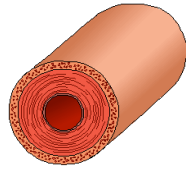
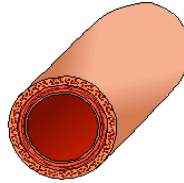


## **BLOOD VESSELS**

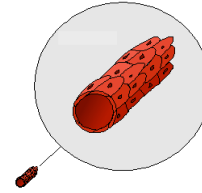
Blood vessels transport blood around the body. There are three different types of blood vessels in the body: arteries, capillaries and veins.



artery



vein



capillary

### **Arteries**

Their main function of **arteries** is to carry blood **away** from the heart. The right ventricle pumps blood into arteries that go to the lungs. The left ventricle pumps blood into a large artery called the **aorta**, which branches out into smaller arteries that reach every organ of the body. The tiny **coronary arteries** carry blood to the heart itself.

**Artery walls are thick.** They consist of 3 layers. The inner layer is made of smooth epithelial cells. The smooth texture allows blood to slide through the artery easily. The middle layer is muscle. The outer wall of an artery is made of strong but flexible connective tissue.

Blood being pumped by the heart exerts a force against the walls of arteries, called **blood pressure**. Blood pressure is caused by the power of the ventricles when they contract. As blood moves further and further away from the heart, blood pressure decreases. Blood pressure is highest in arteries, becomes lower in capillaries and is very low in veins.

The **pulse** that you feel on the arteries in your wrist is caused by the force of your heart beat. You can determine how fast your heart is beating by counting the number of times per minute that your artery pulses.

### **Capillaries**

Blood eventually flows from small arteries into tiny **capillaries**. The main job of capillaries is to exchange materials between the blood and the body's cells. Capillary walls are incredibly thin: they are only one-cell thick. Oxygen and glucose pass from the blood into body cells. Carbon dioxide and other waste products move from body cells and into the blood.

### **Veins**

After blood moves through capillaries, it enters larger blood vessels called **veins**. Their main job is to return blood back to the heart. The walls of veins, like arteries, have 3 layers, with muscle in the middle. These walls are generally thinner than arteries. **The blood pressure in veins is very low.** Instead, several other factors help blood move through veins. First, many veins are near skeletal muscles. The squeezing of these muscles help push the blood along. Second, the larger veins in your body contain valves that prevent the blood from flowing backward.

## **REVIEW QUESTIONS - BLOOD VESSELS**

1. Compare and contrast the 3 blood vessels by completing the table below.

<b>Blood Vessel</b>	<b>Function</b>	<b>Structure of Wall</b>
Arteries	Carries blood away from the heart	
Capillaries		
Veins		Three layers: all thinner than in arteries.

2. True or false? Coronary arteries provide the stomach with its blood supply. \_\_\_\_\_
3. What is blood pressure? What type of blood vessel is blood pressure highest in?


4. What important thing happens in capillaries?


5. What is the job of the veins?


6. What two things help blood move through veins?

a.
b.