

### Minor Adverse Effects of Dobutamine Include:

- Palpitations (Heart beating faster and/or harder)
- Chest pain
- Shortness of breath
- Nausea
- Vomiting
- Dizziness
- Flushing

These are temporary and will disappear within minutes after the test is terminated. Leakage of the drug at the infusion site may cause local pain and inflammation.

### Some Side Effects of Atropine Include:

- Blurring of vision
- Dry mouth
- Flushing
- Abdominal discomfort
- Retention of urine

As Atropine persists for a longer time in the body than Dobutamine, these symptoms may last up to few hours after the test.

Major complications are very rare with close monitoring and expert supervision of the procedure.

Various medications are available to counter the side effects but the symptoms usually resolve by themselves. If you experience chest pain or any other discomfort during the test, please inform the cardiac technologist or supervising doctor.

### When Will I Know the Results?

A formal report should be available within 24 to 48 hours after your doctor has analysed the computerised images and ECG recordings. The results and next step of your treatment will be discussed during the upcoming appointment with your doctor.

In the event where the test result is significantly abnormal or if an urgent decision is required, you may be contacted earlier.

#### LEVEL 3 TTSH MEDICAL CENTRE

- The Cardiac Centre
- Clinic 3A (Cardiology, Cardiac Ambulatory Services, Cardiac Rehabilitation Gym)
- Clinic 3B (The Heart Atrium, Cardiac Imaging Centre)

#### LEVEL 3 EMERGENCY (A&E) BLOCK

- Invasive Cardiac Laboratory

#### CONTACT:

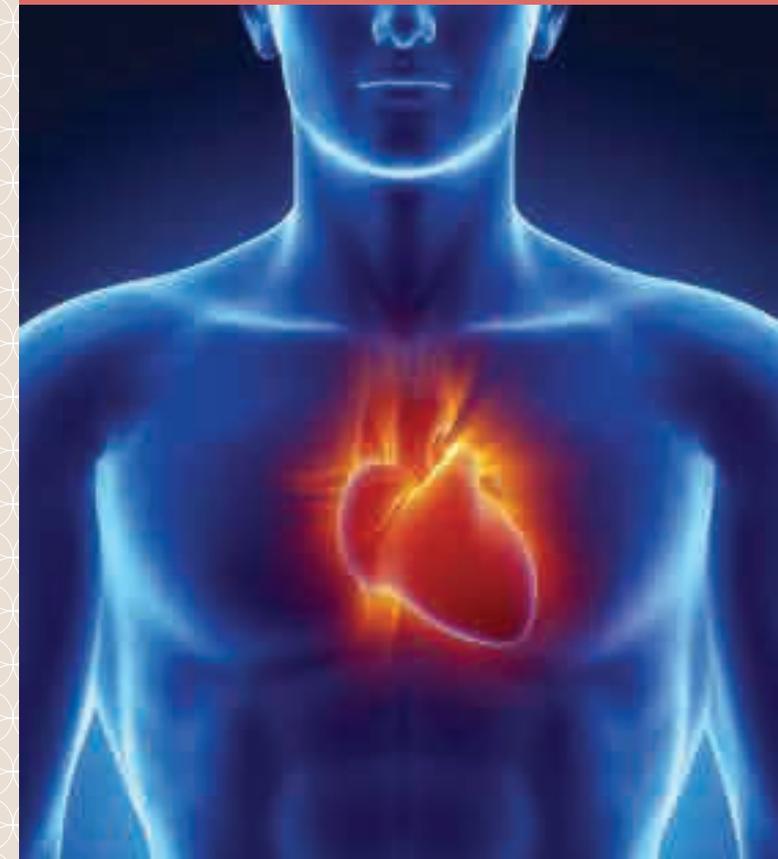
6537 7000 (All Appointments)



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Department of  
**CARDIOLOGY**

## Dobutamine Stress Echocardiography (DSE)



## What is Dobutamine Stress Echocardiography?

- Echocardiography is an ultrasound scan used to scan the heart from different directions, recording the movements as images on a computer for analysis. Scans are performed before, during and if necessary, after the dobutamine infusion. Images from different stages of the test are then compared to determine if the heart is functioning properly.
- Dobutamine Stress Echocardiography (DSE) is a non-exercise, specialised ultrasound test that allows the cardiologist to study the way the heart reacts in response to stress. A medication known as dobutamine is infused through a vein to stimulate the heart to beat faster and harder, mimicking the effects of exercising without the need to exercise.
- DSE is more accurate than an ordinary treadmill exercise electrocardiogram (ECG) test for detecting severe narrowing of the blood vessels supplying blood to the heart, also known as coronary arteries.

## Why do I Need a Dobutamine Stress Echocardiography?

- It is one of the most common investigations to determine the cause of chest pain and if the patient has evidence of significant coronary artery disease.
- For patients with the medical condition atherosclerosis, there is not enough blood flow to the heart, which results in chest pain and/or breathlessness. This can eventually lead to a heart attack.
- For patients with weak or damaged heart muscle due to coronary artery disease. DSE checks the extent of damage to the heart, and whether you can recover if the coronary arteries are re-opened or bypassed.
- It may also be used in patients with heart valve disease to check if their weak heart muscle can recover, or when the severity of the valve disease is unclear.

## What can I Expect for the Procedure?

The procedure will be explained to you before the test which is performed in the Non-Invasive Cardiac Laboratory. The test takes about 1 hour in total and you will be able to go home after a short 20-minute rest upon completion of the test.

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. Multiple electrodes will be placed on your chest to monitor the heart rhythm. Excess chest hair may be removed to facilitate this.

A small plastic tube or cannula will be inserted into the vein of your arm for the infusion of dobutamine. Throughout the test, you will be lying on your left side while your blood pressure and ECG is monitored. You may also be asked to hold your breath for short periods of time.

A water soluble gel is applied on the chest before, during and after dobutamine infusion to improve the image quality of the heart muscle.

During the examination, it is normal to feel your heart beating faster and harder. You may also feel slightly short of breath. These are the effects of dobutamine stimulation, and will resolve once the infusion is discontinued. Infrequently, dobutamine alone may not be sufficient to increase the heart rate fast enough for an accurate test. Another medication called Atropine may then be injected in addition to increase the heart rate.



## Inform Your Doctor:

1. If you are taking any medications for high blood pressure and/or heart diseases which may slow down the heart rate. These medications should not be taken 24 to 48 hours prior to the test, except in specific clinical situations. Please check with your doctor about this.
2. If you have any history of prostate problems or acute glaucoma, a condition causing pain in the eye due to excessively high pressure in the eyeball. You should not receive Atropine if you have these conditions.

## Preparing for a DSE

1. Come in clothing with a separate top and bottom, and wear sports shoes to facilitate the test.
2. Avoid food and drinks for at least 2 hours before the test.

## What are the Potential Risks?

Ultrasound is extremely safe and has no significant side effects, even with repeated examinations.