

What is a MRI?

What is Magnetic Resonance Imaging?

Magnetic resonance imaging (MRI) is a diagnostic test that creates images of structures inside the body to help the physician make a diagnosis. For imaging certain parts of the body, MRI is superior to other diagnostic imaging tests like x-rays and CT scans. The MRI produces 2- or 3-dimensional images using a large magnet, radio waves, and a computer. It does not use x-rays. Contrast dye may be used in some cases to improve our ability to see certain structures.

Why is an MRI important?

An MRI can lead to early detection and treatment of certain diseases. It can provide a large amount of information quickly, and it may reduce the need for certain diagnostic surgeries.

An MRI is usually ordered by your doctor to help diagnose conditions such as:

- Orthopedic problems such as back and joint pain
- Traumatic injuries
- Brain and nervous system disorders
- Certain cancers

Are there any contraindications to having an MRI?

An MRI **may not** be done if your body contains:

- An implanted electronic device, such as a pacemaker

- Metallic aneurysm clips, certain artificial heart valves and metallic hearing implants
- Certain vascular stents and metal objects that contain iron

You should also alert your doctor if:

- You have a history of working with metals
- You are a diabetic or have kidney failure.

Let your doctor, nurse and/or the MRI technologist know if you have any of the devices in your body mentioned above. This may determine that you cannot have an MRI.

For female patients, **if there is any possibility you may be pregnant or if you are breast feeding, it is important to tell this to the technologist before the procedure.**

How do I prepare for an MRI?

- You may be asked not to eat solid foods for 4 to 8 hours prior to the procedure. You may be allowed clear liquids during this time period.
- Inform your doctor and the MRI technologist ahead of time if you have had previous allergic reactions to contrast dye.
- You may have an intravenous line started in one of your arms prior to going to the diagnostic area.
- You must remove all metallic personal belongings and devices that you may have on such as

watches, jewelry, pagers, cell phones, body jewelry, metallic drug delivery patches, and any clothing items that contain metal fasteners, hooks, zippers, or metallic threads. You must also remove any cosmetics that contain metallic particles, such as eye make-up.

- The technologist may also ask you if you have any iron-containing objects in your body, such as a pacemaker; intrauterine device; metal plate, pins, or screws; or if you have ever worked with metals.
- You may be asked to put on a hospital gown that does not have snaps.

How is the MRI performed?

- The technologist will help position you on the scanning table, usually on your back.
- If contrast dye is needed, you will be given a simple injection during the exam
- The scanning table will slide into the opening of the MRI, which is like a tunnel
- The area of your body undergoing the imaging must be in the middle of the scanner where the magnet is located.
- You must hold still during the exam or the images will come out blurred.
- The MRI scanner has a built in microphone so that you will always be able to communicate with the technologist.
- You will also be given a hand held communication alert device to hold.

- The length of the exam depends upon what part of your body is being scanned. Most exams take from 30 to 60 minutes.

What will I experience during the exam?

The procedure itself is painless. The magnet makes a loud knocking sound while scanning and is silent between scans. Ear plugs or ear phones will be provided to you and it is recommended that you use them. If contrast dye is used, some people experience nausea, flushing, a warm sensation, or a headache from it. If you experience itching or shortness of breath after the injection, this could indicate an allergic reaction and it is important to tell the technologist right away.

Is there any special follow-up after the MRI?

If you are sedated for the procedure and you are having the test done as an outpatient, you must have a family member or friend available to drive you home.

Is an MRI safe?

There are no known risks or side effects associated with MRI. Unlike traditional X-rays and CT scans, MRI does not require the use of radiation. Therefore, MRI scans can be performed repeatedly without adverse effects.

Reference: American College of Radiology. Retrieved 2/2007 from www.radiologyinfo.org

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