

The Tissue Level of Organization

Study of this lecture is to be accomplished in conjunction with the Histology Module on the Web !!

1. Introduction
 - Cell
 - Tissue
 - Histology
 - A. General Tissue Types
 - i. Epithelial Tissue
 - ii. Connective Tissue
 - Muscular Tissue
 - Nervous Tissue
2. Epithelial Tissue
 - A. Epithelial Types
 - i. Covering or Lining Epithelium
 - ii. Glandular Epithelium
 - B. Structure
 - i. Matrix
 - ii. Cell Junctions
 - a. Tight junctions
 - b. Desmosomes
 - c. Gap Junctions

- Intercellular Communication
- iii. Stem Cells
- iv. Avascular
- v. Basement Membrane
 - a. Basal Lamina
 - b. Reticular Lamina
- vi. Orientation
 - a. Apical
 - b. Basal
- C. Covering or lining Epithelium
 - i. Simple Epithelium
 - a. Simple Squamous Epithelium (*Study images on web carefully*)
 - Endothelium
 - Mesothelium
 - b. Simple Cuboidal Epithelium (*Study images on web carefully*)
 - Functions
 - Locations
 - b. Simple Columnar Epithelium (*Study images on web carefully*)
 - Functions
 - Locations

ii. Stratified Epithelium

a. Stratified Squamous Epithelium (*Study images on web carefully*)

- Keratinized Stratified Squamous Epithelium

 - Keratin

 - * Functions

 - * Location

- Nonkeratinized Stratified Squamous Epithelium

 - * Functions

 - * Location

b. Stratified Cuboidal Epithelium (*Study images on web carefully*)

- Functions

- Locations

c. Stratified Columnar Epithelium (*Study images on web carefully*)

- Function

- Locations

d. Transitional Epithelium (*Study images on web carefully*)

- Functions

- Location

e. Ciliated Pseudostratified Columnar Epithelium

(Study images on web carefully)

- Functions
- Locations

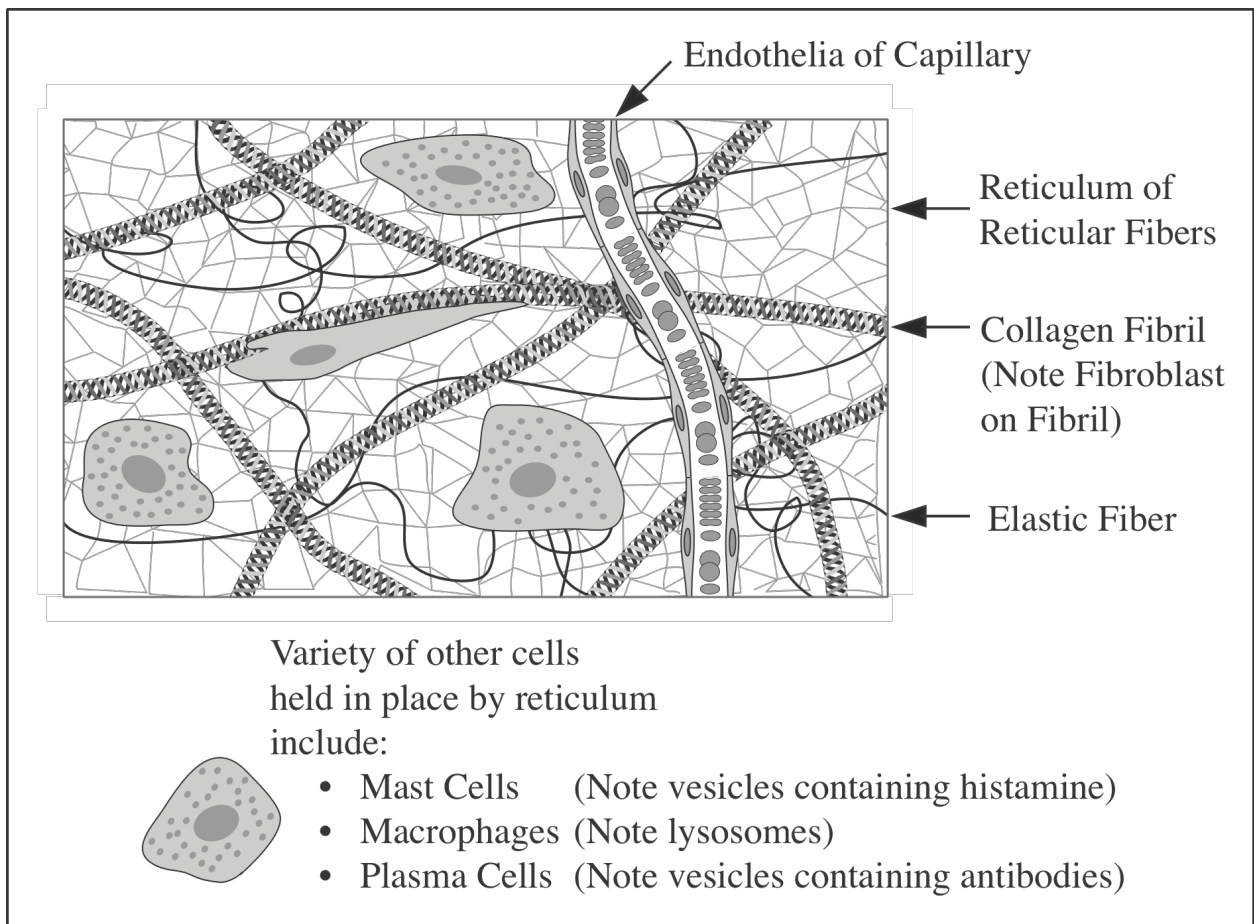
3. Connective Tissue

Embryonic Connective Tissue

- Mesenchyme
- Mucous Connective Tissue

A. Adult Connective Tissue

- Loose (Areolar) Connective Tissue *(Study images on web carefully)*



- a. Matrix
 - b. Fiber Components
 - Collagenous Fibers
 - * Fibril
 - Elastic Fibers
 - Reticular Fibers
 - * Reticulum
 - c. Cellular Component
 - Fibroblasts
 - Macrophages
 - Plasma Cells
 - Mast Cells
 - d. Functions
-
- ii. Adipose Tissue (*Study images on web carefully*)
 - a. Adipocytes
 - Inclusion Body of Lipid
 - b. Location / Function Relationships

iii. Dense (Collagenous) Connective Tissue (*Study images on web carefully*)

a. Regular Dense Connective Tissue

- Function
- Locations
 - * Tendons
 - * Ligaments
 - * Aponeuroses

b. Irregular Dense Connective Tissue

- Location
- Function

iv. Elastic Connective Tissue

a. Function

- Elastic Laminae (Arteries)

b. Locations

v. Reticular Connective Tissue

- * Reticulum

a. Function

b. Locations

B. Cartilage

i. General Characteristics of all Cartilages

- | | |
|-----------------|------------------|
| a. Chondrocytes | c. Perichondrium |
| b. Lacunae | d. Avascular |

ii. Types

a. Hyaline Cartilage (*Study images on web carefully*)

- Characteristics and Functions
- Locations
 - * Costal Cartilage
 - * Articular Cartilage

b. Elastic Cartilage (*Study images on web carefully*)

- Function
- Locations

c. Fibrocartilage (*Study images on web carefully*)

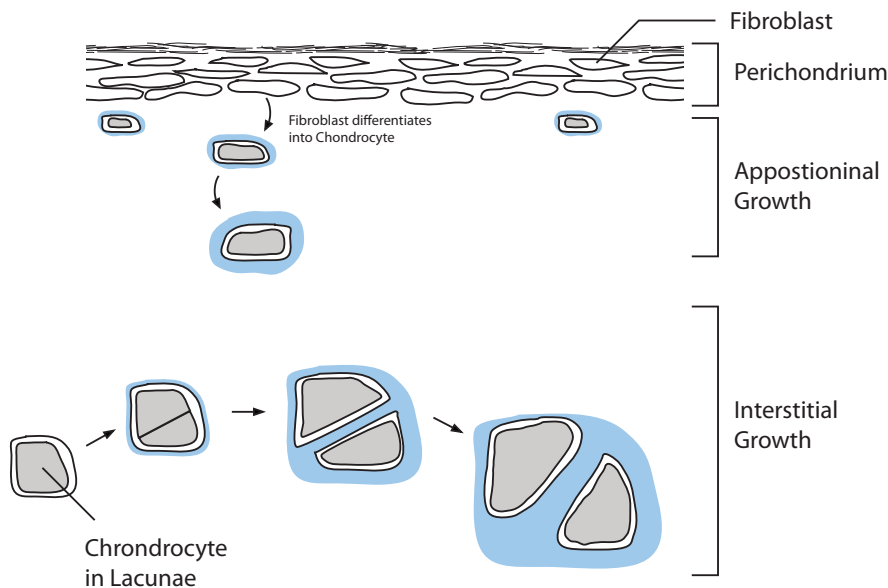
- Function
- Locations

iii. Growth of Cartilage (*Study images on web carefully*)

a. Interstitial Growth

b. Appositional Growth

Cartilage Growth



4. Glandular Epithelium

A. Exocrine Glands (Multicellular)

i. Anatomical Classifications

a. Unicellular glands

b. Multicellular Glands

* Tubular Gland

* Coiled Tubular Gland

* Alveolar (Acinar) Gland

* Compound Alveolar (Acinar) Gland

ii. Functional Classifications

• Holocrine Glands

* Examples

• Merocrine (Eccrine) Glands

* Example

• Apocrine glands

* Example

B. Exocrine Glands (Unicellular)

i. Goblet Cell

a. Examples:

• Simple Columnar Epithelium

• Ciliated Pseudostratified Columnar Epithelium

C. Endocrine Glands

5. Membranes - (***Pull out your handout on Membranes***), you may also want to pull out the handout on ***Body Cavities*** from the first lecture.

A. Serous Membranes (Serosa)

- i. Epithelia: Mesothelium (always)
- ii. Visceral Portion
- iii. Parietal Portion
- iv. Serous Fluid
- v. Examples
 - a. Visceral and Parietal Pericardium
 - b. Visceral and Parietal Pleura
 - c. Visceral and Parietal Peritoneum

B. Mucous Membrane

- i. Mucosae
 - a. Epithelia (variable)
 - b. Lamina Propria
 - Loose Areolar Connective Tissue
 - Irregular Dense Connective Tissue
 - c. Muscularis Mucosa
- ii. Submucosae
 - Irregular Dense Connective Tissue

iii. Capsule

- Irregular Dense Connective Tissue

a. Serosa

- Mesothelia

b. Adventitia