

What is the **CARDIOVASCULAR SYSTEM**?

pertains to:

- cardio= vascular=

Function of the CV System:

-

Structures of CVS

- 1.
- 2.
- 3.

THE HEART - hollow muscular organ

- Is an effective _____ that supplies _____ to maintain _____
- The size of your fist

Structure:

The heart has 3 layers and is divided into 4 chambers

Pericardium -

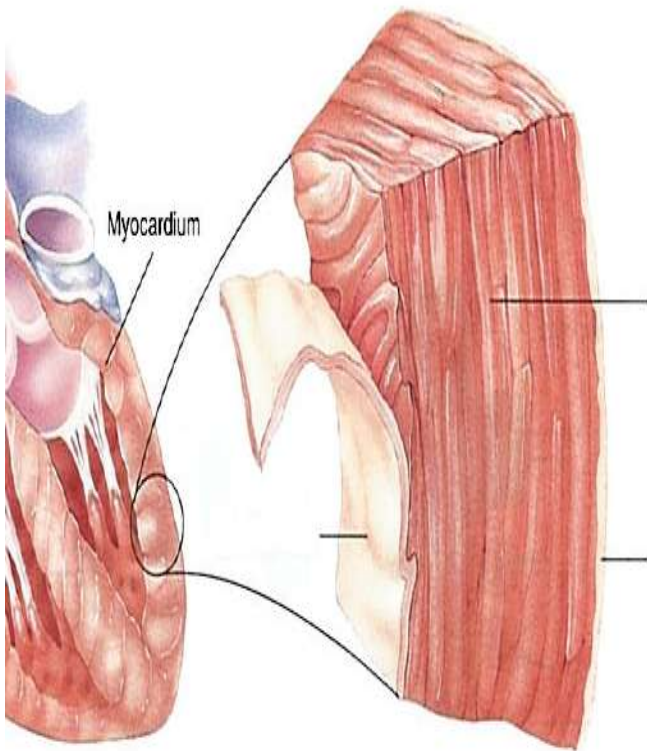
Layers

1. Epicardium-

2. Myocardium-

- a. Supplied by the coronary arteries and veins

3. Endocardium-

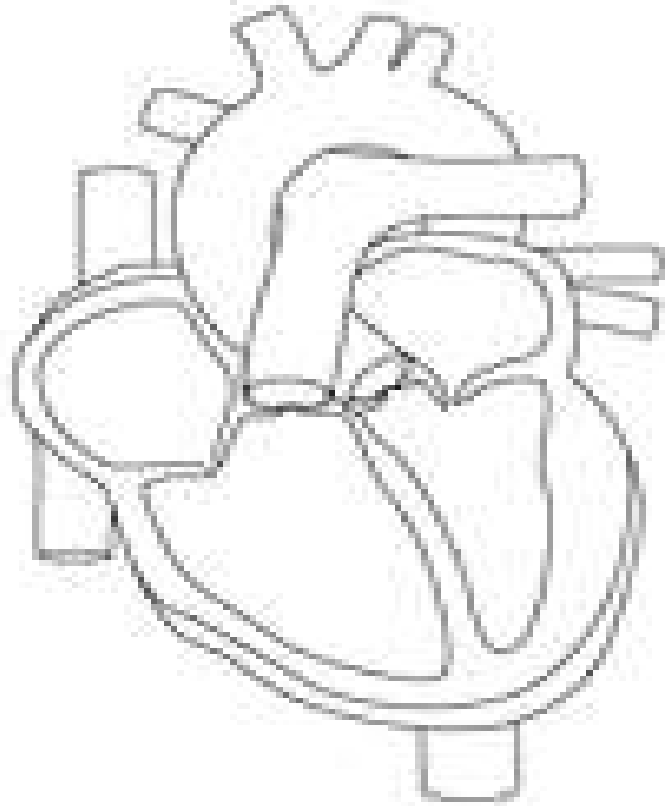


The Cardiovascular System

Label the four Chambers:

{RA/RV/LA/LV} –

- atria-
- ventricles-
- septum- a separating wall or partition
 - *interatrial septum*:
 - *interventricular* :
- Cardiac apex:



Valves:

- The flow of blood through each area of the heart is controlled by the opening & shutting of _____.

1. Tricuspid
2. pulmonary semilunar
3. bicuspid/mitral
4. aortic semilunar

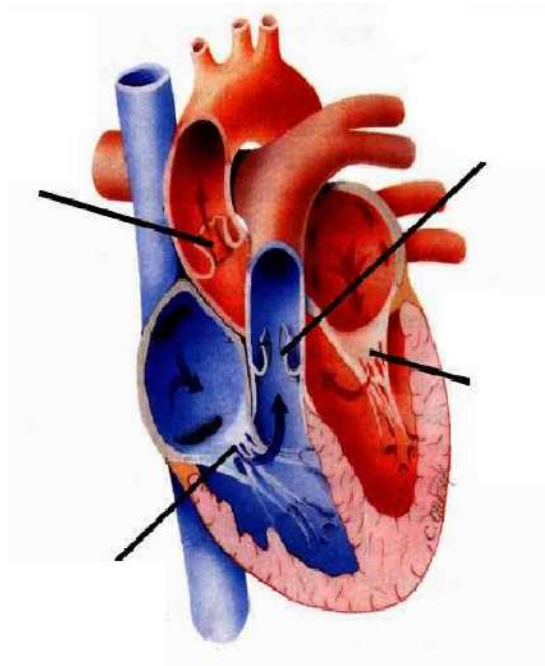


Table 5.1

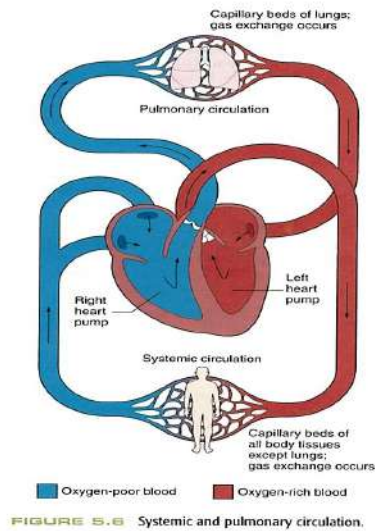
BLOOD FLOW THROUGH THE HEART

- ↓ The **right atrium (RA)** receives oxygen-poor blood from all tissues, except the lungs, through the **superior and inferior venae cavae**. Blood flows out of the RA through the **tricuspid valve** into the right ventricle.
- ↓ The **right ventricle (RV)** pumps the oxygen-poor blood through the **pulmonary semilunar valve** and into the **pulmonary artery**, which carries it to the lungs.
- ↓ The **left atrium (LA)** receives oxygen-rich (oxygenated) blood from the lungs through the **four pulmonary veins**. The blood flows out of the LA, through the **mitral valve**, and into the left ventricle.
- ↓ The **left ventricle (LV)** receives oxygen-rich blood from the left atrium. Blood flows out of the LV through the **aortic semilunar valve** and into the **aorta**, which carries it to all parts of the body, except the lungs.
- ↓ Oxygen-poor blood is returned by the venae cavae to the right atrium and the cycle continues.

The Cardiovascular System

Systemic vs. Pulmonary Circulation

- systemic-
- pulmonary-

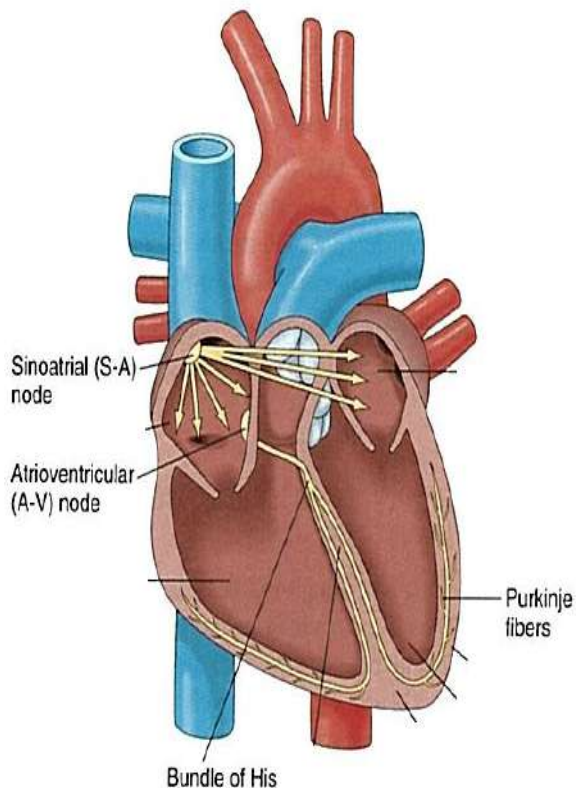


The Heartbeat

The heartbeat is controlled by a series of _____ known as the _____ that stimulates the myocardium muscle and tell it to contract.

NODE= an intersection/junction/crossing

(written in order of electrical activation!)



1.Sinoatrial Node	
2. Atrioventricular Node	
3. Bundle of His	
4. Purkinje Fibers	

Electrical Waves

What is an **EKG (electrocardiogram)**?:

_____ due to the contraction of the atria

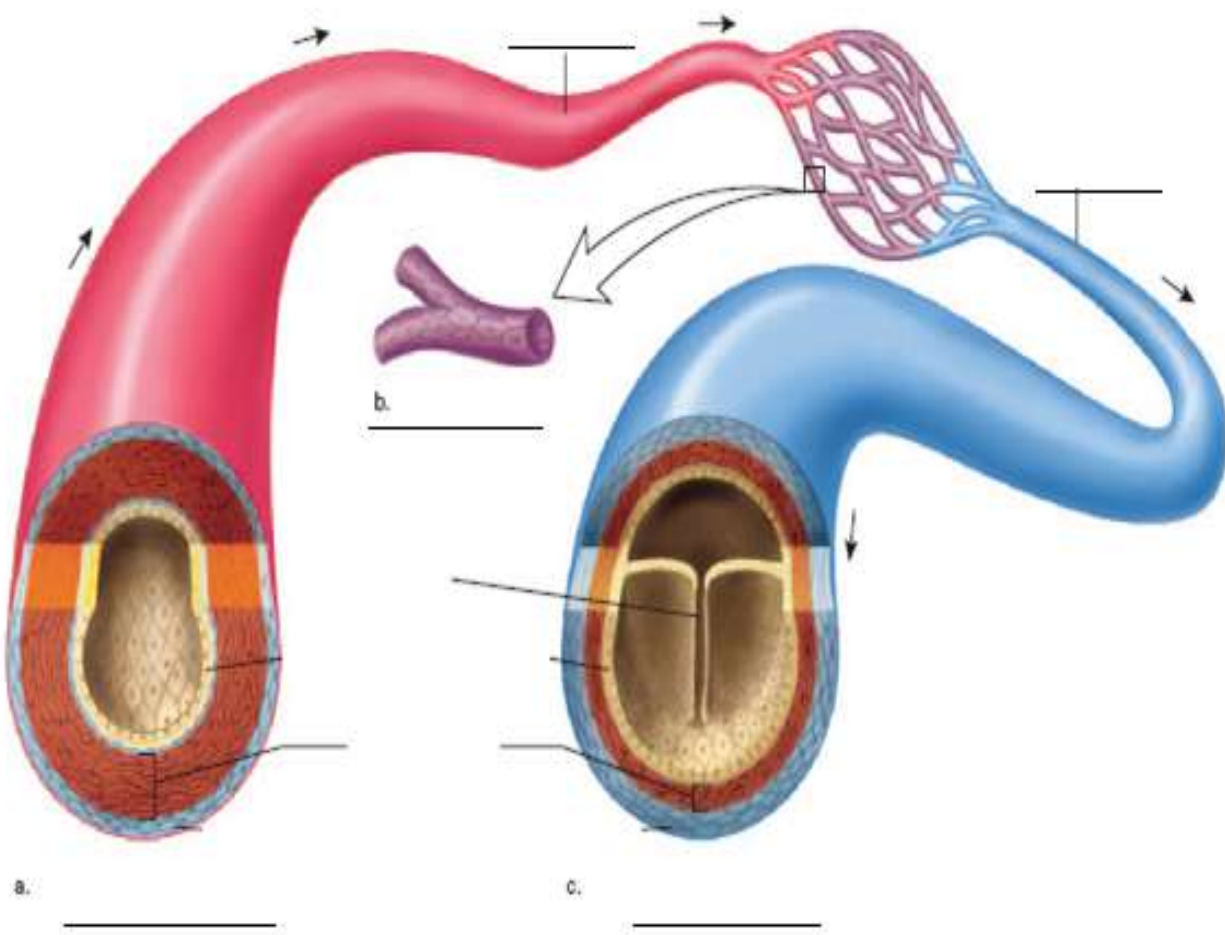
_____ shows the contraction of the ventricles. The atria relax as the ventricles contract.

_____ is the relaxation of the ventricles

Heart Sounds

- The heart produces TWO distinct sounds known as “_____”
- “**lub**”- caused by:
- “**dub**”- caused by:

3 KINDS OF BLOOD VESSELS & THEIR FUNCTIONS + DIFFERENCES

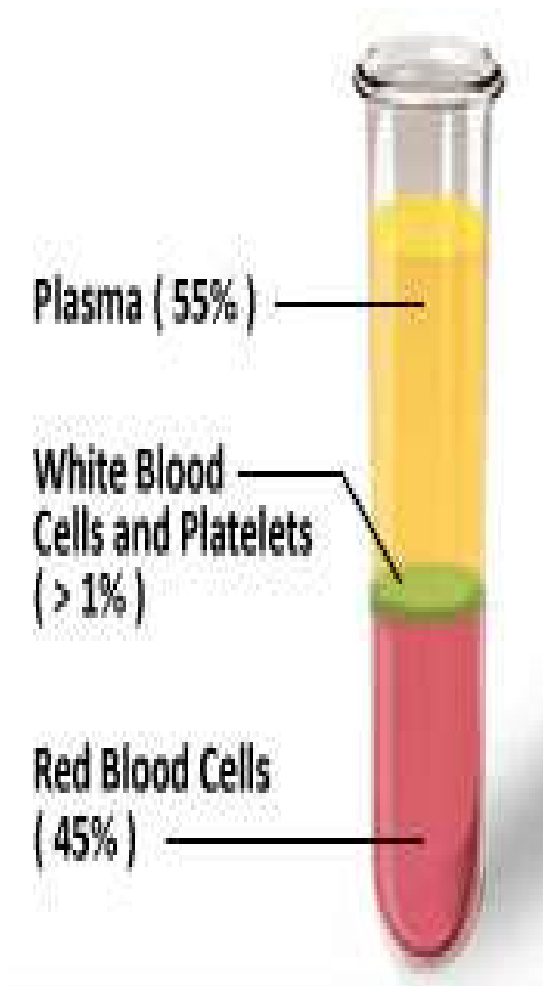


The Cardiovascular System

	Arteries	Capillaries	Veins
Where does blood go?			
Oxygenated/ deoxygenated?			*Why:
Pressure high/low?			
Wall Thickness?	*Why:	*Why:	
How does blood move to its destination?			*Why:
Blood Speed?	*Why:	*Why:	
Major structures	arterioles- aorta- coronary artery-		venules- superior & inferior vena cava-

Blood Pressure

- Pulse AKA Heart Rate-
- Blood pressure-
 - systolic-
 - diastolic-



Composition of Blood

Serum-

Plasma –

Erythrocytes –

- hemoglobin:

Leukocytes -

- neutrophils
- basophils
- eosinophils
- lymphocytes
- monocytes

Thrombocytes -

The Cardiovascular System

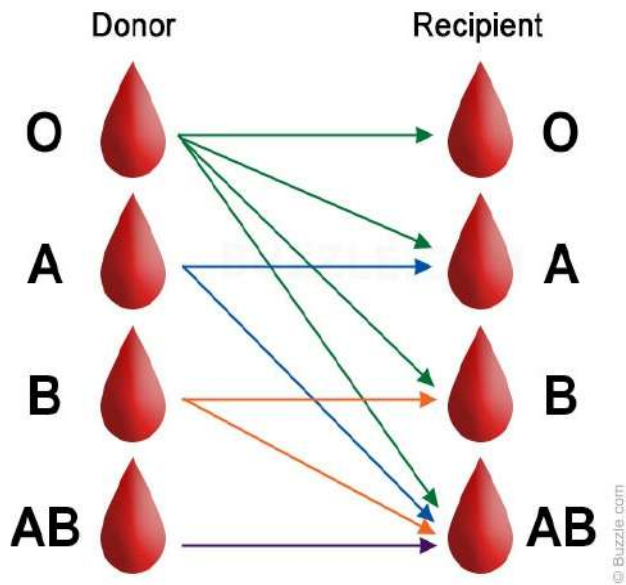
Blood Types

The RH Factor

An **RH antigen** is present on red and white blood cells, which also makes them important to consider when crossing blood types.

+ Who is the universal donor?

+ Who is the universal recipient?



Blood Gasses

Blood contains 3 major gasses:

- 1.
- 2.
- 3.