

Blood Vessels: arteries, veins, and capillaries

Arteries: strong elastic vessels which carry blood away from the heart.

Veins: thinner, less muscular vessels carrying blood to the heart.

Capillaries: tiny microscopic vessels that penetrate nearly all tissues.

Function: allow exchange of oxygen and nutrients between blood and tissues. From the arteries blood flows into tiny vessels called capillaries.

MAJOR BLOOD VESSELS

- **Aorta-** the largest artery, supplies blood to the upper body.
- **Pulmonary arteries** - splits left and right, both lead to lungs
- **Pulmonary veins-** return blood from the lungs to the heart, connect to left atrium
- **Superior and Inferior Vena Cava-**returns blood from the head and body to the heart-connects to the right atrium

CHAMBERS

1. Atria

- a. 2 upper chambers of the heart
- b. Thin walls, smooth inner surface
- c. Responsible for receiving blood
- d. Right atrium receives deoxygenated blood from the body through the superior and inferior vena cava
- e. Left atrium receives oxygenated blood from the lungs through the pulmonary veins

2. Ventricles

- a. 2 lower chambers of the heart
- b. Thicker walls irregular inner surface
- c. Contain tendons
- d. Left wall thicker than right; forms the apex of the heart
- e. Responsible for pumping blood away from the heart
- f. Right ventricle sends deoxygenated blood to the lungs via the pulmonary arteries
- g. Left ventricle sends oxygenated blood to all parts of the body via the aorta

3. Accessory Structures

- a. Septum: muscular wall dividing the heart into right and left halves
- b. Heart valves: prevents backflow of blood

PATH OF BLOOD THROUGH THE HEART

- 1. Deoxygenated blood enters right atrium through the vena cava
- 2. Blood moves into the right ventricle through the tricuspid valve
- 3. Blood goes through the pulmonary valve, out the pulmonary arteries and heads to the lungs
- 4. Blood returns from the lungs and enters the left atrium
- 5. Blood moves into the left ventricle through the bicuspid valve
- 6. Oxygenated blood moves out of the left ventricle through the aortic valve, into the aorta and out to the body