**Ch. 4 Tissue Study Guide**

***4-1 Identify the four major types of tissues in the body and describe their roles.***

* **Tissues**
* **Histology**
* List the levels of organization and provide an example for each level.
* List and describe the 4 basic types of tissue.
* Preview the rest of the chapter and list two extra facts about the 4 types of tissue.

***4-2 Discuss the types and functions of epithelial tissue.***

* **Epithelial tissue**
* **Epithelia**
* **Glands**
* **Polarity**
* **Basement membrane**
* **Avascular**
* **Glandular epithelium**
* **Germinative cells**
* List the 5 important characteristics of epithelial tissue.
* Identify the 4 essential functions of epithelial tissue.
* Why would there be microvilli on the surface of an epithelial tissue?
* Why must cells have cell junctions?

***4-3 Describe the relationship between form and function for each type of epithelium.***

* **Simple epithelium**
* **Stratified epithelium**
* **Squamous epithelium**
* **Simple squamous epithelium**
* **Mesothelium**
* **Endothelium**
* **Stratified squamous epithelium**
* **Cuboidal epithelium**
* **Simple cuboidal epithelium**
* **Stratified cuboidal epithelium**
* **Transitional epithelium**
* **Columnar epithelium cells**
* **Simple columnar epithelium**
* **Pseudostratified columnar epithelium**
* **Stratified columnar epithelium**
* **Endocrine glands**
* **Exocrine glands**
* **Ducts**
* **Merocrine secretion**
* **Apocrine secretion**
* **Holocrine secretion**
* How are epithelial tissues categorized? List the various categories.
* For each classification of epithelia draw a sketch, list several locations, and describe the functions.
* Name the two types of glandular epithelia.
* Draw a sketch for each mode of glandular secretion.
* Describe the differences between the 3 types of secretions.

4-4 Compare the structures and functions of the various types of connective tissues.

* **Connective tissue**
* **Ground substance**
* **Calcified**

Cell populations

* + **Fibroblasts**
  + **Adipocytes**
  + **Mesenchymal cells**
  + **Macrophages**
  + **Mast cells**
  + **Histamine**
  + **Heparin**
  + **Lymphocytes**
  + **Plasma cells**
  + **Microphages**
  + **Melanocytes**
  + **Melanin**

Fibers

* + **Collagen fibers**
  + **Reticular fibers**
  + **Elastic fibers**
  + **Elastic ligaments**
* **Loose connective tissues**
  + **Areolar tissue**
  + **Adipose tissue**
  + **Reticular tissue**
* **Dense connective tissue**
  + **Collagenous tissue**
  + **Dense regular connective tissue**
    - **Tendons**
    - **Ligaments**
    - **Aponeruosis**
  + **Dense irregular connective tissue**
    - **Capsule**
    - **Elastic tissue**

**Fluid**

* + **Blood**
  + **Plasma**
  + **Arteries**
  + **Capillaries**
  + **Veins**
  + **Lymph**
  + **Lymphatic vessels**
* What are 3 basic components/characteristics all connective tissues share?
* List the functions of all connective tissues.
* List and briefly describe the 3 general categories of connective tissues.
* List the cell populations in the connective tissue proper.
* List the connective tissue fibers.
* Differentiate between loose connective tissue and dense connective tissue.
* Which two types of connective tissue is largely made up of fluid?

4-5 Describe how cartilage and bone function as a supporting connective tissue.

* **Cartilage**
* **Chondrocytes**
* **Lacunae**
* **Perichondrium**
* **Hyaline cartilage**
* **Elastic cartilage**
* **Fibrocartilage**
* **Bone/osseous tissue**
* **Osteocytes**
* **Canaliculi**
* **Periosteum**
* Identify the two types of supporting connective tissue.
* List and differentiate the 3 types of cartilage.
* If a person has a herniated intervertebral disc, which type of cartilage has been damage?
* What are cartilage cells called?
* What connective tissue surrounds cartilage?
* What are bone cells called?
* What connective tissue surrounds bone?
* Why does bone heal faster than cartilage?

4-6 Explain how epithelial and connective tissues combine to form four types of tissue membranes.

* **Mucous membranes/mucosae**
* **Lamina propria**
* **Serous membranes**
* **Serosa**
* **Cutaneous membrane**
* **Synovial membrane**
* **Synovial fluid**
* Identify and sketch the 4 types of tissue membranes found in the body.
* Which cavities in the body are lined by serous membranes?
* The lining of the nasal cavity is normally moist, contains numerous mucous cells, and rests on a layer of connective tissue called the lamina propria. Which type of membrane is this?

4-7 Describe how the connective tissue establishes the framework for the body.

* **Fasciae**
* **Superficial fascia/hypodermis**
* **Deep fascia**
* **Subserous fascia**
* Identify the 3 types of fasciae found in the body.
* What are the functions of the fasciae?
* What type of connective tissue(s) is associated with each fasciae?
* A sheet of tissue has many layers of collagen fibers that run in different directions in successive layers. Which type of tissue is this?

**4-8 Describe the 3 types of muscle tissue and the special structural features of each type.**

* **Muscle tissue**
* **Skeletal muscle tissue**
* **Muscle fibers**
* **Myosatellite cells**
* **Striated voluntary muscle**
* **Cardiac muscle tissue**
* **Cardiocyte**
* **Intercalated discs**
* **Striated involuntary muscle**
* **Smooth muscle tissue**
* **Nonstriated muscle tissue**
* **Differentiate the 3 types of muscle tissue.**
* Which type of muscle tissue has small, tapering cells with single nuclei and no obvious striations?
* If skeletal muscle cells in adults are incapable of dividing, how is skeletal muscle repaired?

**4-9 Discuss the basic structure and role of neural tissue.**

* **Neural tissue**
* **Neurons**
* **Neuroglia**
* **Cell body**
* **Dendrites**
* **Axon**
* **Nerve fibers**
* List functions of neural tissue.
* Identify 2 types of neural cells.
* Describe the structure of a neuron.

**4-10 Describe how injuries affect the tissue of the body.**

* **Necrosis**
* **Pus**
* **Abscess**
* **Regeneration**
* Describe the process of inflammation.
* Describe the process of regeneration.

**4-11 Describe how aging affects the tissues of the body.**

* Identify some age-related factors that affect tissue repair and structure.