

CT Colonography (Computerised Tomography) with Gastrografin

Information for patients, relatives and carers

① For more information, please contact our Radiology Department

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Contents	Page
About this leaflet	2
What is a CT colonography?	2
Who makes the decision?	2
Are there any alternatives?	3
What happens before the CT Colonography?	3
Medications:.....	5
How to find the CT scanning department	5
Scarborough Hospital	5
What happens during the CT Colonography?	7
What happens after the CT Colonography?	8
Are there any risks or complications?.....	8
Finally?	10
Tell us what you think of this leaflet.....	12
Patient Advice and Liaison Service (PALS).....	12
Teaching, training and research.....	12
Leaflets in alternative languages or formats	12

About this leaflet

In this leaflet, we tell you about the procedure known as CT Colonography. We explain what is involved and what the possible risks are. The information 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 a CT colonography?

CT Colonography is a CT (Computerised Tomography) scan of the large bowel, which is made up of the colon and rectum. Carbon dioxide (CO₂) is used to distend the bowel to obtain the best images.

A CT scan is a type of x-ray examination, which captures cross sectional images of parts of your body. The CT scanner consists of a doughnut shaped gantry and a scanner table. X-rays pass through the part of the body being scanned and are collected by the detectors. Computers then convert this information into scan images.



Who makes the decision?

The doctors in charge of your care have recommended that this is the best test for you. If, after a full discussion, you do not wish to proceed, then you can decide against it.

Are there any alternatives?

There are alternatives to CT Colonography.

One of the main alternatives to CT Colonography is an optical colonoscopy. This involves a camera being passed through the colon. You may need to be sedated for this examination.

The risks associated with colonoscopy are reported to be slightly higher than CT Colonography, although both procedures are very safe. The colon is a complex organ to investigate and more than one test may be required.

What happens before the CT Colonography?

If you are or think you might be pregnant

This examination is not advisable for pregnant women. Please contact the Radiology Appointments Clerk.

- If your appointment is in Scarborough, please call us on 01723 342044.
- If your appointment is in York, please call us 01904 725936.

Preparation

To ensure a good examination your bowel must be clean of all waste material.

You must carefully follow the diet advice. This involves following a strict low residue diet the day before your procedure to help clear the bowel. You must also drink Gastrografin liquid. This is a special x-ray dye that has a mild laxative affect as well as staining any faeces that are left in the bowel.

Failure to follow the dietary instructions is the most common reason for this test having to be abandoned and repeated at a later date. This is because we may not be able to obtain satisfactory information to provide a result for your clinician.

You should complete the checklist enclosed with the appointment letter that we have sent you and bring it with you when you come for your scan. Please also bring a list of your current medications.

If you use a colostomy bag, please bring a spare with you.

Dietary preparation: Two days before your test

Stop taking iron tablets (ferrous sulphate).

Dietary preparation: The day before your test

Before Breakfast: Drink 50ml of Gastrografin liquid.

Breakfast: Clear fluids to drink
Choose **one** of the following:

- 30g of crisped rice cereal
- two slices of white bread & honey
- one boiled/poached egg and one slice of toast
- 50g of cottage cheese and one slice of bread.

Mid Morning: Drink clear fluids.

Lunch: Choose **one** of the following:

- 75g chicken / fish / tofu
- two boiled / poached eggs
- 100g cheese

And **one** of the following:

- two slices of white bread
- two medium potatoes, no skin
- two tablespoons of plain white pasta / rice.

Do not have any further solid food or dairy products until after your procedure

4pm Drink 50ml of Gastrografin liquid

After 4pm Drink clear fluids only

Clear fluids allowed:

Black tea (you can add sugar)

Black coffee

Water

Squash

Lemonade, Lucozade or other fizzy drinks

Orange/grapefruit/tomato juice.

On the day of your examination

Do not eat anything. Continue to drink plenty of clear fluids up until the time of your test.

If you are diabetic

You will be provided with a separate information leaflet to help you manage your tablets or insulin.

Medications:

Iron tablets should be stopped two days before the test.

If you are taking other medications, you can take these as usual unless your doctor tells you otherwise.

How to find the CT scanning department

Scarborough Hospital

Scarborough hospital is situated on Woodlands Drive, two miles north of the town centre. When you arrive, follow the signs for radiology. If you are unsure where to go when you arrive at the hospital, please ask at the reception in the main entrance.

Car parking

A new visitors car park has now opened at Scarborough Hospital. The car park is designated for patient and visitor use only and is located to the right of the main entrance, near the helipad. The car park operates on a barrier/pay on exit system and payments can be made by cash or card. Other car parking spaces are still available near the North Entrance, where you will need to pay and display. However visitors are encouraged to use the new visitors' car park.

Disabled Parking

Blue badge holders do not need to purchase a ticket if they are parked in a designated disabled bay.

Car park management is in operation and enforcement notices will be given to cars parked improperly.

Buses

Scarborough Hospital is well served by buses, especially from Scarborough town centre. The hospital has its own EYMS Bus Service (Number 10).

York Hospital

We are located on the ground floor of York Hospital, off Junction 6 of the main corridor.

On the day of your scan, you should report to the receptionist in the main x-ray department. They will check your details and direct you to the correct waiting area.

If you are travelling by car, you should allow plenty of time to find a space in the multi-storey car park. The car park is pay by card on exit. If the hospital car park is full, there is a public car park on Union Terrace, which is just on the city centre side of the hospital and within walking distance. Disabled parking is available in front of the main entrance of the hospital.

There is also a park and ride facility running from Rawcliffe Bar.

Once in the scanning department

When you arrive in the CT department, you will be shown into a cubicle and asked to undress and put on an x-ray gown and disposable dignity pants. You will wear these for the duration of the examination. Dressing gowns are not provided so you may wish to bring your own, as the x-ray gown is thin and opens at the back.

Our staff will do all they can to maintain your dignity at all times. We will give you a bag to put your belongings in and you should keep this with you at all times.

What happens during the CT Colonography?

A radiographer who is specially trained in CT colonography will take you into the scanning room and go through the checklist with you. They will ask further questions to make sure you are not allergic to any of the preparations used during the scan (please see the section on risks).

They will ask you to lie on the scanner table, which passes through the hole in the gantry. The hole is quite wide and approximately 60 centimetres deep, so you shouldn't feel confined during the examination.

The radiographer or a doctor will insert a needle (cannula) into a vein in your arm or the back of your hand, so that we can give you an injection of Buscopan and contrast media (x-ray dye). If you are having this test as part of the bowel cancer screening program, you will not routinely be given the x-ray dye into a vein.

Buscopan relaxes the muscles of the bowel wall, making the examination more comfortable for you. It also prevents spasm in the bowel to improve the quality of the images.

Contrast media is used to highlight vessels and organs on the scan and helps make the test more accurate.

The radiographer will insert a soft tube into your back passage. This is connected to a machine which gently pumps small amounts of CO₂ into the bowel. This is to expand your bowel so that it can be seen on the images. It is important that you hold on to this air, and do not let any escape through your back passage.

An injection of contrast media will then be given through the cannula. It may make you feel warm all over but should not cause you undue discomfort.

The examination may be uncomfortable and you may experience slight crampy abdominal pain but it should not be painful.

We will scan you in two/three different positions in order to obtain images of all areas of the bowel. The whole examination takes between 20 and 30 minutes. Occasionally there are delays as we may need to accommodate emergency scans. Staff will do their best to keep any delay to a minimum.

What happens after the CT Colonography?

The examination is complete when we have acquired sufficient images. Some of the pressure inside your bowel will be released and the soft tube will be removed. You will be shown to a private toilet where you can get rid of more air.

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.

We will offer a cup of tea or coffee and some biscuits.

A member of staff will explain the aftercare to you. When you feel ready, you will be able to leave the department.

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 contact you.

Are there any risks or complications?

CT scans use x-rays. The amount of radiation used is more than a standard x-ray, but we will use the minimum possible to get the images required.

Radiation can cause harm, including cancer, but the risks are very low. The benefit of the information from the CT scan will be much greater than the risk. If you compare the radiation from the scan with background radiation (in things like rocks, building materials, food and from outer space), your scan will give the same dose as about 18 months of background radiation. This extra radiation confers a lifetime risk of getting fatal cancer of about one in 4000. This may be higher for unborn babies, young patients and those having scans of more than one body area.

The most common side effects experienced from the injection of buscopan (affecting one in 10 people) are a dry mouth, blurred vision, dizziness and an increased heart rate. If you experience blurred vision, please wait until your vision returns to normal before driving. This usually takes about 20 minutes. There are less common side effects including skin reactions such as redness, hives, itching or a rash. Buscopan can also cause a problem when emptying the bladder.

Severe adverse reactions (anaphylactic) are uncommon but can occur and could include: tightness in the throat, chest pains or palpitations, shortness of breath and extreme dizziness.

In extremely rare cases, buscopan may induce narrow angle glaucoma, which is an increased pressure within the eye. If you develop painful red eye(s) or your vision deteriorates after you have left the department in the 48 hours following injection, you should seek medical attention straight away. Some patients have chronic glaucoma for which they take eye drops, but this condition is not affected.

The use of buscopan can intensify the anticholinergic effect (e.g. dry mouth, flushing, constipation, urinary retention) of certain medicines. If you are taking any of the following medications this may occur:

- tri- and tetracyclic antidepressants (e.g. amitriptyline)
- antihistamines (e.g. chlorphenamine, loratadine, cetirizine)
- antipsychotics (e.g. phenothiazines (e.g. chlorpromazine, prochlorperazine), butyrophenones (e.g. haloperidol))
- quinidine
- disopyramide
- amantadine
- other anti-cholinergic e.g. tiotropium, ipratropium

The tachycardia effects of beta-adrenergic agents, such as salbutamol, may be enhanced by buscopan resulting in an increase in heart rate and you should seek medical advice if you are concerned.

There is a slight risk of an allergic reaction to the contrast injection, which may lead to a skin rash or nausea⁽¹⁾. On rare occasions, more serious complications can occur. There is a theoretical risk of death and this is estimated to be approximately one in 170,000⁽²⁾.

Our doctors are on hand to deal with any complications. If you have had an allergic reaction to an injection of x-ray contrast in the past you must let the radiographer know before your scan.

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.

There is a small risk of perforation of the rectum/colon wall (very rare, one in 3000) when undergoing this procedure, and generally only happens if there is a significant problem within the bowel. Perforation is when a small hole is made in the bowel wall. This usually resolves without treatment but often requires a hospital admission and observation. If you experience severe abdominal pain and/or vomiting after you leave the department you need to attend your nearest emergency department.

The Gastrografin liquid given as preparation before the scan is likely to cause diarrhoea, but this should not persist beyond 24 hours after the scan. Contact your GP if you still have persistent symptoms beyond 48 hours.

Overall CT Colonography is very safe, and the small risks are outweighed by the benefits of having more accurate information about your large bowel. It is worth bearing in mind that many thousands of scans are carried out perfectly safely at our hospitals every year.

Finally?

If you have any problems or queries, please phone the CT appointments clerk 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.

Scarborough Hospital: 01723 342411

York Hospital: 01904 72 59 36

References

1. Siddiqui N H. Contrast reactions. Medscape.
Updated 22 July 2017. [accessed June 2022]
2. Morcos S K. Acute, serious and fatal reactions to contrast media. Our current understanding. BJR (2005) 78, 686-93. [accessed May 2022]

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

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Susan Merrick, CT Radiographer Principal, Scarborough Hospital, Woodlands Drive, Scarborough, YO12 6QL, telephone 01723385390 or email susan.merrick2@nhs.net.

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 yhs-tr.patientexperienceteam@nhs.net

An answer phone is available out of hours.

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.

Leaflets in alternative languages or formats

If you would like this information in a different format, including braille or easy read, or translated into a different language, please speak to a member of staff in the ward or department providing your care.

Patient Information Leaflets can be accessed via the Trust's Patient Information Leaflet website: www.yorkhospitals.nhs.uk/your-visit/patient-information-leaflets/

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