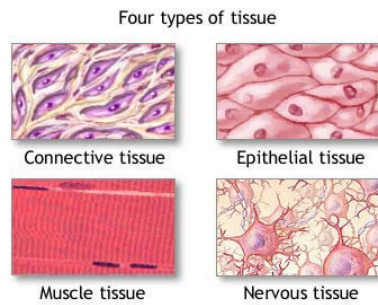


Tissues

Chapter 5



ADAM.

<http://z.about.com/ll/p/440/graphics/images/en/8682.jpg>

5.1 Introduction

A. Tissues:

B. Four major types:

1. Epithelial:

2. Connective:

3. Muscle:

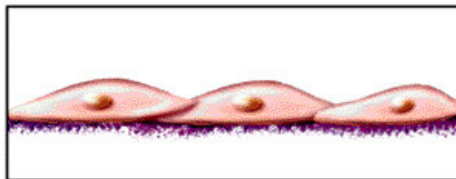
4. Nervous:

5.2 Epithelial Tissues

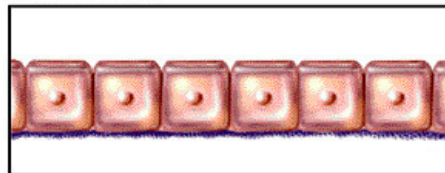
A. General Characteristics

1. Covers
2. Underside anchored by
3. As a rule,
4. Tightly packed
5. Classified by shape and number of cell layers:
 - a.
 - b.
 - c.

Squamous



Cuboidal



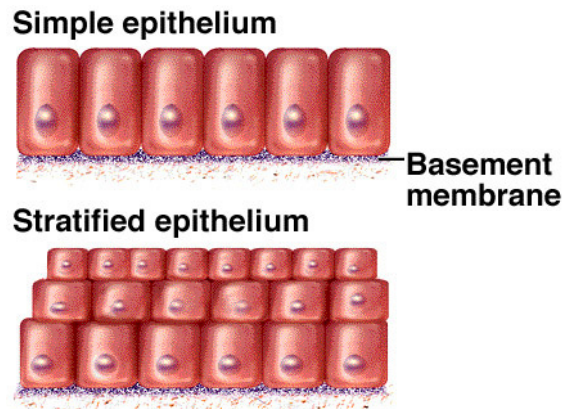
Columnar



5.2 Epithelial Tissues

6. Classified by arrangement:

- a.
- b.
- c.



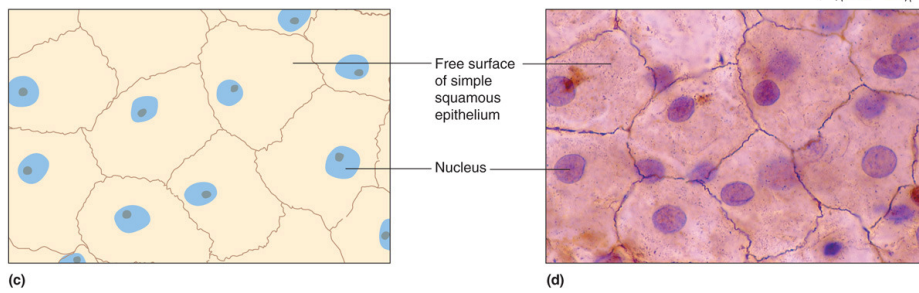
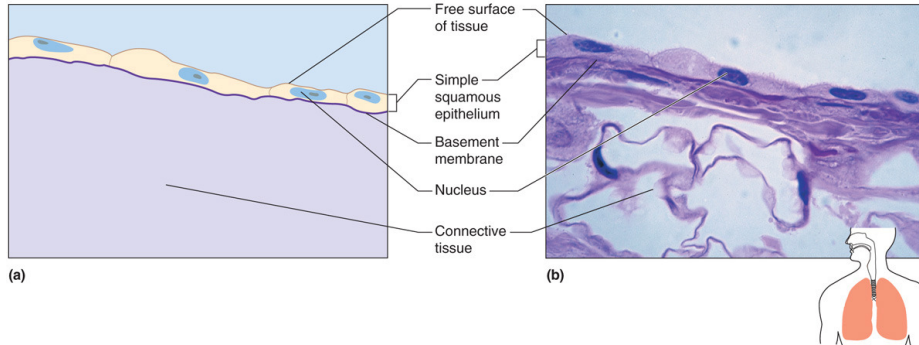
5.2 Epithelial Tissues

B. Types of Epithelial Tissue (some we will be looking at in lab)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

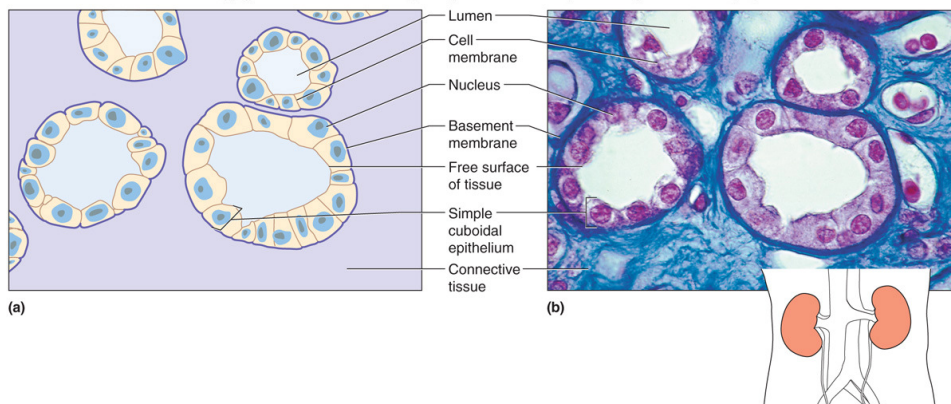
Simple Squamous Epithelium

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Simple Cuboidal Epithelium

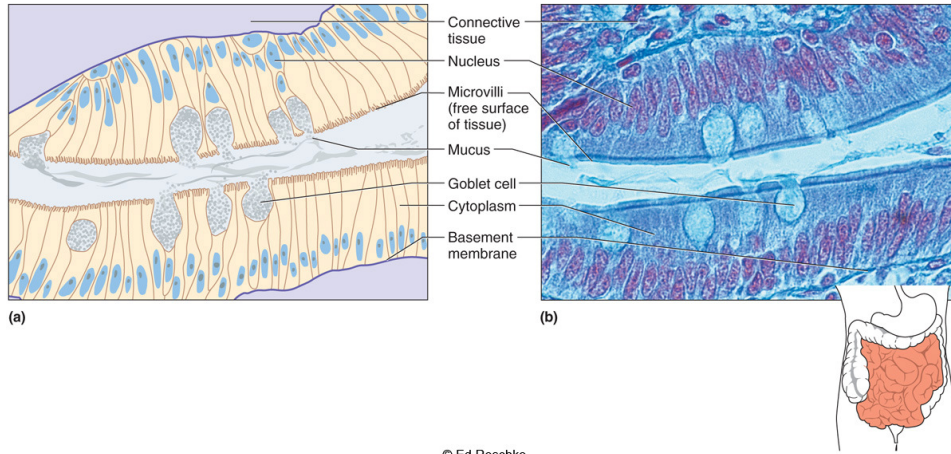
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Simple Columnar Epithelium

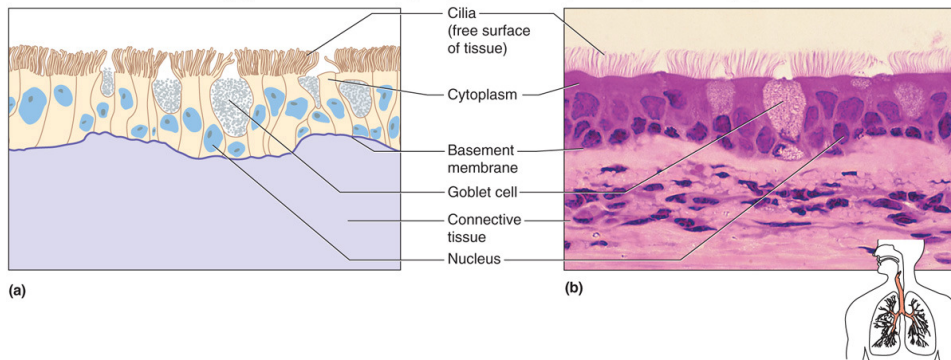
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Pseudostratified Columnar Epithelium

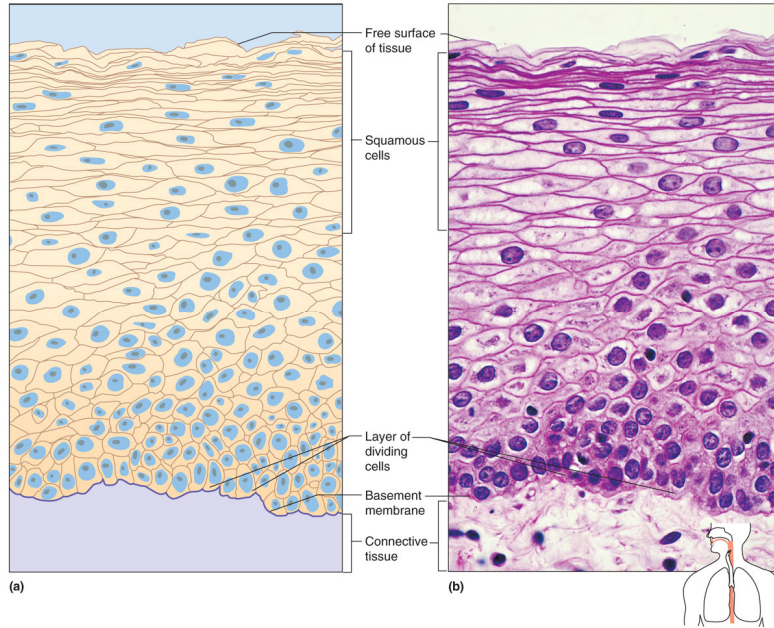
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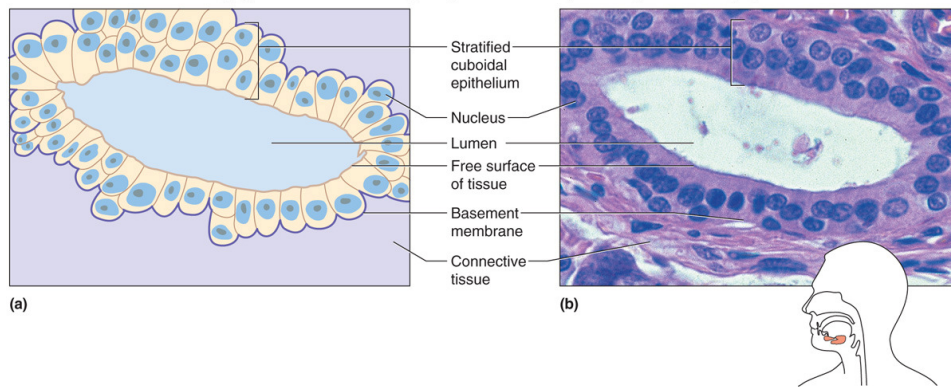
Stratified Squamous Epithelium

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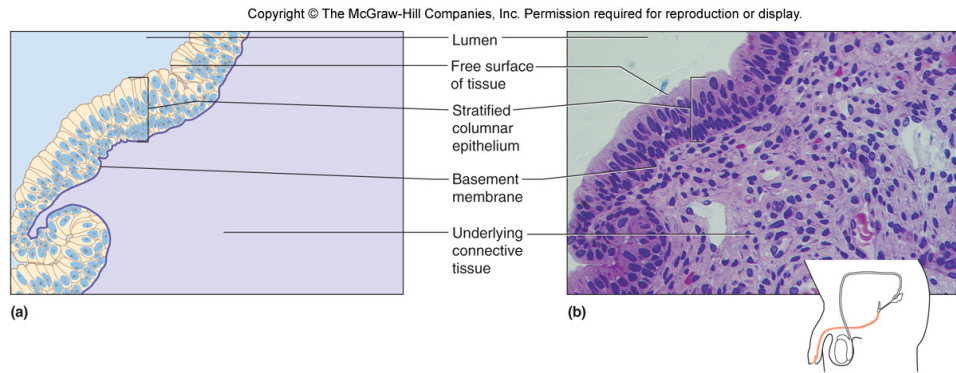


Stratified Cuboidal Epithelium

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Stratified Columnar Epithelium

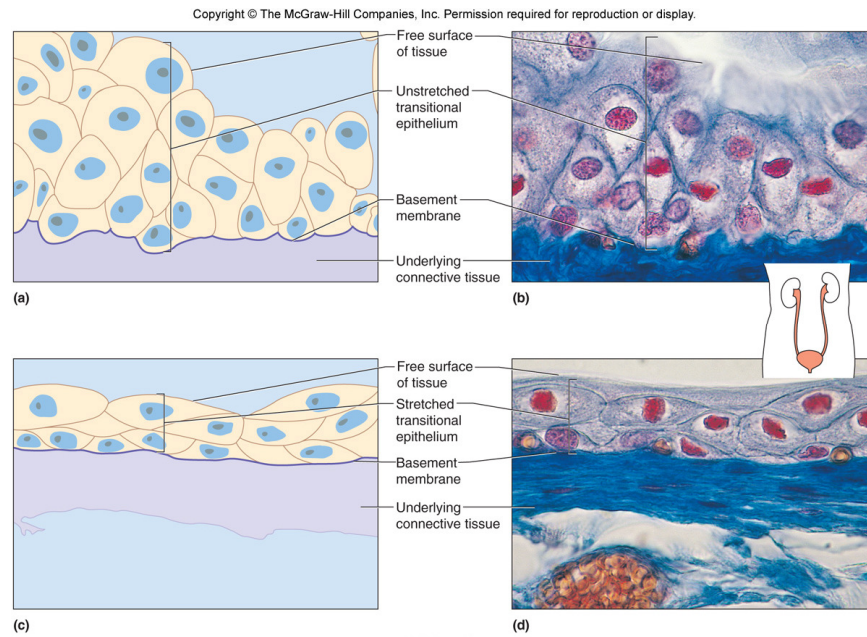


5.2 Epithelial Tissues

C. Transitional Epithelium

1. Specialized
2. Also forms
3. Found in the

Transitional Epithelium



5.2 Epithelial Tissues

D. Glandular Epithelium

1. Specialized
2. Usually found

a. Exocrine glands:

b. Endocrine glands:

5.2 Epithelial Tissues

3. Exocrine classified depending

a. Merocrine glands:

a. Serous cells

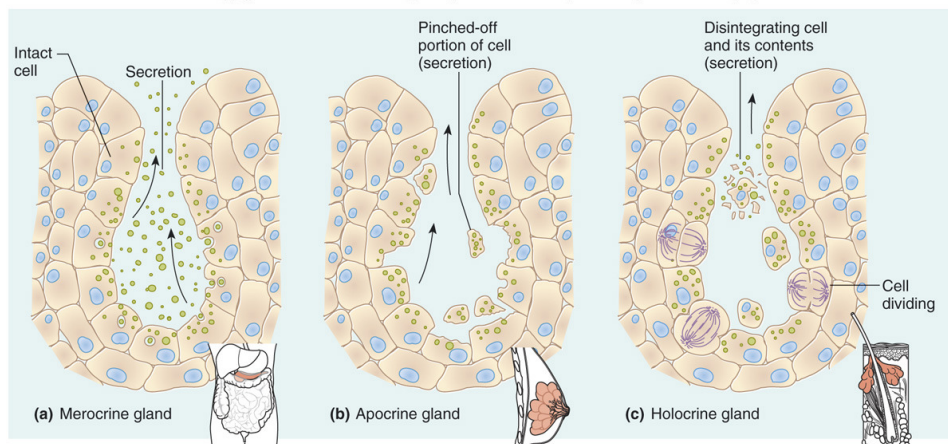
b. Mucous cells

b. Apocrine glands:

c. Holocrine glands:

Types of Glandular Epithelium

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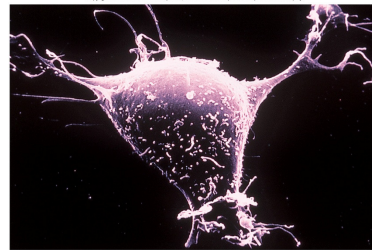


5.2 Epithelial Tissues

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Type	Function	Location
Simple squamous epithelium	Filtration, diffusion, osmosis; covers surface	Air sacs of the lungs, walls of capillaries, linings of blood and lymph vessels
Simple cuboidal epithelium	Secretion, absorption	Surface of ovaries, linings of kidney tubules, and linings of ducts of certain glands
Simple columnar epithelium	Absorption, secretion, protection	Linings of uterus, stomach, and intestines
Pseudostratified columnar epithelium	Protection, secretion, movement of mucus	Linings of respiratory passages
Stratified squamous epithelium	Protection	Outer layer of skin, linings of oral cavity, throat, vagina, and anal canal
Stratified cuboidal epithelium	Protection	Linings of larger ducts of mammary glands, sweat glands, salivary glands, and pancreas
Stratified columnar epithelium	Protection, secretion	Part of the male urethra and parts of the pharynx
Transitional epithelium	Distensibility, protection	Inner lining of urinary bladder and linings of ureters and part of urethra
Glandular epithelium	Secretion	Salivary glands, sweat glands, endocrine glands

5.3 Connective Tissues



Fibroblast

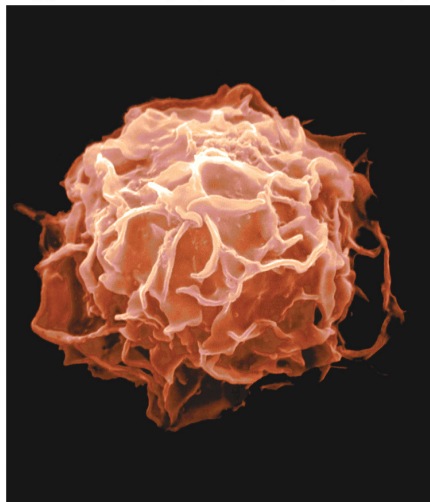
A. General Characteristics

1. Most
2. Most
3. Bind

4. Major Cell Types:
 - a. Fibroblasts:

5.3 Connective Tissues

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Mast Cell

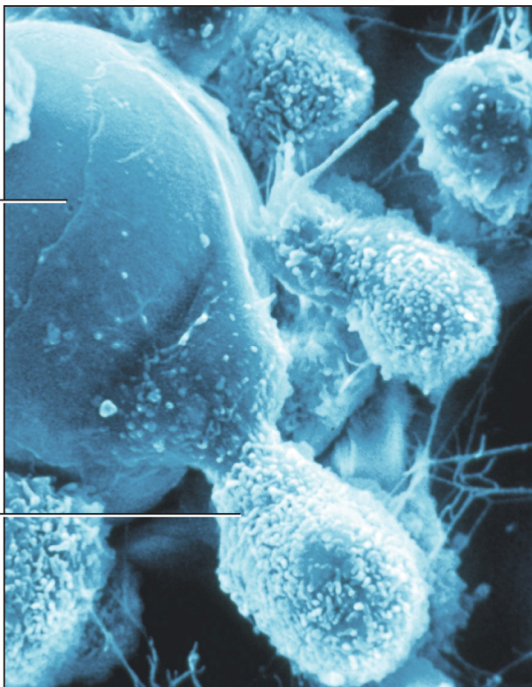
b. Macrophages (histiocytes): Originate as white blood cells and

c. Mast cells: Usually near blood vessels and

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Cell being engulfed

Macrophage



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5.3 Connective Tissues

5. Major Tissue Fibers

a. Collagenous fibers:

a.

b. Elastic fibers:

a. Weaker than

b.

c. Reticular fibers:

a.

5.3 Connective Tissues

B. Categories of Connective Tissue

1.

2.

3.

4.

a.

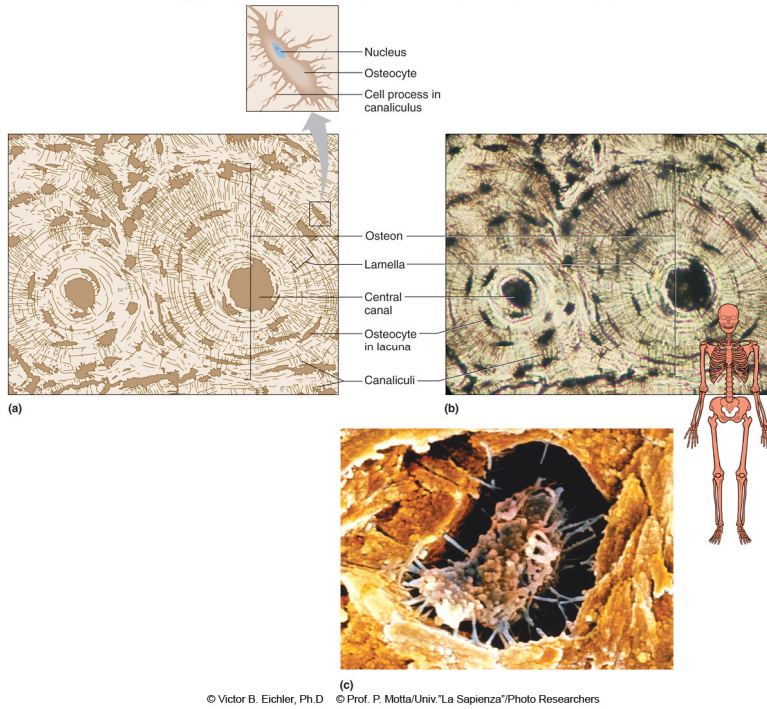
b.

c.

5.

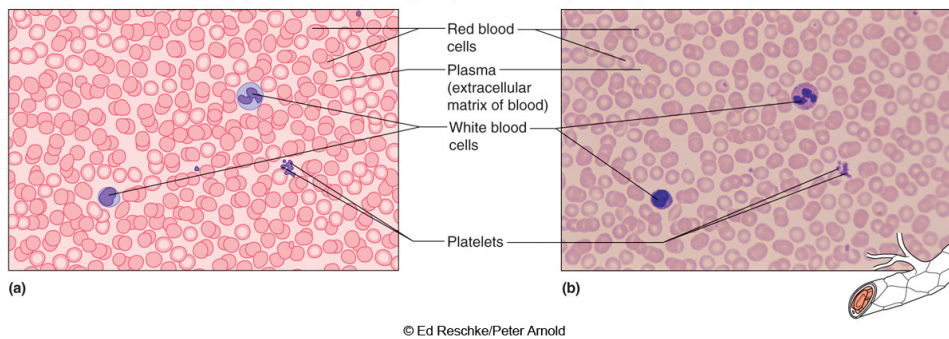
6.

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Blood Tissue

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5.3 Connective Tissues

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Type	Function	Location
Loose connective tissue		
Areolar tissue	Binds organs, holds tissue fluids	Beneath skin, between muscles, beneath epithelial tissues
Adipose tissue	Protects, insulates, stores fat	Beneath skin, around kidneys, behind eyeballs, on surface of heart
Reticular connective tissue	Supports	Walls of liver and spleen
Dense connective tissue	Binds organs	Tendons, ligaments, deeper layers of skin
Hyaline cartilage	Supports, protects, provides framework	Nose, ends of bones, rings in the walls of respiratory passages
Elastic cartilage	Supports, protects, provides flexible framework	Framework of external ear and parts of larynx
Fibrocartilage	Supports, protects, absorbs shock	Between bony parts of spinal column, parts of pelvic girdle and knee
Bone	Supports, protects, provides framework	Bones of skeleton
Blood	Transports substances, helps maintain stable internal environment	Throughout body within a closed system of blood vessels and heart chambers

5.4 Types of Membrane

A. Epithelial membranes

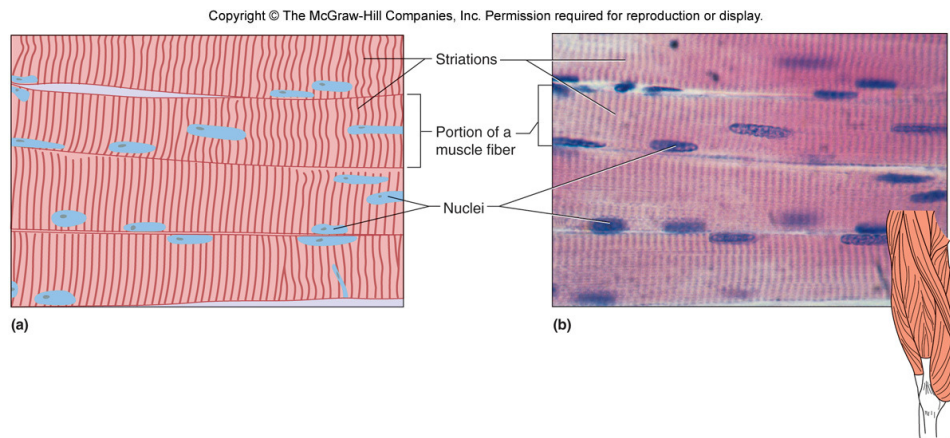
1. Sheetlike and
 2. Three types:
 - a. Serous:
 - b. Mucous:
 - c. Cutaneous:
 - d. Synovial:

5.5 Muscle Tissue

A. Muscle tissues

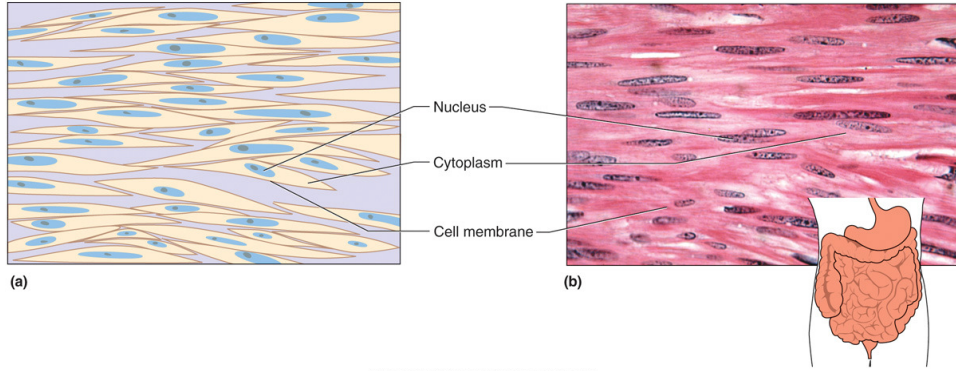
1. Able to contract because
2. Types
 - a. Skeletal (voluntary):
 - b. Smooth (involuntary):
 - c. Cardiac :

Skeletal Muscle Tissue



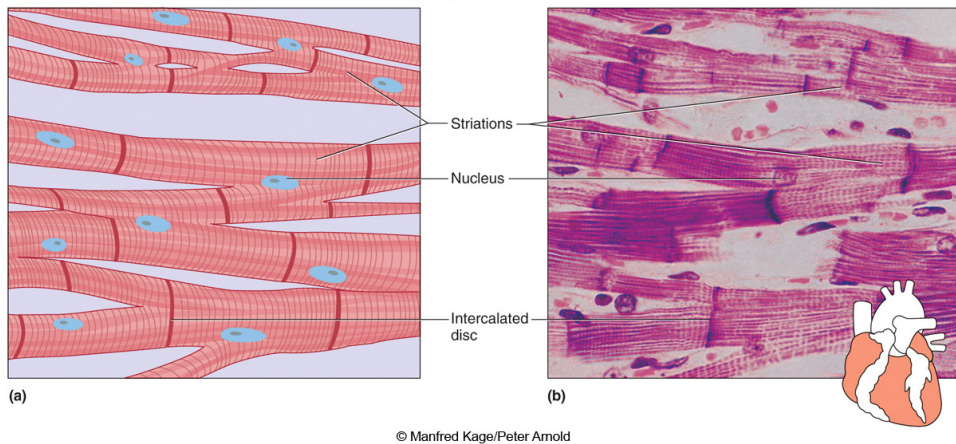
Smooth Muscle Tissue

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Cardiac Muscle Tissue

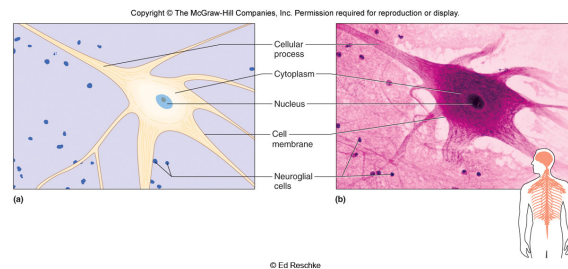
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5.6 Nervous Tissue

A. Nervous tissue

1. Found in the
2. Neurons are
3. Composed
4. Neuroglial cells:



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[Tissues PowerPoint](#)