

Alterations of Cardiovascular Function

➤ **Varicose veins**

- A vein in which blood has pooled
- Varicose veins are swollen and enlarged veins that usually occur on the legs and feet. They may be blue or dark purple, and are often lumpy, bulging or twisted in appearance. Other symptoms include: aching, heavy and uncomfortable legs.
- **Risk factors:**
- Age, Female gender, Family History, Obesity, Pregnancy, leg injury, vein thrombosis

➤ **Chronic Venous Insufficiency**

- Inadequate venous return over a long period due to varicose vein or valvular incompetence

➤ **Deep Venous Thrombosis**

- Obstruction of venous flow leading to increase venous pressure
- **Risk factors:**
- Cancer, orthopedic surgery\ trauma, heart failure , immobility

➤ Hypertension

High blood pressure, also called hypertension, is blood pressure that is higher than normal. Your blood pressure changes throughout the day based on your activities. Having blood pressure measures consistently above normal may result in a diagnosis of high blood pressure (or hypertension).

Isolated systolic hypertension, becoming prevalent in all age groups

Elevation of systolic pressure are caused by increases in cardiac output

Total peripheral vascular resistance or both

When symptoms do occur, they can include **early morning headaches, nosebleeds, irregular heart rhythms, vision changes, and buzzing in the ears**. Severe hypertension can cause fatigue, nausea, vomiting, confusion, anxiety, chest pain, and muscle tremors.

➤ Orthostatic postural hypotension

Decrease in both systolic and diastolic blood pressure upon standing

Lack of normal blood pressure compensation in response to gravitational change on the circulation. Types : Acute or Chronic Orthostatic Hypotension

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➤ **Aneurysm**

Local dilation of vessel wall or cardiac chambers. It can be True Or False Aneurysms

An aneurysm is an abnormal bulge or ballooning in the wall of a blood vessel. An aneurysm can burst (rupture), causing internal bleeding and often leading to death. Aneurysms usually don't cause symptoms, so you might not know you have an aneurysm even if it's large.

➤ **Thrombus formation**

Blood clot that remains attached to the vessel wall

Risk factors include intimal injury\ inflammation, obstruction of flow.

Thromboembolism, Thrombophlebitis, Arterial Thrombi, Venous Thrombi

Thrombus formation begins **when platelets bind to collagen exposed at the site of vascular injury**. Such binding leads to platelet activation, as a result of which platelet membranes acquire the ability to provide catalytic support for the biochemical reactions that lead to thrombin formation

➤ **Embolism**

Bolus of matter that is circulating in the bloodstream.

It can be: Air bubble, Amniotic fluid, Aggregate of fat, Bacteria, Cancer cells and Foreign substance.

An embolism is a blocked artery caused by a foreign body, such as a blood clot or an air bubble.

The body's tissues and organs need oxygen, which is transported around the body in the bloodstream.

A pulmonary embolism (PE) occurs when **a blood clot gets stuck in an artery in the lung, blocking blood flow to part of the lung**. Blood clots most often start in the legs and travel up through the right side of the heart and into the lungs. This is called deep vein thrombosis (DVT)

➤ **Peripheral artery disease**

➤ Atherosclerotic or **Arteriosclerosis**(Chronic disease of the arterial system)

➤ Atherosclerosis is a common condition that develops when a sticky substance called plaque builds up inside your arteries so it is thickening or hardening of the arteries caused by a **buildup of plaque in the inner lining of an artery**. Risk factors may include high cholesterol and triglyceride levels, high blood pressure, smoking, diabetes, obesity, physical activity, and eating saturated fats.

Abnormal thickening and hardening of the vessel walls.