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Coronary artery disease



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What is coronary artery disease?

Coronary artery disease (CAD) is the most common form of heart disease. It occurs when one or more of the coronary arteries becomes narrow or blocked. Normally, blood flows through blood vessels like water through a hose. In coronary artery disease, major blood vessels that supply blood, oxygen and nutrients to the heart become damaged or diseased. This damage causes the vessels to become narrow, stiff or blocked. The process is often called hardening of the arteries or atherosclerosis.

CAD can cause:

Chest pain (angina)

Heart attack (myocardial infarction)

Sudden stopping of the heart (cardiac arrest)

Types

There are three types of coronary artery disease, they include:

1. Obstructive: Blood vessels have significantly narrowed or blocked.
2. Non-obstructive: Blood vessels have narrowed because they have branched off to smaller vessels or is due to the heart muscle squeezing too tightly on the vessels.
3. SCAD: Spontaneous coronary artery dissection (SCAD) refers to the tearing of blood vessels in the heart. Learn more about **SCAD**.

Who is at risk?

Risk factors for heart disease are conditions or habits that make it more likely that you will get heart disease. Some risk factors for coronary artery disease can be changed and others cannot.

Risk factors you can change:

high blood pressure

high blood cholesterol and triglycerides

diabetes

unhealthy weight

unhealthy diet

too much alcohol

not enough physical activity

smoking or chewing tobacco

stress

depression

Risk factors you cannot change:

Age – the older you are, the higher your risk of heart disease.

Sex – Your risk of heart disease and stroke increases after menopause.

Family history –if you have a close relative who has experienced heart disease at an early age, you are at an increased risk. In addition, women who have had pre-eclampsia during pregnancy have an increased risk.

Indigenous heritage – First Nations, Metis and Inuit peoples have a higher risk of heart disease than the general population. They are more likely to have high blood pressure (hypertension) and diabetes. Both conditions can cause heart disease.

South Asian and African heritage – people of African or South Asian background have a higher risk of heart disease. They are more likely to have high blood pressure (hypertension), diabetes or other risk factors for heart disease at a younger age.

Personal circumstances - Personal circumstances and environmental factors have an influence on your health. This includes things such as access to healthy food, safe drinking water, health services and social services.

Dr. Heit thinks immune system could hold key to preventing heart attacks.

Read more

Causes

Over many years, plaque builds up on artery walls. Plaque is a sticky, yellow substance made of fatty substances like cholesterol, as well as calcium and waste products from your cells. It narrows and clogs the arteries, slowing the flow of blood. This condition is called atherosclerosis, which may begin as early as childhood. It can occur anywhere in the body, but it usually affects large and medium-sized arteries.

Sometimes plaque in an artery can rupture. The body's repair system creates a blood clot to heal the wound. But the clot can block the artery, leading to either a heart attack or stroke.

The factors that cause plaque to build up are:

Damage or injury to the inner layer of the coronary arteries caused by the risk factors listed above.

Plaque accumulating at the site of the injury in a process called atherosclerosis or hardening of the arteries.

Beat heart disease

Join the fight to end heart disease and stroke.

Symptoms

Early warning signs may include:

- fatigue
- pain
- dizziness

They can also include the symptoms that are most associated with angina:

A squeezing, suffocating or burning feeling in your chest that tends to start in the centre of your chest but may move to your arm, neck, back, throat or jaw.

Women are more likely to experience non-traditional symptoms such as:

vague chest discomfort

fatigue

sleep difficulties

indigestion

anxiety

If left untreated, CAD can lead to other serious problems such as heart attack, stroke or even death.

Diagnosis

Your doctor will start by taking a medical history, doing a physical exam and ordering some chest X-rays. Your doctor may also want to do some of these other tests:

angiography

echocardiogram

electrocardiogram (ECG/EKG)

stress test

nuclear stress test (also called: **thallium scan**, **cardiolite scan**, nuclear perfusion imaging, myocardial perfusion scan or myocardial perfusion imaging [MPI], radionuclide test).

depression

Treatment

There is no cure for CAD, but there are many treatments, including medications, surgery and lifestyle changes, that can slow down its progress.

Medications

Medications used to treat coronary artery disease include:

anti-platelets

ACE inhibitors

beta-blockers

calcium channel blockers

nitrates (Nitroglycerin)

Surgical and non-surgical procedures

Your doctor may also suggest these procedures:

percutaneous coronary intervention (PCI or angioplasty with stent)

coronary artery bypass surgery

Lifestyle

You can lower your risk of other heart diseases and stroke by knowing and controlling your blood pressure, diabetes and blood cholesterol. It is also important to lead a **healthy lifestyle**:

Be **smoke-free**

Be more **active**

Eat a **healthy balanced diet** – there are some **specific diets** you can follow that have been proven to reduce the risk of heart disease.

Aim for a **healthy weight**

Drink less **alcohol**

Manage **stress**

Research

Heart & Stroke has funded important research on coronary artery disease and vascular disease between 2013 and 2018. We are committed to supporting research and expanding our knowledge on CAD. Learn more about our **research commitments and breakthroughs**.

Related information

Talking to your doctor (CAD)

Testing for coronary heart disease (Peter Munk Cardiac Centre)

Managing your medications

Living Well with Heart Disease (PDF)

Looking for support?

Find useful services and connect with others living with heart disease or stroke.

Services and resources

The power of community



Beat heart disease. Beat stroke. Beat as one.