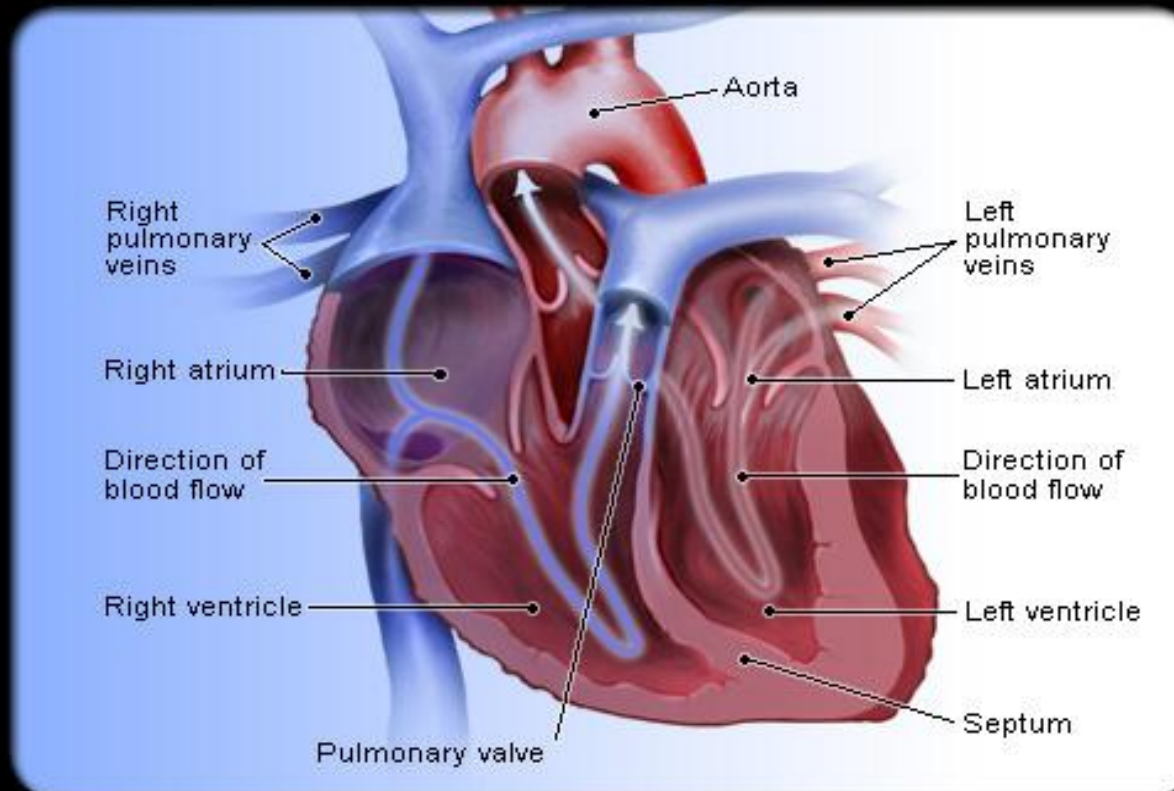
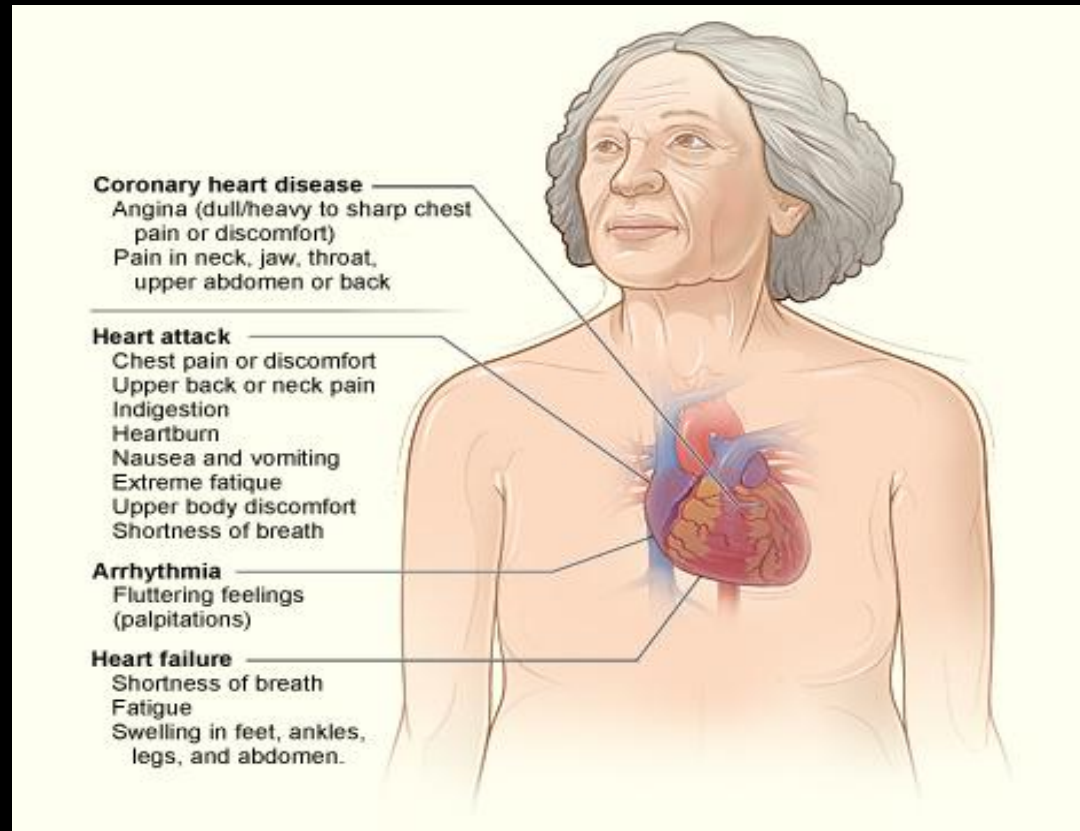


Cardiology



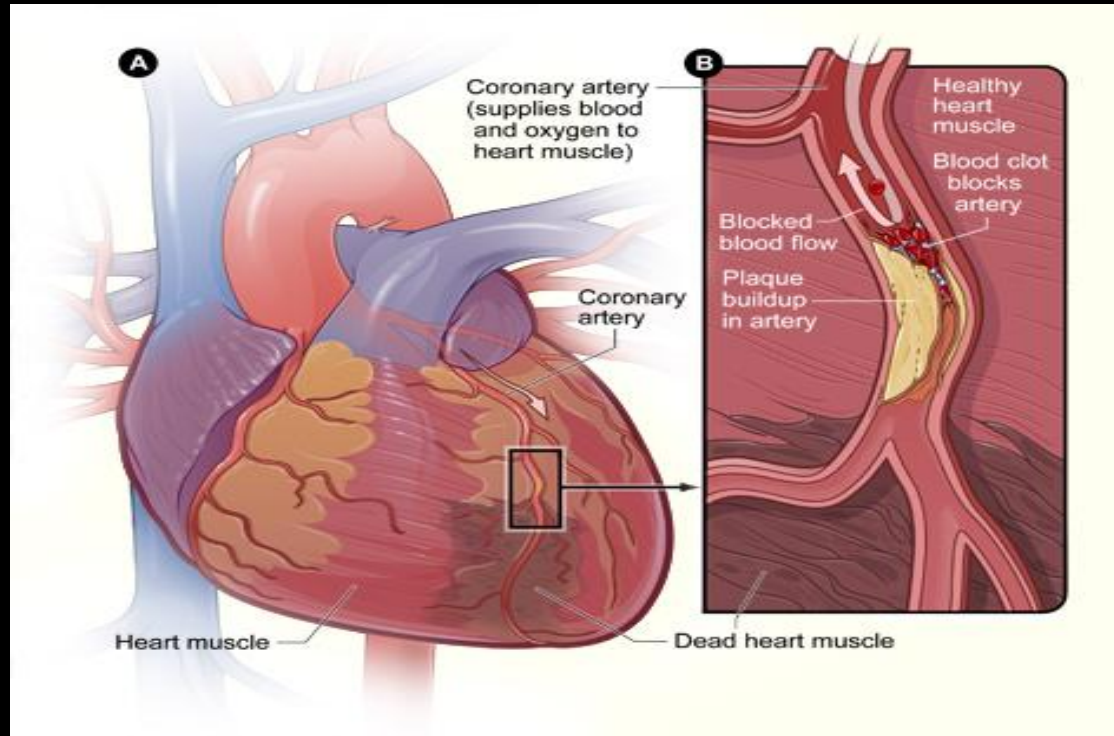
According to the American Heart Association, approximately 16.8 million people are affected by heart disease every year. Of those, more than 400,000 will die from the disease. Heart disease can cause a series of serious health problems ranging from increased blood pressure to [stroke](#), all potentially fatal if not treated promptly and correctly.

Heart Diseases in Women



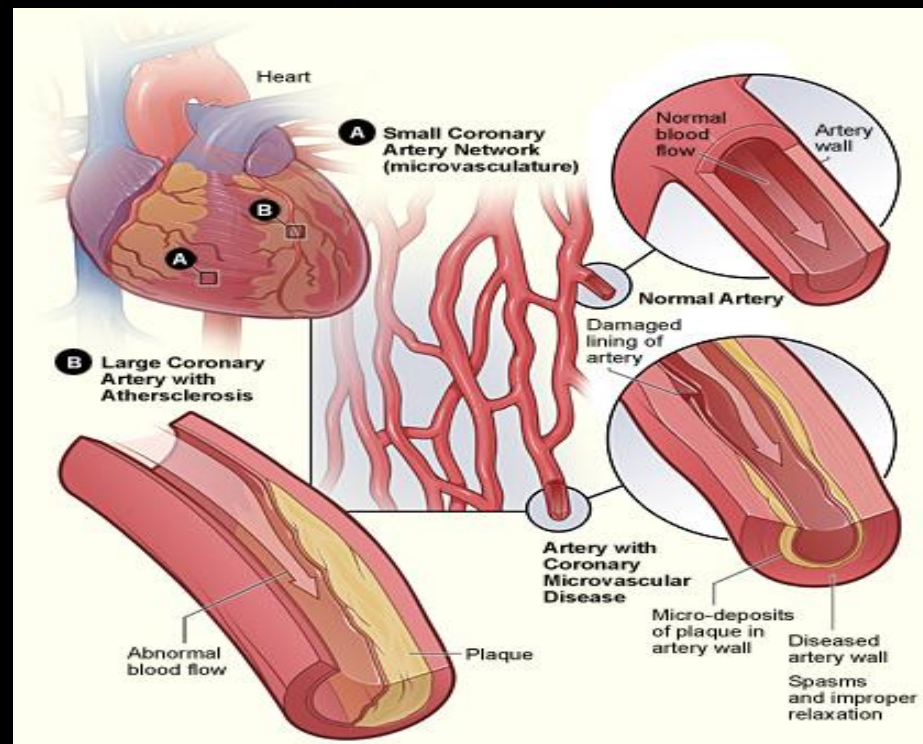
The most common type of heart disease in women is a disorder of the heart's blood vessels called **coronary heart disease (CHD)**, or **coronary artery disease (CAD)**, because the vessels involved are the coronary arteries. CHD can lead to serious heart problems, such as **heart attack**, **heart failure**, **irregular heartbeats** called **arrhythmias**, and **sudden cardiac arrest (SCA)**.

Coronary Heart Disease (CHD) Coronary Artery Disease (CAD)



CHD is a condition in which plaque builds up on the inner walls of the coronary arteries. Plaque is made up of fat, cholesterol, calcium, and other substances found in the blood. In women and men who have CHD, plaque usually builds up inside the heart's large arteries, causing them to narrow. Plaque also can develop within the walls of these arteries.

Coronary Microvascular Disease (MVD)

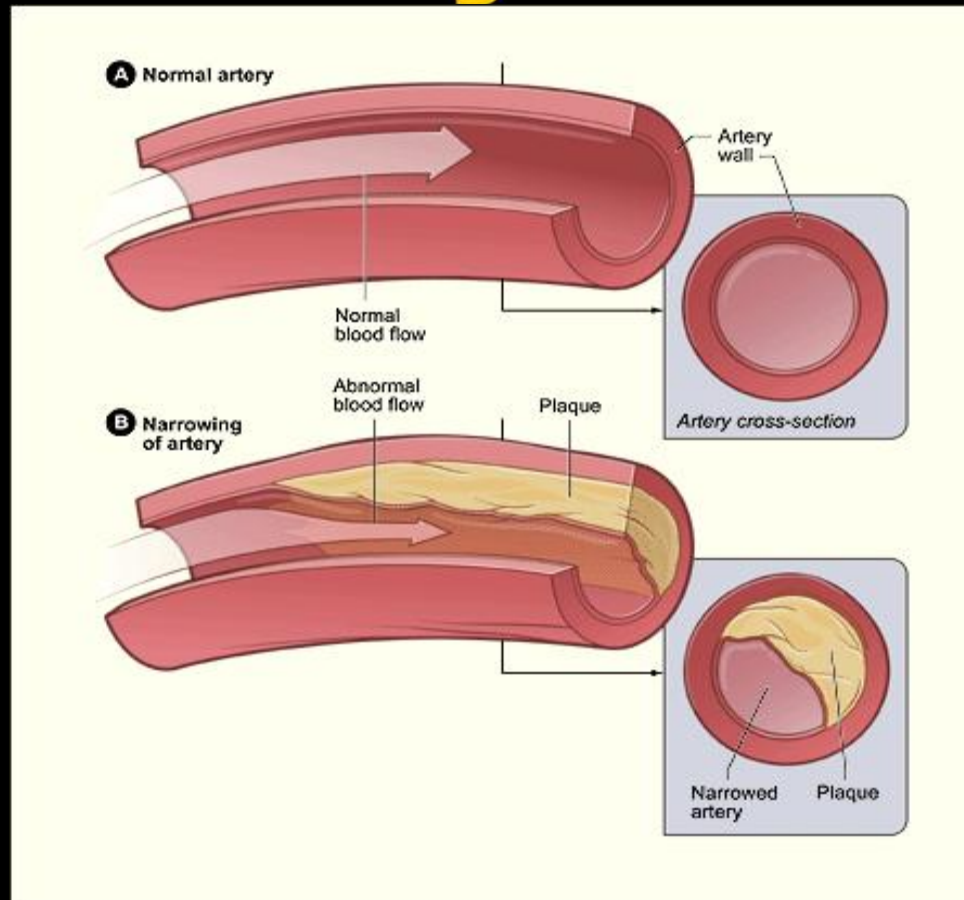


Coronary MVD is heart disease that affects the heart's smallest arteries. Recently, studies have shown that women are more likely than men to have coronary MVD.

In coronary MVD: The walls of the heart's tiny arteries are damaged or diseased.

The heart's tiny arteries don't relax properly and can spasm (tighten).

Angina



Angina is caused by reduced blood flow to an area of the heart. This is most often due to coronary artery disease (CAD). Sometimes, other types of heart disease or uncontrolled high blood pressure can cause angina.

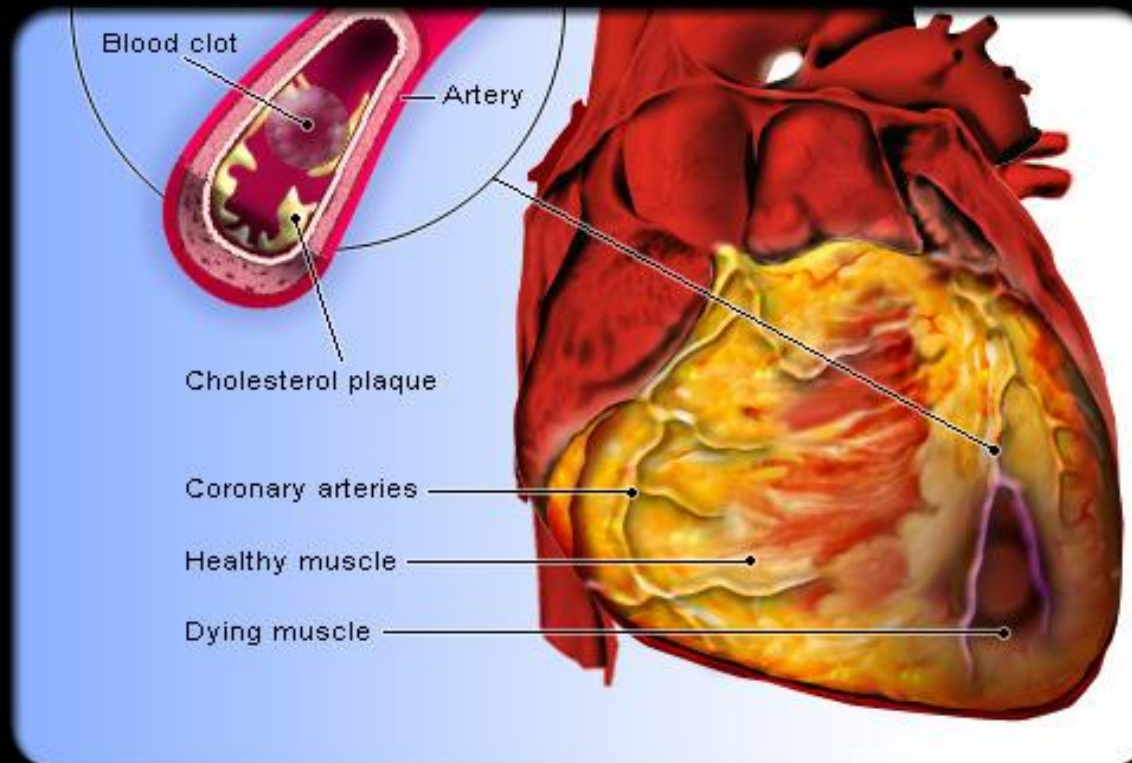
Signs and symptoms of Angina

Pain and discomfort are the main symptoms of angina. These symptoms

- Are often described as pressure, squeezing, burning, or tightness in the chest
- Usually start in the chest behind the breastbone
- May also occur in the arms, shoulders, neck, jaw, throat, or back
- May feel like indigestion

Some people say that angina discomfort is hard to describe or that they can't tell exactly where the pain is coming from. Symptoms such as nausea, fatigue, shortness of breath, sweating, light-headedness, or weakness may also occur.

Heart Attack (Myocardial Infarction)



A heart attack, also known as **myocardial infarction**, occurs when the supply of blood and oxygen to an area of heart muscle is blocked, usually by a clot in a coronary artery. Often, this blockage leads to arrhythmias (irregular heartbeat or rhythm) that cause a severe decrease in the pumping function of the heart and may bring about sudden death.

Risk factors for Heart Attack

Certain factors make it more likely that you will develop CAD and have a heart attack. These are called risk factors. Risk factors you cannot change include:

Your age

- Men: over age 45
- Women: over age 55

Having a family history of early heart disease

- Heart disease diagnosed in father or brother before age 55
- Heart disease diagnosed in mother or sister before age 65

Having a personal history of CAD

- Angina
- A previous heart attack
- A surgical procedure (angioplasty, heart bypass) to increase blood flow to your heart.

Life Style Risk factors for Heart Attack

Lifestyle risk factors that contribute to heart disease include

- ❖ lack of exercise,
- ❖ high-fat diet,
- ❖ emotional stress, and
- ❖ having a "type A" personality (aggressive, impatient, competitive).

Signs and Symptoms of Heart Attack

The warning signs and symptoms of a heart attack can include:

- Chest discomfort. Most heart attacks involve discomfort in the center of the chest that lasts for more than a few minutes, or goes away and comes back. The discomfort can feel like uncomfortable pressure, squeezing, fullness, or pain. Heart attack pain can sometimes feel like indigestion or heartburn.
- Discomfort in other areas of the upper body. Can include pain, discomfort, or numbness in one or both arms, the back, neck, jaw, or stomach.
- Shortness of breath. Often comes along with chest discomfort. But it also can occur before chest discomfort.
- Other symptoms. May include breaking out in a cold sweat, having nausea and vomiting, or feeling light-headed or dizzy.

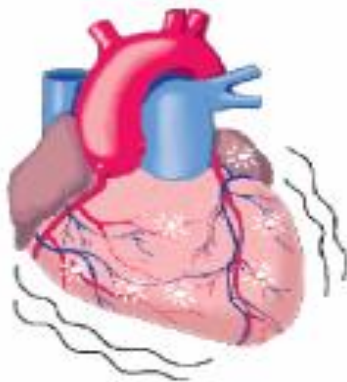
Sudden Cardiac Arrest (SCA)

Sudden cardiac arrest (SCA), also known as sudden cardiac death, is when the heart suddenly and unexpectedly stops beating. When this occurs, blood stops flowing to the **brain and other vital organs**. SCA usually causes death if not treated in minutes.

The heart has an internal electrical system that controls the rhythm of the heartbeat. Problems with the electrical system can cause abnormal heart rhythms, called arrhythmias. There are many types of arrhythmia. During an arrhythmia, the heart can beat too fast, too slow, or it can stop beating. SCA occurs when the heart develops an arrhythmia that causes it to stop beating.

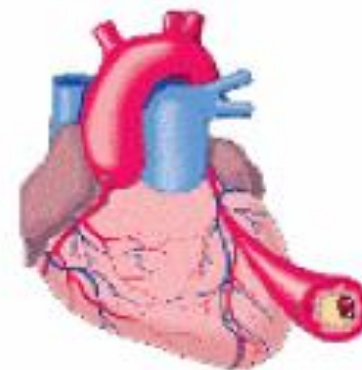
SCA is not same as Heart Attack

SUDDEN CARDIAC ARREST



- Sudden Cardiac Arrest (SCA) is a condition that occurs when the heart stops pumping blood. Usually, this is often caused by an *electrical problem* in the heart.
- Occasionally, there is a mechanical problem where there may be a normal electrical signal; in turn the heart muscle fails to pump.
- Sometimes SCA is caused by severe hemorrhage and other issues.

HEART ATTACK



- A heart attack is caused by a circulation or *plumbing problem of the heart*, when one (or more) of the arteries delivering blood to the heart is blocked. Oxygen in the blood cannot reach the heart muscle, and the heart muscle becomes damaged.
- This damage to the heart muscle can lead to disturbances of the heart's electrical system. A malfunction of the heart's electrical system may cause dangerously fast or slow heart rhythms that can cause SCA.
- Most but not all SCAs occur in patients with coronary heart disease. The first few hours after a heart attack the patient is at higher risk for SCA.

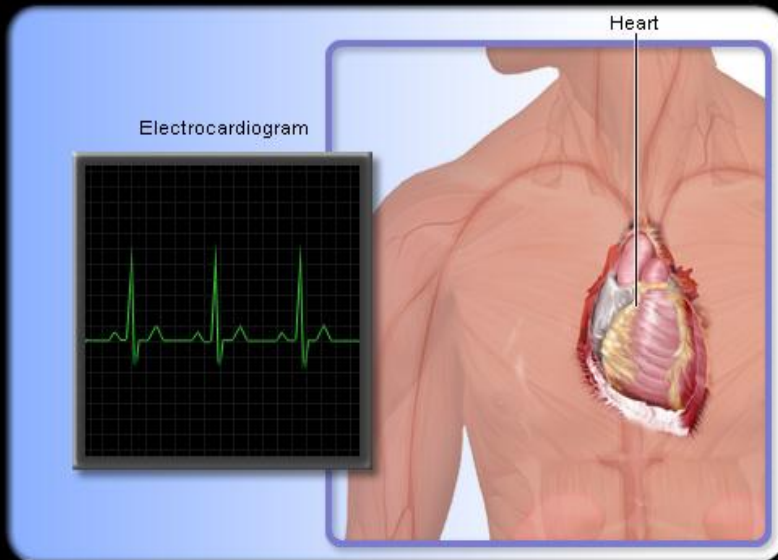
Risk Factors that can be controlled

- Smoking
- High Blood Cholesterol and High Triglyceride Levels
- High Blood Pressure
- Diabetes and Prediabetes
- Overweight and Obesity
- Metabolic Syndrome
- Birth Control Pills
- Lack of Physical activity
- Unhealthy Diet
- Stress or Depression
- Anemia
- Sleep Apnea

Risk Factors that can't be controlled

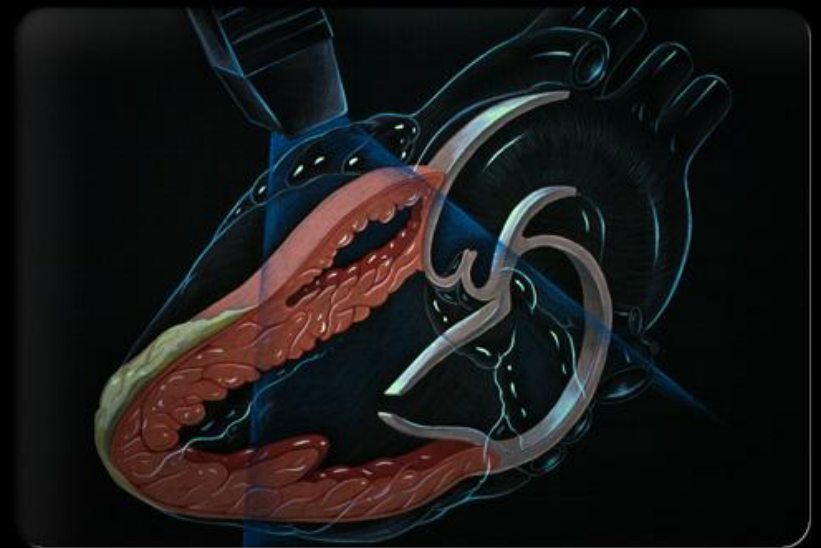
- **Age and Menopause** : As you get older, your risk of CHD and heart attack rises. This is in part due to the slow buildup of plaque inside your heart arteries, which can start during childhood.
- **Family History** : Family history plays a role in CHD risk. Your risk increases if your father or brother was diagnosed with CHD before 55 years of age, or if your mother or sister was diagnosed with CHD before 65 years of age.
- **Preeclampsia** : Preeclampsia is a condition that develops during pregnancy. The two main signs of preeclampsia are a rise in blood pressure and excess protein in the urine. These signs usually occur during the second half of pregnancy and go away after delivery. However, your risk of developing high blood pressure later in life increases after having preeclampsia.

Tests to Detect Heart Disease.



An electrocardiogram (EKG) is a noninvasive test that measures the electrical activity of the heart. An EKG takes approximately five minutes and is painless.

Echocardiography uses sound waves to generate images of the heart. The test serves as a tool to see how well the heart muscle is functioning.



Common Medications used to treat Heart Disease

Common heart disease medications can include:
beta blockers which reduce heart rate and blood pressure;

❖ **nitroglycerin**, which dilates the coronary arteries, making it easier for blood to flow;

❖ **calcium channel blockers**, which help slow the heart rate, allowing the heart to beat more efficiently;

❖ **ACE Inhibitors**, which dilate blood vessels to increase blood flow and relieve stress on the heart; and

❖ **statins**, which reduce the number of lipids (found in cholesterol) in the blood to reduce the likelihood of plaque forming on the arteries.

Preventing Heart Disease is through a Healthy lifestyle, starting with a healthy diet.

Although heredity is a risk factor for heart disease, and an individual cannot control this factor, other factors can be modified to decrease the risk of heart disease.

What you eat can reduce your chances of developing heart disease. A heart-healthy diet includes lots of whole grains, vegetables, and fruits. Chickpeas, beans, and soy products can help lower your cholesterol as well as olive oil, garlic, and avocados.

Nuts, such as almonds, walnuts, and pecans, can boost "good" cholesterol (nuts are high in calories, so limit the amount you eat).

Incorporate fish and seafood into your meals a few times a week. Also, try to avoid sweets.