

Circulatory System



Stage : 1st

Course : 1st

By

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The circulatory system

- Also called the cardiovascular system or the vascular system.
- Is an organ system that permits blood to circulate and transport nutrients (such as amino acids and electrolytes), oxygen, carbon dioxide, hormones, and blood cells

FUNCTION OF CARDIOVASCULAR SYSTEM

- 1-Transport nutrients, hormones
- 2-Remove waste products
- 3-Gaseous exchange
- 4-Immunity
- 5-Blood vessels transport blood Carries oxygen and carbon dioxide Also carries nutrients and wastes

Parts of the Circulatory System

The circulatory System is divided into three major parts:

- The Heart
- The Blood
- The Blood Vessels

BLOOD

- **The Blood: Blood cells & Plasma**
- **Blood cells**

1- Erythrocytes - Red Blood Cells

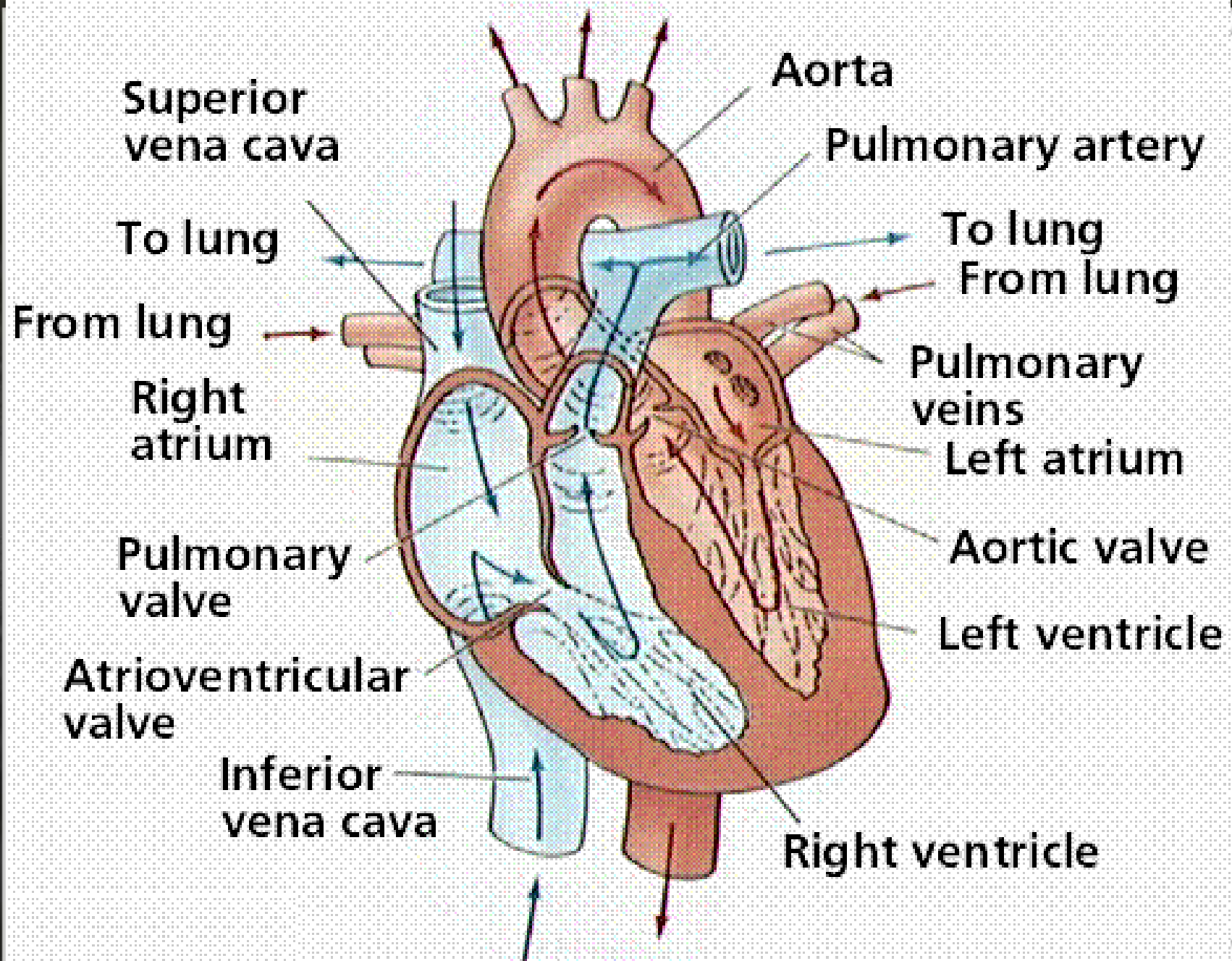
2- Leukocytes

3- Thrombocytes

- **Plasma is fluid portion**

Heart

- Heart is a four chambered, hollow muscular organ is to pump your blood and keep the blood moving throughout your body.
- Heart is made up of 4 chambers
 - Right and Left Atrium
 - Right and Left Ventricle



BLOOD VESSELS

- **Blood Vessels -A closed network of tubes**

- **These includes:**



Arteries



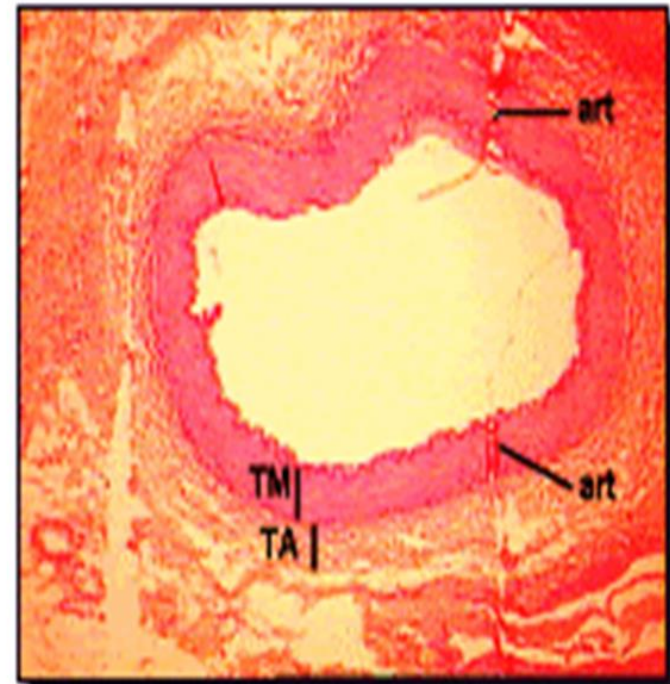
Capillaries



Veins

BLOOD VESSELS

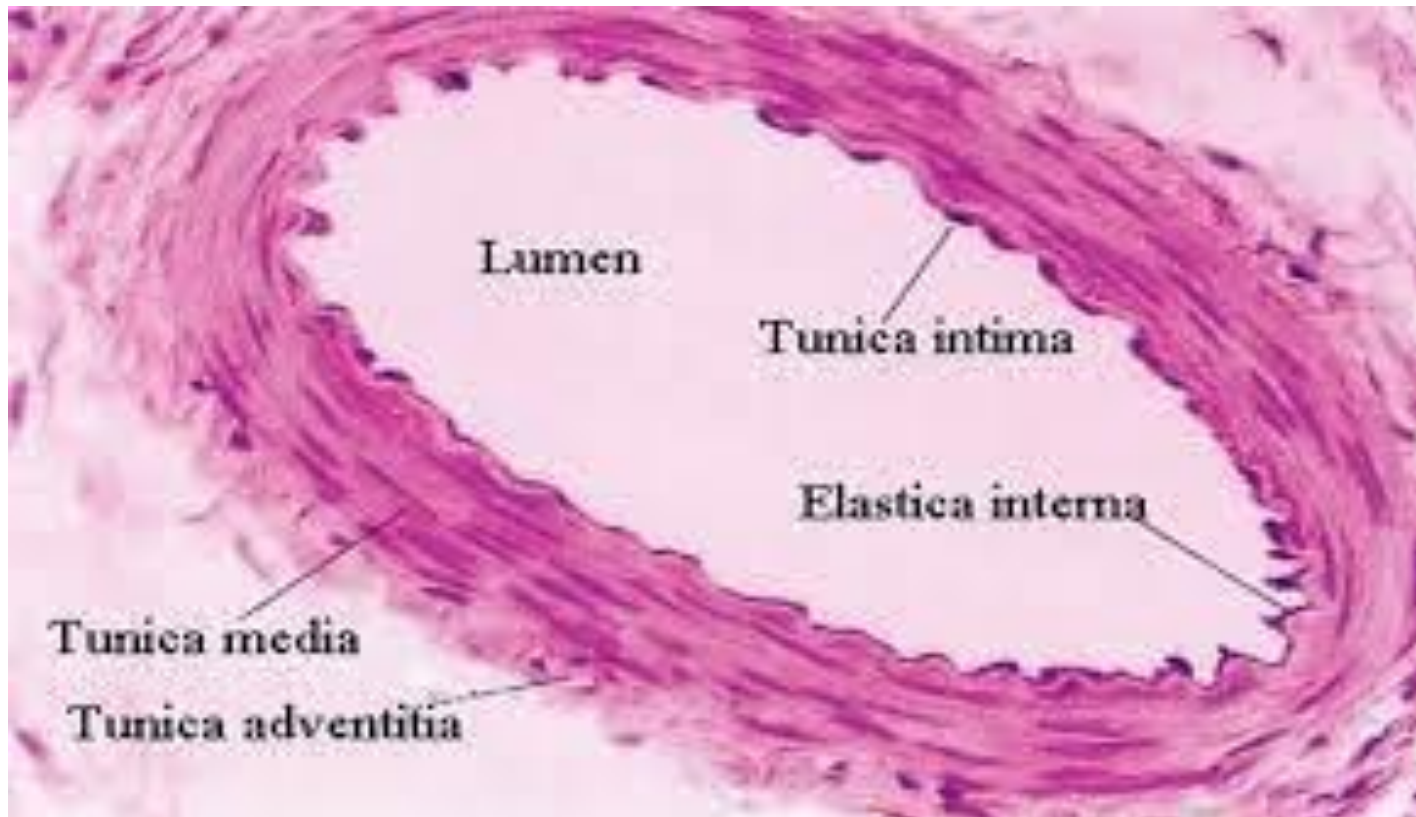
- General structure
 1. Tunica intima
 2. Tunica media
 3. Tunica adventitia



ARTERIES

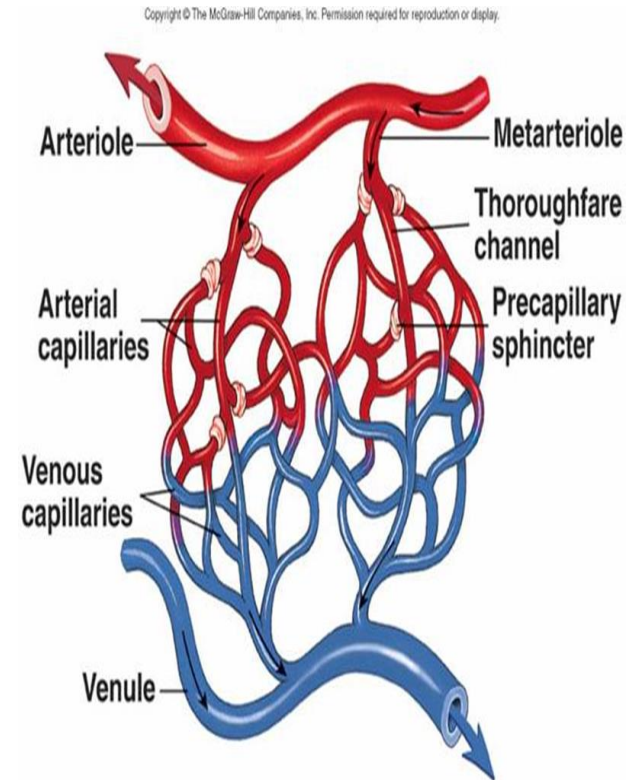
- ▶ Blood vessels that carry blood away from the heart are called arteries.
- ▶ They are the thickest blood vessels and they carry blood high in oxygen known as oxygenated blood (oxygen rich blood).
- ▶ Accompanied by vein and nerves
- ▶ Lumen is small
- ▶ No valves

Histological section of artery



CAPILLARIES

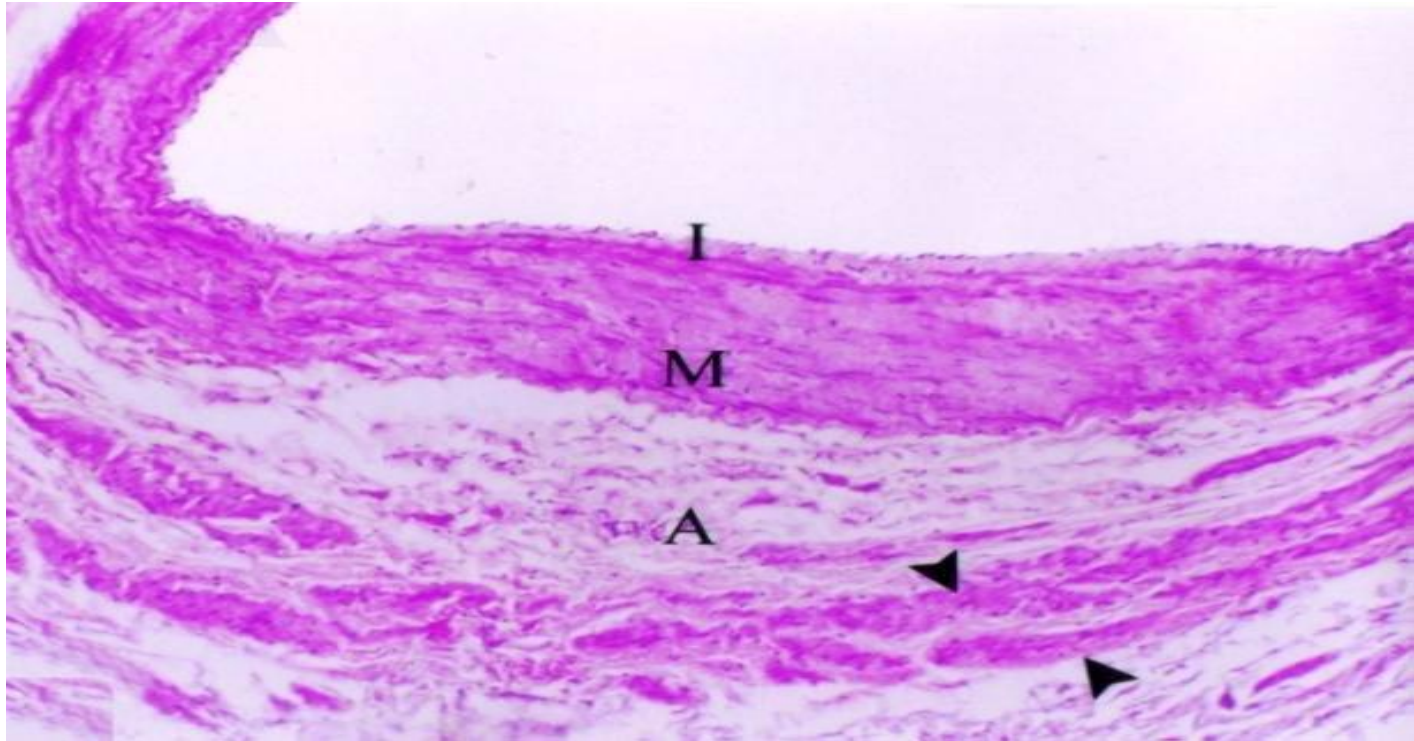
- The smallest blood vessels are capillaries and they connect the arteries and veins.
- This is where the exchange of nutrients and gases occurs.

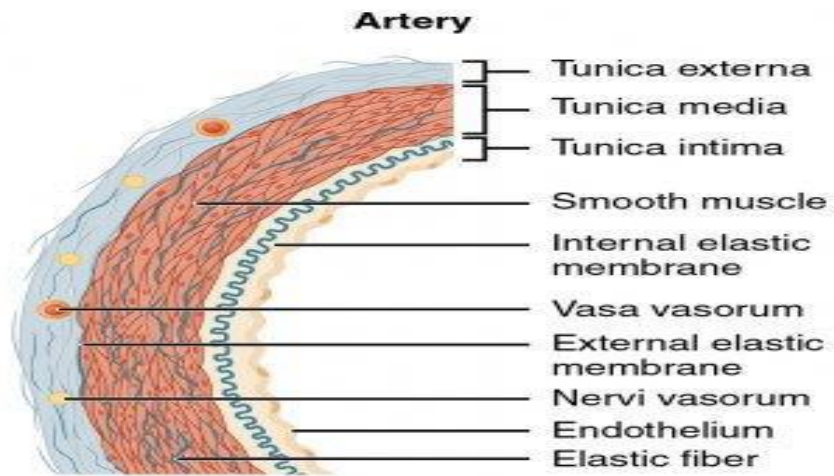


VEINS

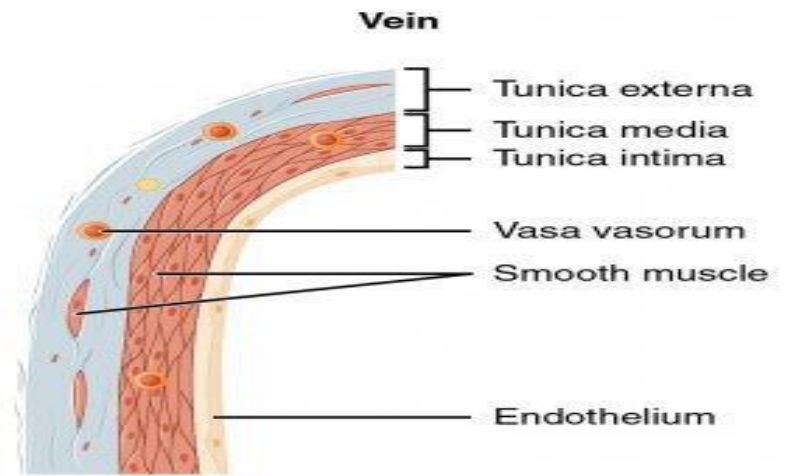
- Blood vessels that carry blood back to the heart are called veins.
- They carry blood that is high in carbon dioxide known as deoxygenated blood (oxygen poor blood). Thin Walled
- Large irregular lumen
- Have valves
- Types:
 - Large
 - Medium
 - Small

Histological section of vein

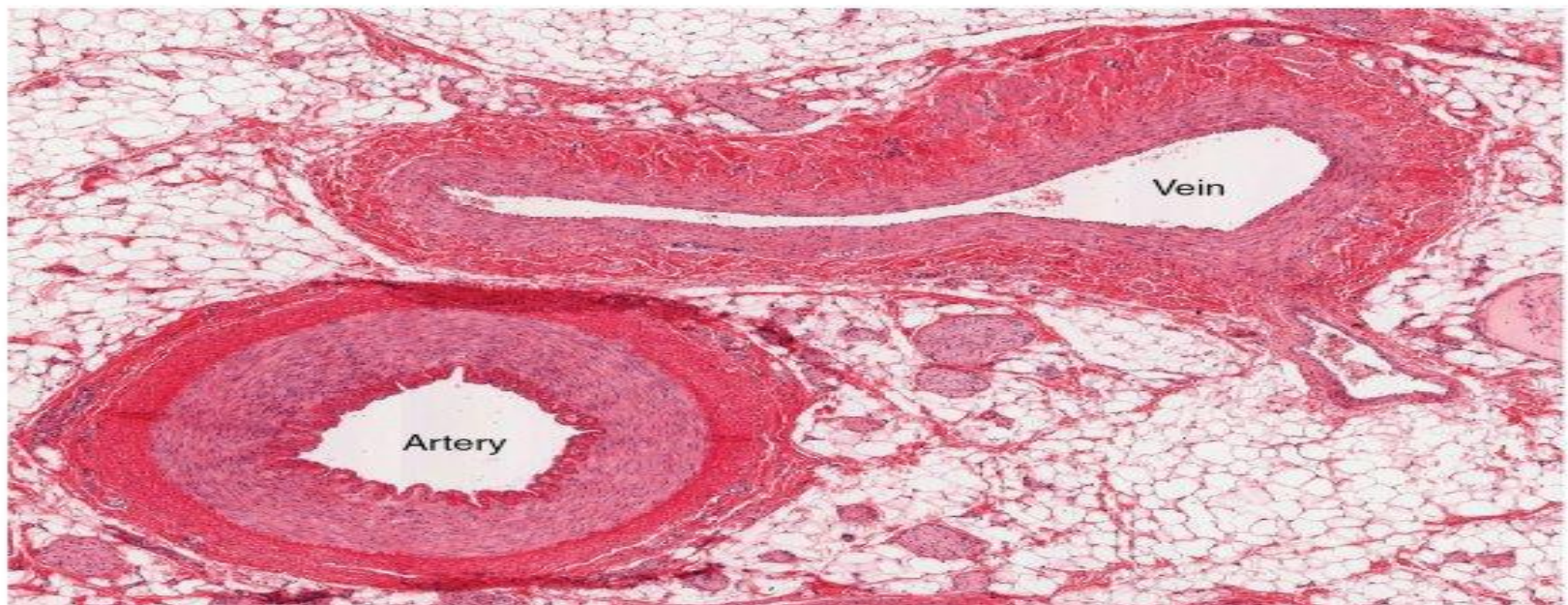




(a)



(b)



**THANK YOU
FOR
LISTENING**