

# Illinois Heart & Lung Associates - Patient Services

## Stress Echocardiogram - Exercise Stress Echocardiogram & Dobutamine Stress Echocardiogram

### Exercise Stress Echocardiogram

#### *Understanding Heart Disease*

Your heart is responsible for pumping blood throughout your entire body. The coronary arteries supply blood containing oxygen and other nutrients to the heart muscle.

However, these arteries can become blocked by the accumulation of fatty substances (called lipids). This blockage is called atherosclerosis or coronary artery disease (CAD). As CAD progresses, the heart muscle may not receive enough blood, especially during times of stress or physical activity. For some people, this will cause

chest pain (angina pectoris), breathlessness, and/or fatigue. For others, there may be no symptoms to indicate that blood supply to the heart is not sufficient. However, if CAD goes undetected or untreated, there is the potential for more serious complications to occur, such as a heart attack. But there are risk factors that alert your doctor that you may be at risk for CAD.



#### *Risk Factors for CAD*

- Family history
- Overweight
- Lack of physical activity
- Smoking
- Poor diet and excessive intake of alcohol
- Presence of certain conditions (i.e., high blood pressure [hypertension], diabetes, high cholesterol, etc.)
- Hormone status (as women pass through menopause their risk of CAD increases)
- Increasing age
- Race

#### *What is a Stress Echocardiogram?*

A stress echocardiogram, or stress echo, is an exercise test that is combined with an ultrasound study of your heart. Using this test allows your physician to see how well your heart pumps during increased activity. A brief echocardiogram will first be performed while you are at rest. A technician will then prepare you for your exercise test. One of our physicians, as well, will be present for the exercise portion of the test. Immediately after exercise, you will lay down on a bed and a second set of ultrasound pictures will be recorded. By comparing the pictures taken before exercise with the pictures taken after exercise, your physician will be able to see any changes in your heart function while under the stress of exercise.

### ***Reasons Your Doctor May Want to Perform This Test***

- If you have chronic chest pain or angina - images provide valuable information as to why you may be experiencing chest pain
- If you have recently experienced a heart attack - images can help your doctor visualize the extent of damage the heart underwent during the attack
- If you are about to undergo surgery - images can help the doctor see if your heart is strong enough to withstand the stresses of a long and/or complicated surgical and anesthetic procedure

### ***Preparation***

You may have a light breakfast 2 hours prior to the test. NO CAFFEINE, NICOTINE OR ALCOHOL should be consumed 4 hours prior to the test.

Please wear comfortable, flat, walking shoes. TENNIS OR RUNNING SHOES ARE PREFERRED. You should wear comfortable, loose fitting trousers or slacks.

Your physician may ask you to withhold some of your medicines. Please discuss this with your physician prior to the day of the test.

### ***Report Any Symptoms***

Be sure to tell the doctor if you feel any of the following during the test:

- Chest, arm, or jaw discomfort
- Irregular heartbeat
- Shortness of breath
- Nausea
- Headache

### ***After Your Test***

When the test is over, you may return to your normal routine. Ask your doctor about taking any medication that you were told to skip before the test.

### ***Obtaining Your Test Results***

The test results will be sent to your physician and will be discussed with you during a future office visit. The test results help the doctor plan your treatment and any other tests that may be needed.

## **Dobutamine Stress Echocardiogram**

### **What is an IV Dobutamine Stress Echocardiogram Test?**

A dobutamine stress echocardiogram is an ultrasound study of the heart combined with a pharmaceutical (drug-induced) stress test. The test allows your physician to see how your heart functions when it is required to work harder. This test is used to determine whether there is clinically significant heart disease in individuals who are unable to adequately exercise on a treadmill. The dobutamine stress echo can show your physician if an area of the heart does not pump properly due to an inadequate blood supply to the heart muscle.

### **Preparation**

- Check with your doctor regarding medications which you take to see if you should take them before the test
- Do not eat, smoke, drink alcohol, or have any caffeine for 4 hours before the test
- You may have liquids only the morning of your test (water or juice)
- Bring a list of all current medications you are on with you on the test day
- Arrange to have someone else drive you home after the test

### **Prior to your test**

When you arrive in the Cardiology Department, you will be greeted by a technician and asked to complete a medical history sheet and a consent form. The resting cardiac ultrasound images will be obtained at this time. The technician will cleanse multiple areas on your chest and apply adhesive patches (electrodes) to these areas. These electrodes will be connected by wires to the EKG monitor to allow the technician to perform 12-lead electrocardiograms during your test. Your blood pressure and EKG will be monitored before, during and after your test. An IV will be inserted in a vein. This needle will be used for the dobutamine infusion. Dobutamine is a drug that produces an effect on the heart that is similar to exercise.

### **The Time It Takes**

Although the test takes less than 30 minutes, allow an extra hour for checking in and getting ready for your test.

### **During Your Test**

- Small pads (electrodes) are placed on your chest to record your heartbeat.
- An intravenous (IV) line is started in your arm.
- A painless device (transducer) coated with cool gel is moved firmly over your chest. This device creates sound waves that make images of your heart.
- Dobutamine is then slowly given through the IV. It is normal to feel your heart pound for a few minutes.
- Echo images are taken while you feel the effects of the drug and after your pulse returns to normal.
- You may be given a second drug to slow your heartbeat to a normal level.
- Your heart and blood pressure are monitored during and after the test.

### **Report Any Symptoms**

Be sure to tell the doctor if you feel any of the following during the test:

- Chest, arm, or jaw discomfort
- Feeling flushed
- Nausea
- Irregular heartbeat

- Shortness of breath
- Headache

**After Your Test**

When the test is over, you may return to your normal routine. Ask your doctor about taking any medication that you were told to skip before the test.

**Obtaining Your Test Results**

The test results will be sent to your physician and will be discussed with you during a future office visit. The test results help the doctor plan your treatment and any other tests that may be needed.