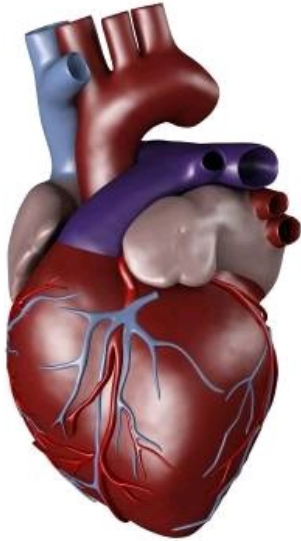


# What Are Coronary Blood Vessels?

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Heart disease is called a "silent killer" because it can advance before the first symptom is detected by either a physical examination or symptom. Each year, more than a million cases of heart disease are diagnosed with over 400,000 American deaths as their first symptom.

At the root of heart disease are problems with the "coronary arteries," or the arteries that supply blood to the heart. It is the leading cause of heart problems -- problems that could be avoided by modifying diet and lifestyle.

## The Heart as a Pump

The heart is actually a small, but powerful muscle that pumps blood through the body. The blood leaves the "left ventricle" and supplies blood to the brain, internal organs and the rest of the body's tissues. After the blood has delivered oxygen and nutrients to its targets, the blood returns to the heart, proceeds to the lungs where it is oxygenated and returns to the heart to repeat the cycle. Although the heart pumps hundreds of liters of blood per day, it depends on a separate series of blood vessels, called the "coronary arteries" for its own blood supply.

## The Coronary Arteries

The heart depends on two major coronary arteries: the "right coronary artery" (RCA) that supplies blood to the chambers of the right side of the heart and branches into the "posterior descending artery" that carries blood to the lower portion of the heart's "left ventricle" and the back of the "septum," or the tissue that separates the right and left sides of the heart.

The "left main coronary artery" branches into the "circumflex artery" and the "left anterior descending artery." The circumflex artery supplies blood to the "right atrium," or the receiving chamber on the right side of the heart. It also delivers blood to the side and back of the left ventricle -- the chamber that is responsible for pumping blood to the rest of the body.

The left main coronary artery also branches into the left anterior descending artery, where it supplies blood to the front and lower portion of the left ventricle and the septum.

## Collateral Circulation

The heart can also activate small blood vessels called "collateral arteries" when it determines that the heart is not receiving sufficient blood. Over time, coronary arteries can become obstructed with plaque, calcium and blood clots through a disease called "atherosclerosis." As an emergency measure, the heart uses smaller coronary arteries that normally lie dormant to bypass diseased portions of the coronary arteries.

## Coronary Arteries and Heart Disease

One of the most common forms of heart disease is called "coronary artery disease," or CAD. It affects over 16 millions Americans a year and can lead to a shortage of blood to the heart, called "angina pectoris" or an acute heart attack called "myocardial infarction."

## Treatment of Coronary Artery Disease

Once an individual has been diagnosed with CAD, there are a number of treatment options, depending on the severity of the disease. The first approach could be adding [exercise](#) to the patient's daily routine. Exercise is typically accompanied by learning about low-fat and low-cholesterol diet options. If the disease has sufficiently progressed, the next step is usually prescribing medications to halt the progression of CAD and improve the blood flow to the heart through the coronary arteries. The most common medications include cholesterol-lowering medications, vitamins B-6 and B-12, nitroglycerin, calcium channel blockers, beta-blockers, ACE inhibitors and aspirin. If the CAD has progressed to a point where medications, diet and other lifestyle medications cannot relieve the symptoms, surgery using heart catheterization, angioplasty, atherectomy, radiation brachytherapy or coronary artery bypass surgery may be indicated.