

Tissues: group of cells that are similar in structure and function

Epithelium: covering, linings of surfaces

Connective: support bone, ligaments, fat

Muscle: movement

Nervous: control brain, nerves, spinal cord



:Function of epithelial tissue

- **Protection:** skin protects from sunlight, bacteria, physical damage
- **Absorption:** lining of small intestine, absorbing nutrient into blood.
- **Filtration:** lining of kidney tubules filtration waste from blood plasma
- **Secretion:** different glands perspiration, oil, digestive enzyme and mucus



Classification of epithelial tissue

Cell shape

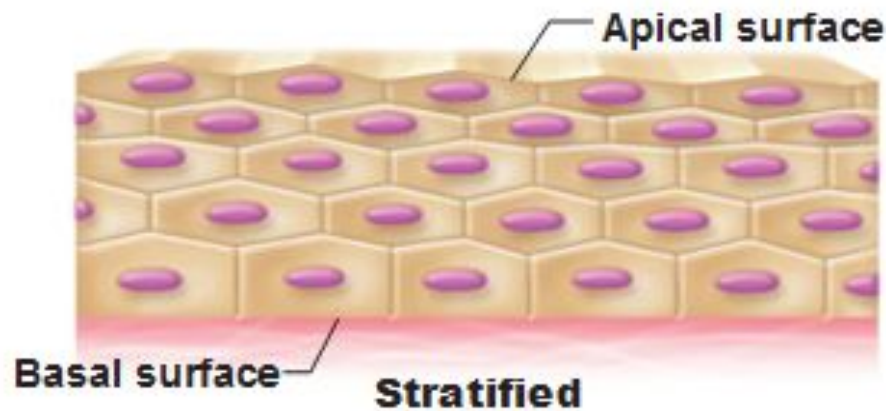
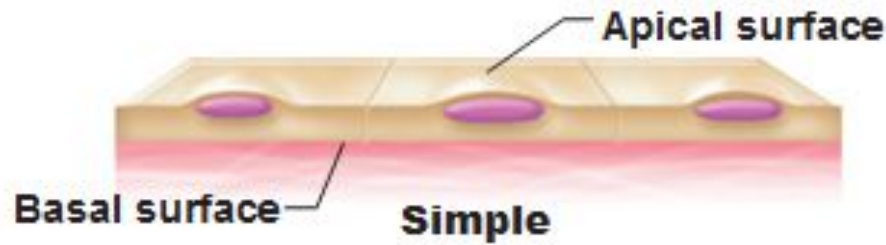
- Squamous=faltnened like fish scales
- Cuboidal=cubes
- Columnar=columns

Cell layers

- Simple (one layer)
- Stratified (many layer)
- Named for the type of cell at the apical surface



Classifications of Epithelia



(a) Classification based on number of cell layers

Note that basal cells regenerate; as apical cells slough off, they are replaced by basal cells



Squamous



Cuboidal



Columnar

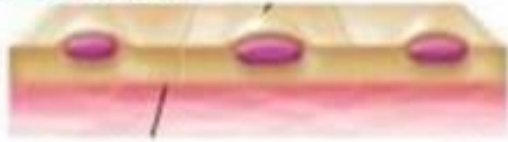
(b) Classification based on cell shape



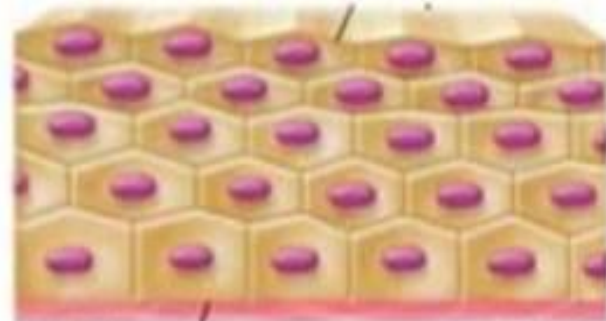
CLASSIFICATION OF EPITHELIUM

On the basis of :

NUMBER OF LAYERS



SIMPLE (made of single cell layer)



STRATIFIED (made of many cell layer)

CELL SHAPE



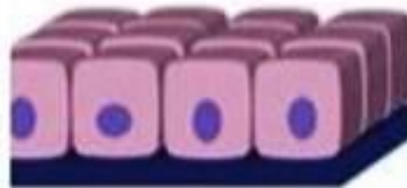
Squamous



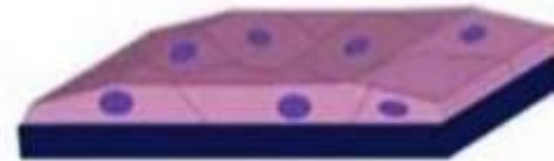
Cuboidal



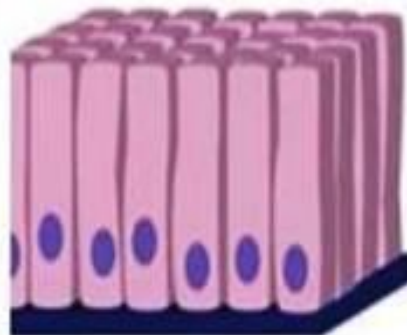
Columnar



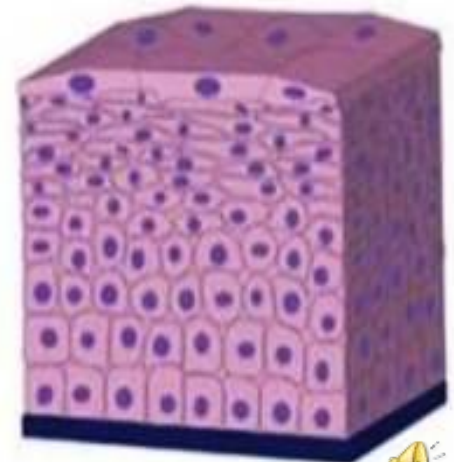
Simple Cuboidal



Simple Squamous



Simple Columnar



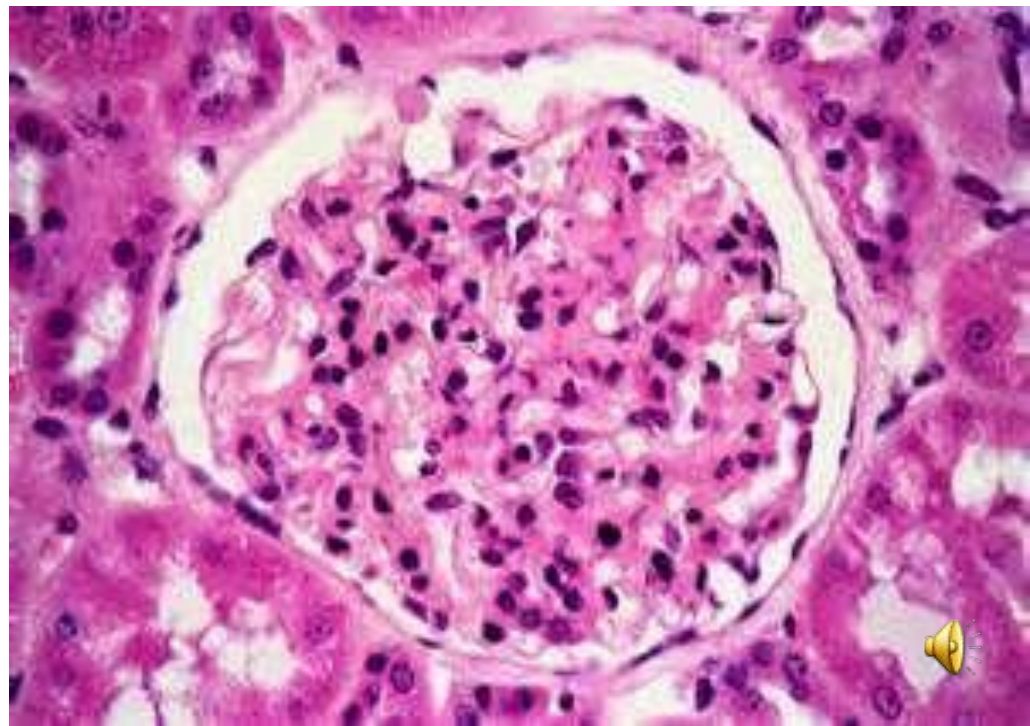
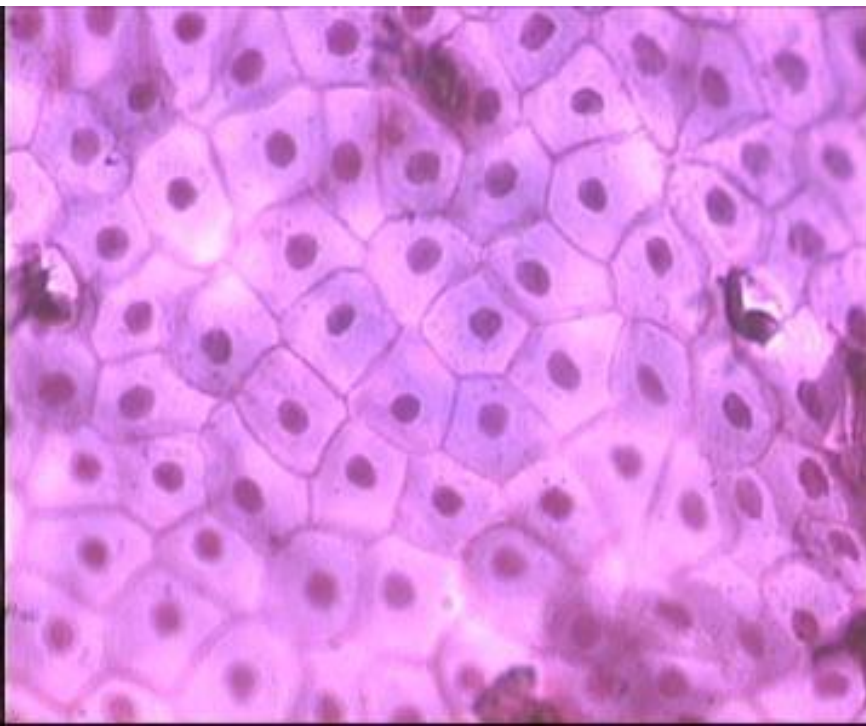
Stratified Squamous



Simple squamous epithelium

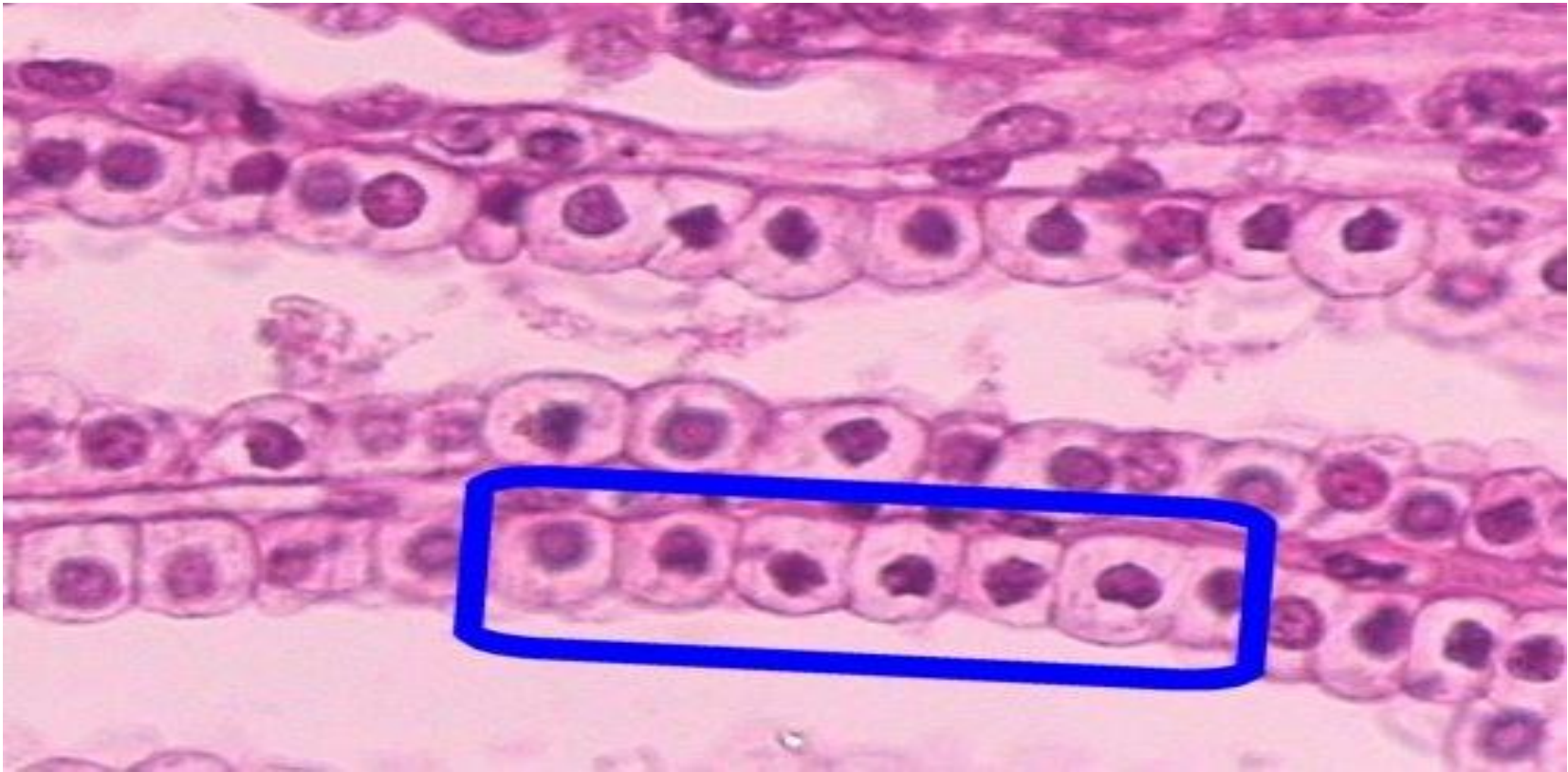
- Structure:

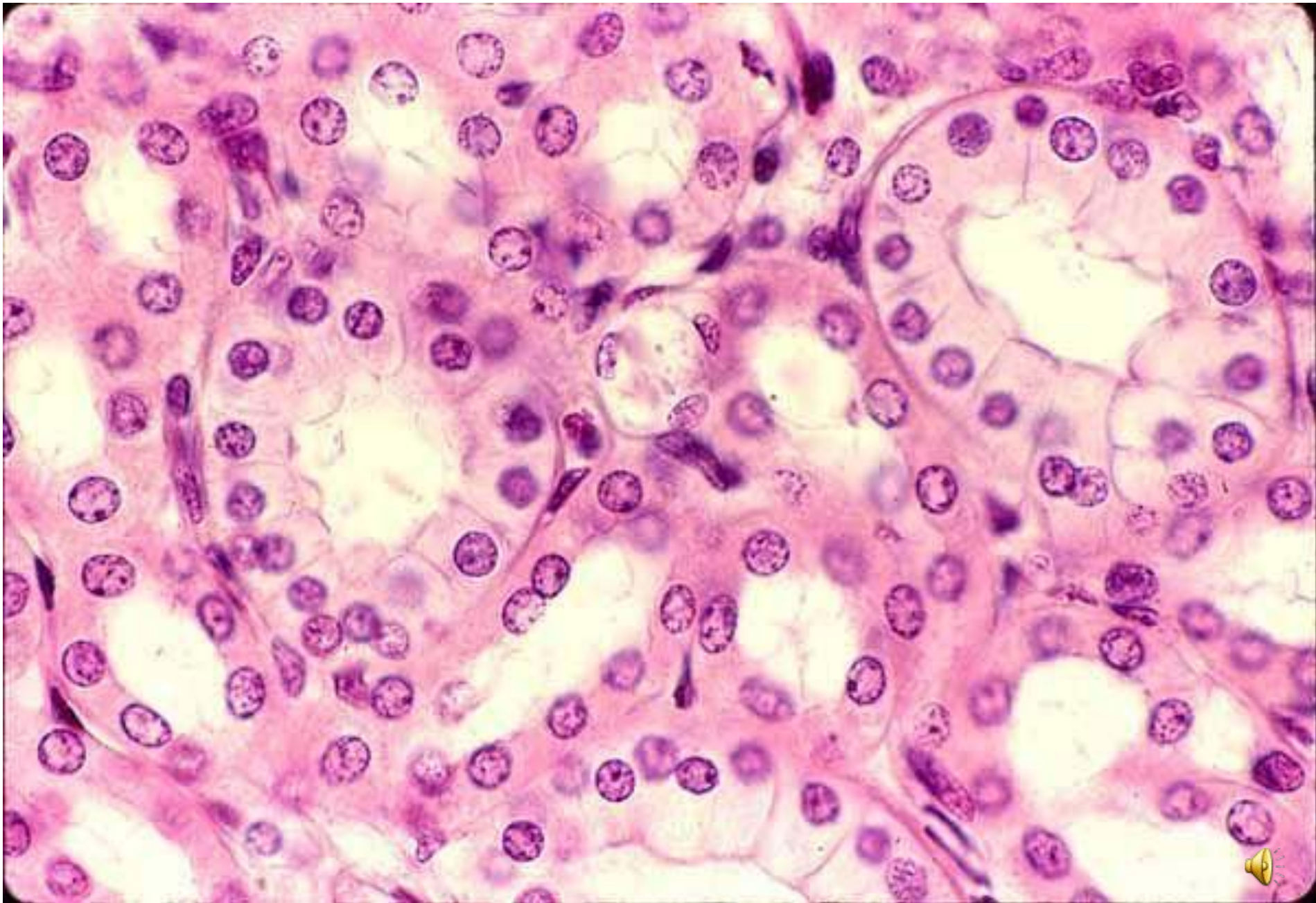
Single layer of flattened cell



Simple cuboidal epithelium

- Structure
- Single layer of cube shaped cells





Simple columnar epithelium

- **Structure**
- Elongated layer of cell with nuclei at same level

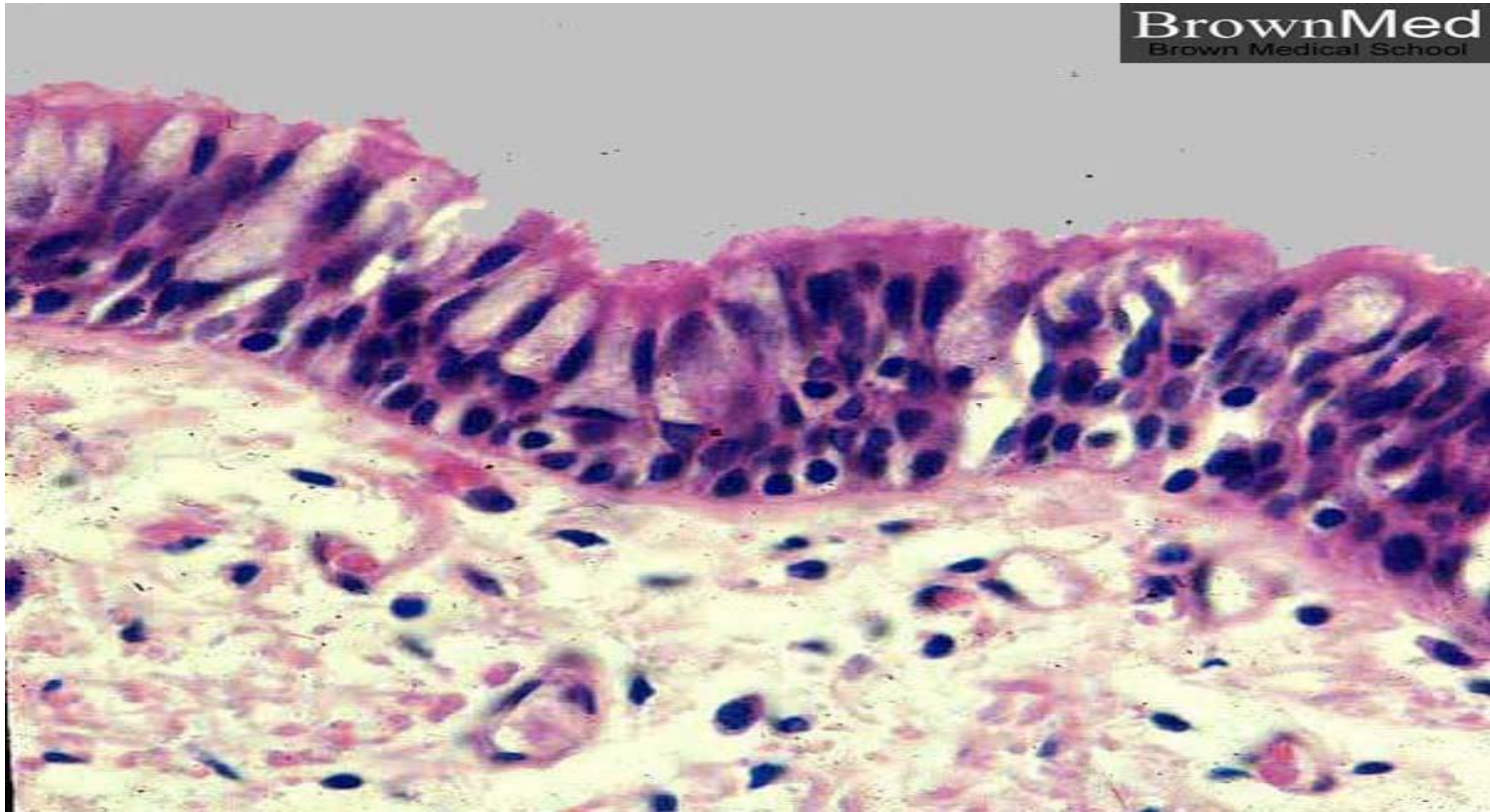




Pseudostratified epithelium

Structure

- Irregularly shaped cell with nuclei at different level-appear stratified, but aren't.



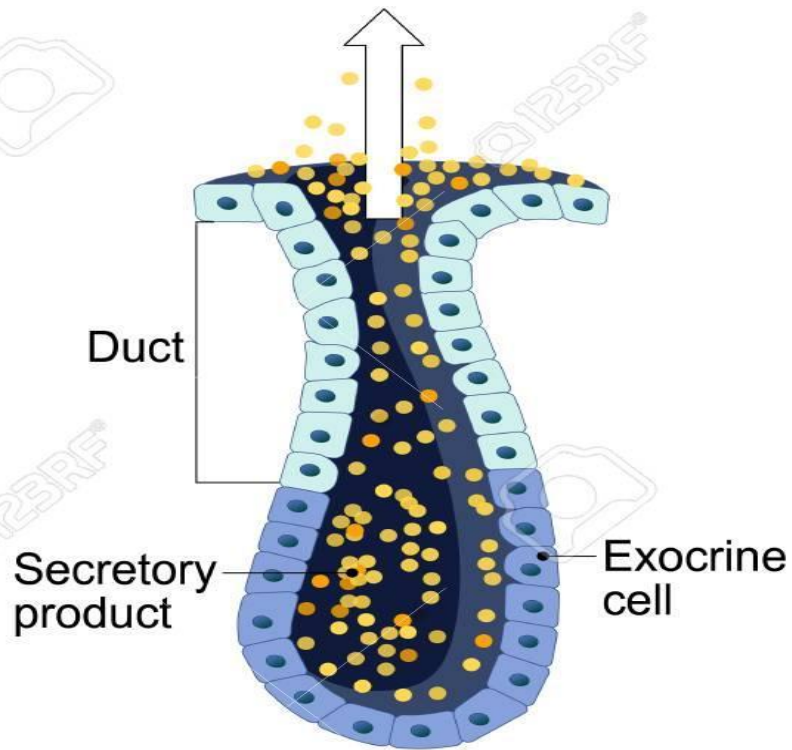
Stratified squamous epithelium

- **Structure**

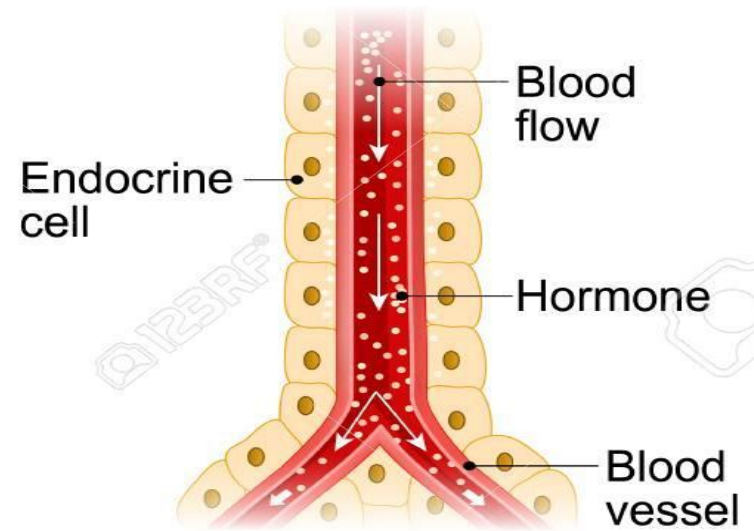
Many layers (usually cubodial/columnar at bottom and squamous at top)



Types of gland



Exocrine gland



Endocrine gland



Shape of exocrine glands

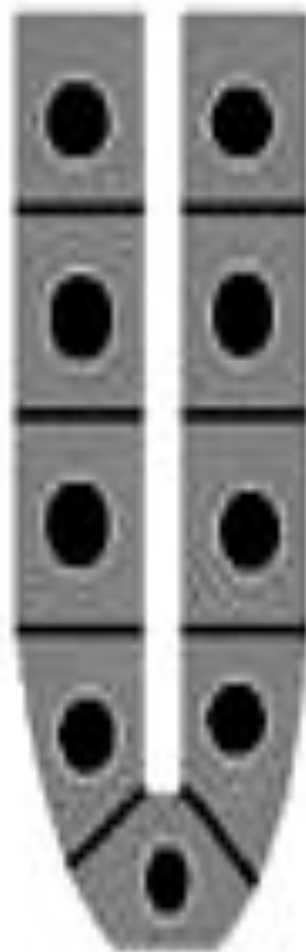
- **Branching**
- Simple, single, unbranched duct
- Compound-branched
- **Shape**
- Tubular or alveolar
- Tubular-shaped like a tube
- Alveolar-shaped like flasks or sacs
- Tubuloalveolar: has both tubes and sacs in gland



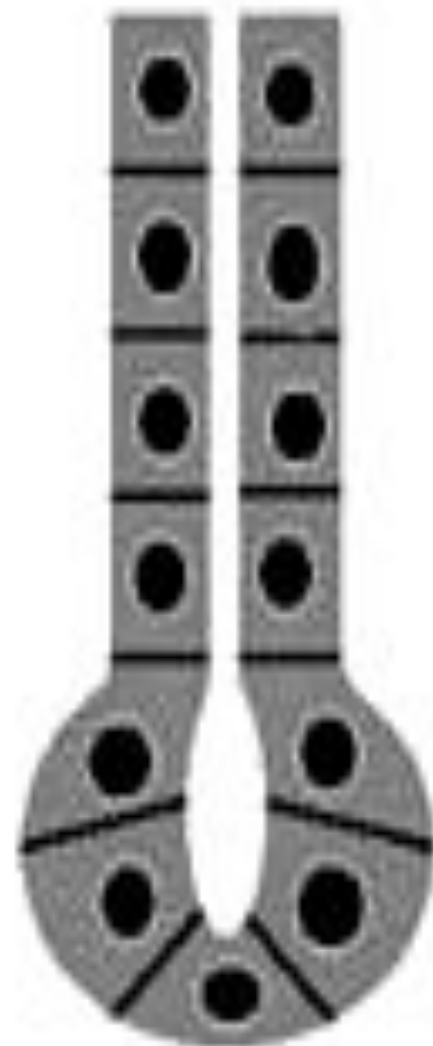
ALVEOLAR (ACINAR)

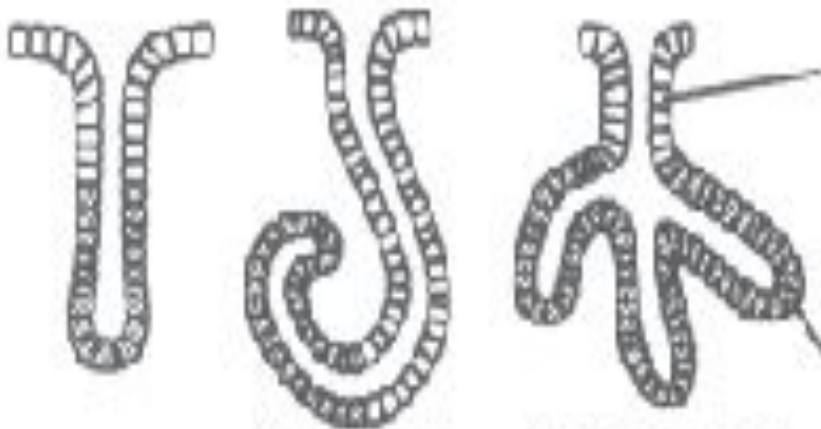
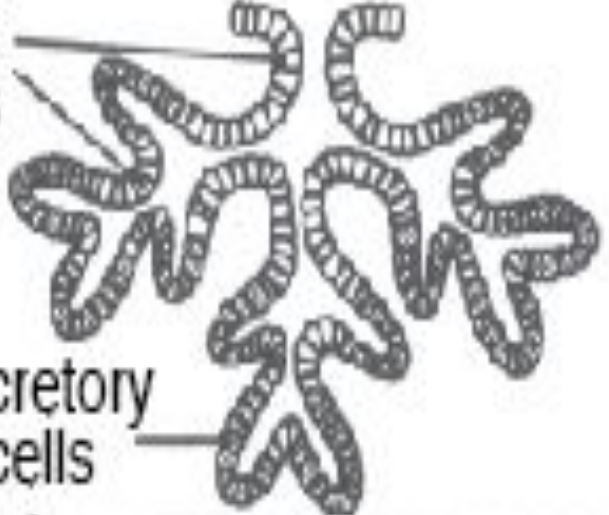




TUBULAR

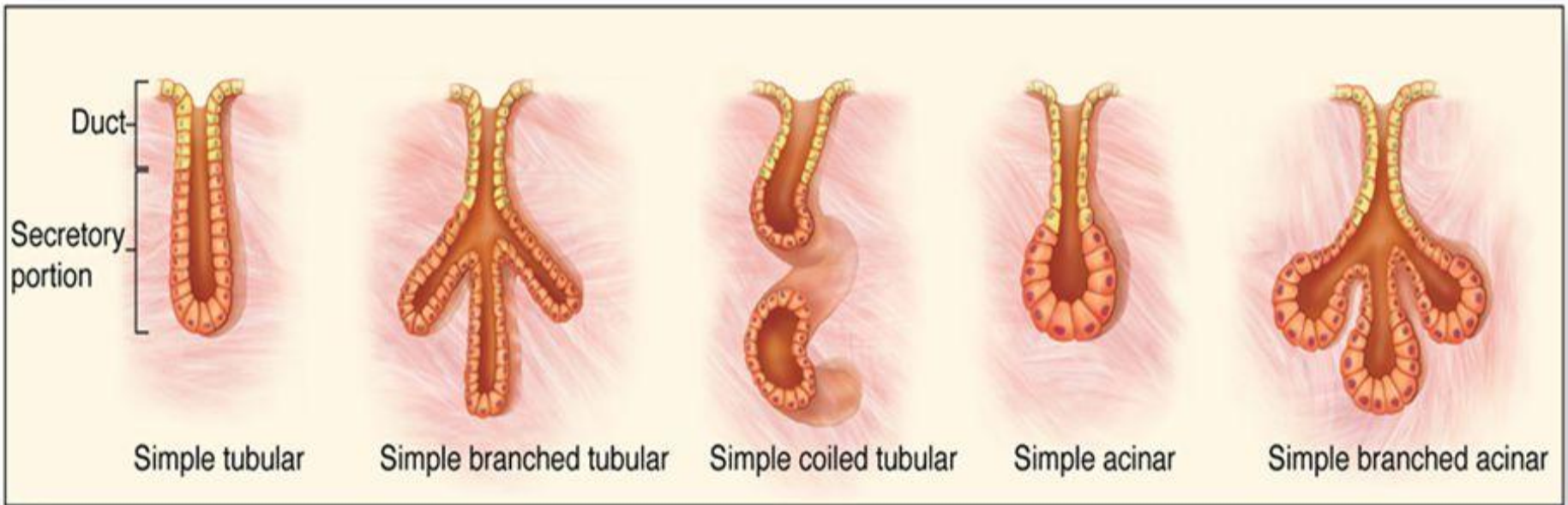


TUBULO-ALVEOLAR

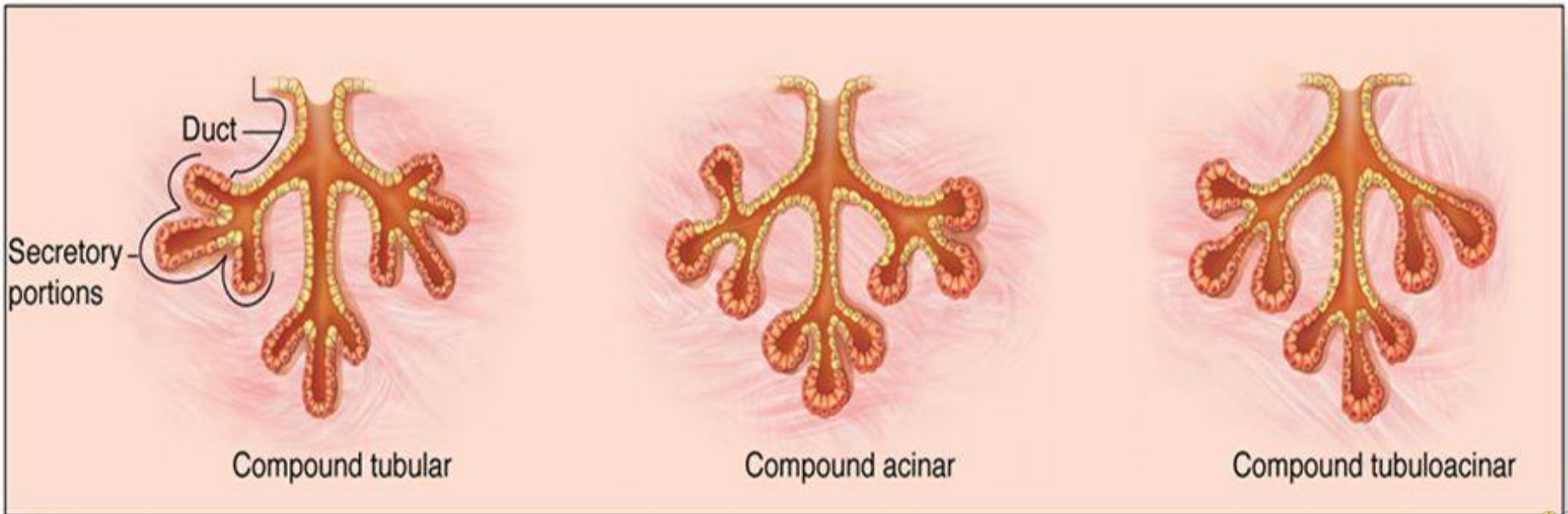


	<p>simple (duct portion does not branch)</p>	<p>compound (duct portion branches)</p>
<p>tubular structure</p>	 <p>(coiled) (branched)</p>	 <p>duct cells</p> <p>secretory cells</p>
<p>alveolar structure</p>	 <p>(branched)</p>	





a Simple glands



b Compound glands

