

# MEDICAL TERMINOLOGY

## Cardiovascular System

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The cardiovascular system includes a complex network of arteries, veins, capillaries, and the main structure, the heart, which pumps blood throughout your entire body.

The heart is located in the center of your chest, slightly to the left, in an area called the mediastinum.

It has three layers:

the outer lining, called the **epicardium**;

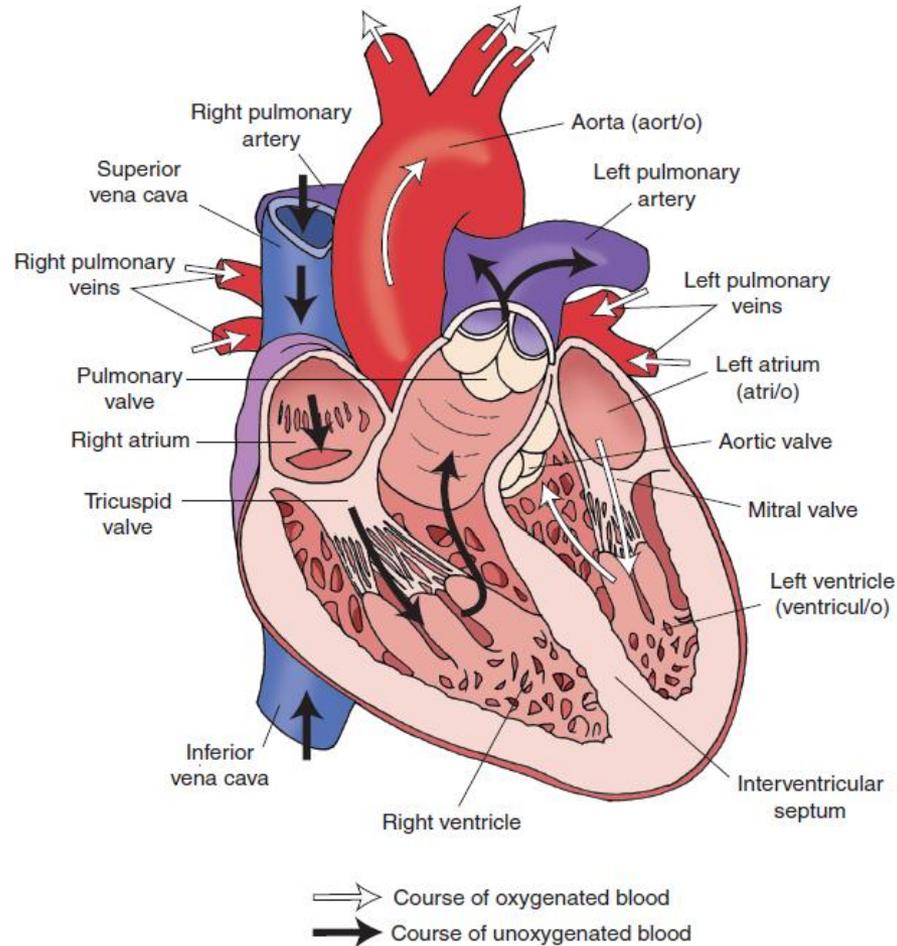
the middle muscular layer, called the  
**myocardium**;

and the inner lining, called the **endocardium**.

The heart is enclosed in a fibrous membrane called the **pericardium**, or **pericardial sac**, which also contains a small amount of pericardial fluid. This fluid acts as a lubricant that reduces friction as the heart repeatedly contracts and relaxes.

The heart has two upper chambers, the right and left atria, which perform about 30% of the work, and two larger, lower chambers, the right and left ventricles, which perform the other 70% of the work.

The left ventricle is the largest and most muscular chamber, because it works harder than the others. The right and left sides of the heart are divided by a thick layer of muscle tissue called the **septum**.



# Valves

**Mitral Valve:** Valve that separates the left atrium and the left ventricle and prevents back-flow from the ventricle to the atrium

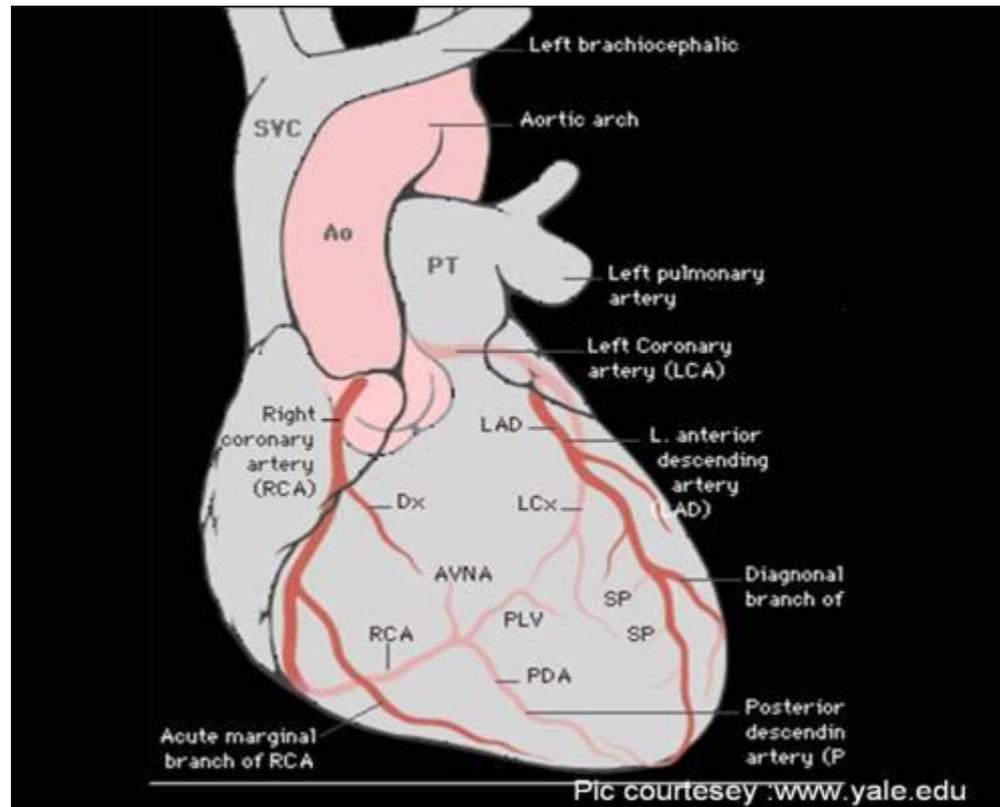
**Tricuspid Valve:** Valve that separates the right atrium and the right ventricle and prevents back-flow from the ventricle to the atrium

**Aortic valve**, which is the valve that prevents back-flow of blood from the aorta into the left ventricle.

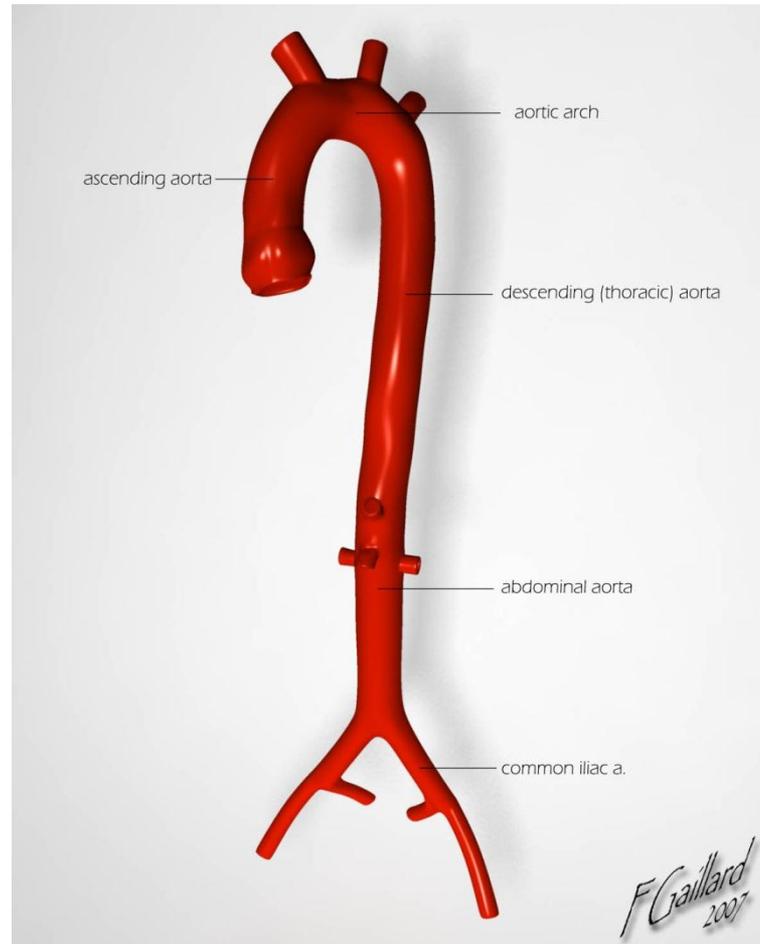
**Pulmonary:** Relating to the lungs. it is the valve that prevents back-flow of blood from the pulmonary artery into the right ventricle

## Arteries and Vein :

**Coronary:** Relating to the heart, two arteries that originate in the aorta and supply blood directly to heart tissue



**The aorta** is the main and largest artery in the human body, originating from the left ventricle of the heart and extending down to the abdomen, where it splits into two smaller arteries. The aorta distributes oxygenated blood to all parts of the body through the systemic circulation



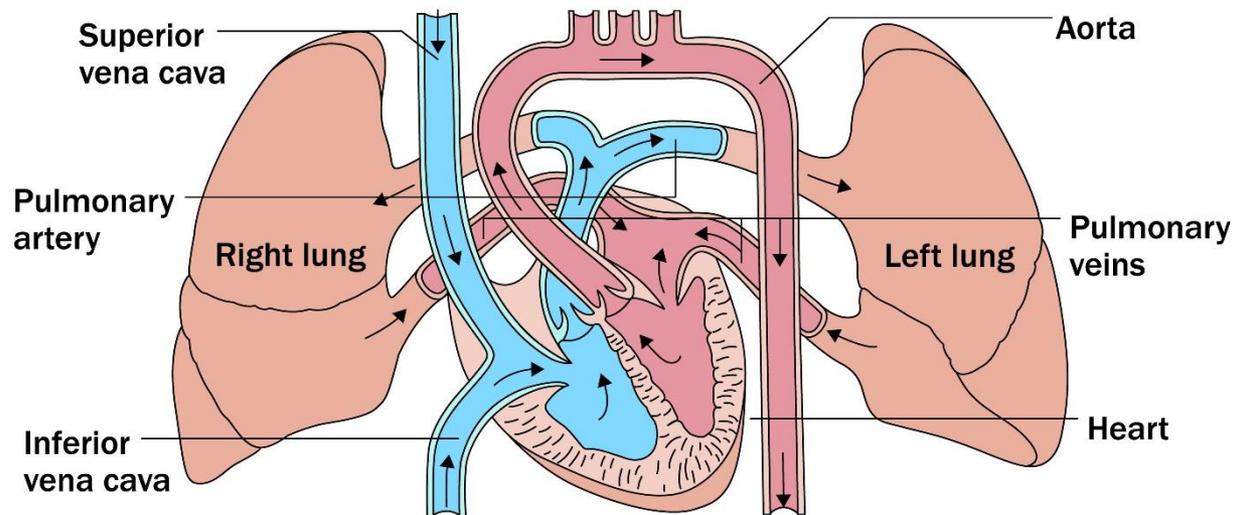
## Pulmonary artery :

A pulmonary artery is an artery in the pulmonary circulation that carries deoxygenated blood from the right side of the heart to the lungs. The largest pulmonary artery is the main pulmonary artery or pulmonary trunk from the heart, and the smallest ones are the arterioles, which lead to the capillaries that surround the pulmonary alveoli

## **Pulmonary vein :**

The pulmonary veins are the veins that transfer oxygenated blood from the lungs to the heart. The largest pulmonary veins are the four main pulmonary veins, two from each lung that drain into the left atrium of the heart. The pulmonary veins are part of the **pulmonary circulation**

## Pulmonary circulation

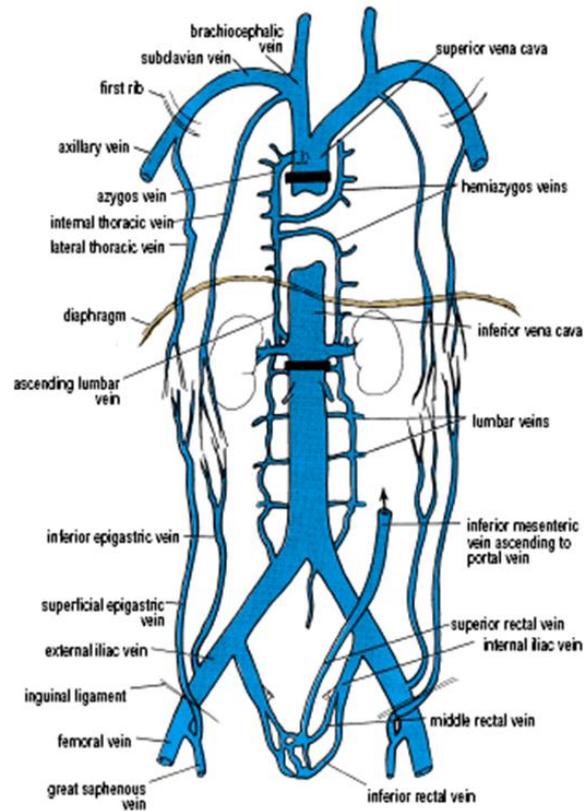


## Vena Cavae:

The inferior vena cava is a large vein that carries the deoxygenated blood from the lower and middle body into the right atrium of the heart

Superior vena cava carries the deoxygenated blood from the upper half of the body into the right atrium of the heart.

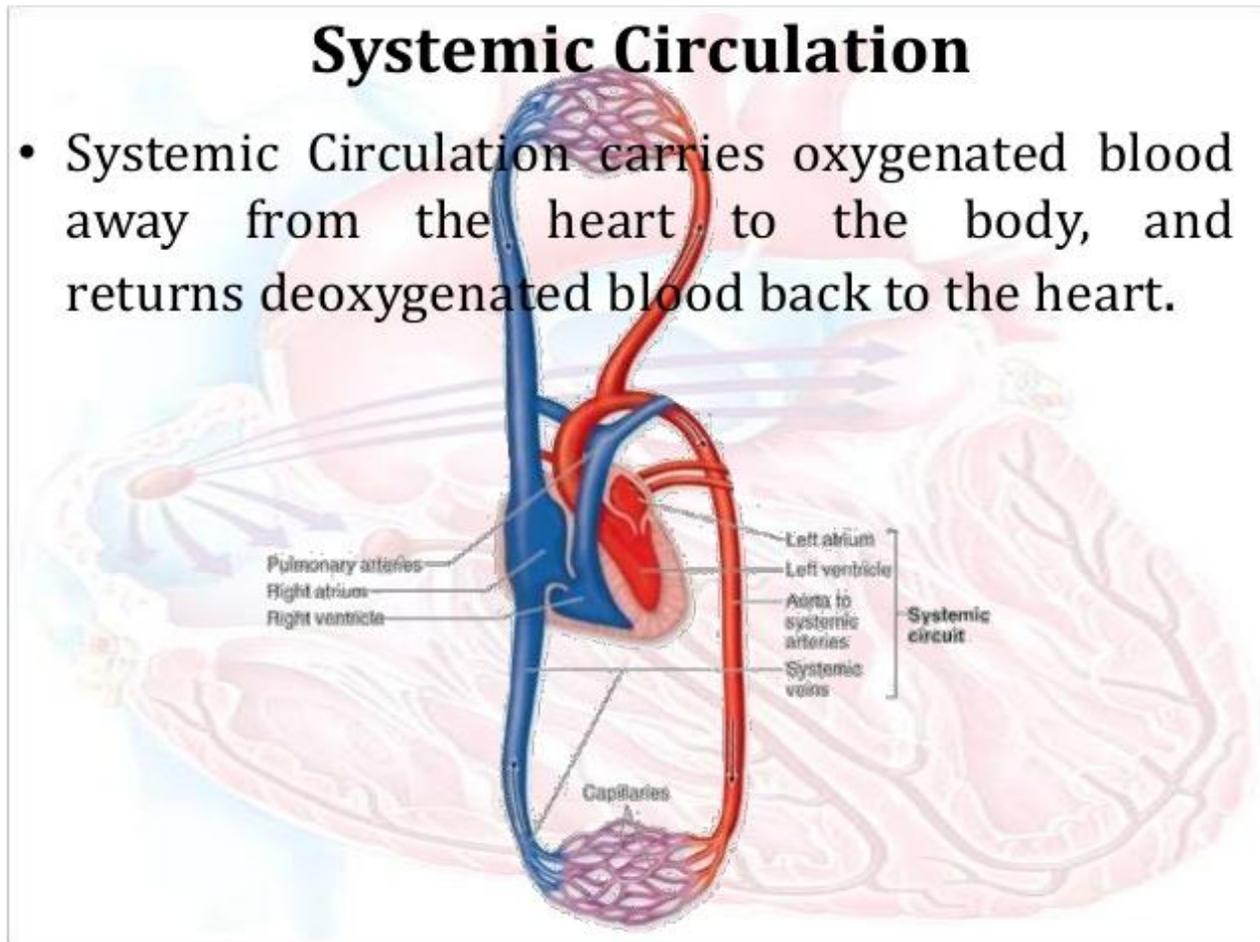
The Blood Vessels of the Abdomen, Pelvis, and Perineum 115



CD Figure 8-3 The possible collateral circulations of the superior and inferior venae cavae. Note the alternative pathways that exist for blood to return to the right atrium of the heart if the superior vena cava becomes blocked below the entrance of the azygos vein (upper black bar). Similar pathways exist if the inferior vena cava becomes blocked below the renal veins (lower black bar). Note also the connections that exist between the portal circulation and the systemic veins in the anal canal.

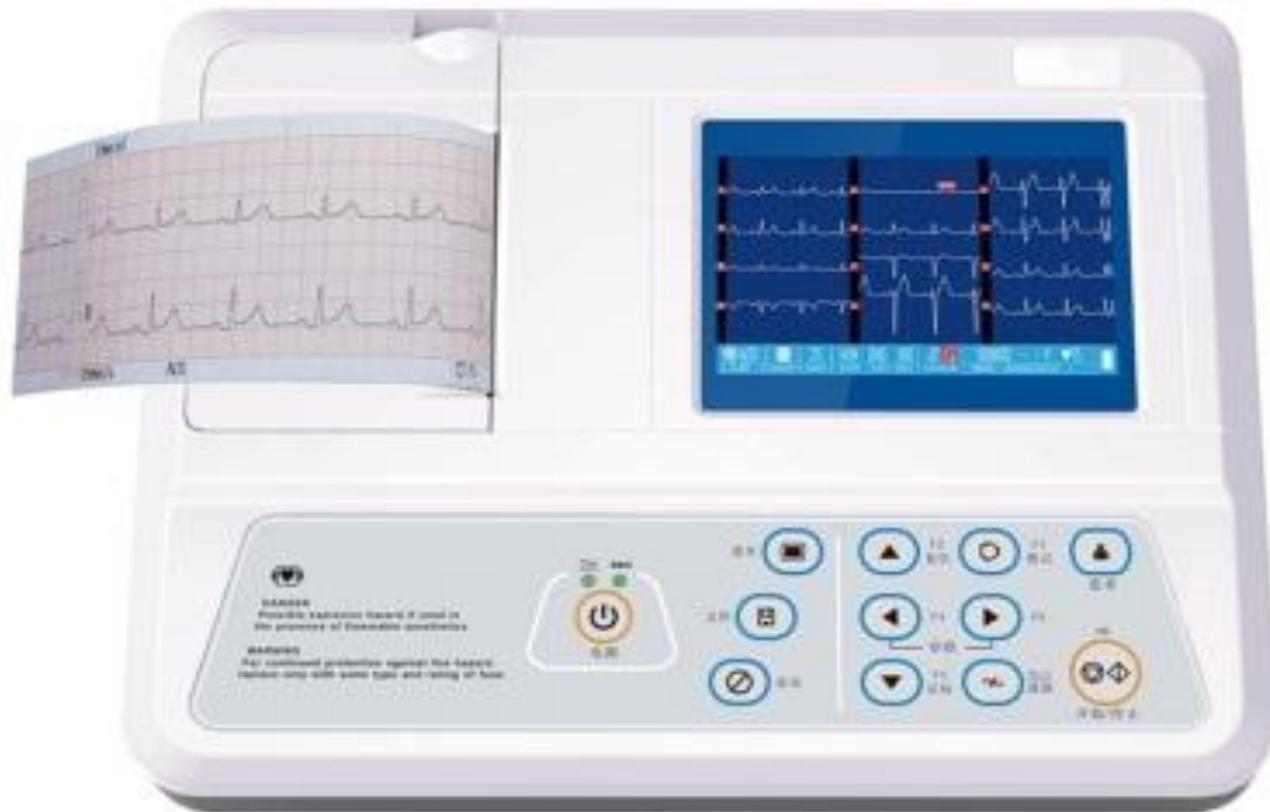
## Systemic Circulation

- Systemic Circulation carries oxygenated blood away from the heart to the body, and returns deoxygenated blood back to the heart.



## Electrocardiography :

is the process of producing an electrocardiogram (ECG), a recording – a graph of voltage versus time – of the electrical activity of the heart using electrodes placed on the skin. These electrodes detect the small electrical changes that are a consequence of cardiac muscle depolarization followed by repolarization during each cardiac cycle (heartbeat). Changes in the normal ECG pattern occur in numerous cardiac abnormalities, including cardiac rhythm...





## Brief Description of Selected Clinical Terms

**Anemia:** A deficiency in the oxygen-carrying material of the blood.

**Aneurysm:** A pathological blood-filled dilatation of a blood vessel.

**Angina pectoris:** Chest pain caused by insufficient blood flow to the heart muscle.

**Arrhythmia:** Irregular heartbeat.

**Atherosclerosis:** An accumulation of fat-containing deposits on arterial walls.

**Bradycardia:** Excessively slow heartbeat.

**Cyanosis:** A condition in which a person's skin is discolored to a bluish hue because of inadequate oxygenation of the blood.

**Diastole:** Normal period of relaxation and dilatation of the heart cavities

**Dilatation:** the condition of being abnormally dilated or enlarged.

**Dyspnea:** Difficulty in breathing.

**Cardiomyopathy:** this disease weakens the heart muscle and causes left ventricular dilation leading to increased diastolic pressure and volume.

**Hypertension:** A condition in which a person's blood pressure is abnormally high. For normal adults, the pressure should be less than 130 mmHg systolic and less than 85 mmHg diastolic. Pressures above 140/90 indicate a mild form of hypertension; above 180/110 is considered severe.

**Insufficiency:** a condition in which a valve is not able to prevent back-flow of blood. The resulting back-flow is termed a regurgitation.

**Ischemia:** Localized loss of blood supply due to a mechanical obstruction.

**Prolapse:** Floppy valve, associated with regurgitation

**Regurgitation:** Back-flow of blood through an insufficient valve. (For example, mitral valve regurgitation.).

**Stenosis:** Constriction of a passage. Used typically when there is a narrowing of a valve opening (for example, mitral valve stenosis) or of a blood vessel.

**Syncope:** A brief loss of consciousness caused by temporary lack of oxygenated blood.

**Systole:** Period of contraction of the heart during which blood is ejected from the ventricles

**Tachycardia:** Excessively rapid heartbeat.

**Antihypertensive:** an agent that reduces high blood pressure.

**Antithrombotic:** an agent used to prevent or interfere with the formation of a thrombus (a blood clot in a blood vessel or within the heart )

 **Thank you for your  
attention !**

