

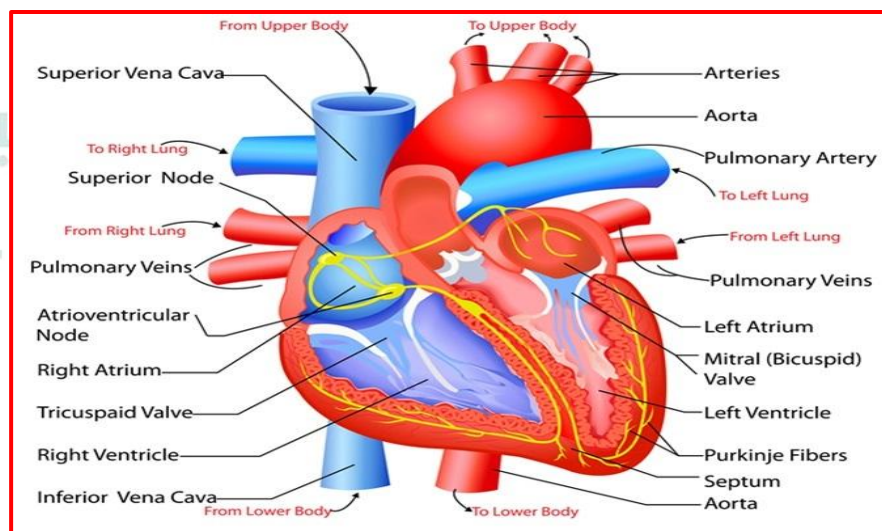
Terminology of the cardiovascular system

The cardiovascular system is responsible for circulating blood throughout the body. It is made up of the **heart** and **blood vessels** and functions as a continuous loop that delivers oxygen and nutrients to all cells while removing waste products.

The **lymphatic system** also contributes to circulation by draining excess fluids and proteins from body tissues and returning them to the bloodstream. In addition, it plays an important role in immunity and the digestive process.

The Heart

The heart is situated between the lungs, with its tip, known as the apex, pointing downward and to the left. Its wall is composed of three layers, all of which include the root “**cardi**,” meaning “**heart**.” These layers are arranged from the innermost layer to the outermost layer.



2. The Vascular System

The vascular system is made up of several types of blood vessels, each with a specific function:

1. Arteries, which transport blood away from the heart.
2. Arterioles, smaller branches of arteries that lead to the capillaries.
3. Capillaries, the tiniest blood vessels where the exchange of substances occurs between the blood and body tissues.
4. Venules, small vessels that collect blood from the capillaries and channel it into the veins.
5. Veins, which carry blood back to the heart.

Most arteries carry blood rich in oxygen, with the exception of the (**pulmonary artery** and the **umbilical artery** in the fetus). These vessels have thick, elastic walls that allow them to withstand and maintain high blood pressure.

In contrast, most veins carry blood that is low in oxygen, except for the (**pulmonary vein** and the **umbilical vein in the fetus**). Veins have thinner and less elastic walls, making them more likely to collapse under pressure. Similar to the heart, veins contain one-way valves that ensure blood flows in a single direction.

Root for the Heart			
Root	Meaning	Example	Definition of Example
cardi/o	heart	cardiomyopathy* kar-dē-ō-mī-OP-a-thē	any disease of the heart muscle
oatri/o	atrium	Atriotomy ā-trē-OT-ō-mē	surgical incision of an atrium
ventricul/o	cavity, ventricle	Supraventricular sū-pra-ven-TRIK-ū-lar	above a ventricle
valv/o, valvul/o	valve	Valvulotome VAL-vū-lō-tōm	instrument for incising a valve

Root for the Blood Vessels

Root	Meaning	Example	Definition of Example
angi/o	vessel	Angiography an-jĕ-OG-ra-fĕ	x-ray imaging of a vessel
vas/o, vascul/o	vessel, duct	Vasospasm VĀ-sō-spazm	sudden contraction of a vessel
arter/o, arteri/o	artery	endarterial end-ar-TĒ-rĕ-al	within an artery
ven/o, ven/i	vein	venous VĒ-nus	pertaining to a vein

Cardiovascular Disorders

Term	Definition
cerebrovascular accident (CVA) or stroke ser-e-brō-VAS-kū-lar	Sudden damage to the brain resulting from reduction of blood flow. Causes include atherosclerosis, embolism, thrombosis, or hemorrhage from a ruptured aneurysm; commonly called stroke
Arteriosclerosis ar-tĕr-ĕ-ō-skler-Ō-sis	Hardening (sclerosis) of the arteries, with loss of capacity and loss of elasticity, as from fatty deposits (plaque), deposit of calcium salts
angina pectoris an-JĪ-na PEK-tō-ris	A feeling of constriction around the heart or pain that may radiate to the left arm or shoulder, usually brought on by exertion; caused by insufficient blood supply to the heart
Tachycardia tak-i-KAR-dĕ-a	An abnormally rapid heart rate, usually over 100 bpm
Bradycardia brad-ĕ-KAR-dĕ-a	A slow heart rate, of less than 60 bpm
heart failure	A condition caused by the inability of the heart to maintain adequate blood circulation
Hypertension hĭ-per-TEN-shun	A condition of higher-than-normal blood pressure. Essential (primary, idiopathic) hyper-tension has no known cause
Edema e-DĒ-ma	Swelling of body tissues caused by the presence of excess fluid. Causes include cardiovascular disturbances, kidney failure, inflammation, and malnutrition

Roots, suffixes, and prefixes

Most medical terms are comprised of a root word plus a suffix (word ending) and/or a prefix (beginning of the word). Here are some examples related to the Respiratory System.

Prefixes for Respiration			
a- , an-	(absence of, without)	A/pnea = lack of breathing	
Ab-	away from	abnormal = away from the normal	
dys-	(difficult)	Dys/pnea = difficult breathing	
endo-	(within, in)	endoscope = an instrument to look inside the body cavities or organs	
eu-	(normal, good)	Eu/pnea – normal breathing	
hyper-	(above, excessive)	hyperventilate	
hypo-	(below, incomplete)	hypoventilation	
poly-	(many, much)	polycystic means characterized by many cysts	
tachy-	(fast, rapid)	Tachy/pnea- fast breathing	
Suffixes for Respiration			
Suffix	Meaning	Example	Definition of Example
-pnea	breathing	Orthopenia Or-THOP-nē-a	difficulty that is relieved by assuming an upright (ortho-) position
-oxia*	level of oxygen	Hypoxia hī-POK-sē-a	decreased amount of oxygen in the tissues
-capnia*	level of carbon dioxide	hypercapnia hī-per-KAP-nē-a	increased carbon dioxide in the tissues
*When referring to levels of oxygen and carbon dioxide in the blood, the suffix -emia is used, as in hypoxemia, hypercapnemia.			
-phonia	difficulty in speaking	dysphonia dis-FŌ-nē-a	difficulty in speaking

Root word of Respiratory System

Word Root	Definition
alveol(o) الحويصلات الهوائية	through, channel, cavity. Pertains to alveolus.
bronch(o) الشعب الهوائية	bronchus
trache(o) القصبة	trachea, windpipe
laryng(o) الحنجرة	larynx
nas(o) الانف	nose
pneumon(o) للدلالة على الرئتين أو الهواء	lung
pulm(o) كل ما يتعلق بالرئتين والجهاز التنفسي السفلي	lung
thorac(o) أي شيء متعلق بمنطقة الصدر	chest
pharyng(o) البلعوم	pharynx
rhin(o) الانف	nose, nose like

Respiratory System Vocabulary

Alveolar duct	Small tube that leads from the terminal bronchiole to the respiratory bronchiole and is the point of attachment for alveoli.
Alveolitis	Inflammation of the alveoli.
Bronchitis	Inflammation of the bronchus
Laryngitis	Inflammation of the larynx.
Laryngopharynx	One of the three regions of the pharynx; inferior to the oropharynx and posterior to the larynx.
Laryngoscope	Examination of the larynx with a mirror or laryngoscope.
Nasopharyngitis	Inflammation of the nose and pharynx.
Nasopharynx	The upper part of the throat behind the nose. An opening on each side of the nasopharynx leads into the ear.
Oropharynx	A passageway for both air and food; borders the nasopharynx and the oral cavity.
Pharyngitis	Inflammation of the pharynx.
Pharynx	A tube formed by skeletal muscle and lined by mucous membrane that is continuous with that of the nasal cavities; also known as the throat

Pleural effusion	An abnormal collection of fluid between the thin layers of tissue (pleura) lining the lung and the wall of the chest cavity.
Pneumonia	A severe inflammation of the lungs in which the alveoli (tiny air sacs) are filled with fluid.
Pulmonary edema	Fluid accumulation in alveoli and bronchioles (related to heart failure).
Pulmonary embolism	A blood clot within the lung.
Tonsillitis	Inflammation of the tonsils.



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