

MRI Enterography or Enteroclysis

Consumer Information

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What is an MRI Enterography or Enteroclysis?

Entero means small bowel and *graphy* means image, so enterography is taking images (or pictures) of the small bowel after drinking fluid to make the small bowel stand out on the images.

Enteroclysis means a tube has been placed in the small bowel through the stomach.

Whether enterography (drinking fluid) or enteroclysis (tube placement) is used depends on the preference of the radiologist, and the equipment available. Enteroclysis may take a little longer, involves radiation and use of two different rooms, because X-ray equipment is used to help insert the tube and an MRI scanner then takes the pictures of your bowel.

During MRI Enterography or Enteroclysis, multiple images of the abdomen are taken with a magnetic resonance imaging (MRI) machine.

It involves filling the bowel with fluid that will show up bright on the images and makes the small bowel stand out. Water is quickly absorbed, so instead you may be given other liquids such as Metamucil, barium, Go-Lytely, milk, or juice.

An MRI Enterography or Enteroclysis may also involve the injection of a special dye (often called contrast medium or contrast agent) into the veins during the scan. The contrast highlights the blood vessels on the images. This contrast medium is known as gadolinium chelate (see [Gadolinium Contrast Medium \(MRI Contrast agents\)](#)).

MRI Enterography or Enteroclysis is generally performed if you have symptoms of abdominal pain and a small bowel problem is suspected.

How do I prepare for an MRI Enterography or Enteroclysis?

No food or drink is to be taken for 4 hours before the scan so that your small bowel will be empty. Sometimes a mild laxative is given the day before the scan to also empty the large bowel, or a fluid enema may be given just before the scan. You will be given special instructions about this by the facility where you are having the test performed.

Before the examination begins, you will be asked a series of questions about whether you have any metal implants, such as artificial joints, or electronic

devices, such as pacemakers, inside you, because some of these may cause damage if they are put into the strong magnetic field of the MRI scanner. If so, please bring any documents about these with you to your appointment. If you have a heart pacemaker, please tell the radiology practice at which the MRI study is booked as soon as possible before the appointment. See [Magnetic Resonance Imaging \(MRI\)](#) for more details.

If you have a history of kidney disease your doctor may wish to do a blood test before the scan, to ensure that if you require contrast medium (gadolinium chelate) this can be safely given (see [Gadolinium Contrast Medium \(MRI Contrast agents\)](#)).

What happens during an MRI Enterography or Enteroclysis?

An MRI Enterography or Enteroclysis requires that you drink at least one litre of fluid, so you need to be in the radiology practice or MRI department of the hospital for about an hour before the actual scan.

If previous tests have identified that your bowel is obstructed, you may need to drink less fluid, because the bowel is already fairly full. The radiologist (specialist doctor) who is overseeing the test will determine this after reading the referral request from your doctor and looking at previous radiology examinations (like X-rays or CT scans) that you may have had.

If you have an enteroclysis, a nasogastric tube (a thin plastic tube) is inserted through the nose and into your stomach or jejunum (upper small bowel) to give the fluid by pump, rather than having you swallow it. This decision is made by the radiologist who plans the procedure.

If this is the case, the nasogastric tube procedure will be done in an X-ray room where the tube is inserted through the nose, using local anaesthetic spray and gel. The stomach and small bowel do not have sensation like the skin and you will not be aware of the tube in the stomach, just in the throat. Some radiologists give light sedation for passage of the tube. The tube is passed beyond the stomach into the upper small bowel, using X-rays to show the radiologist its position as the tube is fed into your bowel.

Once the tube is correctly positioned, the radiologist will begin gently injecting fluid through it, into your small bowel. This may cause a cramping sensation (which may be similar to your symptoms). You should tell the radiologist if you are experiencing any discomfort. Usually slowing down the injection will lead to any cramping easing off. The injection will continue until a standard amount has been injected, or, in a few cases, cramping does not settle down. You will then be shown to the MRI examination room.

Before your MRI examination can start, you will again be asked a number of questions about metallic and/or electronic implants that you might have inside you. Once the safety questions are finished, you will be asked to lie down on a narrow bed in the scan room.

Lying on the MRI table, a special set of detectors encased in plastic, which work in conjunction with the main magnet to receive the radiowave signal to produce the images, will be rested on your abdomen like a blanket.

The MRI scanner is a large metal ring (shaped like a doughnut) that surrounds the platform for the bed. The bed will be moved into the scanner, by the medical imaging technologist performing the MRI scan, until your body is correctly positioned. The technologist will then leave the examination room and go to the control room, from where he or she can talk to, and hear from, you at any time.

You will have ear muffs or ear plugs to block out the loud noise of the machine (see *Magnetic Resonance Imaging (MRI)*). You will be given a buzzer that you can ring to talk to the technologist who can reply to you. You always have voice contact with someone while in the scanner. Usually you can listen to music during the scan.

The most important thing you can do to make the study successful is to keep absolutely still during the times you are asked to hold your breath. MRI takes several minutes, or at least many seconds, for the quickest pictures to be taken. Like taking a picture of a moving object with an ordinary digital camera, blurry images result if you breathe or move during an MRI scan. Most of the images are made during one breath-hold. You will have breaks in between when you can breathe normally.

Some radiologists use an injection to slow down the normal movements of your bowel (these contractions can blur the MRI pictures). This injection may be called Buscopan (hyoscine) or glucagon. Some of these medications can worsen an eye disease called glaucoma, cause difficulty urinating (in those with prostate disease), and worsen some heart rhythm disturbances. You will be asked about all of these before any injection is given. It is important to let the technologist and radiologist know if you have any of these conditions before you have any injections.

You may also need to have a gadolinium injection, which makes the blood vessels bright on the images. This is generally very safe but there may be risk associated with gadolinium injections if you have poor kidney function. For this reason, you may be asked to have kidney function tests done prior to coming for your appointment (see *Gadolinium Contrast Medium (MRI Contrast agents)*). If an injection of contrast medium (gadolinium chelate) is required, a small needle will be placed in a vein in your arm.

Some centres use gadolinium contrast routinely for all enteroclysis / enterography studies but this is not uniform practice. Gadolinium contrast medium is usually given if you have Crohn's disease. It is used to show up inflammation in the bowel wall and

surrounding structures, and especially fistulas (an opening or passage between two organs or an organ and the skin caused by disease or injury).

Whether or not gadolinium contrast is used depends on the information your doctor or specialist has written on the referral form, and what is thought to be the best way to provide your doctor with the information he or she needs.

Are there any after effects of an MRI Enterography or Enteroclysis?

The fluid you drink for enterography or enteroclysis may make you feel cold, or slightly nauseous (like vomiting). Occasionally the fluid given may cause mild diarrhoea after the test.

Whatever your usual symptoms that have led you to come for this study (e.g. abdominal pain), these may be brought on or made worse by the scan because you have been given a large amount of fluid to drink. This is especially true if you have a partial blockage in the bowel. If you have an ileostomy (stoma or "ileo-rectal pouch"), you may feel the need to use the toilet soon after the study, so let the technologist performing the scan know this. Any symptoms should pass quickly, whether you have a drink or the tube.

How long does an MRI Enterography or Enteroclysis take?

The time spent in the radiology practice, imaging centre, or radiology department will begin at least one hour prior to the scan when you will be given the liquid to drink. The scan usually takes about 20 – 30 minutes. In event of enteroclysis, the tube placement time varies considerably, depending on where the procedure is performed.

What are the risks of an MRI Enterography or Enteroclysis?

MRI machine

Once you have completed the pre-scan questionnaire and have been assessed as safe to enter the MRI machine, there are no significant risks from the MRI machine itself (see *Magnetic Resonance Imaging (MRI)*).

Most people are suited to this examination, although there are some restrictions due to the strength of the magnet and its possible effects on devices or implants such as pacemakers.

Contrast medium

There is a very small risk of allergic reaction related to the contrast medium (gadolinium chelate) injection.

Recently, a condition called nephrogenic systemic fibrosis (NSF) has been identified as a rare but significant side effect of contrast injection. This complication occurs only in people with very poor kidney function, including people who are already on dialysis (a process that filters the blood of patients whose kidneys are not functioning properly, using a kidney machine). This rare but serious reaction takes weeks to months to develop. For more

information on NSF see the information item on [Gadolinium Contrast Medium](#).

Buscopan (hyoscine) or glucagon

Some medications used to slow down the normal movements of your bowel can worsen an eye disease called glaucoma, cause difficulty urinating (in those with prostate disease), and worsen some heart rhythm disturbances.

What are the benefits of an MRI Enterography or Enteroclysis?

MRI provides multiple views of the bowel which allows the natural movement of the bowel to be assessed. If one part of the bowel is contracted (narrowed), it might open up during the taking of the multiple views so that it can be better assessed by the radiologist, who is the specialist doctor who will assess and interpret the pictures after your study is complete.

Using MRI instead of X-rays especially benefits younger patients, who are more sensitive to ionising radiation (see [Radiation Risk of Medical Imaging for Adults and Children](#)), people who may need multiple examinations, and those who may need monitoring of their treatment for bowel inflammation over time.

Who does the MRI Enterography or Enteroclysis?

A medical imaging technologist specially trained in the use of MRI will conduct most of the MRI safety screening procedures, help you to lie on the bed, and operate the scanner controls.

The exact types of pictures that the MRI scan will produce are chosen in advance by a radiologist (a specialist doctor). The radiologist may check that all the pictures that are needed to assess your case have been made before you leave the practice or hospital. He or she will then review the pictures and write a report to your referring doctor, outlining the important findings.

Where is an MRI Enterography or Enteroclysis done?

Almost all currently installed MRI systems can do an MRI examination of the bowel. MRI machines are usually located in radiology clinics, imaging centres, and private or public hospitals.

When can I expect the results of my MRI Enterography or Enteroclysis?

The time that it takes your doctor to receive a written report on the test or procedure you have had will vary, depending on:

- the urgency with which the result is needed

- the complexity of the examination
- whether more information is needed from your doctor before the examination can be interpreted by the radiologist
- whether you have had previous X-rays or other medical imaging that needs to be compared with this new test or procedure (this is commonly the case if you have a disease or condition that is being followed to assess your progress)
- how the report is conveyed from the practice or hospital to your doctor (in other words, email, fax or mail)

Please feel free to ask the private practice, clinic, or hospital where you are having your test or procedure when your doctor is likely to have the written report.

It is important that you discuss the results with the doctor who referred you, either in person or on the telephone, so that they can explain what the results mean for you.

Further information about MRI Enterography or Enteroclysis

Is there an alternative test?

Enteroclysis can be performed with X-rays instead of MRI to see the bowel, using fluoroscopy (where images are produced by an X-ray and made into a moving picture on a TV screen). A CT scanner can also be used to take the pictures of the bowel. When enteroclysis is done with fluoroscopy, it gives information about the lining of the bowel but little about the soft tissues and other organs in the rest of the abdomen and, like CT scanning, it involves ionising radiation.

What if I have a stoma?

Ask the technologist prior to your scan where the nearest toilet is located so that you can empty your bag if it fills during the examination.

Please note:

This information is of a general nature only and is not intended as a substitute for medical advice. It is designed to support, not replace, the relationship that exists between a patient and his/her doctor. It is recommended that any specific questions regarding your procedure be discussed with your family doctor or medical specialist

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