gold coast spine

MRI Scans

When do I need an MRI of my spine?

Magnetic Resonance Imaging (MRI) is an imaging technique that uses magnetic fields, radiofrequencies and a computer to take highly detailed images of the human body. MRI scans help show soft tissue structures such as nerves, muscles, ligaments and discs with greater contrast and definition compared to techniques like X-Rays and CT scans.

The MRI scan is an important tool specialists use to diagnose conditions of the spine because much of the spine's structure is made up of different soft tissues.

An MRI is safe for most patients (see the precautions below – How do I prepare for my MRI?) as it does not use radiation. It is generally a simple, pain free procedure.

How do I prepare for my MRI?

Prior to having your MRI scan, you will be asked to complete a series of safety questions to find out if you have any metal or implants in your body. If you answer YES to any of these questions, it is important that the radiology company is notified.

If you are uncertain whether you have any of the following implants, please check with your GP or treating specialist. You will be asked about:

- Metal in your eye
- Cardiac pacemaker
- Epicardial wire
- Brain aneurysm clip
- IVC filter
- Inner ear implant
- Claustrophobia
- Neurostimulator
- Embolization coil
- Pregnancy
- Brain shunt tube
- Hearing aid
- Joint replacement
- Metal pins or screws
- Shrapnel or bullets
- Dentures or braces
- Radiation treatment
- Brain or back surgery
- Coronary aneurysm clip
- Body piercing or permanent jewellery
- Any surgery in the last 3 months
- Renal impairment
- Bone growth stimulator
- Tattoos or permanent eye/lip liner
- Liver transplant
- implanted electronic/mechanical devices

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In most cases, there is no special preparation for an MRI scan. You can eat and drink normally on the day of the scan and take your usual medication. You need to bring your referral form with you to the appointment.

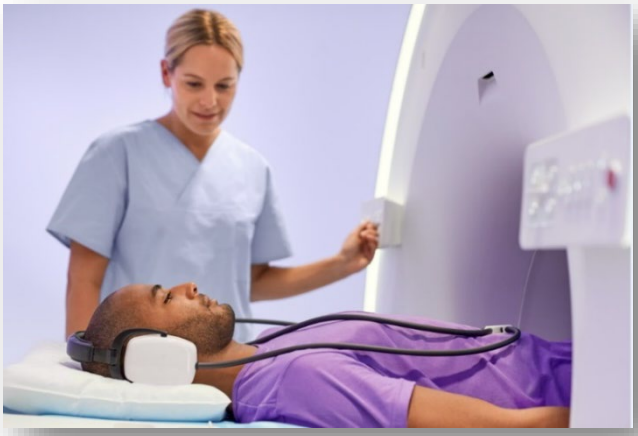
If you are known to experience significant **claustrophobia** (anxiety in confined spaces), make sure you let staff at Gold Coast Spine know before booking your MRI scan.

It is very important not to bring any metal into the scanning room without letting the radiographer know. Before the scan, you will be asked to remove your wallet, keys, coins, credit cards, bus tickets and mobile phones etc. Clothing with metal clips will also need to be removed. These can all be damaged by the strong magnet of the MRI scanner, or might cause distortions in the MRI pictures.

It is also important that you bring your referral letter or request for with you to the appointment.

How is an MRI scan done?

Most MRI scanners require you to lie on a flatbed that moves into a short tunnel where the pictures are taken. This is the only style available in Queensland.



During the scan, you will need to keep very still to improve the quality of the images. The scanner makes a lot of thumping or humming noise during the scan. You will be given earplugs or headphones to assist in blocking out this noise.

It is very important that during these periods you keep very still. The time required to complete the scan (including getting you ready) varies but usually takes between 30 minutes to 1 hour. Trying to remain as relaxed and comfortable as you can during the scan will ensure that the best possible pictures are obtained.

An upright multi-positional MRI scanner is available in one location in Sydney, New South Wales. With an upright MRI scanner there is no tunnel and there is nothing in front of your face so there are usually no concerns about claustrophobia.

An upright MRI scanner also has the added benefits of enabling scans to be taken while the patient is in different weight bearing positions. Children can also be scanned while sitting in their parent's lap.

What are the risks of an MRI?

There are no known common risks associated having the MRI scan itself. there are no radiation exposure risks with MRI scans. An allergic reaction to the contrast medium (if used) has been reported, though this is very unlikely.

Claustrophobia is experienced by some patients in flatbed scanners. **Generally, claustrophobia can be managed with the use of the MRI machines that have tunnels that are 'wide bore.'** The inside of the scanner has a larger diameter

and is designed to make the experience more comfortable. Please let our staff at Gold Coast Spine know if you are claustrophobic.

Review of MRI scan results

During your scan, the images will be reviewed for clarity and accuracy by the radiographer. Following your scan, a specialist radiologist will interpret the images; however, this takes some time. Images obtained from your MRI scan are digitally recorded and stored. A radiologist interprets the images and provides a detailed report for your surgeon within 24 hours.

Your surgeon will review the MRI with you at your next appointment.

If the MRI was performed by Qscan (www.qscan.com.au), patients are able to access their MRI report and images electronically via the Qscan patient online app and web portal.

How is a CT scan different to an MRI?

Both a CT scan and MRI scan provide images of high detail. However, each scan allows the doctor to have different resolutions and images of internal body structures.

MRI scans define soft tissues in your body (e.g. nerves, discs, muscles and ligaments) better than CT scans. CT scans, on the other hand, provide better 3-dimensional imaging of bones and joints which allows finer detail to be seen. For example, when your surgeon assesses whether a fusion has become solid across the bone surfaces or assesses how much arthritis there is in spinal joints a CT scan gives a better result.

In addition, CT scans are often ordered when assessing the health of your blood vessels around the spine as well as your bone density with a technique called 'qualitative densitometry'.

The images of both CT scans and MRI scans can be manipulated via a computer to show the tissue in different planes. While neither scan is superior to the other, each scan has its benefits to help assess the disease process and diagnosis depending on the pathology being investigated. Sometimes, the scans are ordered together to give the surgeon a full picture of your spinal condition and the health of the body parts in the regions around it.

You are exposed to radiation when having a CT scan. There is no radiation exposure risk with MRI scans.

How much will it cost?

Some investigations are bulk billed while others have out-of-pocket costs associated. This can depend on the investigation and the radiology clinic performing the investigation.

If Gold Coast Spine staff book an investigation for you, we will advise you of any costs.

A radiology referral can be taken to any Australian radiology company and the investigation performed. However, our surgeons have very specific requirements in relation to most of their investigations and it is important these are met each time an investigation is performed. Should you wish to take your referral to another radiology company, please check with one of our staff first to ensure that the correct imaging is taken.