The Circulatory & Lymphatic Systems

***Describe in your own words the function of the circulatory system**

***What two fluids pass through the circulatory system?**

The Heart is a FOUR chambered organ.
***What is the name of the chambers?**
- Upper Chambers?
- Lower Chambers?

***Which side of the heart carries oxygenated blood?**

***Complete the pathway of blood flow through the heart**
1. Right Atrium
2. _____ Valve
3. _____ Ventricle
4. _____ Valve
5. _____ Artery
6. Lungs
7. _____ Vein
8. _____ Atrium
9. _____ Valve
10. _____ Ventricle
11. _____ Valve
12. _____ (Largest artery in the body)
13. Body
14. _____ (Largest vein in the body)
15. Right Atriums (Starts Over)

<u>Control of the heartbeat</u>:
***The S.A. (sinoatrial) Node is known as what?**
This node initiates the electrical activity of the heart and then sends the signal to the A.V. (atrioventricular) Node.

***What are the TWO terms for the heart is <u>contracting</u> & <u>relaxing</u>?**

***What is your heart rate?**

***What causes the first sound, (LUB)?**

***What causes the second sound, (DUP)?**

• Normal hearts sound – LUB – DUP

***What is happening if there is a "Lub-Swish-Dup"?**

***What valves are faulty with a "Lub-Dup-Swish"?**

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<u>Blood Vessels</u>: There are THREE major types of blood vessels describe the STRUCTURE & FUNCTION of each.

Arteries:
***Structure:**

***Function:**

Veins:
***Structure:**

***Function:**

Capillaries:
***Structure:**

***Function:**

***As a doctor you have a patient with a blood pressure of 170/110. Use the following terms to describe this blood pressure: ARTERY, DIASTOLIC, SYSTOLIC, HYPERTENTION.**

***Using your own knowledge name 4 risk factors for heart disease. Classify them as controllable lifestyle choices and uncontrollable factors.**

Controllable lifestyle factors	Uncontrollable factors

<u>Patterns of Circulation:</u>

***Who was the first to show that human circulation was a continuous closed system?**

Pulmonary Circulation: This is the circulation when the deoxygenated blood is taken from the heart to the lungs to be oxygenated.

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Systemic Circulation: This is the circulation that takes the oxygenated blood to all the tissues of the body. What area of the body is served by each of the following circulations.

***Coronary Circulation**

***Renal Circulation**

***Hepatic Portal Circulation**

***A blockage in which of these will cause a heart attack?**

Lymphatic System: The function of the lymphatic system is to return excess tissue fluid back to the circulatory system. This system involves a series of lymph vessels and lymph nodes.

- **Lymphocytes – a form of white blood cell that specializes in fighting disease. The lymph nodes store these white blood cells.**
- **Swollen lymph nodes – This is typically a sign of infection because of an increase in the number of lymphocytes to fight the infection.**

<u>Blood:</u> 4 major functions of blood are to transport oxygen and nutrients to the tissues. Remove carbon dioxide, a waste from the tissues. Transfer heat to the surface of the body and fight infections.

Blood is about 45% solid particles and 55% liquid and you have about 4-5 liters of blood.

Describe the STRUCTURE & FUNCTION of each component of blood.

<u>Red Blood Cells (Erythrocytes)</u>

Structure:

Function:

<u>White Blood Cells (Leukocytes)</u>

Structure:

Function:

<u>Platelets (Thrombocytes)</u>

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Structure:

Function:

<u>Plasma</u>

Structure:

Function:

<u>A-B-O Blood-typing</u>

FOUR BLOOD TYPES

TYPE		ANTIGENS	ANTIBODIES	DONATE TO:
A	41%	A	B	A, AB
O	47%	NONE	A&B	ANYONE
B	9%	B	A	B, AB
AB	3%	AB	NONE	AB

RH FACTOR – First discovered in Rhesus Monkeys – About 85% of humans have this antigen.

ERYTHROBLASTOSIS FETALIS – This is a situation where a pregnant female who is Rh- is carrying an Rh+ baby. During the pregnancy and delivery the mother may develop antibodies against the Rh+ baby. If the mother becomes pregnant again with an Rh+ baby this can cause potential complications. The mother can be given an injection of Anti-RhO (D) after each delivery to prevent potential future rejection.