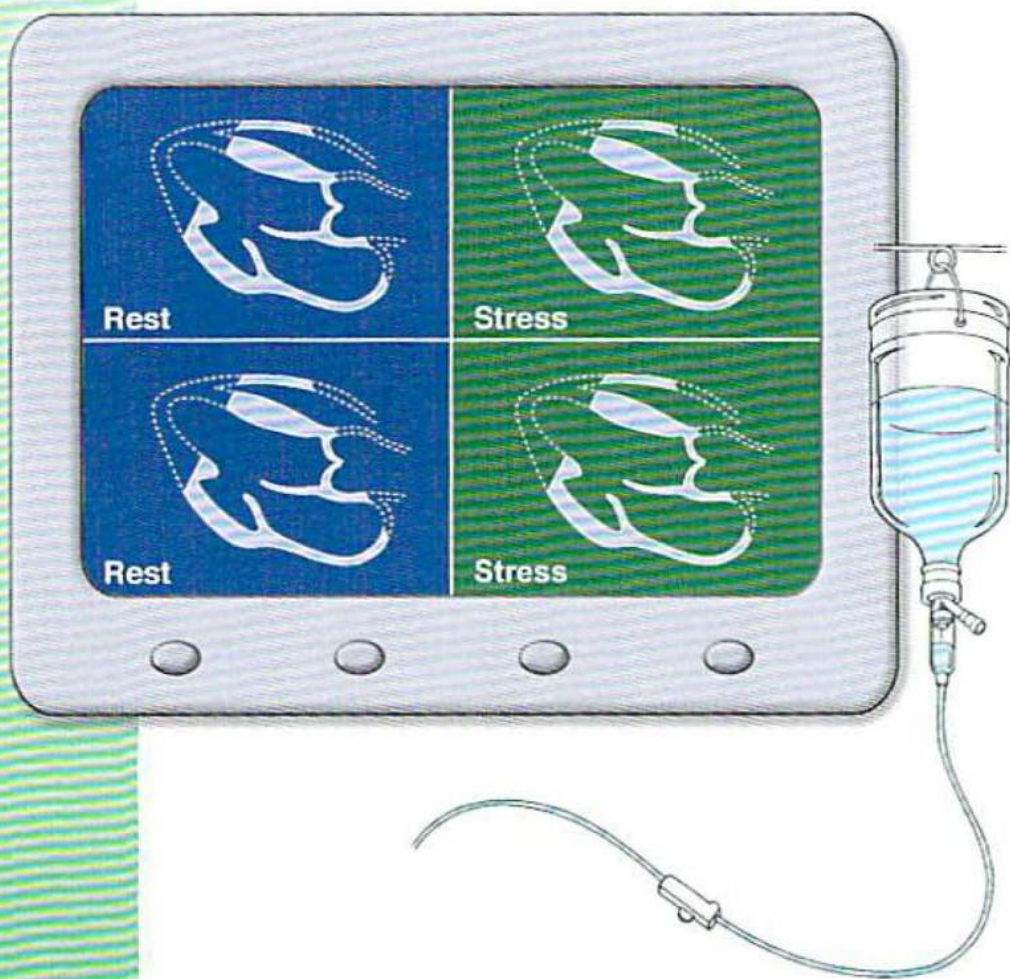


# Dobutamine Stress Echo



*A Patient's Guide*

## What Is a Dobutamine Stress Echo?

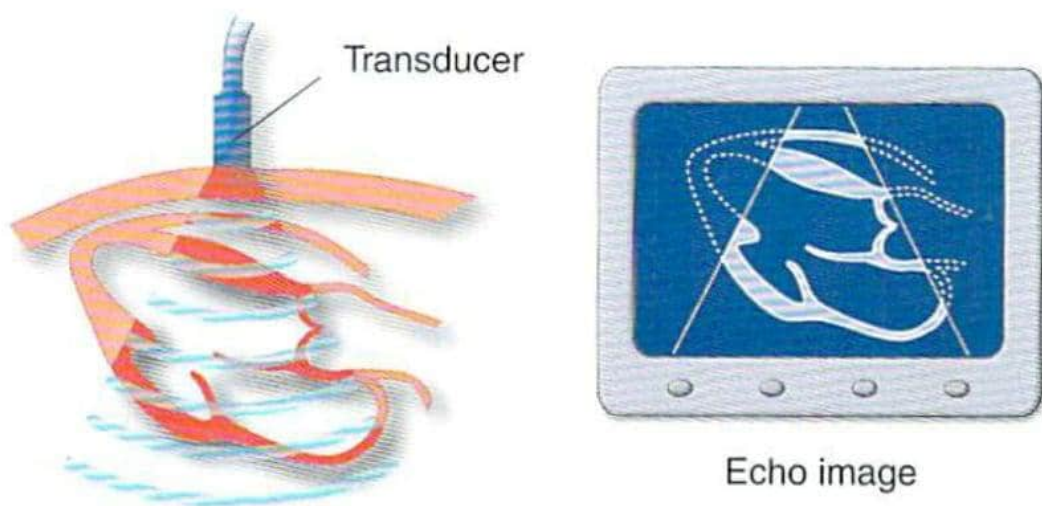
A dobutamine stress echocardiogram (echo) combines an echocardiogram with a stress test. It allows doctors to learn how well the heart works when it is made to beat faster and harder.

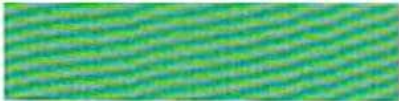
Generally, a stress test is done while patients walk on a treadmill or ride a stationary bicycle. *For patients who are unable to exercise adequately, dobutamine*, a drug that mimics the effect of exercise on the heart, is injected in place of exercise.

## What Does It Show?

An **echocardiogram**, or echo, uses ultrasound (high frequency sound that cannot be heard by the human ear) to create images of the heart. The echo is a safe and painless test that helps doctors diagnose many kinds of heart problems.

During an echo test, a small microphone-like device, called a **transducer**, is held against the chest. The transducer sends ultrasound waves that bounce off the various parts of the heart.





The transducer picks up the reflected echo waves and sends them to a computer. The computer turns the echoes into a moving image of the heart. The image is displayed on a monitor screen. It can also be recorded on video or printed on paper.

An echo test is first performed while your heart is beating normally, or “at rest.” Dobutamine is then **infused** (injected very slowly) into a vein in your arm. The drug causes your heart to pump faster and harder, as if you were exercising.

Additional echo images are taken during and after the infusion of dobutamine. Doctors then compare the images side by side.



Normally, all areas of the heart muscle pump harder during stress. If an area of the heart muscle does not pump as well as it should with dobutamine, this often indicates that it is not receiving enough blood because of a narrowed or blocked artery.

## Why Is a Stress Echo Done?

Most often, a stress echo is performed to diagnose coronary heart disease, which is caused by blocked or narrowed coronary arteries (the vessels that supply blood to the heart). The problem may not show up at rest, when the heart is beating normally. With stress, however, the heart is not getting enough blood and abnormal echo images appear.

A stress echo may also be done to diagnose certain types of heart muscle or heart valve disease.

### BEFORE YOUR STRESS ECHO

- Generally, you'll be told not to eat or drink for at least 3 hours before the test. If you have diabetes and take medication for it, you'll need special instructions.
- If you take heart medications, check with your doctor when you schedule the test. Some heart medications (especially beta blockers) can affect the results. You may be asked to stop such medications a day or two before the test.
- Make sure to wear a two-piece outfit. You may need to undress from the waist up and put on a short hospital gown.
- The procedure will be explained to you and you will be asked to sign a consent form. Feel free to ask any questions you may have.

## What Happens During the Test?

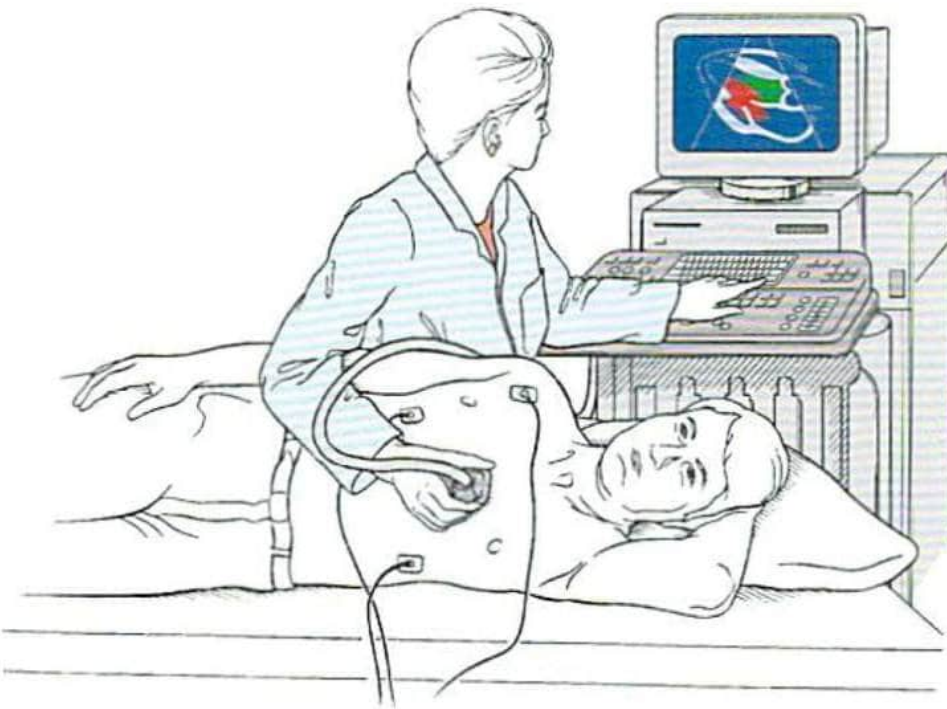
The dobutamine stress echo is usually performed at a hospital, test center, or clinic. The test consists of two parts: a resting echo and dobutamine infusion.

### ■ *Resting Echo*

You will be asked to remove clothing from the waist up. Several electrodes (small sticky patches) will be placed on your chest to obtain an ECG and monitor your heartbeat. An **intravenous (IV) line** will be inserted into a vein in your arm.

You then lie down on a special bed or exam table. To improve the quality of the pictures, a technologist applies a colorless gel to the area where the transducer will be placed.

The technologist then moves the transducer over the chest to obtain the desired images. The images are displayed on the screen and recorded on video.

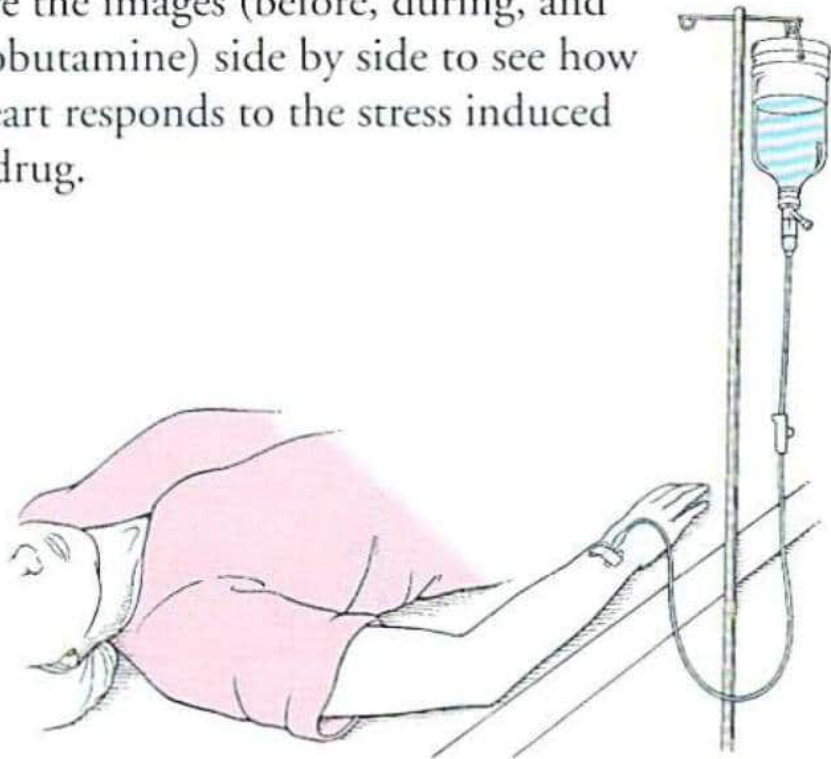


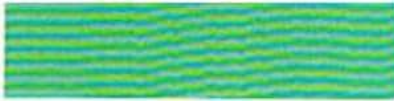
### ■ *Dobutamine Infusion*

Dobutamine is infused slowly into the vein, and the dose is increased every few minutes. As the drug is given, it is normal to feel your heart pound for a few minutes. In addition, you may experience chest pressure, headache, dizziness, nausea, or shortness of breath. Be sure to let the doctor or technologist know how you feel.

The symptoms go away quickly when the infusion is stopped. Your heart rhythm and blood pressure are monitored during and after the infusion.

Additional sets of echo images are taken during and after the infusion of dobutamine. Doctors then compare the images (before, during, and after dobutamine) side by side to see how your heart responds to the stress induced by the drug.





The test generally ends when enough information has been obtained. It may also be stopped when your heart beats fast enough, when the ECG shows abnormal changes, or when you experience significant symptoms (such as chest pressure or dizziness).

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You should allow *one to two hours* for the entire test, which includes preparation, dobutamine infusion, and echo imaging.

### **Is the Dobutamine Stress Echo Safe?**

The echo study is *very safe*. There are no known risks from the ultrasound waves.

The dobutamine test is also safe. A small amount of risk does exist because the heart is stressed. Possible *rare* complications include abnormal heart rhythms and low blood pressure. Trained personnel are there to handle any emergency.

### **Your Test Results**

The doctor conducting the test may be able to give you preliminary test results before you leave. Your own doctor will discuss the final test results with you during a future office visit.

The information gained from the dobutamine stress echo helps your doctor make an accurate diagnosis of your heart condition and develop the treatment plan that's best for you.

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