Magnetic Resonance Imaging (MRI)

What is magnetic resonance imaging (MRI?)

Magnetic resonance imaging (MRI) is a special test that produces very clear, detailed pictures of the organs and structures in your body. The test uses a powerful magnetic field, radio waves, and a computer to create images in any plane. While an X-ray is very good at showing bones, an MRI lets your healthcare provider see structures made of soft tissue such as ligaments and cartilage and organs such as your eyes, brain, and heart.

When is it used?

Injuries show up well on an MRI. For example, an MRI may show whether you have torn ligaments or torn cartilage in your knee and help your healthcare provider decide whether or not you need surgery. It is also useful for injuries involving the shoulder, back, or neck. Healthcare providers use MRIs to see problems in the brain and spinal cord and to see the size and location of tumors.

How do I prepare for the procedure?

No special preparation is needed. You may eat normally and take any usual medicines. For the test, wear loose, comfortable clothing without metal fastenings such as zippers or clasps because metal will interfere with the test. Do not wear jewelry. If you have any metal in your body (such as plates or screws from a previous surgery) tell your healthcare provider. If you have a pacemaker you may or may not be able to have an MRI, depending on the type of pacemaker. If you have any metal fragments in or around your eyes you cannot have an MRI because the test may injure your eyes. If you have anxiety or claustrophobia (difficulty with small or crowded spaces), let your provider know.

What happens during the procedure?

You lie down on a cushioned bed that moves into a tunnel-shaped magnet that is open on both ends. If you get nervous when you are in small closed spaces you should talk to your healthcare provider about this before you have your MRI. He or she may be able to give you a medicine that will help you feel less nervous or may refer you to a site that has an open MRI scanner. You will have to be very still during the procedure so the pictures will not be blurry.

Sometimes you are given a contrast injection called gadolinium during the scan getting an MRI. This causes any abnormal areas to become very bright on the MRI. This makes them easier to see.

Most MRIs take between 25 and 40 minutes. You will hear loud knocking and a whirring sound while the pictures are being taken. You will wear earplugs or music will be provided so that the noise doesn't sound so loud. You will be able to speak with the person doing the test through a sound system so you can let him or her know if you are having any problems.

What are the benefits and risks?

An MRI is painless. There is no radiation. If you were given a shot of gadolinium, there is a chance you will have an allergic reaction, but this is very rare.

Although there is no evidence that an MRI will hurt a baby during the first trimester of pregnancy, the National Radiological Protection Board recommends not using it at this time of pregnancy. MRI may be used safely later in pregnancy.

Source: MD Consult