

Al-Mustaqbal University College
Department of Pharmacy
First Stage
Medical Terminology
Lecture: 3



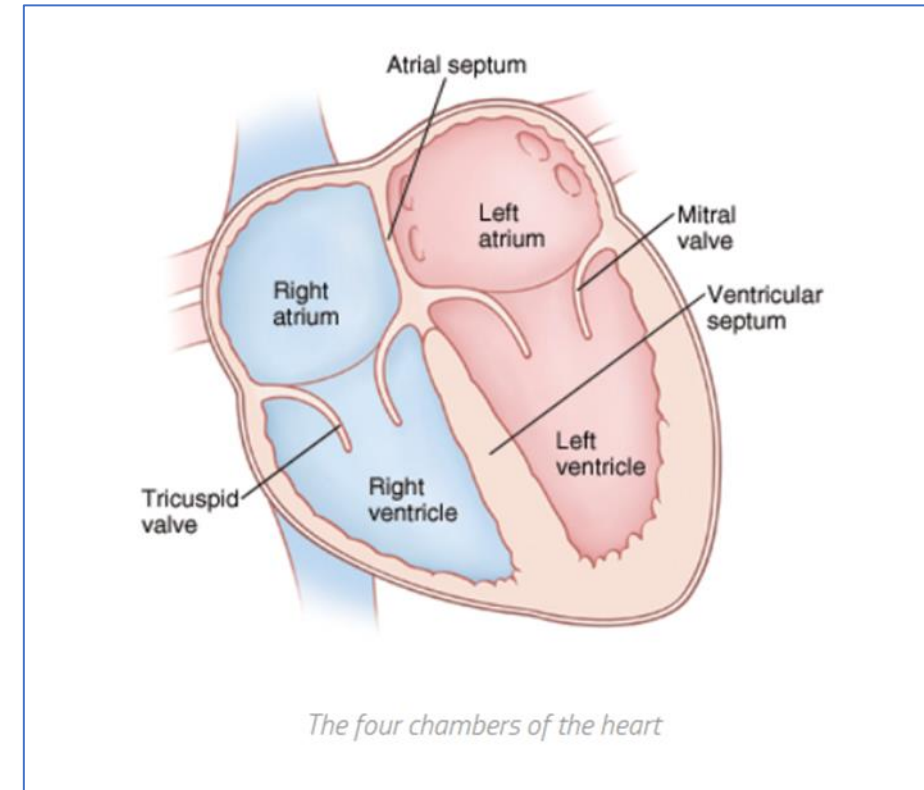
Cardiovascular system

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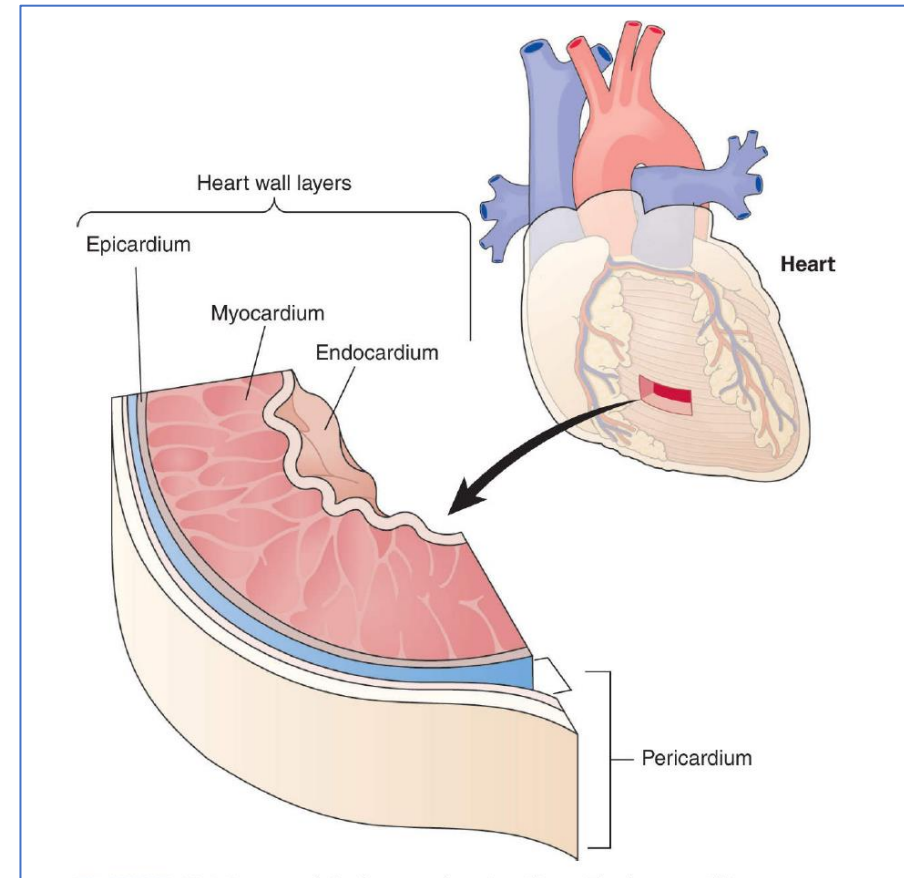
CARDIOVASCULAR SYSTEM

- The **cardiovascular system** (CVS) is composed mainly from the **heart** and **blood vessels**.
- The medical word for heart: is the **Latin** word **Cardium**, which is often combined with other words in the forms **cardi** or **cardio**.
- The heart consists of **four chambers**:
 1. The upper two chambers are called an **atrium** (plural: atria).
 2. The lower two chambers are called **ventricles** (also called ventriculi).



HEART WALL LAYERS

- The heart wall is composed of **three layers**:
 1. The **endocardium** layer: is the innermost which lines the heart's chambers and covers its valves. **Endo-** is a Greek prefix that means **within**.
 2. The **myocardium**: is the heart muscle itself.
 3. The **epicardium**: is the outer layer, **Epi-** is a Greek prefix that means **on**.
- The heart is protected by a thin sac called the **pericardium**. **Peri-** is a Greek prefix that means **around**.



COMMON WORD ELEMENTS RELATED TO THE HEART

Root	Refers to
Cardi/o	heart
Aort/o	aorta
Atri/o	atrium
Ventricul/o	ventricle
Valv/o	valve

HEART DISORDERS AND PROCEDURES

- Pericarditis (inflammation of the pericardium)
- Valvulitis (inflammation of a heart valve)
- Myocarditis (inflammation of the heart muscle)
- Carditis (inflammation of the heart)
- Tachycardia (also called tachyarrhythmia; abnormally rapid heartbeat)
- Cardiac arrest (cessation of heart activity)
- Cardiomegaly (enlargement of the heart)
- Cardiology (medical specialty dealing with the heart)
- Cardiologist (heart specialist)

MEDICAL TERMS ASSOCIATED WITH CARDIOVASCULAR DISORDERS

- **Cyanosis:** a bluish-purple of the skin due to reduced oxygen attached to the red cells that indicate a problem in the heart or lungs.
- **Arrhythmia (dysrhythmia):** means the lack of normal heart rhythm (indicated by the prefix a-).
- **Bradycardia:** a slow heartbeat, usually less than 60 beats/minute.
- **Tachycardia:** refers to a resting heartbeat greater than 100 beats/minute.
- **Thrombophlebitis:** is an acute condition characterized by inflammation and thrombus formation.

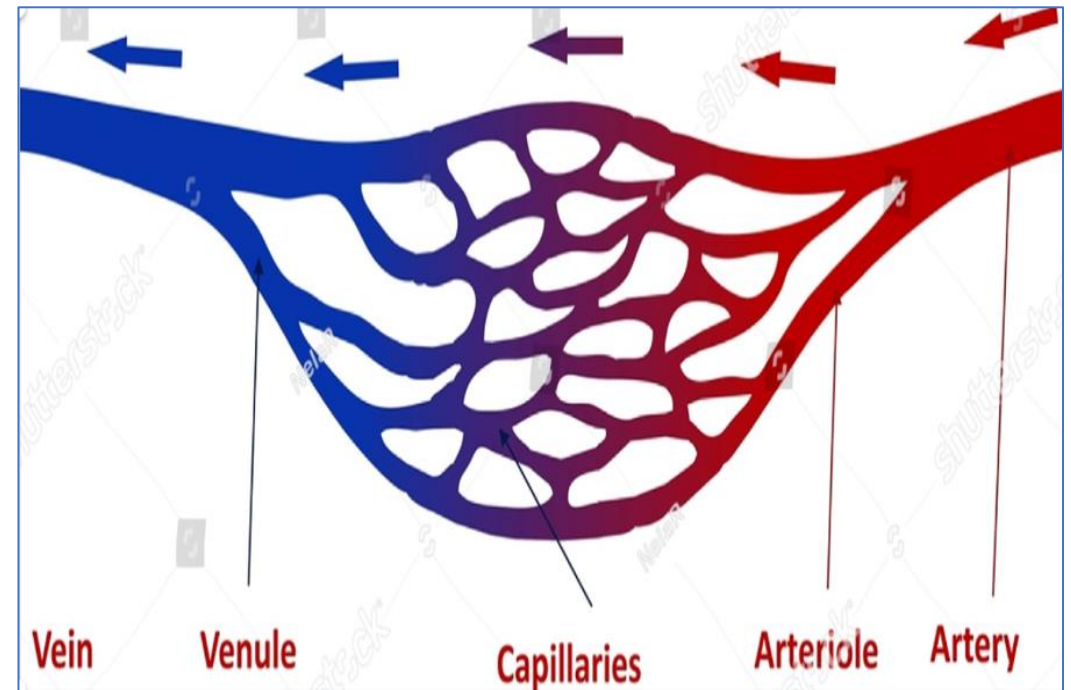


COMMON WORD RELATED TO THE BLOOD AND BLOOD VESSELS

Root word	Refer to
Angi/o, vas/o	vessel
Arteri/o	artery
Phleb/o, ven/o	vein
Thromb/o	Thrombus (clot)
Hemat/o	blood

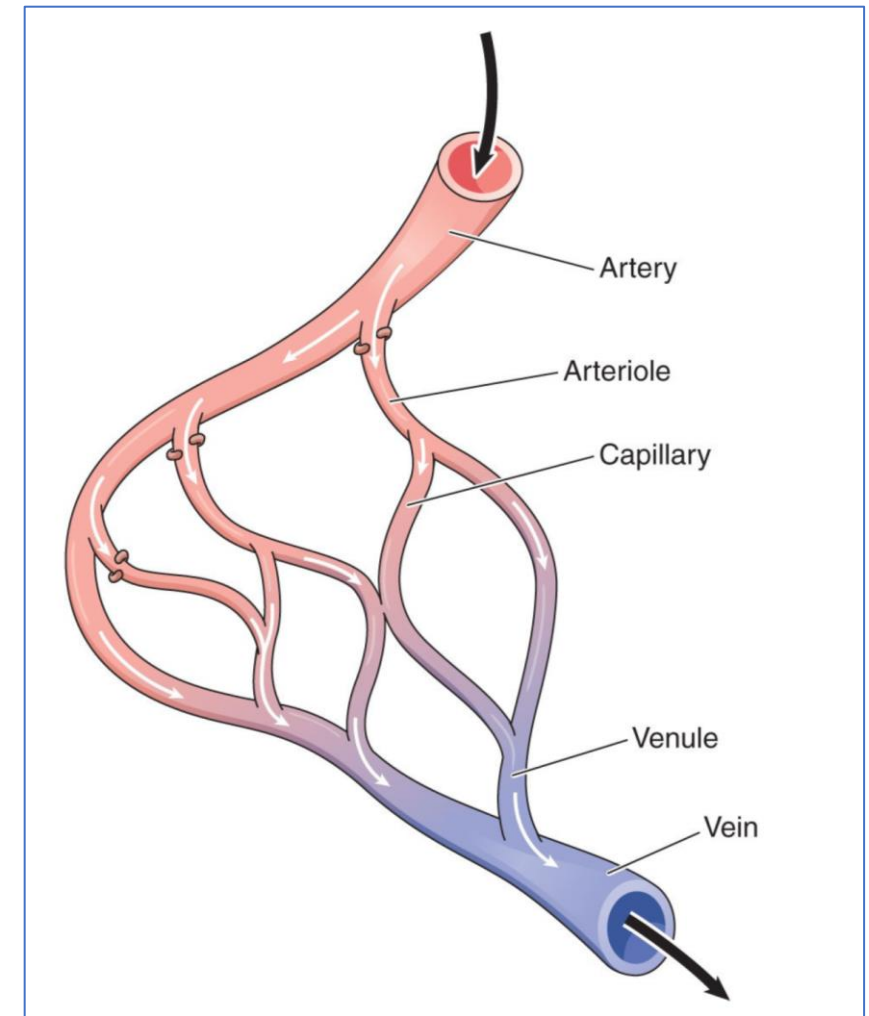
VASCULAR NETWORK

- The **peripheral** vascular system consists of a network of **arteries, arterioles, capillaries, venules, and veins**.
- **Artery** carries blood away from the heart.
- Nearly **all arteries** carry oxygen-rich blood from the heart to the rest of the body. The only **exception** is the **pulmonary artery**, which carries oxygen-depleted blood to the lungs.
- **Coronary arteries** got their name because they **encircle** the heart like a crown (=koron).



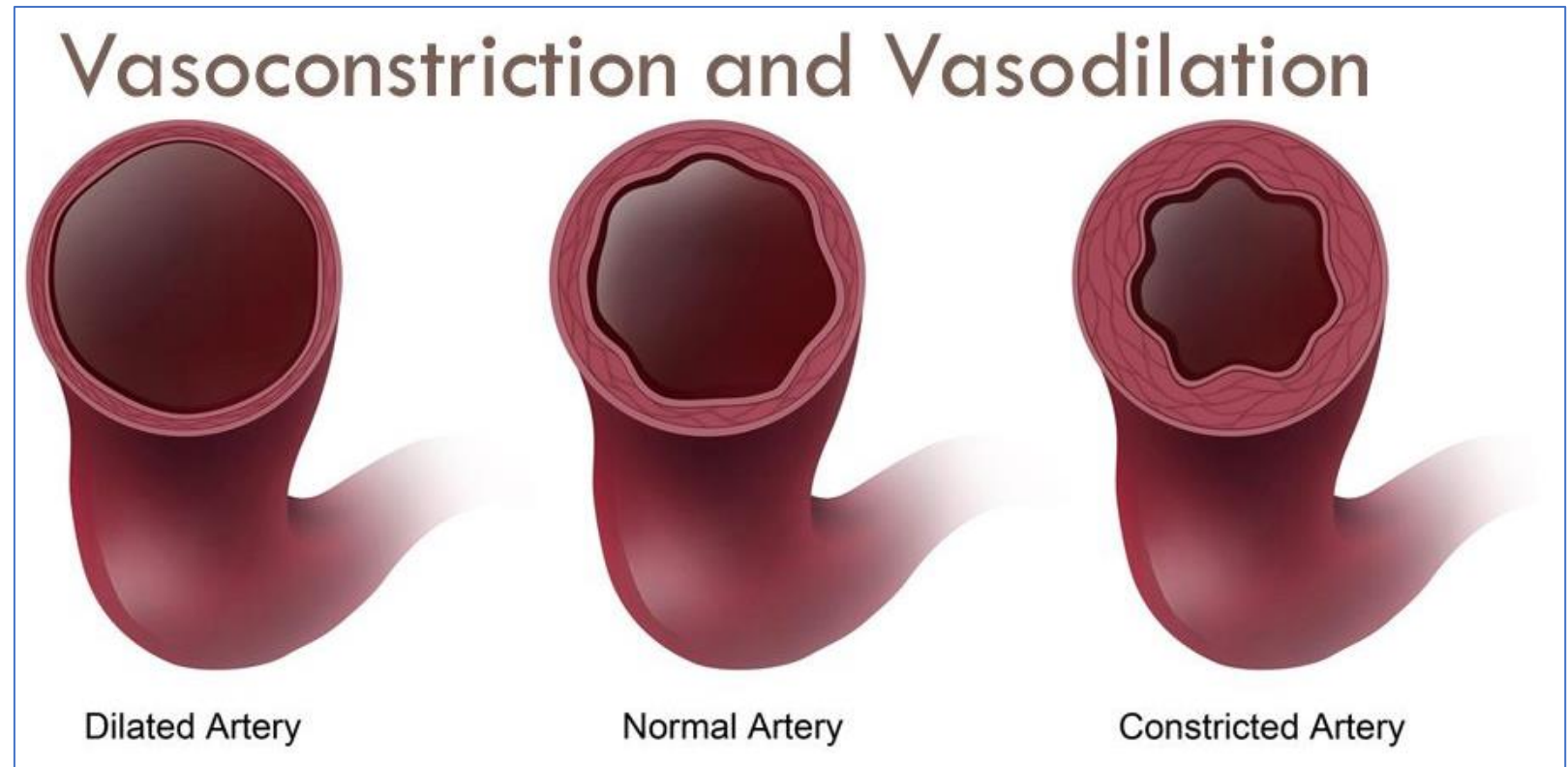
VASCULAR NETWORK

- The **exchange** of fluid, nutrients, and metabolic wastes between blood and cells occurs in the **capillaries**, which are connected to arteries and veins through **intermediary** vessels called **arterioles** and **venules**, respectively.
- **Veins** carry blood toward the heart.
- Nearly **all veins** carry oxygen-depleted blood. **Except** for the **pulmonary vein**, which carries oxygen-rich blood from the lungs to the heart.



VASCULAR NETWORK

- **Vasoconstriction** refers to the narrowing of the vessel diameter.
- **Vasodilation** refers to enlargement of the vessel diameter.



DISORDERS AND PROCEDURES IN BLOOD VESSELS

Angi/itis (vasculitis)

Inflammation of a blood vessel

Valv/o/steno/sis

Narrowing of the valve opening

Arteri/o/scler/o/sis

Hardening of the arteries

Angi/o/tomy

Incision into a blood vessel

Peri/cardi/o/centesis

Puncture in the pericardial cavity

Angi/o/cardi/o/graphy

X-ray of the heart and great vessels

Angi/o/graphy

X-ray of the blood vessels

EXERCISE

- Q/ Use a suitable suffix from the brackets (- al, - ar, - ic, -ous, -ated, -ular) to convert the nouns below into an adjectives:

Noun	Adjective	Noun	Adjective
septum		membrane	
ventricle		endocardium	
oxygen		aorta	
atrium		valve	
pericardium		epicardium	
serum		myocardium	



**THANK YOU FOR
YOUR ATTENTION**

