



BATH RADIOLOGY

MR Enteroclysis (MRE) Patient Information Leaflet

Introduction

This leaflet tells you about MR Enteroclysis, a test to look at your small bowel. It explains how the test is done, what to expect, and the risks involved. It 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 MR Enteroclysis?

MR Enteroclysis (MRE) is a way of looking inside your small bowel and abdomen. The small bowel is the portion of your intestine joining the stomach and duodenum to the large bowel.

An MRI (Magnetic Resonance Imaging) scanner is a short tunnel that is open at both ends. It uses a powerful magnet, radiowaves and a computer to produce images of the internal structure of the body. MRI does not use ionizing radiation (x-rays).

The scanner is operated by a Radiographer, who is a professional trained to carry out X-rays and other imaging procedures. The pictures are displayed on a computer workstation for examination by the Radiologist, who is a doctor specially trained to interpret the images and carry out more complex imaging examinations.

MRI scans provide good detail of internal organs, blood vessels and soft tissues so are often the preferred method of diagnosing and assessing a wide range of medical conditions such as cancers, infection, inflammation, cardiovascular disease, trauma and musculoskeletal disorders.

For MR enteroclysis, fluid is introduced directly into the small bowel via a tube passed through the nose and beyond the stomach. The fluid distends the small bowel so that it can be well seen on the MRI images.

Are there alternatives to MR Enteroclysis?

There are alternative ways of looking at the small bowel:

Small bowel barium studies use barium contrast to fill or coat the small bowel and allow it to be seen on X-rays. The barium may either be taken orally (*small bowel meal or follow through*) or introduced directly into the small bowel via a tube passed through the nose and beyond the stomach (*Small bowel enema or Barium enteroclysis*)

Endoscopy is a way of examining the large bowel using a thin tube with a camera on the end (endoscope) which is passed through the oesophagus and stomach and moved around the small bowel. The procedure is invasive and usually requires sedation. Visualisation of the entire small bowel by endoscopy is a specialized technique and is not widely available. However, it does allow tissue to be removed for testing (biopsy) if needed.

Video capsule endoscopy uses a 'capsule camera' which is swallowed by the patient. This sends real time pictures as it passes through the small bowel to a recording device worn on the patient's waist. This technology is not widely available at the moment.

These examinations give a view of the small bowel only and, unlike MR Enteroclysis, do not give information about the other structures inside your abdomen.

CT of the Small Bowel uses a CT scanner to obtain cross-sectional images of the small bowel after it has been distended with a special solution taken orally (*CT Enterography*) or introduced directly into the small bowel via a tube passed through the nose and beyond the stomach (*CT enteroclysis*). Like MR Enteroclysis, this technique also provides information about the other structures inside your abdomen. However, CT of the small bowel uses ionizing radiation (X-rays).

What do I have to do before my MR Enteroclysis?

Bowel preparation.

It is very important for the stomach and small bowel to be empty before the test is performed so that the small bowel can be clearly seen. You will be given a leaflet explaining this bowel preparation in more detail. The leaflet gives dietary instructions about what you should and should not eat or drink before your test. Sometimes a mild laxative is prescribed to clear the small bowel prior to the test. It is very important that you follow the instructions you are given.

Taking tablets and medicines

You should continue to take all your normal medication unless you are diabetic taking insulin. If you are diabetic using insulin, please contact the Radiology department for advice.

Females

Females are asked to contact the Radiology department if you suspect that you may be pregnant or if the appointment is more than 10 days after the *start* of your last period. There is no evidence that MRI is unsafe in pregnancy, but as a precaution, we do not perform MRI on pregnant ladies unless it is essential. Part of this test uses radiation and there is a risk to the unborn baby if we were to do the X-rays when you are pregnant. When you arrive for your test, you will be asked when your last period started. If it is more than 10 days earlier, your appointment may be postponed.

MRI Safety Questionnaire

The magnetic field used for MRI scans is very strong and can affect metal or electronic implants. Please take time to read through and complete the attached MRI Safety questionnaire, which asks about any metal implants, such as artificial joints and stents, or electronic devices, such as a pacemaker, that you may have inside you. If all of the answers are no then please bring the completed questionnaire to your appointment. If, however there are answers that are yes, then please return the completed questionnaire immediately to the Radiology department or telephone the MRI appointments desk for advice.

Where do I go when I arrive at the hospital?

Please report to the reception desk in the Radiology department with your appointment letter at least 10 minutes before your appointment.

A member of the team will explain the test and answer any questions. Please let them know if you had any problems with your bowel preparation.

You will be shown to a private cubicle and asked to change into a clean gown. Please do not wear items of jewellery, as they may need to be removed prior to the scan. Your clothes and valuables will be secured in a locker until after the procedure.

Can I bring a relative/friend?

You may bring a relative or friend with you to the appointment but, for reasons of safety, they will not be able to accompany you into the examination room, except in very special circumstances. If the patient is a young child or is un-cooperative a parent or health worker may stay in the scanner room. If you need an interpreter please tell us when you receive your appointment so that we can arrange this.

Please let us know when you arrive for your test if you have any of the following:

- Diabetes
- Kidney disease
- Prostate problems
- Heart disease
- Glaucoma
- Any allergies

What happens during MR Enteroclysis?

A tube will be passed through the nose into the stomach and manipulated under fluoroscopic (X-ray) guidance into the small bowel just beyond the stomach. A small tube, called a cannula, will be inserted into one of the veins in your arm.

You will be taken into the MRI Scanning Room and asked to lie down on the moveable scanner table, which is moved into the scanner. A receiving device will be placed around your abdomen. 1.5-2 litres of fluid will be introduced into the small bowel through the tube and scans will be performed to see whether the liquid has passed all the way through the small bowel.

If it is not possible to pass a tube into your small bowel, we may continue with the MRI scan using oral fluid to fill the small bowel. You will be asked to drink about 1.5 -2 litres of liquid steadily over approximately 40 minutes prior to getting on the MRI scanner.

Once the fluid has filled the entire small bowel a muscle relaxant will normally be injected through the cannula into the vein. This will stop the bowel from moving during the scan and give better images of your bowel. The muscle relaxant may make your eyesight blurred and give you a dry mouth, but it soon wears off. However, you should not drive for 30 minutes after the injection.

The MRI scan will then be performed and takes approximately 20-30 minutes to complete. You will be asked to remain still and hold your breath for short periods whilst the scans are taken. At certain times during the procedure, the MRI scanner will make a loud knocking noise caused by the magnets in the machine being turned on and off. You may be given earplugs or headphones to wear. You will be given an injection of intravenous contrast medium via the cannula during the scan.

You will be alone in the MRI room during the scan but the Radiographer will be able to see, hear and speak with you at all times.

What happens after the test?

The liquid you drink may cause some short lived diarrhoea, so you may wish to spend a short time in the department near to a toilet before you go home. You may

eat and drink as normal as soon as the examination is finished. Normal activities may normally be resumed immediately after the scan.

Are there any risks?

MR Enteroclysis is generally regarded as a very safe test. There is no known adverse effect of the magnetic field and radio waves used in MRI on living tissues.

The placement of the tube in the bowel for MR Enteroclysis involves the use of X-rays. There are strict guidelines in place for the use of x-rays in diagnosing medical conditions so this test can only be performed at the request of a Doctor. The amount of radiation used is small. However, women who are or might be pregnant must inform a member of staff in advance.

A small proportion of people (2 – 5 %) find MRI examinations difficult because of the partly enclosed nature of the scanner, causing claustrophobia. This is less of a problem for rectal MRI exams than for some other MRI exams, because your head is near the opening of the magnet. Occasionally, mild sedation (relaxing tablets or injections) may be given to patients who know that they will find the close surroundings of the magnet uncomfortable. This treatment reduces the anxiety about being in a confined space. If you are given a sedative injection, a plastic peg will be put on one of your fingers so that your pulse and breathing can be monitored throughout the examination. You are advised not to drive, travel alone or return to work for the rest of the day. If you know that you will need a sedating injection for the MRI exam, please arrange for someone to accompany you home after the test.

There is a slight risk of an allergic reaction if contrast material is injected. A Radiologist or other clinician will be available to assist if you experience any symptoms of an allergic reaction. Such reactions are usually mild and easily controlled by medication.

Other problems which might occur are similar to those which can happen with other methods of examining the small bowel. These include:

- Nausea or Abdominal discomfort
- The liquid you are given to distend the bowel may cause some short-lived diarrhoea

Despite these slight risks, your doctor believes it is advisable that you should have this examination, and do bear in mind there are greater risks from missing a serious disorder by *not* having your scan.

How do I get my results?

A specialist Radiologist will review the images from your MR Enteroclysis and send a report to your doctor. Your GP or hospital Consultant who referred you for the test will see you to discuss the results.

Any further questions?

We will do our best to make your visit as comfortable and stress free as possible. If you have any further questions, or suggestions for us, please let us know.

If you would prefer information and advice in another language, please contact the Radiology department.

Further Information

For general information about Radiology departments, visit The Royal College of Radiologists' website: www.goingfora.com

For information about the effects of x-rays read the National Radiological Protection Board (NRPB) publication: 'X-rays how safe are they?' on the website: http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947388410

For health advice or information you can call NHS Direct on 0845 4647 or visit the website: www.nhsdirect.nhs.uk

© Bath Radiology Group, September 2011.

Legal notice

Please remember that this leaflet is intended as general information only. It is not definitive, and The Bath Radiology Group cannot accept any legal liability arising from its use. We aim to make the information as up to date and accurate as possible, but please be warned that it is always subject to change. Please therefore always check specific advice on the procedure or any concerns you may have with your doctor.