TOPIC: STRATIFIED EPITHELIAL TISSUES

- ____ tissues are structurally categorized as _____ *epithelial tissues*.

2a. Stratified Squamous Epithelium

Characteristics:

- Many layers of _____ cells.

Function:

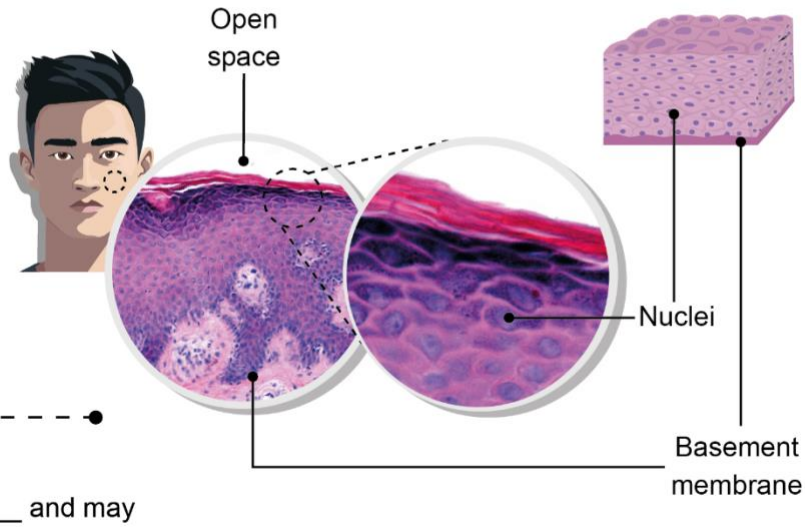
- Protection.
- Protein _____ increases. toughness and prevents water loss.

Locations:

- Keratinized: _____
- Unkeratinized: orifices near the skin (mouth, esophagus, anus, vagina).

ID tip:

- Thick. Cells near apical surface are _____ and may be flaking off. Cells near basement membrane not flat.



2b. Transitional Epithelium

Characteristics:

- Many layers of cells.
- Transitions from cuboidal to squamous when _____.

Function:

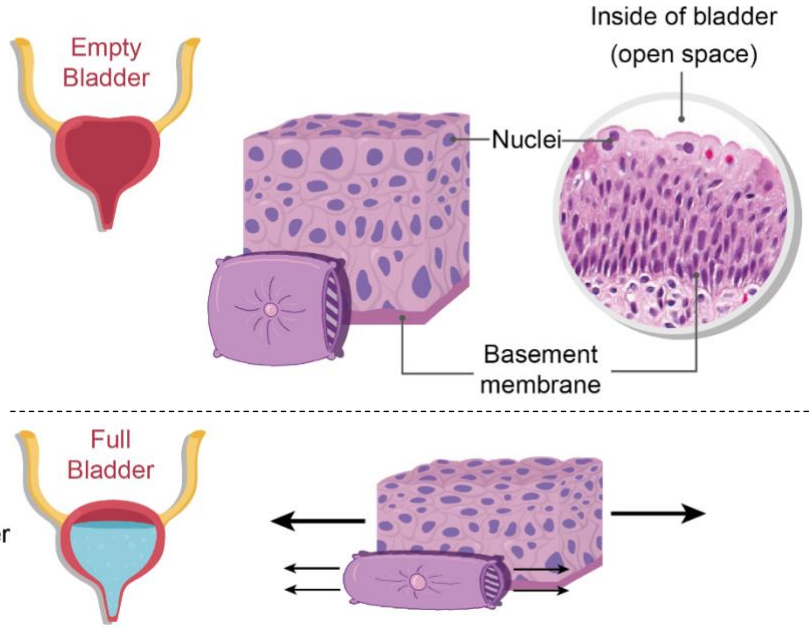
- Protection: blocks _____ .

Locations:

- Lining of the bladder, ureters, and urethra.

ID tip:

- More layers than stratified cuboidal but fewer than stratified squamous. Surface cells are "pillow shaped".



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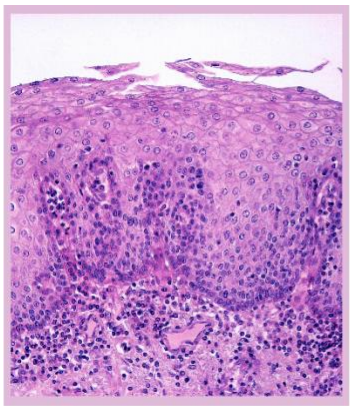
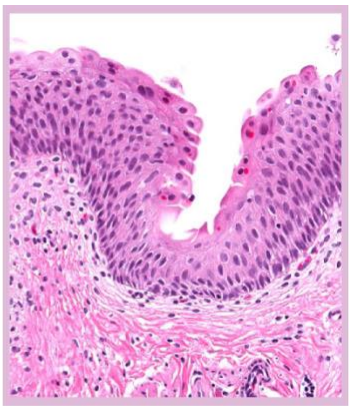
EXAMPLE: To students, stratified squamous epithelium and transitional epithelium tissues often look similar. Identify each tissue below and highlight the difference(s) between the tissue that helps you tell them apart.





PRACTICE: Before rubber was used in inflatable balls used in sports, people would inflate animal bladders to make the inner part of a ball. Which tissue type would make this possible?

a) Stratified squamous epithelium.
b) Transitional epithelium.
c) Pseudostratified columnar epithelium.
d) Simple squamous epithelium.

PRACTICE: When you look at another person, what do you see?

a) Stratified squamous epithelium.
b) Transitional epithelium.
c) Pseudostratified columnar epithelium.
d) Simple squamous epithelium.

PRACTICE: What is different about the epithelium found inside the mouth and the epithelium found on the face?

a) Inside the mouth has simple squamous epithelium while the face has stratified squamous epithelium.
b) The epithelium inside the mouth has goblet cells, while the skin will not.
c) The epithelium of the skin has a basement membrane, while the epithelium inside the mouth will not.
d) The epithelium on the face has keratinized cells, while inside the mouth will not.

TOPIC: STRATIFIED EPITHELIAL TISSUES

2c. Stratified Cuboidal Epithelium (Rare)

Characteristics:

- More than one layer of _____ shaped cells.

Function:

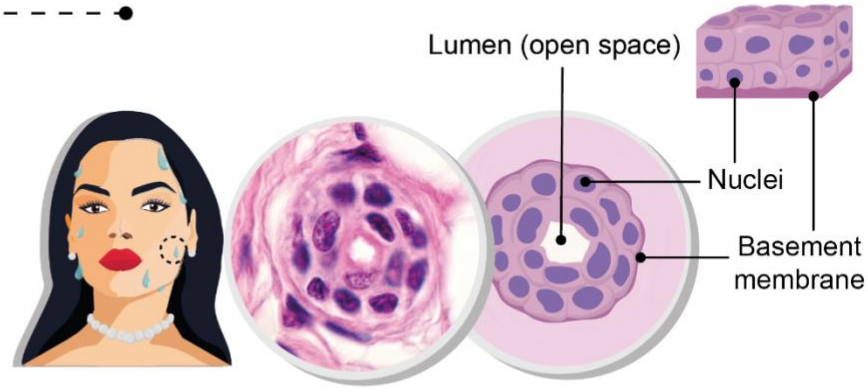
- Protection.
- Secretion.

Locations:

- Ducts of sweat and mammary glands.

ID tip:

- Only 2-3 layers. Usually arranged in a ring with open space in middle.



2d. Stratified Columnar Epithelium (Rare)

Characteristics:

- More than one layer of cell.
- _____ surface is columnar cells.

Function:

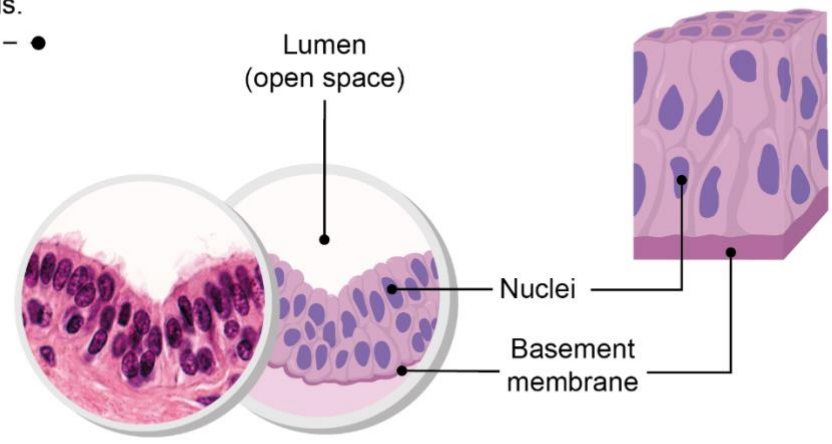
- Protection.
- Absorption (limited).
- Secretion (limited).

Locations:

- Parts of male urethra.
- Transitions between other epithelial tissues.

ID tip:

- Only 2-3 layers. Only top layer is columnar.



TOPIC: STRATIFIED EPITHELIAL TISSUES

PRACTICE: Which type of epithelial tissue has more than one cell shape in a single layer?

a) Simple cuboidal epithelium.
b) Simple columnar epithelium.
c) Stratified squamous epithelium.
d) Pseudostratified columnar epithelium.

PRACTICE: Which of the following functions is stratified squamous epithelial tissue best suited to?

a) Rapid diffusion.
b) Absorption.
c) Protection.
d) Lining internal organs.