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Polyclinics

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#### **CGH Appointment Centre**

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For more information, please visit www.cgh.com.sg

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Information is valid as of February 2022 and subject to revision without prior notice.

All information provided within this publication is intended for general information and is provided on the understanding that no surgical and medical advice or recommendation is being rendered. Please do not disregard the professional advice of your doctor.

# Magnetic Resonance Imaging (MRI)

PHILIPS



### What is Magnetic Resonance Imaging (MRI)?

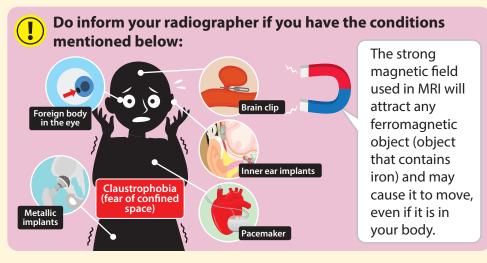
Magnetic resonance imaging (MRI) is a medical imaging technique that uses strong magnetic field and low energy radio waves to produce detailed images in the different planes of any part of the body.



Magnetic resonance imaging (MRI) produces detailed images of the body and it is able to distinguish between fat, muscle, water and other soft tissues. Thus, it is commonly used to image most body parts including the brain, spine, heart, liver, pancreas and other skeletal structures.

MRI is useful for diagnosing diseases and to assess the soft tissues in our body for internal damage. It is also useful for monitoring lesions in organs. This reduces the need for invasive methods such as biopsy or exploratory procedures.

## Is MRI safe for me?



As a safety precaution, the radiographer will carry out a detailed screening procedure of the above conditions prior to your MRI scan. Although there is no evidence to suggest that MRI poses a risk during pregnancy, please inform your doctor and radiographer if you are pregnant, or suspect that you may be pregnant before your MRI scan. It is usually not recommended for pregnant women who are in the first trimester, to undergo an MRI scan.



You will be asked to change into the hospital gown and to remove your belongings (especially metallic objects) as shown above. The magnetic field from the MRI scanner can draw unrestrained objects (projectiles) into the scanner's magnet bore during the scan. It also affects the operation of devices in the room. To prevent unnecessary injury from the projectiles and damage to your personal devices, it is advisable to leave your personal belongings in the locker provided.

#### What is MRI contrast?

I will expect to feel a cool

the injection.

sensation in my arm during

Some MRI scans may require contrast (gadolinium) to be injected into your body to highlight certain structures. Most patients do not experience any side effects, but do alert the radiographer if you feel unwell during the scan.

The use of contrast injection is not recommended for patients with poor kidney

function as the contrast would not be effectively excreted by the kidneys and this may pose health problems.

Gadolinium contrast injected may be deposited in the brain if the patient has received multiple doses of the contrast over their lifetime. To date, no adverse health effects have been documented. Please be assured that contrast would only be given if the clinical benefit outweighs the potential risk of not having a contrast-enhanced study.

Studies suggest that it is safe for mothers who are breastfeeding to continue to do so even after taking the contrast injection. This is because only a very small percentage of contrast medium is excreted into the breast milk.

If you are concerned about any potential ill effects to the infant, you may abstain from breastfeeding for about 12-24 hours from the time of the contrast injection.

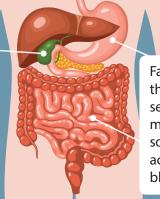
## What do I need to prepare?



If you are going for an MRI cardiac perfusion scan, you will need to avoid caffeine, **24 hours** before your scan. Caffeine will interfere with the effectiveness of the medication used in stimulating the effect of exercise on your heart and may cause inaccurate scan results.

Fasting promotes distension of the gallbladder so that it can be adequately

seen on the scan.



Fasting also reduces the gastroduodenal secretions and bowel movement in the body so that the images acquired will not be blur due to movement.

If fasting is required, do not eat or drink, four hours before your scan time.

For scan preparation, please refer to the patient information sheet given to you at the point of appointment booking.

### What happens during the scan?

Depending on the scan area, the scan may take 30 minutes to one hour. Try to remain still throughout the MRI scan to ensure that images acquired are clear. Sound produced from the MRI machine may be loud to some patients, earplugs and/or headphones will be provided to minimise your discomfort. You can squeeze this alarm ball if you feel unwell during the scan.



Throughout the scan, the radiographer will monitor and communicate with you through an intercom. MRI scan is painless. You can expect to hear loud repetitive noises from the MRI magnet while you are being scanned. You may feel warm due to the heat generated (caused by radiofrequency energy) within your body during the scan.

### What happens after the scan?



Your referring doctor will share the results with you at your next medical appointment.

Besides MRI, two other common imaging options that your doctor may recommend, are the Computed Tomography (CT) and ultrasound scans. The choice of imaging depends on the type of condition to be diagnosed and whether the chosen imaging techniques can effectively pick it up. Do discuss with your doctor to decide on a suitable imaging method for you.