MR Enterography



Magnetic resonance (MR) enterography is an imaging test which produces detailed pictures of your small intestine. It may help your doctor diagnose inflammation, bleeding, obstructions and other problems. It is noninvasive and does not use ionizing radiation.

The exam uses a magnetic field to create detailed images of your organs. A computer analyzes the images. Before the exam, oral and intravenous contrast material are administered to highlight the small intestine. A drug may also be administered to decrease movement of the bowel which can interfere with the images. Tell your doctor about any health problems, recent surgeries or allergies and whether there's a possibility you are pregnant. The magnetic field is not harmful, but it may cause some medical devices to malfunction. Most orthopedic implants pose no risk, but you should always tell the radiologic technologist if you have any devices or metal in your body.

Guidelines about eating and drinking before your exam vary between facilities. Unless you are told otherwise, take your regular medications as usual. Leave jewelry at home and wear loose, comfortable clothing. You may be asked to wear a gown. If you have claustrophobia or anxiety, you may want to ask your doctor for a mild sedative prior to the exam.

What is MR Enterography?

MR enterography is a special type of magnetic resonance imaging (MRI) performed with a contrast material (http://www.radiologyinfo.org) to produce detailed images of the small intestine (http://www.radiologyinfo.org) .

Magnetic resonance imaging (MRI) is a noninvasive test doctors use to diagnose medical conditions.

MRI uses a powerful magnetic field, radiofrequency pulses, and a computer to produce detailed pictures of internal body structures. MRI does not use radiation (x-rays).

Detailed MR images allow doctors to examine the body and detect disease.

What are some common uses of the procedure?

Physicians use MR enterography to identify and locate:

- the presence of and complications from Crohn's disease (http://www.radiologyinfo.org) and other inflammatory bowel diseases
- inflammation (http://www.radiologyinfo.org)
- bleeding sources and vascular abnormalities
- tumors (http://www.radiologyinfo.org)
- abscesses (http://www.radiologyinfo.org) and fistulas (http://www.radiologyinfo.org)
- bowel obstructions

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Who interprets the results and how do I get them?

A radiologist, a doctor trained to supervise and interpret radiology exams, will analyze the images. The radiologist will send a signed report to your primary care or referring physician, who will share the results with you.

What are the benefits vs. risks?

Benefits

- MRI is a noninvasive imaging technique that does not involve exposure to radiation.
- MRI can detect abnormalities that might be obscured by bone with other imaging methods.
- The MRI gadolinium contrast material is less likely to cause an allergic reaction than the iodine-based contrast materials used for x-rays and CT scanning.
- MR enterography is a complementary imaging examination that helps identify areas of bowel inflammation due to such diseases as Crohn's.
- Because MR enterography does not involve ionizing radiation, the procedure may be preferred for the evaluation of young patients with inflammatory bowel disease who may undergo multiple exams throughout their life.
- MR enterography may eliminate the need for video capsule endoscopy (http://www.radiologyinfo.org) (VCE).

Risks

- The MRI exam poses almost no risk to the average patient when appropriate safety guidelines are followed.
- If sedation is used, there is a risk of using too much. However, your vital signs will be monitored to minimize this risk.
- The strong magnetic field is not harmful to you. However, it may cause implanted medical devices to malfunction or distort the images.
- Nephrogenic systemic fibrosis is a recognized complication related to injection of gadolinium (http://www.radiologyinfo.org) contrast. It is exceptionally rare with the use of newer gadolinium contrast agents. It usually occurs in patients with serious kidney disease. Your doctor will carefully assess your kidney function before considering a contrast injection.
- There is a very slight risk of an allergic reaction if your exam uses contrast material. Such reactions are usually mild and controlled by medication. If you have an allergic reaction, a doctor will be available for immediate assistance.
- Although there are no known health effects, evidence has shown that very small amounts of gadolinium can remain in the body, particularly the brain, after multiple MRI exams. This is most likely to occur in patients receiving multiple MRI exams over their lifetime for monitoring chronic or high-risk health conditions. The contrast agent is mostly eliminated from the body through the kidneys. If you are a patient in this category, consult with your doctor about the possibility of gadolinium retention, as this effect varies from patient to patient.

What are the limitations of MR Enterography?

High-quality images depend on your ability to remain perfectly still and follow breath-holding instructions while the images are being recorded. If you are anxious, confused or in severe pain, you may find it difficult to lie still during imaging.

A person who is very large may not fit into certain types of MRI machines. There are weight limits on the scanners.

Implants and other metallic objects can make it difficult to obtain clear images. Patient movement can have the same effect.

A very irregular heartbeat may affect the quality of images. This is because some techniques time the imaging based on the electrical activity of the heart.

Present data show no convincing evidence that non contrast MRI harms the fetus of a pregnant woman. However, if the need for

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the exam is not time sensitive your doctor may delay the exam until after delivery. MRI gadolinium contrast agents are generally avoided during pregnancy except in very specific circumstances. Your doctor will discuss the benefits and risks of any MRI procedure with you. Doctors may perform MRI after the first trimester to assess the fetus for findings that are not fully evaluated by ultrasound.

For optimal results the patient should consume the entire dose of oral contrast material, remain still and follow the breathing instructions of a radiologic technologist. Moreover, results may be compromised if the patient is not able to receive the intravenous contrast material (gadolinium (http://www.radiologyinfo.org)).

MR enterography takes longer to perform (30 to 45 minutes) than CT enterography (https://www.radiologyinfo.org/en/info/ctenterography) (two to four minutes).

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