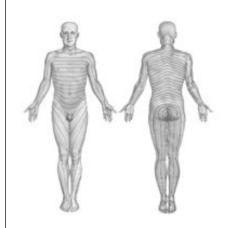
Lab 2

Histology Integument

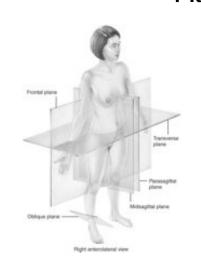
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Anatomic Position



- Frame of Reference
 - standing, feet together
 - arms slightly away from body
 - palms out

Planes



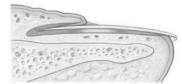
- frontal plane
 - divides the body into anterior and posterior parts
- transverse plane
 - cross section dividing the body into superior and inferior parts
- sagittal plane
 - divides the body into right and left parts

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Layers

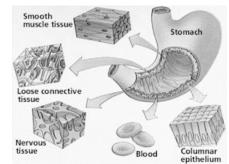




- superficial
 - at or near the body surface
- deep
 - further from the body surface
- the fingernail is superficial to the skin
- the bone is deep to the skin

Tissues

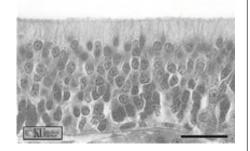
- A group of cells that function together to carry out a specific task
 - tissues group together to make organs
- 4 types of tissues
 - muscle
 - bone
 - nervous
 - epithelium



5

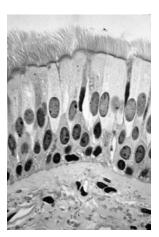
Epithelial Tissue

- Tissues that form a lining or covering over the body's surfaces
 - separates our body's internal fluid environment from the outside world
 - can be found outside or inside the body



Classification

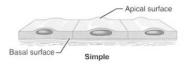
- Epithelial tissues are classified by:
 - the layering of the cells
 - are the cells arranged in a single sheet or are they stacked on top of each other
 - the shape of the cells
 - squamous
 - cuboidal
 - columnar

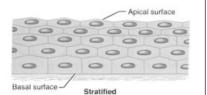


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Classification

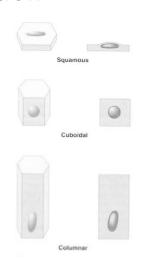
- Layering of cells
 - simple
 - one layer of cells
 - stratified
 - multiple layers stacked on top of each other





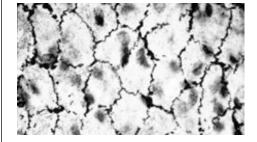
Classification

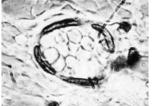
- Shape of Cells
 - squamous
 - very thin
 - squished nucleus
 - cuboidal
 - cube-shaped
 - round nucleus
 - columnar
 - tall cells
 - oval nucleus at the base



9

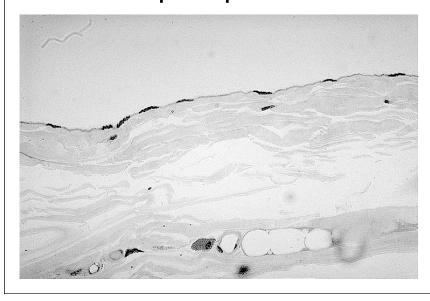
Simple Squamous





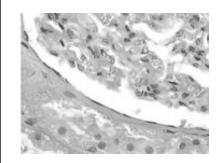
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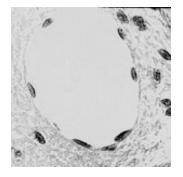
Simple Squamous

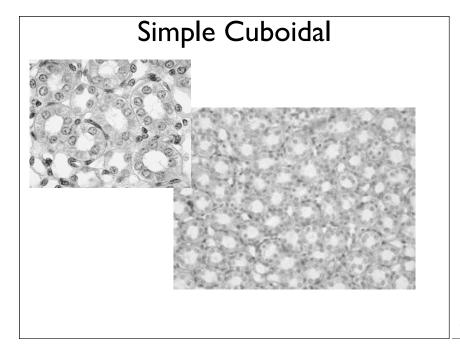


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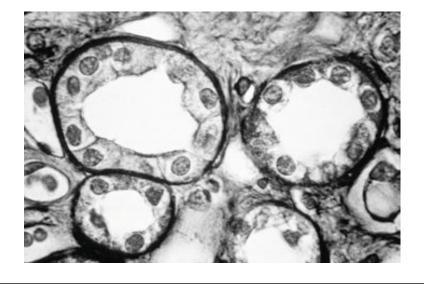
Simple Squamous







Simple Cuboidal



Simple Columnar

15

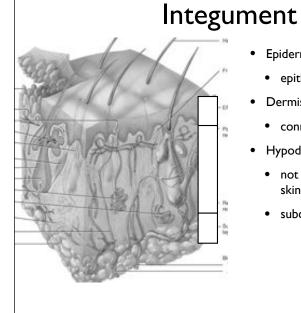
Simple Columnar

Pseudostratified Columnar



- Columnar epithelium
 - actually has a simple layering
 - looks stratified because:
 - cells at different height
 - nuclei at different heights
 - almost always ciliated

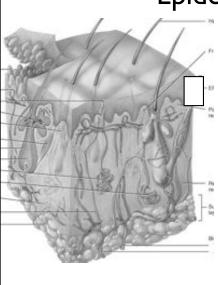
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- Epidermis
 - epithelial layer
- Dermis
 - connective tissue layer
- Hypodermis
 - not considered part of the skin
 - subcutaneous fat

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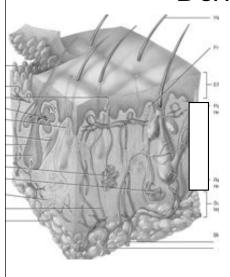
Epidermis



- Epidermis
 - epithelial layer
 - protects from sun, chemicals, water loss, absorption of toxins
 - outer layer has dead cells filled with keratin protein
 - deepest layer has living cells
 - melanocytes
 - no blood vessels or nerves
 - dermal papillae
 - dermal boundry

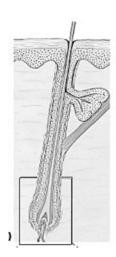
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Dermis



- Dermis
 - connective tissue layer
 - blood supply
 - nerves
 - hair follicles
 - eccrine sweat glands

Dermis



- Hair Follicle
 - Root/Shaft
 - sebaceous gland
 - arrector pili muscle

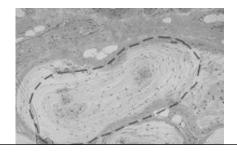
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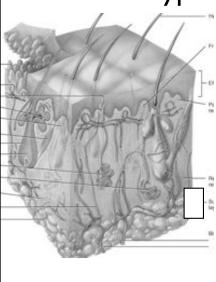
Dermis



- Nerve Corpuscles
 - meisners corpuscle
 - dermal papillae
 - light touch
 - pacinian corpusice
 - dermis/hypodermis border
 - pressure



Hypodermis



- Hypodermis
 - not considered part of the skin
 - subcutaneous fat