**Epithelium Review**

**Name/Type Description Picture Function/Location**

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| --- | --- | --- | --- |
| **Simple Squamous** | **Single layer of flattened** **Cells. Pancake like. Oval disc shaped nuclei.**  | 01362fig6-1 | **Filtration: Kidneys****Diffusion: Air Sacs in Lungs and walls of capillaries which are known as endothelium. Simple squamous allows substances to move in and out quickly.** |
| **Simple Cuboidal** | **Single layer of cube like cells. Round, sphere shaped nuclei usually located in center of the cell.** | Simple cuboidal epithelium | **Secretion and Absorption Both functions are performed in the kidneys to maintain water and salt balances.****Secretion in many small various glands throughout the body.** |
| **Simple Columnar** | **Single layer of rectangular, column-like cells. Length greater than width. Round or oval shaped nuclei located closer to the basement membrane.****Sometimes can be ciliated.****Sometimes have goblet cells which produce mucus.** | Simple columnar epithelium | **Lines most of digestive tract from stomach to colon.****Absorption of nutrients from digestive system.****Secretion of enzymes and mucus in digestive tract.****Also found in respiratory tract, uterus, and excretory ducts of some glands.** |

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| **Stratified squamous****(keratinized)****(non-keratinized)** | **Thick layer of cells, more cuboidal near basal region and connective tissue, becoming increasingly flattened squamous near the apical surface.****Keratinized has keratin and as cells reach the apical surface they are dead, and slough off** | http://www.lab.anhb.uwa.edu.au/mb140/CorePages/Epithelia/images/oes041he1.jpg | **Protection whether keratinized or non-keratinized. Also has nerve receptors associated with them.****Keratinized = outer skin****Non-keratinized = lines inside of oral cavity, esophagus and vagina.** |
| **Stratified cuboidal (rare)** | **Cuboidal shaped cells in multiple layers, typically 2 layers but sometimes a few more layers.**  | http://www.mhhe.com/biosci/ap/histology_mh/swgland.jpg | **Found in large glands like sweat and mammary glands. Protection** **May also be involved in secretion of different substances.** |
| **Stratified columnar (rare)** | **Multiple layers of cells (typically 2-3) Cells on basement membrane are cuboidal, those at the apical/free surface are columnar shaped.** | http://www.lab.anhb.uwa.edu.au/mb140/CorePages/Epithelia/images/par0041he.jpg | **Small amounts in pharynx, male urethra and some glandular ducts.****Protection****Secretion of different** |

**Images from** [**http://nte-serveur.univ-lyon1.fr/nte/EMBRYON/www.uoguelph.ca/zoology/devobio/210labs/epithelial1.html**](http://nte-serveur.univ-lyon1.fr/nte/EMBRYON/www.uoguelph.ca/zoology/devobio/210labs/epithelial1.html)

[**http://www.stegen.k12.mo.us/tchrpges/sghs/ksulkowski/TissueSlides.htm**](http://www.stegen.k12.mo.us/tchrpges/sghs/ksulkowski/TissueSlides.htm)

[**http://www.lab.anhb.uwa.edu.au/mb140/CorePages/Epithelia/epithel.htm**](http://www.lab.anhb.uwa.edu.au/mb140/CorePages/Epithelia/epithel.htm)

[**http://www.mhhe.com/biosci/ap/histology\_mh/stratcuc.html**](http://www.mhhe.com/biosci/ap/histology_mh/stratcuc.html)

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| **Pseudostratified** | **Appears layered due to nuclei found at different levels in the layer and different sizes of the cells.****Usually are ciliated.****Can have goblet cells.** | http://www.lab.anhb.uwa.edu.au/mb140/CorePages/Epithelia/images/trachea041he.jpg | **Lines trachea and upper respiratory tract.****Non-ciliated type in male sperm carrying ducts and some glands.****Protect and secretion, especially mucus. Cilia move mucus up the respiratory tract helping trap particles etc. from entering the lower respiratory tract.** |
| **Transitional** | **Mutiple layers of cells, having both squamous and cuboidal appearance. Cells on free surface tend to be rounded and dome shape in appearance.** | 26_Transitional_Epithelial_Tissue | **Stretches and allows the urinary bladder to distend, thank goodness!****Found in the ureters and urinary bladder.****COUPLE MORE PHOTOS CONTINUE SCROLLING DOWN** |
| **Another picture of simple squamous Next window.****Second Window over is simple cuboidal. And pseudotratified down below farther.** | Simple squamous epithelium | epithelial tissue |  |
| **Pseudostratified to the right.** |  | 24_Pseudostratified_Columnar_Epithelial_Tissue |  |