

Introduction – MRI

Magnetic Resonance Imaging (MRI) uses a large magnetic field, radio waves and a computer to produce detailed images of the body. MRI can detect subtle changes of in the tissues of the body.

MRI is commonly used for the evaluation of:

- Soft tissues and joints
- Heart conditions
- Chest, breast, abdomen, and pelvis
- Brain and nerves/spinal cord

Due to the magnetic field used for imaging, patients can not wear any metallic objects during the exam. Patients with some metallic medical devices or implants may not be able to have a scan due to the risk of harm to the patient. Patients will be asked about their medical and surgical history multiple times before receiving an MRI scan to ensure that potentially unsafe items have not been missed.

Procedure

Preparation

Preparation will vary by procedure. You will be advised of your preparation instructions prior to your appointment.

For all exams, you will be asked not to wear any makeup or hair products on the day of the exam. All jewellery and other accessories must be left at home if possible or will need to be removed prior to the MRI scan. Because they can cause safety risks to the patients and staff, metal and electronic objects that are not specifically designed for MRI are not allowed in the exam room.

Prior to the procedure you will be asked to remove your all your clothing and change into a gown and pants provided by the hospital.

How it Works

The MRI scanner is a large cylindrical tube that produces a powerful magnetic field. The patient is laid on the table with either feet or head first, depending on the area of the body to be scanned. The table slides into the tube to acquire the images.

Contrast materials may be injected into the blood stream through an intravenous catheter or injected directly into a joint to visualize the specified more clearly. The contrast is often referred to as a “dye” but is actually a clear liquid that interacts with the body in such a way that it appears bright on the images and can highlight areas not normally seen without it. During the procedure, it is important for the patient to remain still while imaging is taking place to avoid blurring of the images.

Some patients may experience claustrophobia and can request some calming medication from their family physician or nurse practitioner prior to their appointment.

The scanner makes loud knocking sounds during the procedure. Ear plugs or headphones with music are provided to reduce the noise exposure. The procedure can take from 15 minutes to 90

minutes, depending on the area being scanned. Because of this, whole body scans are not something that is commonly performed. Instead, scans are done by individual body area and are sometimes combined into one appointment, if possible.

Benefits

MRI produces very detailed images of soft tissues allowing for the accurate diagnosis of many conditions. Abnormalities can be detected in areas not visible with other imaging methods. The contrast materials used in the procedure have very low incidence of allergic reactions, and there are no known side effects of MRI scans.

Risks

In most cases, an MRI exam is safe for patients with metallic implants, except a for a few types. People with the following implants must be carefully screened prior to entering the MRI area:

- Implanted cardiac devices
- Cochlear (ear) implant
- Some types of clips used on brain aneurysms

Your doctor should review the presence of these and any other metal objects with you when ordering the MRI examination. All surgical history is important when ensuring you are safe to have an MRI scan with your metallic implant.

If contrast is required, it should be known that, like any medication, there could be a risk of allergic reaction. However, the risk of an allergic reaction to MRI contrast is extremely low.

While there are no known risks to a fetus, pregnant women are not usually given MRI scans unless it is medically necessary.

Referrals

A written request is required from an ordering practitioner for an MRI exam to be booked.

An appointment is required. You will be contacted by letter or phone with the date and time of your examination.

Results

A Radiologist, who is a physician specifically trained to interpret Medical Imaging examinations, will review the images. A report will be sent to the referring clinician and be made available on your My Health Portal.

Language

If the patient has difficulty understanding English, an interpreter will either need to accompany the patient or can be provided with advance notice to the MRI department.