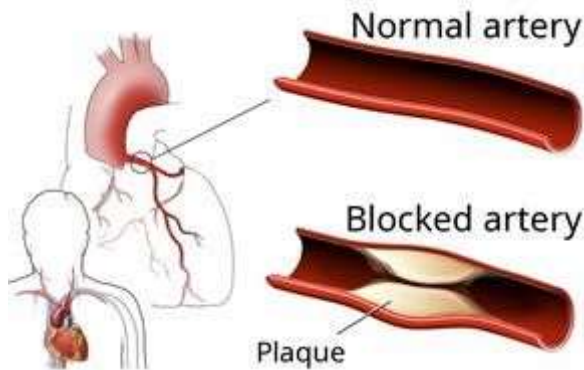


Heart Attack

The heart is a muscle that needs oxygen to survive. A heart attack is a condition that occurs when your heart does not get enough oxygen. When this happens, the heart muscle begins to die. This can cause permanent damage if not treated right away. A heart attack is a medical emergency.

This condition may be called a myocardial infarction, or MI. It is also known as acute coronary syndrome (ACS). ACS is a term used to describe a group of conditions that affect blood flow to the heart.

What are the causes?



This condition may be caused by:

- Atherosclerosis. This occurs when a fatty substance called plaque builds up in the arteries and blocks or reduces blood supply to the heart.
- A blood clot. A blood clot can develop suddenly when plaque breaks up within an artery and blocks blood flow to the heart.
- An abnormal heartbeat (*arrhythmia*).
- Conditions that cause a decrease of oxygen to the heart, such as anemia or respiratory failure.
- A spasm, or severe tightening, of a blood vessel that cuts off blood flow to the heart.
- Tearing of a coronary artery (*spontaneous coronary artery dissection*).

Other causes may include:

- Using drugs such as cocaine or methamphetamine.
- Low blood pressure (*hypotension*).

What increases the risk?

The following factors may make you more likely to develop this condition:

- Aging. The risk for a heart attack increases as you get older.
- Having a personal or family history of chest pain, heart attack, stroke, or narrowing of the arteries in the legs, arms, head, or stomach (*peripheral vascular disease*).
- Having taken chemotherapy or immune-suppressing medicines.
- Being male.
- Being overweight or obese.
- Having any of these conditions:
 - High blood pressure.
 - High cholesterol (*hypercholesterolemia*).

- Diabetes.
- Making lifestyle choices such as:
 - Drinking too much alcohol.
 - Not getting regular exercise.
 - Smoking.

What are the signs or symptoms?

Symptoms of this condition may vary, depending on factors like gender and age. Symptoms may include:

- Chest pain. It may feel like:
 - Crushing or squeezing.
 - Tightness, pressure, fullness, or heaviness.
- Pain in the arm, neck, jaw, back, or upper body.
- Heartburn or upset stomach.
- Shortness of breath.
- Nausea.
- Sudden cold sweats.
- Sudden light-headedness, dizziness, or passing out.
- Feeling tired (*fatigue*).

How is this diagnosed?

This condition may be diagnosed with:

- Imaging tests, such as:
 - Electrocardiogram (ECG) to measure the electrical activity of your heart.
 - CT scan.
 - Coronary angiogram. For this test, dye is injected into the heart arteries, and X-rays are taken.
 - Echocardiogram. This is a test that uses sound waves to produce detailed images of the heart.
- Blood tests to check for cardiac markers. These chemicals are released by a damaged heart muscle. These tests may be repeated at certain time intervals.

How is this treated?



A heart attack must be treated as soon as possible. Treatment may include:

- Medicines to:
 - Break up or dissolve blood clots (*fibrinolytic therapy*).
 - Thin your blood and help prevent blood clots.
 - Treat blood pressure.
 - Improve blood flow to the heart, such as nitroglycerin.
 - Reduce pain.

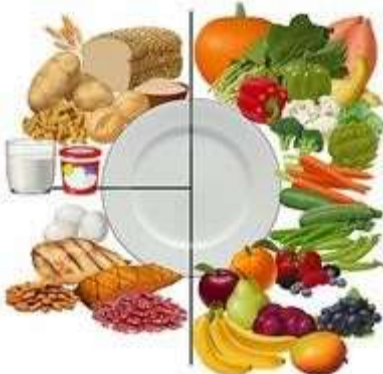
- Reduce cholesterol, such as statins.
- Angioplasty and stent placement. These are procedures to widen a blocked artery and keep it open.
- Coronary artery bypass graft (CABG) or open heart surgery. This enables blood to flow to the heart by going around the blocked part of the artery.
- Cardiac rehabilitation. This improves your health and well-being through exercise, education, and counseling.

Follow these instructions at home:

Medicines

- Take over-the-counter and prescription medicines only as told by your health care provider.
- **Do not** take the following medicines unless your health care provider says it is okay to take them:
 - NSAIDs, such as ibuprofen, naproxen, or celecoxib.
 - Any vitamins or supplements.
 - Hormone replacement therapy that contains estrogen with or without progestin.
- If you are taking blood thinners:
 - Talk with your health care provider before you take any medicines that contain aspirin or NSAIDs. These medicines increase your risk for dangerous bleeding.
 - Take your medicine exactly as told, at the same time every day.
 - Avoid activities that could cause injury or bruising, and follow instructions about how to prevent falls.
 - Wear a medical alert bracelet or carry a card that lists what medicines you take.

Lifestyle



- **Do not** use any products that contain nicotine or tobacco. These products include cigarettes, chewing tobacco, and vaping devices, such as e-cigarettes. If you need help quitting, ask your health care provider.
- Avoid secondhand smoke.
- Exercise regularly. Ask your health care provider about participating in a cardiac rehabilitation program that helps you start exercising safely after a heart attack.
- Eat a heart-healthy diet. Your health care provider will tell you what foods to eat.
- Maintain a healthy weight.
- Learn ways to manage stress.
- **Do not** use illegal drugs.

Alcohol use

- **Do not** drink alcohol if:
 - Your health care provider tells you not to drink.
 - You are pregnant, may be pregnant, or are planning to become pregnant.

- If you drink alcohol:
 - Limit how much you have to:
 - 0–1 drink a day for women.
 - 0–2 drinks a day for men.
 - Know how much alcohol is in your drink. In the U.S., one drink equals one 12 oz bottle of beer (355 mL), one 5 oz glass of wine (148 mL), or one 1½ oz glass of hard liquor (44 mL).

General instructions

- Work with your health care provider to manage any other conditions you have, such as high blood pressure or diabetes. These conditions affect your heart.
- Get screened for depression, and seek treatment if needed.
- Keep your vaccinations up to date. Get the flu vaccine every year.
- Keep all follow-up visits. This is important.

Contact a health care provider if:

- You feel overwhelmed or sad.
- You have trouble doing your daily activities.
- You suddenly feel light-headed or dizzy.

Get help right away if:

- You have sudden, unexplained discomfort in your chest, arms, back, neck, jaw, or upper body.
- You have shortness of breath.
- You suddenly start to sweat or your skin gets clammy.
- You feel nauseous or you vomit.
- You have unexplained tiredness or weakness.
- You notice your heart starts to beat fast or feels like it is skipping beats.
- You have blood pressure that is higher than 180/120.

These symptoms may represent a serious problem that is an emergency. Do not wait to see if the symptoms will go away. Get medical help right away. Call your local emergency services (911 in the U.S.). Do not drive yourself to the hospital.

Summary

- A heart attack, also called myocardial infarction, is a condition that occurs when your heart does not get enough oxygen. This is caused by anything that blocks or reduces blood flow to the heart muscle.
- Treatment is a combination of medicines and surgeries, if needed, to open the blocked arteries and restore blood flow to the heart.
- A heart attack is an emergency. Get help right away if you have sudden discomfort in your chest, arms, back, neck, jaw, or upper body. Seek help if you feel nauseous, you vomit, or your heart starts to beat fast or feels like it is skipping beats.

This information is not intended to replace advice given to you by your health care provider. Make sure you discuss any questions you have with your health care provider.