and any metallic dentures, or hearing aids.

What happens during a CT scan?

- The CT scanning machine looks like a 'large doughnut' or a 'polo mint'. You will be positioned in the middle of the scanner.
- The radiographers cannot be with you in the room, but will be able to see, hear and speak with you at all times. You will lie on a narrow examination table that slides into and out of this circle. The scanner table can be lowered and patients with mobility problems will be offered assistance.
- X-rays produced by the scanner pass through your body and are detected by electronic sensors on the other side of the ring. This information is sent to a computer that produces a picture of your body. Modern CT scanners are so fast that they can scan through large sections of the body in just a few seconds.
- You will need to lie very still while each picture is taken to avoid blurring the images and you may be asked to hold your breath for a moment. Straps and pillows may be used to help keep you still and help you to maintain the correct position during the examination. When the scan is finished the radiographer will check the images are complete before helping you get off the table.

Important information & risks

X-ray Contrast (dye)

If we are scanning certain areas of your body, we may need to give you an injection of contrast dye. If you do receive X-ray Contrast during your scan, it may give you a metallic taste in your mouth, a 'hot flush' and a sensation that you may need the toilet (passing water – do not worry, you will not, it just gives you that feeling). These effects will pass in a few minutes.

How long will it take?

This depends on which part of your body is being scanned but it typically takes between 10 and 20 minutes. Including the preparation that may be needed, you should plan to be in the CT department for up to two hours, as we may need to scan emergency patients before you. This means that your appointment could be delayed. We will let you know if this is the case.

Will I feel any pain?

You should not feel any pain during the scan itself. The most difficult part is keeping still. Try to relax as much as possible. If you find it uncomfortable to lie still then please tell the radiographer.

What are the risks?

Radiation

CT scanning involves the use of radiation. Any examination using radiation is only performed when strictly necessary and it is felt the benefits of the examination outweigh any potential risks. All imaging is performed using the minimum amount of radiation necessary, and is individualised for each patient depending on the size of the patient and the condition being investigated.

For more information on radiation please see the link below:

<https://www.ukhsa-protectionservices.org.uk/radiationandyou/>



**Radiation
hazard**

Injection of X-ray contrast (dye)

If you have had an allergic reaction to iodine or the X-ray contrast in the past, then you must tell us prior to, or on arrival for, your appointment.

The contrast (dye) that is sometimes used during a CT scan contains iodine. There are risk factors associated with injections of X-ray contrast, which can be increased by certain conditions. We will complete a safety questionnaire to check your suitability to have the X-ray contrast.

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. The injection usually causes nothing more than a warm feeling passing around your body, a metallic taste in your mouth and a sensation of passing water. These effects will pass within a few minutes.

Table 1: Types of allergic reaction to Contrast (X-ray Dye)

Category	Type
Mild	Minor rash, redness, Swelling of the skin, Mild nasal congestion, sneezing, runny nose. Mild high blood pressure, nausea, Mild vomiting.
Moderate	Generalised redness Marked rash, Itching, and swelling of the skin, Hoarseness or throat tightness, Fainting Swelling of face and throat.
Severe	Respiratory arrest Cardiac arrest Fluid on the lung Seizures Cardiogenic shock The risk of death is extremely rare.

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Risks continued

Extravasation

Occasionally, if you are having a contrast (dye) enhanced CT, there is a small risk that the injection of contrast can leak out of the vein and under the skin. This is called an extravasation. We find this occurs in around 1 out of every 200 injections. If this does happen then further advice will be given to you by the Radiographer and Radiologist at the time of the CT scan.

Pregnancy

You 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.

If you are, or think you could be, pregnant then you must tell us prior to, or on arrival for, your appointment.

What happens after the scan?

In most cases, as soon as the scan is finished you can go home, or back to your ward if you are staying in hospital. If you have had a X-ray contrast (dye) injection, we will ask you to wait with the cannula in for up to 30 minutes before you leave the department. This is to ensure that you feel ok and there is no sign of any allergic reaction to the X-ray contrast you had been given.

You can eat and drink as normal and resume your usual activities straight after the scan. We suggest drinking extra fluids following your injection of X-ray contrast, ideally equal to one cup every hour for the next six hours.

How will I get my CT scan results?

- Your CT scan will be reviewed by a specialist radiologist.
- The report will be sent to your respiratory team and your GP.
- Your clinician will explain the results to you.
- If anything urgent or concerning is found you will be contacted promptly.

Please do not assume that, “no news means everything is normal.”

Finally

The pictures taken during the examination are studied carefully and a detailed report is produced. The results will be sent to the person who referred you for the test. They will discuss the results with you and any treatment you may need.

You may already have an appointment with the team who referred you. If not, please contact them to arrange one to discuss the results of this test.

If you have any further questions, please do not hesitate to call the Radiology Department via the number given on your appointment letter.

As this is a teaching hospital there may be students and observers present during your examination as part of their ongoing training. Please let the staff know if you do not wish any students to be present during your attendance.

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