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Maltese Association of Radiologists
and Nuclear Medicine Physicians

What is an MRI?

What is an MRI scan?

Magnetic resonance imaging (MRI) produces detailed images of the body using strong magnetic fields and radio waves. It can be used to assess the brain, spinal cord, bones, joints, breasts, heart, blood vessels, liver and internal organs. The images produced can provide valuable information in the diagnosis of a variety of conditions and in the planning and monitoring of treatment.

How do I need to prepare for the scan?

At home:

- Follow any specific instructions given about eating, drinking and medications. These may vary according to the type of MRI scan. Unless you are told otherwise, you can eat normally and continue your medications as prescribed.
- Remove any make-up as this may hinder the quality of the exam.
- It is advisable to leave any valuables at home as you will be asked to leave them outside the MRI room.

At the scanning site:

- Kindly arrive at the MRI suite 15 minutes prior to the appointment time.
- Prior to the examination you will be asked to complete and sign a questionnaire in order to make sure that it is safe to perform the scan. This will assess your medical history and whether you have any metallic objects in your body. Some implants and other metallic objects may be in fact contraindicated. These include heart pacemakers and metal valves, ear implants, metal shards in your eyes or head, neuro-electrical stimulators, surgical clips following brain surgery.
- You will be asked to remove any external metal objects including watches, keys, coins, credit cards, parking tickets, mobile phones, hair clips, belts and brasserie.
- You will be asked to change into a hospital gown. Your belongings will be kept in a safe room until the scan is finished.



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What will happen during the scan?

The examination will be performed in the MRI room within the Medical Imaging Department. During the scan you will be asked to lie comfortably on a flat couch which will move into the scanner.

You will be positioned according to the specific area being scanned.

Before the start of the examination, you will also be asked to wear headphones in order to protect yourself from loud knocking noises produced by the scanner itself.

Some scans require the use of special dyes in order to better evaluate certain body structures. These are usually injected into a vein in your arm either before or during the scan. Other scans may require the use of an oral dye which you will be asked to drink prior to the examination.

It is very important to keep as still as possible as movement will degrade the quality of the images obtained.

The scanner is operated by a radiographer via a computer located in the control room adjacent to the MRI room. The radiographer will keep contact with you by means of an intercom. The scan may last between 15 to 60 minutes depending on the area being scanned and on the total number of images required.

What happens after the scan?

Once the examination is over you will be well enough to return home and continue your normal routine. A radiologist will report the scan as soon as possible.



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Are there any possible complications or risks?

An MRI scan is a painless procedure and is generally a safe examination. The questionnaire completed prior to the examination serves as a safety net to identify patients who cannot have an MRI, therefore reducing the risk of complications. MRI does not expose the body to any x-ray radiation and may therefore be used in vulnerable patients such as children and pregnant women. Nevertheless, as a precautionary measure, it is usually advisable to avoid MRI in the first 3 months of pregnancy.

The use of intravenous dye is also generally very safe. Mild and self-limiting side effects may include a headache, a skin rash and dizziness. The dye may rarely cause an allergic reaction which can present itself as a rash, difficulty breathing and swelling of the lips and mouth. It is therefore important to inform the radiographer if you feel unwell as the MRI room is equipped with the necessary medications to treat these rare reactions. Some examinations require the use of buscopan, a medication which is also administered intravenously. This may rarely cause acute glaucoma with severe eye pain.

Important

Kindly inform the radiographer of any of the following before the date of appointment:

- If you have a pacemaker, artificial heart valve, ear implant, a gastric band, a cerebral aneurysm clip, neuro-electrical stimulator implant or any other metallic foreign body. If you have done any brain or heart operations, please bring all available information with you.
- If you are pregnant.
- If you are claustrophobic.

References:

<https://www.rdehospital.nhs.uk/documents/patient-information-leaflets/radiology/patient-information-leaflet-mri-magnetic-resonance-imaging.pdf>

<https://www.nhs.uk/conditions/mri-scan/>

Compiled by Dr. Veronica Aquilina