

Stress Test

Stress tests are tests performed by a doctor and/or trained technician to determine the amount of stress that your heart can manage before developing either an abnormal rhythm or evidence of ischemia (not enough blood flow to the heart muscle). The most commonly performed stress test is the exercise stress test.

What Is an Exercise Stress Test?

The exercise stress test -- also called a stress test, exercise electrocardiogram, treadmill test, graded exercise test or stress ECG -- is a test used to provide information about how the heart responds to exertion. It usually involves walking on a treadmill or pedaling a stationary bike at increasing levels of difficulty, while your [electrocardiogram](#), heart rate and blood pressure are monitored.

Why Do I Need a Stress Test?

Your doctor uses the stress test to:

- Determine if there is adequate blood flow to your heart during increasing levels of activity.
- Evaluate the effectiveness of your heart medications to control angina and ischemia.
- Determine the likelihood of having coronary heart disease and the need for further evaluation.
- Identify abnormal heart rhythms.
- Help you develop a safe exercise program.

What Types of Stress Tests Are There?

There are many different types of stress tests, including:

- **Dobutamine or Adenosine Stress Test:** This test is used in people who are unable to exercise. A drug is given to make the heart respond as if the person were exercising. This way the doctor can still determine how the heart responds to stress, but no exercise is required.
- **Stress echocardiogram:** An echocardiogram (often called "echo") is a graphic outline of the heart's movement. A stress echo can accurately visualize the motion of the heart's walls and pumping action when the heart is stressed; it may reveal a lack of blood flow that isn't always apparent on other heart tests.
- **Thallium (nuclear) stress test:** This test helps to determine which parts of the heart are healthy and function normally and which are not. Before exercising, a very small and harmless amount of radioactive substance is injected into the patient. Then the doctor uses a special camera to identify the rays emitted from the substance within the body; this produces clear pictures of the heart tissue on a monitor. Using this technique, the heart has "hot" and "cold" spots that indicate the areas of heart muscle damage present before, during and after exercise.

Preparation for these types of stress test will vary from preparation for the exercise stress test. Ask your doctor about any specific instructions.

How Should I Prepare for the Exercise Stress Test?

- Do not eat or drink anything except water for four hours before the test.
- Do not drink or eat foods containing caffeine for 12 hours before the test. Caffeine will interfere with the results of your test.
- Do not take the following heart medications on the day of your test unless your doctor tells you otherwise, or if the medication is needed to treat chest discomfort the day of the test: Isosorbide dinitrate (for example, Isordil, Sorbitrate); Isosorbide mononitrate (for example, Ismo, Indur, Monoket); Nitroglycerin (for example, Deponit, Nitrostat, Nitropatches). Your doctor may also ask you to stop taking other heart medications on the day of your test. If you have any questions about your medications, ask your doctor. Do not discontinue any medication without first talking with your doctor.
- If you use an inhaler for your breathing, please bring it to the test.

What If I have Diabetes?

- If you take insulin to control your blood sugar, ask your doctor what amount of your medication you should take the day of the test. Often, you will take only half of your usual morning dose and eat a light meal 4 hours before the test.
- If you take pills to control your blood sugar, do not take your medication until after the test is complete.
- Do not take your diabetes medication and skip a meal before the test.
- If you own a glucose monitor, bring it with you to check your blood sugar levels before and after your exercise stress test. If you think that your blood sugar is low, tell the lab personnel immediately.
- Plan to eat and take your blood sugar medication following your stress test.

What Should I Wear the Day of the Test?

Wear soft-soled shoes suitable for walking and comfortable clothes. Do not bring valuables.

What Happens During the Exercise Stress Test?

First, a technician will gently clean 10 small areas on your chest and place electrodes (small, flat, sticky patches) on these areas. The electrodes are attached to an electrocardiograph monitor (ECG or EKG) that charts your heart's electrical activity during the test.

Before you start exercising, the technician will perform an EKG, to measure your heart rate at rest and will take your blood pressure.

You will begin to exercise by walking on a treadmill or pedaling a stationary bicycle. The rate of exercise, or degree of difficulty will gradually increase. You will be asked to exercise until you feel exhausted.

At regular intervals, the lab personnel will ask how you are feeling. Please tell them if you feel chest, arm or jaw pain or discomfort, short of breath, dizzy, lightheaded or any other unusual symptoms. It is normal for your heart rate, blood pressure, breathing rate and perspiration to increase during the test. The lab personnel will watch for any symptoms or changes on the ECG monitor that suggest the test should be stopped.

After the test you will walk or pedal slowly for a couple of minutes to cool down. Your heart rate, blood pressure and ECG will continue to be monitored until the levels begin returning to normal.

Although the appointment lasts about 60 minutes, the actual exercise time is usually between seven and 12 minutes.

Ask your doctor if you have any questions about the exercise stress test.