

Exercise Test

What is an exercise test?

An exercise test records the electrical activity of the heart on an electrocardiogram and takes blood pressure readings while you walk on an exercise treadmill or pedal a stationary bicycle. The exercise test may be done to:

- Check for heart disease.
- See if your treatment for heart disease is working.

When is it used?

You may have an exercise test if your healthcare provider thinks you might have heart disease. The most common cause of heart disease is narrowing of the coronary arteries. The coronary arteries are the blood vessels that carry blood, oxygen, and nutrients to the heart. The arteries can become narrowed when substances such as cholesterol build up inside the artery. The exercise test helps check for narrowing in your arteries.

Many people with narrowing of the coronary arteries have no symptoms when they are at rest. The heart works harder during exercise and needs more blood than when you are resting. If the supply of blood to the heart cannot keep up with the amount of blood the heart needs, there will be changes in the electrocardiogram. Recording the electrocardiogram before, during, and after exercise shows these changes.

How do I prepare for the test?

- Do not eat for 2 hours before the test.
- Ask your healthcare provider if you should take your regular medicines before the test.

What happens during the test?

Small sticky patches or suction cups are placed on your back and chest for the electrocardiogram. Blood pressure and the electrocardiogram are recorded while you are resting. If a treadmill is being used for the test, you will then start a slow walk on the treadmill. If you are using a stationary bicycle, it will be easy to pedal at first. The speed and the upward slope of the treadmill are then gradually increased, or the bicycle gradually becomes harder to pedal. The electrocardiogram is watched constantly, and your blood pressure is measured at each change in speed or ease of

pedaling.

Your healthcare provider will stop the test when a set workload is reached. The workload is a target heart rate that is usually at least 85% of the number 220 minus your age. The test will be stopped earlier if:

- Your electrocardiogram or blood pressure changes a lot.
- Your heart rhythm becomes abnormal.
- You have chest pain.
- You become too tired to continue.

How accurate is the exercise test?

The exercise test is not a perfect test. Some people with coronary artery disease will have normal test results, and some healthy people will have abnormal results.

The accuracy of the ETT can be improved in 2 ways:

- A radioactive tracer such as thallium or technetium may be injected into your arm vein at the peak of exercise. (These tracers give about the same amount of radiation as a chest X-ray.) The radioactive tracers follow the blood flow in the heart. A detector placed over the chest is used to make a picture of the heart. If there is good blood flow through the arteries, the pictures will show that the heart muscle picks up the tracer. If there is decreased or no blood flow through an artery, the pictures will show heart muscle that the tracer is not reaching.
- An echocardiogram (ultrasound images of the beating heart) may be done just before and just after exercise. If you have coronary artery narrowing, the pumping of the heart shown on the echocardiogram after exercise will not be normal. This is called a stress echocardiogram.

What are the benefits?

Exercise testing is one of the safest and most widely used tests for heart disease in the US. It is a quick way to check your heart's arteries for narrowing or blockage. Your healthcare provider may use it to help decide whether you need more costly and riskier tests.

What are the risks?

Your skin might be irritated by the adhesive on the electrode patches, but any skin irritation quickly goes away when the patches are removed.

On rare occasions, your heart may go into a very fast rhythm

which could cause you to collapse. You may develop chest discomfort during the test. To ensure your safety, your healthcare provider will supervise the test. Your blood pressure and electrocardiogram are watched constantly. The test team watches for and is able to treat any problems that may happen during the test.

When should I call my healthcare provider?

Call your provider right away if:

- You have any change or worsening of pain or symptoms.

Call during office hours if:

- You have questions about the procedure or its result.
- You want to make another appointment.

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Radionuclide Ventriculogram

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