

MEDfacts

An Educational Health Series From National Jewish Health®



Coronary Artery Disease

Your heart is a muscle – a very important muscle that your entire body depends on. As with all muscles, the heart is dependent on blood supply to provide necessary nutrients, fuel and oxygen. The heart gets its blood supply from the coronary arteries. When the coronary arteries become blocked, narrowed, or completely obstructed, the heart cannot get the nutrients, fuel, and oxygen it needs. This causes the heart to become weak, develop a heart attack or stop altogether. This blockage, narrowing or obstruction is known as Coronary Artery Disease (CAD).

Who Gets Coronary Artery Disease?

CAD is the number one killer in the United States. For persons aged 40 years, the lifetime risk of developing CAD is 49 percent in men and 32 percent in women. For those reaching age 70 years, the lifetime risk is 35 percent in men and 24 percent in women. For total coronary events, the incidence rises steeply with age, with women lagging behind men by 10 years.

A variety of other factors can increase risk, including:

- Smoking,
- Excess fats and cholesterol in the blood,
- High blood pressure and
- Excess sugar in the blood (often due to diabetes).

What are the Symptoms?

CAD makes it more difficult for oxygen-rich blood to move through arteries. Common symptoms of CAD include:

- **Angina:** Upper body pain or pressure. It's usually felt in the chest, but can also be experienced in the back, belly, and even the jaw
- **Shortness of breath:** Shortness of breath (dyspnea) with exertion, or chest tightness, squeezing, or burning.

Sometimes CAD has no symptoms, called silent CAD. It can go undiagnosed up until someone has a heart attack, irregular heartbeat or other heart conditions.

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How is Coronary Disease Detected?

Often, symptoms bring a person in to see a cardiologist. The cardiologist will take into account several factors in diagnosing coronary artery disease (CAD), such as family history, symptoms, and risk factors. In addition, there are several diagnostic tests that are helpful when used together to diagnose the condition.

- **Stress Testing.** In a stress test, you perform a physical activity, such as jogging on a treadmill, to increase the speed of your heartbeat. This helps determine how well your heart performs. Usually, the stress test is accompanied by either nuclear or echocardiographic imaging.
- **Echocardiography.** An echocardiogram uses sound waves to produce an image of the heart, showing how well it is working. It can help determine which areas of the heart are having problems and help identify any damage to the heart.
- **Coronary CT:** During a coronary CT angiogram pictures are taken of cross sections or slices of the heart. A coronary artery calcium scoring CT can detect and measure the extent of the calcium deposits in the coronary arteries.
- **Cardiac Catheterization.** This is a minimally invasive test which not only allows visualization of your coronary arteries, but also will allow for possible opening of blockages using a piece of metal scaffolding called a stent.

How is Coronary Disease Treated?

The key to treating coronary artery disease (CAD) is to prevent it, or at least reduce the risk of serious cardiac events (such as heart attacks). This is usually done through diet, moderate exercise and a healthy, non-smoking and active lifestyle. In addition to several lifestyle changes, your health care provider may recommend various medications, medical procedures or rehabilitation to treat coronary artery disease (CAD).

Medication

Medicines can be important to:

- Relieve the stress on your heart and lessen CAD symptoms,
- Decrease the risk of heart attack,
- Lower cholesterol levels and decrease blood pressure and
- Prevent harmful blood clots.

Medicines used to treat CAD include anticoagulants, aspirin, ACE inhibitors, beta blockers, calcium channel blockers, nitroglycerin, glycoprotein IIb-IIIa, statins, and fish oil and other supplements high in omega-3 fatty acids.

Medical Procedures

Severe cases of CAD may warrant medical procedures, such as:

- **Angioplasty:** This procedure opens blocked or narrowed coronary arteries. A thin tube with a balloon or other device is threaded through a blood vessel until it reaches the blocked artery. The balloon is then inflated, pushing the plaque against the artery wall, which widens the artery. The procedure helps to restore blood flow to the heart, alleviate chest pain and decrease the chance of a heart attack.
- **CABG (coronary artery bypass graft):** This procedure creates new routes for arteries and veins so they can bypass the clogged coronary arteries and reach the heart.

Rehabilitation

Cardiac rehabilitation is another treatment option, usually combined with medicine and surgical methods. Cardiac rehab usually consists of:

- **Exercise training.** Learning how to exercise safely, building muscle strength, and improving stamina can be very important in strengthening your heart and making it healthier.
- **Education, counseling and training.** Patient education seeks to inform you of anything you may want to know about your condition, helping you make the best decisions possible to maintain good health. Counseling is available to help you cope with the stress of the condition and managing lifestyle changes.

What do we do at National Jewish Health?

We provide comprehensive cardiology evaluation and consultation and non-invasive cardiac testing. We evaluate and treat heart problems such as coronary artery disease, high blood pressure, high cholesterol, heart valve problems and heart failure. In addition to traditional heart problems, we offer expertise in many other focus areas, including evaluation of patients with shortness of breath with exercise, sarcoid of the heart, diastolic dysfunction and secondary pulmonary hypertension.

Why National Jewish Health?

At National Jewish Health, we treat the whole person, not just the disease. Our cardiology team works with healthcare providers from all areas of the medical center, including rehabilitation therapists, dietitians and clinical researchers.

Note: This information is provided to you as an educational service of LUNG LINE® (1-800-222-LUNG). It is not meant to be a substitute for consulting with your own physician.

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