

Heart Attack

(Acute Myocardial Infarction [AMI]; Myocardial Infarction [MI]; ST-Segment-Elevation MI [STEMI]; Transmural Myocardial infarction)

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[En Español \(Spanish Version\)](#)

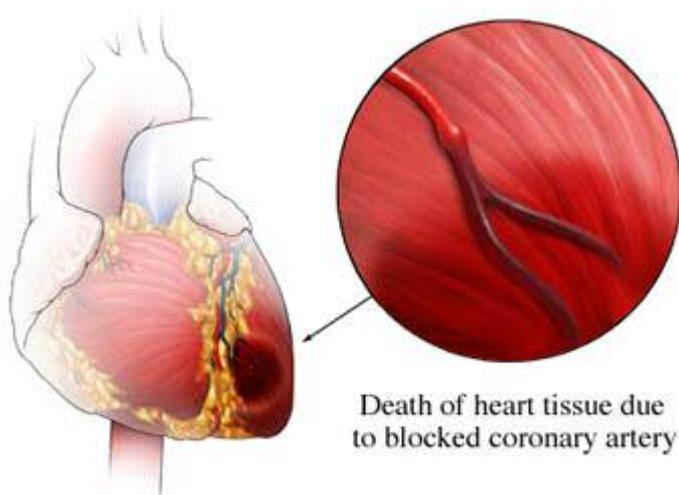
[More InDepth Information on This Condition](#)

 [Understanding Arterial Plaque](#)

Definition

A heart attack occurs when blood flow to the heart muscle is interrupted. Oxygen can't get to the heart muscle, causing tissue damage or tissue death.

Heart Attack



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Causes

A heart attack may be caused by:

- Thickening of the walls of the arteries feeding the heart muscle (coronary arteries)
- Accumulation of fatty plaques in the coronary arteries
- Narrowing of the coronary arteries
- Spasm of the coronary arteries
- Development of a blood clot in the coronary arteries
- Embolism that affects the coronary arteries

Risk Factors

These factors increase your chance of developing heart attack. Tell your doctor if you have any of these:

- Sex: male
- Increased age
- Obesity
- Smoking
- High blood pressure
- Sedentary lifestyle
- High blood cholesterol (specifically, high LDL cholesterol, and low HDL cholesterol)
- High blood triglycerides
- Diabetes
- Stress
- Family members with heart disease

Symptoms

Symptoms include:

- Squeezing, heavy chest pain, especially with:
 - Exercise or exertion
 - Emotional stress
 - Cold weather
 - A large meal
- Pain in the left shoulder, left arm, or jaw
- Shortness of breath
- Sweating, clammy skin
- Nausea
- Weakness
- Loss of consciousness
- Anxiety, especially feeling a sense of doom or panic without apparent reason

Unusual symptoms of heart attack (may occur more frequently in women):

- Stomach pain
- Back and shoulder pain
- Confusion
- Fainting

Diagnosis

If you think you are having a heart attack, call 911 right away.

Tests may include:

- Blood tests—to look for certain enzymes found in the blood within hours or days after a heart attack
- Urine tests—to look for certain substances found in the urine within hours or days after a heart attack
- Electrocardiogram (EKG) —records the heart's activity by measuring electrical currents through the heart muscle, changes can show if there is blockage or damage
- Echocardiogram —uses high-frequency sound waves (ultrasound) to examine the size, shape, function, and motion of the heart
- Stress test —records the heart's electrical activity under increased physical stress, usually done days or weeks after the heart attack
- Nuclear scanning—uses radioactive material to show areas of the heart muscle where there is diminished

blood flow

- Electron-beam computed tomography (EBCT) —a type of x-ray that uses a computer to make detailed pictures of the heart, coronary arteries, and surrounding structures; may be helpful if you are at immediate risk of coronary artery disease
- Coronary angiography —uses dye and x-rays to look for narrowing or blockage in the coronary arteries

Treatment

Treatment includes:

- Oxygen
- Pain-relief medications (such as morphine)
- Nitrate medications
- Aspirin and other antiplatelet agents
- Beta-blocking and/or ACE inhibitor medications (frequently given)
- Anti-anxiety medications
- Clot-dissolving agents (thrombolytics)—Within the first six hours after a heart attack, you may be given medications to break up blood clots in the coronary arteries.
 - Other medicines that may be given include those that block the function of platelets (called platelet IIb/IIIa receptor blockers).
- Cholesterol-lowering medications (eg, statin drugs)

Surgery

If you have severe blockages, you may need surgery. Surgery includes:

- Coronary artery bypass grafting (CABG)
- Atherectomy
- Balloon angioplasty with or without stenting

According to a review, patients who received CABG had more angina relief and less need for another, similar procedure. This is compared to those who received percutaneous coronary intervention (PCI). PCI involves techniques using balloon angioplasty or coronary stenting.

Physical or Rehabilitative Therapy

During recovery, you may need physical or rehabilitative therapy to help you regain your strength.

Treatment for Depression

You may feel depressed after having a heart attack. Therapy and medication can help relieve depression.

If you have a heart attack, follow your doctor's instructions.

Prevention

Preventing or treating coronary artery disease may help prevent a heart attack.

- Maintain a healthy weight.
- Begin a safe exercise program. Follow your doctor's advice.
- If you smoke, quit.
- Eat a healthful diet. Your diet should be low in saturated fat and rich in whole grains, fruits, and vegetables.

- Treat high blood pressure, diabetes and high cholesterol.
- Manage stress.
- Ask your doctor about taking a small, daily dose of aspirin.
 - Although most people are able to tolerate such a low dose of aspirin, even this small amount can rarely lead to serious bleeding, particularly from the gastrointestinal (GI) tract .
 - Aspirin may not work as well when combined with other pain medications.

RESOURCES:

American Heart Association
<http://www.americanheart.org/>

Heart and Stroke Foundation
<http://www.heartandstroke.com/>

CANADIAN RESOURCES:

Heart Healthy Kit: Public Health Agency of Canada
<http://www.phac-aspc.gc.ca/>

Heart and Stroke Foundation
<http://ww2.heartandstroke.ca/>

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