

[< Back To Heart Attack](#)

HEART ATTACK

Causes and Risk Factors



What causes a heart attack?

The most common cause of a heart attack is [coronary artery disease](#), which is the most common type of heart disease. This is when your coronary [arteries](#) cannot carry enough oxygen-rich blood to your heart muscle. Most of the time, coronary artery disease happens when a waxy substance called [plaque](#) builds up inside your arteries, causing the arteries to narrow. The buildup of this plaque is called [atherosclerosis](#). This can happen over many years, and it can block blood flow to parts of your heart muscle. Plaques that narrow arteries slowly over time cause [angina](#).

Eventually, an area of plaque can break open inside your artery. This causes a [blood clots](#) to form on the plaque's surface. If the clot becomes large enough, it can block blood flow to your heart. If the blockage isn't treated quickly, a part of your heart muscle begins to die.

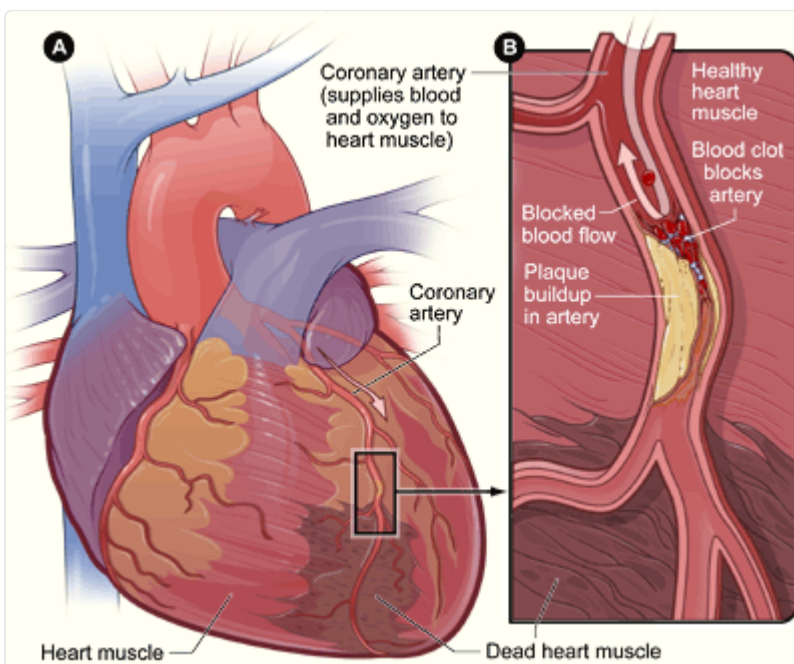


Figure A shows damage (dead heart muscle) caused by a heart attack. Figure B shows the coronary artery with plaque buildup and a blood clot.



01:12

Other causes of a heart attack

Not all heart attacks are caused by blockages from atherosclerosis. When other heart and blood vessel conditions cause a heart attack, it is called myocardial infarction in the absence of obstructive coronary artery disease (MINOCA). MINOCA is more common in women, younger people, and racial and ethnic minorities, including Black, Hispanic/Latino, and Asian people.

Conditions that can cause MINOCA have different effects on the heart.

- **Small plaques** in your arteries may not block your blood vessels, but they can break open or their outer layer can wear away. This can cause blood clots to form on these plaques. The blood clots can then block blood flow through your coronary arteries. The formation of small plaques is more common in women, people who smoke, and people who have other blood vessel conditions.
- **A sudden and serious spasm (tightening) of your coronary artery** can block blood flow through your artery, even if there isn't a buildup of plaque. Smoking is a risk factor for a coronary spasm. If you smoke, you may be more likely to have a spasm triggered by extreme cold or very stressful situations. Drugs like cocaine may also cause coronary spasm.
- **A coronary artery embolism** occurs when a blood clot travels through your bloodstream and gets stuck in your coronary artery. This can block blood flow through your artery. This is more common in people who have [atrial fibrillation](#) or conditions that raise the risk of blood clots, such as [thrombocytopenia](#) or pregnancy.
- **Spontaneous coronary artery dissection (SCAD)** occurs when a tear forms inside your coronary artery. A blood clot can then form at the tear, or the torn tissue itself can block your artery. SCAD can be caused by stress, extreme physical activity, and

pregnancy. This condition is more common in women who are under 50 years old or pregnant and in people who have [Marfan syndrome](#).

Other conditions may cause symptoms similar to a heart attack. Your doctor will look at all of your test results to rule them out.

What raises the risk of a heart attack?

Certain risk factors make it more likely that you will develop coronary artery disease and have a heart attack.

Risk factors you can control

- **Lifestyle habits**, such as:
 - An unhealthy diet, including eating too many foods high in saturated fat or sodium
 - Lack of regular [physical activity](#)
 - [Smoking](#)
- **Other medical conditions**, such as:
 - [High blood cholesterol](#)
 - [High blood pressure](#) or [preeclampsia](#) (high blood pressure during pregnancy)
 - [High blood sugar](#) or [diabetes](#)
 - [High blood triglycerides](#)
 - [Overweight and obesity](#)

If you have three or more of these conditions that raise your risk for heart disease, it is called [metabolic syndrome](#). This greatly increases your risk of a heart attack.

Risk factors you can't control

- **Age:** The risk of heart disease increases for men after age 45 and for women after age 55 (or after menopause).
- **Family history of early heart disease:** You have a higher risk if your father or a brother was diagnosed with coronary artery disease before 55 years of age or if your mother or a sister was diagnosed with coronary artery disease before 65 years of age.
- **Infections** from bacteria and viruses

[Watch our video](#) on how SARS-CoV-2, the virus that causes COVID-19, may affect your heart. Learn about how we support [COVID-19 research](#).

Can you prevent a heart attack?

You can lower your risk of a heart attack by changing behaviors that can raise your risks or treating any known coronary artery disease. [Healthy lifestyle changes](#), including heart-healthy eating, staying active, quitting smoking, managing stress, and maintaining a healthy weight, can help prevent heart disease. Even if you already have coronary artery disease, these changes can lower your risk of a heart attack.

It is also important for you to get treatment for other health conditions that raise your risk of a heart attack. Talk to your doctor about whether taking aspirin can help you prevent blood clots that can lead to a heart attack.

Research for your health

Learn about current and future NHLBI research to advance treatment and improve our scientific understanding of the causes of heart attacks. Research on this topic is part of the NHLBI's broader commitment to advancing scientific discovery for heart and vascular diseases.

[Learn more about our latest research on heart attacks.](#) ➤



FACT SHEET

Self-care Tips for Heart Health

Learn about how and why to make heart health part of your self-care routine.

[View the fact sheet](#) ➤

Last updated on March 24, 2022

[Back to top](#) 

Web Policies & Notices

[Accessibility](#) >

[No FEAR Act Data](#) >

[Privacy Policy](#) >

[Freedom of Information Act \(FOIA\)](#) >

[HHS Vulnerability Disclosure](#)

Related Government Websites

[Health and Human Services](#)

[National Institutes of Health](#) >

[Office of the Inspector General](#)

[USA.gov](#)

Stay Connected

 [Live Chat](#)

Live Chat with us, Monday through Friday, 8:30 a.m. to 5:00 p.m. EST.

 [Get Email Alerts](#) >

Receive automatic alerts about NHLBI related news and highlights from across the Institute.

[Contact Us](#)

[Site Index](#)

[Jobs](#)

