

What Is an MRI and Why Do I Need It?

Magnetic resonance imaging (MRI) is a safe and painless test that uses a magnetic field and radio waves to produce detailed pictures of the body's organs and structures. Unlike CAT scans or X-rays, MRI doesn't use radiation.

An MRI scanner is a large doughnut-shaped magnet that often has a tunnel in the center. Patients are placed on a table that slides into the tunnel. Some hospitals and radiology centers use what are called "open" MRI machines. They have larger openings and are helpful for patients with claustrophobia (a fear of being in tight, enclosed spaces), but sometimes use a smaller magnet and might not have as high a quality image.

During the MRI exam, radio waves manipulate the magnetic position of the body's atoms, which are picked up by a powerful antenna and sent to a computer. The computer does millions of calculations to create clear, cross-sectional black-and-white images of the body. These images can be converted into three-dimensional (3-D) pictures of the scanned area that can help pinpoint problems in the body.

MRI is used to:

Provide clear images of body parts that can't be seen as well with an X-ray, CAT scan, or ultrasound. MRI is particularly helpful for diagnosing problems with the joints, cartilage, ligaments, and tendons. They can detect a variety of conditions, including problems of the brain, spinal cord, extremities, pelvis, wrists, hands, ankles, and feet and can identify infections and inflammatory conditions or to rule out problems such as tumors

Do I need an x-ray if I already have an MRI? An X-ray is a quick, painless test that produces images of the structures inside your body — particularly your bones. Typically x-rays are done in the office and generally provide a better look at you bone structure, alignment, and provide assessment of fractures and arthritis. These are usually a precursor to getting an MRI and give us valuable information that the MRI does not. The MRI and x-ray complement each other and are often both needed for a thorough evaluation.

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