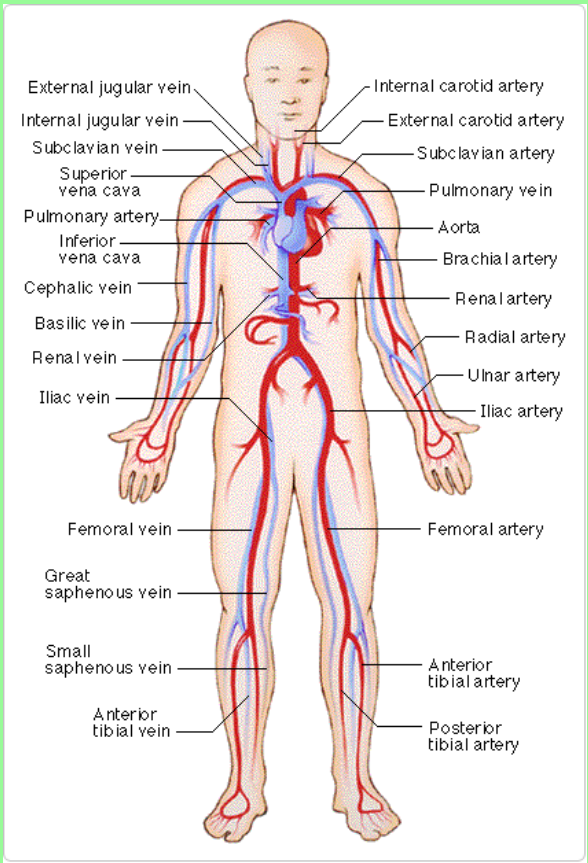
Circulation

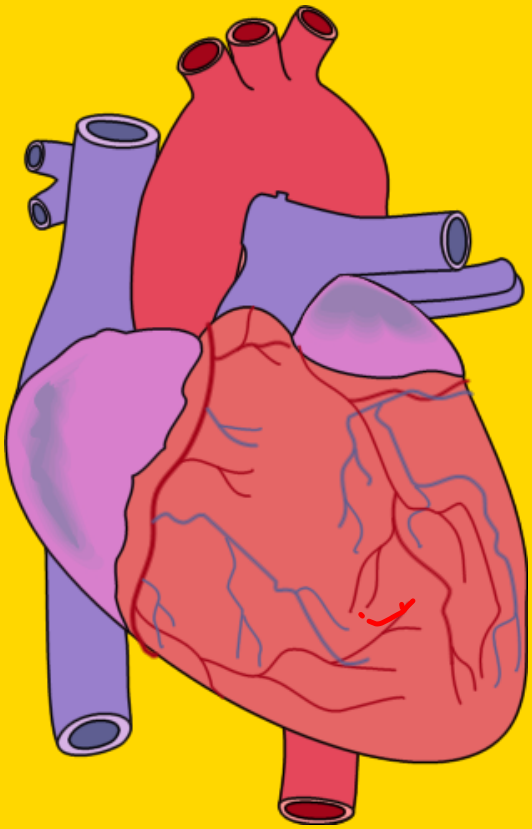
The circulatory system is made up of the heart, blood vessels, and blood. The heart pumps blood to all parts of the body through blood vessels. Blood vessels such as arteries carry food and oxygen. Veins carry "used" blood back to the heart. Humans have a closed circulatory system as blood flows in closed vessels.

Apr 19 - 10:25 AM

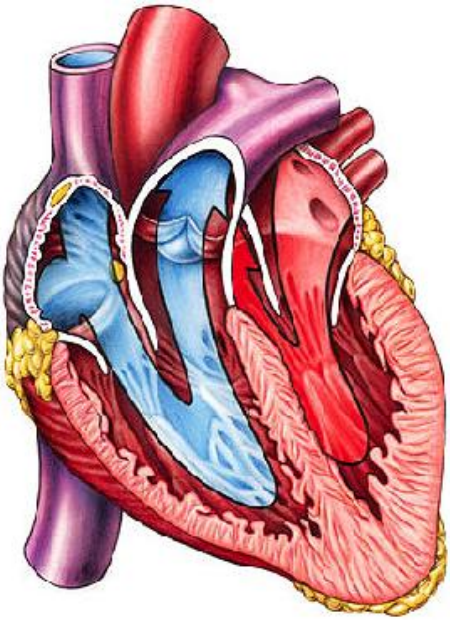
Human Circulatory System



The heart is a double pump with 2 atria, and 2 ventricles. The right side of the pump pushes blood to the lungs. The left side of the pump pushes blood to the rest of the body. A muscular wall called the septum separates the two sides of the heart.



Apr 19 - 10:34 AM

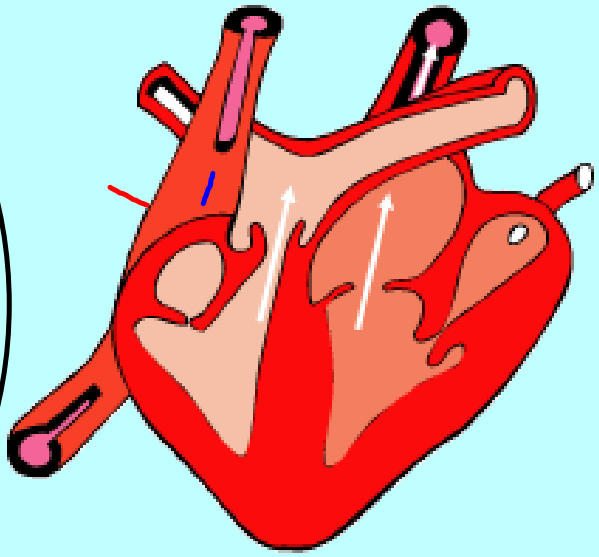


The 2 atria receive blood from the body and lungs and pump it to the ventricles. The ventricles pump the blood to the lungs and the rest of the body. There are valves within the heart that prevent the backflow of blood. The tricuspid valve separates the right atrium and the right ventricle. The bicuspid valve separates the left atrium and left ventricle. Semi lunar valves are found between ventricles and blood vessels. These valves ensure the one-way movement of blood.

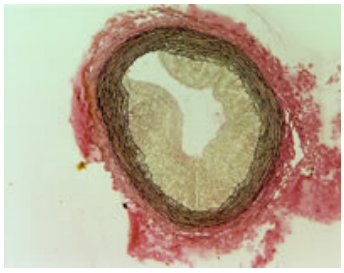
Apr 19 - 10:46 AM

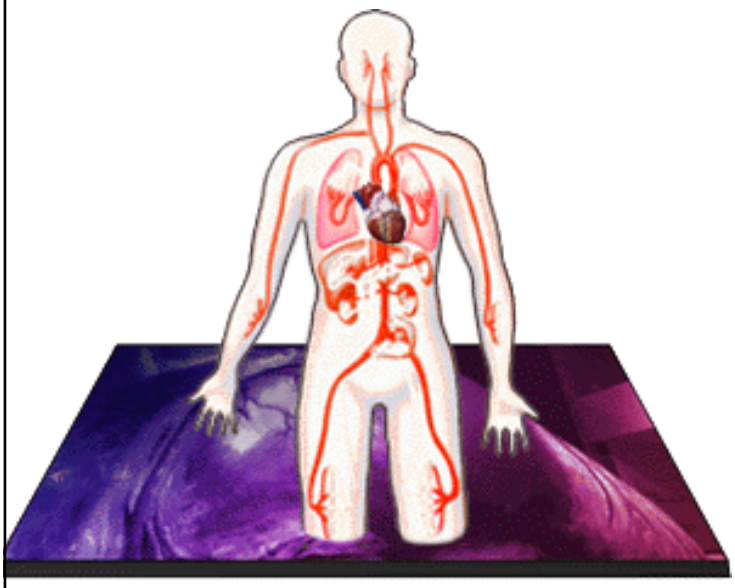
Heart Murmur Sounds

Heartbeat is the rhythmic pumping of the heart. The closing of the heart valves makes Lub dup sounds. If these valves are damaged, blood may flow back into the heart causing a heart murmur.



Apr 20 - 9:16 AM

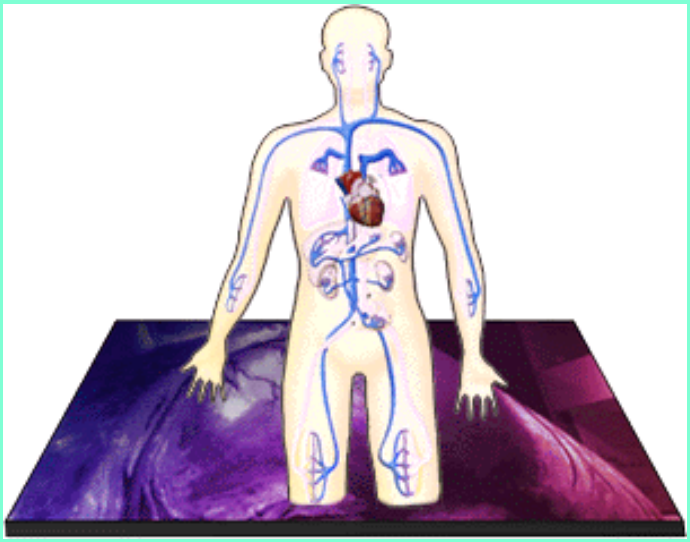


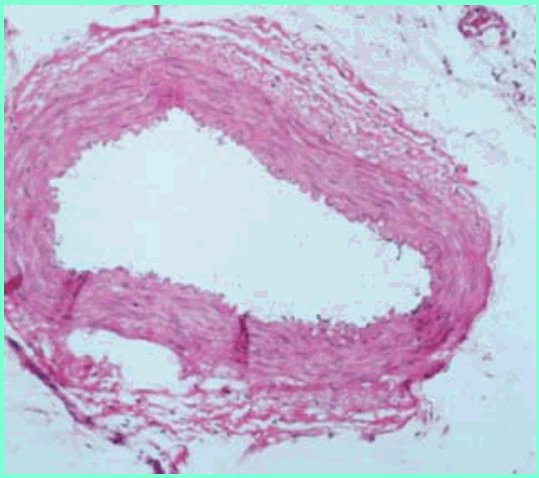


There are three types of blood vessels in the circulatory system. Arteries carry blood away from the heart while veins carry blood back to the heart. Capillaries connect arteries to veins. Arteries have thick muscular walls and are strong and elastic. This allows the artery to expand when blood is pumped through.

Apr 20 - 9:19 AM

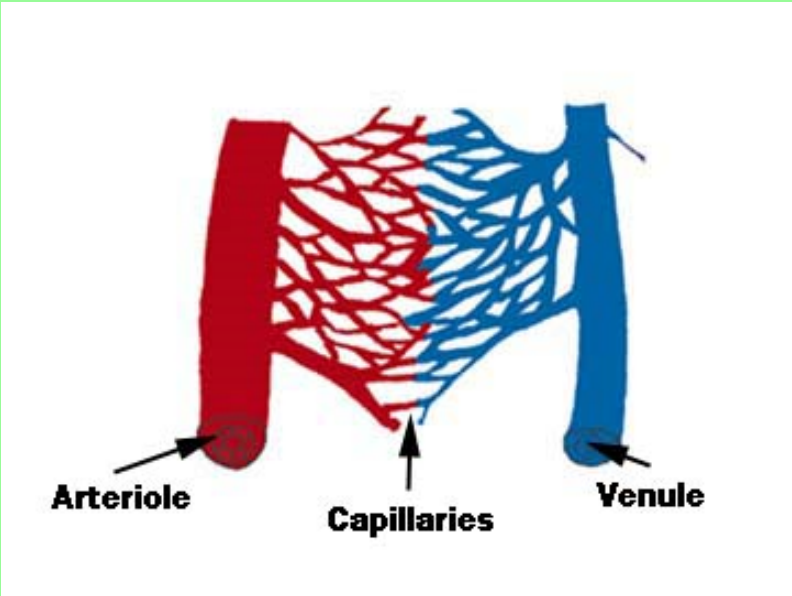
Veins have thinner walls and are less muscular. Veins return blood back to the heart using skeletal muscle and one-way valves.





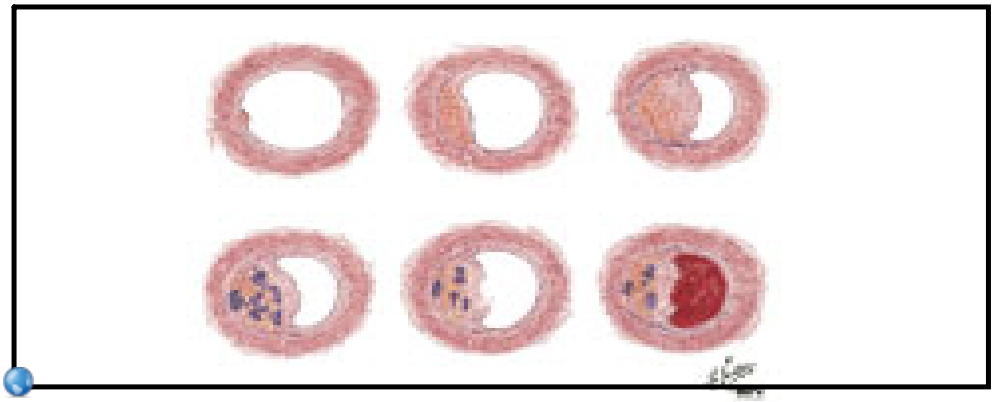
Apr 20 - 9:21 AM

Capillaries are microscopic blood vessels that are one cell thick. Food and oxygen diffuse from the blood into other cells of the body.



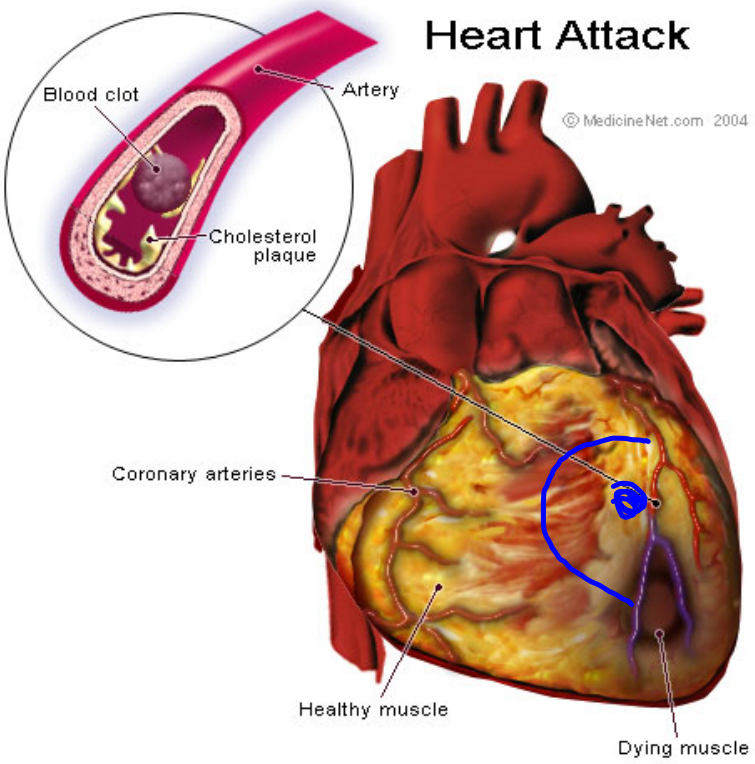
Apr 20 - 9:31 AM

Narrowing of blood vessels can cause high blood pressure. Athersclerosis occurs when cholesterol builds up causing the lining of blood vessels to become harder. This reduces the amount of room for blood to flow through and results in higher pressure on the walls of the arteries.



Athersclerosis

Heart attack results when the heart is not supplied with enough oxygen. If blood vessels in the heart narrow, oxygen cannot be delivered efficiently and tissue begins to die. Signs of heart attack include pressure and pain in the chest. This pain may spread to the shoulder and left arm. Sweating, dizziness, nausea, fainting, and shortness of breath are other symptoms.



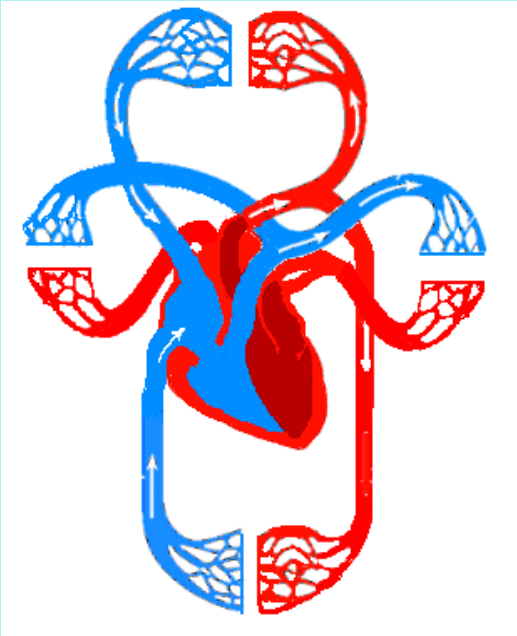
Pulmonary Circulatory System

Deoxygenated blood returns from the body and enters the right atrium. The blood goes through the tricuspid valve into the right ventricle. Next, the blood passes through the semi lunar valve into the pulmonary arteries, which lead to the lungs. In the lungs, the blood picks up oxygen and returns back to the heart through the pulmonary veins.

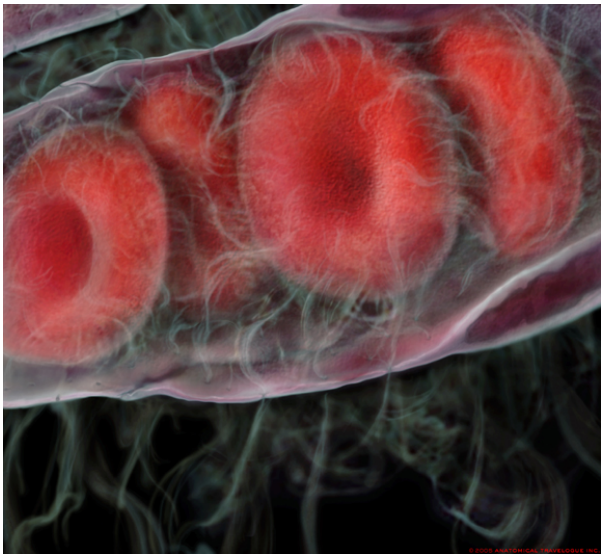
Apr 24 - 10:33 AM

Systemic Circulatory System

Oxygenated blood passes from the left atrium through the bicuspid valve into the left ventricle. Blood is pumped through the semi lunar valve into the aorta. The aorta branches into smaller arteries, which go to all parts of the body.



Apr 25 - 9:53 AM

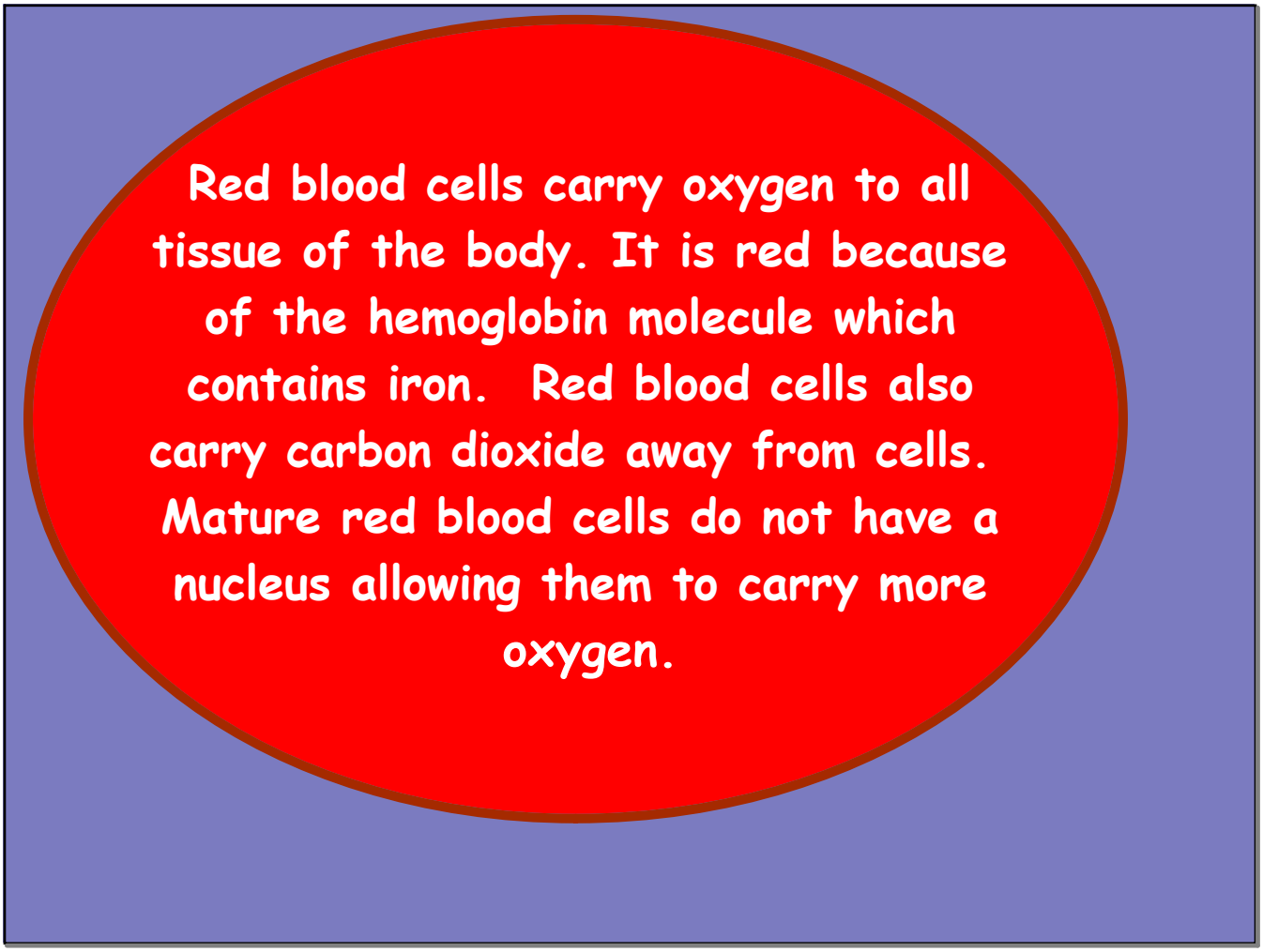


Blood has three main functions. 1) blood transports nutrients throughout the body, 2) blood transports oxygen throughout the body, 3) blood helps fight disease. Adult humans have 5 litres of blood.

Apr 25 - 10:05 AM

Plasma is the liquid component of blood. Plasma carries vitamins, minerals, digested nutrients, and waste throughout the body. Plasma is 90% water.

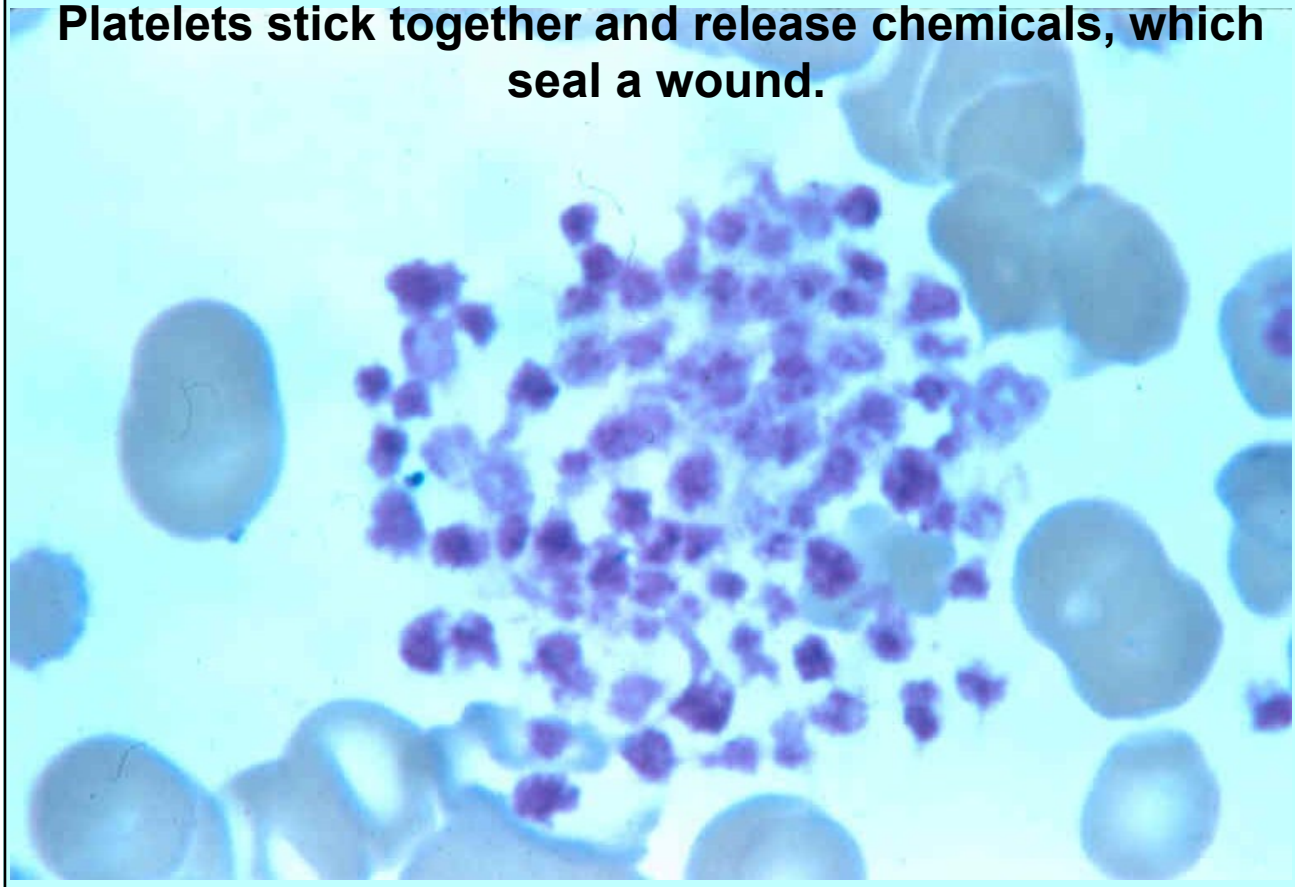
Apr 25 - 10:09 AM



Apr 25 - 10:49 AM

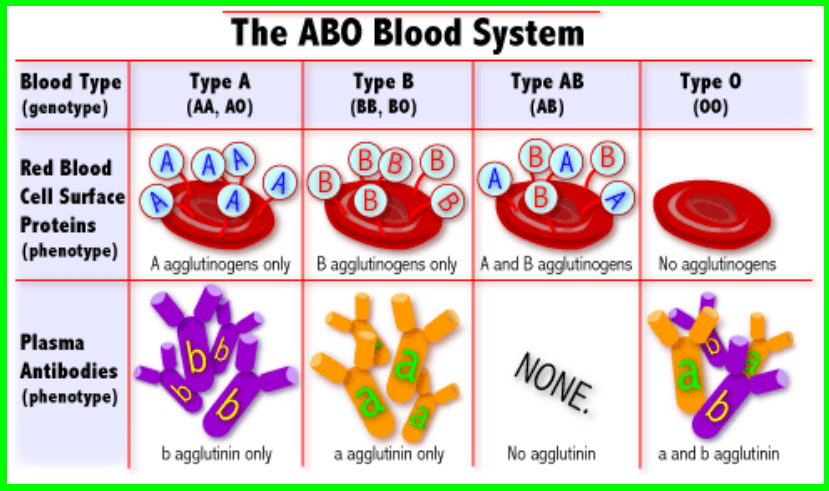
White blood cells protect the body from disease. They are larger than red blood cells. When a person has an infection the number of white blood cells increase in number. The macrophages go to the infected area and engulf the infection and digest it. The macrophage will also die and form part of the pus common with infection. Other white blood cells produce antibodies which fight infection. Antibodies combat antigens, or foreign invaders. Bacteria and viruses are antigens. Antibodies destroy antigens by binding to them and attracting white blood cells.

Platelets are pieces of cells that cause blood to clot. This prevents a person from bleeding to death. Platelets stick together and release chemicals, which seal a wound.



Apr 26 - 8:45 AM

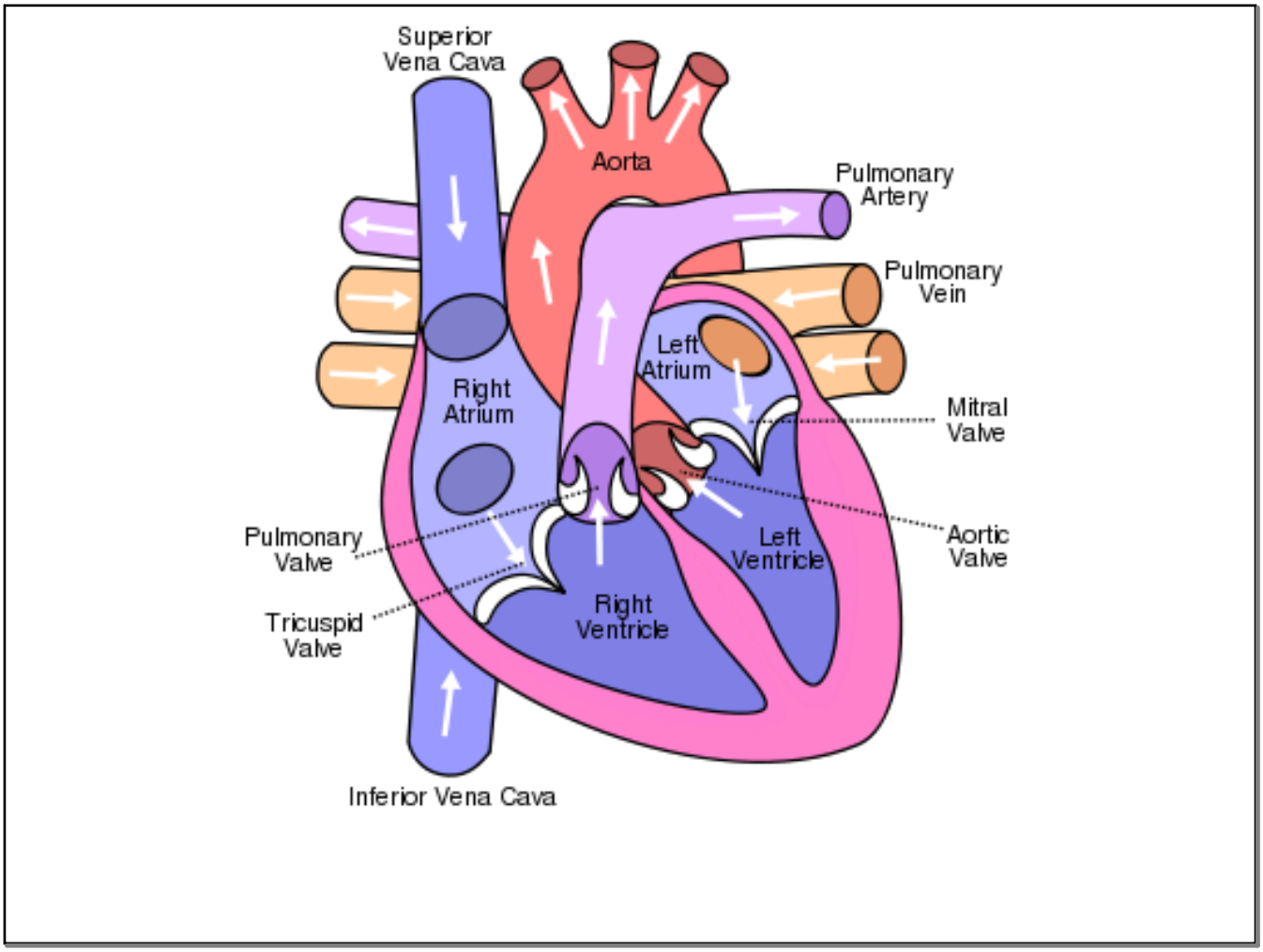
There are four types of blood. A, B, AB, and O. The protein marker found on the cell membrane identifies blood type.



The most common blood disorder is anemia. Anemia occurs when delivery of blood to tissue is reduced. As a result, a person feels tired and has little energy. Anemia may be caused by lack of red blood cells, or low levels of hemoglobin due to lack of iron.

Leukemia is cancer of the blood. There is an overproduction of immature white blood cells, which interferes with the production of red blood cells needed for oxygen transport.

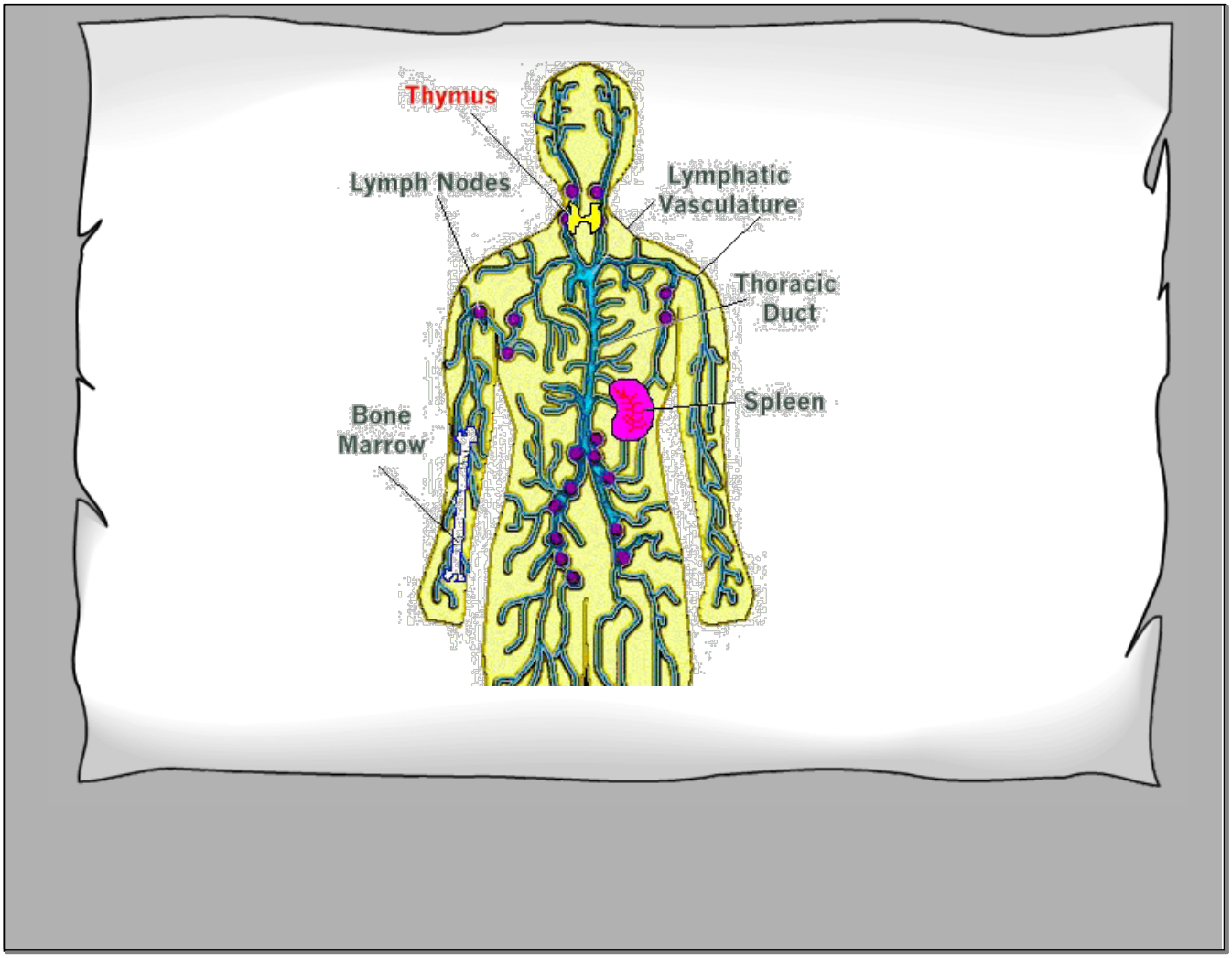
Apr 26 - 8:53 AM


Superior
Vena Cava
Aorta
Pulmonary
Artery
Pulmonary
Vein
Left
Atrium
Right
Atrium
Mitral
Valve
Aortic
Valve
Pulmonary
Valve
Left
Ventricle
Tricuspid
Valve
Right
Ventricle
Inferior Vena Cava

Jan 7-10:25 AM

The lymphatic system consists of lymph and lymph nodes. Lymph is a fluid made mostly of water. Carbon dioxide, oxygen, nutrients, and waste dissolve in lymph. This allows diffusion to take place between capillaries and body cells. Lymph is eventually returned to the blood. Lymph nodes like the tonsils clean and filter lymph before it enters the blood. They also produce white blood cells, which help fight disease. Swollen glands and tonsils occur when more bacteria enter the lymph nodes than the white blood cells can kill.

Apr 26 - 8:56 AM


Thymus
Lymph Nodes
Lymphatic Vasculature
Thoracic Duct
Spleen
Bone Marrow

Old paper