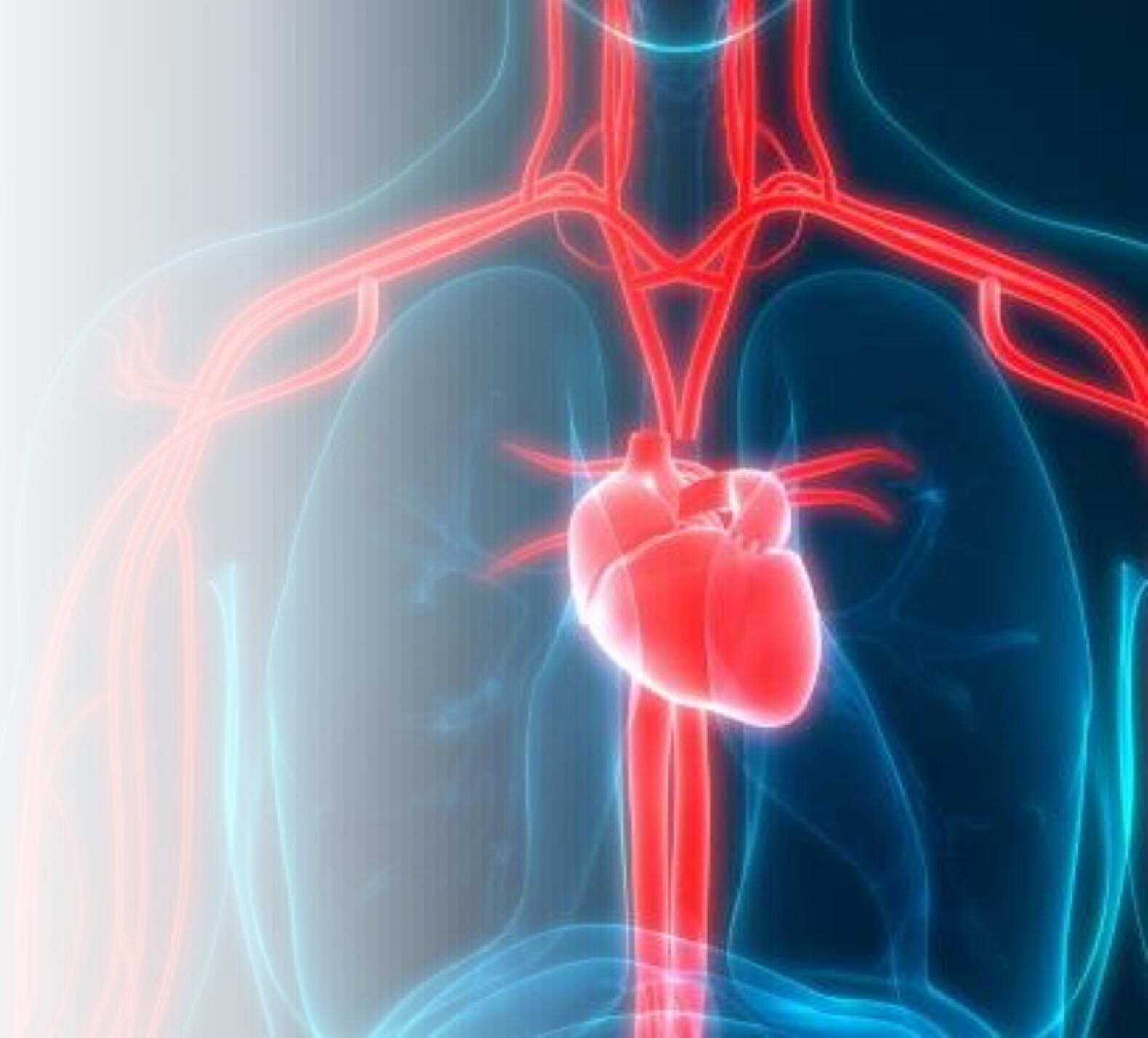




English language and medical terminology

Cardiovascular system



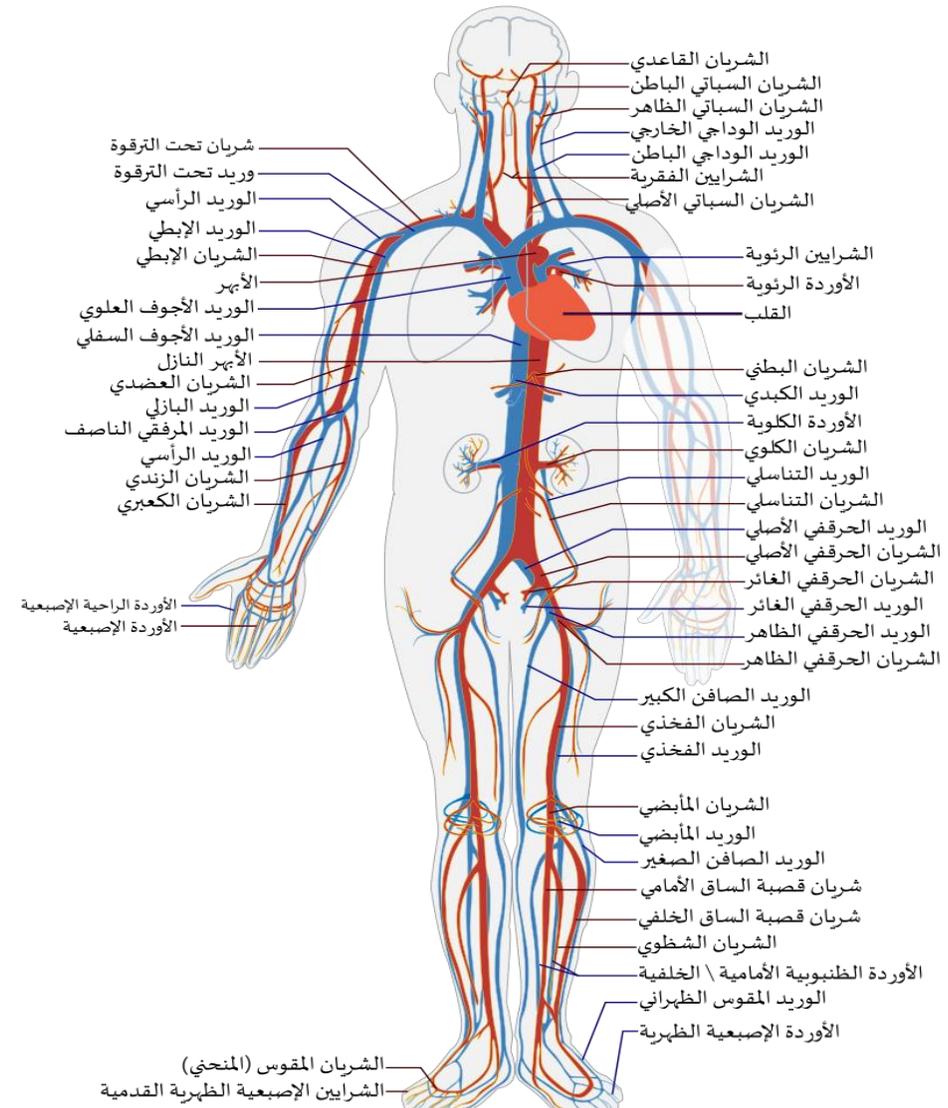
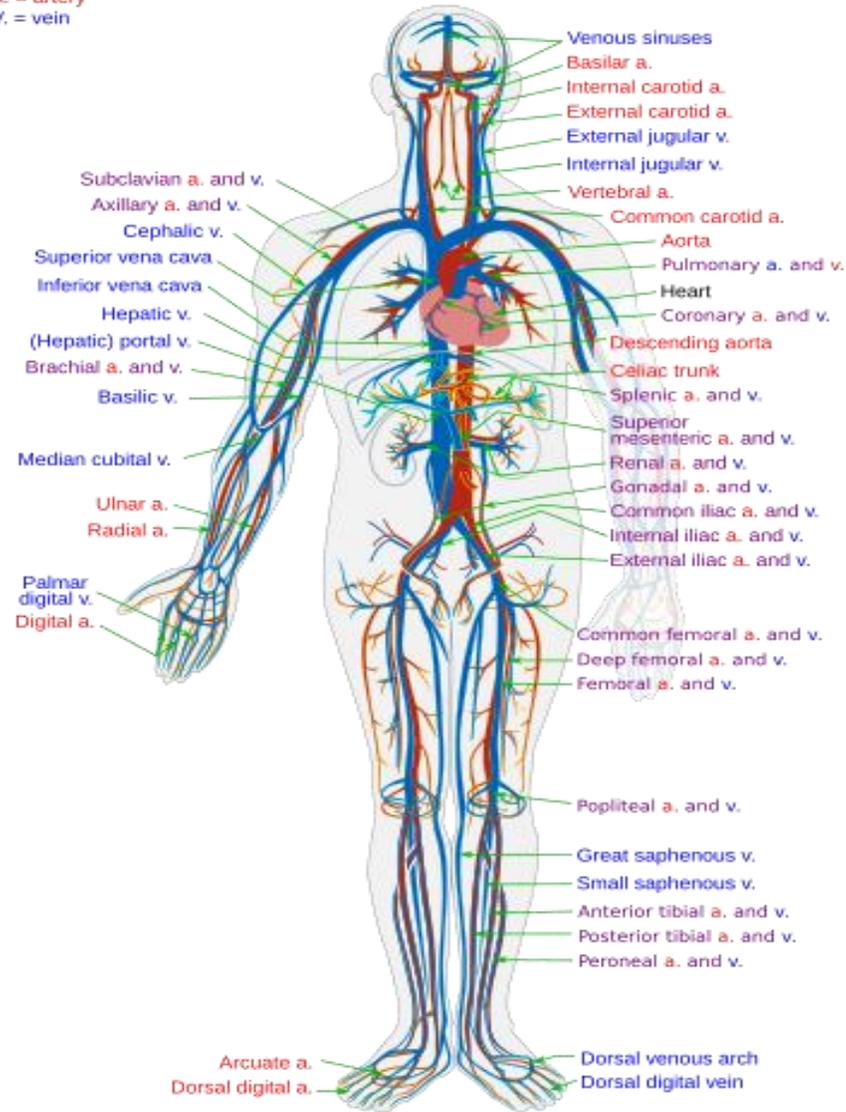
The Circulatory System

The circulatory system is a **system of organs** that includes the heart, blood vessels, and blood which is circulated throughout the entire body of a human or other vertebrate. It includes the **cardiovascular system**, or **vascular system**, that consists of the heart and blood vessels (from Greek kardia meaning heart, and from Latin vascula meaning vessels).

The circulatory system can be divided into three types of circulation: pulmonary (lung), systemic (whole-body), and portal (intestine, liver, and spleen). The functions of the circulatory system are:

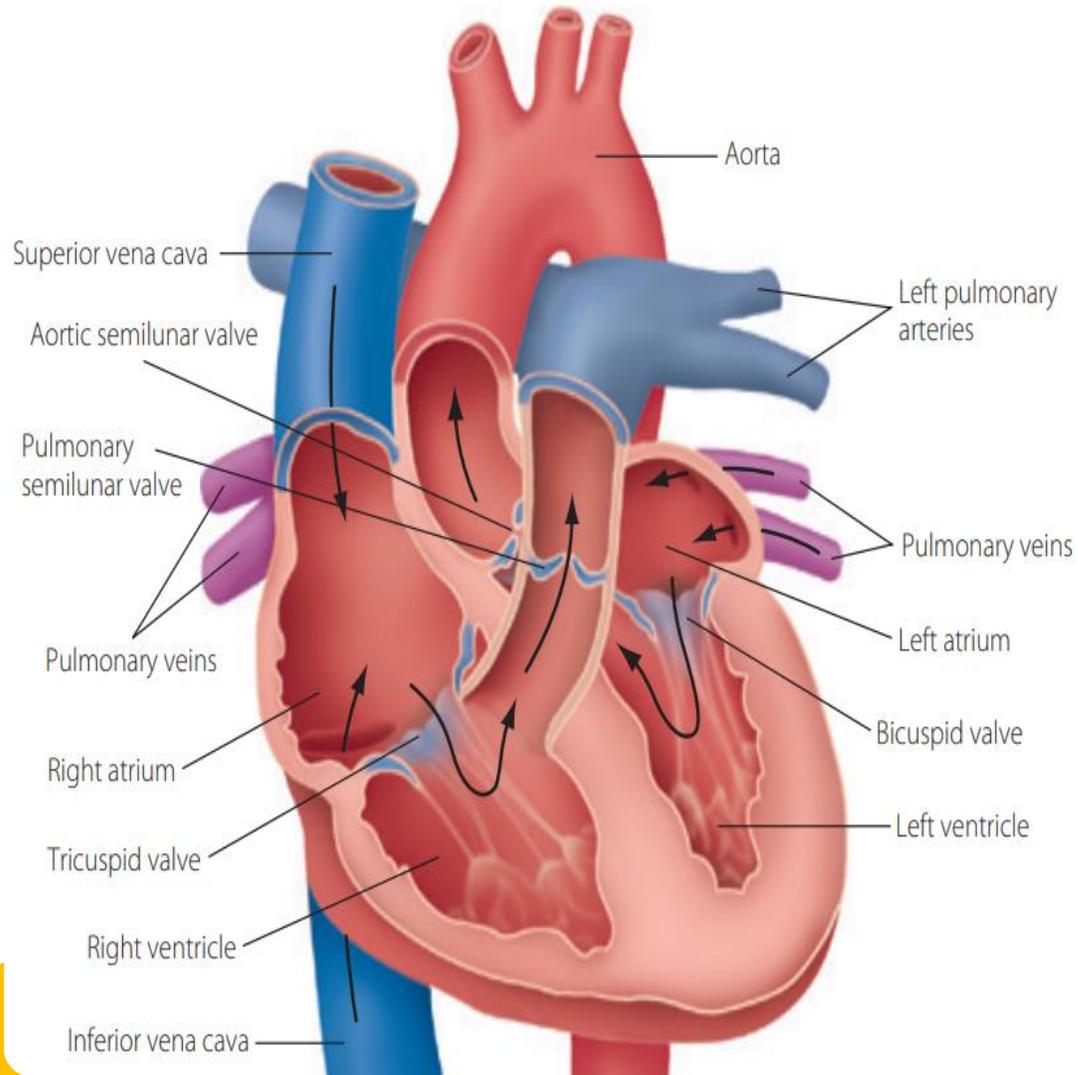
- 1. Transport:** Gases, hormones, minerals, enzymes, and other vital substances are carried in the blood to every cell in the body; all waste materials are carried by the blood to the lungs, skin, or kidneys for elimination from the body (pulmonary circulation).
- 2. Body temperature:** The blood vessels maintain body temperature by dilating at the skin surface to dissipate heat or by constricting to retain heat.
- 3. Protection:** The blood and lymphatic systems protect the body against injury and foreign invasion through the immune system; blood clotting mechanisms protect against blood loss.
- 4. Buffering:** Blood proteins provide an acid–base buffer system to maintain the optimum pH of the blood.

A. = artery
V. = vein

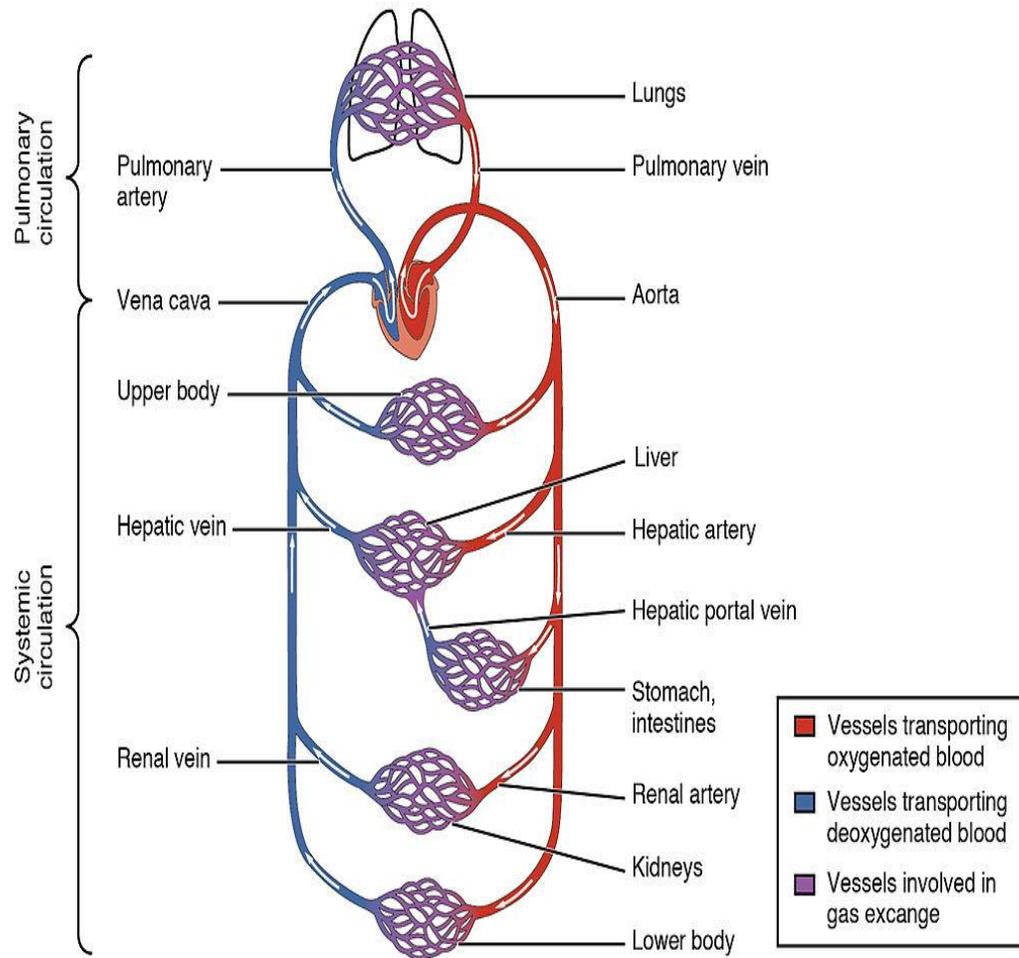


The human circulatory system (simplified). Red indicates oxygenated blood carried in arteries. Blue indicates deoxygenated blood carried in veins. Capillaries join the arteries and veins.

THE HEART



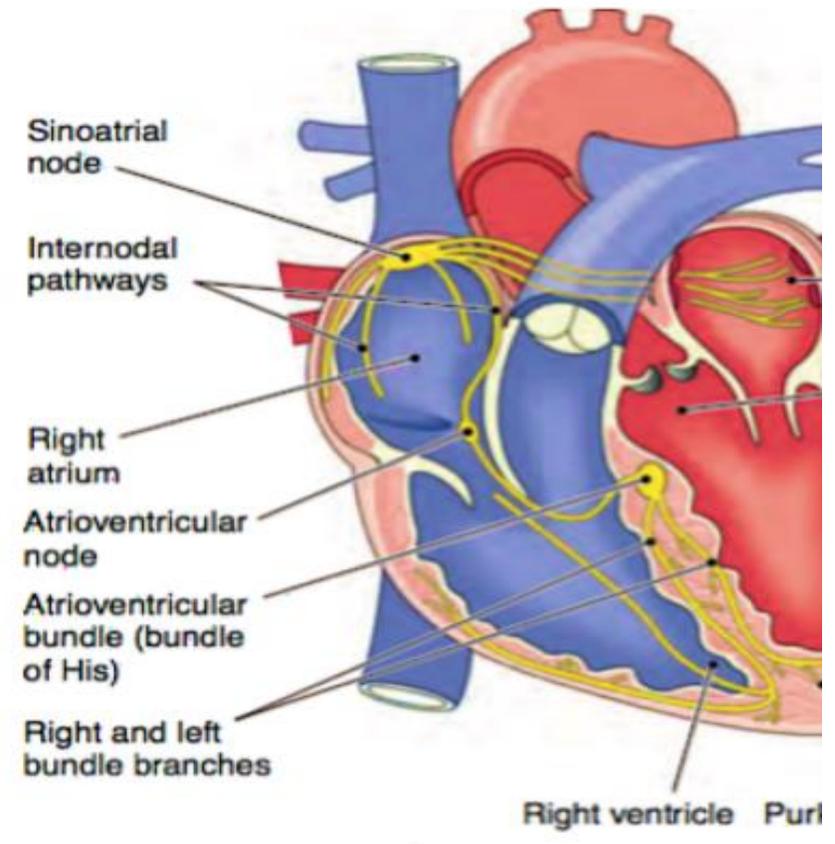
The heart pumps blood to all parts of the body providing nutrients and oxygen to every cell and removing waste products. The left heart pumps oxygenated blood returned from the lungs to the rest of the body in the systemic circulation. The right heart pumps deoxygenated blood to the lungs in the pulmonary circulation. In the human heart there is one **atrium** and one **ventricle** for each circulation, and with both a systemic and a pulmonary circulation there are four chambers in total: left atrium, left ventricle, right atrium and right ventricle. The right atrium is the upper chamber of the right side of the heart.



Blood is a fluid consisting of plasma, red blood cells, white blood cells, and platelets; it is circulated around the body carrying oxygen and nutrients to the tissues and collecting and disposing of waste materials. Circulated nutrients include proteins and minerals, and other components include hemoglobin, hormones, and gases such as oxygen and carbon dioxide. These substances provide nourishment, help the immune system to fight diseases, and help maintain homeostasis by stabilizing temperature and natural pH.

THE CARDIOVASCULAR SYSTEM

- **Blood** circulates throughout the body in the **cardiovascular system**, which consists of the **heart** and the blood **vessels**. This system forms a continuous circuit that
- delivers oxygen and nutrients to all cells and carries away waste products. The lymphatic system also functions in circulation. Its vessels drain fluid and proteins left in the tissues and return them to the bloodstream. The lymphatic system plays a part in immunity and in the digestive process as well.



Blood Vessels	Pronunciation	Definition
artery	<u>ar</u> -ter-e	a vessel in which blood flows away from the heart, carrying oxygenated blood
aorta	a- <u>or</u> -tah	the great artery arising from the left ventricle; largest artery
arterioles	ar- <u>ter</u> -ri-oles	the smallest arteries in which blood flows into capillaries where blood is exchanged with venules
coronary arteries	<u>kor</u> -o-ner'-e <u>ar</u> -ter-es	arteries from the base of the aorta that supply the heart muscle with blood
vein	vân	a vessel in which blood flows toward the heart, carrying blood with little oxygen
vena cava	<u>ve</u> -nah <u>ca</u> -vah	largest vein. <i>Inferior</i> : The venous trunk for the lower viscera. <i>Superior</i> : The venous trunk draining blood from head, neck, upper limbs, and thorax
venules	<u>ve</u> -nules	the smallest veins in which blood flows into capillaries where blood is exchanged with arterioles
capillary	<u>kap</u> -i-ler'-e	a minute, hair-like vessel connecting arterioles and venules

Term	Pronunciation	Definition
diastolic pressure	di-ah- <u>stol</u> -ic <u>pres</u> -ur	the bottom number of a blood pressure reading; taken during the dilation of the heart, especially of the ventricles
normal blood pressure (BP)		an acceptable range for systolic pressure is <120 and for diastolic < 80; usually recorded as ⁸⁰ / ₁₂₀
hypertension	hi'-per- <u>ten</u> -shun	persistently high arterial blood pressure with diastolic pressures > 90 and systolic pressure > 140
systolic pressure	sis- <u>tol</u> -ic <u>pres</u> -ur	the top number in a blood pressure reading; reflects pressure during the contraction of the heart, especially of the ventricles

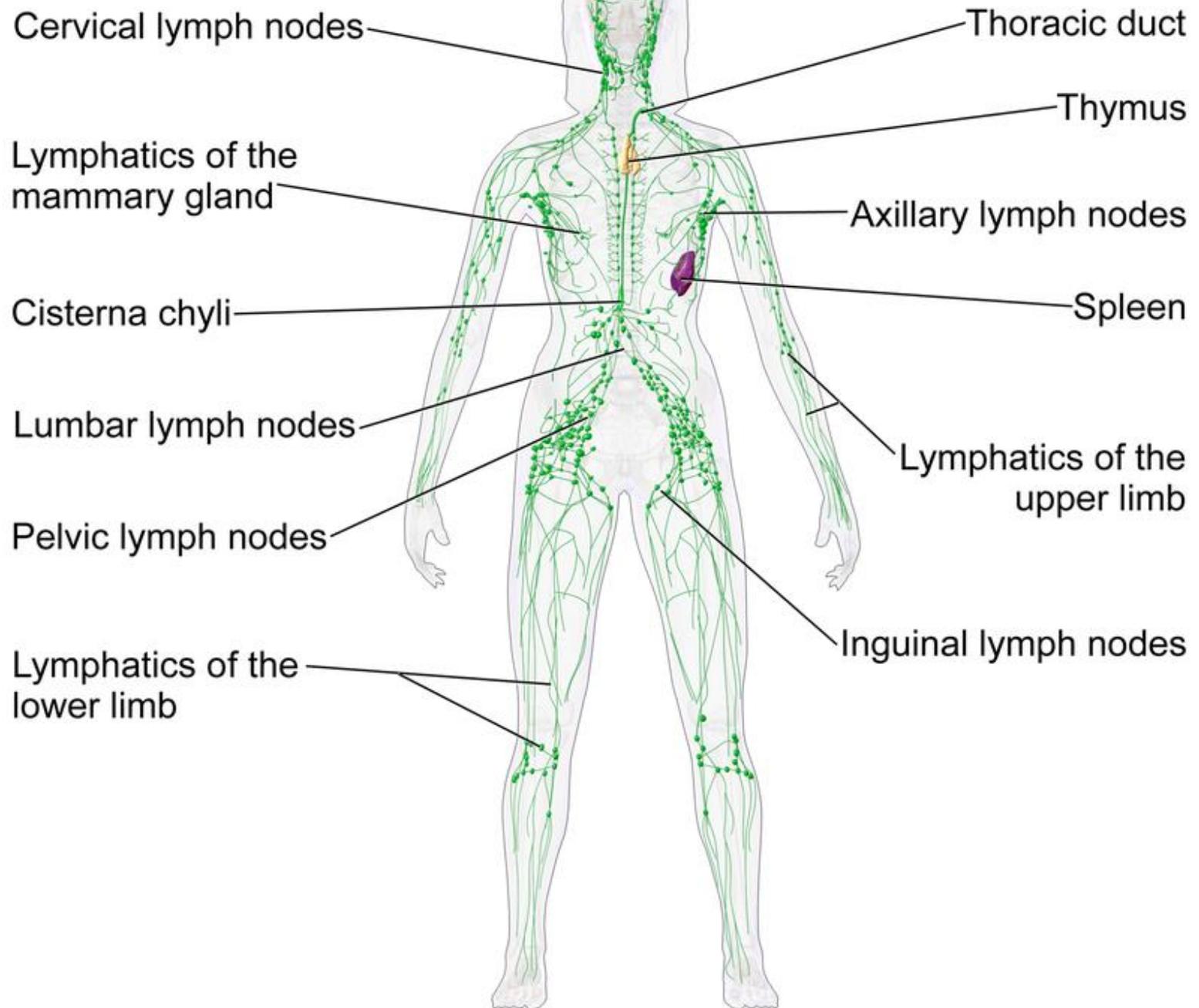
Lymphatic System

The lymphatic system is a widely distributed system with multiple functions. **Its role in circulation is to return excess fluid and proteins from the tissues to the bloodstream.**

It consists of a large network of lymphatic vessels, lymph nodes, lymphoid organs, lymphoid tissues, and lymph. Lymph is a clear fluid carried by the lymphatic vessels back to the heart for re-circulation. The Latin word for lymph, *lymphā*, refers to the deity of fresh water, "Lympha".

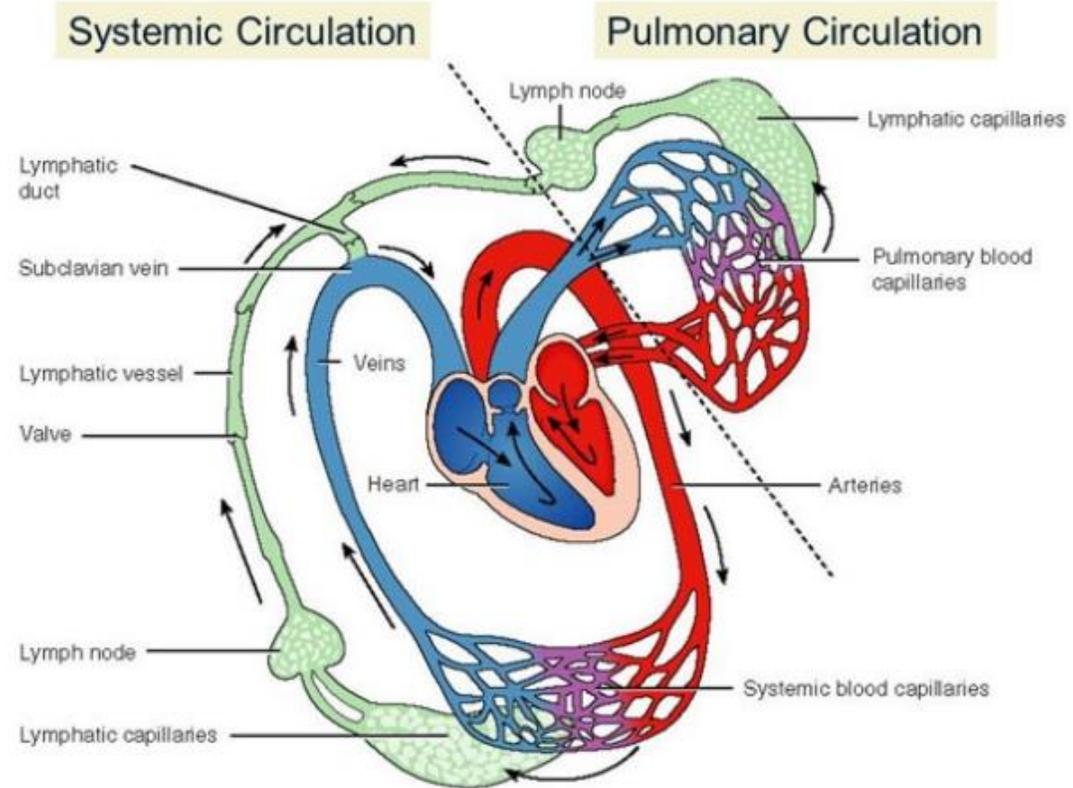
Components of the lymphatic system include lymph fluid, lymph vessels, lymph nodes, and lymphocytes. The functions of this system are:

- 1.** Transporting fluid from the tissues back to the bloodstream.
- 2.** Assisting in controlling infection caused by microorganisms.
- 3.** Transporting fats away from the digestive organs.



Lymphatic Circulation

Another major function of the lymphatic system is **to protect the body from impurities and invading microorganisms**. Along the path of the lymphatic vessels are small masses of lymphoid tissue, the lymph nodes. Their function is to filter the lymph as it passes through. They are concentrated in the cervical (neck), axillary (armpit), mediastinal (chest), and inguinal (groin) regions.



Arrows show direction of flow of lymph and blood

Abbreviation	Definition	Abbreviation	Definition
ASD	arterial septal defect	DVT	deep vein thrombosis
ASHD	arteriosclerotic heart disease	ECG/EKG	electrocardiogram
AS	aortic stenosis	ECHO	echocardiogram
AV	atrioventricular	Hg/Hb	hemoglobin
BNP	B-type natriuretic peptide	HDL	high-density lipoprotein
BP	blood pressure	LDL	low-density lipoprotein
CABG	coronary artery bypass graft	Mono	mononucleosis
CBC	complete blood count	MRI	magnetic resonance imaging
CCU	coronary care unit	MVP	mitral valve prolapse
CHF	congestive heart failure	O ₂	oxygen
CO ₂	carbon dioxide	PAD/PVD	peripheral artery disease/ peripheral vascular disease
CPR	cardiopulmonary resuscitation	PET	positron emission tomography
CVA	cerebrovascular accident	PT	prothrombin time
DASH	Dietary Approaches to Stop Hypertension	PTCA	percutaneous transluminal coronary angioplasty
DOE	dyspnea on exertion	PVC	premature ventricular contractions

Thank

you

