

Your Test: Echocardiograms



An echocardiogram ("echo") is a very useful test for heart failure. An echo can tell your doctor how well your heart is pumping. It also helps tell whether your heart is too big (enlarged) and whether your heart valves are working right.

An echo is a type of ultrasound test. It uses high-pitched sound waves that travel through a device called a transducer. The device picks up echoes of the sound waves as they bounce off the different parts of your heart. These echoes are turned into moving pictures of your heart on a video screen.

How is this test done?

During an echo, you lie on a table. A technician will put gel on your chest and move a handheld device over your chest. At times, the technician may ask you to breathe slowly or hold your breath for a few seconds.

A standard echo takes about 30 to 60 minutes. A standard echo may also be called a transthoracic echocardiogram, or TTE.

A Doppler echo uses ultrasound to show how blood flows through your heart and blood vessels. A computer can measure the direction and speed of the blood flow.

Sometimes a stress echocardiogram (called a stress echo) or a transesophageal echocardiogram (called a TEE) is done.

- For a stress echo, you have a standard echo while you are at rest. You have a second echo after you exercise or after you take a medicine to make your heart beat faster. During exercise, your heart rate and rhythm will be closely checked with an electrocardiogram (EKG) to see if there are any changes in your heart rhythm. The doctor compares the "before" echo with the "after" echo. This shows how well your heart works when it is beating faster and working harder. A stress echo takes about an hour.
- For a TEE, a technician will pass a thin tube down your throat. The tube contains a tiny device that gives off sound waves. TEE gives clearer pictures because the device gets closer to your heart. Before the test, you take medicine called a sedative to make you feel relaxed and sleepy. Your throat will be numbed so you do not gag or choke. The test takes about 2 hours.

Why is this test done?

During the echo, your doctor can check how well your heart is pumping. One commonly used measure of the heart's pumping ability is called ejection fraction. Ejection fraction is the percentage of blood pumped out of the heart by your left ventricle during each heartbeat. The left ventricle is the main pumping chamber of your heart. The echocardiogram can measure your ejection fraction by comparing the amount of blood in your heart at the end of a beat to the amount at the beginning of the beat. The change

is the percent that was pumped out or "ejected." The normal ejection fraction of the left ventricle is more than 55%.

There are two types of heart failure. In systolic heart failure, the pumping ability of the heart is limited. People with systolic heart failure have a low ejection fraction. In diastolic heart failure, the heart squeezes normally but cannot relax enough to fill up the left ventricle like it should. People with diastolic heart failure usually have normal ejection fractions. Ask your doctor what type of heart failure you have, and ask him or her to explain what your ejection fraction is.

What can you expect?

Standard or Doppler echo

You do not need to do anything to get ready for a standard or Doppler echo. It may help to wear comfortable clothes that are easy to take off. After the test, you can drive yourself home and go back to your normal activities.

Stress echo

Before the test:

- Do not eat heavily for a few hours before the test.
- Wear comfortable clothes and shoes that you can exercise in.
- Ask your doctor whether you should take your regular medicines as usual. Tell your doctor if you take insulin.

After the test:

- You can drive home if you feel like it.

- You can return to your normal activities.

TEE

Before the test:

- Do not eat or drink anything for at least 6 hours before the test.
- If you have dentures, you will need to take them out.
- If you have medical problems involving the throat, esophagus, or stomach, tell your doctor before getting the test.
- Ask someone to drive you home after the test. You will not be able to drive for at least 12 hours because of the medicines.

After the test:

- You may still be sleepy for a few hours after you get home.
- Your throat may be sore.
- You may do your normal activities and eat a normal diet when you feel like it.

What are the risks?

Echo is a very safe test. The sound waves have not been shown to have any harmful effects.

During a stress echo, there is some risk that making your heart work harder could cause you to have chest pain or irregular heartbeats. But your EKG will be closely watched, and if you have problems, the stress echo will be stopped to prevent any damage to your heart.

Normally, TEE does not cause problems.

Because you have a thin tube put down your throat, there is a small chance that your throat could be injured.