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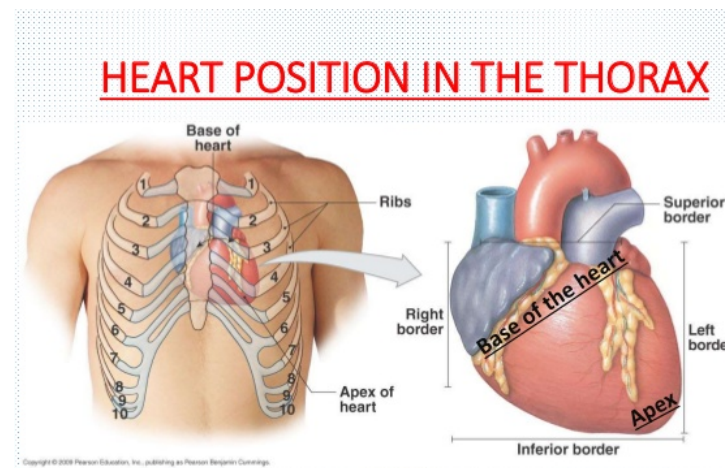
Assignment Title: Individual
Academic Poster

Lecturer: Giriahar Katti

THE CARDIOVASCULAR SYSTEM

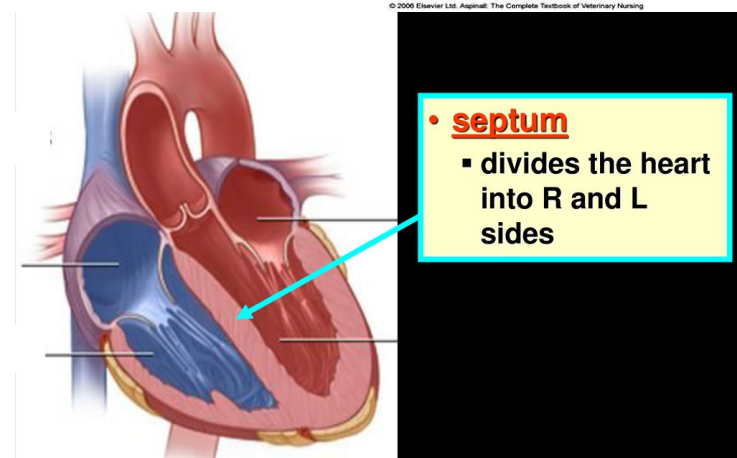
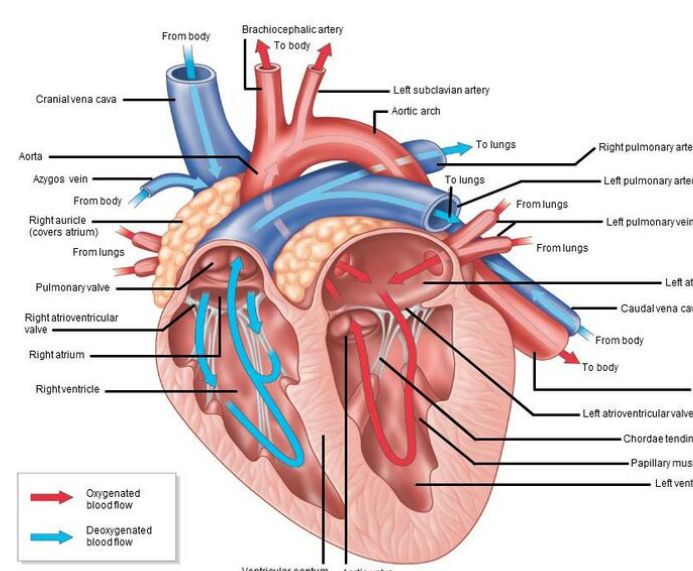
The Cardiovascular system is made up of the heart, blood vessels and blood(Taylor, 2020).

STRUCTURE OF HEART



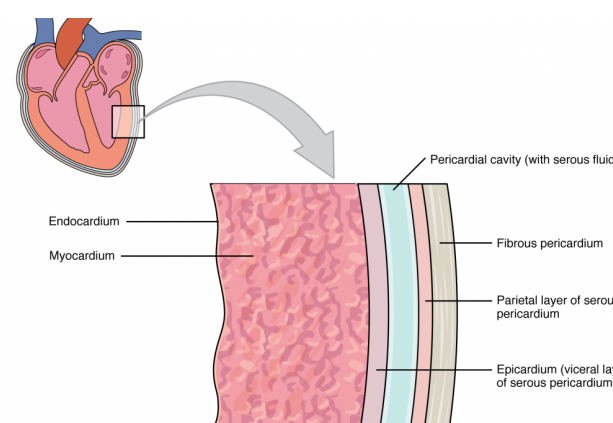
The heart is located in the pericardium which is a protection sac and is attached to the diaphragm and inner surface of the sternum (Jarvis and Saman, 2018).

The heart has four chambers and is divided into two sides the left and the right. The upper chambers are called the atria which is located on the left and right and the lower chambers are called ventricles which is also located on left and right of the heart (BBC, 2014).



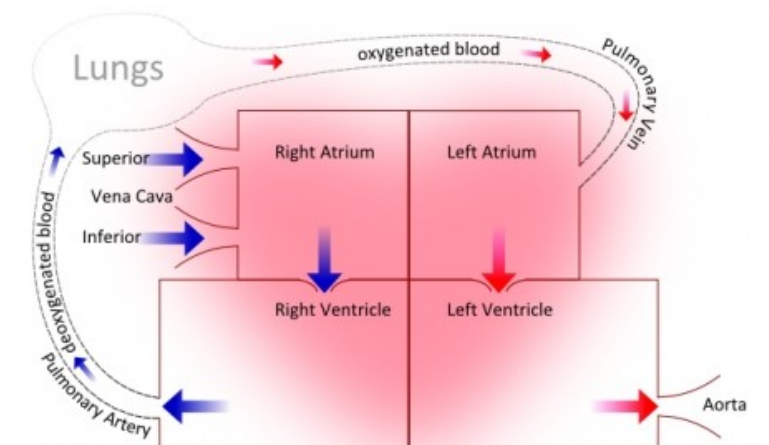
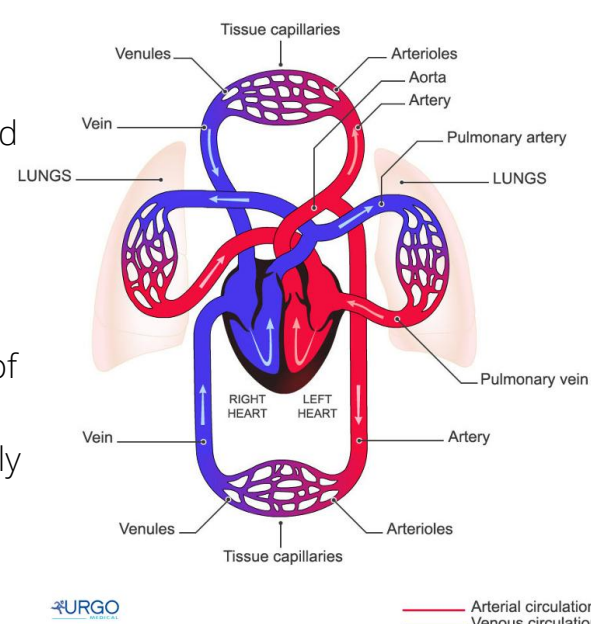
The two sides of the heart are separated by the septum. The right artium and ventricle make up most of the sternocostal surface of the heart while the left artium and ventricle make up the diaphragmatic surface (Crumbie, 2021).

The heart wall has three layers of issues, which consists of a strong outer fibrous pericardium and the inner serous pericardium. the more delicate part of the serous pericardiu has two layers to it which is the parietal pericardium which is combined to the fibrous pericardium and inner visceral pericardium (Lindsay et al. 2021).

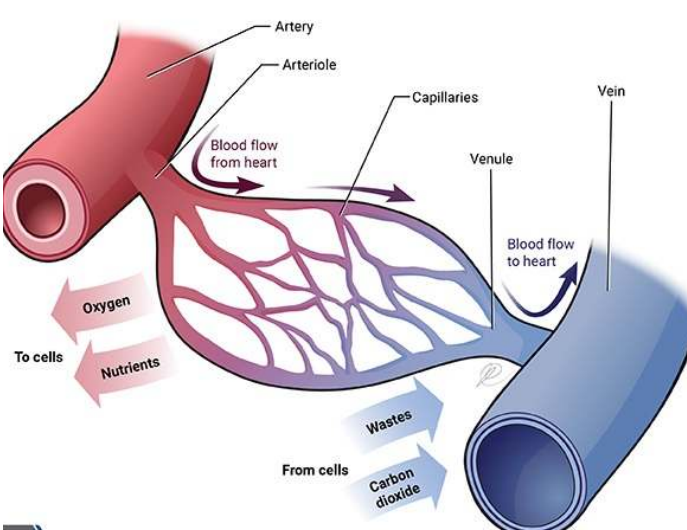


FUNCTUION OF THE HEART

The heart is a double pumped system known as Pulmonary and Systemic circulation which pumps oxygenated and deoxygenated blood around the body (Taylor, 2020). The heart is the most important organ of the cardiovascular system. It is a muscle that works in conjunction with an extensive network of blood vessels throughout the body and contracts autonomously and rhymatically (Jarvis and Sam, 2018).



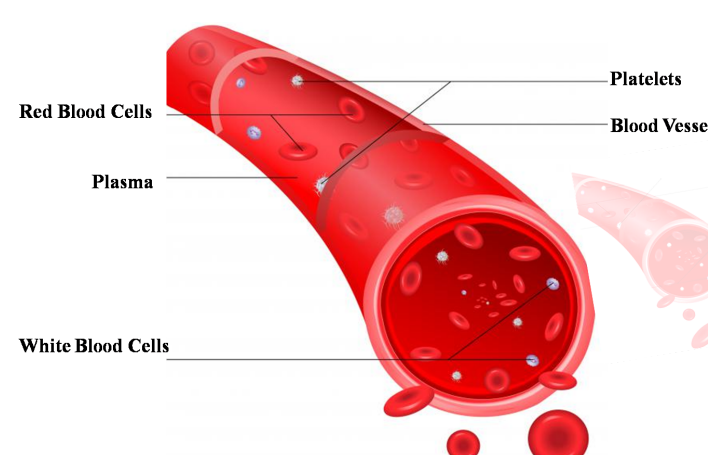
The Pulmonary circulation carry **deoxygenated blood** to the lungs where the carbon-dioxide is unload and picks up oxygen which then delivers the oxygenated blood back to the heart. The Systemic circulation carries **oxygenated blood** all around the body and then sent back to the heart to begin the cycle again (BBC, 2014).



NIH U.S. National Library of Medicine

According to Milnor (1990) the blood vessel in the circulatory system is consist of the arteries, capillaries and veins which all have their own function in the body.

- Arteries- they carry blood that has been ejected from the left and right ventricles to all parts of the body. The arteries are like branches and the further they separate the shorter the arteries.
- Capillaries- this vessel is also known as the microcirculation and have endothelial cells which act as a delivery point from the arterial and venous. Oxygen, hormones, nutrients and many other form of drugs will pass through the capillaries to the body and also the waste substances from the body.
- Veins- the main function is to carry blood back into the heart that is lacking oxygen and as they reach closer to the heart it gets bigger in size.



HOMEOSTASIS OF HEART

According to Waugh and Grant (2014) homeostasis is a way that the body maintain and detect changes in the internal environments through controls systems in the body. The heart regulates the body's homeostasis, by maintaining a stable body temperature, balancing the body pH and the albumins in the blood plasma (Taylor, 2020).

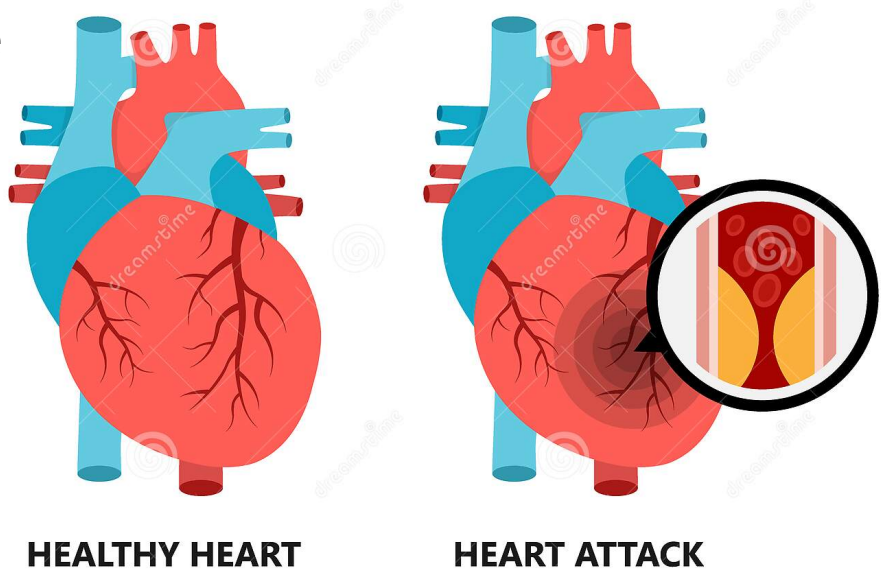
There are three components within the homeostasis system which does specifics functions that allows the body to regulate internal environment. (1) Receptor will detect external changes that can affect the internal environment and sent to the (2) control centre which will interpret the messages and send impulses to the (3) effectors on the cardiovascular system (Doherty and Foundy, 2006).

According to Laconi (2017) the cardiovascular system is vital in maintaining the homeostasis of the other body systems, without it none of the other body systems can function. Some examples of these system are:

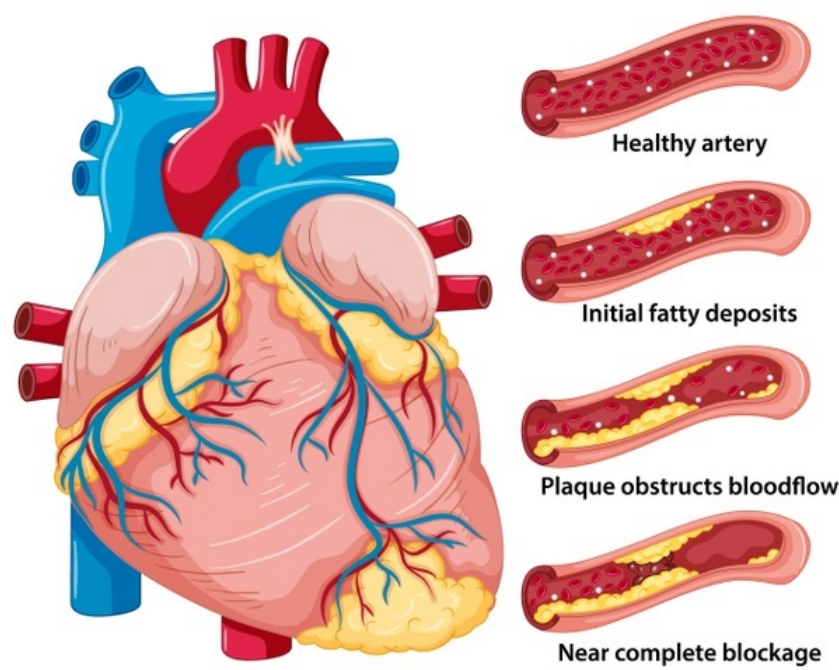
- The nervous system- this is maintained by homeostasis by continuously providing oxygen and glucose to the brain ,spinal cord and central nervous system.
- the Kidneys- the two systems work together to ensure that the blood volume and composition is maintained. The system provide the blood pressure that the kidneys use to filter waste from the body.
- the skin- this is maintained by regulating the body temperature when it drops too low and also rushes warm blood to the superficial capillaries of the skin.

DISORDER AND INTERVENTION

Cardiovascular disease is a number of disorders that affects the heart and blood vessels. This disease is the leading cause of death worldwide and was estimated that 17.9 million people died from this in 2019, which is about 32% of all global deaths. 85% of these death was due to heart attack and stroke (WHO, 2021).



CORONARY ARTERY DISEASE



One of the disorder is Coronary Heart Disease (CHD) and this affects the function and structure of the heart. It is develop when the arteries in the heart cannot deliver enough oxygen-rich blood. CHD often develops when there is a build up of a fatty substance called plaque inside the lining of the large coronary arteries (NIH, 2019).

According to Kromhout et al. (2002) they suggested that overtime it was known that dietary and lifestyle interventions are important factors to prevent CHD and results from research showed that these factors can help with the reduction of risk of having CHD. The task force of the European Society of Cardiology outline some important guidance for a person lifestyle and that is do not smoke, use alcohol in moderation if have to be used and do moderate to vigorous walking. They also recommend for dietary needs is to limit salt intake, keep an energy balance, eat fatty fish at least once a week and also 400g of vegetables and fruits per day.

If a piece of the artheroma is broken off, it can cause blood clot to occur which then block the coronary artery and cause the supply of blood and oxygen to cut off from the heart muscle which is known as a heart attack. The risk factor for CHD are high blood pressure, diabetes, smoking, overweight and high cholesterol (BHF, 2019).

What do your arteries look like?		
Healthy artery	Partially blocked artery	Blocked artery
– Blood flow – Low risk of heart disease	– Artery narrowed by atherosclerosis – Increased health risk	– Plaque build-up in the lining of artery – Blocked arteries can lead to stroke and heart disease

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