

Computed Tomography (CT) Colonography

Radiology

Patient Information Leaflet

What is a Computed Tomography (CT) Colonography?

A CT colonography is a test which uses a CT scanner to produce images of the large bowel (colon and rectum). A specially trained radiographer will insert a small thin tube into your back passage, which will allow gas (carbon dioxide) to flow into your bowels, expanding them. The CT scanner will take lots of images of your abdomen.

For the scan, you will be asked to lie in a few different positions, and you may experience mild abdominal discomfort and bloating. This is normal and will ease once the examination is complete.

CT colonography is regarded as a very safe test. Problems that may occur are similar to any other test for imaging the bowel. Carbon dioxide gas is introduced to expand the colon so it is clearly seen. There is a small risk that inflating the colon may cause a tear (perforation). The risk of perforation is about 1 in 3000 and is lower than that of a colonoscopy. If it were to happen, nearly all cases resolve with no treatment.

We always weigh any risks against the benefits that may be gained from any procedure before going ahead. Your doctor and our radiology team will have agreed that the benefits to you will outweigh any risk of having this procedure. Please contact us if you have any questions.

How do I prepare?

Preparation is key for this examination, as following the instructions will ensure the best images are obtained. Failure to do so could result in the examination not being performed or poor images. For the scan, you need to follow a low residue diet for two days, (see diet sheet below) and take a medicine called Gastrografin or Omnipaque, that you need to collect from us at least 72 hours prior to your scan. This will highlight the bowel wall and any faeces left. Gastrografin/Omnipaque is a contrast medium (dye) which contains iodine. **If you have previously suffered an allergic reaction to contrast containing iodine or have difficulty swallowing liquids, please contact the CT Department on 01384 244610.**

Low residue Diet

This diet is for patients who are preparing for CT colonography to guide them on the low residue diet required before a CT colonography procedure. This is a very important part of the preparation for this procedure.

Why follow a low residue diet?

It helps to make sure the bowel is clean for the procedure and that we can see everything clearly. The low residue diet was developed to provide foods that will leave a minimal amount of undigested material in the digestive tract.

What is a low residue diet?

The diet restricts the foods containing large amounts of fibre. Skins, pips, highly seasoned and generally indigestible food should be avoided.

“Residue” refers to the material left in your digestive tract after the initial stages of digestion are finished. This material enters your stool and exits the body when you use the bathroom. Stools often contain a lot of undigested fiber because the body can’t fully digest fibre.

When do I start the low residue diet?

Two days before your procedure, please follow the low residue diet on this sheet, which means foods from the allowed column in the table below.

ON THE DAY OF THE EXAMINATION DO NOT EAT ANY SOLID FOODS until after your examination.

Foods to include and foods to avoid

Fibre is mainly found in whole grains, legumes (dried beans, peas and lentils) and fruit and vegetables. From the following lists, only choose foods from the ‘Low fibre’ category and avoid from the ‘Higher fibre’ food list.

	Foods allowed	Foods to avoid
Food group	Low fibre foods (Less than 2g of fibre per serving)	Higher fibre foods
Cereals	All ‘white’ cereals e.g. Cornflakes, Frosties, Rice Krispies, Ricles, Special K, Sugar Puffs, Ready Brek, sieved porridge, Coco Pops, millet flakes.	High fibre cereals, e.g. Weetabix, Shredded Wheat, muesli, All Bran, bran, porridge with added bran or nuts.

Bread	White or oatmeal bread, white rolls and plain buns including white bagels, biscuits, English muffins, waffles, pancakes, pita, flour tortilla, plain chapatti and poppadoms.	Any bread product made from wholegrain flour, bran, rye, nuts, seeds or dried fruits, including wholemeal, granary, high fibre, and currant or malt bread. Crispbreads. Fruit muffins, scones and pastries.
Biscuits	All plain or cream biscuits e.g. arrowroot, Morning Coffee, Rich Tea, custard creams, wafers.	High fibre biscuits such as digestives or wholemeal crackers. Biscuits containing fruit, nuts, bran, coconut, ginger or other spices e.g. Garibaldi, nut cookies, flapjacks.
Other grain products	White rice, white and green pasta e.g. spaghetti or lasagne, chow mein noodles, rice noodles. White millet flour, cornflour, tapioca.	Wheat bran, barley, whole wheat pasta, popcorn, wholemeal and brown pasta, wholemeal flour, brown rice and couscous.
Milk and milk products	All types of milk, cream, sour cream, crème fraiche, fromage frais, smooth yoghurt, butter, margarine and cheese. Use butter and other fats sparingly.	Any milk product containing fruits, nuts, seeds or cereals, including yoghurt, cheese with added fruit or nuts. Cooked cheese.
Vegetables	Eat flesh only (no seeds, peel, pith or stalks). Can include potatoes well boiled and mashed. Soft – well cooked ‘pulpy’ vegetables including mashed, pureed and creamed varieties such as mashed potato or mashed sweet potato, pureed squash or pureed swede. Sieved tomato sauces including passata and tomato puree. Smooth or sieved soup. Strained vegetable juices.	All vegetable seeds, peel, pith or stalks. Avoid raw or cooked ‘stringy’ vegetables including, broad beans, cabbage, curly kale, celery, cucumber, leeks, mushrooms, okra, onions, parsnips peppers, peas, pumpkin, radishes, spinach, sprouts and sweetcorn. Skins of jacket potatoes fried or roast potatoes. Pulses including baked beans, butter beans, kidney beans, chickpeas and lentils. Soup with pieces e.g. minestrone. Vegetable juices with pulp.
Fruit	Eat flesh only (no seeds, peel, pith or stalks). Can include tinned	All fruit seeds, pips, peel, pith, stones or stalks, including all citrus

	apricots, peaches and pears. Ripe fresh fruit without skins or seeds such as peeled apple or pear. All fruit juices and fruit-flavoured drinks without pulp.	fruits e.g. oranges, grapefruit, lemons etc., kiwi, raspberries and strawberries as they contain seeds. Pineapple and other 'stringy fruits' e.g. mango. All dried fruit e.g. currants, prunes, figs, dates. Smoothies, all fruit juices with pulp and prune juice.
Meat, fish and alternatives	All tender lean meat e.g. beef, lamb, pork, chicken, turkey, corned beef, ham, bacon, liver, kidney. Fish e.g. cod, cod roe, haddock, plaice and salmon. They can be grilled, baked, poached or steamed. Eggs and tofu.	Grisly, tough or fatty meats and tough skin including meat pies, pasties, sausages and crackling. Fish with lots of small bones e.g. pilchards. Fried fish. Fried eggs.
Sweets and puddings	Custard, ice cream, milk puddings, clear jelly, smooth coconut milk, frozen yoghurt. All plain cakes e.g. Madeira cakes, Victoria sponge and iced buns. Hard candy, plain/milk/white chocolate, toffee, fudge, mints, fruit gums, pastilles, jelly sweets and marshmallows.	Ice cream containing fruit and nuts. Any cakes, puddings and pies including any of the following ingredients: wholemeal flour, dried fruit, nuts, dried coconut and any fruits that should be avoided. Pastries and stodgy puddings. Chocolate with dried fruit, nuts or seeds.
Drinks	Water, soft drinks, wheat or herbal tea. Weak tea and coffee, hot chocolate, malt drinks.	High-caffeine drinks such as strong tea and coffee, energy drinks and cola. Alcohol.
Miscellaneous	Oils, salad dressings, ketchup, gravy, soy sauce, pepper, salt, herbs and spices in moderation (dried or finely chopped). Jelly-type jams (e.g. lemon curd), sugar, artificial sweeteners, honey, golden syrup, treacle. Plain pretzels (without sesame seeds), crisps.	Wholegrain mustard, vinegar, pickles, relish, houmous, coleslaw, chutney, liquorice root. Highly seasoned dishes, curries. Jam or marmalade with skin, peel or pips, peanut butter, mincemeat. Popcorn, corn chips. All nuts and seeds including pumpkin, sunflower and sesame seeds.

Suggested meal plan example

Breakfast

- Low fibre cereal (from the 'Foods to include' section) with milk and sugar (if desired).
- White bread or toast with margarine or butter and honey, marmite or seedless jam.

Mid-morning snack

- Sweet or plain biscuit.
- Fruit (from the 'Foods to include' section) or plain yoghurt.

Lunch

- Meat, chicken, fish or eggs.
- White pasta, rice, bread, potato (no skin).
- Vegetables (from the 'Foods to include' section).

Mid-afternoon snack

- Sweet or plain biscuit.
- Fruit (from the 'Foods to include' section) or plain yoghurt.

Evening meal

- Meat, chicken, fish or eggs.
- White pasta, rice, bread, potato (no skin).
- Vegetables as allowed.

Evening snack

- Similar to mid-morning or mid-afternoon snack. You may wish to make these snacks appropriate for the time of day you will be eating them.

Follow the low residue diet above on the two days before your appointment. On the second day (day 2), you will also need to drink the Gastrografin/Omnipaque medication that has been provided.

Instructions on how to take the medication will be provided on collection.

DO NOT DILUTE THE MEDICATION

Diabetics

For diabetics on insulin or tablets, the above diet is to be followed for **ONE DAY ONLY** – the day before the examination (day 2). You can have white toast for breakfast on the morning of the examination and boiled sweets and clear fluids thereafter, as needed. It is advisable to bring food to eat after the scan has been done, if required.

As a diabetic you are at an increased risk of having a 'hypo' (low blood sugar) when not eating for a length of time. To avoid this, we recommend you closely monitor your blood sugar before and after the scan and have glucose drinks/glucose tablets available to take if needed. During the scan, the radiographers can always hear you, so please let us know if you are feeling unwell.

If you are concerned about the preparation for your test, please contact your diabetes nurse or call the CT Department on the number provided.

Does Gastrografin/Omnipaque have any side effects?

Like with any medication, Gastrografin and Omnipaque may have some side effects. They often have a **laxative effect and may cause diarrhoea, so it is advisable to stay close to a toilet.**

It is important to take note of any new symptoms you experience after taking Gastrografin or Omnipaque. If you are concerned, please call the number on your appointment letter to speak to a member of the CT team.

Occasionally, Gastrografin/Omnipaque can cause allergic reactions with nausea and vomiting, skin rashes and very rarely anaphylaxis. If you are concerned that you may be experiencing an allergic reaction, please contact your GP, 111, 999 or attend your nearest A&E department, depending on the severity of your symptoms.

Can I continue to take my regular medication whilst taking Gastrografin/Omnipaque?

Unless you are taking any of the medication mentioned below, you should continue to take your regular medicines as prescribed unless you are advised otherwise by this leaflet, a medical professional, or a member of the CT Team.

Insulin – Continue taking your insulin throughout the preparation for this test but monitor your blood sugars closely.

Metformin - If you take metformin, please call the CT team who will check if you have had a recent blood test.

Iron tablets - Stop taking iron tablets seven days before your scan.

Laxative treatment – Do not take on the day Gastrografin is taken and on the day of your scan.

Anti-diarrheal medication – Stop taking four days before your scan, restart after the scan if required.

Recommence medication after the scan has been performed.

Is there any situation when I should not take Gastrografin/Omnipaque?

Allergy/hypersensitivity to contrast media- If you are allergic to iodine containing contrast media (X-ray dye), then you should not take Gastrografin or Omnipaque.

Pregnancy/Breastfeeding - If you are pregnant or think you might be pregnant or currently breastfeeding.

Dehydration – If you are dehydrated, please call us on the number at the end of this leaflet.

What happens on the day of the scan?

Do not eat any solid foods (unless you are a diabetic). You will be in the Radiology Department for approximately one hour. **If you are of childbearing age, then you must let the radiographers know if you may be pregnant. Please be aware that diarrhoea can cause the pill to be less effective, so please use other methods of contraception for the rest of your cycle and speak to your doctor.**

You will then be asked to change into a hospital gown. You can leave your underwear on. You can also bring a dressing gown for your comfort.

If required, a member of staff will then put a small cannula (needle) in your arm or in the back of your hand. This is so the radiographer can give you medication such as Buscopan which is used to relax the muscles in the bowel wall or a contrast dye which helps to highlight the bowel wall; not all patients will require this.

A side effect of Buscopan is blurring of your vision/dizziness. This is usually short lived, lasting approximately 30 minutes. If you do

experience blurring, please make sure your vision has returned to normal before driving. Very rarely, Buscopan can precipitate an eye condition called glaucoma. If you develop painful/ red eyes with loss of vision after receiving this medication, you are advised to seek urgent medical help.

You will then be asked to lie on your left side and a small tube will be inserted into your back passage. The machine will then put carbon dioxide into the large bowel. This is a gas naturally produced by the body that will be absorbed, or you will pass it as normal wind.

When there is sufficient gas, two scans are routinely required. You will be asked to lie in different positions, such as on your back, on your side or on your tummy. At some point, you will be given contrast dye (if required) and occasionally, a third scan is required or maybe a scan of the chest.

The injected contrast will highlight your blood, giving better images of your abdomen and giving the radiologists more information. You may feel warm all over and a sensation of passing urine. This is normal, do not be alarmed.

What happens after my test?

You will need to wait in the department for approximately 20 minutes after your examination; this is so we can monitor you and ensure you have not developed an adverse reaction to any of the medication given.

Gradually, you can now return to your normal eating pattern. We recommend that you drink plenty of fluids for the following 2-3 days. Although the carbon dioxide used to inflate your bowel is absorbed quite quickly following the procedure, some minor abdominal discomfort may remain for 1-2 hours. Moving around will help to ease any remaining discomfort.

Please seek urgent medical advice (from your GP, 111, 999 or attend your nearest Accident and Emergency Department) if you experience any of the following symptoms, severe abdominal pains, sweating and nausea.

Your results will be sent to either your GP or the consultant who referred you for the examination. This will be within two weeks.

If you have any questions, or if there is anything you do not understand about this leaflet, please contact:

CT Department: 01384 244610

Russells Hall Hospital switchboard number: 01384 456111

This leaflet can be downloaded or printed from:

<http://dgft.nhs.uk/services-and-wards/>

If you have any feedback on this patient information leaflet, please email dgft.patient.information@nhs.net

This leaflet can be made available in large print, audio version and in other languages, please call 0800 073 0510.

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