

EXERCISE STRESS TESTING

What is an exercise stress test?

Some cardiac problems can only be diagnosed when the heart is placed under some form of stress. The exercise stress test is a walking treadmill test primarily performed to aid in the diagnosis of coronary artery disease, although it can also assist in the investigation of cardiac arrhythmias.

Coronary artery disease

Coronary artery disease results in blockages in the coronary arteries, the vessels that supply blood to the heart muscle (myocardium). If a partial blockage is present, the muscle may still receive an adequate supply to meet its needs in a resting state, and therefore, remain undetected. By exercising the heart, there is an increase in the amount of blood the muscle needs and the partially blocked artery may no longer be able to supply adequate blood resulting in ischaemia or lack of oxygen to the heart muscle. Ischaemic heart muscles cause chest discomfort (angina) and characteristic changes on the electrocardiogram (ECG). These ECG changes along

with other clinical information are how the test is interpreted.

Cardiac arrhythmias

Some heart rhythm disturbances only occur when exercising. Therefore by performing a stress test, certain arrhythmias may be reproduced and a diagnosis reached. Patients with a programmable pacemaker may also benefit from stress testing as it is an easy way for the Cardiologist to check that the pacemaker responds appropriately when the patient is exercising.



Preparation for the test

You will be required to fast for two hours and wear comfortable walking shoes. Take your medicine as usual unless you are told otherwise by your doctor. A gown will be provided but it is advisable that you wear either shorts or a skirt to walk in.

How is a stress test performed?

A cardiac scientist will first greet the patient and perform the initial setup. The patient will be required to be bare-chested so as to apply an electrocardiograph and a blood pressure cuff to one arm. After some initial baseline recordings and measurements, the Cardiologist will arrive.

The exercise stress test is performed using a set protocol. Starting with an easy walk and then progressing every 1-3 minutes with an increase in speed and gradient, depending upon your level of fitness. Throughout the test, the ECG, pulse and BP are continually monitored. The stress test continues until the patient is too fatigued to continue or until symptoms (chest pain, shortness of breath, or light-headedness) prevent further exercise, or until changes in the ECG or BP indicates a cardiac problem. After the test, the patient remains monitored until any symptoms resolve, and the ECG, pulse and BP return to a normal resting state.

What are the risks of this procedure?

This is a very low risk procedure; the most common risks occur in 3:1000 people and include:

- Chest pain which can be treated with medication and stopping the test.
- Development of fluid in the lungs which may also require medication and cessation of the test.
- An abnormal heart beat or “arrhythmia” which may settle with or without medication and once again may result in ceasing the stress test.

There is a risk of heart attack in 1:2,500 people and a risk of death in 1:10,000 people, although this risk is greater if there is a known heart condition.

If you have a history of a previous/recent heart attack, tears in the arteries, recent fluid or clots in the lungs, severe heart valve disease, heart arrhythmias, palpitations or a recent increase in chest pain, you should advise the staff before you commence the test. You will also be asked to provide a list of your medications so that these can be noted prior to the test.

CONSENT FORM

Prior to the test you will be asked to sign a consent form in which the information is outlined. It is important that after reading the consent form you feel that:

- You are familiar with the procedure itself, what is required of you and the information that is to be obtained.
- That you are aware of the risks and benefits of the procedure as outlined in the information form.
- You should ask any questions or raise any concerns you have about your condition, the test or the treatment at the time that you sign the consent form.
- That your doctor will undertake any treatment including medication or procedures required should there be any complications or immediately life threatening events.
- This test is for the assessment of your condition, but may not necessarily improve the condition or its outcome.

After reading the information form, if you have any questions regarding the procedure, please do not hesitate to discuss these with the Cardiologist prior to the procedure. Then, when you are satisfied, the consent form can be signed.

I request to have the cardiac exercise stress test procedure.

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Name of Patient: _____

Signature: _____

Date: _____

Signature of Doctor/Cardiac Scientist: _____