



# Exercise Stress Myocardial Perfusion Imaging Test

Scan the QR code to view patient education videos  
on NUHCS You  channel!

STEP  
01



STEP  
02



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

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

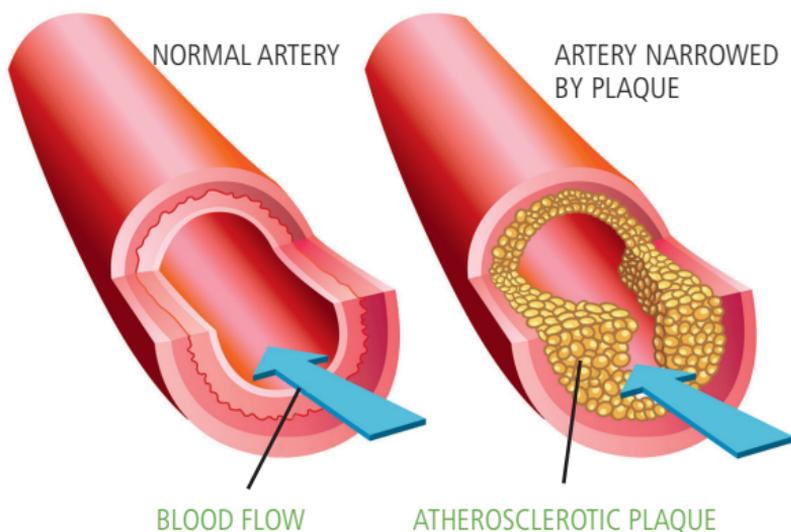


Scan here

## What is exercise stress myocardial perfusion imaging test?

Blood vessels supplying the heart with blood can be abnormally narrowed by a process called atherosclerosis. When this happens, the blood flow to the heart may be insufficient during physical exertion. Exercise stress myocardial perfusion test assesses the blood flow (perfusion) to the heart muscles during exercise.

### ATHEROSCLEROSIS



During treadmill exercise, the level of exercise gradually increases until the patient's heart rate reaches a certain target. At this time, a very small amount of radioactive chemical (sestamibi) is injected into the patient. This is taken up by the heart and gives your doctor information about the blood flow.

## What is the purpose of the test?

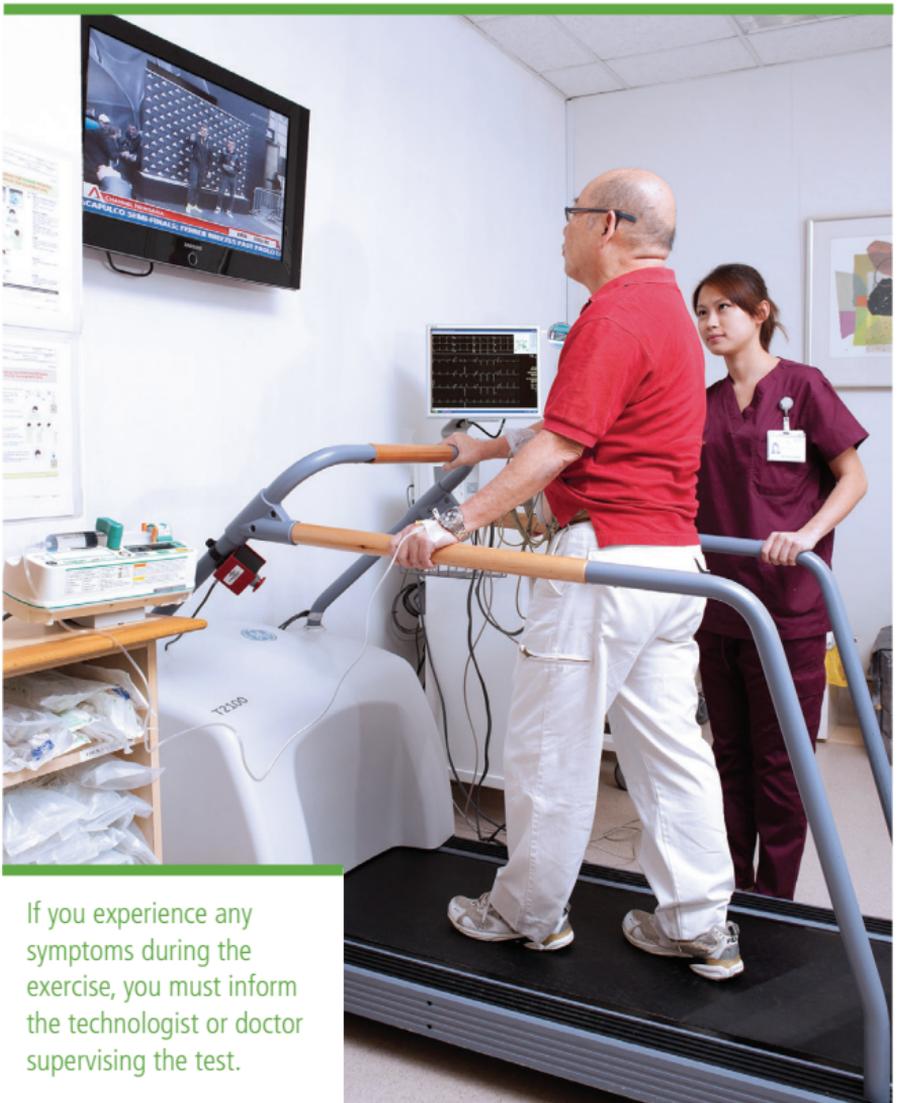
This test assesses the blood flow (perfusion) to the heart. It also gives the doctor an indication of how strongly the heart is beating (ejection fraction). These are the two most important pieces of information a doctor needs when evaluating a patient with heart disease. The test is more accurate and gives more information than treadmill stress test alone.

## What can I expect?

This test consists of 2 phases - the **stress phase** and the **rest phase**, both are usually done on the same day.

Before the test, your height and weight will be taken and a small plastic cannula is inserted in one of the veins on your hand for injection of the radioactive chemical. You are advised to come in sports attire, such as running shoes, shorts or pants and t-shirt to facilitate the treadmill exercise.

Once your blood pressure and a baseline ECG is recorded, you will proceed with the exercise on a treadmill machine. Most commonly, the speed and incline of the machine will increase every 3 minutes. Throughout the test, your ECG and blood pressure will be monitored.



If you experience any symptoms during the exercise, you must inform the technologist or doctor supervising the test.



The doctor will inject the radioactive chemical into your vein once you reach your target heart rate. You must continue to exercise on the treadmill for one to two minutes after injection to facilitate circulation of the chemical. After the exercise, you will continue to be monitored for a few minutes during the recovery period.

You will next rest for about 30 to 45 minutes during which you can have a drink. After this, it will be time to take images of your heart. You will lie facing upwards while the gamma-camera scans your heart. You should relax and lie fairly still so that accurate pictures can be obtained. The process will take 15 minutes.



You will lie facing upwards while the gamma-camera scans your heart.

Following this first scan, you will need to wait for about 2 hours before the rest phase of the test. During this waiting period, you are allowed to leave the laboratory and have some refreshments, but must return at the appointed time. Upon your return, another injection of the radioactive chemical will be given. The second scan of your heart will be acquired about 1 hour after this injection. With the conclusion of this second scan, the test is complete. The test may be performed over 2 days if you weigh more than 85kg.

## What should I do?

- 1 Avoid caffeinated food and drinks, such as Coke, coffee, tea and chocolate, for at least 12 hours before the test as caffeine may reduce the effectiveness of the vasodilator agent.  
.....
- 2 Do not take beta-blockers, nitrates, diltiazem and verapamil 48 hours prior to the test, unless instructed by your doctor. Do, however, bring the medication with you to the laboratory so that you may take them after the test. If you are unsure, please call our **Enquiry Hotline at 6772 5383**.  
.....
- 3 This test should not be performed if you have fever, viral and other accompanying acute illnesses. Please check with your doctor.  
.....
- 4 Avoid smoking for at least 6 hours before this test.  
.....
- 5 Fasting is not required but do avoid taking a heavy meal before the test.

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

Exercise testing is generally very safe. Most complications are minor. These include injuries sustained from falling from the treadmill machine. Very rarely, a heart rhythm abnormality or heart attack may occur during exercise.

The radioactive chemical given is very safe and has no known immediate side effects. The amount of radioactivity given during the test is very low and has not been shown to cause cancer. However, you should **inform the doctor if you are pregnant**.

## When will I know the results?

The doctor supervising the test can usually tell you the preliminary results of the exercise test. Your doctor will inform you of the final report at your next clinic appointment. If there is any severe abnormality that requires prompt medical attention, your doctor will contact you.

# Location



## Contact Information

### National University Heart Centre, Singapore

NUH Main Building Zone F Level 1, F01-31, Nuclear Cardiology Laboratory

Opening Hours: 8.00 am - 5.30 pm (Monday - Friday)

Closed on Weekend & Public Holidays

Tel: **6772 5383**

Email: [nuclearlab@nuhs.edu.sg](mailto:nuclearlab@nuhs.edu.sg)

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.

Information in this brochure is given as a guide only and does not replace medical advice from your doctor. Please seek the advice of your doctor if you have any questions related to the surgery, your health or medical condition. Information is correct at time of printing (Aug 2021) and subject to revision without notice. Copyright© is held by the publisher. All rights reserved. Reproduction in whole or in parts without permission is strictly not allowed.



Scan here to donate

Every day, we impact lives by providing assistance to financially disadvantaged patients. Help us continue our vital work and fight for every heartbeat through your generous support!

To make a donation, log on to <https://www.giving.sg/nuhs-fund-limited/> **NUHCSHeartFund** or scan the QR code.