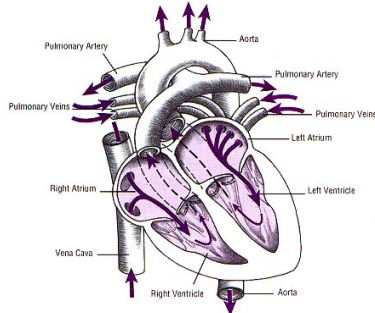
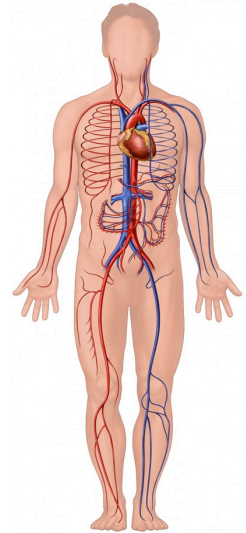


Cardiovascular System Notes Part 1

I. Overview of the Cardiovascular System

- The circulatory system can be thought of as the _____ of the body.
- A closed system consisting of the _____, blood vessels, & _____
 - The heart pumps blood
 - Blood vessels allow blood to circulate to all parts of the body
- Function: Deliver _____ blood to the body cells and remove _____



1. Description of the Heart

- The heart is located in the _____ between the lungs slightly to the _____
- A hollow, cone-shaped muscle about the size of a _____
- Made up of a special type of muscle called _____

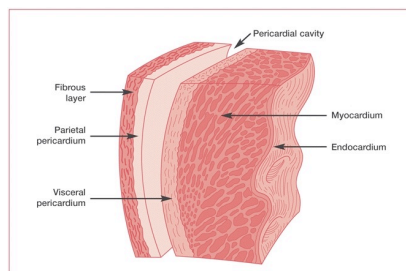
II. Anatomy of the Heart

1. Coverings:

- _____ - a double serous membrane
- Visceral pericardium (_____)
- Next to heart
- _____
- Outside layer
- Serous fluid fills the space between the layers of pericardium

2. Heart Walls:

- Three layers
- a] _____
- Outside layer
- This layer is _____
- b] _____
- Middle and _____
- Mostly cardiac _____
- c] _____
- Inner layer
- Made of simple _____



the visceral pericardium

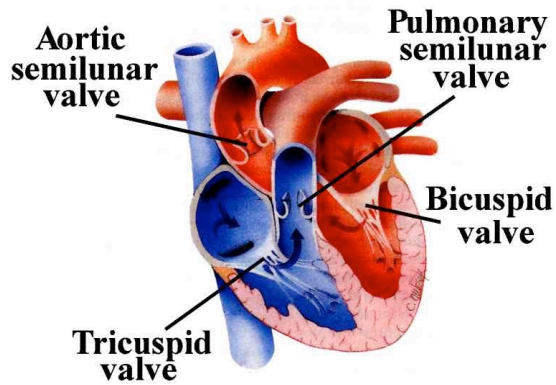
thickest layer

muscle

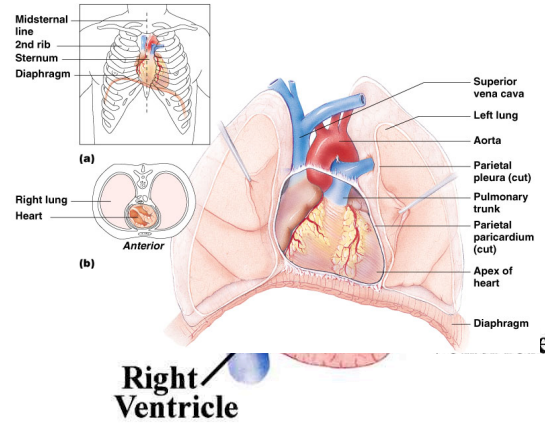
squamous epithelium

3. Chambers

- The heart has _____
- Left & right atria - _____
- Left & right ventricles - _____
- Chambers are separated by a _____



4. Heart Valves



- _____ are flaps of connective tissue between the atria and ventricles
- Moves the _____ through the heart in _____
- Valves open as blood is pumped through
- Held in place by _____ ("heart strings")
- Valves are closed to prevent backflow

• Four valves

- _____ - between atria and ventricles, open valves
 - left atrium → _____ (mitral valve) → left ventricle
 - right atria → _____ → right ventricle
- _____ - between ventricle and artery, closed valves
 - right ventricle → _____ → pulmonary artery
 - left ventricle → _____ → aorta

5. Major Vessels

- _____
 - Blood leaves left ventricle towards body
- _____
 - Oxygen-poor blood leaves right ventricle towards lung
- _____
 - Superior and inferior
 - Blood from the body enters the right atrium

- _____ (4)
 - Oxygen-rich blood from lungs enters left atrium

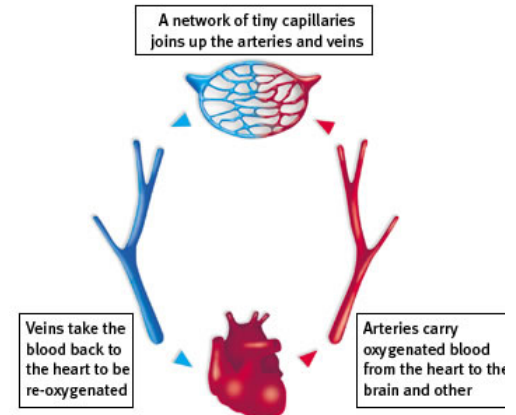


III. Anatomy of Blood Vessels

- **Blood Vessels** are tubes which transport blood

A. Function:

- _____ blood
- Carry out the _____ and waste
- Regulate blood pressure
- Direct blood flow



B. Types of Blood Vessels

1. Arteries

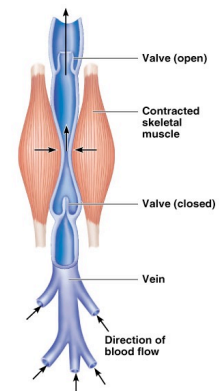
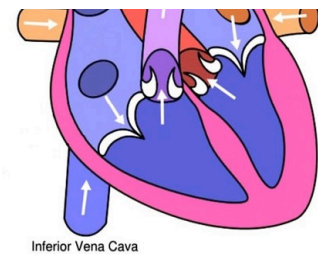
- Blood vessels which carry _____-_____ blood _____ from the heart to the body.
- The _____ is the largest artery in our body
- Thick walls

2. Capillaries

- Microscopic blood vessels which _____ together
- Where _____ of oxygen, carbon dioxide, nutrients, and waste _____
- One cell layer thick

3. Veins

- Blood vessels which carry _____-_____ blood from the body back _____
- Thin walls
- _____ to push blood back to the heart



C. Diseases

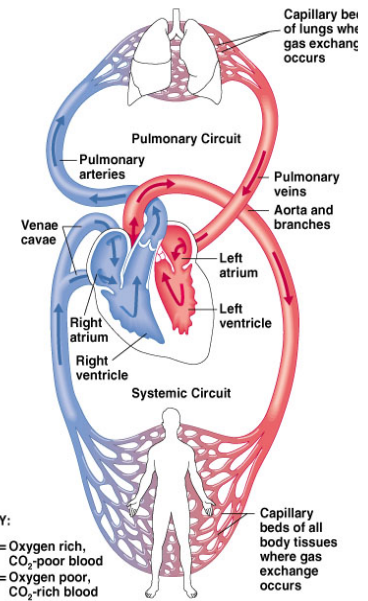
1. _____
 - The hardening of the arteries due to the formation of scar tissue
 - Leads to hypertension, heart attack, & stroke
2. _____
 - Valves in the veins become weak leading to abnormal dilations in the superficial veins
3. _____
 - Inflammation of a vein
 - Very serious because it can lead to blood clots (thrombosis) and death

IV. Circulation of Blood in the Body

- Circulation is the _____

A. Movement of Blood Through Vessels

- Most arterial blood is pumped by the heart
- _____ use the _____ of muscles to help move blood
- **The goal is to**
 1. Send _____ blood to the lungs to pick up oxygen and then
 2. To pump _____ blood from the heart to the body cells



B. Three Circulation Pathways through the Heart

1. Pulmonary circulation: from the heart to lungs
2. Systemic circulation: from the heart to the body cells
3. Coronary circulation: from the heart to the heart muscle

SUMMARY

1. _____ Circulation

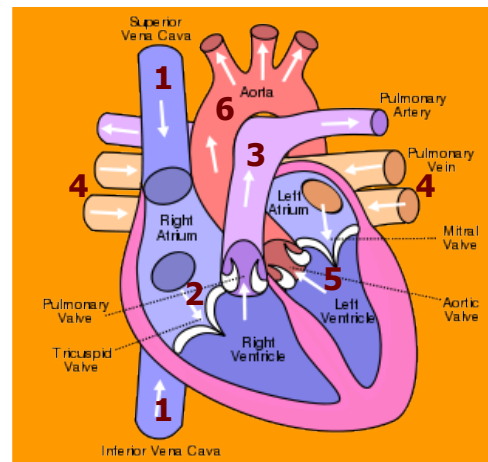
a) Flow of blood from the heart to the lungs

- _____ blood must have carbon dioxide removed, so it is sent to the lungs
- **Body cells > Veins > _____ > _____ > _____ valve > _____ > Pulmonary _____ valve > Pulmonary _____ > lungs**

2. _____ Circulation

a) Flow of blood from the heart to the body cells

- _____ blood coming back from the lungs is pumped to the body cells
- **Lungs > Pulmonary _____ > _____ > _____ (mitral) valve > _____ > Aortic valve > _____ > Arteries > Body cell**



3. _____ Circulation

a) Flow of blood to the heart tissues

- The heart has its own nourishing _____
 - _____ - from aorta to myocardium (heart muscle)
 - _____ - from the myocardium to the ventricle

2. Coronary disorders

- a. _____ - blockage of the arterial walls due to the build up of

- cholesterol that can lead to a heart attack
- b. _____ - blood clot that breaks away from its origin and is carried to a new location
- Can lead to a heart attack if embolus blocks a coronary artery

3. Prevention & Treatment

- a. Aspirin - reduces stickiness of platelets, therefore prevents clots
- b. Surgery
- _____ - tube is guided through the blood vessel to the blockage where is inflated to open up the vessel or break the clot
 - _____ - a blood vessel from another part of the body is sutured from the aorta to the coronary artery, past the blocked area
 - Allows blood to flow to cardiac muscle

