

## What should I do before the test?

It is important that you inform your doctor before the scan if you are pregnant or have the following:

- 1 A heart pacemaker and/or defibrillator (ICD)
- 2 Brain surgery or vascular clips in the brain
- 3 Implants or metal in the body
- 4 Metal fragments in the eye
- 5 Claustrophobia (fear of being in enclosed spaces)
- 6 Kidney impairment or failure

You can eat and drink normally and take your medications before the test, unless instructed otherwise. Do leave jewellery at home. You must not bring any metallic object into the scanner room at any time.

## What are the potential risks/complications with this test?

The main risks of the procedure:

- 1 Allergic reaction to contrast agent and leakage of contrast outside the vein.
- 2 May experience a brief headache, a metallic taste or discomfort at the injection area of the contrast, but these are minor and transient. Please inform the doctor or radiographer if you feel any discomfort.
- 3 Undetected metal implants may be affected by the strong magnetic field.
- 4 May feel tingling sensations in the hands during the scan but this is harmless

Some patients with severe kidney impairment may develop a potentially serious complication called nephrogenic systemic fibrosis after receiving contrast. For this reason, the administration of contrast is avoided in patients with severe kidney failure unless the patient is on haemodialysis. Having said so, all necessary precautions will be taken to minimise these risks.

### Should you have any queries or require further clarifications, please contact:

Department of Diagnostic Imaging

Tel : (65) 6772 3700

Fax : (65) 6779 5219

Email : DDI\_enquiries@nuhs.edu.sg

## Location



**A**  
Linkway @ Level 1  
Via MRT station  
(Exit A)

**B**  
Linkway @ Level 1

**C**  
Linkway @ Level 4

Drop off only

Bus Stop

**P** Carpark

Taxi Stand / Drop off

Kent Ridge MRT  
Station @ Level 1



### National University Hospital

5 Lower Kent Ridge Road, Singapore 119074

Tel: 6779 5555 Fax: 6779 5678 Website: www.nuh.com.sg

### Contact Information

#### National University Heart Centre, Singapore

1 Main Building of NUH.

Opening Hours: 8.30 am - 5.30 pm (Monday - Friday)

Closed on Weekend & Public Holidays

Website: [www.nuhcs.com.sg](http://www.nuhcs.com.sg)

### Getting to NUH

#### Circle Line Kent Ridge MRT Station

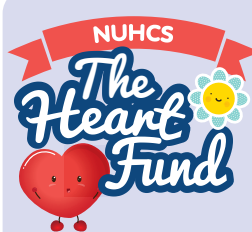
Commuters can transit at the Buona Vista MRT Interchange and alight two stops after at the Kent Ridge Station. The station is served by three exit-entry points.

**Exit A:** Right at the doorstep of National University Heart Centre, Singapore.

**Exit B:** Along South Buona Vista Road, which links to Singapore Science Park 1.

**Exit C:** Leads to NUH Medical Centre.

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Every day, we save lives by providing financial relief to needy patients, funding groundbreaking research and giving training to our medical specialists. This is why the support we receive is essential.

**Make a donation and help us continue the fight for every heartbeat!**

To make an online donation, log on to <http://www.nuhcs.com.sg/make-a-gift.html>

## National University Heart Centre, Singapore

A member of the NUHS



# Cardiovascular Magnetic Resonance

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Download a FREE QR Reader on your smartphone and scan the QR code.

STEP 02



The QR code will decode instantly. You'll be brought to [www.youtube.com/user/NUHCS](http://www.youtube.com/user/NUHCS)



Scan the QR code

## What is Cardiovascular Magnetic Resonance?

Cardiovascular magnetic resonance (CMR) makes use of strong magnetic fields and radio waves to produce detailed images of the heart and blood vessels. Unlike X-ray or computed tomography, CMR does not involve radiation. It is also non-invasive (no equipment or instrument is inserted into the body to produce an image). A contrast agent, may be injected through a vein during the scan to highlight certain abnormalities in the heart or blood vessels.



A magnetic resonance imaging (MRI) scanner.

## What is the purpose of this test?

Your doctor has decided that you require this test to obtain high-quality studies of your heart's structure and function. CMR is commonly used in the assessment of:

- 1 Congenital heart diseases (such as hole-in-the-heart)
- 2 Coronary heart disease (such as assessment of myocardial viability after a heart attack)
- 3 Cardiomyopathies (diseases that affect the heart muscles)
- 4 Diseases of the pericardium (the membrane enclosing the heart)
- 5 Conditions affecting the major blood vessels (such as the aorta or pulmonary arteries).

## What can I expect?

Your doctor would have gone through a checklist with you to determine your suitability for this test before the scan. You will be advised where to go for registration for your procedure:

### Main Building, Level 1 – Diagnostic Imaging

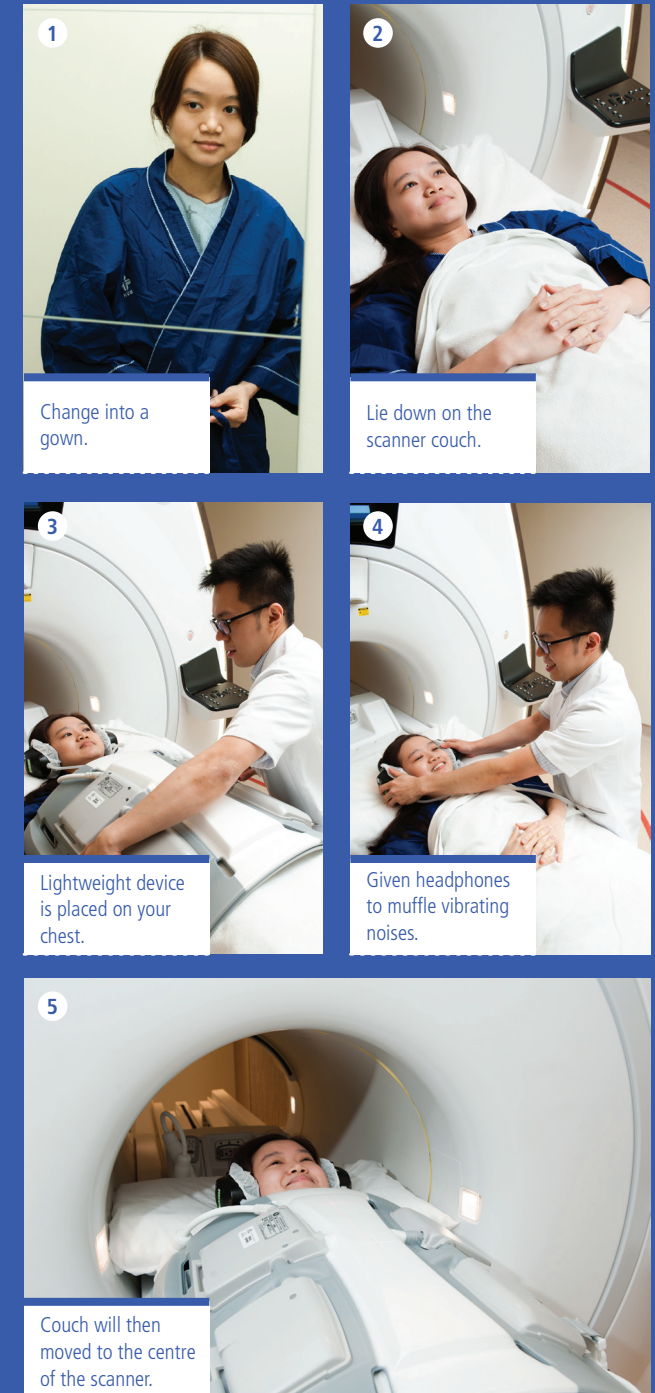
You can expect to spend approximately 2 to 3 hours at the imaging centre. While the procedure itself will take between 30 to 60 minutes (depending on the type of investigation you require), you will be required to go through the pre and post procedure preparations.

You will need to fill in a safety screening form prior to the start of the procedure. A radiographer will explain the procedure and answer any questions you may have.

Before entering the scanner room, you will be asked to change into a gown and to remove all metallic objects and clothing with metallic material. If contrast is required, a small plastic cannula will be inserted in your arm vein.

You will lie down comfortably on the scanner couch. ECG electrodes will be placed on your chest (this may require shaving of the chest in order to obtain a good ECG signal). A lightweight device is then placed over your chest to receive the image signals from your body.

Finally, you will be given headphones or earplugs as the scanner makes vibrating noises during image acquisition. The couch will then move to the centre of the scanner and you will need to lie still for the duration of the scan, between 30 to 90 minutes (depending on the type of investigation you require). During image acquisition, you are required to hold your breath, usually for about 8 to 12 seconds. You will be given clear breathing instructions throughout the scan.



1

Change into a gown.

2

Lie down on the scanner couch.

3

Lightweight device is placed on your chest.

4

Given headphones to muffle vibrating noises.

5

Couch will then be moved to the centre of the scanner.