



Education

Angina

What is angina?

Angina pectoris is a feeling of tightness, squeezing, or pain in the chest. It happens when the heart does not get enough oxygen-rich blood.

Angina can occur in men and women of any age, but it is more common among the middle-aged and older adults.

How does it occur?

Angina may be caused by any condition that affects the blood flow to your heart, such as:

- Coronary artery disease: The walls of the arteries that carry blood to the heart develop atherosclerosis (fatty deposits). This restricts the flow of blood so that less oxygen reaches the heart muscle. This is by far the most common cause of angina.
- Coronary artery spasm: Muscles in the wall of the coronary artery can go into spasm. This narrows the artery and causes blood to slow or stop flowing through it. When the spasm stops, the artery and blood flow return to normal.
- Abnormal heart valves that cause the heart muscle to get too thick.
- Abnormal heart rhythms.
- Anemia: The levels of red blood cells or hemoglobin (the oxygen-carrying chemical in the blood) are too low.
- Polycythemia: The blood has too many red blood cells, which causes the blood to thicken.
- A thyroid problem.
- Uncontrolled high blood pressure.

You are more likely to have angina when your heart is working harder, for example, when:

- You are exercising, or doing heavy physical labor.
- You are upset.
- You are in cold air.
- You are digesting a big meal.

However, you can also have angina when you are resting or sleeping.

What are the symptoms?

The symptoms of angina may vary from person to person. Symptoms may include a discomfort in the chest that lasts for more than 2 minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness, or pain. There may be discomfort in other areas of the upper body, such as in one or both arms, the upper back, neck, jaw, or stomach. You may also be short of breath, break out in a cold sweat, or feel lightheaded or sick to your stomach.

How is it diagnosed?

Your health care provider will ask about your symptoms and medical history. You will have a physical exam. You may have one or more of these tests:

- Electrocardiogram (ECG) and exercise treadmill test (ETT): These tests show electrical changes in the heart muscle if it is getting too little oxygen.
- Nuclear heart scan: This scan measures blood flow in the heart.
- Stress echocardiogram: This test shows how a lack of blood oxygen affects the heart's ability to squeeze (contract).

How is it treated?

Lifestyle:

When angina is caused by coronary artery disease, treatment often involves changes in your lifestyle. This may include:

- quitting smoking
- losing weight
- reducing stress
- getting more regular exercise, as prescribed by your health care provider
- lowering your blood pressure (if high)
- lowering your blood cholesterol (if high)
- lowering your blood sugar (if high).

Medicine:

Often the symptoms of angina can be controlled with medicine. Nitrates such as nitroglycerin increase the blood flow to the heart. They reduce the workload on the heart by dilating (expanding) the coronary blood vessels and lowering blood pressure slightly. Drugs called beta blockers and calcium channel blockers are also effective. Other medicines your health care provider may prescribe are ACE (angiotensin-converting enzyme) inhibitors, aspirin, and cholesterol-lowering medicines. Your provider will determine which type of medicine is right for you based on your test results and any other medical problems you have.

Surgery:

Angina caused by blocked arteries can be treated with two types of procedures: balloon angioplasty and coronary artery bypass graft surgery.

Balloon angioplasty is a simpler procedure than coronary bypass surgery. A tube with a balloon tip is placed in your artery. The balloon is inflated where the artery is blocked. This expands the artery enough to let blood flow normally. Most people have a stent inserted as part of this procedure to help keep the artery open. The balloon is then deflated and both the balloon and the tube are removed from your artery. You may need to stay at the hospital a day or two after the procedure.

In coronary artery bypass graft surgery, blood vessels are taken from other parts of your body and attached to the blocked coronary arteries on either side of the blockage. The blood is then able to flow around, or bypass, the blockages. You will likely stay in the hospital about 1 week, and then recover at home for several weeks.

How long do the effects last?

The outlook for people with angina is quite good. With treatment, most people can lead a normal or near normal life.

How can I take care of myself and prevent angina?

Follow the treatment prescribed by your health care provider. In addition, follow these guidelines:

- Begin a regular exercise program under your health care provider's supervision.
 - If you are overweight, begin a weight-loss program under the supervision of your health care provider or a dietitian.
 - Eat a healthy, well-balanced diet and avoid foods high in cholesterol and saturated fat.
 - Have your blood pressure checked regularly. High blood pressure increases your risk for heart disease.
 - Try to avoid emotional upset and stressful situations.
 - Always carry your medicine with you.
 - Take nitroglycerin if stopping an activity doesn't help your pain, or if the pain occurs when you are resting. It may be more comfortable to take it while sitting in a chair. Some people help prevent symptoms by taking nitroglycerin before any activity that usually causes angina.
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When should I call my health care provider?

See your health care provider if the angina becomes worse or occurs more often.

Sometimes it's hard to tell a severe attack of angina from the beginning of a true heart attack. Call your health care provider or 911 or go to a hospital emergency room right away if:

- You have chest discomfort with lightheadedness.
- You are sweating a lot or having trouble breathing during an attack of angina.
- You have chest discomfort (pressure, fullness, squeezing, or pain) that lasts more than 10 minutes or goes away and comes back.
- You still have pain after taking 3 nitroglycerin tablets 5 minutes apart.

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