

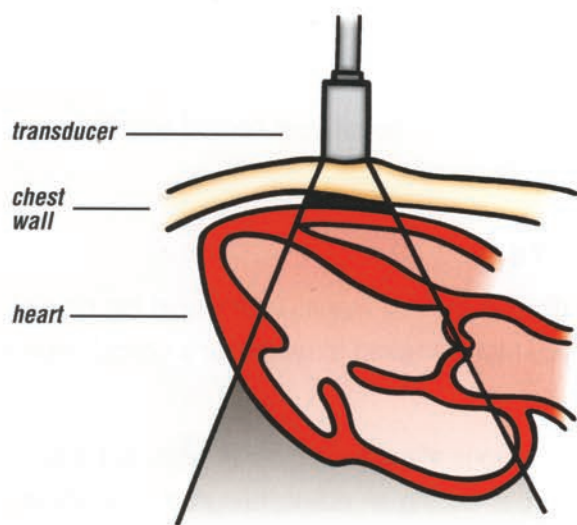
UNDERSTANDING *echocardiogram*

WHAT IS AN ECHOCARDIOGRAM?

An **echocardiogram** (“echo”) is a test that produces an image of the heart by using harmless high-frequency ultrasound waves.

In this test, ultrasound waves are sent through the body with a hand-held device called a *transducer*. The sound waves bounce off of the heart and return to the transducer. The transducer then transmits the sound waves (also called echoes) to a computer, which uses the pattern of the waves to create images of your heart.

By moving the transducer in different directions, a variety of structures can be seen, and a display of their motion can then be recorded.



AN ECHO HELPS DETERMINE:

- the size of your heart and thickness of the heart chambers
- if there is fluid around the heart
- if there are abnormalities with any of the heart structures
- how well the heart is able to pump blood
- if any of the heart valves are narrowed or leaking

DIFFERENT TECHNIQUES

Depending on the type of information that is needed, your doctor may use one or more of these echocardiogram displays:

M-mode produces an image that appears as a “tracing” of the heart. It is used to measure the size of the heart and the thickness of the heart chambers.

Two dimensional (2D) allows your doctor to view your heart in small “slices.” It shows the shape of the heart structures and valves as well as their actual motion.



Example of a two-dimensional display.

Doppler/color Doppler ultrasound shows the speed and direction of blood flow within the heart and blood vessels. It helps determine abnormal blood flow patterns that can result from a narrowed or leaky heart valve.

WHERE IS THE TEST DONE?

An echocardiogram may be performed in a doctor’s office, clinic, hospital, outpatient center or diagnostic laboratory.

HOW LONG DOES THE TEST TAKE?

The test may take 30 to 45 minutes, depending on how many techniques are used to produce images of your heart.

THE EXERCISE ECHOCARDIOGRAM

Your doctor may want you to have an exercise test along with an echocardiogram. This is called an **exercise echocardiogram**.

An exercise echo is sometimes used to view how your heart works under stress. It may help diagnose coronary artery disease (blockage in the blood vessels that supply blood to your heart).

In this test, an echocardiogram is done before, during and immediately after exercise. By comparing the echos your doctor can see if the heart muscle is pumping as it should when you exercise. A decrease in pumping suggests that one or more of the arteries are blocked.

Before your test

- Do not eat or drink anything for at least 3 hours before the test.
- Do not do any type of strenuous physical activity on the day of the test. For example, do not shovel snow, lift heavy objects or exercise vigorously.
- Do not smoke for at least 3 hours before the test.
- Tell your doctor about all the medications you take. Ask your doctor if you should take your medications before the test.
- Wear a comfortable two-piece outfit and walking shoes.

Your exercise test

For the exercise part of the test, you may be asked to walk on a treadmill or pedal on a stationary bike. As you go along, your exercise will gradually get harder.

You will be asked to report any symptoms, such as chest pain or pressure, shortness of breath, pain in your arms, and pain or fatigue in your legs.

If you are unable to exercise for this test, you may be given medication to produce the effects of exercise.

BEFORE YOUR ECHOCARDIOGRAM

You can drive yourself to your appointment, however, it may be helpful to have someone come with you. You may eat and drink normally before your echo. It is best to wear a two-piece outfit, since you will be asked to remove your clothing from the waist up. Ask your doctor if you should take your usual medications on the day of the test.

HOW IS AN ECHOCARDIOGRAM DONE?

You will be asked to remove your clothing from the waist up. You may be given a gown to put on. Small sticky patches called electrodes will be placed on your chest to record the pattern of your heartbeat.

You will be asked to lie on your back or turn slightly to your left. A clear gel is applied to your skin in the area where the transducer (a wand-like device) will be placed. A specially trained and registered technologist will move the transducer over your chest. The technologist may ask you to breathe in and out slowly or to hold your breath for a few seconds. You also may be asked to change positions.

During the test, images of your heart are recorded on videotape or a digital recording so that your doctor can review them.

AFTER YOUR TEST

After you go home you can go about your normal activities. You may eat and drink liquids as usual.

YOUR TEST RESULTS

Your doctor may discuss the test results with you at the time of your appointment, or you may be asked to return for a consultation at a later date.

It is normal to feel anxious about having heart tests. But it is important to understand that having an echocardiogram is a safe way for your doctor to check your heart. It provides invaluable information that cannot be obtained by any other technique. Having an echocardiogram takes the burden of guesswork off you and your doctor. Because you have had this test you know that any advice about treatment is based on facts discovered during your test.

You may be advised to make changes in the way you live to reduce the risk of future health problems. A non-surgical treatment may be recommended, or you may be advised to have surgery. Whatever your doctor's recommendation, you can rest assured that it is based on the best possible information.