



Magnetic Resonance Imaging (MRI)

- This test uses a magnetic field and radio waves in order to produce cross sectional images of a particular part of the body under investigation. The following are examples of where MRI is routinely used and is not an exhaustive list.

- o the assessment of disorders of the brain and spinal cord
- o the assessment of the bones, ligaments, and discs of the spine
- o diagnose bone and joint disorders

- The scan requires you to lie on a table that moves and is surrounded by a large doughnut shaped machine with a hole in the middle. When the scan begins, the magnetic field causes protons (energy particles) of hydrogen atoms (present in all tissues of the body) to align. A radio-wave pulse is then applied which knocks these protons from their position. When these protons return to their resting state they emit energy which is detected by a receiver in the scanner. Different tissues in the body have varying amounts of hydrogen atoms, and therefore emit different signals which is analysed by a computer. The result is the production of very detailed images of the body.

- In order to prepare for the test you should wear loose clothing for comfort (as the test can take up to an hour) and remove any jewellery (eg necklaces, body piercings, rings) that may interfere with the test. Please bring previous MRI scans with you. Depending on the area of body that is being examined, you may be asked to change into a hospital gown.

- The MRI scan will be performed by a radiation technologist who is trained in taking the most appropriate images. S/he will ask you to lay on the table, which is in a special room. You will be able to stay in contact with the radiation technologist via a headset and s/he will be able to see you during the test. You must remain still at all times. The machine will be noisy when it is acquiring images, and headphones with music are provided. Depending on the area of the body being examined, a 'contrast dye' may be injected to enable higher quality images to be taken.

- The MRI scan is painless. There are certain cases where a MRI scan is restricted. Please inform the radiation technologist if any of the following apply to you;

- o If you have a cardiac pacemaker
- o A metal prosthesis or pin
- o Clips on blood vessels
- o Inner ear transplant
- o An infusion pump
- o An intra-uterine contraceptive device



- A MRI scan is a very safe procedure. There are no known adverse effects of the magnetic field or the radio waves. There are reports of a skin condition/connective tissue disorder (Nephrogenic Systemic Sclerosis) associated with the contrast given during the scan. Reports have limited this condition to patients with severe kidney disease, normally on dialysis. If you are on dialysis please inform your doctor. MRI is safe in pregnancy, though scans are generally avoided in the first trimester.
- Once you have had your MRI scan, return to your local doctor to discuss the results. The radiologist will have had an opportunity to review the films and issue a report to your doctor, based on the history provided by your doctor on the request form. Depending on the practice of the radiology firm you are referred to, you may be able to have a hard copy of your MRI scan or a CD for future reference.

Website

For more information go to www.imagingpathways.health.wa.gov.au

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