

Key Points to Study for Exam 2

Here are a group of questions that should target you to the important points that will be covered on the test. All the questions here are in essay format because that allows me to cover more topics, however, rest assure the real test will have the same format as the last one; multiple choice, short answer, short essay. Exam #2 will be worth 100 pts. We will go over the answers to the list below on Tues.

1. Be able to name to basic epithelial types. Understand the general function of each type. For example: simple squamous epi. is found in structures where diffusion is important such as capillaries.
2. Understand what the three basic components of connective tissue (cells, fiber and ground substance) do in the various connective tissue types (loose, dense CT, blood, bone, cartilage).
3. Understand the basic structure of compact bone. What is the function of the three different bone cell types? What role does the organic and inorganic component of bone play in its function? How does bone play a role in maintaining calcium concentrations in the blood?
4. How is cartilage different from bone in terms of the three basic tissue components and its over all function? I realize that we did not talk that much about cartilage but I would like you to at least understand the basic components that make up cartilage.
5. What are the various functions of skin? What are the two basic types of skin and how do they differ from each other.
6. Skin cells are constantly dividing. Why and how do they constantly form new layers of the skin epidermis. Which cells add dark color to skin and how do they do it?
7. What is the difference between the dermis and epidermis in skin both in terms of structure and function.
8. What is the function of sweat glands, sebaceous glands and hair in skin? Where are each of these structures located relative to the dermis and epidermis?
9. What are the three muscle types and how does each differ from the other in terms of both structure and function?
10. The basic functional unit of skeletal muscle is the sarcomere. What is it (how is it defined?), what is it composed of and how does it work?
11. What is the function of actin and myosin in skeletal muscle? How is ATP used in skeletal muscle contraction? How is cardiac and smooth muscle different from skeletal muscle?
12. Blood is made up of both liquid and cellular components. What is the basic make up of the liquid part and what role does each of these play in the function of blood? What are the basic cell types that make up blood and what does each of these cell types do?
13. Where are new blood cells formed and generally how does it work?

14. What causes clotting and how does it work? What is the difference between extrinsic and intrinsic clotting in terms of how it is initiated? What role do platelets play in clotting? Hemophilia is an inability to form clots. What do you think causes this disease (i.e. the mechanism behind the inability to clot)?
15. What is the basis for the different blood types?
16. Be able to describe the flow of blood through the heart to the lungs and out to the rest of the body.
17. What is the function of the two types of heart valves, where are they located and how do they work?
18. Where are the coronary arteries located, what is their function and what happens to the heart if they are blocked (I know it's a heart attack, but what happens to the heart)?
19. What are the pacemaker nodes, where are they located and what do they do? How does the pacemaker signal get from the second pacemaker node to the ventricles? How might a heart attack affect the heart conduction system?
20. How do the various parts of an EKG tracing reflect the various stages of cardiac function? How does the wave of depolarization that spreads across the heart affect the sequence of contraction and how does this sequence cause the heart to pump blood?
21. What two factors affect cardiac output?
22. How is heart rate and contractility regulated?
23. What is the basic structure of an artery, vein and capillary? What is the function of each of these components?
24. Which of the above components has a direct effect on blood pressure?
25. What role does the capillary play in exchange of gases and nutrients in the tissue?