



York Teaching Hospital  
NHS Foundation Trust

# CT Scanning (Computerised Tomography)

Information for patients, relatives, and carers

① For more information, please contact:

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Telephone: 01904 631313

or

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# What is a CT scan?

A CT (Computerised Tomography) scan is a type of x-ray examination, which produces cross sectional images of the body. The CT scanner consists of a doughnut shaped gantry and a scanner table. You will be asked to lie on the scanner table, which then passes through the hole in the gantry. The hole is quite wide and only about 60 centimetres deep so you should not feel confined.

An x-ray tube and electronic detectors move round inside the gantry during your scan. The x-rays pass through the part of your body being scanned and are collected by the detectors. Computers then convert this information into scan images.



## **Are there any risks?**

Your CT scan will use x-rays. The radiation used will be the smallest amount needed to get the information we want and will usually be more than an ordinary x-ray. Radiation can cause harm, including cancer, but the benefit of the information from the CT scan will be much greater than the risk of the radiation. We can compare the radiation from the scan with the background radiation all around us (in things like rocks, building materials, food and from outer space). Your scan will give the same dose as about three years of background radiation, with a lifetime risk of getting fatal cancer of about one in 2000. This may be higher for unborn babies, young patients and those having scans of more than one body area.

Female patients who are or may be pregnant must inform a member of staff in advance.

# Preparation

Preparation varies depending on which part of the body is being examined. Anything we need you to do **before** you come to the department is outlined on your appointment letter. This may include not eating or drinking for a short period of time prior to coming for your scan. Many patients will now be asked to drink water before their scan. You can drink this on the way to hospital. This water helps to keep you hydrated and can help us to get better views of your stomach.

There are a few specific situations when we ask patients to drink x-ray dye. If this is required for your scan it will be detailed on your appointment letter.

If you use a colostomy bag, please bring a spare with you. You may need to change it if you are unable to empty it before you are given the liquid to drink (see page 6), as the liquid will fill the bag during the examination.

If you are diabetic and take Metformin, you should not take this on the day of your appointment. You will be given further instruction about when to start taking Metformin again immediately after you have had your scan.

## **Once in the scanning department**

For a head scan, you will have to remove jewellery, hairpins, and hearing aids.

To save you having to change into a hospital gown, we would ask that you wear clothing that doesn't have any metal zips, buttons, buckles or other metal fastenings (including bras). Changing facilities are available for patients wishing to use hospital gowns.

For some scans of other areas of the body, you may be asked to remove your clothing and put on an x-ray gown. You will be given something to put your belongings in and you should keep this with you at all times. Dressing gowns are not provided so you may wish to bring your own.

If we are scanning your abdomen we occasionally ask patients to drink some x-ray dye just before your scan.

## **Will I need an injection?**

Depending on the type of scan you are having, we may need to give you an injection of an x-ray contrast (x-ray dye). This highlights vessels and organs on the scan and helps with the diagnosis. The injection is given through a tube (cannula), which will be inserted into a vein via a needle before the procedure.

The cannula will stay in place for 15 minutes following the end of the examination, as any possible side effects are most likely to occur within this period. The cannula will be removed before you leave the department. Very rarely, delayed reactions (up to one hour after the injection) may occur, and for this reason, we advise you not to drive until an hour after the injection.

The injection may make you feel warm all over but should not cause you undue discomfort. There is a slight risk of an allergic reaction to the contrast injection, which may lead to a skin rash or nausea<sup>(1)</sup>. If you have had an allergic reaction to an injection of x-ray contrast in the past you must let the radiographer know before you go in for the scan.

Very rarely the injection of x-ray contrast can cause damage to the kidneys. This only usually affects people who already have kidney problems. This is why we usually do a blood test to check for kidney problems before arranging a CT scan with a contrast injection.

If your blood test shows that you are at risk of developing any kidney damage from the dye we will tell you about this in your appointment letter and we will advise that you drink extra water before and after your scan. This keeps you hydrated and helps to flush the x-ray contrast out of your system quickly. This will reduce the risk of causing any serious kidney damage. We will then give you a blood request form so that you can get your kidney function checked 3 days after your CT scan.

The results of this blood test will go back to the doctor that requested your CT scan.

On rare occasions, more serious complications can occur. There is a theoretical risk of death and this is estimated to be approximately 1:170,000<sup>(2)</sup>. The doctors in the radiology department are trained to deal with any complications and the benefits from having the injection far outweigh the risks. However, It is worth bearing in mind that many thousands of scans are carried out perfectly safely at both Trust sites every year.

## **Who will do your scan?**

A radiographer will carry out your scan. They will explain the procedure and answer any questions that you may have. Your scan will be reviewed and reported by a radiologist (a doctor trained in the interpretation of x-rays) but not usually until after you have left the department.

The results will be sent to the doctor who referred you for the scan and they will give the results to you.



## **How long does it take?**

The scan itself takes about 20 minutes to complete. If we have given you something to drink beforehand, you may be in the department for up to a further hour. Occasionally there are delays because of the need to fit in emergency scans. Staff will do their best to keep any delay to a minimum.

## **Are there any side effects?**

There should be no side effects from the scan itself. Possible side effects of the injection are explained in the section 'Will I need an injection'. After your scan you can carry on as before and eat and drink normally.

## **What are the benefits and alternatives?**

CT gives accurate information about a wide range of medical problems. This gives your doctor important information to help in making a diagnosis and for advising on any treatment you may require. There are a number of alternative imaging tests available, such as plain x-rays, ultrasound, and MRI (Magnetic Resonance Imaging). Each has its advantages and disadvantages and in your case, your doctor considers CT to be the investigation of choice. If you are unhappy about this, please discuss the options with the doctor who referred you for the CT scan.

# How to find the CT scanning department

In both Scarborough and York, the scanning department is located within the main x-ray department. Please report to the main reception desk in x-ray, from there you will be directed to CT scanning.

You should allow plenty of time to find a parking space as this can sometimes take a while. The car park is pay on exit so please bring change for the ticket machine. In York, if the hospital car park is full there is a public car park in Union Terrace, which is just on the city centre side of the hospital and within walking distance. For Scarborough, there should be ample parking on site, with the alternative being to park in the local side streets.

## Any other questions?

If you have any problems or queries, please phone the CT appointments clerk on 01904 725936 (York Hospital) or 01723 342044 (Scarborough Hospital) before your appointment. If they are unable to help, they will transfer you to someone who can. Alternatively, you can speak to the CT staff on the day of your appointment.

## References

1. Siddiqui N H. Contrast reactions. Medscape. Updated 22 July 2017.
2. Morcos S K. Acute, serious and fatal reactions to contrast media. Our current understanding. BJR (2005) 78, 686-93.

## **Tell us what you think of this leaflet**

We hope that you found this leaflet helpful. If you would like to tell us what you think, please contact:

Gwen Haley, CT Radiographer Principal, The York Hospital, Wigginton Road, York, YO31 8HE, telephone 01904 725937 or email [gwen.haley@york.nhs.uk](mailto:gwen.haley@york.nhs.uk)

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## **Teaching, training, and research**

Our Trust is committed to teaching, training, and research to support the development of health and healthcare in our community. Healthcare students may observe consultations for this purpose. You can opt out if you do not want students to observe. We may also ask you if you would like to be involved in our research.

## **Patient Advice and Liaison Service (PALS)**

PALS offers impartial advice and assistance to patients, their relatives, friends and carers. We can listen to feedback (positive or negative), answer questions and help resolve any concerns about Trust services. PALS can be contacted on 01904 726262, or email [pals@york.nhs.uk](mailto:pals@york.nhs.uk).

An answer phone is available out of hours.

# Leaflets in alternative languages or formats

Please telephone or email if you require this information in a different language or format, for example Braille, large print or audio.

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或發電

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