

Coronary Artery Disease

Coronary artery disease (CAD) is the narrowing and hardening of the small coronary arteries that supply blood to the heart muscle. It is the most common type of heart disease—about 13 million Americans have CAD. It is the leading cause of death in the US in both men and women, killing more than half a million Americans each year.



CAD occurs when the coronary arteries become clogged due to the buildup of fatty deposits, called plaque, on the inner walls. More precisely, this plaque is called atherosclerotic plaque, which literally means growths with a porridge-like consistency. This process of plaque development is referred to as atherosclerosis.

As the blood supply is restricted, so is the supply of oxygen to the heart. This leads to angina and heart attacks. Angina is the severe and sharp chest pain people feel as parts of the heart muscle are starved of vital oxygen.

A heart attack results from a blockage in a coronary artery, preventing oxygen from reaching a section of the heart muscle and resulting in the death of heart tissue.

LONG TERM DAMAGE

The damage accumulates over time, weakening the heart muscle and making it more vulnerable. The damage also contributes to heart failure, where the heart becomes too weak to pump sufficient blood to the rest of the body. The gradual build-up of damage also increases the likelihood of heart rhythm disturbances, or arrhythmias, as the electrical conduction pathways in the heart become disrupted.

RISK FACTORS

Everyone can reduce the risk of CAD by exercising more, staying slim, eating healthily and not smoking. Other risk factors that can be controlled include high blood cholesterol, high blood pressure and diabetes. Getting old and having a family history of heart disease cannot be controlled, making it all the more important to avoid the other risk factors because the more risk factors you have, the greater your chance of developing CAD.

SIGNS AND SYMPTOMS

The most common symptoms of CAD are chest pain or discomfort (angina), pain in one or both arms or the left shoulder, and shortness of breath. The severity of symptoms varies widely. You should not delay a doctor visit just because the chest discomfort is not severe. In some people, the first sign of CAD is a heart attack.

TREATMENTS

Common treatments for CAD includes angioplasty, coronary artery bypass graft surgery (CABG) and medical (drug) therapy. Angioplasty is a procedure used to open blocked or narrowed coronary arteries with a balloon that is threaded into the blocked artery along a catheter. Usually, during angioplasty a stent is placed in the artery to keep it propped open after the procedure. CABG surgery uses arteries or veins from other areas in your body to bypass your diseased coronary arteries.