NHS
Lancashire Teaching Hospitals
NHS Foundation Trust

Information for patients and carers

CT Colonography

What is a CT colonography?

CT colonography is a type of CT (Computed Tomography) scan. A CT scan takes a series of images of your body using x-rays. The images show cross-sections or slices of your body in detail.

Your clinician has specifically referred you for a CT colonography examination as a standard x-ray or CT scan will not provide the level of detail required.

A CT colonography examination visualises your large bowel (colon) and rectum (back passage) and uses carbon dioxide to demonstrate these areas clearly on the CT images.

As part of the CT colonography examination you may have to have an injection of a contrast agent (x-ray dye) which helps to demonstrate your blood vessels and organs on the scan. You may also be required to have a small injection of a muscle relaxant called Hyoscine Butylbromide (Buscopan) which aims to reduce the amount of spasm within your bowel during the examination, making it more comfortable for you.

Your examination will be performed by two radiographers who will guide you through the examination and will be able to answer any questions you may have.

During your examination you may also meet a radiologist (a specialist doctor trained in interpreting CT scans); they may assist the radiographers during particular stages of the examination.

The examination normally takes approximately 30 minutes, but you may be in the department for between1-2 hours in total.

Please inform us before you attend if:

- You are or think you may be pregnant
- You are chest/breastfeeding

- You weigh over 30 stone/190kg
- You are diabetic
- You require the use of a hoist
- You have had a previous allergic reaction to x-ray dye
- You are allergic to iodine
- You have had a previous allergic reaction to laxatives
- You have a stoma
- You are taking iron tablets
- You have been advised or told to restrict your fluid intake
- You require an interpreter – **please inform us as soon as you receive your appointment letter and we will arrange an official interpreter for you.** Please note that relatives and friends are not permitted to assist with translation or to interpret for you.
- You require any reasonable adjustments to be made for your appointment - please inform us as soon as you receive your appointment letter. Please bring any communication aids and/or your hospital passport with you to the appointment.

Are there any special preparations required before the examination?

Before you attend for your CT colonography examination we require you to take bowel preparation and follow a special low residue diet to help clear your bowel ready for the examination. As the bowel preparation has a laxative effect, we advise you to stay close to a bathroom the day before the examination.

We will provide you with separate detailed instructions on how to take the bowel preparation and information about the diet which is started **two days before** your CT Colonography appointment. You **must** follow these instructions carefully; failure to do so may mean that we are unable to perform your CT Colonography examination or it may be difficult for the CT images to be interpreted, so please familiarise yourself with the instructions that we have sent you as soon as possible.

Please do not take any bowel preparations other than what has been prescribed. Please continue to take any regular medications unless we, or your clinician, have advised you otherwise.

Can I bring a relative or friend with me?

A friend or relative can accompany you to the hospital but they will usually not be allowed into the room when you have your examination.

Please note that as we have limited seating and do not have childcare facilities, you are advised not to bring small children with you to your appointment.

What happens when I arrive at the CT department?

When you arrive at the CT department, please book in at the reception desk and take a seat in the waiting area. If you have been unable to complete a questionnaire about your medical history prior to your examination, you may be asked to complete this form. You may wish to use the toilet in the department to empty your rectum (back passage) of any residual bowel preparation whilst you wait. You will then be shown to the department's changing area and asked to put on a hospital gown before going into the examination room.

What happens during the examination?

Once in the examination room a radiographer will check some details with you and ask you questions about your medical history. They will also discuss the bowel preparation and diet that you were asked to follow and check that it is appropriate for us to perform your examination. If your clinician has asked us to give you a contrast agent (X-ray dye) during your examination, the radiographer will also complete a checklist to ensure that it is safe for us to do so. The radiographer will ask you to sign a form which indicates you consent (agree) for the examination to be performed. If you do not wish to have the examination or are undecided, please ask the radiographer any questions you have.

You will be asked to lie on your back on the scan table, and the radiographer will insert a small needle into one of your veins, either in your arm or the back of your hand. This allows us to give you the contrast agent (if required) and the Hyoscine Butylbromide (Buscopan). The radiographer will then ask you to turn onto your side and a small soft tube will be inserted into your rectum (back passage). On the end of the tube is a small balloon which will be inflated to ensure the tube stays in position during the examination.

You will be asked to stay on your side as the carbon dioxide gas is slowly introduced through the tube into your rectum (back passage) and through your colon (large bowel) using a special machine. The carbon dioxide gas distends your bowel to demonstrate it more clearly on the CT scan. It is therefore important that you try to retain as much of the carbon dioxide gas as possible even though it may make you feel bloated and full.

As the carbon dioxide gas progresses around your bowel the radiographer will ask you to turn onto your front and then onto your opposite side; this helps to move the carbon dioxide gas around your bowel.

The CT colonography examination involves at least two scans of your bowel during your appointment.

Whilst on your side, the first scan will be performed. At this point the radiographers will leave the examination room, but they will be able to see you through a glass window, and you can talk to them through an intercom.

During the scan you will need to lie very still, and you may be asked to hold your breath for a moment.

The table moves slowly and slides forwards and backwards through the centre of the CT scanner. The CT scanner is like a large ring donut similar to the photograph below:



Unlike some other scanning machines, the CT scanner is **not** enclosed.

When the first scan is complete the radiographers will come back into the examination room.
The radiographer may introduce a little more carbon dioxide if required. They may deflate the small balloon on the end of the tube in your rectum (back passage) and ask you to turn so that you are lying on your back.

At this point, if you are having the contrast agent (X-ray dye), a radiographer will connect a thin tube to the end of the cannula that they placed in your vein. This allows the contrast agent (X-ray dye) to be given to you through this tube at a specific point during the second scan and they will inform you when the contrast agent (X-ray dye) is being given to you. The radiographer will begin the second scan and again, they will leave the examination room.
Once this second scan is complete the radiographers will re-enter the examination room. Sometimes the radiographer may need to take a third scan to ensure that the whole of your large bowel (colon) is clearly

seen to avoid you needing another appointment. Occasionally we will perform a scan of your chest at the same time for additional information. The radiographers will re-enter the room and remove the cannula from your vein and the tube from your rectum (back passage).

What happens after the examination?

When you feel ready, you will be shown back to the changing area and asked to get dressed into your clothes. If we have given you Hyoscine Butylbromide (Buscopan) we will ask you to wait for at least 20 minutes following your scan to monitor you for a delayed allergic reaction and to allow any symptoms, such as blurred vision, to resolve. We will make you a hot drink and offer you some biscuits before you leave the department; you are welcome to bring your own food to eat after the examination if you wish.

You will be able to eat and drink normally again as soon as your examination is finished. It is advised that you try to have extra fibre (fruit and vegetables) over the next 24-48 hours as this will help to regulate your bowel movements. We advise you to drink plenty of fluids over the following 24-48 hours to ensure that you are well hydrated after taking the bowel preparation. This will also help flush the contrast agent (X-ray dye) out of your body if this was injected; you will not notice the contrast agent (X-ray dye) leaving your body and it will be excreted in your urine.

Any medications that were stopped for the examination can be started again. Do not take anti-inflammatory (NSAIDs) medications e.g. ibuprofen or naproxen for the next 3 days.

Are there any side effects?

If it is necessary for you to have the injection of contrast agent during your scan it may give you a metallic taste in your mouth. It may also give you a hot ‘flush’ sensation and some patients feel as though they want to pass water. Please be aware these are all very common side effects and will only last a short period of time.

If you were given an injection of Hyoscine Butylbromide (Buscopan) it may cause you to have temporary symptoms of blurred vision, a dry mouth and slight dizziness. We advise you not to drive until your vision has returned to normal (this can be between 20 minutes to an hour). In extremely rare instances, a patient may experience very itchy, swollen and red eyes. If this happens, then medical intervention is required immediately.
The radiographer will offer further guidance on all of these potential side effects before your examination.
As your bowel is being inflated with carbon dioxide, a common side effect is a feeling of fullness as if you want to go to the toilet and feeling bloated. This is because your bowel is slowly filling with gas. The Hyoscine Butylbromide (Buscopan) is used to minimise this sensation but unfortunately, you may still feel a little uncomfortable as the gas enters your bowel. The radiographer will try to minimise this feeling further by asking you to turn slowly on the scan table to ensure the gas moves around your bowel.

Are there any risks?

A very small number of patients have an allergic reaction to the contrast agent. This can be minor, severe or even life threatening, but the chances of this occurring are very rare.
Before your examination begins the radiographer will ask you a series of questions about your medical history, including any allergies you may have. This will help us assess if you are at risk of an allergic reaction to either the contrast agent or the Hyoscine Butylbromide (Buscopan).

If you are having the contrast agent, there is a small risk that the injection of contrast can leak out under the skin instead of in the vein. If this does happen, then further advice will be given by the radiographer at the time of your examination. There is a small risk that inflating the bowel with carbon dioxide can cause a perforation (a small tear in the bowel wall). The risk of perforation is about 1 in 2500 which is lower than the risk during a colonoscopy. Most perforations will heal without treatment but may require hospital admission and observation under the care of the surgical team and antibiotics.

There are some small risks involved with the radiation received during a CT scan but only the minimum amount of radiation is used to produce the images required. We use the smallest dose possible, in line with national regulations. This allows us to make an accurate diagnosis to help plan your care. Your consultant has determined that the benefits of having the CT colonoscopy examination far outweigh the radiation dose you will receive.

When will I receive the examination results?

Following your CT colonography examination the radiologist will review the scans and write a formal report of the results. This will be sent to the consultant who referred you for this examination. During your examination the radiographer will advise you on how you will receive these results. You will not receive the results at the time of your examination

Contact details

Should you require further advice or information please contact CT appointments on **01257 247793 / 01257 247785.**
Lines are open 8.30am to 4.00pm Monday to Friday (excluding Bank Holidays).

Sources of further information

www.lancsteachinghospitals.nhs.uk
www.nhs.uk
www.accessable.co.uk
www.patient.co.uk
www.lancsteachinghospitals.nhs.uk/veteran-aware
https://bepartofresearch.nihr.ac.uk/
www.gov.uk/government/collections/medical-radiation-uses-dose-measurements-and-safety-advice
www.medicines.org.uk/emc/product/890/smpc#gref
www.patient.info/cancer/colon-rectal-bowel-cancer-colorectal/ct-colonography

www.gov.uk/government/publications/bowel-cancer-screening-having-a-ct-colonography-ctc-scan/nhs-bowel-cancer-screening-programme-having-a-ct-colonography-ctc-scan#fn:2

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Please ask a member of staff if you would like help in understanding this information.
This information can be made available in large print, audio, Braille and in other languages.

Our patient information group review our leaflets regularly, if you feel you would like to feedback on this information or join our reading group please contact on email address: patientexperienceandinvolvem@LTHTR.nhs.uk

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