

What is an MRI?

An MRI (Magnetic Resonance Imaging) scan is a radiology technique that uses magnetism, radio waves and a computer to produce highly detailed images of body structures. The patient is placed on a moveable bed which is inserted into the magnet. The magnet creates a strong magnetic field which aligns the protons of hydrogen atoms, which are then exposed to a beam of radio waves. This spins the various protons of the body and they produce a faint signal that is detected by the receiver portion of the MRI scanner. The receiver information is processed by a computer and an image is then produced. MRI is capable of producing those images in an infinite number of projections throughout the body. These images are useful in the early discovery and treatment of many conditions and diseases.

What is an MRA?

An MRA (Magnetic Resonance Angiography) is a non-invasive technique on the MRI scanner to image blood vessels of the body, most commonly those in the head, neck and abdomen. MRA is an alternative to conventional angiography, which is an x-ray procedure which requires the

injection of iodinated contrast through needles or catheters into the blood vessels with the use of x-ray.

Patient Preparation:

If your MRI is being done of your abdomen, you will need to fast or limit your diet to clear liquids four (4) hours prior to your appointment, depending on the type of exam. Our staff will call on you prior to your appointment to discuss your medical history, including any previous surgeries or injuries involving metallic implants. If you are claustrophobic, your physician may prescribe a sedative medication to decrease your anxiety during the MRI scan. Wear comfortable clothing without metal zippers, buttons or hooks. Do not wear jewelry, make up or hair accessories. Eye glasses, hearing aids, and dentures must be removed before your exam.

Having an MRI:

You will lie on a padded scanner bed which will move into the MRI machine during your exam. A special coil may be placed over the area to be examined. There are loud repetitive clicking noises which occur during the

scanning procedure. You will be provided with ear plugs or headphones for your protection. Occasionally, patients require injections of a special contrast into the veins to enhance the images. MRI scanning time depends on the exact area of the body studied, but ranges from 30-60 minutes. You will be under constant observation and will be given a call device to contact the technologist at any time.

After the test:

You may be asked to wait until the images are reviewed. After that, you may resume your normal activities or diet.

Limitations of MRI:

Patients who have any metallic materials within the body must inform the staff. Metallic chips, surgical clips or foreign material can significantly distort the images obtained by the MRI scanner.

Risks:

MRI has been shown to be extremely safe as long as proper safety precautions are taken with regard to metal objects. The MRI procedure produces no pain and causes no short or long term damage of any kind. The fact that there is no x-ray exposure is an advantage of having an MRI.

Report/Results:

A Radiologist, a physician experienced in MRI and other radiology exams, will interpret the images. A report will be available to physicians within 24 hours on routine exams. A signed report with the interpretation will also be sent to the healthcare provider that ordered the test. If a Trinity physician, other than a radiologist, has been chosen to interpret the images, it may take longer. You may check with your ordering physician for the report.



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7040-308 Rev. 08/2006

MRI (Magnetic Resonance Imaging) And MRA

**A Patient's Guide to
Radiological Exams**



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