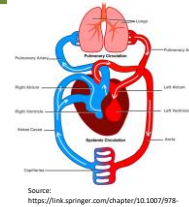


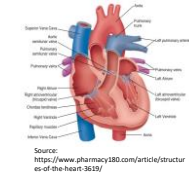
Cardiovascular System

- ❖ The structures of the cardiovascular system contain the blood vessels, heart, and blood (Simpson, 2014).
- ❖ The heart has pulmonary circulation to move the deoxygenated blood from the heart to the lungs to release carbon dioxide and absorb oxygen.
- ❖ In contrast, systemic circulation moves the blood from the heart to the rest of the body parts.
- ❖ Based on Betts et al. (2013), the blood is responsible for carrying nutrients, oxygen, and wastes throughout the body.



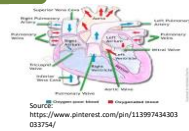
The structure of the Heart

- ❖ According to Waugh and Grant (2014), the heart has two sides, right and left.
- ❖ It contains four chambers: right atrium, left atrium, right ventricle, and left ventricle.
- ❖ Deoxygenated blood flows to the right atrium from systemic veins, while oxygenated blood flows to the left atrium from pulmonary veins.
- ❖ The tricuspid valve is in the right atrioventricular valve.
- ❖ The bicuspid, valve, or mitral is located in the left atrioventricular chamber.
- ❖ The pulmonary semilunar valve connects the right ventricle to the pulmonary trunk. The aortic semilunar valve is the valve that connects the left ventricle to the aorta.



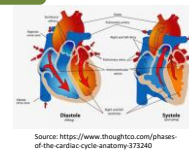
Blood Path through the Heart

- ❖ Blood from the body typically flows to the right atrium, then to the right ventricle, and is pumped into pulmonary arteries to release carbon dioxide and absorb oxygen through the respiratory process (Waugh and Grant, 2014).
- ❖ After picking up oxygen, the blood flows into the heart via the pulmonary vein to the left atrium before it is pumped to the rest of the body tissues through the aorta (Simpson, 2014).



Heart Physiology

- ❖ The sinoatrial node, made up of pacemaker cells, is an oval-shaped area of unique cardiac muscle at the upper back wall of the right atrium. It rhythmically initiates 70 to 80 heart impulses per minute (Betts et al., 2013).
- ❖ The cardiac cycle is the heart's performance from when one heartbeat starts to the next. It has two periods: when the muscle relaxes to hold the blood, namely diastole, and when the heart muscle contracts robustly while pumping the blood, namely systole (Simpson, 2014).
- ❖ Blood is responsible for transporting carbon dioxide from the body's organs and tissues and transporting oxygen from the lungs and to body tissues (Simpson, 2014).



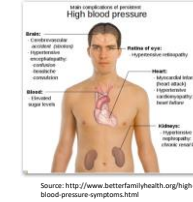
Hypertension (High Blood Pressure)

- ❖ According to WHO (2021), hypertension or high blood pressure is blood pressure that exceeds normal.
- ❖ Hypertension is known to be contributing to serious illness such as stroke, heart attack, and other cardiovascular diseases (Flynn, 2018).
- ❖ Measuring blood pressure is the only way to know if you have high blood pressure (Mayo Clinic, n.d).
- ❖ Hypertension is a severe medical condition that increases the chances of kidney, heart, brain, and other cardiovascular system diseases.
- ❖ It can affect an individual as a result of various perspectives like family history, lack of physical exercise, high sodium diet, advancing age, and practicing certain lifestyle choices (Lurber et al., 2016).



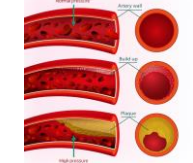
Signs and Symptoms of Hypertension

- ❖ People can have high blood pressure for many years without symptoms (Mayo clinic, n.d).
- ❖ However, according to CDC (n.d), few people with Hypertension may have the following symptoms:
 - ❑ Shortness of breath
 - ❑ Headaches
 - ❑ Nose bleeding
 - ❑ Irregular heart rhythms
 - ❑ Vision problems



Signs and Symptoms of Hypertension

- ❖ As Bromfield and Muntner (2013) stated, high blood pressure is a health condition that happens when the arterioles become narrow, forcing the blood to exert excess pressure against its walls while it forces the heart to pump blood harder to maintain the existing pressures in the body system.
- ❖ High blood pressure may injure the small blood vessels in the eyes, brain, and kidneys.



Managing and Preventing Hypertension

Managing High blood Pressure

1. Measuring blood pressure on a regular basis
2. Managing diabetes
3. Taking Medicine
4. Lifestyle Changes
5. Talking with Healthcare providers



Preventing High blood Pressure

1. Eating Healthy Diet
2. Maintaining a Healthy Weight
3. Being Physically Active
4. Avoid Smoking
5. Limiting Alcohol Intake
6. Get Enough Sleep



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