Troponin

Does this test have other names?

Cardiac troponin (cTn), cardiac troponin I (cTnI), cardiac troponin T (cTnT), high-sensitivity cardiac troponin (hs-cTn)

What is this test?

This test measures the amount of the protein troponin in your blood.

Troponin is found in cells in your heart muscle. When these cells are injured, they can release troponin and other substances into the blood. This is most often when the heart isn't getting enough oxygen and nutrients.

Measuring your troponin level often can quickly tell your healthcare provider whether you are having a heart attack. During a heart attack, an artery that feeds your heart muscle with blood becomes blocked.

Why do I need this test?

You may need this test if your healthcare provider suspects that you are having a heart attack. Symptoms of a heart attack often include:

- Pain or discomfort in the chest that may feel like a squeezing sensation or a sense of fullness
- Pain in other areas, such as the neck, back, arm, or jaw
- Shortness of breath
- Lightheadedness or dizziness
- Nausea or vomiting
- Sudden sweating
- Extreme tiredness

What other tests might I have along with this test?

Your healthcare provider may also order other tests to diagnose a heart attack and learn more about how it's affecting the heart. These tests often include:

- Electrocardiogram to measure the heart's electrical activity
- Blood tests to measure creatine kinase MB, a substance found in heart muscle and other tissues

What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Results are given in nanograms per milliliter (ng/mL) or liter (ng/L). Different labs use slightly different normal ranges and results can vary depending on the type of troponin test done. For example, the normal range for troponin I is between 0 and 0.04 ng/mL but for high-sensitivity cardiac troponin (hs-cTn) normal values are below 14ng/L.

Other types of heart injury may cause a rise in troponin levels. These include:

- Atrial fibrillation
- Heart failure
- Myocarditis
- Damage to the heart from anthracycline medicines. These are used for cancer treatment.

Conditions in other parts of your body may cause troponin levels to rise. These include:

- Blood clot in your lungs (pulmonary embolism)
- Chronic kidney disease
- Chronic obstructive pulmonary disease

High-sensitivity cardiac troponin (hs-cTn)

High-sensitivity cardiac troponin is a newer type of testing that can detect lower levels of troponin. This may help diagnose heart injury and acute coronary syndrome earlier. Your healthcare provider will explain which type of troponin testing was done and what the results mean for you.

How is this test done?

The test is done with a blood sample. A needle is used to draw blood from a vein in your arm or hand.

Does this test pose any risks?

Having a blood test with a needle carries some risks. These include bleeding, infection, bruising, and feeling lightheaded. When the needle pricks your arm or hand, you may feel a slight sting or pain. Afterward, the site may be sore.

What might affect my test results?

Having this test too soon after a heart attack may give a false-negative. Cardiac troponin takes a few hours to rise after heart-cell death begins and can take several days to clear from the bloodstream. Your healthcare provider may need to measure it several times over a few hours after the symptoms start.

How do I get ready for this test?

You don't need to prepare for this test. Be sure your healthcare provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illegal drugs you may use.