

WHAT IS AN ECHO?

Your doctor has requested that a study known as an Echocardiogram (echo) be performed. The echo actually consists of three different procedures:

- 1) **Two-dimensional echocardiography imaging.**
- 2) **M-mode echocardiography imaging.**
- 3) **Doppler velocity and color flow mapping.**

Echocardiography is an ultrasound study of the heart. Harmless, high-frequency sound waves that are inaudible to the human ear are transmitted through the body and then reflected back (echo) to the ultrasound machine. The ultrasound machine uses a computer to construct an image of the heart.

- **M-Mode echocardiography** is a basic technique using a single sound beam to measure the size of the chambers in the heart and the heart muscle thickness.
- **Two-dimensional echocardiography** uses multiple sound waves transmitted in slightly different directions. The computer is able to generate a picture of different tissue densities on a television monitor for reviewing and recording onto a video tape or computer disc.

- **Doppler echocardiography** measures the direction of blood flow through the heart as well as its velocity. Knowledge of blood flow characteristics is especially valuable in the diagnosis of heart valve problems, congenital heart disease and complications of coronary artery disease. This same information can be utilized to assess overall heart performance and can actually predict pressures within the heart chambers.
- Serial echo studies allow your physician to determine if heart medications and other heart treatments are producing favorable changes to your heart.
- By assigning color to the direction of blood flow, (**color flow mapping**), large areas of blood flow may be studied. These color flow mappings allow abnormal blood flow characteristics to be interpreted by the cardiologist.



The Echo Exam Is Simple And Painless.

- You will be asked to lie on your back or left side as a transducer, coated with a clear gel, is applied to your chest. The gel allows the sound waves to enter the body without passing through the air and maintains the image quality of the echo. ECG electrodes will be applied to your chest to monitor the heart's electrical activity during the study.
- You will remain awake and can watch the images on the screen.
- The test requires no special preparation. You may take your medications and eat as usual.
- The report of the echo interpretation is sent to your doctor usually the next working day. The technologist performing the study will be happy to advise you as to where and when the results will be available.

The Echocardiogram Provides
Your Doctor With Valuable
Information About Your Heart:

- **The heart's size.** Echocardiography is an excellent method of measuring the size of the four heart chambers as well as the thickness of the heart muscle.
- **Pumping strength.** Echocardiography is able to evaluate if the heart pumps normally or is weakened.
- **Valve disease.** All four valves are evaluated for narrowing or leakage during the echo study.
- **Other uses.** The echo study can also detect blood clots or masses inside the heart. Abnormal findings such as fluid around the heart or abnormal holes between heart chambers can be found with the echo study. The estimation of the pressures within the heart or adjacent to the valves is evaluated with the echo study.



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