

# Ch5: Body Tissues and Membranes

# Tissue Types

- Tissue =
- Types
  - Epithelial -
  - Connective -
  - Muscle -
  - Nervous -

# Membrane Types

Membranes line body cavities and hold organs together

- **Epithelial: Cutaneous**

- Function:

- Location:

- Structure:

# Membrane Types

- Epithelial: Mucous
  - Function:
  
  - Location:
  
  - Structure:

# Membrane Types

- Epithelial: Serous
  - Function:
  - Location:
  - Structure:



# Epithelial Tissue

- Function = lining, covering, and glandular tissue of the body
- Special Characteristics:
  - Fits \_\_\_\_\_ together
  - \_\_\_\_\_ = one free end that is exposed to body's exterior
  - Lower surface rests on \_\_\_\_\_ (connective)
  - No \_\_\_\_\_ of their own and depend on diffusion
  - \_\_\_\_\_

# Epithelial Tissue: Classification

- Simple = \_\_\_\_\_, absorption, secretion, filtration
- Types
  - Simple Squamous – (serous membrane) forms where filtration and \_\_\_\_\_ takes place
    - Ex: air sacs in \_\_\_\_\_ or lining of ventral body cavity
  - Simple Cuboidal – found in \_\_\_\_\_ and their ducts
    - Ex: salivary gland, pancreas, ovaries, kidneys



# Epithelial Tissue: Classification

- Simple Columnar – (mucous membranes) goblet cells secrete mucous
  - Ex: lining of \_\_\_\_\_ tract (intestines)
  
- Pseudostratified Columnar – give \_\_\_\_\_ impression of layers
  - Ex: lining of \_\_\_\_\_ tract – \_\_\_\_\_

# Epithelial Tissue: Classification

- Stratified = \_\_\_\_\_  
\_\_\_\_\_, more durable, protection
- Types:
  - Stratified Squamous – found in \_\_\_\_\_,  
\_\_\_\_\_, and \_\_\_\_\_
    - Found in places that require some protection against objects (clothes/food)

# Epithelial Tissue: Classification

– Stratified Cuboidal and Columnar – fairly

\_\_\_\_\_

- found in ducts of large glands

– Transitional – lines \_\_\_\_\_,  
ureters, and urethra

- changes shape when

\_\_\_\_\_

# Epithelial Tissue: Classification

- Glandular – consists of one or more cells that make and \_\_\_\_\_ a product
- Types:
  - Endocrine glands – secrete hormones \_\_\_\_\_ the body (thyroid, adrenals, pituitary)
  - Exocrine glands – have ducts to \_\_\_\_\_ (sweat, oil glands)

# Connective Tissue

- Function = protecting, supporting, and binding together other body tissues
- Common Characteristics
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  - Most are well vascularized, but tendons and ligaments are not
  - Cartilage is \_\_\_\_\_ – heals very slowly or not at all

# Connective Tissue

- Common Characteristics

— \_\_\_\_\_ —  
contains different types of cells surrounded by nonliving substances

- Connective tissue makes it – different thicknesses
- Allows tissue to bear weight or withstand stretching
- Varies from \_\_\_\_\_ (bone) to \_\_\_\_\_ (fat)

# Connective Tissue

- Common Characteristics

- \_\_\_\_\_ made by  
connective tissue

- \_\_\_\_\_ – white

- \_\_\_\_\_ – yellow

- \_\_\_\_\_ – fine collagen

# Connective Tissue: Classification

- Bone (osseous) – bone cells sitting in \_\_\_\_\_ and surrounded by \_\_\_\_\_

– \_\_\_\_\_ other body organs



# Connective Tissue: Classification

- Cartilage – \_\_\_\_\_ and more than bone  
\_\_\_\_\_
- \_\_\_\_\_ – collagen fibers in rubbery matrix and glassy appearance
  - Larynx, attaches ribs to breastbone, covers ends of bones at joints, makes up fetus skeleton
- \_\_\_\_\_ – found where structures need elasticity
  - External ear, vertebral discs

# Connective Tissue: Classification

- Dense Connective Tissue – contain collagen and fibroblasts (fiber-forming cells)
  - Tendons = connects

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  - Ligaments = connects

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- Blood – 

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  - Blood cells surrounded by nonliving fluid matrix called plasma
  - Transport vehicle of cardiovascular system

# Connective Tissue: Classification

- Loose Connective Tissue – soft, more cells, and fewer fibers
  - areolar connective tissue – holds internal organs together
    - Provides a reservoir of water and salts for surrounding tissues
    - Edema – when body region gets inflamed and areolar tissue soaks up excess fluid
  - adipose connective tissue (fat) – stored oil that insulates and cushions body parts
  - reticular connective tissue – form stroma
    - internal supporting framework for lymphoid organs (spleen and lymph nodes)

# Muscle Tissue

- Function = aids in the \_\_\_\_\_ and \_\_\_\_\_ movement of the body
- Types: Skeletal, cardiac, and smooth
- Characteristics: striations, control, location, and number of nuclei

# Muscle Tissue: Classification

- Skeletal

a. Location: Attached to \_\_\_\_\_;  
moves body

b. Control: \_\_\_\_\_

c. \_\_\_\_\_ – has visible stripes in cell

\_\_\_\_\_ – formed  
because cells fuse during development to form  
one long cell

Long and cylindrical

# Muscle Tissue: Classification

- Cardiac

a. Location: only in \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

Fits tightly together at junctions called

\_\_\_\_\_

d. Gap junctions that allow ions to pass freely from cell to cell to cause rapid conduction of electrical impulses

e. Control: \_\_\_\_\_

# Muscle Tissue: Classification

- Smooth

a. \_\_\_\_\_

Control: \_\_\_\_\_

b. Spindle-shaped

\_\_\_\_\_

c. Location: \_\_\_\_\_

\_\_\_\_\_ (stomach, bladder, uterus,  
blood vessels)

d. Creates peristalsis = wavelike motion of the  
slow contraction

