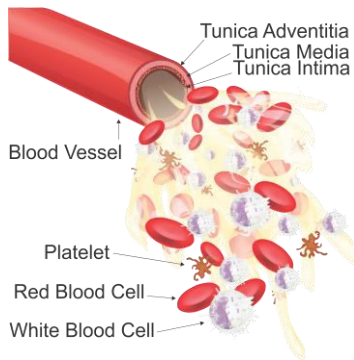


# Human Body - Part 2

## Section 4: Blood



**Blood** is a collection of specialized cells that has many functions. First, blood carries oxygen from the lungs to the body's cells. Second, it carries carbon dioxide to be exhaled and waste products to the kidneys and liver to be removed. Third, it transports nutrients to cells. Finally, cells and molecules in the blood fight infections and heal wounds.

Blood is made up of different components, each with different roles. **Plasma** is the liquid part of blood made mostly of water, which helps to control body temperature. The rest of it is dissolved proteins, minerals, and oxygen. **Red blood cells** are the most common cells and are disk-shaped. They carry oxygen and contain **hemoglobin**, a chemical that carries oxygen and carbon dioxide. It also gives blood its red color. **White blood cells** fight bacteria and viruses and also absorb dead cells. **Platelets** are irregularly shaped cell fragments that help clot blood. They allow you to heal from wounds and stop bacteria from entering the body.

PARENT 1	AB	AB	AB	AB	B	A	A	O	O	O
PARENT 2	AB	B	A	O	B	B	A	B	A	O
Possible Blood Type of Child	O					●	●	●	●	●
	A	●	●	●	●			●	●	
	B	●	●	●	●	●		●		
	AB	●	●	●		●				

Every person belongs to one of the four blood groups. This is determined by the proteins known as **molecular markers** on red blood cells called antigens. There are four blood types - A, B, AB, and O. Knowing your blood type is very important

in case you need a blood transfusion. A blood transfusion is when blood is taken from one person and put into the circulatory system of another person. Each blood type has specific antibodies, so if the wrong type is put into the body, it will attack it. People with blood type O are often considered universal donors because any blood type can receive their blood.

The **lymphatic system**, part of the immune system, helps the body eliminate toxins and wastes and helps fight infection. **Lymph** is tissue fluid containing water and dissolved substances that return to the blood. The lymph collects wastes from cells, distributes nutrients, and carries white blood cells around the body to help it fight infection. **Lymph nodes** filter lymph, trapping bacteria and disease-causing microorganisms in the fluid.

### Review:

1. What is plasma made up of?
2. What is the function of the white blood cells?
3. What is the lymphatic system?