

e ithelial Tissues

General Information:

- Epithelial tissues are characteristically thin and flat.
 - This is because they line internal passageways and cavities.
 - They also make up the integumentary system.
- There are many different types of epithelial tissue.
 - They are all structured differently to complete different purposes.
- Epithelial tissue is avascular, which means that it does not have blood flow.



Functions:

- Epithelial tissue serves many purposes:
 - physical protection
 - controls permeability of the skin
 - provides sensation
 - It has neuroepithelium, a specialized sensory epithelium found in certain sense organs, and produces specialized secretions.



Glands:

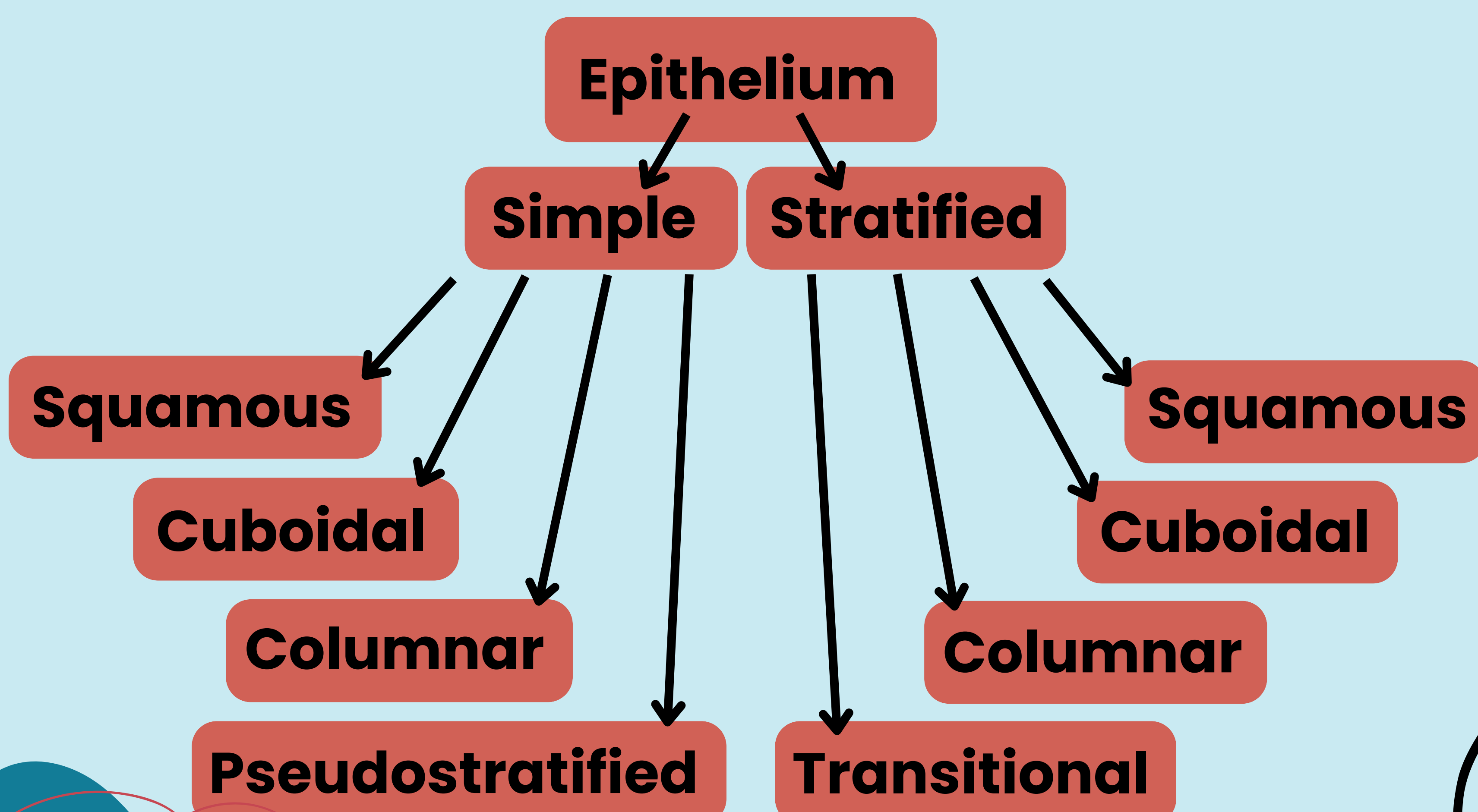
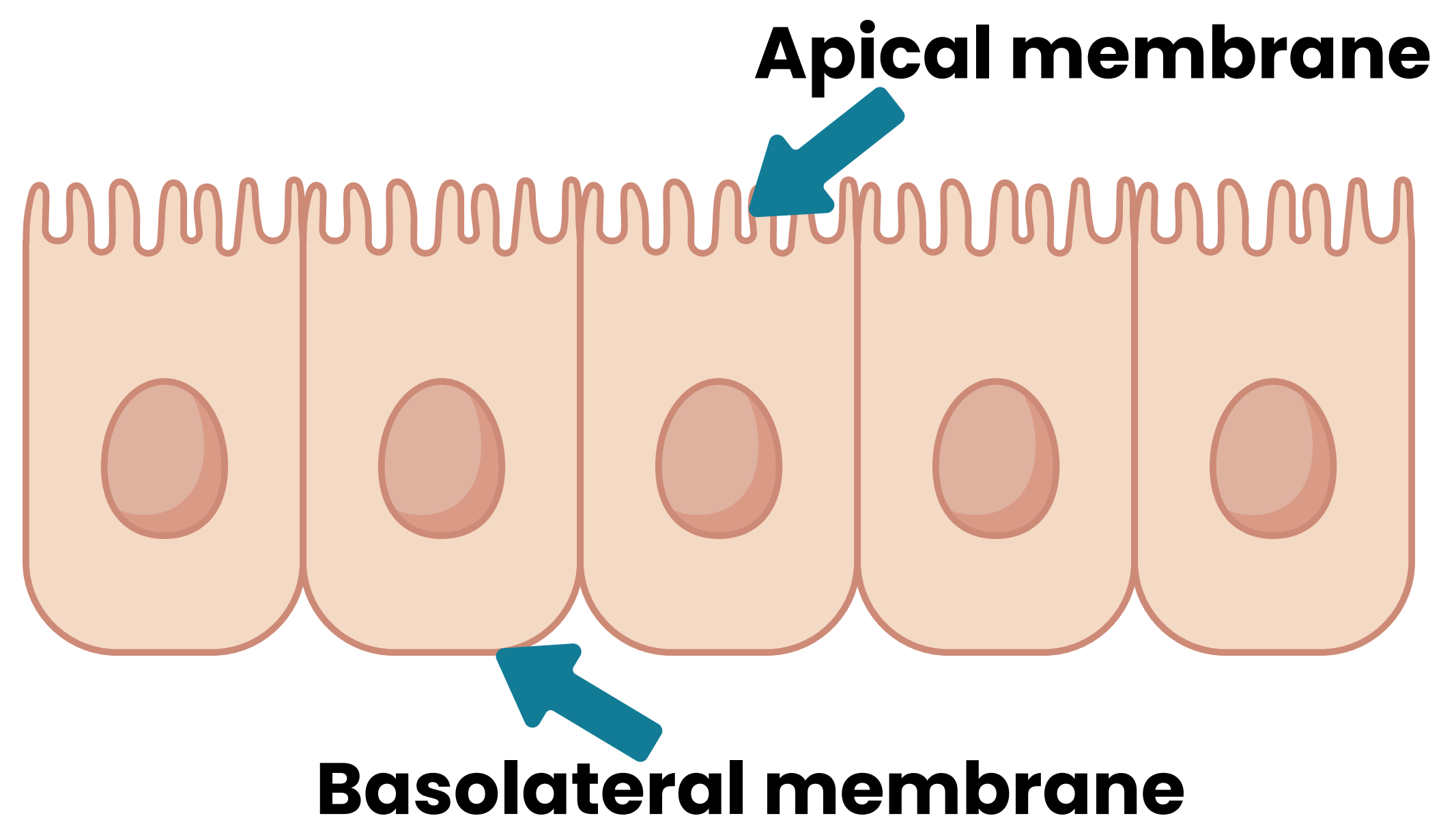
- Glands are derived from epithelial tissue.
- There are two types of glands:
 - Exocrine glands secrete substances (saliva, sweat, tears, etc.) into ducts and onto external surfaces.
 - Endocrine glands secrete hormones into interstitial fluid and into the bloodstream.



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Epithelia:

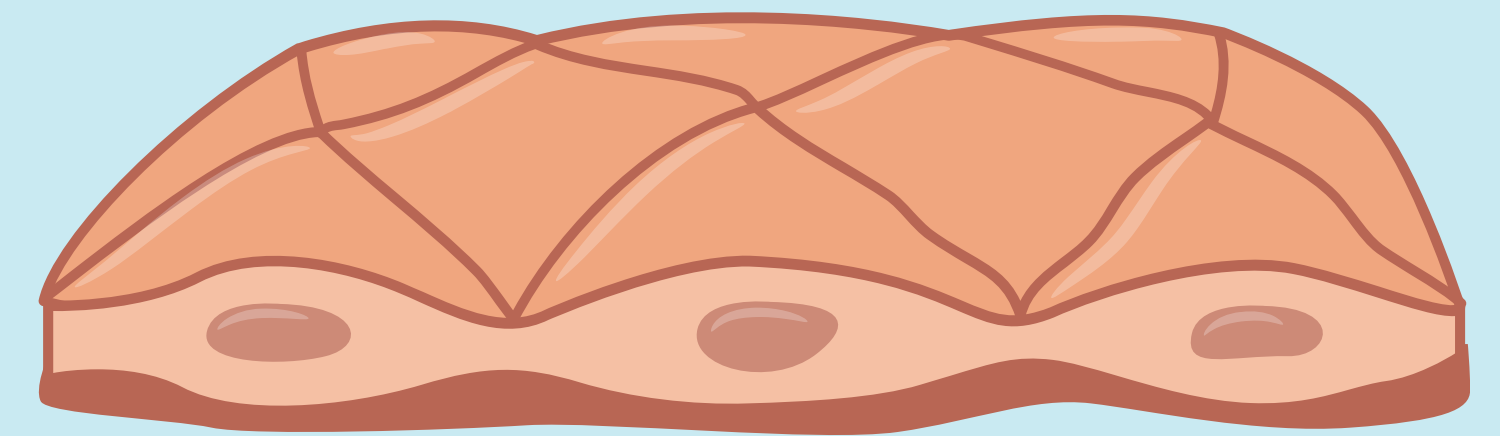
- These tissues cover external and internal surfaces.
- There are glands and secretory cells scattered throughout this tissue.
- The top and bottom of the epithelia are different.
 - The apical surface faces the exterior of the body or internal space.
 - This is the tissue that lines the lumen of organs and makes up the outer skin.
 - The base attaches to the underlying side.
 - This lines the outside of the lumen and the interior of the skin.
- *Simple* means one layer of cells, and *stratified* means several layers.



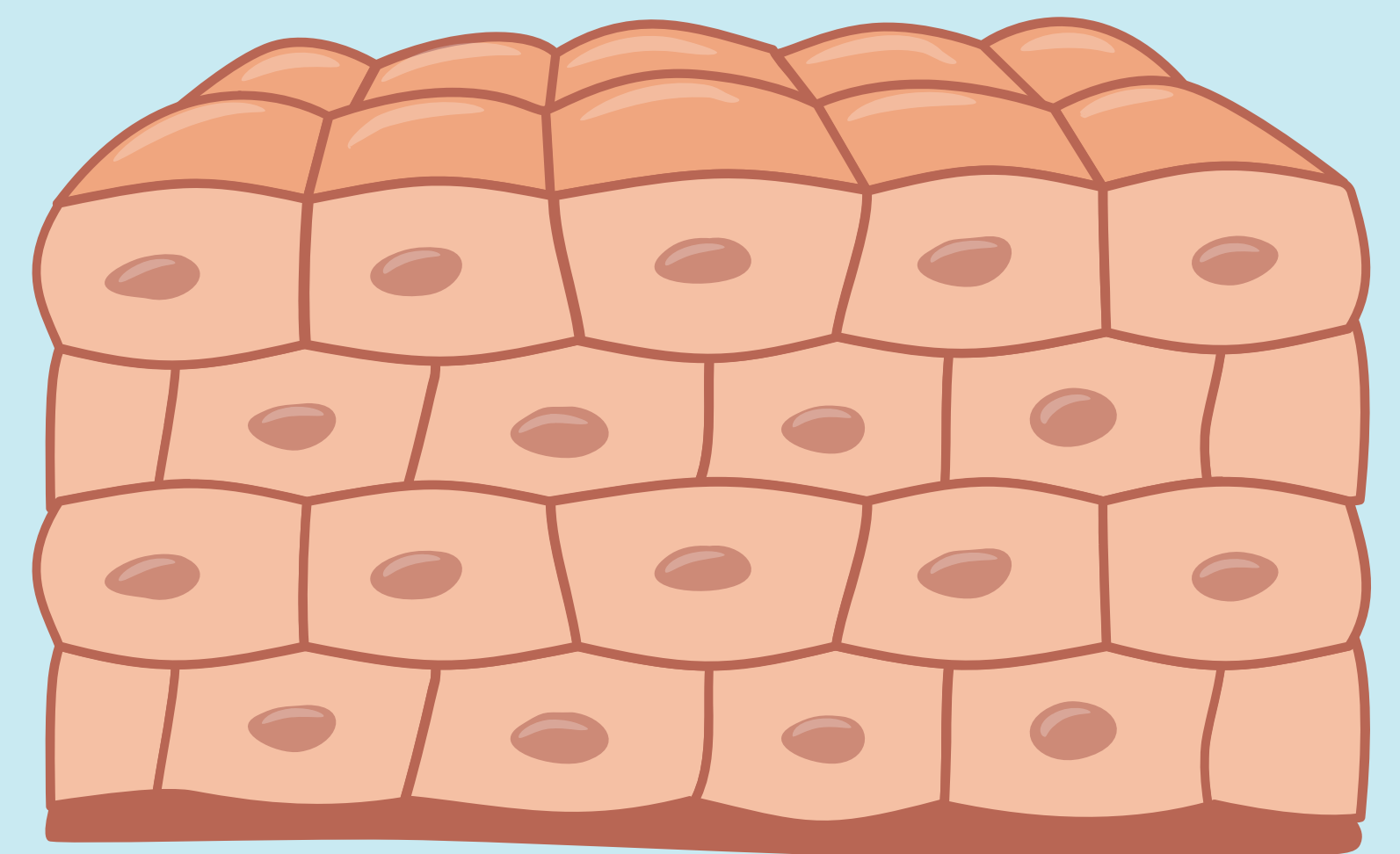
e Epithelial Tissues

Squamous

- Simple squamous is one layer of egg-like cells.



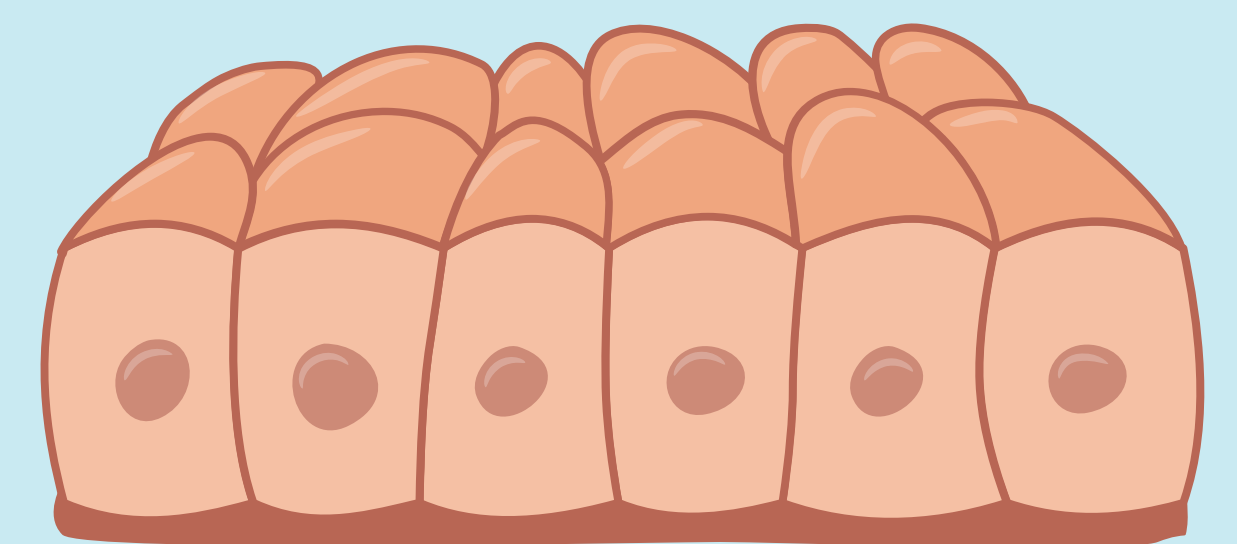
- Stratified squamous is multiple layers of those same egg-like cells.
 - They are keratinized, waterproof, and tough.
 - They are found on the surface of the skin, hair, nails, oral cavity, pharynx, and vagina.



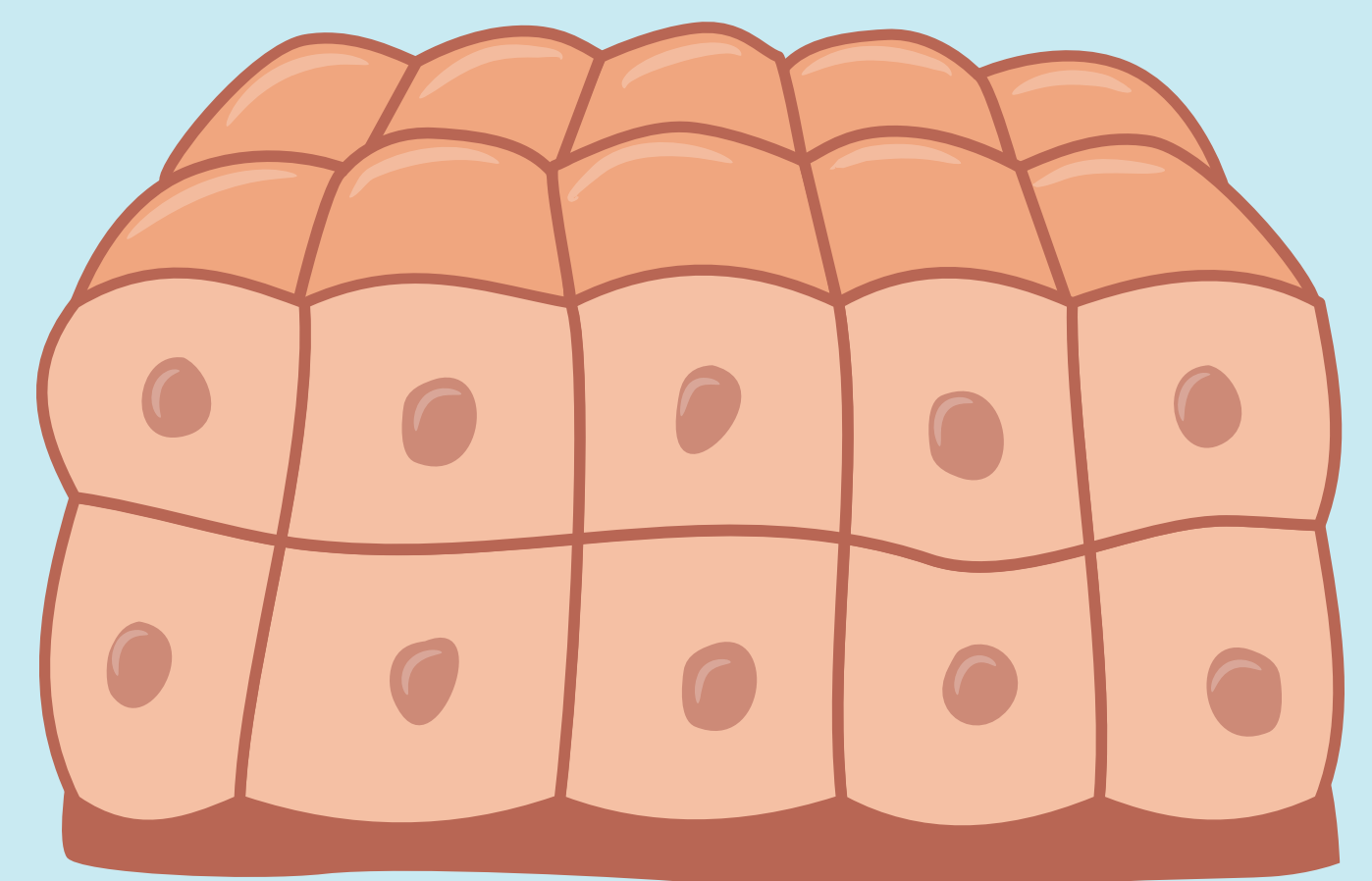
Cuboidal

Cuboidal tissue performs absorption and secretion.

- Simple cuboidal only has one layer of cube-like cells.
 - They line the kidney tubules and the lungs



- Stratified cuboidal has multiple layers of cube-like cells.
 - They protect areas such as sweat glands, mammary glands, and salivary glands.

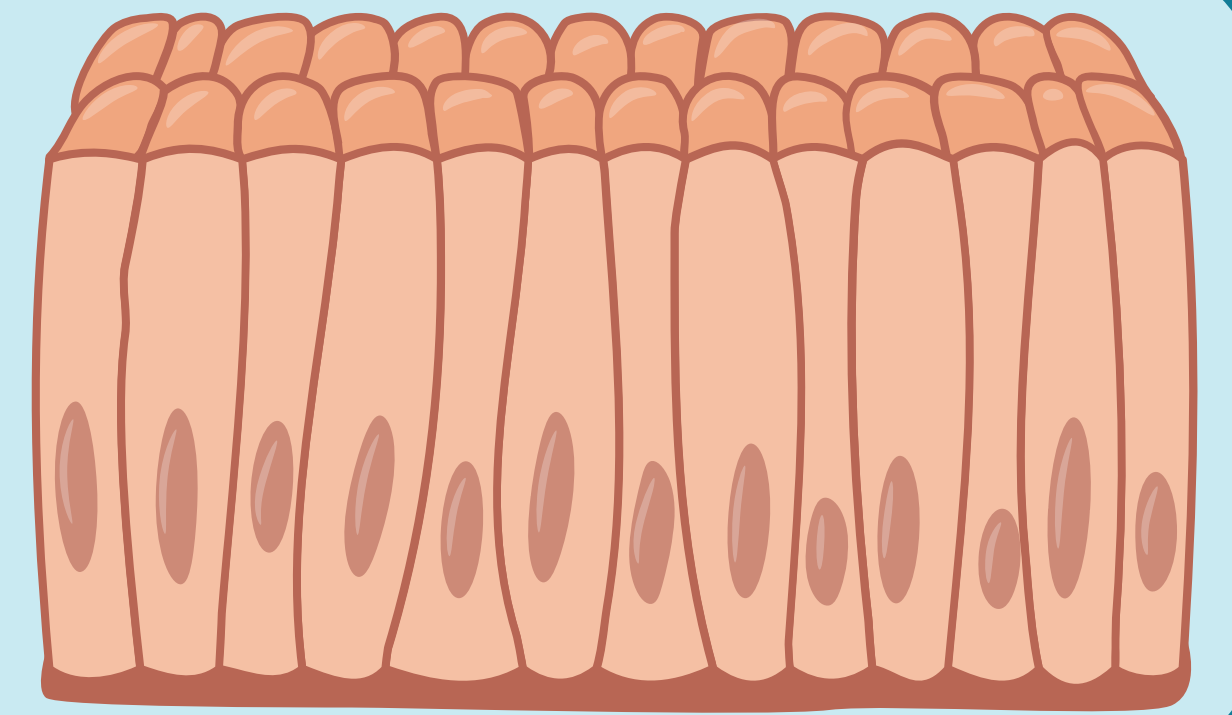




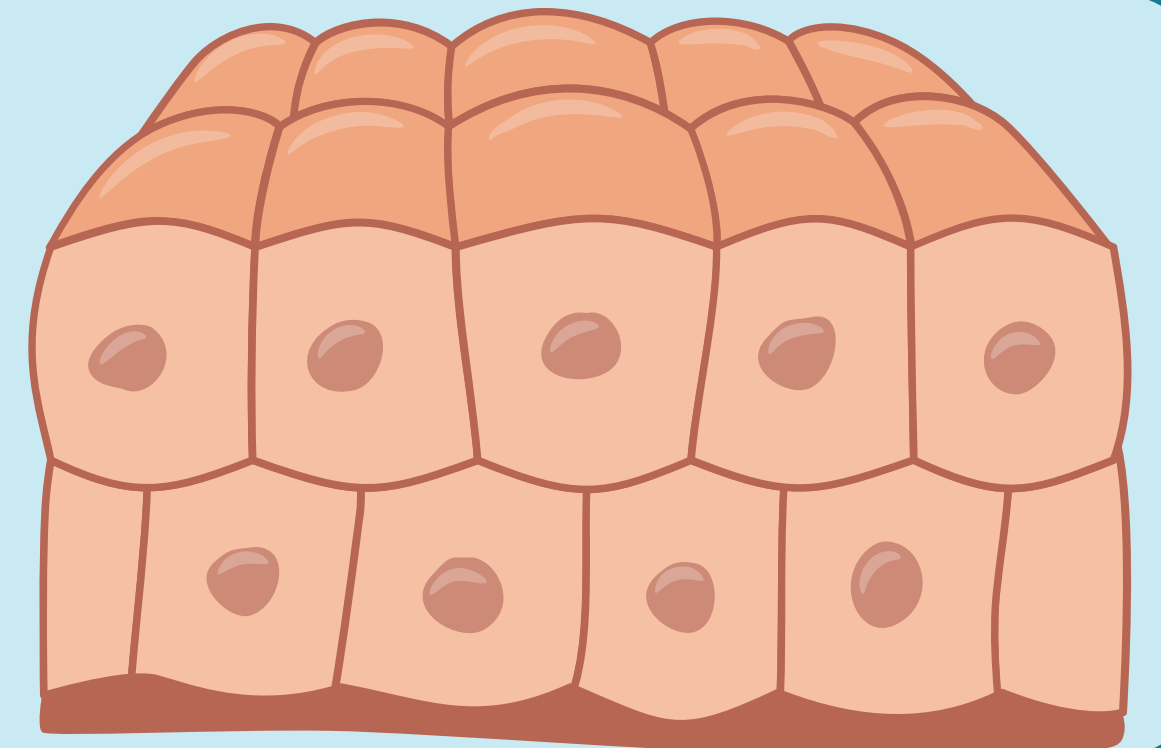
epithelial Tissues

Columnar

- Simple columnar is a single layer of cells that are tall and thin.
 - They have oval-shaped nuclei.
 - These line the digestive tract.

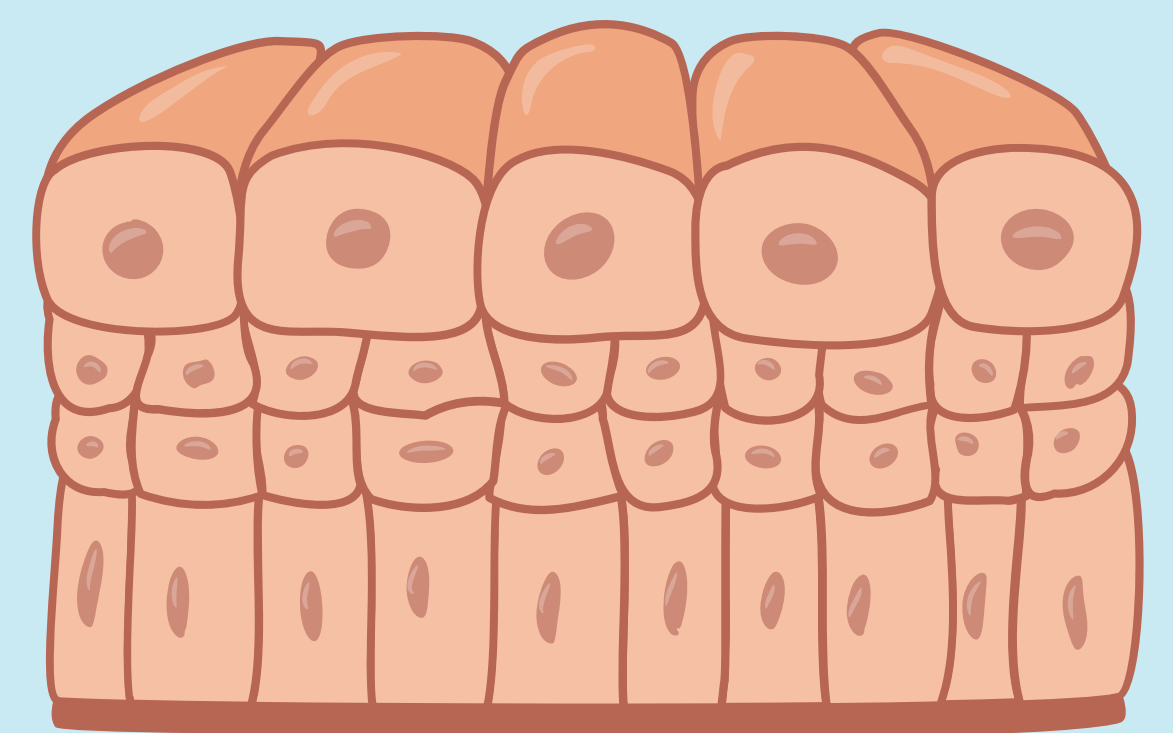


- Stratified columnar is multiple layers of column-like cells.
 - Located in the pharynx, anus, and male urethra.



Transitional

- Transitional epithelia can stretch and recoil without damage.
 - These are found in the urinary tract.



Pseudostratified

- Pseudostratified epithelium is found along the respiratory tract and has stereocilia that help move particles throughout the nasal passages and lungs.

