What Is Echocardiography?

Echocardiography is a painless test that uses sound waves to create images of your heart. It provides your doctor with information about the size and shape of your heart and how well your heart's chambers and valves are working.

The test also can identify areas of heart muscle that aren't contracting normally due to poor blood flow or injury from previous heart attacks. In addition, a type of echocardiography called Doppler ultrasound shows how well blood flows through the chambers and valves of your heart. Echocardiography can detect possible blood clots inside the heart, fluid buildup in the sac around the heart (pericardium), and problems with the aorta (the main artery that carries oxygen-rich blood out of the heart).

Who Needs Echocardiography?

Your doctor may recommend echocardiography if you're suffering from signs and symptoms of heart problems. For example, symptoms such as shortness of breath and swelling in the legs can be due to weakness of the heart (heart failure), which can be seen on an echocardiogram.

Doctors also use echocardiography to provide information on:

- The size of your heart. An enlarged heart can be the result of high blood pressure, leaky heart valves, or heart failure.
- Heart muscles that are weak and aren't moving (pumping) properly. Weakened areas of heart muscle can be due to damage from a heart attack. Or weakening could mean that the area isn't getting enough blood supply, which can be due to coronary artery disease.
- Problems with your heart's valves. Echocardiography can show whether any of the valves of your heart don't open normally or don't form a complete seal when closed.
- Abnormalities in the structure of your heart. Echocardiography can detect a variety of heart abnormalities, such as a hole in the septum (the wall that separates the two chambers on the left side of the heart from the two chambers on the right side) and other congenital heart defects (structural problems present at birth).
- The aorta. Echocardiography is commonly used to assess and detect problems with the aorta such as aneurysm (abnormal bulge or "ballooning" in the wall of an artery).
- Blood clots or tumors. If you have had a stroke, echocardiography might be done to check for blood clots or tumors that may have caused it.

Doctors also use echocardiography to see how well your heart responds to certain heart treatments, such as treatment for heart failure.