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For patients

Hip MRI



Magnetic resonance imaging (MRI) of the hip uses a powerful magnetic field, radio waves, and a computer to produce detailed pictures of the structures within the hip joint. MRI helps your doctor diagnose or evaluate pain in the joint and direct therapy, including determining whether you need surgery. Hip MRI does not use ionizing radiation.

Tell your doctor about any health problems, recent surgeries, or allergies and whether there's a possibility you are pregnant. The magnetic field is not harmful but may cause some medical devices to malfunction. Most orthopedic implants pose no risk, but you should always tell the technologist if you have any devices or metal within your body. Guidelines about eating and drinking before your exam vary between facilities. Unless your doctor says otherwise, take your regular medications as usual. Leave jewelry at home and wear loose, comfortable clothing.

Most MRI facilities will ask you to change into a hospital gown. You may ask your doctor for a mild sedative before the exam if you have claustrophobia or anxiety. If you take relaxation medication, make sure you have a ride home.

What is a Hip MRI?

MRI of the hip provides detailed images of structures within the hip joint, including bones, cartilage, tendons, ligaments, muscles, and blood vessels, from all angles. Hip MRI can also provide details of structures near the hip, such as the sacroiliac joints (http://www.radiologyinfo.org) or lower lumber spine.

Magnetic resonance imaging (MRI) is a noninvasive test doctors use to diagnose medical conditions. MRI uses a powerful magnetic field, radiofrequency pulses, and a computer to produce detailed pictures of internal body structures. It does not use radiation (x-rays). Detailed MR images allow doctors to examine the body and detect disease.

What are some common uses of the procedure?

Combined with conventional x-rays, MRI is usually the best choice for examining the body's major joints, like the hip. MRI of the hip helps diagnose or evaluate:

- hip pain or stiffness
- degenerative joint disorders such as arthritis
- bone fractures that may not be visible on x-rays and other imaging tests
- abnormal x-ray results
- bursitis/tendonitis, or inflammation of the large bursa (http://www.radiologyinfo.org) , a fluid-filled sac within the joint
- joint abnormalities due to tears to cartilage, ligaments, labrum, or tendons
- tumors (primary tumors and metastases)
- osteonecrosis (http://www.radiologyinfo.orgosteonecrosis)
- infections (such as osteomyelitis (http://www.radiologyinfo.org))

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- pain, trauma, or complications following hip surgery

A special form of MRI called magnetic resonance arthrography involves the injection of contrast material into the joint so that the radiologist can better look at structures within the hip joint.

Who interprets the results and how do I get them?

A radiologist, a doctor trained to supervise and interpret radiology exams, will analyze the images. The radiologist will send a signed report to your primary care or referring physician, who will share the results with you.

What are the benefits vs. risks?

Benefits

- MRI is a noninvasive imaging technique that does not involve radiation exposure.
- MRI has proven valuable in diagnosing a broad range of conditions, including tendon, ligament, muscle, cartilage, and bone abnormalities that are not as visible on X-rays or CT scans.
- MRI can help determine which patients with hip injuries require surgery.
- MRI may help diagnose a bone fracture when X-rays and other tests are inconclusive.
- MRI can detect abnormalities that might be obscured by bone with other imaging methods.
- MRI provides a noninvasive (http://www.radiologyinfo.org) alternative to x-ray, angiography (http://www.radiologyinfo.org) , and CT for diagnosing problems in the blood vessels.

Risks

- The MRI exam poses almost no risk to the average patient when appropriate safety guidelines are followed.
- If sedation is used, there is a risk of using too much. However, your vital signs will be monitored to minimize this risk.
- The strong magnetic field is not harmful to you. However, it may cause tissue surrounding metallic implants or foreign bodies to heat up. It may cause implanted medical devices to malfunction or distort the images.
- Nephrogenic systemic fibrosis is a recognized complication related to the injection of gadolinium contrast. This complication is exceptionally rare with the use of newer gadolinium contrast agents. It usually occurs in patients with severe kidney disease. Your doctor will carefully assess your kidney function before considering a contrast injection.
- There is a very slight risk of an allergic reaction if your exam uses contrast material. Such reactions are usually mild and controlled by medication. A doctor will be available for immediate assistance if you have an allergic reaction.
- Although there are no known health effects, evidence has shown that very small amounts of gadolinium can remain in the body, particularly the brain, after multiple MRI exams. This is most likely to occur in patients receiving multiple MRI exams over their lifetime for monitoring chronic or high-risk health conditions. If you are a patient in this category, consult with your doctor about the possibility of gadolinium retention.
- IV contrast manufacturers indicate mothers should not breastfeed their babies for 24-48 hours after receiving contrast material. However, the most recent American College of Radiology (ACR) Manual on Contrast Media reports that studies show the amount of contrast absorbed by the infant during breastfeeding is extremely low.

What are the limitations of a hip MRI?

MRI can produce high-quality images only if you remain perfectly still during the image recording process. If you are anxious, confused, or in severe pain, you may find it difficult to lie still during imaging. Constant coughing and shaking might also interfere with the scan.

A very large person may not fit into the opening of a conventional MRI machine. Implants and other metallic objects can make it

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difficult to obtain clear images. Patient movement can have the same effect. For patients with metal surgical implants, special metal reduction imaging is performed to improve image quality.

Present data show no convincing evidence that non-contrast MRI harms the fetus of a pregnant patient. However, if the need for the exam is not time-sensitive, your doctor may delay the exam until after delivery. MRI gadolinium contrast material are generally avoided during pregnancy except in specific circumstances. Your doctor will discuss the benefits and risks of any MRI procedure with you.

An MRI exam typically costs more and may take longer than other imaging exams. Talk to your insurance provider if you have concerns about the cost of MRI.

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