# What is Magnetic Resonance Imaging (MRI)?

Magnetic resonance imaging (MRI) is a medical imaging technique that uses a strong magnetic field, radio frequencies, and a computer to produce detailed cross-sectional images of the structures of the body in multiple planes, or slices. Unlike computed tomography (CT or CAT) scans, MRI does not use ionizing radiation (X-rays). MRI can be used to visualize nearly any part of the body in order to diagnose disease or injury and it is especially effective at imaging soft tissues. In many cases, MRI may provide more detailed images when compared to other radiology exams.

MRI helps doctors to accurately visualize bones, cartilage, internal organs, soft tissue, and blood vessels. The images are viewed on a computer screen and can also be sent via the Internet, which allows radiologists to diagnose problems remotely. Using advanced computer programming, MRI can generate 3D images.

MRI exams are painless and non-invasive. Depending on the purpose of the exam and patient characteristics, MRI may be performed with or without intravenous contrast.

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\* Locations offering MRI

## Magnetic Resonance Imaging (MRI)

**Patient Information Guide** 





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SCHEDULING (512) 453-6100

FAX REFERRALS (512) 836-8869



### How should I prepare for the exam?

You will be required to wear a gown during the exam. Street clothes and shoes are not allowed in the MRI room. Additionally, guidelines about eating and drinking before an MRI exam will be discussed with you by the scheduler when scheduling your exam. Unless you are told otherwise, you may follow your regular daily routine and take medications as usual.

Some MRI examinations may require you to receive an injection of a contrast agent (gadolinium) into the bloodstream. Contrast agents are used to provide better visualization of the organs in the body.

### What is it like to get an MRI scan?

The MRI scan itself is completely painless. You will be helped onto a movable table and fitted with a coil that acts as an antenna to help produce the images. You will be provided with a call button so you can talk to the technologist at any time. The table then advances into the MRI scanner and stops when you are placed correctly for the exam. The technologist leaves the room to operate the scanner, but will be communicating with you via an intercom system and observing you through a window. When the scan starts you will hear some loud knocking sounds which are part of the process of producing the images. It is important that you hold still while the machine is running. Otherwise, the pictures will be blurry and may have to be repeated.

#### What is 3T MRI?

Austin Radiological Association is the only radiology practice in Austin with multiple 3T MRI scanners. 3T MRI is a powerful, open-bore scanner that can have shorter scan times than the 1.5T MRI. Consequently, 3T MRI can allow for less patient anxiety and sharper imaging. Your radiologist or doctor may recommend a 3T MRI scan for you or they may feel that the 1.5T MRI is the best option. 3T MRI can be especially useful in certain kinds of scans of the musculoskeletal system, brain, prostate and breast.

## What if I am unable to go through with my study because I am claustrophobic?

You can count on ARA to provide the wide variety of MRI services you may need, including open-bore MRI for larger patients and patients with claustrophobia. When thinking about how your body will be placed in an MRI, remember that you are not



totally enclosed in the machine; only the part of your body being scanned will be in the cylinder. The part of your body inside the cylinder will not be tightly enclosed; there will be space between you and the MRI.

Our highly-trained and experienced technologists are experts at helping you through your MRI exam with the greatest confidence and success. Additionally, ARA can provide sedation and pain management services to enable you or your child to get through the exam safely and comfortably. Please mention your needs to your scheduler when making your appointment.

## How long will the exam take?

The time depends on the type of MRI exam that you are having. Some exams last about an hour, but the majority of exams usually take about 30 minutes. If you have any questions about how long your exam will take, please ask one of our schedulers or technicians.

#### Is the MRI exam safe?

MRI units do not use ionizing radiation and are very safe. Be sure and let the scheduler or technologist know if you have any serious health problems and what surgeries you have undergone. Women of child bearing age should always inform their physician and the ARA staff (scheduler, technologist or radiologist) if there is any possibility that they are pregnant.

Because metal and electronic objects can be affected by the magnetic field of the MRI unit and interfere with image quality, they are not allowed in the exam room. These items include:

- Jewelry, watches, credit cards and hearing aids, all of which can be damaged
- Pins, hairpins, metal zippers and similar metallic items which can distort MRI images
- Removable dental work
- Pens, pocket-knives, and eyeglasses

In most cases, an MRI exam is safe for patients with metal implants. There are a few exceptions that may require special techniques. Inform the scheduler or technologist if you have:

- An internal implanted defibrillator
- A cochlear (ear) implant
- Clips used on brain aneurysms
- Artificial heart valves
- Implanted drug infusion ports
- An infusion catheter
- An intrauterine device (IUD)
- Implanted electronic device, including a cardiac pacemaker
- Artificial limbs or metallic joint prostheses
- Implanted nerve stimulators
- Metal pins, screws, plates or surgical staples

Sheet metal workers and other individuals who work with metal may require an X-ray prior to an MRI to exclude the possibility of having metal (such as shrapnel) in their eye. Tooth fillings and braces usually are not affected by the magnetic field but they may distort images of the facial area or brain. The scheduler or technologist should be made aware of this.

## Who interprets my exam results and how do I obtain them?

A radiologist, a physician specifically trained to interpret radiological examinations, will analyze the images and send a signed report to the physician who referred you to ARA. Your physician will then share the results with you.

To schedule an exam or for further questions, please visit www.ausrad.com or call (512) 453-6100.

<sup>\*</sup>List does not include all possible items that may affect your MRI exam. Please discuss with your technologist.