

# Treadmill Stress Echocardiography (TSE)

## **What is Treadmill Stress Echocardiography? (TSE)**

A cardiac electrophysiology study is a test which looks at how well the heart responds to stress. The most common form of stress induced for the test is to exercise using the treadmill.

Echocardiography, an ultrasound scan is used to scan the heart from different directions and records the images on computer for analysis.

Scans are performed before and after exercising to determine if the heart muscle is functioning properly.

## **What is the purpose of the test?**

Coronary arteries are the blood vessels supplying blood to the heart. They can be abnormally narrowed in a medical condition called atherosclerosis. For patients with the medical condition atherosclerosis, there is not enough blood flow to the heart, which can result in chest pain, breathlessness, and temporary weakening of the affected heart muscle which can be detected on an echocardiogram.

The ESE is most commonly performed to:

- Investigate the cause of chest pain
- Determine if the patient has evidence of significant coronary artery disease which can limit the blood flow to the heart
- Further investigate patients who have already undergone the exercise stress electrocardiography (ECG) test but non specific changes are detected in their ECG results

## What can I expect for the test?

The test is performed in the Non-Invasive Cardiac Laboratory. The preparation and test usually take about 45 minutes in all. You will be able to go home after a short 10-minute rest upon completion of the test.



## Before the test

The test will be explained to you and you will be required to sign a consent form.

To facilitate the attachment of ECG electrodes to the chest, male patients will be asked to remove their shirts. Female patients may be asked to change into special gowns for the purpose of attaching electrodes.

Before performing the exercise, your blood pressure and baseline ECG will be recorded.

## During the test

Your echocardiogram will be recorded before and after the exercise test on the treadmill.

You will need to lie on your left side and may be asked to hold your breath for short periods of time.



You will then proceed with the exercise.

The speed and incline of the machine will increase after every 3 minutes. The cardiac technologist will inform you when the next stage is due.

Throughout the test, your ECG and blood pressure will be monitored, and you will have to report any symptoms you are experiencing.

To achieve more accurate test results, you will be asked to walk as much as you can so that a good amount of exercise is achieved.

## **After the test**

You will be monitored for at least 6 minutes after the exercise to ensure that your heart rate and blood pressure has settled down.

### **Inform your doctor if:**

If you are taking any medications for high blood pressure and/or heart disease which may slow down the heart rate, these medications should not be taken 24 to 48hrs prior to the test, except in specific clinical situations. Please check with your doctor about this.

### **Preparing for a TSE:**

1. Come in clothing with a separate top and bottom, and wear sports shoes to facilitate the test.
2. Avoid food and drink at least 2 hours before the test.
3. Please reschedule your test if you are feeling unwell. (e.g. flu, fever, headache.)

Contributed by Nursing

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