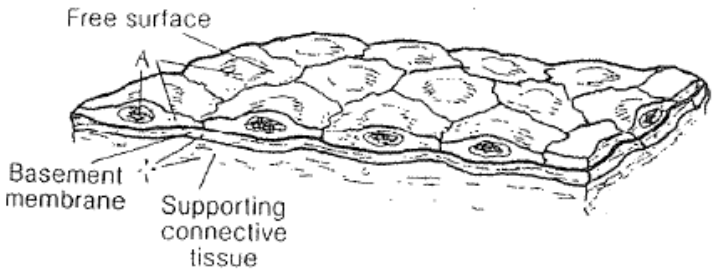
EPITHELIAL TISSUE

SIMPLE EPITHELIA

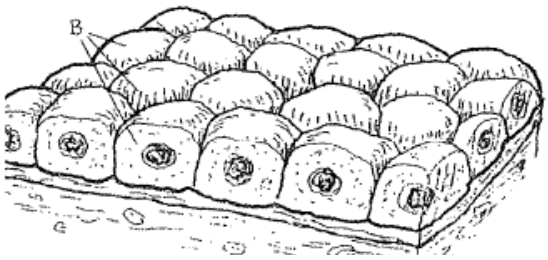
SIMPLE SQUAMOUS [A]

Cells: single (scalelike) layer
Nuclei: flattened, centrally located
Functions: diffusion, lubrication



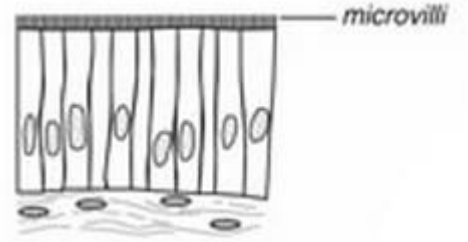
SIMPLE CUBOIDAL [B]

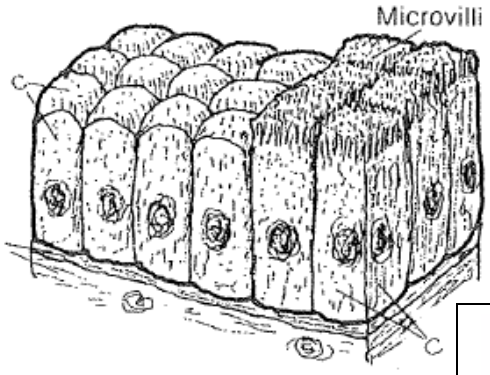
Cells: single (squarelike) layer
Nuclei: centrally located and spherical
Functions: absorption, secretion, protection

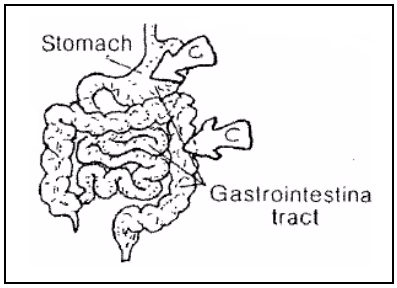


SIMPLE COLUMNAR [C]

Cells: tall, single-layered
Nuclei: basally located and enlongated
Functions: absorption, secretion, protection
(May bear cilia and may contain goblet cells with microvilli)

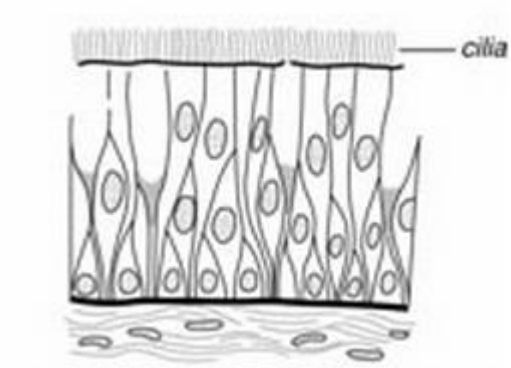


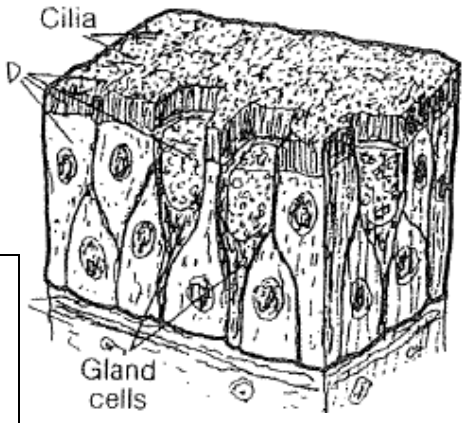




PSEUDOSTRATIFIED [D]

Cells: differ in height, not all cells reach the apical surface
Nuclei: at various positions
Functions: absorption, secretion, transportation

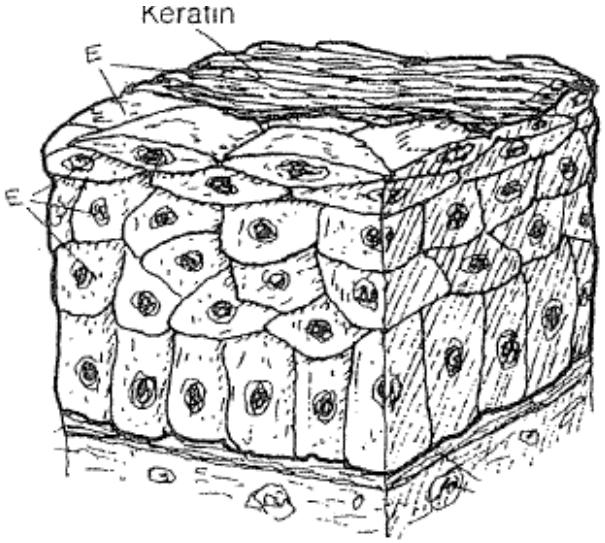




STRATIFIED EPITHELIA

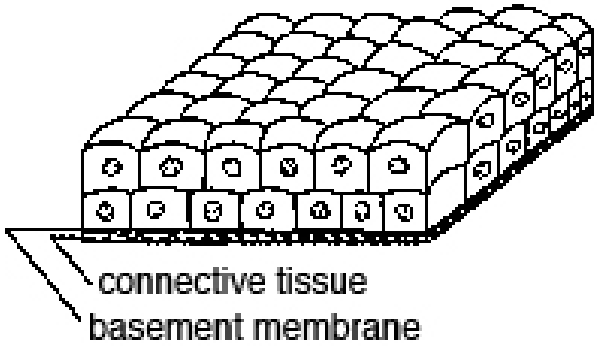
STRATIFIED SQUAMOUS [E]

Cells: squamous cells apically, but basal layers vary from cuboidal to columnar
Nuclei: centrally located
Functions: protection



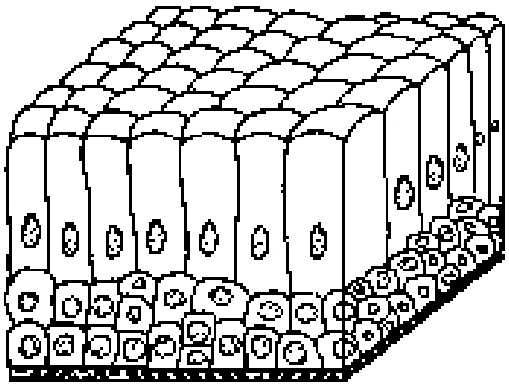
STRATIFIED CUBOIDAL [B-2]

Cells: two layers
Nuclei: centrally located and spherical
Functions: absorption, secretion



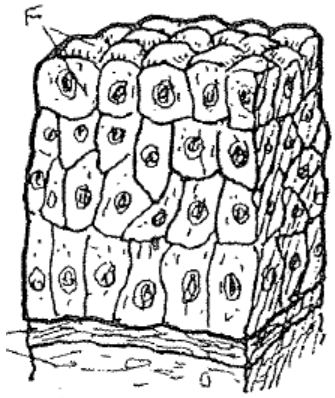
STRATIFIED COLUMNAR [C-2]

Cells: squamous cells apically, but basal layers vary from cuboidal to columnar
Nuclei: centrally located
Functions: protection

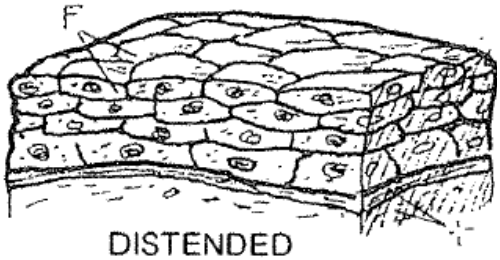


TRANSITIONAL [F]

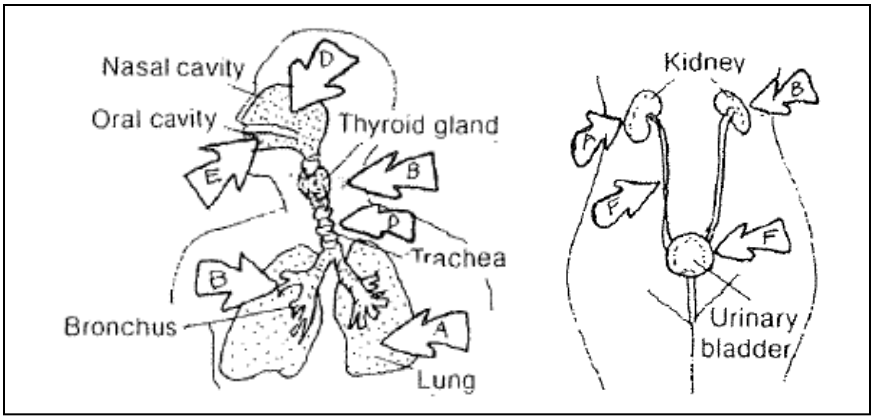
Cells: vary depending on stretch, apical cells often large, round, and bi-nucleated
Nuclei: centrally located
Functions: distention (occurs only in



CONTRACTED



DISTENDED



GLANDS

EXOCRINE G

Exocrine glands (e.g., sweat, sebaceous, pancreatic, mammary) arise as outpockings of epithelial lining tissue, retain a duct to the free surface of the cavity or skin, and excrete/secrete some substance. Secretory portions may have one of several shapes (tubular, coiled, alveolar/acinar) connected to one or more ducts.

ENDOCRINE H

Endocrine glands arise as epithelial outgrowths but lose their connections to the surface during development. They are intimately associated with a dense capillary network and secrete their products into it.