

SALIVARY GLANDS

Objectives

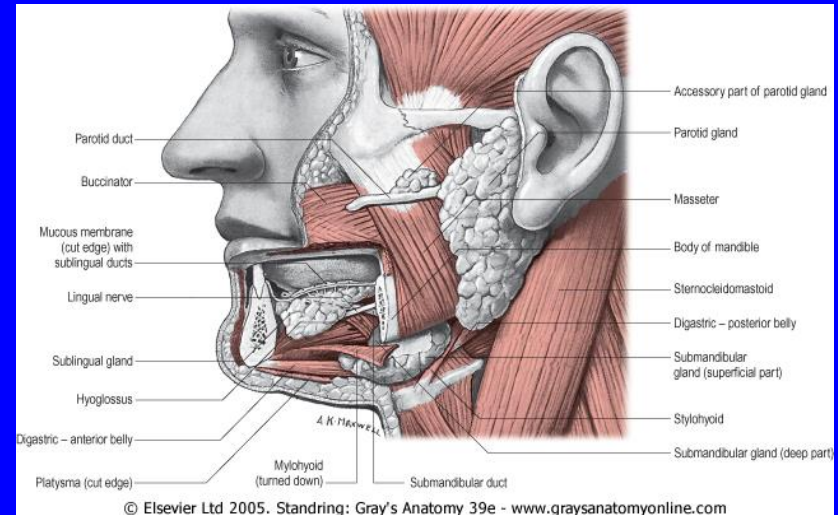
By the end of the lecture the student should be able to:

- Describe the microscopic structure of the major salivary glands in correlation with function.

SALIVARY GLANDS

(A) Major Salivary Glands:

- 1- Parotid.
- 2- Submandibular.
- 3- Sublingual.



(B) Minor Salivary Glands:

- Labial, Lingual, Buccal, Palatine.
- Produce 5% of salivary output.

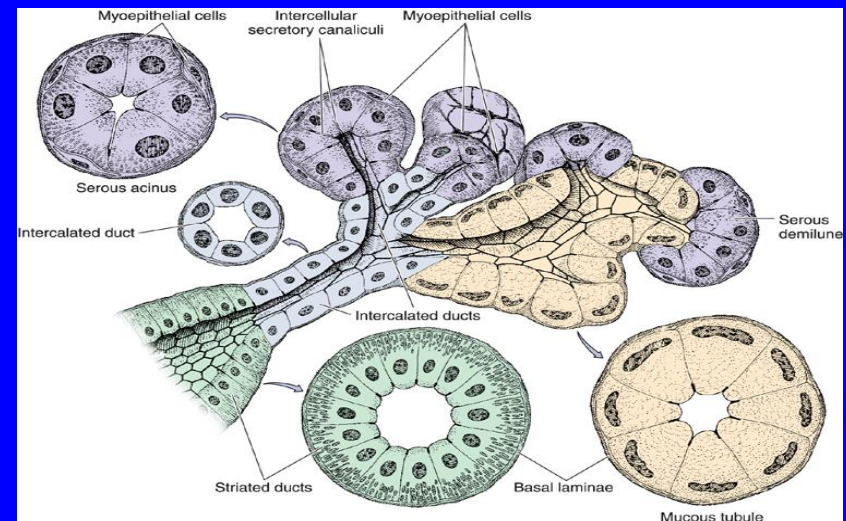
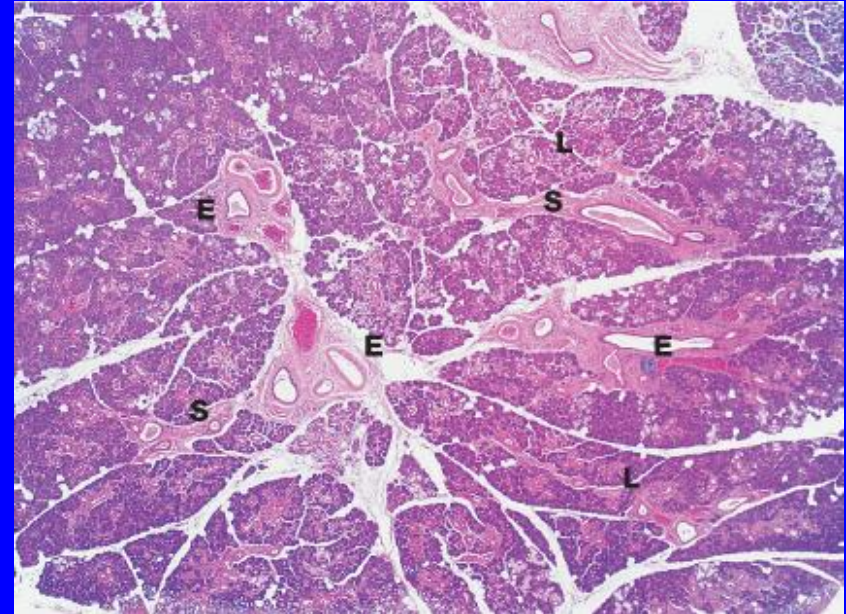
Major Salivary Glands

■ Stroma:

- C.T. capsule.
- C.T. septa dividing the glands into lobes and lobules.

■ Parenchyma:

- Acini.
- Duct system.



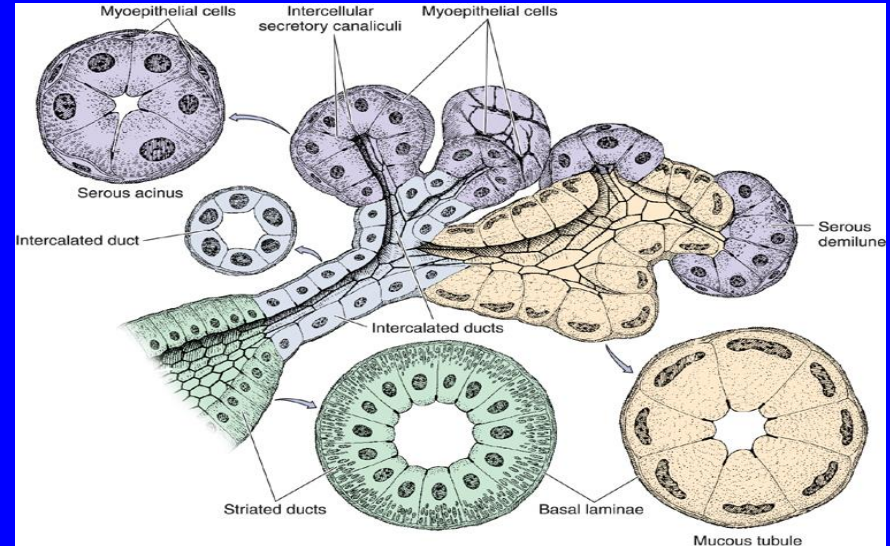
Types of Salivary Acini

1. Serous Acini:

- Contain only serous cells.
- Small, spherical, and with a narrow lumen.
- Secrete serous secretion rich in enzymes, such as amylase and lysozyme.

2. Mucous Acini:

- Contain only mucous cells.
- Larger, more tubular, and with a wider lumen.
- Secrete mucous secretion.



3. Mucoserous (Mixed) Acini:

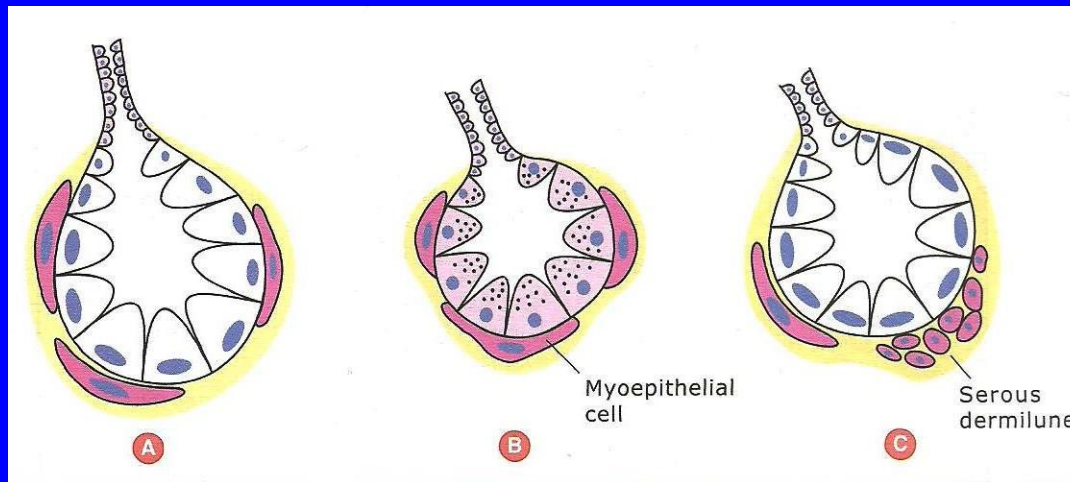
- Mucous acini with a cap of serous cells (serous demilunes).

Types of Salivary Acini

Mucous

Serous

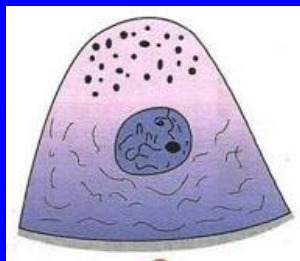
Mixed



Cells of Salivary Acini

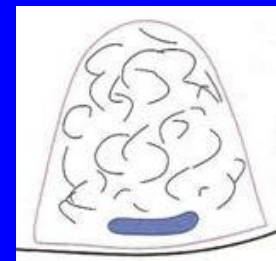
1. Serous cells

- Pyramidal in shape.
- Nuclei are round and basal.
- Cytoplasm:
 - Deeply basophilic (due to numerous RER), with apical acidophilic secretory granules (rich in salivary amylase).



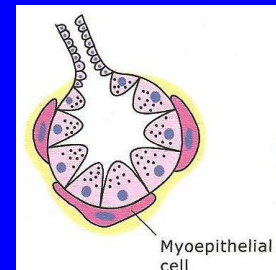
2. Mucous cells

- Pyramidal or cuboidal.
- Nuclei are flattened and basal.
- Cytoplasm:
 - Pale basophilic and vacuolated (foamy) (due to dissolved mucinogen secretory granules).



3. Myoepithelial cells (basket cells):

- Contractile cells that embrace the basal aspect of the acini.
- Their contraction releases the secretion into the duct system.



Duct System of Salivary Glands

1. Intralobular ducts (prominent):

a. Intercalated ducts:

» lined by small cuboidal cells.

b. Striated ducts:

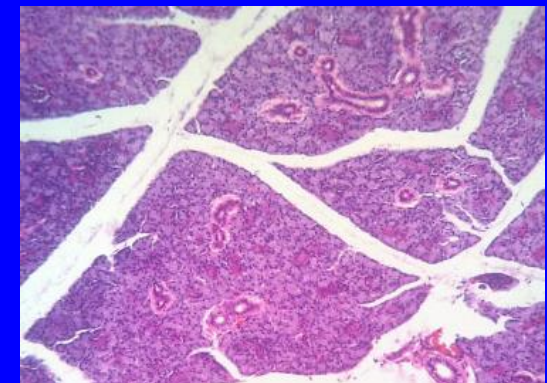
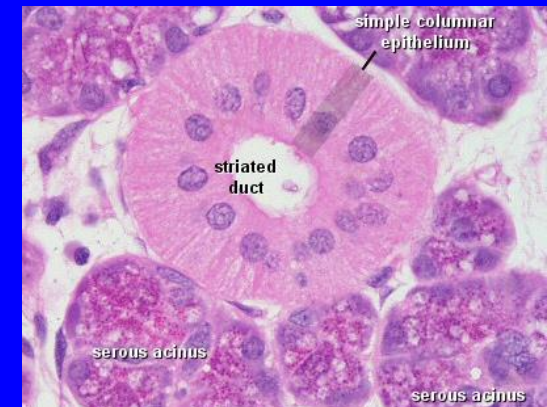
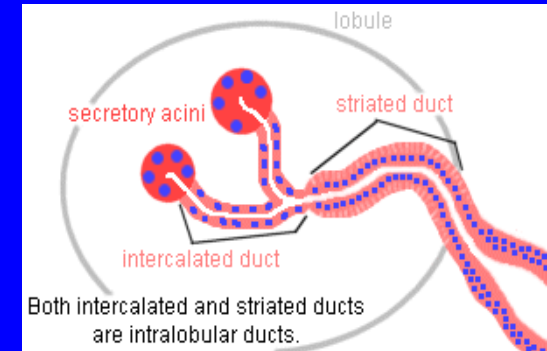
» lined by low columnar cells.

2. Interlobular ducts:

– lined by simple columnar epithelium.

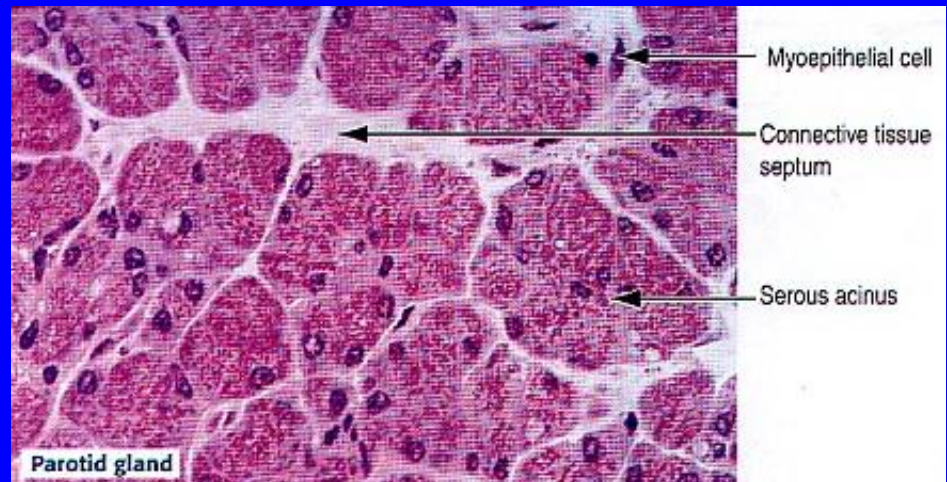
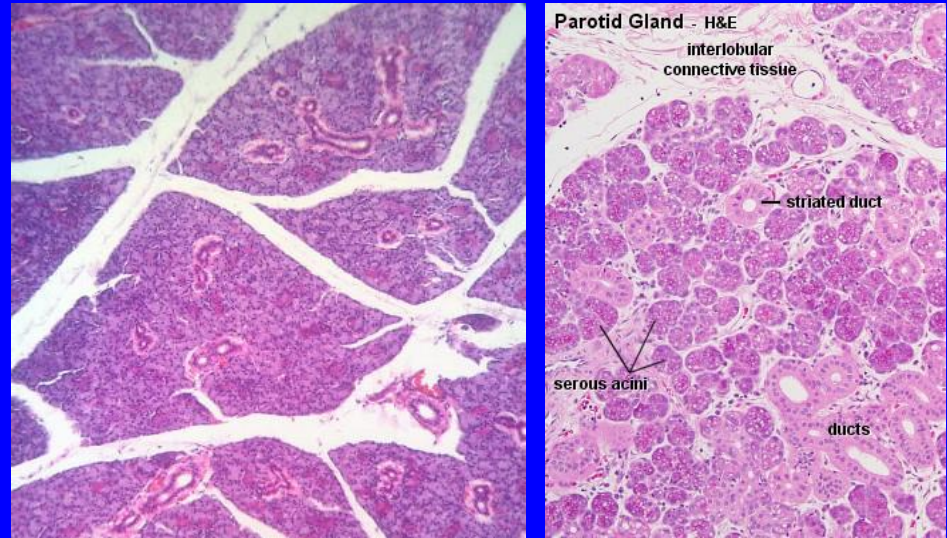
3. Main duct:

– lined by stratified columnar epithelium which becomes stratified squamous (nonkeratinized) in the distal end.



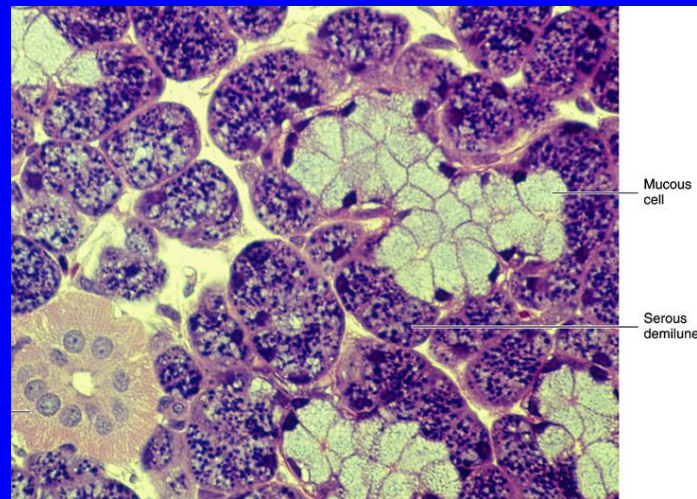
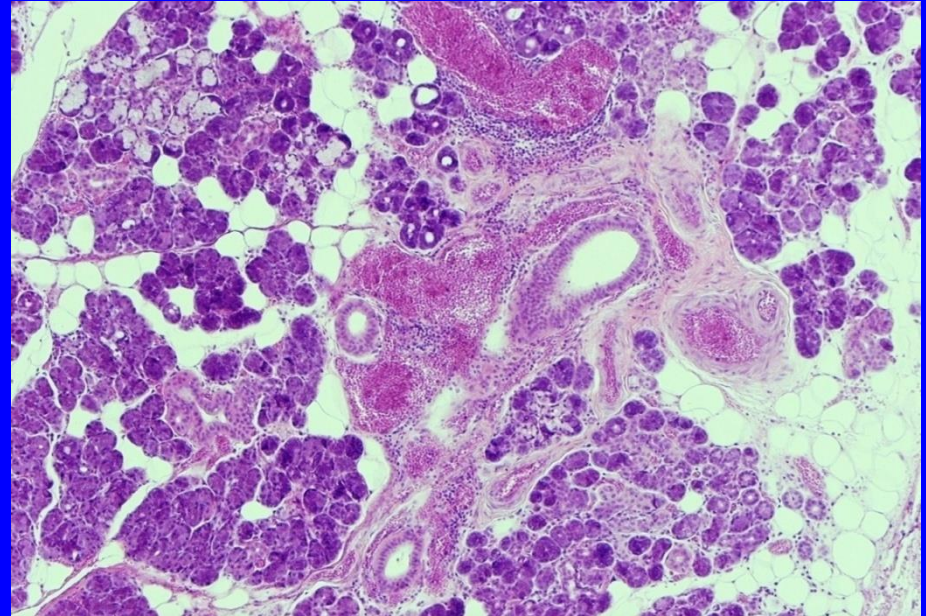
Parotid Gland

- The largest salivary gland.
- Produces 30% of salivary output.
- Purely serous.
- Prominent intralobular ducts.
- Secretion rich in:
 - Amylase.
 - Lactoferrin.
 - Lysozyme.
 - Secretory IgA.



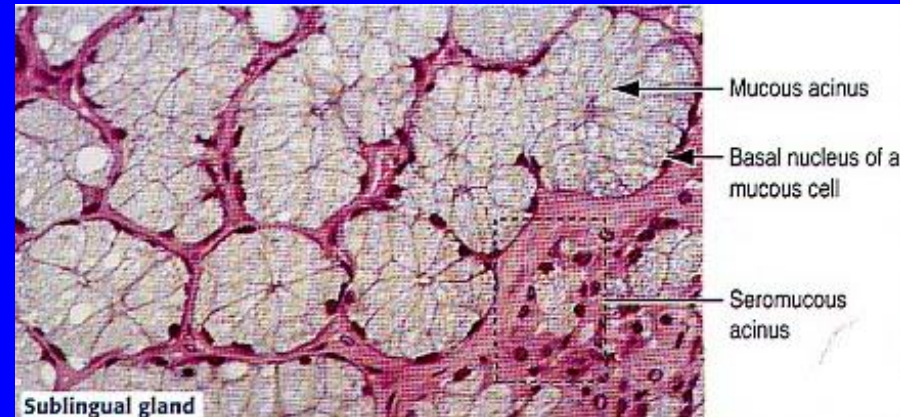
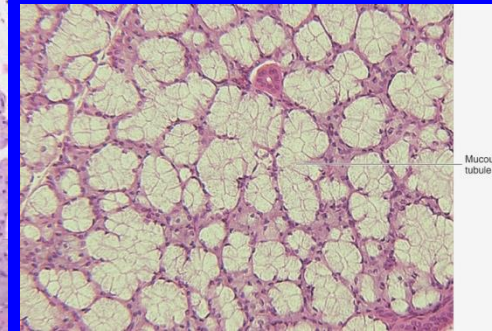
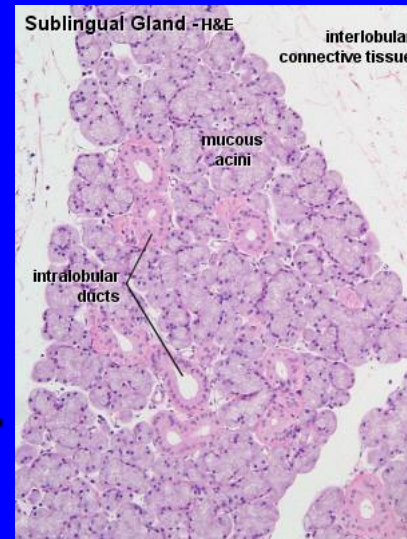
Submandibular Gland

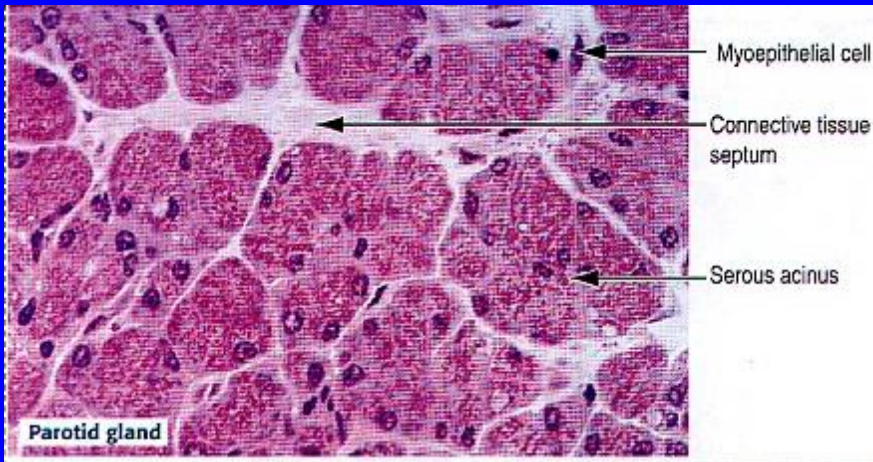
- Produces 60% of salivary output.
- Mixed but mostly serous (90%).
- Mucous acini are capped by serous demilunes.



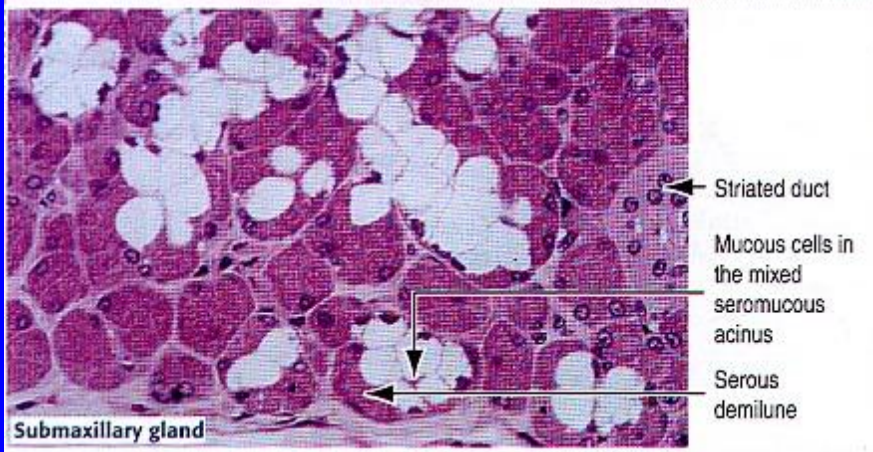
Sublingual Gland

- The smallest salivary gland.
- Produces 5% of salivary output.
- Mixed but mostly mucous.
- Mucous acini are capped by serous demilunes.

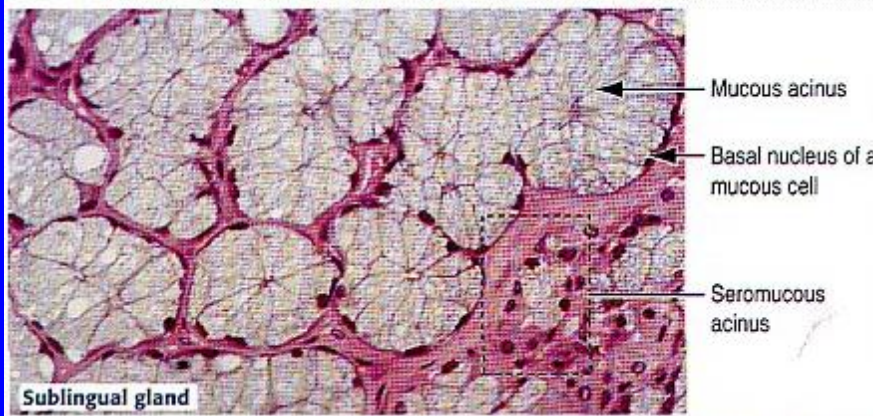




Parotid: purely serous



Submandibular: mostly serous



Sublingual: mostly mucous

THANK YOU