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Exercise stress test

An exercise stress test is used to measure the effect of exercise on your heart.

How the Test is Performed

This test is done at a medical center or health care provider's office.

The technician will place 10 flat, sticky patches called electrodes on your chest. These patches are attached to an ECG monitor that follows the electrical activity of your heart during the test.

You will walk on a treadmill or pedal on an exercise bicycle. Slowly (about every 3 minutes), you will be asked to walk (or pedal) faster and on an incline or with more resistance. It is like walking fast or jogging up a hill.

While you exercise, the activity of your heart is measured with an electrocardiogram (ECG). Your blood pressure readings are also taken.

The test continues until:

- You reach a target heart rate.
- You develop chest pain or a change in your blood pressure that is concerning.
- ECG changes suggest that your heart muscle is not getting enough oxygen.
- You are too tired or have other symptoms, such as leg pain, that keep you from continuing.

You will be monitored for 10 to 15 minutes after exercising, or until your heart rate returns to baseline. The total time of the test is around 60 minutes.

How to Prepare for the Test

Wear comfortable shoes and loose clothing to allow you to exercise.

Ask your provider if you should take any of your regular medicines on the day of the test. Some medicines may interfere with test results. Never stop taking any medicine without first talking to your provider.

Tell your provider if you are taking sildenafil citrate (Viagra), tadalafil (Cialis), or vardenafil (Levitra) and have taken a dose within the past 24 to 48 hours.

You must not eat, smoke, or drink beverages containing caffeine or alcohol for 3 hours (or more) before the test. In most cases, you will be asked to avoid caffeine or caffeine-like substances for 24 hours before the test. This includes:

- Tea and coffee
- All sodas, even ones that are labeled caffeine-free
- Chocolates
- Certain pain relievers that contain caffeine

How the Test will Feel

Electrodes (conductive patches) will be placed on your chest to record the heart's activity. The preparation of the electrode sites on your chest may produce a mild burning or stinging sensation.

The blood pressure cuff on your arm will be inflated every few minutes. This produces a squeezing sensation that may feel tight. Baseline measurements of heart rate and blood pressure will be taken before exercise starts.

You will start walking on a treadmill or pedaling a stationary bicycle. The pace and incline of the treadmill (or the pedaling resistance) will slowly be increased.

Sometimes, people experience some of the following symptoms during the test:

- Chest discomfort
- Dizziness
- Palpitations
- Shortness of breath

Why the Test is Performed

Reasons why an exercise stress test may be performed include:

- You are having chest pain (to check for coronary artery disease, narrowing of the arteries that feed the heart muscle).
- Your angina is getting worse or is happening more often.
- You have had a heart attack.
- You have had angioplasty or heart bypass surgery.
- You are going to start an exercise program and you have heart disease or certain risk factors, such as diabetes.
- To identify heart rhythm changes that may occur during exercise.
- To further test for a heart valve problem (such as aortic valve or mitral valve stenosis).

There may be other reasons why your provider recommends this test.

Normal Results

A normal test will most often mean that you were able to exercise as long as or longer than most people of your age and sex. You also did not have symptoms or concerning changes in blood pressure or your ECG.

The meaning of your test results depends on the reason for the test, your age, and your history of heart and other medical problems.

It may be hard to interpret the results of an exercise-only stress test in some people.

What Abnormal Results Mean

Abnormal results may be due to:

- Abnormal heart rhythms during exercise
- Changes in your ECG that may mean there is a blockage in the arteries that supply your heart (coronary artery disease)

When you have an abnormal exercise stress test, you may have other tests performed on your heart such as:

- Cardiac catheterization
- Nuclear stress test
- Stress echocardiography

Risks

Stress tests are generally safe. Some people may have chest pain or may faint or collapse. A heart attack or dangerous irregular heart rhythm is rare.

People who are more likely to have such complications are often already known to have heart problems, so they are not given this test.

Alternative Names

Exercise ECG; ECG - exercise treadmill; EKG - exercise treadmill; Stress ECG; Exercise electrocardiography; Stress test - exercise treadmill; CAD - treadmill; Coronary artery disease - treadmill; Chest pain - treadmill; Angina - treadmill; Heart disease - treadmill

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