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The Troponin Blood Test

What the number measures, why it's drawn more than once and why a high result is the start of a conversation about the cause.

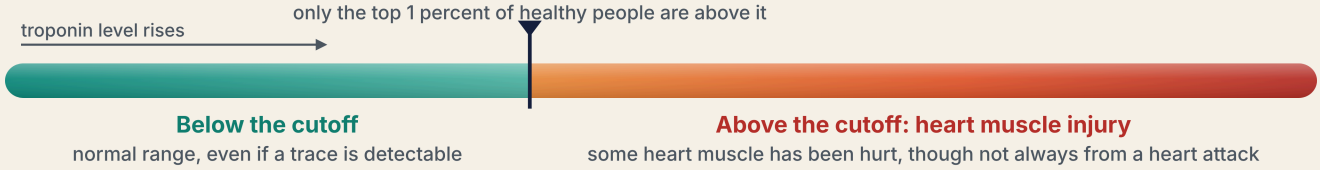
99th
percentile is the cutoff your lab compares your result against

1 or 3 hrs
after the first draw, a repeat shows whether the level is changing

1 to 2 days
for a rise after a marathon or long hard ride to typically settle

WHAT THE NUMBER MEANS

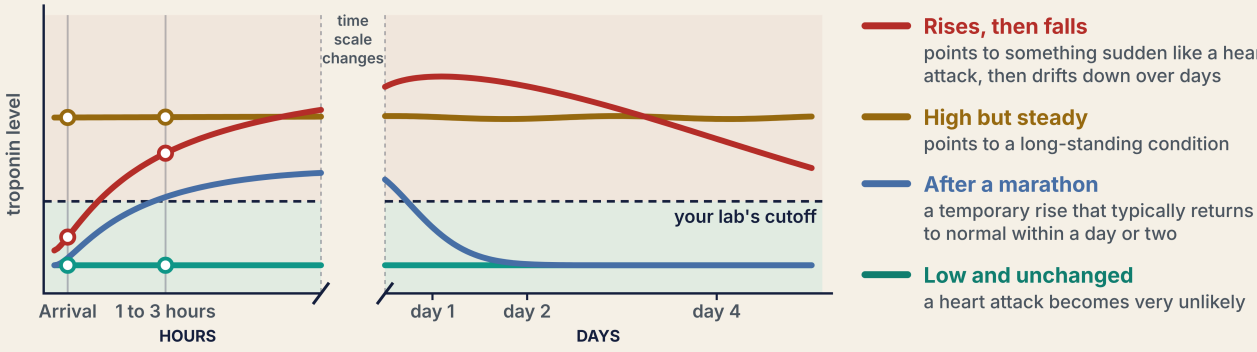
A sliding scale with one cutoff



Troponin is a protein inside heart muscle cells. When a cell is injured, it leaks into the blood, where a simple test picks it up. Modern tests can find a trace in most healthy people, so **detectable** is often completely normal. **Elevated** means above your lab's cutoff, a sign some heart muscle has been hurt. A heart attack is one cause of that injury, and the rest of your evaluation works out why.

WHY ONE DRAW IS NOT ENOUGH

The trend tells the story



A single troponin is a snapshot, so we almost always repeat it an hour or a few hours later. With high-sensitivity tests, two low, unchanged values in a low-risk patient often mean going home the same day.

Read it in context

Detectable is not the same as elevated, and elevated is not the same as a heart attack. The number means something alongside your symptoms, your EKG and the trend over time.

A HIGH TROPONIN

Many causes, and how the cause is found

CAUSES BESIDES A BLOCKED ARTERY

anything that stresses, starves, inflames or overstretches heart muscle

Heart failure	A struggling, overworked heart injures muscle in small amounts over time.
Myocarditis and takotsubo	Inflammation of the heart muscle, usually from a virus, raises it directly. Takotsubo, the stress-induced heart condition, releases troponin even though the arteries are usually clean.
A clot in the lungs	A pulmonary embolism strains the right side of the heart and can push troponin up.
A fast or irregular rhythm	Atrial fibrillation and other fast rhythms can do the same.
Kidney disease	One of the most common reasons for a mildly high troponin with no heart symptoms. The kidneys help clear troponin, so it runs higher at baseline, and that stable, chronic elevation is read very differently from a rising level in someone with chest pain.
Other causes	A tear in the aorta, a severe infection with sepsis and extreme endurance exercise.

WHAT HAPPENS NEXT

troponin is one input into a bigger picture

Chest pain right now	Call 911. Don't drive yourself to the emergency room.
The HEART score	Your symptoms, EKG, risk factors and troponin trend are often combined in this tool to judge how likely a cardiac event is.
Low risk, two low values	Two low, unchanging troponins with a low-risk profile usually mean going home with outpatient follow-up.
Rising, with worrying symptoms	A rising troponin with concerning symptoms usually means admission and a closer look at the arteries.
High, but clean arteries	When the story fits a heart attack but the arteries are open, it's called MINOCA. The search for the cause continues, often with a cardiac MRI. The elevation is real, and the cause guides treatment.

READING THE HEIGHT OF THE NUMBER

a clue, read with the rest

A very high value	Most often reflects a heart attack, an episode of myocarditis, or a chronic elevation on top of kidney failure or heart failure. Even then, the height is only a clue.
What it can't tell you	A high troponin does not tell us the cause by itself. It does not measure how strong your heart is or predict everything about your future.

WHAT IS A NORMAL TROPONIN LEVEL?

There isn't one universal number. Each lab reports its own 99th percentile cutoff, and high-sensitivity results are usually given in nanograms per liter (ng/L). Always read your result against your own lab's reference range.

READ THE FULL ARTICLE

damianrasch.com/troponin

For education only, and not a substitute for advice from your own physician. Sources include the Fourth Universal Definition of Myocardial Infarction (2018), the 2021 chest pain and 2025 acute coronary syndrome guidelines and reviews in JACC, JAMA, European Heart Journal and Cardiovascular Research.

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