

# CT Colonography

Information for patients



Radiology Department

**This leaflet contains important information about your scan.**

Please read all sections of the leaflet carefully and follow the important instructions.

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**Your hospital doctor or GP has asked us to carry out a specialised CT scan called a CT Colonography examination.**

We will need to have your formal consent before we can carry out this examination.

This leaflet explains about having a CT Colonography, what it involves and the risks and benefits of having the examination. It also gives details of what you need to do to prepare beforehand.

**For people with childbearing capability between the ages of 12 to 55 years it is important to ensure that you are not pregnant.** If there is any possibility that you might be pregnant, please let us know immediately.

If you weigh more than 203kg (32 stone), please contact us using the telephone number at the top of your appointment letter as soon as possible. We are only able to scan patients above 203kg at one site and your appointment may need to be re-arranged.

Enclosed with this leaflet is a measuring cup and one bottle (1 x 100ml) of Gastrografin liquid, which you will need to take as part of the preparation for this examination.

**Please read all sections of the leaflet carefully and follow the important diet instructions on pages 7 to 10.**

## What is a CT Colonography?

This is a type of scan which uses X-rays linked to a sophisticated computer to create detailed pictures of your body in 'slice sections' (cross sections).

The CT scanner is an open ring-like structure (please see cover photo), which looks a bit like a giant doughnut, rather than a tunnel as everybody expects!

CT Colonography is an examination that takes detailed images of your large bowel (colon) creating 2 dimensional and 3 dimensional images.

During the procedure, a very small soft tube will be inserted a very short distance into your back passage (rectum) and through this carbon dioxide (CO<sub>2</sub>) gas will be introduced into the bowel which can result in mild abdominal discomfort and bloating. Once this has been done, several scans will be taken with you lying in different positions on the scanning table.

Any discomfort or bloating will pass off quickly once the examination has been completed and the tube removed from your rectum.

The images will be looked at and a report written by the Radiologist (a doctor trained in checking X-rays), to see what the cause of your symptoms might be.

## Can I take my prescribed medicines as usual?

**CONTINUE TO TAKE ALL OTHER REGULAR MEDICATIONS AS PRESCRIBED, UNLESS YOU HAVE BEEN TOLD OTHERWISE.**

**Caution:** Keep all tablets and medicines out of reach of children. Never give any medicines prescribed for you to anyone else.

## What clothing can I wear?

You may wish to wear loose clothing that can be removed easily. You will be asked to change into a hospital gown for this scan.

## Can I bring a relative or friend?

Yes, but they will not be able to go with you into the scan room, except in special circumstances. There is limited seating in the CT waiting areas of all our sites, and your accompanying visitor may be asked to return later. We will telephone them to let them know when you are ready to be collected. Please be aware that we cannot guarantee that we can care for young children whilst you are having your scan.

### Interpreter

If you require an interpreter for your scan, please contact the appointments team on the telephone number on your appointment letter and this will be arranged for you.

Please be aware that it is Trust policy that family and friends cannot act as an interpreter for your scan.

## How do I prepare for the scan?

**Please follow the instructions very carefully to ensure that your bowel is properly prepared for the examination.** If the instructions are not followed carefully, the examination will result in poor quality images, making it difficult to identify pathologies such as polyps or early cancers.

You will need to **drink the enclosed Gastrografin**, following the **instructions on pages 8 to 10**. You will also need to follow the **diet sheet on pages 7 and 8** indicating what can be eaten prior to your examination.

# Does Gastrografin have any side effects?

## **Gastrografin bowel preparation**

All drugs may cause some side effects. Most people who take Gastrografin cope well and experience few side effects. In some people Gastrografin can cause a feeling of nausea or lead to vomiting. If you experience any skin rashes, itching, chest tightening or itchy eyes you should stop taking the Gastrografin and seek medical advice, either by phoning the radiology department or your GP practice.

In extremely rare cases Gastrografin may cause anaphylaxis. If you experience any swollen lips, tongue, or face, and have trouble breathing you may be experiencing an anaphylactic reaction, it is important to get medical help, so dial 999 immediately.

**For more information on anaphylaxis reaction please see the following link: Anaphylaxis - NHS ([www.nhs.uk](http://www.nhs.uk))**

You may experience a few episodes of diarrhoea after drinking the Gastrografin, this is a normal part of preparing your bowel for the examination. Please ensure that you keep well hydrated with clear liquids (aim to drink up to 1.5 to 3 litres a day), unless otherwise informed by your medical team due to predisposed conditions or if you are on fluid restrictions. Please note that Gastrografin is not designed to clear your bowel contents completely and you may therefore still feel that you have loose stools on the morning of the examination, which is quite normal.

**PLEASE CONTACT THE CT IMAGING BOOKING OFFICE ON 01295 229 185 IF ANY OF THE FOLLOWING APPLY:**

- You have any allergies, in particular to iodine.
- There is any possibility that you are pregnant.
- You have limited mobility, require any assistance to transfer to and from the scanning table (e.g. hoists etc.), and require the aid of assisted transport in order to be able to attend for the examination.
- You have hyperthyroidism.
- You are taking beta-blockers.
- You have swallowing difficulties resulting in regular choking / coughing episodes when drinking fluids.
- You have been treated with Interleukin-2.
- You require an interpreter booking, as we are unable to use family members to interpret, due to the hospital policy.
- You weigh more than 203kg (32 stone).

**PLEASE DO NOT TAKE THE GASTROGRAFIN OR FOLLOW THE PREPARATION UNTIL YOU HAVE SPOKEN TO US, IF ANY OF THE ABOVE MENTIONED APPLY.**

If you get an allergic type response after taking Gastrografin, please stop taking it immediately and seek medical advice.

Signs of an allergic reaction are:

- Raised itchy skin rash (hives)
- Wheezing
- Chest tightness
- Swollen lips, tongue, eyes or face
- Itchy watering eyes.

## **ADDITIONAL INFORMATION FOR PATIENTS WITH DIABETES:**

The **diet sheet** below and on the following page is suitable for both diabetic and non-diabetic patients. For the period of the bowel preparation regime, patients with diabetes can include food and drinks, which include sugar, listed on the diet sheet.

If you are a patient with diabetes, please follow the instructions on pages 9 to 12.

If you have concerns about the management of your diabetes whilst following this low residue diet, please seek advice from your GP or your diabetic nurse specialist.

## **Low fibre diet**

The diet in the table is a 'low residue' diet which is low in fibre and consists of foods which are slow to digest. A low residue diet is designed to leave only a small amount of undigested food in the digestive tract, reducing the amount of stools in the bowel.

<p><b>FOODS ALLOWED:</b></p> <p>White bread, butter / margarine, smooth peanut butter, egg, white fish, chicken, potato (no skin), tofu and/or tempeh, low fibre breakfast cereal, such as rice crispies, corn flakes with limited milk.</p>	<p><b>FOODS PLEASE AVOID:</b></p> <p>All others</p>
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<p><b>FLUIDS ALLOWED:</b> <b>Clear FLUIDS only:</b> Water /soda water, weak tea, coffee, milk (or dairy free alternatives), any fruit squash, jelly (with no lumps), lemonade, carbonated fizzy drinks and energy drinks, OXO / Bovril /stock cubes, clear soups – any lumps should be strained and not eaten. Do not liquidize soup as the fibre will remain. alcohol in moderation (unless otherwise advised by your doctor).</p>	<p><b>FOODS PLEASE AVOID:</b> All others</p>
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## **Bowel preparation and dietary requirement instructions:**

Please start following these instructions 3 days before your examination.

### **Three Days before the examination**

**PLEASE STOP TAKING ANY IRON SUPPLEMENTS 3 DAYS BEFORE YOUR SCAN**

**Do NOT take any Gastrografin until the day before your test.**

### **Two Days before the examination**

Please continue as above.



**Day before the examination**

**Patients with Diabetes:** Take **ALL** diabetic medication (Insulin and/or tablets as normal).

<b>Day before your test</b> <b>Morning</b> <b>8am</b>	<b>Measure 70mls of Gastrografin from the 100ml bottle (using enclosed measuring cup) and dilute in 250mls of water or squash</b> (approximately one medium sized glass). Try to drink this within 30 minutes of mixing.  If you experience nausea, please sip the drink over 1 to 2 hours.
<b>Breakfast</b> <b>(not later than 9am)</b>	This meal should be limited to one boiled or poached egg and/or white bread, a scraping of butter or margarine. Alternatively, small amount of tofu or tempeh and smooth peanut butter or a low fibre breakfast from foods allowed list.  Tea and coffee may be taken. Milk (or dairy free alternatives) to be consumed in low quantities – up to 250ml in total throughout duration of preparation.
<b>Mid-Morning</b>	Drink clear liquids as required, including liquids that contain sugar if the need requires.
<b>Lunch</b> <b>12.30pm to 1.30pm</b>	A small portion of steamed, poached or grilled white fish or chicken. Alternatively, tofu. Small portion of boiled potato (two egg sized) or two slices of white bread. Jelly for dessert (this may contain sugar).  Or clear, strained soup.

<p><b>Dinner After 4pm</b></p> <p><b>(NB: if you have an afternoon appointment, please choose from the foods allowed list)</b></p>	<p><b>NO SOLID FOOD TO BE EATEN.</b></p> <p>Clear soup and meat extract may be taken followed by sugar jelly. Jellies and clear drinks may contain sugar.</p>
<p><b>Evening 8pm</b></p>	<p><b>Mix remaining 30mls of Gastrografin from the 100ml bottle with 250mls of water or squash</b> (approximately one medium sized glass). Try to drink this within 30 minutes of mixing.</p> <p>If you experience nausea please sip the drink over 1 to 2 hours.</p>

**All patients:**

Drink regularly throughout the evening before the scan to prevent dehydration. Please ensure **to NOT exceed** 3 litres of fluids during intake, unless otherwise informed by your medical team due to predisposed conditions or if you are on fluid restrictions.

## **On the day of the examination**

Please check your appointment letter carefully for your appointment date, time and location.

### **MORNING APPOINTMENT (up to 1pm):**

- **NO SOLID FOOD to be EATEN until after your examination.**
- Please CONTINUE drinking CLEAR LIQUIDS (as per table on page 8).

#### **Patients with Diabetes:**

- Insulin controlled: TAKE HALF OF THE NORMAL DOSE of INSULIN.
- Tablet controlled: DO NOT TAKE MORNING DOSE of TABLETS.

Please bring your medication with you to the hospital. After the examination you will be able to take your normal dose.

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### **AFTERNOON APPOINTMENT (after 1pm):**

#### **Breakfast:**

Low fibre diet breakfast as per table on page 10 and continue to drink clear fluids.

- **NO SOLID FOOD to be EATEN until after your examination.**
- Please CONTINUE drinking CLEAR LIQUIDS (as per table on page 8).

#### **Patients with Diabetes:**

- Insulin controlled: TAKE HALF OF THE NORMAL DOSE of INSULIN.
- Tablet controlled: TAKE MORNING DOSE with low fibre diet food in the morning.

Please bring your medication with you to the hospital. After the examination you will be able to take your normal dose.

**Patients with Diabetes: Remember to bring with you:**

- Glucose tablets or clear sugary drinks,
- Blood glucose testing equipment you usually use,
- Insulin and/or tablets you usually take for your diabetes (including any Insulin Pens you use),
- Light food (i.e. biscuits, sandwich etc.).

When you arrive in the Radiology Department you will be greeted by reception staff and directed to a CT waiting area. The radiology staff will check your identity.

You will be asked to complete a safety questionnaire, which asks about your medical history (e.g. diabetes, heart problems, asthma, kidney problems) and any medication you may be taking; so that we can assess any risks of giving you either Buscopan or contrast dye (see information under heading: **Will I need an injection?**).

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

At the beginning of the examination, subject to your medical history, an injection of Buscopan is given into a vein in the arm (through a cannula – small plastic tube that will be inserted), in order to slow down the natural motion of the bowel and to stop the bowel going into spasm.

Occasionally, a further injection of Iodine contrast may be given towards the end of the examination to help visualise the bowel in greater detail. This will be explained to you at the time if this applies to you.

Contrast dye contains iodine, which can affect your kidneys if you already have kidney problems. We may collect a small sample of blood from your cannula, to test your kidney function before we give you the contrast dye.

## **What happens when I arrive in Radiology?**

When you arrive in the Radiology department you will be greeted by the reception staff and directed to the CT waiting area and given a form to read and complete.

This form relates to pregnancy status, Oxford University Hospitals is an inclusive organisation who recognises and accepts the diverse community that it is part of. This has resulted in the organisation reviewing many of its processes and procedures to make sure they are in line with this, with the safety and protection of individuals being at the centre of any changes or adjustments. We are now asking the childbearing capacity questions to all patients, regardless of their gender.

Your clinician has requested diagnostic imaging that requires an exposure to radiation. As radiographers, it is our professional duty and legal responsibility to ensure that we protect individuals from unnecessary exposures to radiation.

This is particularly relevant when considering any potential exposure of an unborn baby to ionising radiation, as they are at greater risk from the harmful effects of radiation. If we cannot exclude that you are not pregnant, we may need to rebook your scan.

**If there is any possibility that you might be pregnant, please contact the Radiology department before your appointment.**

The Radiology staff will check your identity and prepare you for your scan.

## **What happens during the scan?**

After all preparation has been done (drinking dilute Gastrografin, getting changed and having the cannula fitted) you will be taken to the CT room. You will meet the radiographers, who will explain the CT scan to you, tell you what to expect and ask you to complete a consent form for the scan. You can ask any questions you may have.

You will be given the injection of Buscopan if appropriate and then asked to lie on your side on the CT table. The injection may blur your eyesight and give you a dry mouth, but this doesn't last for long.

A very small soft tube will be inserted a very short distance into your back passage (rectum). Through this, carbon dioxide (CO<sub>2</sub>) gas will be introduced into the bowel which allows the bowel to be visualised on the images. This can result in mild abdominal discomfort and bloating.

Once this has been done, the scanning table will move your body through the scanner, so that the areas we need to look at can be scanned. You may be asked to hold your breath while the scanner takes the pictures. If you have difficulty holding your breath, please tell us.

We will then ask you to lie in a different position on the scanning table and scan you again. This helps us to be able to visualise as much of the large bowel as possible.

At this point we may give you the injection of contrast dye.

You will be told what to expect if you are having the injection of X-ray contrast dye. This is usually a metallic taste in the mouth and a warm sensation throughout the body, particularly in the pelvis, which lasts for about 30 seconds. Please tell us if you experience any discomfort in your arm during the injection.

The radiographer who carries out the scan and the radiology assistant can always see and hear you through a connecting window and an intercom.

Once the examination has been completed the tube will be removed from your rectum. Any discomfort or bloating will pass off quickly once the examination has been completed and the tube removed from your rectum.

## **How long does the scan take?**

You will be in the scan room for approximately 30 minutes, but the preparation and recovery take longer.

You should allow up to an hour and a half from the start of your appointment before you will be ready to go home.

The radiology department also provides an emergency service to sick patients. If we need to see an emergency patient, your appointment may be slightly delayed. We will do our best to keep you informed of any delays that may occur.

## **What happens after the scan?**

Once the tube in your back passage has been removed you will be able to visit the toilet should you feel the need to do so.

The small tube (cannula) in your arm (if inserted), will also be removed after the examination, and a gauze dressing will be placed, which can be removed after approximately one hour of you leaving the Radiology department.

It is normal to get cramp like abdominal pains during the examination and shortly afterwards. This discomfort will ease, as the carbon dioxide gas is absorbed by your body in the hour or so following the scan. You may continue to have some diarrhoea for one or two days after the scan, which is normal.

You may wish to bring with you a light snack (i.e., biscuits, sandwich etc.) to eat after the procedure.

You can go home soon after the procedure if you feel well enough to do so. There is no reason why you cannot drive home afterwards and resume normal activities. However, you may want to rest at home for the remainder of the day. You can eat and drink normally.

## **Are there any risks?**

There is a very small risk of a 1 in 3,000 chance (compared to 1 in 2,000 in conventional colonoscopy) of a small tear (perforation) to the lining of the bowel wall.

There is a risk of reaction to the Gastrografin or Buscopan used. This is very rare. You will be asked to complete safety questionnaires to reduce any possible risks. Signs of a reaction include raised itchy skin rash (hives), wheezing, chest tightness, swollen lips, tongue eyes or face, itchy watering eyes. It is important to inform the hospital if you have had any previous reactions to medicines in the past.

There is a small risk from the Buscopan injection we use to relax your bowel and make the procedure more comfortable.



Very rarely, Buscopan may result in increased pressure in the eyes from undiagnosed glaucoma – acute glaucoma. If, after the procedure and injection of Buscopan, you develop severe pain, redness or swelling of your eyes, you must immediately contact your nearest Emergency Department. We will give you a letter after the procedure with all relevant information.

### **Contrast injection**

The contrast injection contains iodine, which can cause an allergic reaction in a few people. You should tell the radiographers who are carrying out the scan if you have had an allergic reaction to iodine or contrast dye in the past, or if you have any other allergies. Very rarely the dye may cause some kidney damage in people who already have kidney problems. We will ask you to complete a questionnaire on the day of the examination before the procedure takes place, to assess the risks of giving you the contrast dye. We may also take a small sample of your blood to test your kidney function.

There is a small chance that the contrast injection can leak outside the vein and cause temporary swelling and discomfort in the arm: this does not happen very often. In the unlikely event of this happening, we will provide you with further instructions and advice.

### **Exposure to radiation**

CT scans are generally safe, but you will be exposed to X-ray radiation. We are all exposed to background radiation from the ground, building materials and the air, every day of our lives, this is normal and natural. Medical X-rays give an additional dose and the amount of radiation you're exposed to during a CT scan varies, depending on how much of your body is scanned.

Generally, the amount of radiation you're exposed to during each scan is the equivalent to between a few months and a few years of exposure to natural radiation from the environment. It's thought exposure to radiation during CT scans could slightly increase your chances of developing cancer many years later, although this risk is thought to be very small (less than 1 in 1,000).

The benefits and risks of having a CT scan will always be weighed up by your doctor and the specialists in radiology before your CT scan, to ensure that this is the best procedure for you to have to diagnose (or treat) your condition. The radiographers always ensure that the radiation dose is always kept as low as possible and CT scanners are designed to make sure you are not exposed to unnecessarily high levels.

**For more information, read GOV.UK patient dose information.**

Visit: [www.gov.uk/government/publications/medical-radiation-patient-doses/patient-dose-information-guidance](http://www.gov.uk/government/publications/medical-radiation-patient-doses/patient-dose-information-guidance)

## **When and how will I know the result of the CT examination?**

You will not receive the results straight away. The images will be looked at and a report written by the radiologist.

The written report will be sent to the doctor that referred you to us; this is not necessarily your GP.

If you are unsure who referred you for the scan, please ask the radiographers whilst you are in the scan room. If you do not have another outpatient appointment and do not hear anything about the results within three weeks, please telephone the referring doctors or their secretary for advice. If you do not have their number, please telephone the hospital switchboard, and ask to be put through to them:

Telephone: **0300 304 7777**

## Questions or concerns

If you have any queries or are unable to come for your appointment, please telephone us using the following telephone number:

Telephone: **01295 229 185**

(Monday to Friday 8am to 5pm)

## Further information

Further information about CT scans is available on the following websites:

### **The Society of Radiographers**

There are short videos showing the way in which X-rays and scans are used, including CT scanning.

Website: [www.collegeofradiographers.ac.uk/Patient-Advisory-Group/Patient-support-and-information-network/Patient-information](http://www.collegeofradiographers.ac.uk/Patient-Advisory-Group/Patient-support-and-information-network/Patient-information)

### **NHS Choices:**

Website: [www.nhs.uk/conditions/ct-scan/](http://www.nhs.uk/conditions/ct-scan/)

### **Oxford University Hospitals NHS Foundation Trust**

For further information about the Trust please visit our website:

[www.ouh.nhs.uk](http://www.ouh.nhs.uk)

## Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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