

# What Is Stress Echocardiography ?

Coronary artery disease (hardening of the arteries to the heart) continues to be the number one cause of death and disability in our country. The search continues for an ideal screening test to detect this problem in individuals with few or no symptoms. The standard treadmill test has generally been used for detection of heart disease. Proper evaluation of test results depends on the interpretation of the electrocardiogram (ECG) during and after exercise.

Patients with pacemakers, previous heart disorders or those who take certain types of medications may have abnormal ECG's and thus interpretation of the study is difficult or even impossible.

The echocardiogram (echo) is an ultrasound study of the heart. Harmless, high-frequency sound waves are transmitted into the chest and reflected back (echo) to the ultrasound computer. The computer then creates an image of the heart as it beats and displays it on a monitor for

viewing and recording.

By combining the standard treadmill test with a two-dimensional echocardiography test, a sensitive method of diagnosing coronary artery disease has evolved. Termed "**stress echocardiography**," this technology has been proven effective in diagnosing coronary artery disease in patients whom the ECG may offer little information. It has been shown that heart muscle with poor blood flow may move (squeeze) normally at rest but lose its ability to contract following exercise. Pictures taken with the echo machine before and after exercise may detect this loss of contractility.

**Stress echocardiography** is performed by obtaining four standard views of the heart at rest before performing exercise on the treadmill. These images are placed into a digital computer for analysis at a later time. The patient then performs a standard exercise treadmill test, which is followed by repeat echo to obtain the same four standard views of the heart. Following the test, both sets of images (before and after

## Preparing For The Stress Echo Test:

- ◆ **Bring a list of current medications**
- ◆ **Unless told otherwise, do not eat or drink for 3 hours before the test.**
- ◆ **Take your medications unless told otherwise.**
- ◆ **Wear comfortable clothes, (females will be asked to wear a cape from the waist up).**
- ◆ **Wear comfortable walking shoes.**

### REPORT ANY SYMPTOMS

- Chest, back, arm or jaw discomfort**
- Shortness of breath**
- Fatigue**
- Dizziness**
- Leg cramps or muscle fatigue**

## DURING YOUR TEST:

- ◆ You will be asked to read & sign a consent form.
- ◆ Small electrodes will be applied to your chest for monitoring your heart.
- ◆ A blood pressure monitor will be applied to your arm.
- ◆ A pulse oximeter will be applied to one of your right fingers.
- ◆ You will be asked to lie on your left side while resting echo images are recorded.
- ◆ You will be shown how to use the treadmill. The treadmill starts out slowly and gets faster and steeper at three-minute intervals.
- ◆ You should try to exercise on the treadmill as long as possible.
- ◆ It is important that you tell the physician if you have any symptoms.
- ◆ The treadmill will be stopped when you reach your target heart rate or if you have any symptoms.
- ◆ Your blood pressure, heart rate and oximetry will be monitored before, during and after the test.

Preliminary results are available immediately after the test. The final results will be sent to your physician within a few days.



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