

Structure of the Heart

Atria: each of the two upper cavities which blood passed to the ventricles

Ventricles: Lower part in organ, it has two chambers of the heart left and right

Septum: area of the heart that separates the chambers

Pacemaker: creates the pulse

Blood

Red- carry oxygen throughout the body White- attack invaders

Plasma- liquid part of the blood

Hemoglobin- in the red blood cells that transfers oxygen

Platelets- what clots up to prevent bleeding

Fibrin- structure that helps repair cells

Functions of Cardiovascular System:

-Stabilize pH & body temperature

-Transportation- nutrients, gases

-Immunity

Circulation

Veins

Pulmonary- Heart to Lungs

v

Systemic- heart to Upper & lower body

Arteries- Blood away from Heart, oxygenated (systemic only!), no valves

Veins- Blood to Heart, non-oxygenated (systemic only! Opposite in pulmonary circuit), valves

Capillaries- small blood vessels, connects arterioles & venules, delivers O₂ & nutrients to the cells, carry away wastes & CO₂

Viscosity- thickness of blood (more viscous=more resistance, decreased flow, more pressure)

less viscous=opposite^

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Circulatory System/Cardiovascular

Factors Affecting

Blood Flow

High Blood Pressure (Hypertension)

Low Blood Pressure

1) Blood Pressure: is created by (source) strong ventricular contractions

-When the heart pumps blood through the arteries it

exerts force on the arterial wall

-When the heart contracts it increases blood pressure on the arterial walls. When it relaxes the blood pressure increases

-Normal blood pressure 120/80

2) Hypertension:

- High blood pressure can lead to a number of medical problems

-High blood pressure makes the heart work harder to circulate the blood.

-Over long periods of time high blood pressure can weaken the heart and increase the risk of heart attack, stroke, or other circulatory disease

Heart Issues

and Diseases

- | | |
|---------------------------|----------------|
| 1) Cardiovascular Disease | 5) Stroke |
| 2) Atherosclerosis | 6) Sickle Cell |
| 3) Cholesterol/Plaque | 7) Obesity |
| 4) Smoking | 8) Anemia |
- (hardening of the artery)

Cardiovascular Disease

- High blood pressure and atherosclerosis are the two leading cause of heart disease
- Atherosclerosis is the build up of fatty tissues on the walls of arteries called plaques LDL Cholesterol
- Atherosclerosis is the coronary arteries can prevent blood from getting to the muscles of the heart, which can cause the muscle to start to die.
- If enough muscle is damaged a heart attack occurs

Stroke

- Atherosclerosis can cause blood clots to form
- When one of the clots break free it can then travel through the circulatory system
- Stroke occurs when one of these blood clots blocks a capillary in the brain