

Transthoracic Echocardiogram (TTE)

What is an echocardiogram (“echo”)?

This is a test that uses sound waves to look at the heart. It is a safe and painless way to view the heart and its function.

How does it work?

A small device, called a **transducer**, is held against the chest. This sends sound waves that bounce off the heart.

A computer uses the data from the transducer to create a picture of the heart. The picture is shown on a TV screen. The pictures of your heart are saved in your record.

Why is the echo done?

The echo test gives doctors useful information about your heart.

- **Size of the heart.** The echo is used to measure the size of the heart chambers and thickness of the heart muscle.
- **Pumping strength.** The test shows whether the heart is pumping at full strength or if it is weakened.
- **Valve problems.** The echo shows the shape and motion of the heart valves. It can help tell if a valve is narrowed or leaking.
- **Other uses.** The test may be used to see if there is fluid around the heart, blood clots, other problems inside the heart, or holes between heart chambers.

How do I prepare for the test?

You do not need to do anything special to get ready for this test. You may eat, take your medicines and go about your normal routines, unless you are told otherwise.

Make sure you wear a two-piece outfit such as a shirt with pants or shorts. The echo may be done at the hospital or clinic.

How long does the echo take?

An echo exam takes from 30 to 45 minutes. This depends on the number of pictures that are needed. Be sure to allow extra time to check in. When the test is over, you may eat and return to your normal routine.

Is the echo safe?

The echo test is very safe. There are no known risks from the sound waves. The test is painless. You may feel slight pressure when the transducer is held against your chest. Pushing a little harder helps to get better pictures.

What are the benefits?

The echo test gives information about the heart’s structure and blood flow without anything being put into your body.

The major drawback is that it is often hard to get clear pictures in some people.

What happens during the echo?

You will be asked to undress from the waist up and put on a gown. Electrodes (small sticky patches) are placed on your chest and shoulders to record your heartbeat. The room will be dark, so the technician can see the screen.

You then lie on an exam table. To take better pictures, a clear gel is applied to the area where the transducer will be placed. This may feel cool and a bit moist. The gel will be wiped off at the end of the test.

A technician moves the transducer over the chest to obtain many views of the heart. They may ask you to change your position. Air in your lungs can affect the pictures. You may be asked to breathe a certain way for a few seconds or lay on your left side. You may hear a whooshing sound which is the blood flowing in your heart.

Bubble Study with the Echo

We may do a bubble study during a TTE. It allows doctors to learn more about how blood flows through your heart, and your risk for stroke. For the study, a small amount of air is injected into the IV. You will not feel any different. You will be asked to “bear down” as if having a bowel movement (without emptying bowels) during the test. The technician will let you know when and how to do this. Not every echo needs a bubble study.

Contrast with the Echo

Some people will need contrast during the echo to see the heart better. We use an IV to give you the contrast. The technician or nurse will place a small tube in your vein with a needle for the contrast. The IV may be taken out at the end of the echo if you are going home. The contrast is made of tiny gas bubbles in a liquid. You will breathe out the gas to remove it from your body. It leaves your body in about 30 minutes.

Your Test Results

If a doctor is present during the test, you may be able to get the results before you leave, or your own doctor will discuss the test results with you during a future clinic visit. The results of the echo test will help your doctor know how your heart is working and help come up with a plan that is best for you.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 8/2019 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing HF#6849.