



ECHOCARDIOGRAM

Purpose:

Your doctor has ordered an echocardiogram (“echo”), which is an ultrasound of the heart. An echocardiogram can show the size of your heart's chambers, the thickness of the chamber walls, how the chambers and heart valves are working, and if there is fluid collecting around your heart.

Pre-test Prep:

There are no special instructions for this test.

If you have any questions, please contact your healthcare provider.

Description of the Procedure:

This test is performed by one of our highly trained echo technologists. A transducer (a small probe like a microphone) which emits ultrasound waves is placed on your chest. The sound waves are reflected by the heart walls and heart valves back to the transducer and form a digital image of your heart. This is a very safe test. In fact, it uses the same technology that is used on pregnant women to evaluate their babies. The images will be viewed by one of our cardiologists and a report will be given to your physician within 48 hours.

Your results:

Your healthcare provider will contact you with your results.

Your test date is: _____

Your test time is: _____



Echocardiography

Basic Facts

Echocardiography uses ultrasound waves to produce an image of the heart's structure and function, measure the blood pressure inside the heart, and to measure the direction and speed of blood flow.

Standard echocardiography produces a two-dimensional image of a cross section, or slice, of the heart, its chambers and valves, and the large blood vessels of the heart.

The test is painless, does not use radiation, and has few known risks.

Echocardiography is a diagnostic test that uses ultrasound, or high-frequency sound waves, to create images of the heart. A transducer, or modified microphone, turns electrical energy into sound waves, which bounce off tissues in the heart and are recorded onto videotape or computer for later analysis.

Echocardiography is primarily used to detect and assess the following:

- Blocked coronary arteries;
- Heart Failure or cardiomyopathy (enlargement of the heart);
- Congenital (present at birth) heart defects;
- Damage from hypertension (high blood pressure);
- Heart attack damage or scarring;
- Pericardial disease (the membrane that surrounds the heart); and
- The function of the heart muscle, blood vessels, and valves.

Several echocardiographic techniques can be used, including:

- **Transthoracic echocardiography**
- **Echocardiographic stress testing:** This test evaluates how well the heart works during exercise, or stress. People who cannot exercise are given medications that simulate exercise.
- **Transesophageal echocardiography:** A long, slender, flexible tube is inserted into the mouth, through the esophagus, and into the stomach. Transesophageal echocardiography produces a highly detailed image of the heart because there are no internal structures to obstruct the view, and is used to detect and assess the following:
 - Blood clots;
 - Congenital abnormalities;
 - Disease of the aorta;
 - Heart infection; and
 - Heart valve malfunctions.

PRE-TEST GUIDELINES



The physician will give the patient specific pre-test directions to follow, but patients are often given common guidelines, such as:

- Patients should not eat, drink, or smoke for 4 hours before stress echocardiography, but should take any medications as usual unless otherwise directed; and
- Patients receiving transesophageal echocardiography should not eat after midnight the night before the test, but should take any medications as usual except diuretics (“water pills”) unless otherwise directed.

RISK FACTORS

No known risks are associated with transthoracic echocardiography. Stress echocardiography carries a very small risk of heart attack or arrhythmia (unusual heart rhythm or rate). Transesophageal echocardiography has a small risk of minor throat damage.

WHAT TO EXPECT

Echocardiography is performed by a trained sonographer or technician at an echocardiography lab, a clinic, or in the patient’s hospital room. Throughout the test, an electrocardiogram, or ECG, which records the heart’s electrical activity, is performed to monitor the heartbeat and blood pressure is monitored. For transthoracic and stress echocardiography, a gel is used on the chest to improve conduction and reception; it may feel cold and moist.

For transesophageal echocardiography, a sedative will be administered. For a transesophageal echocardiography, the patient swallows a long, slender, flexible tube that has an ultrasound-imaging device near its tip. The tube is directed from the mouth, through the esophagus, and into the stomach.

For transthoracic echocardiography, the transducer is moved across the chest to gather data and the patient may feel slight pressure or vibration surrounding the area being examined. The patient may hear a “whooshing” sound, which is the amplified sound of the blood flowing. For stress echocardiography, the patient exercises on a treadmill or stationary bicycle until reaching a pre-determined target heart rate, then stops exercising and the transthoracic echocardiographic technique is used.

Occasionally, the patient may be asked to remain silent or hold his or her breath so that the heart may be seen more clearly.

The procedure lasts approximately 30 to 60 minutes.

POST-TEST GUIDELINES

There are no post-test restrictions for transthoracic echocardiography or stress echocardiography.

For transesophageal echocardiography, patients should observe the following restrictions:

- Avoid driving for 24 hours if a sedative was administered; and
- Avoid eating and drinking; especially hot foods and liquids, for at least 2 hours after the test.