

# Having a CT Scan

## Information for Patients

### In this leaflet:

<b>Introduction</b>	<b>2</b>
<b>What is a CT scan?</b>	<b>2</b>
<b>How does it work?</b>	<b>2</b>
<b>Are there any risks?</b>	<b>3</b>
<b>What do I need to do to prepare for my scan?</b>	<b>3</b>
<b>Where do I go when I arrive at the hospital?</b>	<b>4</b>
<b>Can I bring a relative or friend?</b>	<b>4</b>
<b>What happens during the CT scan?</b>	<b>4</b>
<b>What happens after the scan?</b>	<b>5</b>
<b>How do I get my results?</b>	<b>5</b>
<b>Any questions?</b>	<b>5</b>
<b>More information</b>	<b>5</b>
<b>How do I make a comment about my examination?</b>	<b>5</b>

## Introduction

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This leaflet tells you about having a CT scan. It explains how the test is done, what to expect, and what the possible risks are.

If you have any questions or concerns, please do not hesitate to speak to a doctor or nurse caring for you.

## What is a CT scan?

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A CT scan 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.

## How does it work?

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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. 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 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.



Some scans need to be performed with an injection of special contrast (dye) which is used to enhance visibility of the area being scanned, particularly the blood vessels and blood flow to organs. Water or contrast may also be given orally, or occasionally through a tube, to highlight the bowel on the scan.

## Are there any risks?

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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 need to do to prepare for my scan?

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### **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.

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## Where do I go when I arrive at the hospital?

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Please report to the reception desk in the Radiology department (B8) with your appointment letter 10 minutes before your appointment time. Please click on the following link for a site map of the hospital:

[http://www.ruh.nhs.uk/finding/documents/RUH\\_directory\\_map.pdf](http://www.ruh.nhs.uk/finding/documents/RUH_directory_map.pdf)

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.

We may ask you to drink 1-2 litres of water or special fluid (contrast) over 30-75 minutes before the scan. This contrast helps us to see the bowel on the CT scan.

**If you are pregnant, or think you may be pregnant, you must tell the imaging staff so that appropriate protection or advice can be given.**

## Can I bring a relative or friend?

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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.

## What happens during the procedure?

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When it is time for your 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 correct and complete before helping you get off the table.

### What happens after the scan?

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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?

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A 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 questions?

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We will do our best to make your visit as comfortable and stress free as possible. If you have any questions, or suggestions for us, please contact CT appointments on 01225 825989.

### More information

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For general information about Radiology departments, visit The Royal College of Radiologists' website: <https://www.rcr.ac.uk/public-and-media/what-expect-when>

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](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947388410)

### How do I make a comment about my examination?

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If you have any concerns or suggestions following your examination, please contact the [Patient Advice and Liaison Service \(PALS\)](#),  
Royal United Hospital Bath NHS Trust, Combe Park, Bath BA1 3NG.  
Email: [ruh-tr.PatientAdviceandLiaisonService@nhs.net](mailto:ruh-tr.PatientAdviceandLiaisonService@nhs.net)  
Tel: 01225 821655 or 01225 826319