

# MRI

MRI, which stands for magnetic resonance imaging, provides precise, detailed images of the inside of the body. Rather than using radiation as X-rays do, MRI uses magnets and radio waves. The images are an important diagnostic tool for healthcare providers.

## WHAT HAPPENS DURING AN MRI?

The MRI scanner creates a powerful magnetic field, and a radio wave is pulsed into the patient. When the scanner is turned off, the radio wave is released, giving off a signal that is sent to a computer system where the image is generated.

To make all this possible, the patient is given a gown to wear, and he or she lies on a movable table that slides into the MRI scanner, which resembles a small tunnel. The patient usually enters the scanner head-first or feet-first. The patient can communicate with the healthcare provider through an intercom system.

Because the scanner makes buzzing or knocking noises, the patient may use earplugs or listen to music during the scan. Most scans take 15 to 45 minutes, although some take an hour or longer. The patient must remain still during scans in order to avoid blurring the images.

Nothing containing metal should go into the MRI room. This includes purses, wallets, credit cards, hearing aids, cellphones, jewelry and watches, hairpins, and clothing.

## WHY DO YOU NEED AN MRI?

MRI allows doctors to very clearly see soft tissues of the body. It's particularly useful in imaging the brain, spinal cord, nerves, muscles, ligaments and tendons. MRI can help find tumors, bleeding, infection and blockages. An MRI might be ordered to provide more information after an X-ray indicates the possibility of a problem.

## IS AN MRI SAFE?

There are no known dangers from the MRI scan itself. However, make your physician aware of the following:

Implanted medical devices, including artificial joints, stents, aneurysm clips, cochlear implants, pacemakers, defibrillators, nerve stimulators or insulin pumps. The magnetic field in the scanner could move, heat, or interfere with the devices, and the devices could interfere with the image.

- Pregnancy.
- Permanent cosmetics or tattoos.
- Dentures, or teeth with magnetic keepers.
- A medication patch, which might contain metal foil.
- Foreign metal objects, especially in or near the eye.
- Shrapnel or bullet wounds.

If you are claustrophobic, discuss this with your physician, who might give you a sedative. (If so, you will need to have someone take you home after the test.)

## **MORE INFORMATION**

UK Radiology

[ukhealthcare.uky.edu/radiology](http://ukhealthcare.uky.edu/radiology)

859-323-9729

International Society for Magnetic Resonance  
in Medicine

[www.ismrm.org/resources/information-for-patients](http://www.ismrm.org/resources/information-for-patients)

510-841-1899