
Exercise stress test

Definition

An exercise stress test is a screening tool used to test the effect of exercise on your heart.

See also:

- Nuclear stress test
- Stress echocardiography

Alternative Names

Exercise ECG; ECG - exercise treadmill; EKG - exercise treadmill; Stress ECG; Exercise electrocardiography; Stress test - exercise treadmill

Why the Test is Performed

An exercise test is most often done to evaluate for coronary artery disease.

Reasons why an exercise stress test may be performed include:

- You are having chest pain (to evaluate for coronary artery disease -- narrowing of the arteries that feed the heart muscle)
- Your angina is becoming more severe or is occurring 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 evaluate the significance of a heart valve problem (such as aortic valve or mitral valve stenosis)

There may be other reasons why your health care provider requests this test.

How the Test is Performed

This test is done at a medical center or physician's office.

The technician will place 10 flat, sticky patches called electrodes on your chest. These 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, you will be asked to walk (or pedal) faster and on an incline. It is like walking fast or jogging up a hill.

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

The test continues until:

- You reach a target heart rate
- You develop chest pain or a change in your blood pressure that worries your doctor
- ECG changes show 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 - 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

You must not eat, smoke, or drink beverages containing caffeine or alcohol for 3 hours (or more) before the test.

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

Ask your health care 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 doctor.

Tell your doctor 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 will need to avoid caffeine 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, producing 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 during the test:

- Chest discomfort
- Dizziness
- Palpitations
- Shortness of breath

Risks

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

Persons who are likely to have such complications are usually already known to have a weak heart, so they are not given this test.

Considerations

Exercise-only stress tests may be hard to interpret in certain patients. In those patients, some type of imaging (echocardiography or nuclear imaging) or other test may be added.

Normal Results

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

What Abnormal Results Mean

Abnormal results may indicate:

- Abnormal heart rhythms during exercise
- Changes 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 will almost always need other tests on your heart:

- Coronary angiography
- Nuclear stress test
- Stress echocardiography



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