

## Test Your Chest

### What are some common tests for heart disease?

After a careful evaluation with the patient and examination, we usually proceed with some basic tests:

- An Electrocardiogram or ECG is a front-line test in which small tabs are placed on the patient's chest and allow us to look at the electrical activity of the heart. It can indicate heart disease and arrhythmias.
- An Echocardiogram or Echo uses sound waves to evaluate the heart function, wall motion and valves of the heart. It helps us evaluate the "ejection fraction" of the heart: a critical number that indicates how much blood is expelled with each beat. We can also detect leaks of the heart valves as well as other abnormalities with cardiac ultrasound.

### What kind of tests reveal possible blockages?

The most common test performed to evaluate for blockage is a basic treadmill stress test. This test uses a protocol in which the treadmill increases in speed and incline over time. This standardized approach has been very useful but has limitations in its ability to diagnose blockages.

We can also combine the treadmill stress test (or use chemicals to mimic exercise) with ultrasound or a radioactive tracer to better evaluate for possible obstruction of the arteries in the heart.

Stress Echocardiography uses ultrasound to look at the walls of the heart before and after exercise. It is 80-90% accurate.

Nuclear Stress tests are highly accurate. In this case, a nuclear tracer is injected into the patient. The patient then sits under the camera for 6-8 minutes to get pictures of the heart. After exercising on the treadmill, the patient is injected again. Comparison pictures are then made to see if a "blockage" may exist.

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### What if a patient cannot exercise on a treadmill?

Several different medications can be used to mimic exercise. However, real exercise is ideal if it can be performed.

### What other tests are available?

CT scanning of the chest is also available to look at the "calcium" in the blood vessels as well as for possible obstruction. Magnetic Resonance Imaging or MRI can also evaluate both the arteries and function of the heart.