

Microvolt T-wave Alternans Test

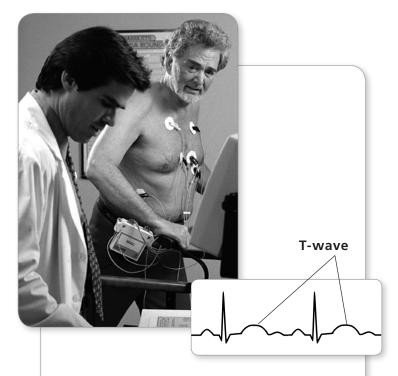
What is it?

A microvolt T-wave alternans test (MTWA test) helps your doctor identify your risk of sudden cardiac arrest. In sudden cardiac arrest, the heart's electrical system stops without warning, and the heart stops beating. Sudden cardiac arrest is usually caused by an underlying problem with the heart's electrical system. The MTWA test helps your doctor detect the problem so that it can be treated.

What does this test measure? A T-wave is part of the electrical wave that is created when your heart beats. An MTWA test can show tiny differences in the T-wave from heartbeat to heartbeat. These tiny variations can indicate a problem with your heart's electrical system.

Why do I need it?

Your doctor may recommend an MTWA test if your family has a history of sudden cardiac arrest, or if you have a history of fainting, heart disease, heart flutters, or heart attack.



The T-wave changes are more likely to show up when your heart is beating faster. For this reason, you may walk on a treadmill to increase your heart rate during the test.

Talking with your healthcare providers about this test

The table below lists the most common potential benefits, risks, and alternatives for a microvolt T-wave alternans test. Other benefits and risks may apply in your unique medical situation. Talking with your healthcare providers is the most important part of learning about these risks and benefits. If you have questions as you talk with your healthcare providers, be sure to ask them.

Potential benefits	Risks and potential complications	Alternatives
 An MTWA test can allow your doctor to treat an underlying problem with your heart's electrical system. An MTWA test is non-invasive (it doesn't involve cuts). 	 While there are risks with any procedure, the risks for an MTWA are very rare. Risks include: Symptoms caused by a faster heartbeat, such as chest pain, high blood pressure, irregular heartbeats, dizziness, nausea, heart attack, or sudden cardiac arrest. You will be carefully monitored during the test to prevent these symptoms or to react quickly if they occur. Allergic reaction to the medication given if you can't exercise. This complication is extremely rare. 	Other heart tests that measure your heart's electrical system include: • Electrocardiogram • Electrophysiology (EP test)

How do I prepare?

Before your MTWA test, your healthcare provider will give you instructions. Here are some basic ways to prepare:

- **Avoid eating** for several hours before the test, as directed by your doctor. If you have diabetes, ask your doctor for special directions.
- Avoid caffeine and tobacco for several hours before the test, as directed by your doctor.
- Tell your doctor about medications you are taking, including over-the-counter drugs and herbal supplements. You may need to stop some medications before the test, such as beta blockers and other heart medications.
- Tell your doctor if you are allergic to any medication.
- Avoid using lotions on your chest before the test.
- Wear comfortable clothes and walking shoes to the test.

What happens during an MTWA test?

An MTWA test takes about 40 minutes. Here's what happens:

- Registering: You'll fill out some paperwork, including an informed consent form. A healthcare provider will explain the test — be sure to ask any questions you have.
- Preparing:
 - You will remove clothing above the waist, and put on a gown.
 - You'll enter a room with a special exam table and equipment.
 - A healthcare provider will prepare your skin. You will have electrodes (sticky patches that monitor your heart's activity) attached to your chest and back. The electrodes will be connected with wires to the MTWA equipment.

- Monitoring: To monitor your blood pressure and the oxygen in your blood, a cuff may be placed on your arm and a clip may be attached to your finger.
- Increasing your heart's workload: For this test, you'll walk on a treadmill. It starts slowly and then the speed becomes a little faster, but will remain at a comfortable pace. This test does not include vigorous exercise. Healthcare providers will monitor your blood pressure, pulse, and other signs. If you have any symptoms or don't feel well, tell the technician the treadmill can be stopped at any time. Wait for it to stop before you step off.

What happens after?

- The electrodes will be taken off. If you received medication to increase your heart rate, the IV line will also be removed.
- You can generally go home right away, and there is no special self-care needed at home.
- You'll make an appointment with your doctor to hear the results of the test. If a rhythm problem shows up on the test, your doctor will discuss a treatment plan with you.

When should I call my doctor?

Contact your doctor if you have any heart symptoms after the test, such as:

- A racing or fluttering heartbeat
- Chest pain
- Shortness of breath