Unit 2 Study Guide: Tissues, Cancer, and the Integumentary System

This study guide covers MOST of the material that will be on the test. Remember, I test on the lecture notes (including pictures), labs (including tissue pictures), study guide, and assignments. Also, all of the short answer test questions are on this study guide in the section labeled “Short Answer Questions.” This study guide is not an assignment.

1. What are the 4 types of tissues? Explain how you can distinguish between epithelial tissue and connective tissue.
2. Distinguish between simple, stratified, and pseudostratified epithelial tissue.
3. Know the characteristics of epithelial tissue and connective tissue.
4. What is the importance of cell division? What are the 4 stages of cell division?
5. What 5 properties must healthy cells follow?
6. What is a neoplasm?
7. Distinguish between a benign tumor and a malignant tumor.
8. What is angiogenesis? How does cancer utilize this physiological process?
9. Why is cancer considered not to be an infectious disease in humans?
10. What are the normal functions of proto-oncogenes and tumor suppressor genes?
11. What environmental factors can lead to cancer?
12. What virus is the leading cause of cervical cancer in women?
13. List some cancer treatments.
14. How can the skin be both a membrane and an organ?
15. List six functions of the skin.
16. The epidermis of skin is composed of ___________________________ epithelium.
17. Explain what happens to epidermal cells as they undergo keratinization.
18. How do cells of the stratum corneum and stratum basale differ?
19. Describe the function of melanocytes.
20. Explain how blood is supplied to the dermis and epidermis.
21. Explain how body heat is produced.
22. Explain how sudoriferous glands regulate body temperature.
23. How does the amount of adipose tissue in the hypodermis aid in the regulation of body heat?
24. In what way are sebaceous glands associated with hair follicles?
25. Distinguish between first-, second-, and third-degree burns.
26. What causes acne? What dermal gland is infected?
27. Know how to distinguish between carcinoma and melanoma.

**Make sure you study the 21 pictures of the tissues you learned in class (these pictures are available at my Web site). You need to know the specific type of tissue, general type of tissue, and the structures that make up each tissue.

Short Answers
1. Disorders of collagen are characterized by deterioration of connective tissues. Why would you expect such diseases to produce widely varying symptoms; (in other words, why would many parts of the body be affected)?

2. Chemotherapy and radiation therapy primarily kill cells during cell division. Explain why these two therapies are more likely to kill cancer cells than healthy cells.

3. Cancer is most common in the elderly; even though anyone of any age can get cancer. Explain the physiological reason for this fact.
4. Explain why malignant melanoma (a type of skin cancer) can lead to death.

5. Describe the body’s responses to decrease body temperature.

6. If our cells and body fluids are hypertonic to the water in a swimming pool (and they are), then why do we not swell and pop when we go for a swim?

7. Would a person be more likely to obtain hyperthermia in a hot-humid climate or a hot-arid climate? Explain why?

8. What special problems would result from loss of 50% of a person’s functional skin surface? How might this person’s environment be modified to compensate partially for such a loss?