Study Guide # 4

Human Anatomy

**Chapter 21: Cardiovascular System: The Heart**

1. Describe the 2 circuits of the heart and how they differ.
2. Trace important structures of the circuits in the order that blood flows through them.
3. Outline the structures of the heart that a RBC would encounter during one circulatory cycle.
4. Name the important anatomical structures on the external surface of the heart and their roles.
5. Describe the 4 valves of the heart and their functions. What are some disorders of heart valves?
6. Where and what is the fibrous skeleton of the heart? Discuss common congenital heart defects.
7. How does the heart and circulation change from in-utero at the moment of birth?
8. Discuss the anatomy of the electrical conduction system of the heart and its functions.
9. Describe: SA, AV Nodes; Bundle of His; Bundle branches; Purkinje fibers; an ECG.
10. Discuss the control of heart activity by the nervous and hormonal systems.
11. Compare parasympathetic & sympathetic divisions of the ANS.

**Chapter 22 and 23:** **Blood Vessels and the Lymphatic System**

1. Describe blood and list its cells and their general role. Define hematocrit and anemia.
2. Histologically and anatomically, describe an *artery, arteriole, capillary, venule* and a *vein*.
3. What is arteriolosclerosis and atherosclerosis?
4. What is a thrombus and an embolus? Aneurysm?
5. Compare and contrast the arterial and venous systems.
6. Know the names, locations and structures supplied by the major arteries of the systemic circuit.
7. Know the names, locations and structures drained by the major veins of the systemic circuit.
8. What are the 3 branches of arteries arising from the aortic arch? Outline the areas they supply.
9. Which organs do the major arterial branches from the descending abdominal aorta supply?
10. Describe the major arterial vessels that arise after the end of the aorta, all the way to the feet.
11. The anatomy of the Hepatic Portal System ‘stabilizes’ venous blood; explain this statement.
12. What are the functions of the Lymphatic system?
13. Give a general outline of lymphatic anatomy.
14. Discus the 3 tonsils and their role.
15. Compare encapsulated and un-encapsulated lymphoid tissue.
16. What is the role of lymph nodes and other lymphoid tissue?
17. What is edema and how can it arise?