



## Introduction – MRI

Magnetic Resonance Imaging (MRI) uses magnets, radio waves and a computer to produce detailed images of the body. MRI can detect tiny changes of structure in the body, particularly in the soft tissue, spinal cord and brain, abdomen and joints.

MRI is commonly used for:

- Sports related injuries of the soft tissue and joints
- Diagnosing heart conditions
- Examining the chest and abdomen
- Examining the brain and spinal cord

Due to the magnetic field used for imaging, patients can not wear any metallic objects during the exam. Patients with pacemakers, some metal implants, or other metal-containing items in their body may not be scanned due to the significant risk for serious harm to the patient.

## 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. Jewellery and other accessories should be left at home if possible, or will need to be removed prior to the MRI scan. Because they can interfere with the magnetic field of the MRI unit, metal and electronic objects are not allowed in the exam room.

Prior to the procedure you will be asked to remove your clothing and change into a gown.

### How it Works

The MRI machine is a large cylindrical magnetic tube. 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 through the tube to acquire the images.

Contrast materials may be injected into the blood stream or injected directly into the examination site to show blood vessels and organs more clearly.

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. The machine makes loud knocking sounds during the procedure. Ear plugs or head-phones with music are provided to reduce the noise exposure. The procedure can take from 30 minutes to 2 hours, depending on the area being examined.

## **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, especially in areas close to bone. The contrast materials used in the procedure have little likelihood of allergic reactions, and there are no known side effects of MRI scans. MRI is the only imaging tool that can diagnose Multiple Sclerosis.

## **Risks**

In most cases, an MRI exam is safe for patients with metal implants, except a few types. People with the following implants cannot be scanned and should not enter the MRI scanning area unless explicitly instructed to do so by a radiologist or technologist who is aware of the presence of any of the following:

- Internal (implanted) defriballator or pacemaker
- Cochlear (ear) implant
- Some types of clips used on brain aneurysms
- Some types of metal coils place within blood vessels

Your doctor will review the presence of these and any other metal objects with you when ordering the MRI examination.

As a precaution, pregnant women are not given MRI scans unless there is no alternative imaging option.

## **Referrals**

A written request is required from your Specialist for a MRI procedure to be booked.

Appointment required: you will be contacted to arrange a date and time.

## **Results**

A radiologist, who is a physician specifically trained to supervise and interpret radiology examinations, will analyze the images and send a report to your referring physician, who will share the results with you.

## **Language**

If the patient has difficulty understanding English, an interpreter needs to accompany the patient.