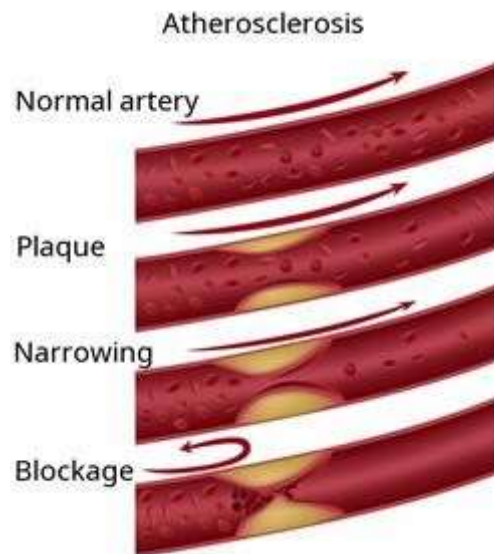


Coronary Artery Disease, Female

Coronary artery disease (CAD) is a condition in which the arteries that lead to the heart (*coronary arteries*) become narrow or blocked. The narrowing or blockage can lead to decreased blood flow to the heart. Prolonged reduced blood flow can cause a heart attack (*myocardial infarction*, or MI). This condition may also be called coronary heart disease.

CAD is the most common type of heart disease, and heart disease is the leading cause of death in women. It is important to understand what causes CAD and how it is treated.

What are the causes?



CAD is most often caused by atherosclerosis. This is the buildup of fat and cholesterol (*plaque*) on the inside of the arteries. Over time, the plaque may narrow or block the artery, reducing blood flow to the heart. Plaque can also become weak and break off within a coronary artery and cause a sudden blockage. Other less common causes of CAD include:

- A blood clot or a piece of another substance that blocks the flow of blood in a coronary artery (*embolism*).
- A tearing of the artery (*spontaneous coronary artery dissection*).
- An enlargement of an artery (*aneurysm*).
- Inflammation (*vasculitis*) in the artery wall.

What increases the risk?

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

- Age. Women older than 55 years are at a greater risk of CAD.
- Family history of CAD.
- High blood pressure (*hypertension*).
- Diabetes.
- High cholesterol levels.
- Obesity.
- Menopause.
 - All postmenopausal women are at greater risk of CAD.

- Women who have experienced menopause between the ages of 40 and 45 (*early menopause*) are at a higher risk of CAD.
- Women who have experienced menopause before age 40 (*premature menopause*) are at a very high risk of CAD.

Other risk factors include:

- Tobacco use.
- Excessive alcohol use.
- Lack of exercise.
- A diet high in saturated and trans fats, such as fried food and processed meat.

What are the signs or symptoms?

Many people do not have any symptoms during the early stages of CAD. As the condition progresses, symptoms may include:

- Chest pain (*angina*). The pain can:
 - Feel like crushing or squeezing, or like a tightness, pressure, fullness, or heaviness in the chest.
 - Last more than a few minutes or can stop and recur. The pain tends to get worse with exercise or stress and to fade with rest.
- Pain in the arms, neck, jaw, ear, or back.
- Unexplained heartburn or indigestion.
- Shortness of breath.
- Nausea.
- Sudden light-headedness.
- Sudden cold sweats.
- Fluttering or fast heartbeat (*palpitations*).

Many women have chest discomfort and the other symptoms. However, women often have unusual (*atypical*) symptoms, such as:

- Fatigue.
- Vomiting.
- Unexplained feelings of nervousness or anxiety.
- Unexplained weakness.
- Dizziness or fainting.

How is this diagnosed?

This condition is diagnosed based on:

- Your family and medical history.
- A physical exam.
- Tests. These may include:
 - A test to check the electrical signals in your heart (*electrocardiogram*).
 - Exercise stress test. This looks for signs of blockage when the heart is stressed with exercise, such as running on a treadmill.
 - Pharmacologic stress test. This test looks for signs of blockage when the heart is being stressed with a medicine.
 - Blood tests to check levels of cardiac enzymes such as troponin and creatine kinase.

- Coronary angiogram. This is a procedure to look at the coronary arteries to see if there is any blockage. During this test, a dye is injected into your arteries so they appear on an X-ray.
- Coronary artery CT scan. This scan helps detect calcium deposits in your coronary arteries. Calcium deposits are an indicator of CAD.
- A test that uses sound waves to take a picture of your heart (*echocardiogram*).

How is this treated?

This condition may be treated by:

- Healthy lifestyle changes to reduce risk factors.
- Medicines such as:
 - Antiplatelet medicines such as clopidogrel or aspirin. These help to prevent blood clots.
 - Nitroglycerin.
 - Blood pressure medicines.
 - Cholesterol-lowering medicine.
- Coronary angioplasty and stenting. During this procedure, a thin, flexible tube is inserted through a blood vessel and into a blocked artery. A balloon or similar device on the end of the tube is inflated to open up the artery. In some cases, a small, mesh tube (*stent*) is inserted into the artery to keep it open.
- Coronary artery bypass surgery. During this surgery, veins or arteries from other parts of the body are used to create a bypass around the blockage and allow blood to reach your heart.

Follow these instructions at home:

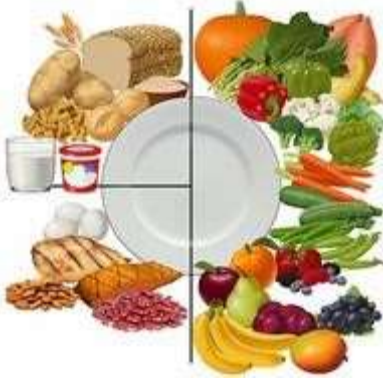
Medicines

- 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 approves:
 - NSAIDs, such as ibuprofen, naproxen, or celecoxib.
 - Vitamin supplements that contain vitamin A, vitamin E, or both.
 - Hormone replacement therapy that contains estrogen with or without progestin.

Lifestyle

- Follow an exercise program approved by your health care provider. Ask your health care provider if cardiac rehab is appropriate.
- Maintain a healthy weight or lose weight as approved by your health care provider.
- Learn to manage stress or try to limit your stress. Ask your health care provider for suggestions if you need help.
- Get screened for depression and seek treatment, if needed.
- **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.

Eating and drinking



- Follow a heart-healthy diet. A dietitian can help educate you about healthy food options and changes. In general, eat plenty of fruits and vegetables, lean meats, and whole grains.
- Avoid foods high in:
 - Sugar.
 - Salt (*sodium*).
 - Saturated fats, such as processed or fatty meat.
 - Trans fats, such as fried food.
- Use healthy cooking methods such as roasting, grilling, broiling, baking, poaching, steaming, or stir-frying.
- **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.
 - 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

- Manage any other health conditions, such as high cholesterol, hypertension, and diabetes. These conditions affect your heart.
- Your health care provider may ask you to monitor your blood pressure.
- Keep all follow-up visits. This is important.

Get help right away if:

- You have pain in your chest, neck, ear, arm, jaw, stomach, or back that:
 - Lasts more than a few minutes.
 - Is recurring.
 - Is not relieved by taking medicine under your tongue (*sublingual nitroglycerin*).
- You have profuse sweating without cause.
- You have unexplained:
 - Heartburn or indigestion.
 - Shortness of breath or difficulty breathing.
 - Fluttering or fast heartbeat (*palpitations*).
 - Fatigue or weakness.
 - Nausea or vomiting.
 - Feelings of nervousness or anxiety.
- You have sudden light-headedness or dizziness.

- You faint.

These symptoms may be an emergency. Get help right away. Call 911.

- **Do not wait to see if the symptoms will go away.**
- **Do not drive yourself to the hospital.**

Summary

- Coronary artery disease (CAD) is a condition in which the arteries that lead to the heart (*coronary arteries*) become narrow or blocked. Prolonged reduced blood flow can cause a heart attack.
- Many women have chest discomfort and other common symptoms of CAD. However, women often have unusual (*atypical*) symptoms, such as fatigue, vomiting, weakness, or dizziness.
- CAD can be treated with lifestyle changes, medicines, coronary angioplasty or stents, coronary artery bypass surgery, or a combination of these treatments.
- Keep all follow-up visits. This is important.

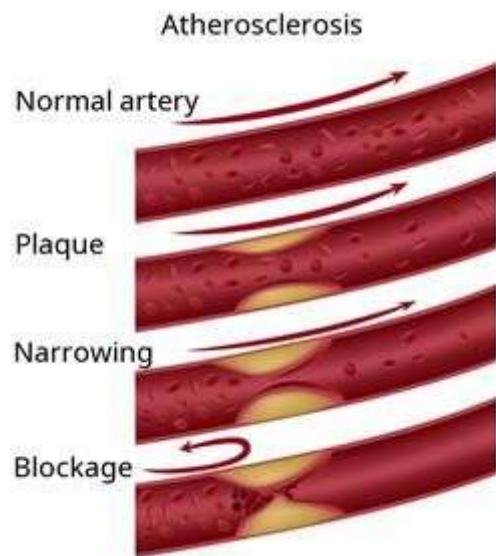
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Coronary Artery Disease, Male

Coronary artery disease (CAD) is a condition in which the arteries that lead to the heart (*coronary arteries*) become narrow or blocked. The narrowing or blockage can lead to decreased blood flow to the heart. Prolonged reduced blood flow can cause a heart attack (*myocardial infarction*, or MI). This condition may also be called coronary heart disease.

CAD is the most common type of heart disease, and heart disease is the leading cause of death in men. It is important to understand what causes CAD and how it is treated.

What are the causes?



CAD is most often caused by atherosclerosis. This is the buildup of fat and cholesterol (*plaque*) on the inside of the arteries. Over time, the plaque may narrow or block the artery, reducing blood flow to the heart. Plaque can also become weak and break off within a coronary artery and cause a sudden blockage. Other less common causes of CAD include:

- A blood clot or a piece of another substance that blocks the flow of blood in a coronary artery (*embolism*).
- A tearing of the artery (*spontaneous coronary artery dissection*).
- An enlargement of an artery (*aneurysm*).
- Inflammation (*vasculitis*) in the artery wall.

What increases the risk?

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

- Age. Men older than 45 years are at a greater risk of CAD.
- Family history of CAD.
- High blood pressure (*hypertension*).
- Diabetes.
- High cholesterol levels.
- Obesity.

Other risk factors include:

- Tobacco use.
- Excessive alcohol use.
- Lack of exercise.
- A diet high in saturated and trans fats, such as fried food and processed meat.

What are the signs or symptoms?

Many people do not have any symptoms during the early stages of CAD. As the condition progresses, symptoms may include:

- Chest pain (*angina*). The pain can:
 - Feel like crushing or squeezing, or like a tightness, pressure, fullness, or heaviness in the chest.
 - Last more than a few minutes or can stop and recur. The pain tends to get worse with exercise or stress and to fade with rest.
- Pain in the arms, neck, jaw, ear, or back.
- Unexplained heartburn or indigestion.
- Shortness of breath.
- Nausea or vomiting.
- Sudden light-headedness.
- Sudden cold sweats.
- Fluttering or fast heartbeat (*palpitations*).

How is this diagnosed?

This condition is diagnosed based on:

- Your family and medical history.
- A physical exam.
- Tests. These may include:
 - A test to check the electrical signals in your heart (*electrocardiogram*).
 - Exercise stress test. This looks for signs of blockage when the heart is stressed with exercise, such as running on a treadmill.
 - Pharmacologic stress test. This test looks for signs of blockage when the heart is being stressed with a medicine.
 - Blood tests to check levels of cardiac enzymes such as troponin and creatine kinase.
 - Coronary angiogram. This is a procedure to look at the coronary arteries to see if there is any blockage. During this test, a dye is injected into your arteries so they appear on an X-ray.
 - Coronary artery CT scan. This scan helps detect calcium deposits in your coronary arteries. Calcium deposits are an indicator of CAD.
 - A test that uses sound waves to take a picture of your heart (*echocardiogram*).

How is this treated?

This condition may be treated by:

- Healthy lifestyle changes to reduce risk factors.
- Medicines such as:
 - Antiplatelet medicines such as clopidogrel or aspirin. These help to prevent blood clots.
 - Nitroglycerin.
 - Blood pressure medicines.

- Cholesterol-lowering medicine.
- Coronary angioplasty and stenting. During this procedure, a thin, flexible tube is inserted through a blood vessel and into a blocked artery. A balloon or similar device on the end of the tube is inflated to open up the artery. In some cases, a small, mesh tube (*stent*) is inserted into the artery to keep it open.
- Coronary artery bypass surgery. During this surgery, veins or arteries from other parts of the body are used to create a bypass around the blockage and allow blood to reach your heart.

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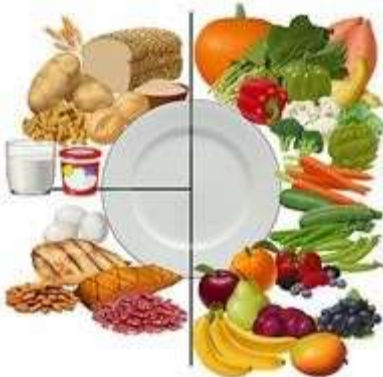
Medicines

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- **Do not** take the following medicines unless your health care provider approves:
 - NSAIDs, such as ibuprofen, naproxen, or celecoxib.
 - Vitamin supplements that contain vitamin A, vitamin E, or both.

Lifestyle

- Follow an exercise program approved by your health care provider. Ask your health care provider if cardiac rehab is appropriate.
- Maintain a healthy weight or lose weight as approved by your health care provider.
- Learn to manage stress or try to limit your stress. Ask your health care provider for suggestions if you need help.
- Get screened for depression and seek treatment, if needed.
- **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.

Eating and drinking



- Follow a heart-healthy diet. A dietitian can help educate you about healthy food options and changes. In general, eat plenty of fruits and vegetables, lean meats, and whole grains.
- Avoid foods high in:
 - Sugar.
 - Salt (*sodium*).
 - Saturated fat, such as processed or fatty meat.
 - Trans fat, such as fried foods.
- Use healthy cooking methods such as roasting, grilling, broiling, baking, poaching, steaming, or stir-frying.
- **Do not** drink alcohol if your health care provider tells you not to drink.
- If you drink alcohol:

- Limit how much you have to 0–2 drinks a day.
- 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

- Manage any other health conditions, such as high cholesterol, hypertension, and diabetes. These conditions affect your heart.
- Your health care provider may ask you to monitor your blood pressure.
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 - Shortness of breath or difficulty breathing.
 - Fluttering or fast heartbeat (*palpitations*).
 - Nausea or vomiting.
 - Fatigue or weakness.
 - Feelings of nervousness or anxiety.
- You have sudden light-headedness or dizziness.
- You faint.

These symptoms may be an emergency. Get help right away. Call 911.

- **Do not wait to see if the symptoms will go away.**
- **Do not drive yourself to the hospital.**

Summary

- Coronary artery disease (CAD) is a condition in which the arteries that lead to the heart (*coronary arteries*) become narrow or blocked. Prolonged reduced blood flow can cause a heart attack.
- CAD can be treated with lifestyle changes, medicines, coronary angioplasty or stents, coronary artery bypass surgery, or a combination of these treatments.
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