

## 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.

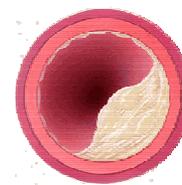
Angina can occur in men and women of any age, but it is more common among the middle-aged and elderly.



### 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 less oxygen reaches the heart muscle. This is by far the most common cause of angina
- ◆ Coronary artery spasm: A temporary narrowing of a coronary artery causes blood to slow or stop flowing through the artery. When the spasm stops, the artery and blood flow return to normal.
- ◆ Abnormal heart valves.
- ◆ 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.



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

- ◆ You are exercising, such as walking.
- ◆ 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.

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## What are the symptoms?

The symptoms of angina may include:

1. heavy, strangling chest pain
2. pain that starts in the chest and spreads to the throat, arms (usually the left arm), and jaws, and between the shoulder blades; the pain can also spread to the stomach and feel like an ulcer or indigestion
3. a feeling of tightness or heaviness in the chest with no pain
4. nausea
5. sweating
6. trouble breathing.

## 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 treadmill electrocardiogram (TME):  
These tests show electrical changes in heart muscle 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
- ◆ 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).



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## 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

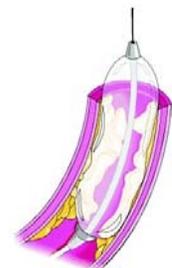


Your provider will determine which type of medicine is right for you based on your test results and any other medical problems you have

## Surgery:

Angina caused by blocked arteries can be treated with two types of surgery: balloon angioplasty and coronary 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. With stents, your risk of having the artery again become blocked again is only 10% to 15%. The balloon is then deflated and removed with the tube from your artery. If you have this surgery, you may need to stay at the hospital just a day or two.



In **coronary bypass graft surgery**, blood vessels are taken from other parts of your body and attached to the blocked coronary arteries beyond the blockage. The blood is then able to flow around, or bypass, the blockages. This procedure usually requires a stay in the hospital of at least 1 week, followed by several weeks of recovery.

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## 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.



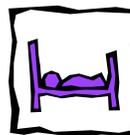
If you are overweight, begin a weight-loss program under the supervision of your health care provider or a dietitian.

Eat a healthy, well-balanced diet and avoid foods high in cholesterol and fat (especially saturated fat).



Have your blood pressure checked regularly. High blood pressure increases your risk for heart disease.

Get enough sleep each night.



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.

## 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:

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

Developed by McKesson Clinical Reference Systems.

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