Honors Physiology

Unit 2 Guide – Histology

Reading Assignment:
Chapter 4 Tissue: The Living Fabric (pages 117-150)

Vocabulary:
Please define the following terms and use them to study for the Unit Test. Be prepared to turn in a list of your definitions the day of the test. You may use flashcards, list form, Quizlet, or whatever is most practical and useful for you.

Tissues
Histology
Epithelial tissue
Apical surface
Basal surface
Microvilli
Cilia
Basal lamina
Reticular lamina
Simple epithelia
Stratified epithelia
Squamous cells
Cuboidal cells
Columnar cells
Endothelium
Mesothelium
Goblet cells
Gland
Secretion
Endocrine glands
Hormones
Exocrine glands
Unicellular gland
Mucin
Multicellular exocrine glands
Simple glands
Compound glands
Tubular
Alveolar (Acinar)
Tubuloalveolar
Merocrine glands
Holocrine glands

Connective tissue
Extracellular matrix
Ground substance
Collagen fibers
Elastic fibers
Reticular fibers
Fibroblast
Chondroblast
Osteoblast
Hematopoietic stem cell
White blood cells
Plasma cells
Mast cells
Macrophages
Loose connective tissues
Dense connective tissues
Areolar connective tissue
Edema
Adipose tissue
Adipocytes
Brown adipose tissue
Reticular connective tissue
Reticular cells
Stroma
Cartilage
Osseous tissue
Neurons
Skeletal muscle

Muscle fibers
Cardiac muscle
Myofilaments
Intercalated discs
Smooth muscle
Voluntary muscle
Involuntary muscle
Cutaneous membranes
Mucous membranes (mucosae)
Lamina propria
Serous membranes (serosa)
Pluera
Pericardium
Peritoneums
Regeneration
Fibrosis
Scar tissue
Granulation tissue
Primary germ layers
Ectoderm
Mesoderm
Endoderm
Adenoma
Autopsy
Carcinoma
Keloid
Lesion
Pathology
Pus
Sarcoma
Scurvy

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Study Questions:
*Answer the following questions throughout the unit. Be ready to turn in your work the day of the test. Use in class notes, the textbook, and other resources to guide you in writing your **own** original response to the question. Think critically!*

1. What distinguishes cancer cells from the cells of benign neoplasms?

2. Macrophage-like cells are found in many different tissues, and may have specific names that reflect their location or specializations. What is the one functional characteristic common to all macrophage-like cells?

3. All of the following statements refer to events of tissue repair. Put the events in proper numbered order according to the sequence of occurrence. The initial event, the injury, is already indicated as number one.
   1) The skin receives a cut that penetrates into the dermis and bleeding begins.
   2) Epithelial regeneration is nearly complete.
   3) Granulation tissue is formed.
   4) Blood clotting occurs and stops the blood flow.
   5) The scar retracts.
   6) Macrophages engulf and clean away cellular debris.
   7) Fibroblasts elaborate connective tissue fibers to span the break.

4. Since mature adipocytes do not divide, how can adults gain weight?

5. Tendon tears or breaks are difficult to repair both physiologically and surgically. Why?

6. How is epithelial tissue the opposite of connective tissue?

7. How is blood unique among connective tissues?

8. What are the primary germ layers during embryonic development and what do they ultimately produce?

9. Explain what is meant by epithelial tissue being avascular but innervated.

Clinical Application Questions:
10. Aunt Jessie woke up one morning with excruciating pain in her chest. She had trouble breathing for several weeks. Following a visit to the doctor, she was told she had pleurisy. What is this condition and what did it affect?

11. In adult humans, most cancers are carcinomas or adenocarcinomas. These include cancers of the skin, lung, colon, breast, and prostate. Which of the four basic tissue types is involved? Why do you think this is so?

12. Explain why an infection may occur in a tissue injury.