

# InfoSheet – MRI of the Shoulder

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## WHAT IS AN MRI?

**MRI** (magnetic resonance imaging) is a test that can make scanning pictures of the inside of the human body without actually entering the body. While a **CT** (computed tomography) scan is better for giving these “sliced bread” images of bony structures and can usually see pools of blood or other fluids, the MRI displays higher quality images of soft tissue. The MRI Scan can be used to actually look at the rotator cuff tendons and determine whether they are torn. It can also display the other tendons, ligaments, muscles, cartilage, nerves, and blood vessels in its field of view.

A set of images is taken using a series of magnets and radio waves. Using the human body's natural hydrogen atoms, the magnet and scanner can move the atoms so they create radio waves. A computer uses the feedback to create a detailed image of the inside of the body. The MRI scanner is made of a large magnet in the shape of thick tube with a table that slides through the tube during the exam. The MRI scan is painless, and requires no needles or dye to be injected.

## “OPEN” VERSUS “CLOSED”

Much commotion is made of so-called “open” MRI machines. The term describes whether you lie within a magnet that is shaped like a tube (“closed”), or between two magnets that are shaped like plates (“open”). While the “open” machines do not have the magnet surrounding you on the sides, the magnet above you must be quite close to your face and trunk – closer usually than within the newer “closed” MRIs. Additionally, the images from the open machines cannot provide the same detail and do not give as much information as do those from closed machines.

## BEFORE THE TEST

Some patients that feel uncomfortable in small places may feel claustrophobic in the MRI machine. If you think you may have some discomfort in small spaces, talk with your doctor before the MRI exam. **Metal objects** may change the MRI picture, so if you have a pacemaker, prosthesis, shrapnel, metal flecks in your eye, or other metal objects, please tell your doctor or technologist before the exam.

## DURING THE TEST

During the exam, you will lie on the table and the technologist will move the table to just the right place for taking pictures of the area they are interested in learning more about. A shaped **coil** will be positioned to get better images of the area of interest. While the MRI pictures are being taken, the table will slide you through the open-ended tube. The patient needs to lie very still during the MRI so the pictures will be clear. The MRI machine makes a loud banging

noise, so patients will sometimes wear earplugs to protect their ears. The length of the exam depends on how many pictures need to be taken. An MRI exam usually lasts about an hour, but some can last up to 90 minutes.

### **AFTER THE TEST**

A radiologist will read the MRI films and then will call or send a report to your own doctor. Your doctor will talk with you about the results of the exam, and help answer any questions you may have.

For people that can't have an MRI, a test called an arthrogram is usually required. This test is done by injecting dye into the shoulder joint and taking several X-rays and/or a CT scan. If the dye leaks out of the shoulder joint from where it was placed, it suggests that there is a tear in the rotator cuff tendons. The arthrogram is an older test. Both tests are still widely used.

