EXERCISE STRESS TEST & STRESS ECHOCARDIOGRAM

WHAT IS AN EXERCISE STRESS TEST?

An exercise stress test is also called a stress electrocardiogram. This is a test that uses an electrocardiogram (ECG or EKG) to record your heart’s electrical activity while walking on a treadmill. The test is performed to help evaluate chest pain and how your heart is functioning.

During the test, small pads (electrodes) are placed on your upper body to monitor your heart rate. Your blood pressure is usually monitored before, during, and after the test as well. You will be asked to walk on a treadmill as the speed and grade of the treadmill is slowly increased. You are asked to exercise as long as possible so that the doctor gets the best information about how your heart is working. Most people exercise about 5 to 10 minutes. You should report any symptoms you might experience to the technician during the test. See the information below on how to prepare for the test.

The results from an exercise stress test are not always clear. This may lead to your doctor ordering a more sophisticated test.

WHAT IS AN ECHOCARDIOGRAM?

An echocardiogram is a test that uses ultrasound (sound waves) to create images of the heart. A small round probe is moved over the chest, sending sound waves through the body to create images of internal body structures. The images show a moving picture of the heart. The test is also known as an echo or a cardiac echo. Echocardiograms are done to learn about:

- **The heart chambers and heart muscle** – Technicians take measurements of the heart chambers and the thickness (size) of the heart muscle. Enlarged heart chambers may indicate heart failure while thickened chamber walls may indicate chronic high blood pressure.
- **The heart’s pumping strength** – Patients who have had a heart attack often have damaged areas of heart muscle. These areas do not pump as effectively as healthy areas of the heart.
- **Valve function** – The test shows the size, shape and functioning of the heart valves. This is useful in diagnosing “narrow” valves (aortic stenosis, mitral stenosis, and pulmonary stenosis) or “leaking” valves (aortic regurgitation, mitral valve regurgitation). An echo is helpful for following your progress if you have had surgery to replace a heart valve.
- **Other problems** – An echocardiogram is also useful to help the doctor find fluid around the heart (pericardial effusion), abnormal holes in the heart, blood clots and tumors within the heart.

WHAT IS A STRESS ECHOCARDIOGRAM?

This is a test that allows your doctor to compare images of your heart muscle at rest with how it functions when stressed during exercise. Your heart rate is increased through exercise on a treadmill. In some cases, a drug is used to increase the heart rate rather than using exercise. An echocardiogram is
performed before you begin exercising and then immediately after you stop. Your heartbeat and blood pressure are also monitored during your stress echocardiogram.

WHEN IS A STRESS ECHOCARDIOGRAM ORDERED?

Stress echocardiograms are often done to:

- Evaluate chest discomfort possibly due to reduced flow of blood through the coronary artery
- Evaluate symptoms of shortness of breath
- Evaluate heart rhythm abnormalities
- Evaluate a patient’s response to treatment he has been receiving or prior heart procedures
- Evaluate a patient’s overall exercise capacity

WHAT HAPPENS DURING A STRESS ECHOCARDIOGRAM?

An exercise stress echocardiogram takes about 30 minutes and can be done in our offices. Small pads (electrodes) are placed on your chest to record your heartbeat. Your blood pressure will also be monitored. While you lie flat on an exam table the technician will take an echocardiogram of your heart at rest. Next, you will be asked to walk on a treadmill to increase your heart rate. Most patients walk for 5 to 10 minutes. The speed and grade of the treadmill will be slowly increased. Immediately after you stop walking the technician will take additional echocardiogram images of your heart. This allows the doctor to compare your pre and post exercise results.

Some patients may not be able to exercise on a treadmill. In this case, a drug is administered through an IV line to increase the rate. When the target heart rate is reached, the medicine is stopped and the echocardiogram is performed.

HOW DO I PREPARE FOR A STRESS ECHO?

To prepare for an echo you should:

- Wear two piece clothing. Do not put any topical powders or lotions on your chest area as this can cause problems with the electrodes sticking to your chest area during the test.
- Check with your doctor about taking your regular medications on the day of the test, especially heart and blood pressure medications.
- Bring a list of the medications you currently take and their dosages with you the day of the test.
- You can have a light meal 1 to 2 hours before the test.
- Allow 1 hour for the test.

WHAT HAPPENS AFTER THE TEST?

After the test, you can go home and resume your normal activities. Your doctor will review your test and discuss the results with you at your next visit or his nurse will call you with your results.

WHAT ARE THE RISKS AND LIMITATIONS OF A STRESS ECHO?

There is no risk associated with an echo. If you are very overweight or have a serious lung disease such as emphysema, it may be hard to get good images of your heart. In this case, you may need a different type of echo or another procedure.