

Coronary Artery Disease

The basics about coronary artery disease

Read this guide to learn more about:

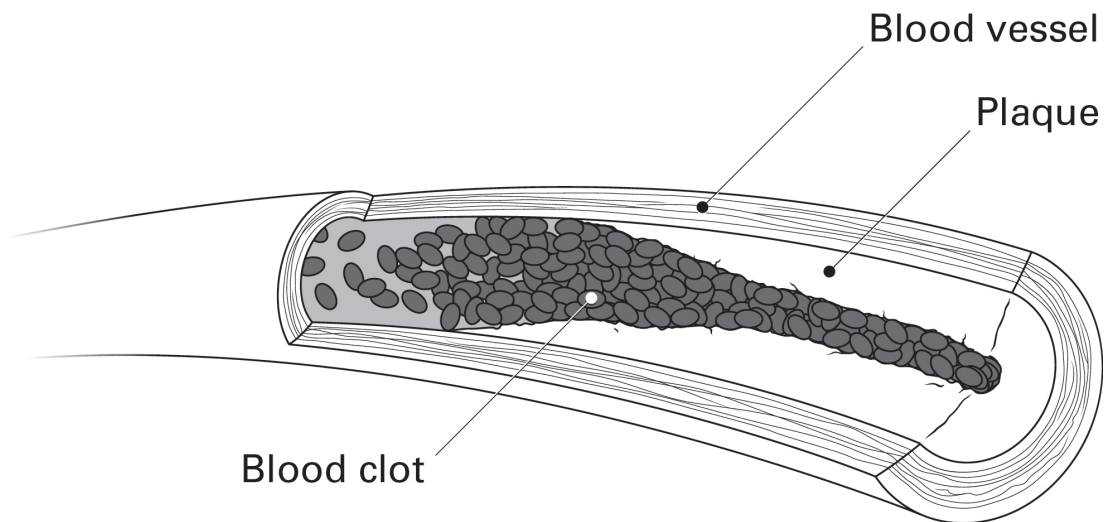
- what coronary artery disease is
- the warning signs of angina and heart attacks
- risk factors for coronary artery disease
- treatments options
- the risks and complications of heart surgery



What is coronary artery disease?

Coronary artery disease happens when coronary arteries become narrowed. Sometimes layers of fat, also known as **plaque**, build up on artery walls. This is called **atherosclerosis**. When this happens, less blood flows through the arteries.

Coronary arteries bring oxygen and nutrients to your heart muscle. If 75% of your coronary artery is blocked, your heart muscle may not get enough. This is called **angina**. This is a problem when your heart needs to work harder (for example, when you exercise).



How will I find out if I have coronary artery disease?

Doctors use different tests to help find out if you have coronary artery disease. These tests usually take place in a hospital.

Learn about all the tests by reading **Chapter 3: [Testing for Coronary Artery Disease](#)**.

What increases my risk of having coronary artery disease?

These factors will increase your chances of having coronary artery disease:

- smoking
- high blood pressure
- high blood cholesterol (a type of fat in your blood)
- diabetes (high blood sugar)
- obesity (being overweight)
- stress
- family history

These are also called **risk factors** for coronary artery disease.

Why are risk factors important to know?

You can lower your chance of getting heart disease if you remove a risk factor. For example, if you quit smoking, you can lower your risk of getting heart disease.

If you already have heart disease, removing a risk factor will help slow it down.

Read **Chapter 5: [Daily Life Guidelines](#)**. There you will learn how to lower your risk.

What are the symptoms (warning signs) of angina?

You may have angina if you feel:

- pressure, a tightening, squeezing or cramping feeling in:
 - your chest or arms
 - your neck, jaw or throat
 - your shoulders or back
- a burning feeling in your chest that may feel like heartburn
- out of breath or shortness of breath

When might these symptoms happen?

These symptoms might happen when:

- your heart is working harder than usual (for example, when you exercise)
- after eating
- when you do an activity such as walking in cold or windy weather
- when you are resting



Call your family doctor or cardiologist right away if you feel symptoms of angina:

- more often
- even when you are less active than usual
- even when you are resting

What should I do if I feel the symptoms of angina?

1. Stop what you are doing.
2. Find your Nitroglycerine® (NTG) pills or spray.
3. Sit down.
4. Take your Nitroglycerine® (NTG) pill or spray. Follow the instructions on the bottle.
5. If your pain is still there 5 minutes later, take a second pill or spray.
6. If your pain is still there after another 5 minutes, take a third pill or spray.



Call 911 right away if:

- your pain does not go away within 5 minutes after taking the third nitro pill or spray.

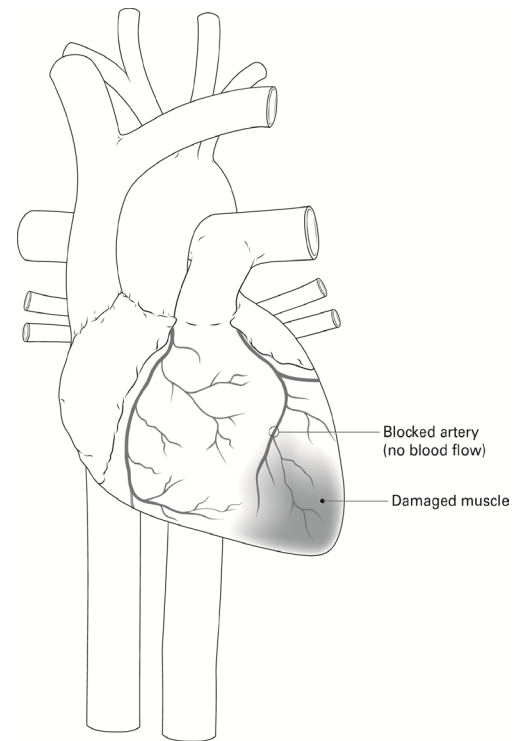
After you call, unlock your front door. Sit or lie down and rest.
Do not drive yourself.

If you are with someone, have them drive you to the nearest emergency department.

What is a heart attack?

A heart attack happens when arteries that deliver blood and oxygen to the heart muscle become blocked. No blood can get to the heart muscle.

A heart attack is also called myocardial infarction, or MI. During a heart attack, plaque built up in the artery breaks open. A blood clot forms on top of this piece of plaque. This stops blood from flowing through the artery. When this happens, the heart muscle is damaged.



What are the symptoms of a heart attack?

Symptoms of a heart attack are like the symptoms of angina. For a heart attack, the symptoms last longer and are usually more severe.

You might be having a heart attack if you have any of these kinds of feelings or pain in your chest:

- Pressure
- tightness
- burning
- heaviness
- squeezing in the upper body lasting longer than 15 minutes

Sometimes the symptoms listed above may feel mild. If you have some of these other symptoms as well, you may be having a heart attack:

- sweating
- nausea
- palpitations (your heart beating very fast)
- dizziness
- weakness
- trouble breathing (shortness of breath)
- vomiting



Call 911 right away if you think you are having a heart attack:

After you call, unlock your front door. Sit or lie down and rest. Do not drive yourself to the hospital.

If you are with someone, have them drive you to the nearest emergency department.

What is the difference between a heart attack and angina?

A heart attack and angina are different.

When you have angina, there is no damage to the heart muscle.

When you have a heart attack and you do not have timely interventions, part of the heart muscle dies. A scar forms on the muscle if a heart attack is not treated right away.

Treatment options

How is coronary artery disease treated?

There is no cure for coronary artery disease. But, you can help slow the narrowing of your arteries. You can do this by changing your risk factors like smoking or being overweight.

Other treatments may include:

- medicines
- angioplasty
- Aortocoronary Bypass (ACB) Surgery

Each of these treatments is explained in detail below.

Medicines

Medicines are a common treatment for coronary artery disease.

Some medicines control the symptoms of angina by relaxing the arteries. This helps to improve blood flow. More blood flow means more oxygen gets to the heart muscle.

Other medicines slow your heart rate. When your heart beats slower, it is working less hard. If your heart is working less, it does not need as much oxygen.

On the following page is a chart that gives some examples of medicines that can treat coronary artery disease.

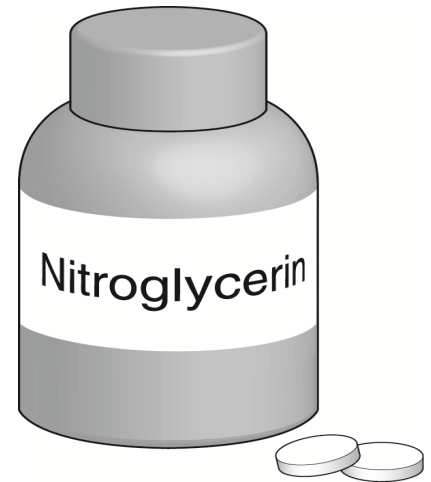
Name of medicine	How the medicine works
Nitrates	<ul style="list-style-type: none"> • opens up your blood vessels • increases the amount of blood flow to your heart • prevents or treats chest pain
Aspirin clopidogrel (Plavix®) ticlopidine (Ticlid®) prasugrel (Effient®)	<ul style="list-style-type: none"> • prevents platelets (clotting material in your blood) from sticking together • reduces your risk of having a heart attack
Beta Blockers	<ul style="list-style-type: none"> • slows your heart rate • decreases the amount of oxygen needed by your heart • decreases your blood pressure
Calcium Channel Blockers	<ul style="list-style-type: none"> • opens up blood vessels to increase blood flow to the heart • may also slow your heart rate • decreases your blood pressure
Cholesterol Lowering Agents	<ul style="list-style-type: none"> • lowers your cholesterol when diet and exercise are not enough
Angiotension converting Enzyme (ACE) inhibitors Angiotension receptor blockers (ARB)	<ul style="list-style-type: none"> • slows or prevents damage to the heart muscle following a heart attack • may also reverse some damage • decreases blood pressure

Read **Chapter 4: [Cardiac \(heart\) Medicines](#)** to learn more about your medicines.

What is Nitroglycerin®?

Nitroglycerin is a medicine that relaxes your arteries. It helps to improve blood flow to your heart muscle.

It comes in 2 forms — pill and spray. Each form of Nitroglycerin works in the same way.



How to take Nitroglycerin pills

1. Place the pill under your tongue.
2. Let it dissolve or melt under your tongue.

Do not swallow this pill! The pill is absorbed and works best when it dissolves (or melts) under your tongue.

How should I store my pills?

- Throw out the cotton packing when you open a new bottle of pills.
- Store your Nitroglycerin tablets at room temperature.
- Keep the lid tightly closed.
- Keep the pills in the brown bottle that they came in.
- **Throw out the pills 3 months after the bottle has been opened.**
It is a good idea to write the date to throw them out on the bottle.

For example, if you opened the bottle on January 15, the date that you would write on the bottle is April 15.

Always carry your Nitroglycerin pills with you.

How do I use the Nitroglycerin spray?

1. Hold the spray upright. Do not shake the spray.
2. Remove the cover from your spray.
3. Place your finger on the top of the button.
4. Open your mouth. Bring the spray close to your mouth.
5. Press the button firmly to release the spray. Aim for under your tongue or in the side of your cheek.

Always carry your Nitroglycerin pills with you.

How should I store my spray?

Store your spray at room temperature.

Surgery

Sometimes medicines may not work well for you. If this happens, your doctor may suggest one of these surgeries:

- Angioplasty
- Aortocoronary Bypass surgery (also called coronary artery bypass surgery)

Angioplasty

Angioplasty is a procedure that opens up the narrow or blocked arteries in your heart. It is a treatment that can work well for people who have this problem.

Angioplasty is a procedure for people with 1 or 2 blocked arteries. You do not need to go to an operating room for an angioplasty. Instead you go to a hospital department that is set up just for angioplasty.

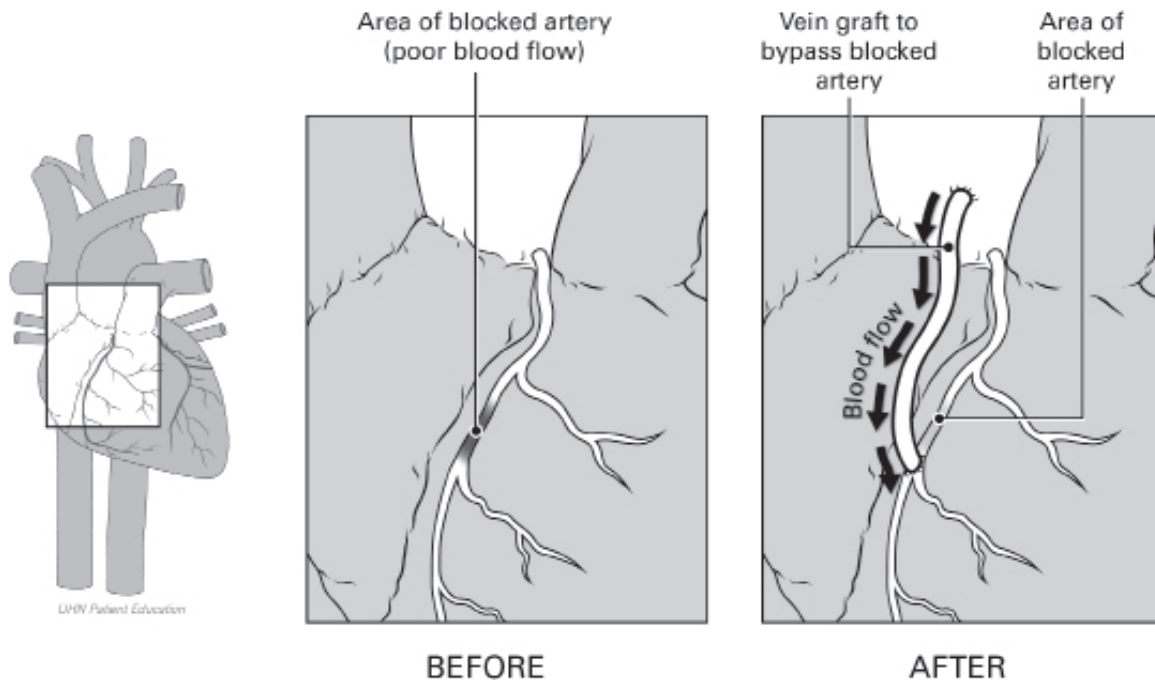
Read **Chapter 7: [Angioplasty](#)** to learn more about this procedure.

Aortocoronary Bypass (ACB) surgery

Your doctor may suggest aortocoronary bypass (ACB) surgery if:

- medicines are working to control your symptoms
- your doctor is worried about the place where your artery or arteries are narrowed

ACB surgery increases blood flow to the heart muscle. This will relieve your symptoms and improve how your heart works.



What happens during ACB surgery?

1. During ACB surgery, your surgeon will bypass the narrow parts or blockages in your coronary arteries. Your surgeon will do this by using a piece of vein or artery from your own body.
2. Your surgeon will use a piece of vein from your leg and/or an artery from your chest or wrist.
3. If a leg vein is used, one end is sewn to the aorta. The other end is sewn to the coronary artery beyond the blockage.
4. If a chest artery is used, one end is left attached to a branch of the aorta. The other end is sewn to the coronary artery below the blockage.
5. Oxygen-rich blood can then flow through this new path called a **bypass graft** to the heart muscle.

How many bypasses will I have?

- The number of bypasses you have will depend on:
 - the number of arteries affected
 - the size of the artery or arteries beyond the blockage
 - the condition of the artery or arteries beyond the blockage
- Some arteries cannot be bypassed. Your surgeon will talk to you about this.



Please note that the narrowed or blocked arteries are not removed during ACB surgery.

What will happen if I need open-heart surgery?

Open-heart surgery usually takes from 3 to 4 hours to complete. After the surgery, you go to an intensive care unit for 1 to 2 days. You will then return to your hospital room. Most patients are in hospital for 5 to 8 days recovering from the operation.

What are the risks of having heart surgery?

The risks of heart surgery are not the same for everyone. Your risk will depend on many factors, including:

- your age
- how severe your angina or other symptoms are
- if you have had a heart attack recently
- other health problems (such as kidney disease) that you have
- how healthy your heart muscle is
- whether your heart valves need to be repaired or replaced

Your surgeon will explain all the risks you will have. Your surgeon will help you compare the risks of surgery with the risks of not having surgery.

What are some possible complications (health problems)?

Heart surgery is major surgery. Complications (problems) may happen. These complications may be small or large.

Some complications that could happen are:

- problems with your heart rate
 - This means you might need a pacemaker. A pacemaker is a little machine that keeps your heart beating at a regular pace. It will be placed in your body and will stay there for the rest of your life.
- irregular heartbeat
- bleeding (internal or external)
- wound infection
- breathing problems
- heart attack, stroke or death

Your surgeon will explain all possible complications to you.



Write any notes or questions here

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