Crimea State Medical University, Simferopol

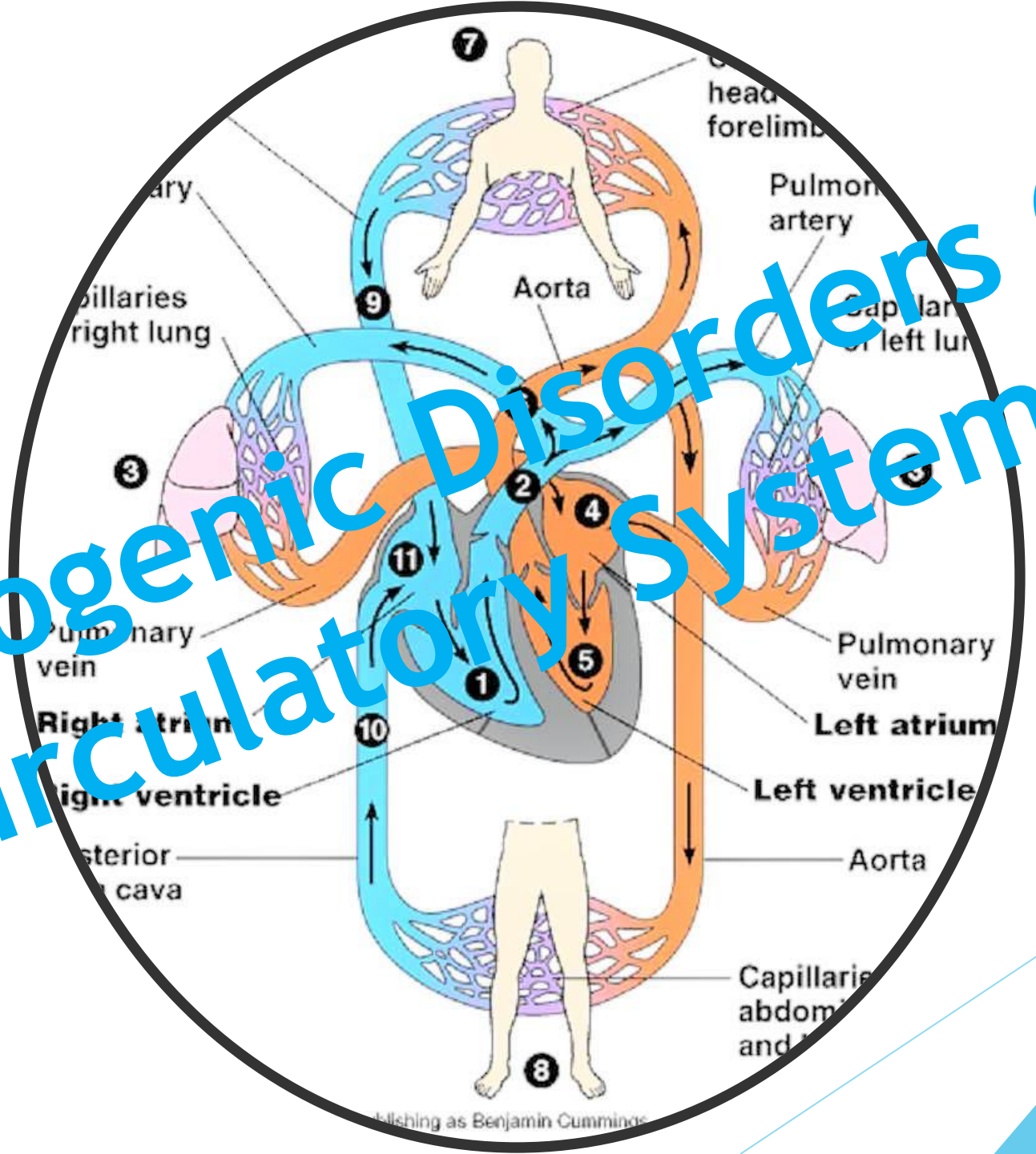
Biology Project

Teacher – Anna Zhukova

Made By - Mohammad Imran Sheikh

LA- 194 A

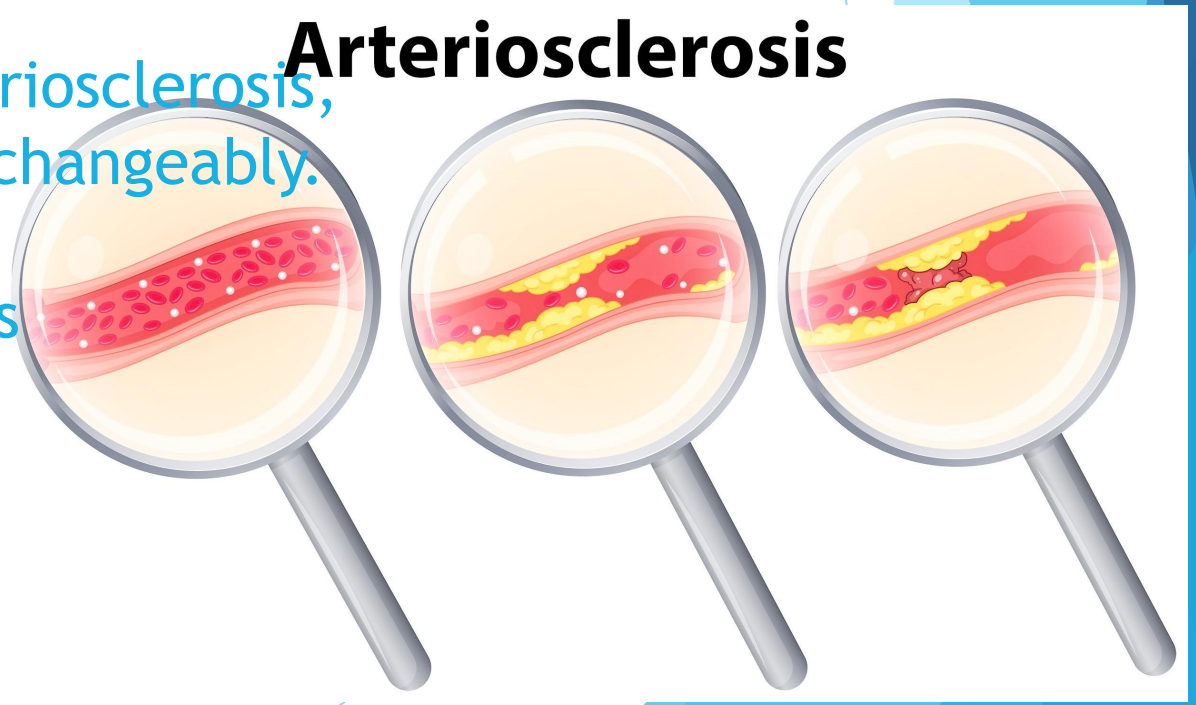
Phylogenic Disorders Of Circulatory System…



Arteriosclerosis

Arteriosclerosis occurs when the blood vessels that carry oxygen and nutrients from your heart to the rest of your body (arteries) become thick and stiff — sometimes restricting blood flow to your organs and tissues. Healthy arteries are flexible and elastic, but over time, the walls in your arteries can harden, a condition commonly called hardening of the arteries.

Atherosclerosis is a specific type of arteriosclerosis, but the terms are sometimes used interchangeably. Atherosclerosis refers to the buildup of fats, cholesterol and other substances in and on your artery walls (plaque), which can restrict blood flow.



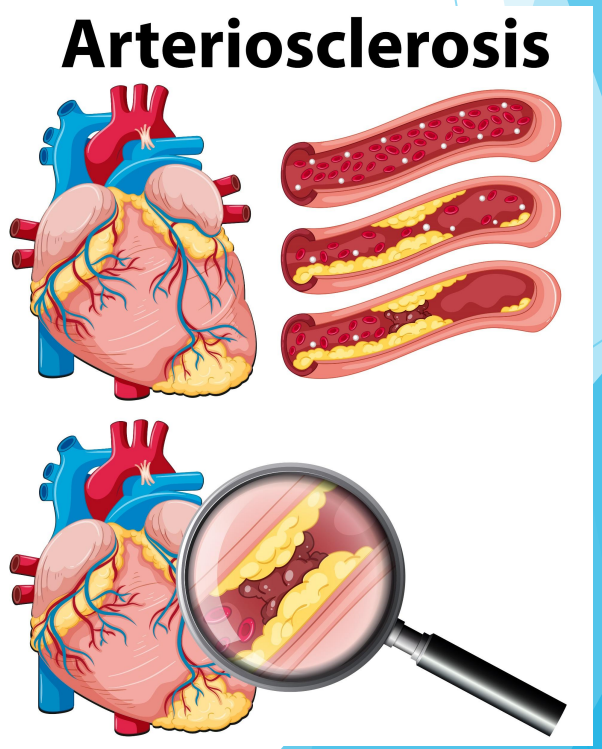
Symptoms

Symptoms of moderate to severe atherosclerosis depend on which arteries are affected. For example:

1. **If you have atherosclerosis in your heart arteries,** you may have symptoms, such as chest pain or pressure (angina).

2.If you have atherosclerosis in the arteries in your arms and legs, you may have symptoms of peripheral artery disease, such as leg pain when walking (claudication).

3.If you have atherosclerosis in the arteries leading to your kidneys, you develop high blood pressure or kidney failure.



Complications

The complications of atherosclerosis depend on which arteries are blocked. For example:

Coronary artery disease. When atherosclerosis narrows the arteries close to your heart, you may develop coronary artery disease, which can cause chest pain (angina), a heart attack or heart failure.

Carotid artery disease. When atherosclerosis narrows the arteries close to your brain, you may develop carotid artery disease, which can cause a transient ischemic attack (TIA) or stroke.

Chronic kidney disease. Atherosclerosis can cause the arteries leading to your kidneys to narrow, preventing oxygenated blood from reaching them. Over time, this can affect your kidney function, keeping waste from exiting your body.

Risk Factors

Hardening of the arteries occurs over time. Besides aging, factors that increase the risk of atherosclerosis include:

High blood pressure
High cholesterol
Diabetes
Obesity
Smoking and other tobacco use
A family history of early heart disease
Lack of exercise
An unhealthy diet.

Peripheral Artery Disease

Peripheral artery disease (also called peripheral arterial disease) is a common circulatory problem in which narrowed arteries reduce blood flow to your limbs.

When you develop peripheral artery disease (PAD), your extremities — usually your legs — don't receive enough blood flow to keep up with demand. This causes symptoms, most notably leg pain when walking (claudication).

Peripheral Artery Disease Symptoms

You may have muscle pain or cramping because there's less blood flow to your legs. This type of pain is called claudication. You usually feel it when you walk or climb stairs, but it stops when you rest.

It can affect different muscle groups, including:

Buttock and hip

Calf (most common)

Foot (less common)

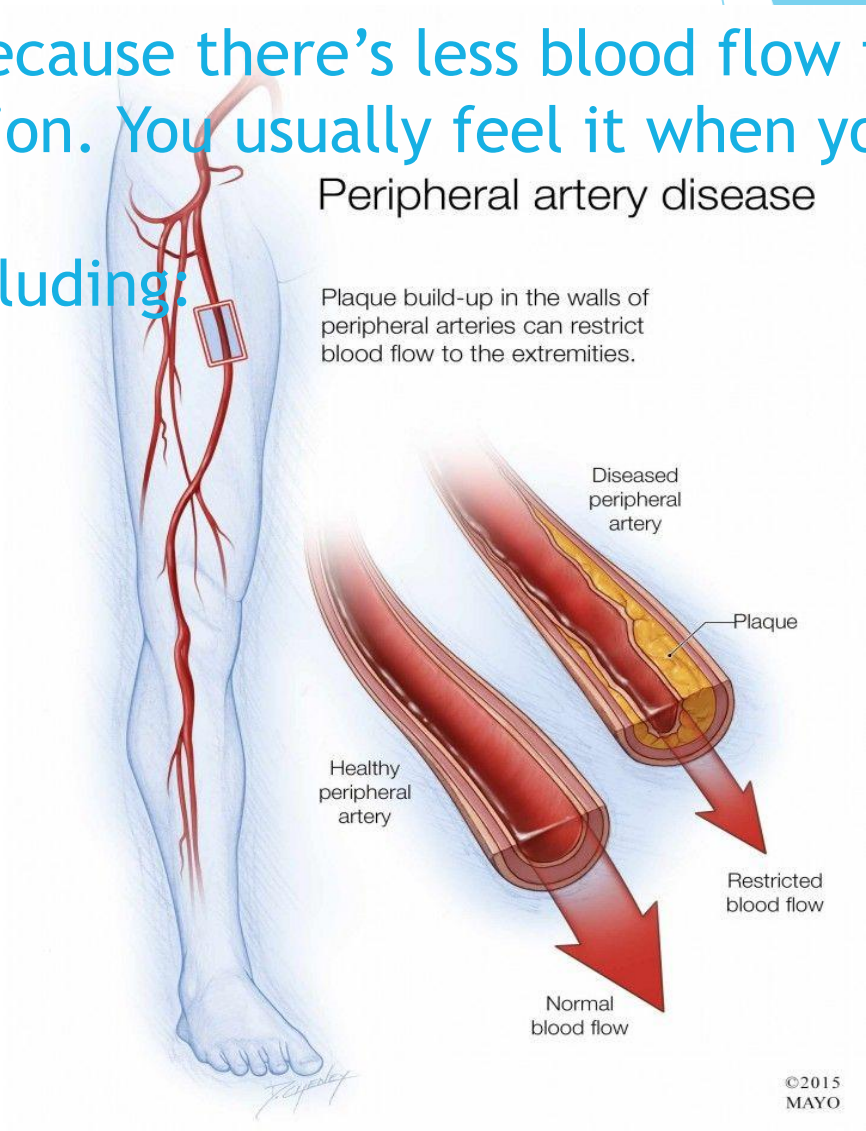
Thigh

Changes in the color of your legs

Erectile dysfunction

Leg weakness

Legs that are cooler than your arms.



Peripheral Artery Disease Causes and Risk Factors

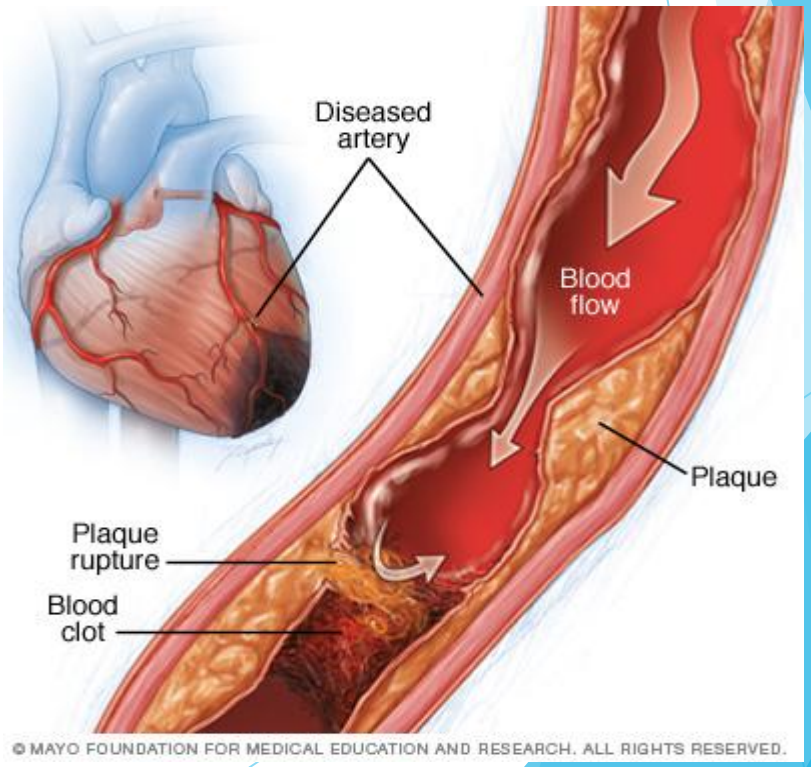
Things in your bloodstream like fat and cholesterol form plaques that build up in your arteries. That makes those arteries harder and narrower. This condition, called atherosclerosis, is the most common cause of peripheral artery disease. Things that raise your risk of having peripheral artery disease include:

1. Painful cramping in one or both of your hips, thighs or calf muscles after certain activities, such as walking or climbing stairs (claudication)
2. Leg numbness or weakness
3. Coldness in your lower leg or foot, especially when compared with the other side
4. Sores on your toes, feet or legs that won't heal
5. A change in the color of your legs
6. Hair loss or slower hair growth on your feet and legs
7. Slower growth of your toenail.

Myocardial Ischemia

Myocardial ischemia occurs when blood flow to your heart is reduced, preventing the heart muscle from receiving enough oxygen. The reduced blood flow is usually the result of a partial or complete blockage of your heart's arteries (coronary arteries).

Myocardial ischemia, also called cardiac ischemia,reduces the heart muscle's ability to pumpblood. A sudden, severe blockage of one of the heart's artery can lead to a heart attack. Myocardial ischemia might also cause serious abnormal heart rhythms.



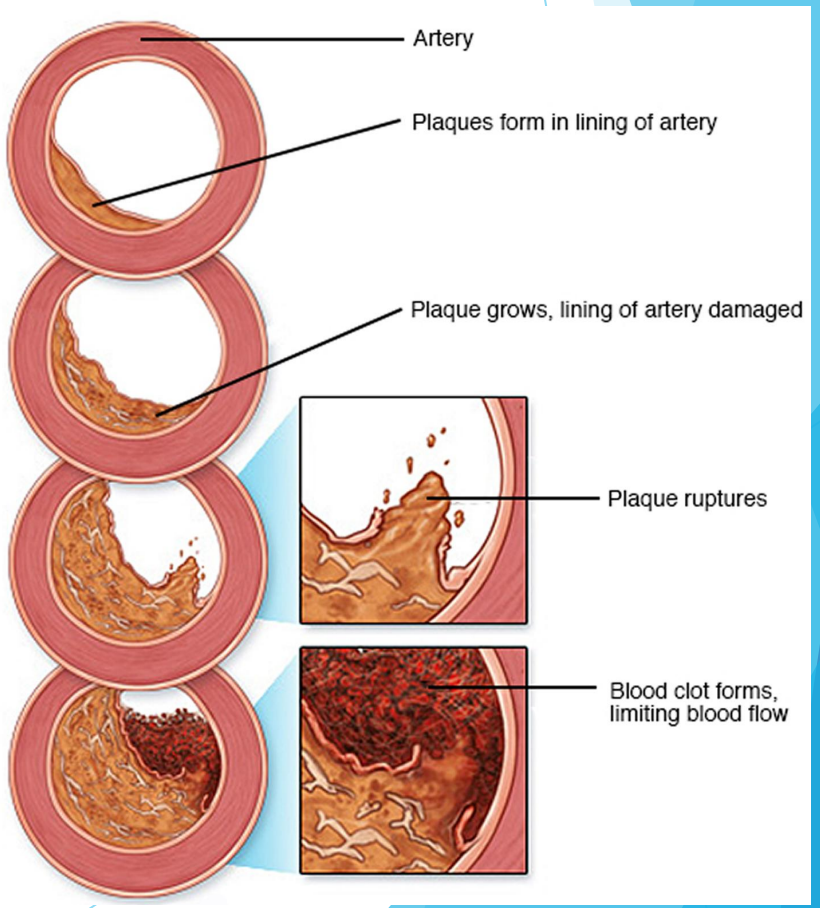
Causes

Myocardial ischemia occurs when the blood flow through one or more of your coronary arteries is decreased. The low blood flow decreases the amount of oxygen your heart muscle receives.
Myocardial ischemia can develop slowly as arteries become blocked over time. Or it can occur quickly when an artery becomes blocked suddenly.
Conditions that can cause myocardial ischemia include:

1. Coronary artery disease (atherosclerosis). Plaques made up mostly of cholesterol build up on your artery walls and restrict blood flow. Atherosclerosis is the most common cause of myocardial ischemia.

2. Blood clot. The plaques that develop in atherosclerosis can rupture, causing a blood clot. The clot might block an artery and lead to sudden, severe myocardial ischemia, resulting in a heart attack. Rarely, a blood clot might travel to the coronary artery from elsewhere in the body.

3. Coronary artery spasm. This temporary tightening of the muscles in the artery wall can briefly decrease or even prevent blood flow to part of the heart muscle. Coronary artery spasm is an uncommon cause of myocardial ischemia.



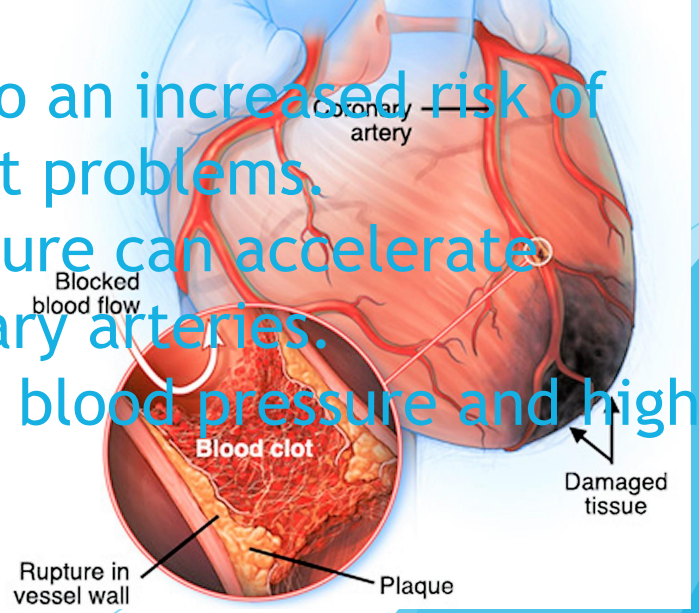
Factors that can increase your risk of developing myocardial ischemia include:

Tobacco. Smoking and long-term exposure to secondhand smoke can damage the inside walls of arteries. The damage can allow deposits of cholesterol and other substances to collect and slow blood flow in the coronary arteries. Smoking causes the coronary arteries to spasm and may also increase the risk of blood clots.

Diabetes. Type 1 and type 2 diabetes are linked to an increased risk of myocardial ischemia, heart attack and other heart problems.

High blood pressure. Over time, high blood pressure can accelerate atherosclerosis, resulting in damage to the coronary arteries.

Obesity. Obesity is associated with diabetes, high blood pressure and high blood cholesterol levels.



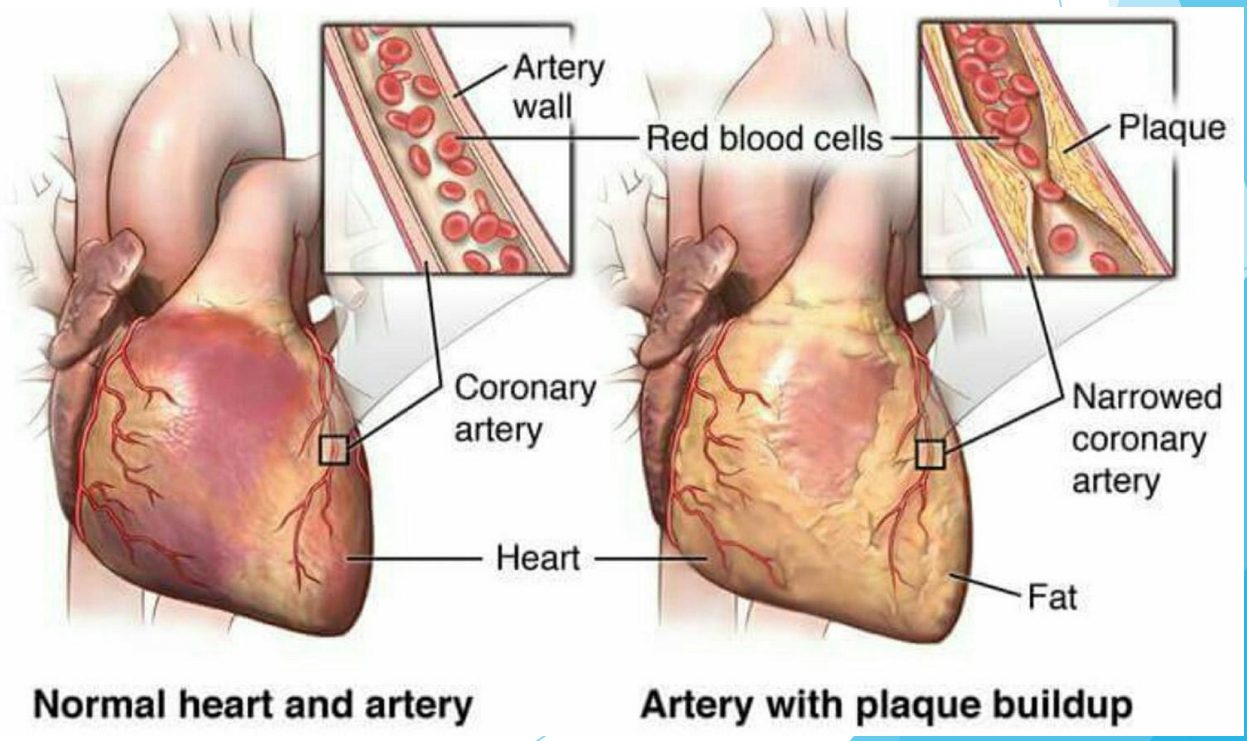
Complications

Myocardial ischemia can lead to serious complications, including:

1. Heart attack. If a coronary artery becomes completely blocked, the lack of blood and oxygen can lead to a heart attack that destroys part of the heart muscle. The damage can be serious and sometimes fatal.

2. Irregular heart rhythm (arrhythmia). An abnormal heart rhythm can weaken your heart and may be life-threatening.

3. Heart failure. Over time, repeated episodes of ischemia may lead to heart failure.

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