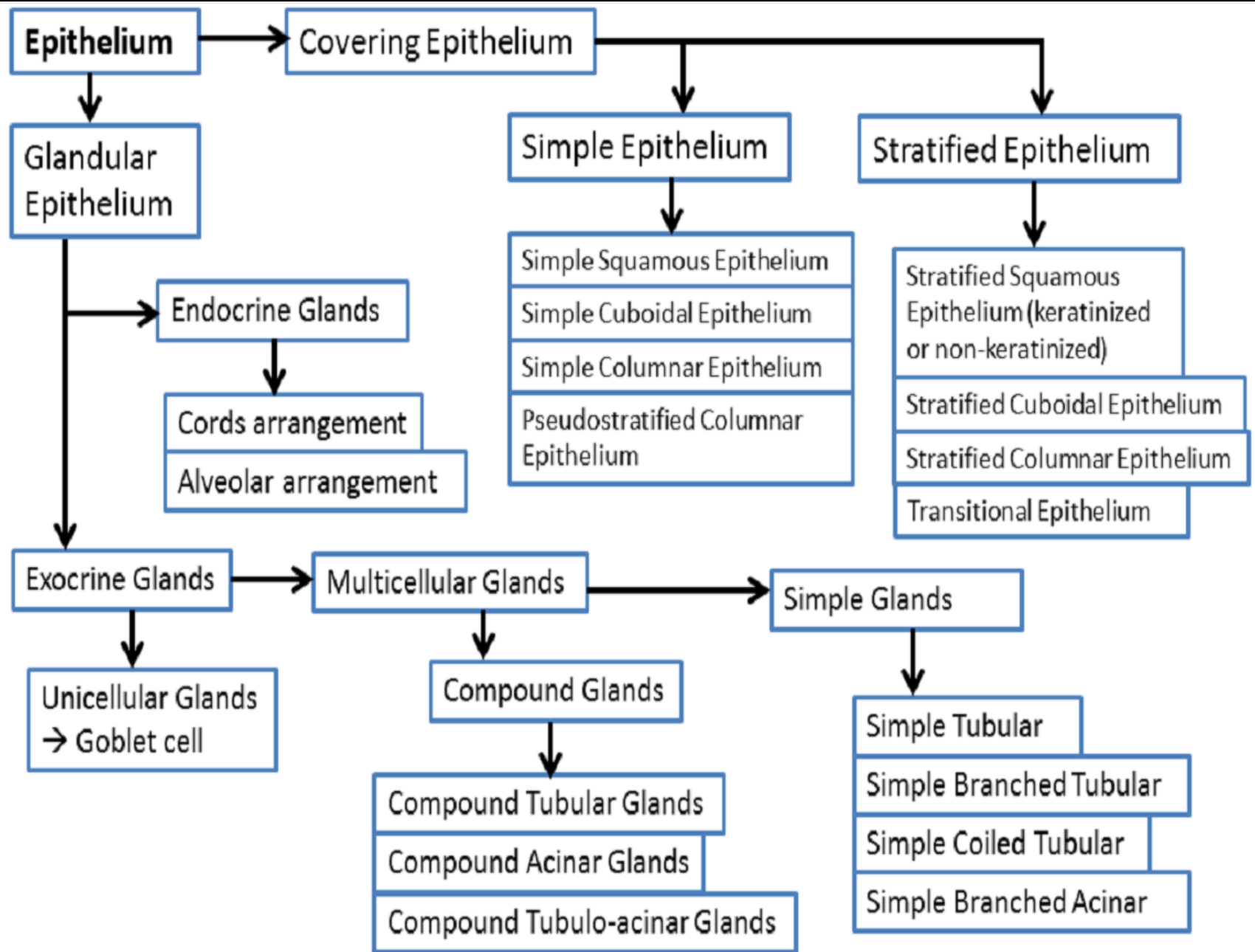




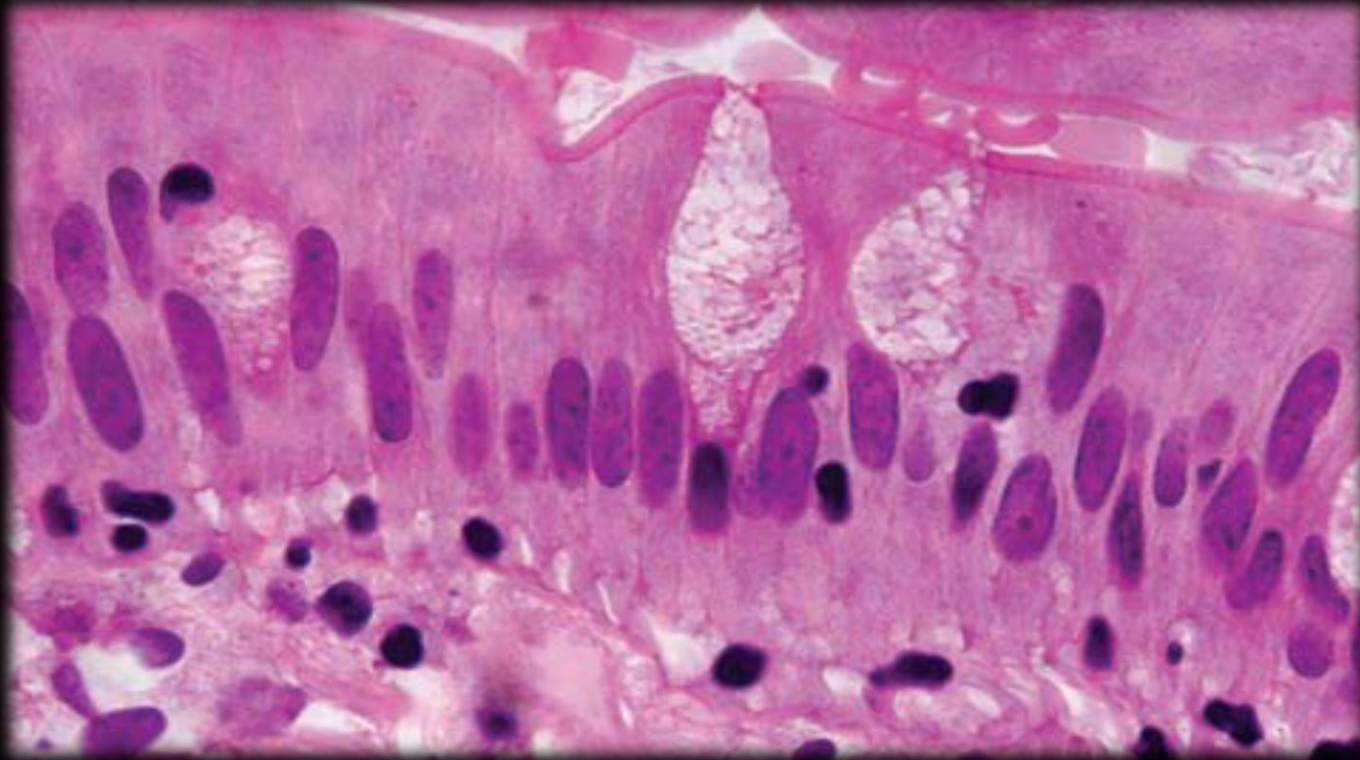
**Medical
Biology**



2. Exocrine Glands Classified by Morphology:

Exocrine glands are classified according to the no. of cells into two groups:
unicellular glands
multicellular glands.

■ Unicellular exocrine glands:



Classification of glandular epithelium

It is classified according to **morphology**

1. Unicellular glands

2. **Multicellular glands:** they are classified according to the following:

Organization of the duct system	Organization of the secretory portion	Shape of the secretory portion
simple	straight	tubular
compound	branched	acinar
	coiled	Tubule-acinar

Simple

Simple straight
tubular

simple branched
tubular

simple coiled tubular

Simple straight acinar

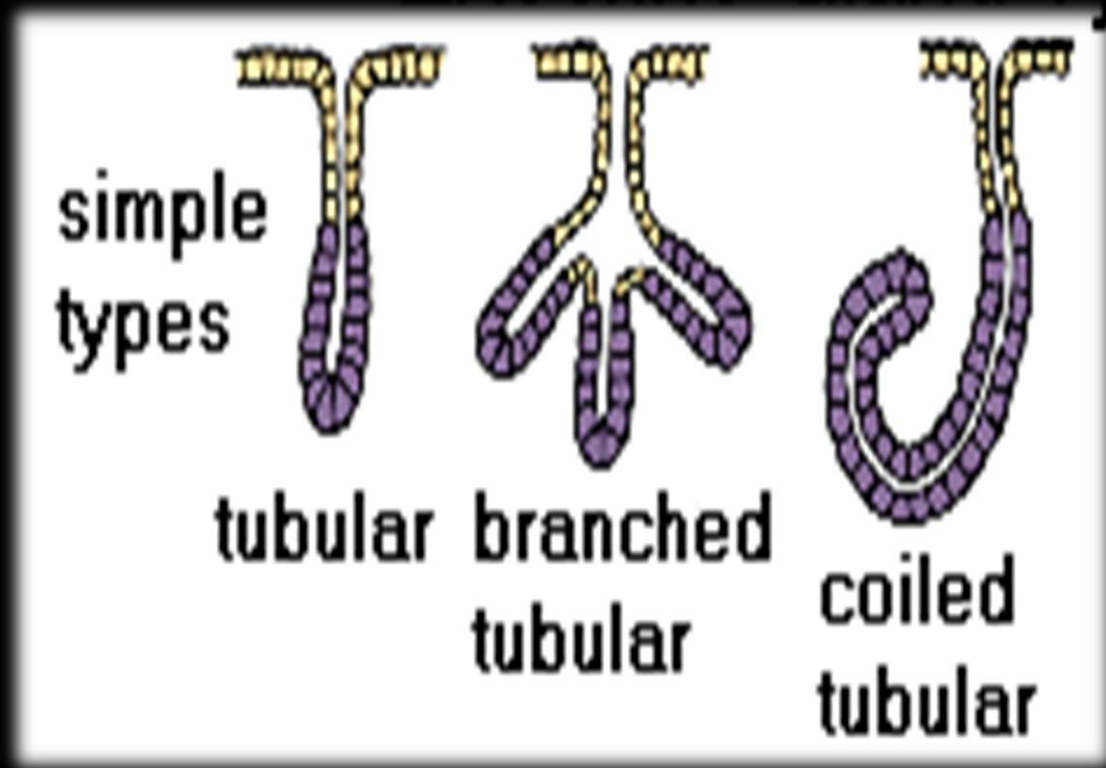
Simple branched
acinar

1. simple tubular glands:

a. simple straight tubular glands:

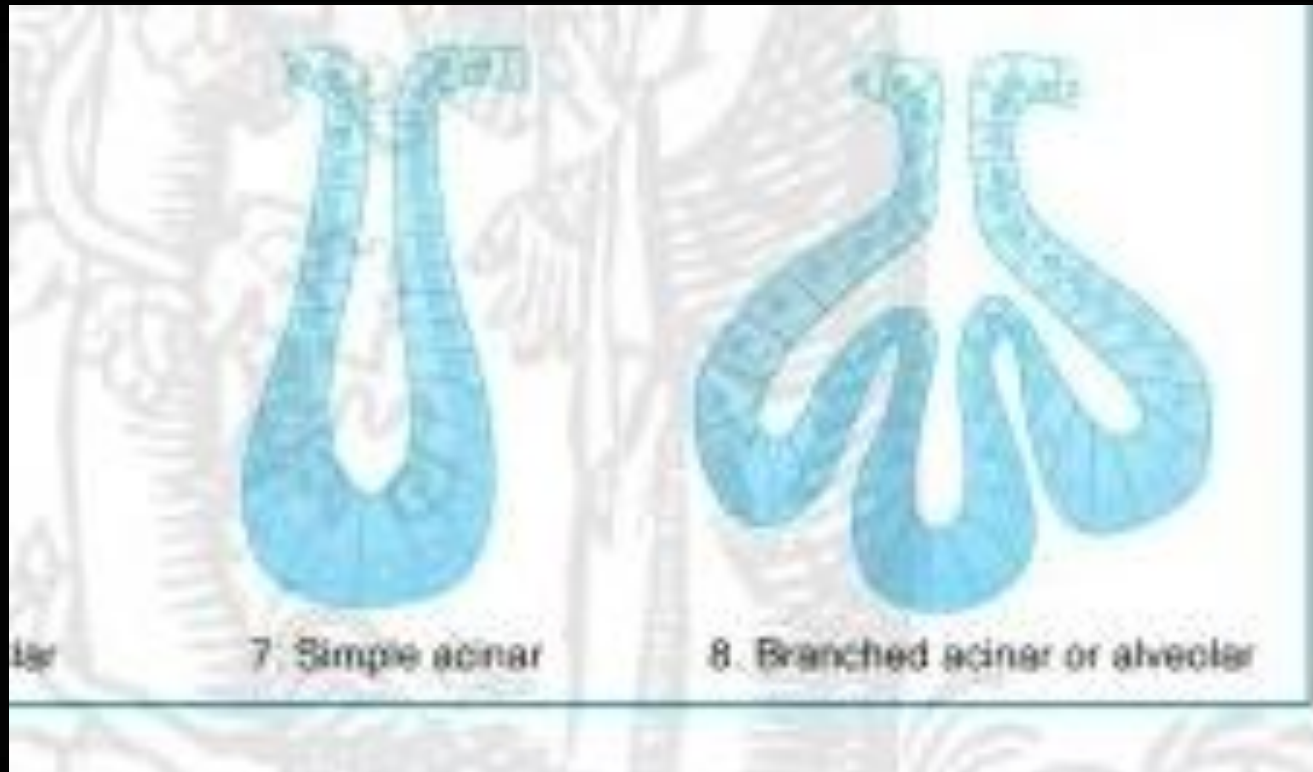
b. simple branched tubular glands:

c. simple coiled tubular glands:



2. simple acinar glands (simple alveolar)

- a. simple straight acinar glands:
- b. simple branched acinar glands:



Classification of glandular epithelium

It is classified according to **morphology**

1. Unicellular glands

2. **Multicellular glands:** they are classified according to the following:

Organization of the duct system	Organization of the secretory portion	Shape of the secretory portion
simple	straight	tubular
compound	branched	acinar
	coiled	Tubule-acinar

Compound

(only classified according to organization of duct system and shape of secretory portion)



Compound tubular



Compound acinar



**Compound tubulo-
acinar**

2. compound multicellular exocrine glands:

a. compound tubular glands:

b. compound acinar or alveolar glands:

c. compound tubuloacinar (tubuloalveolar):

Compound
duct structure
(duct
branches)



(e) Compound tubular
Example: duodenal glands of
small intestine



(f) Compound alveolar
Example: mammary glands

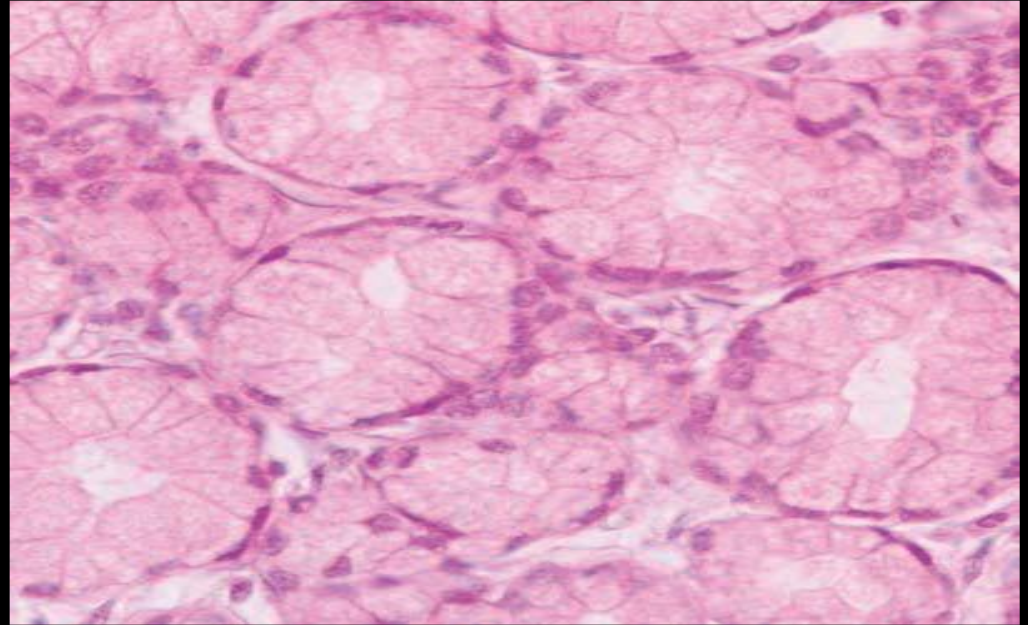


(g) Compound tubuloalveolar
Example: salivary glands

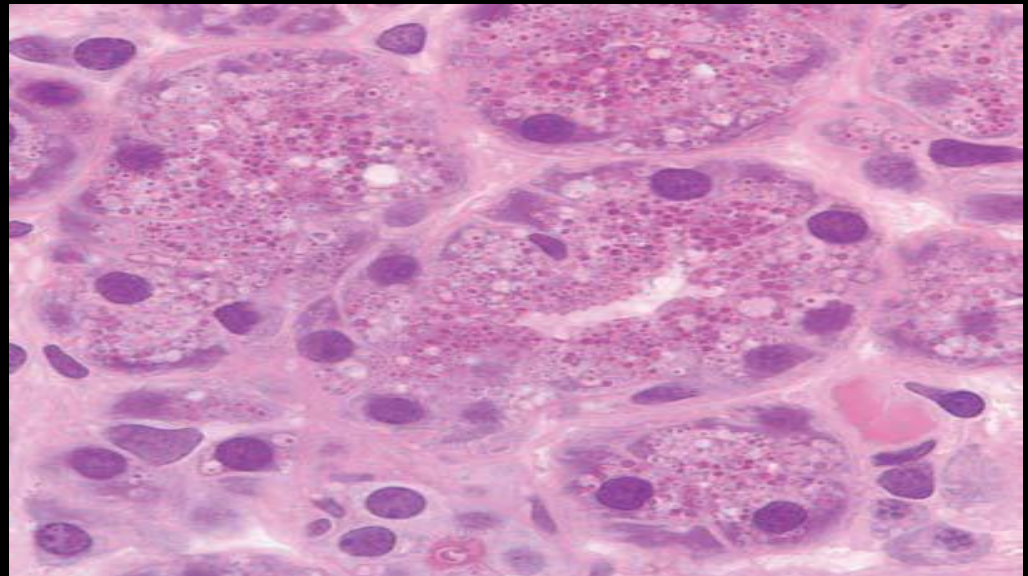
Key:
■ = Surface epithelium ■ = Duct ■ = Secretory epithelium

3. Exocrine Glands Classified by Product:

a. Mucous cells:

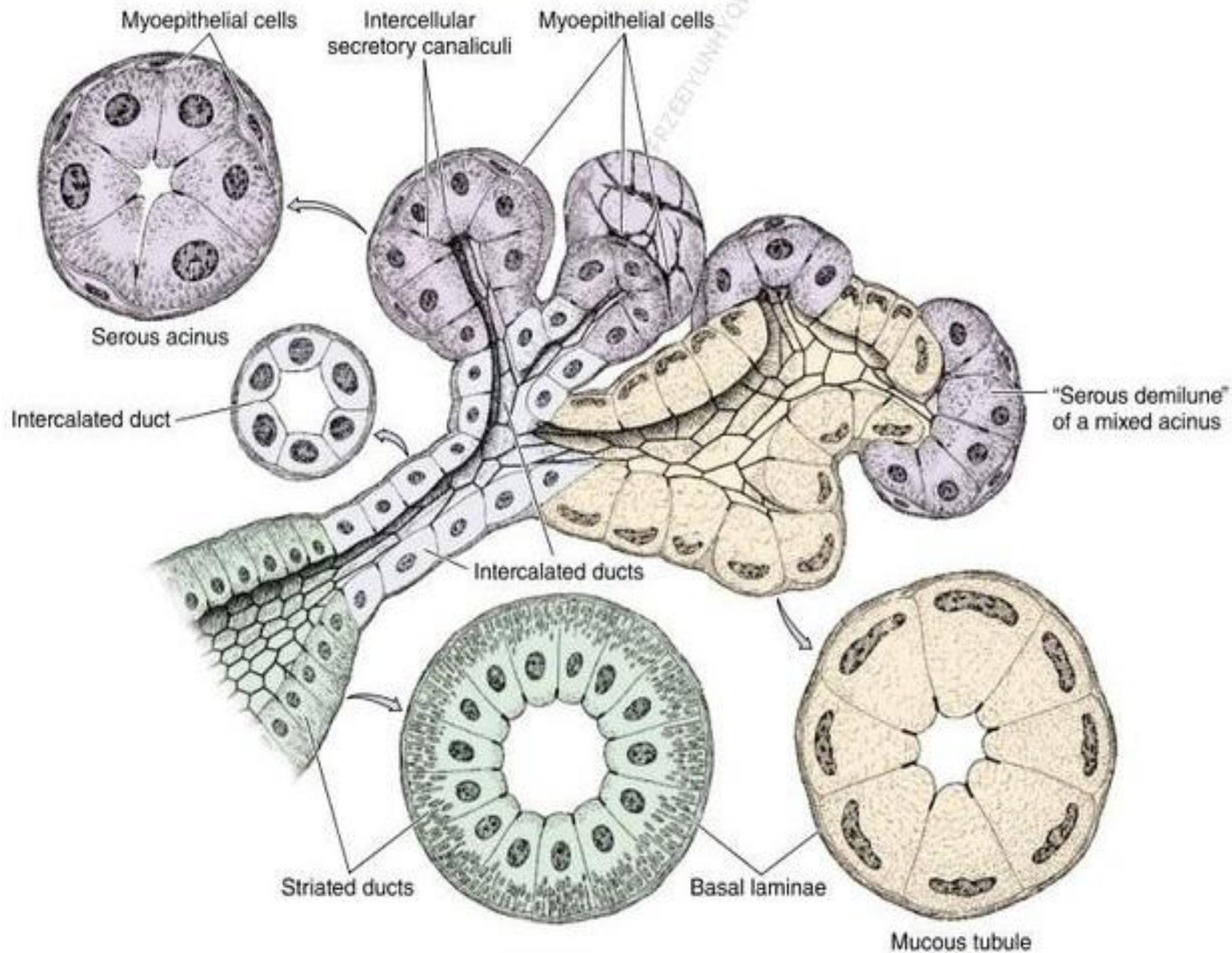


b. Serous cells:

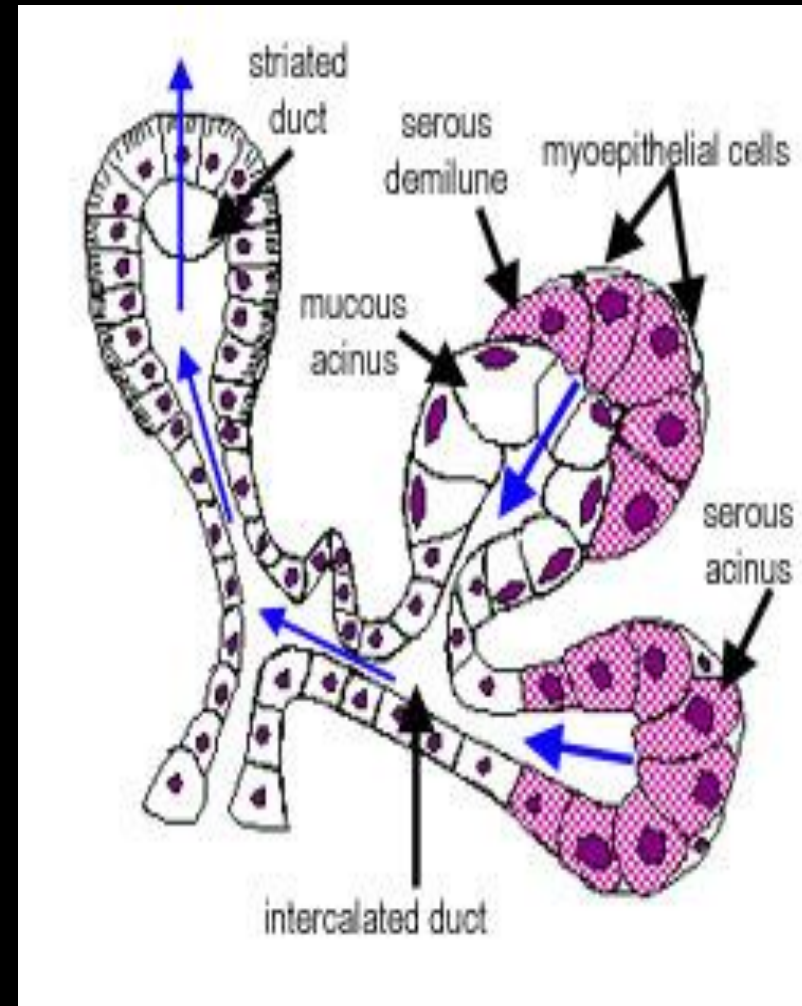


c. Mixed:

FIGURE 16-2 Epithelial components of a submandibular gland lobule.



- The mucous cells ends are capped by serous cells that secrete between the mucous cells' intercellular space. These serous caps on mucous cells are called serous demilunes.



Difference between Serous & Mucous Acini

Serous

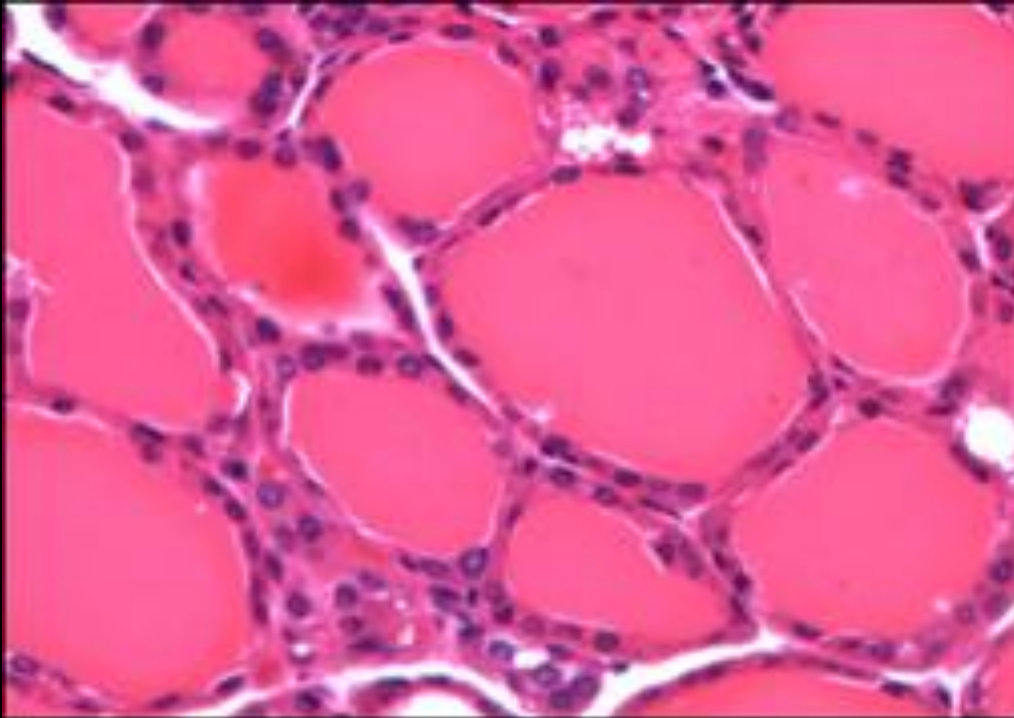
- Thin, watery
- Proteinaceous secretion
- Zymogen granules in cyto
- Central rounded Nucleus
- Small Lumen
- Indistinct cell boundaries
- Darkly stained
- Enzymatic action
- Parotid Gland

Mucous

- Thick, viscous
- Mucopolysaccharides
- Mucigen droplets
- Nucleus-flat & peripheral
- Large Lumen
- Distinct cell boundaries
- Lightly stained
- Protection & lubrication
- Sublingual gland

Endocrine glands:

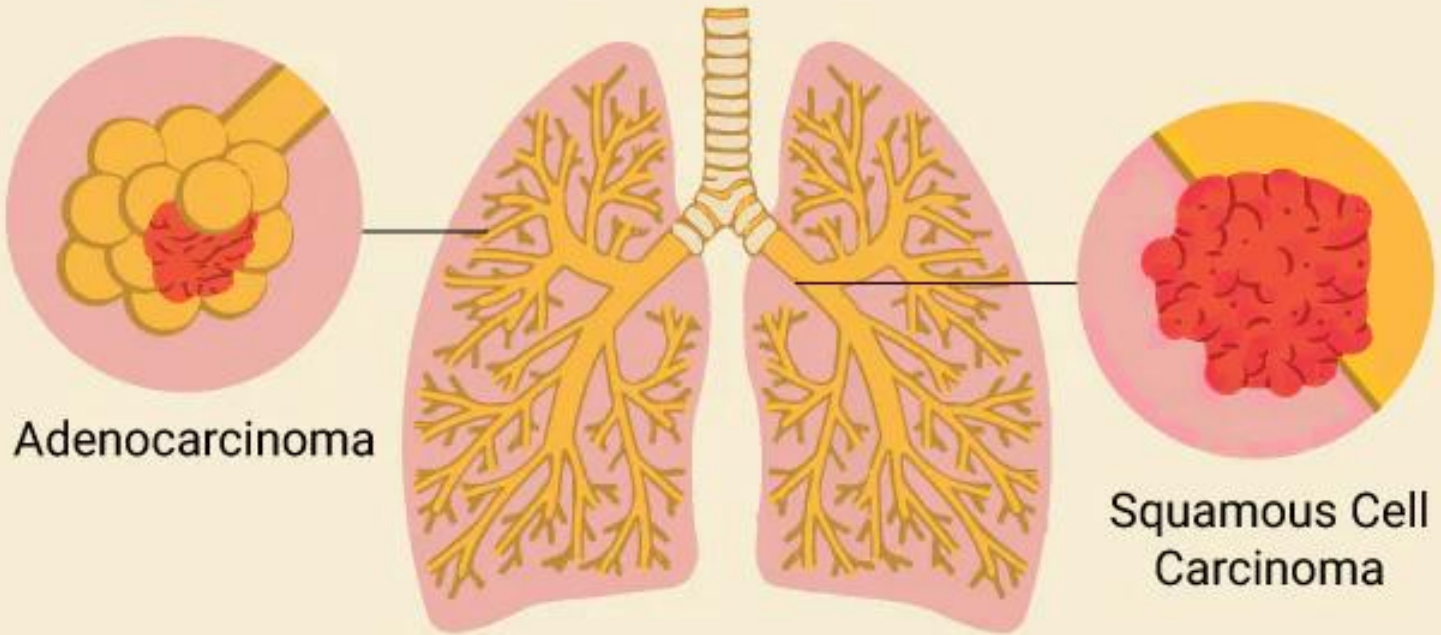
- polypeptide (or protein)-secreting cells
- steroid-secreting cells.



Medical notes

- Both benign and malignant tumours can arise from most types of epithelial cells. Malignant tumours of epithelial origin are called **carcinomas**. Malignant tumours derived from glandular epithelial tissue are called **adenocarcinomas** which are mostly common tumours in adults after age 45.

Adenocarcinoma VS Squamous Cell Carcinoma



Adenocarcinoma

Squamous Cell Carcinoma

THANK YOU