BI 233 - Human Anatomy & Physiology
Quiz #1 Study Guide

Cardiovascular System – Blood Vessels, Flow, and Pressure
1. Be able to compare and contrast arteries, veins, and capillaries.
2. Know the 3 tissue layers present in blood vessels and be able to identify which layers are present in the main vessel types discussed.
3. Know the 3 types of arteries discussed. How do they differ in structure and function from one another?
4. What is a vascular shunt? How is blood flow through a capillary bed regulated?
5. What factors assist in venous return to the heart?
6. What are varicose veins and who is at risk for them?
7. Know the normal arterial blood pressure and how it is measured with a sphygmomanometer (lab 2).
8. What is diastolic pressure and what is systolic pressure? What would the blood pressure look like for a person with hypertension?
9. Where is blood pressure pulsatile?
10. Understand the relationships represented by the equation: \( F = \Delta P/R \).
11. Know the factors that influence peripheral resistance (and of course how they impact peripheral resistance). Which factor is most significant in a healthy adult?
12. What is the vasomotor center and what kind of information does it respond to (hint: review the 3 autonomic reflexes discussed)?
13. How does the release of the following hormones impact blood pressure and vascular tone?
   a. Angiotensin II, atrial natriuretic factor, ADH, and epinephrine.
14. Understand the concept of net filtration pressure and be familiar with the forces that contribute to it (capillary and interstitial hydrostatic and osmotic pressures).
15. Why is NFP different at the arterial end of a capillary bed than at the venous end? Which force (see #14) is the main reason for this difference?
16. What is circulatory shock and what is the most common form of this condition?
17. Know the purpose of the following structures in fetal circulation: umbilical arteries, umbilical vein, ductus venosus, foramen ovale, ductus arteriosis.
18. How can atherosclerosis affect blood pressure and flow?
19. Be able to identify examples of primary and secondary hypertension.
20. Review the general features of the systemic and pulmonary circuits: Which is a long circuit, which is under low pressure, what do they serve and what are the 2 subdivisions we talked about in the systemic circuit?
21. Know the following blood vessels
   a. Arteries – aortic arch (Know 3 major branches = brachiocephalic trunk, left common carotid, left subclavian), common carotid, brachial, celiac trunk, left gastric, splenic, superior mesenteric, renal, common iliac, external iliac, femoral, popliteal and tibial.
   b. Veins – superior and inferior vena cava, internal jugular, hepatic portal, great saphenous, common iliac, external iliac, femoral, popliteal and tibial.

Cardiovascular System – Lymph, Lymphatic Vessels, and Lymphoid Organs
22. What are the functions of the lymphatic system?
23. How is lymph different than blood?
24. How are lymphatic capillaries different than blood capillaries?
25. How are lymphatic vessels different than veins?
26. What is edema? How does the lymphatic system impact this physiologic imbalance?
27. What is the function of the spleen?
28. What are the functions of lymph nodes?
29. What are tonsils and where are they found?