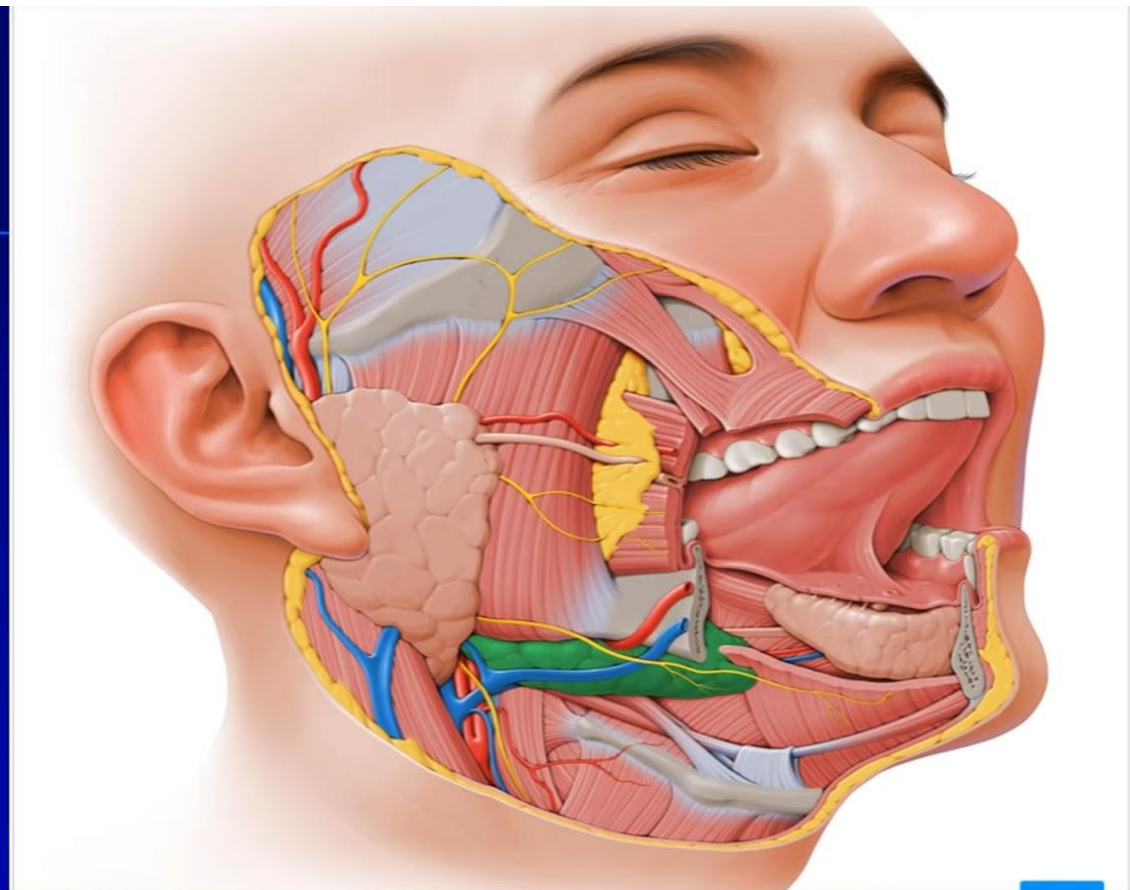


Salivary gland surgery

E J Arteen
FRCSI

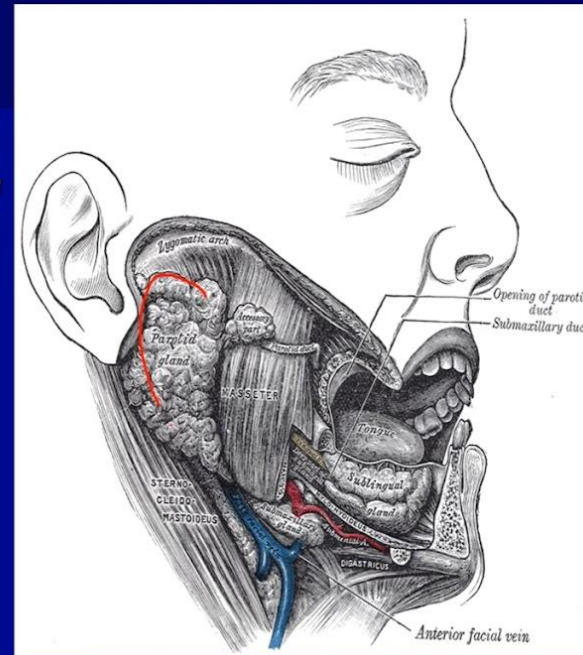
Salivary glands

- Exocrine gland with ducts that produce saliva, Pour their secretion to oral cavity.
- Major salivary glands(Paired).
- *Parotid gland.*
- *Submandibular gland.*
- *Sublingual gland.*
- Minor salivary glands: *Tongue ,palate ,palatine tonsil , lip ,cheek.*

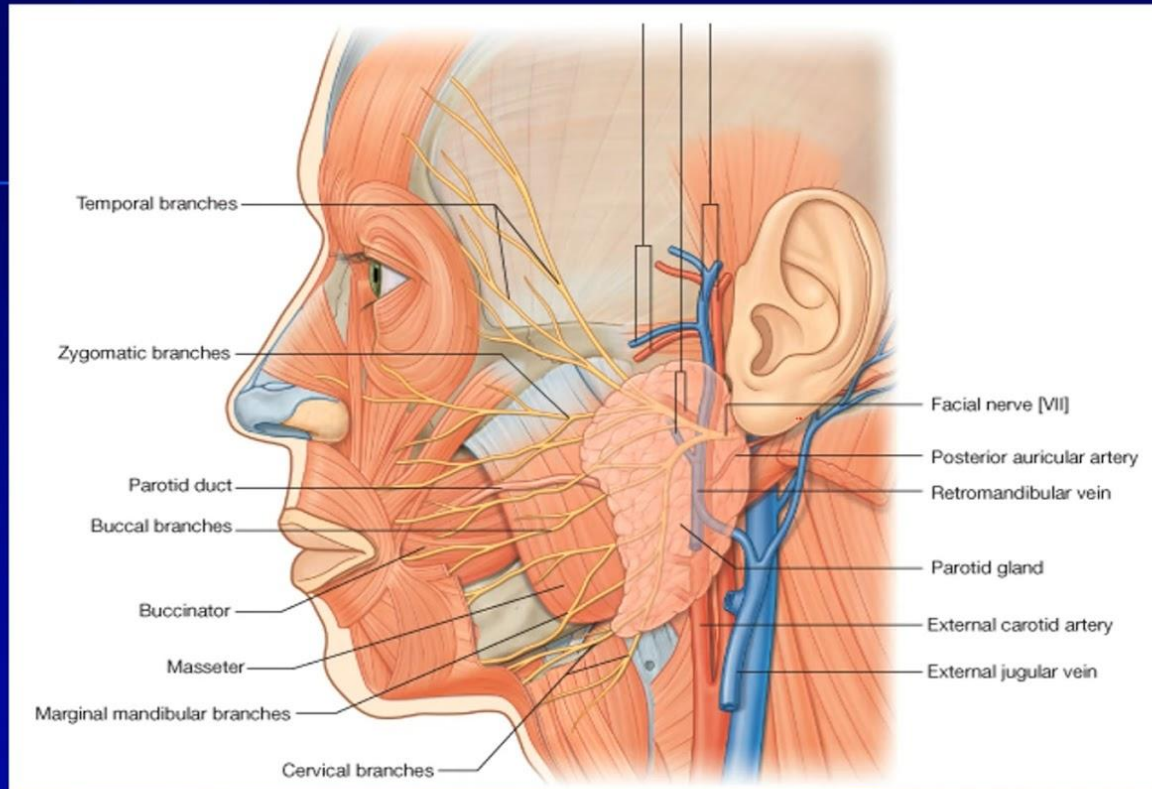


Parotid Gland

- Largest S. G 25 gm in weight .
- Wedge-shaped gland Occupy deep hollow between SMM , and angle of mandible .
- Anterior part is wrapped, around ramus .
- Covered by a tough capsule sheath derived from ILDCF.

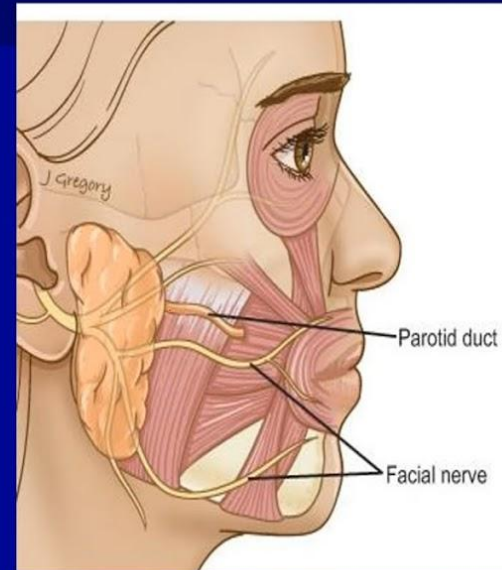


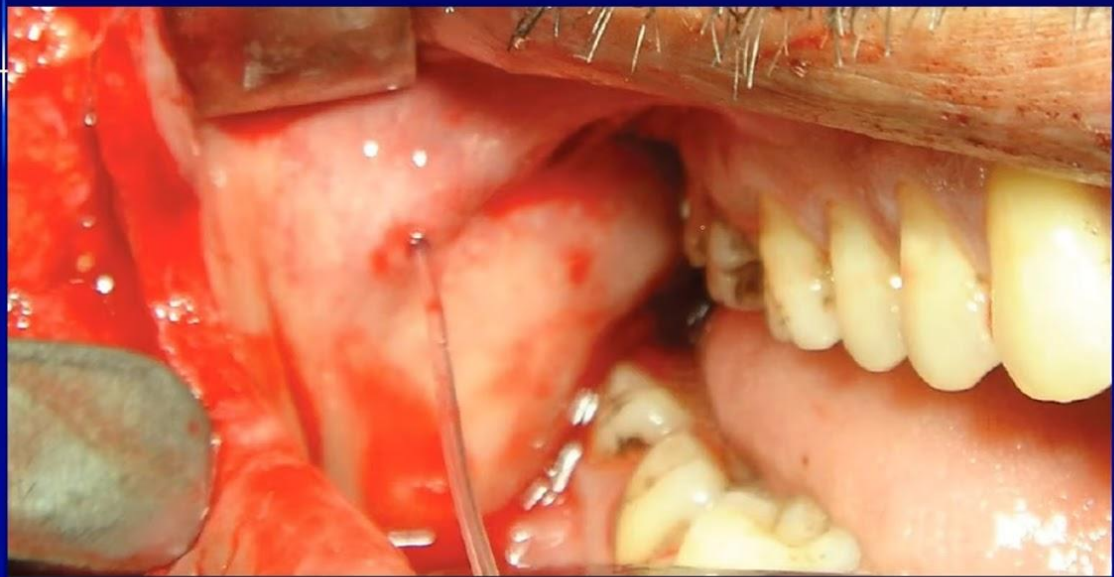
*P. Gland is Divided by Facial n. into superficial 80% & deep part 20%

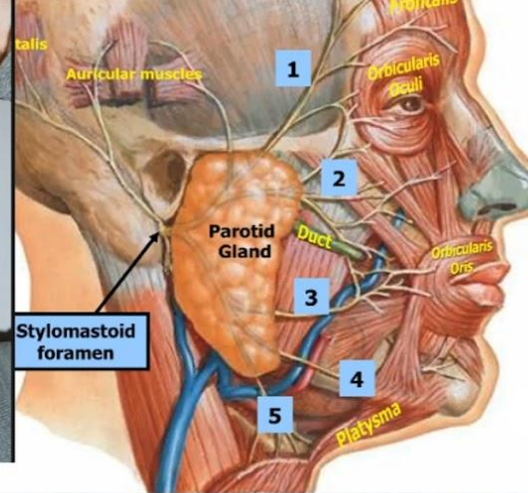


Parotid Duct (Stensen's duct)

- 6 cm long 3mm in diameter.
- Appear at anterior border of gland thick wall narrow lumen.
- Middle third of a line between zygomatic arch & angle of mouth.
- Pass ant. & horizontal over the masseter m.
- At ant. Border of masseter: pierces buccinators m. to enter the oral cavity.
- Opens into oral cavity opposite to upper 2nd molar tooth.

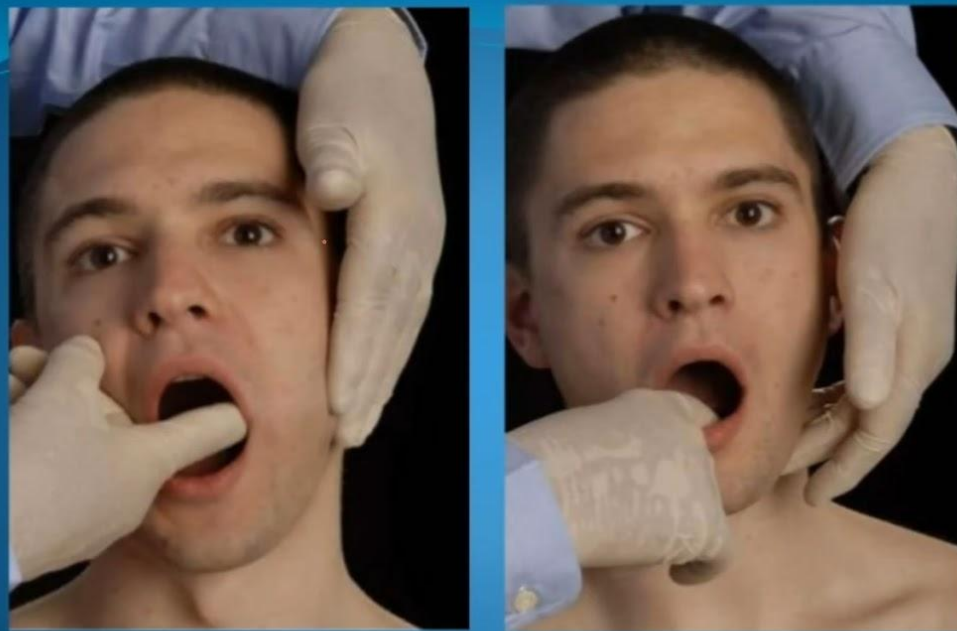




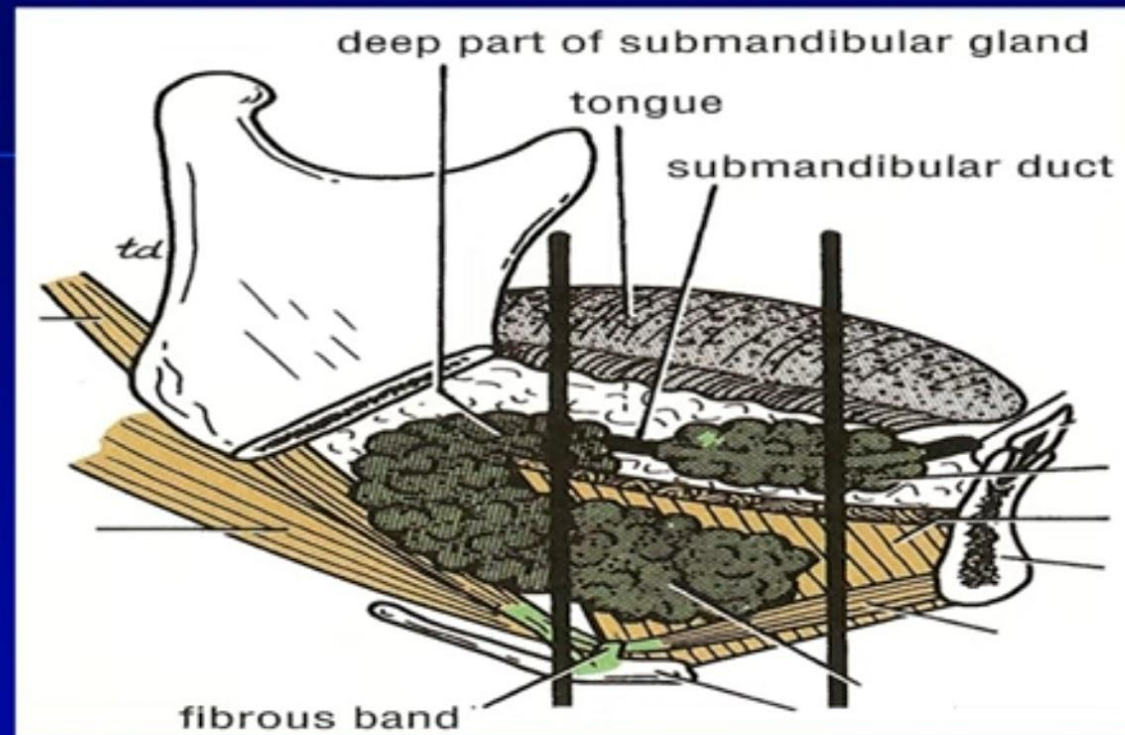


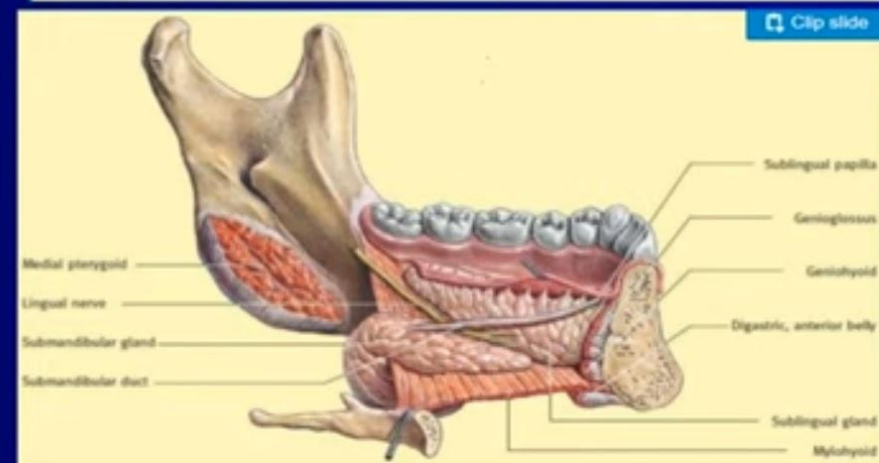
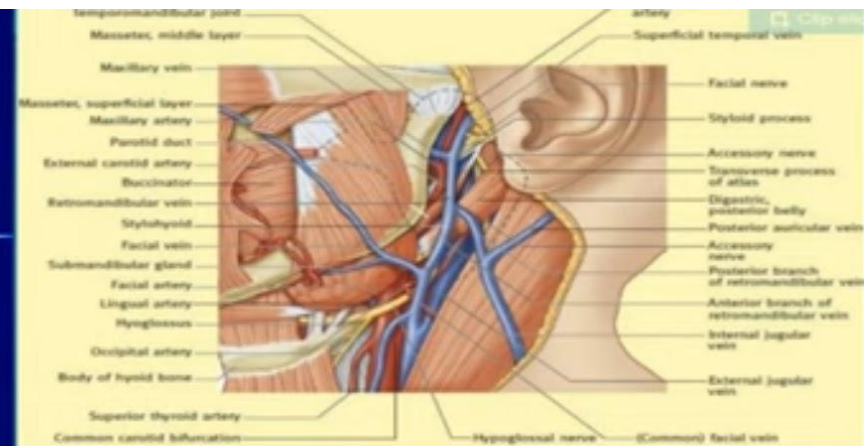
Submandibular salivary gland

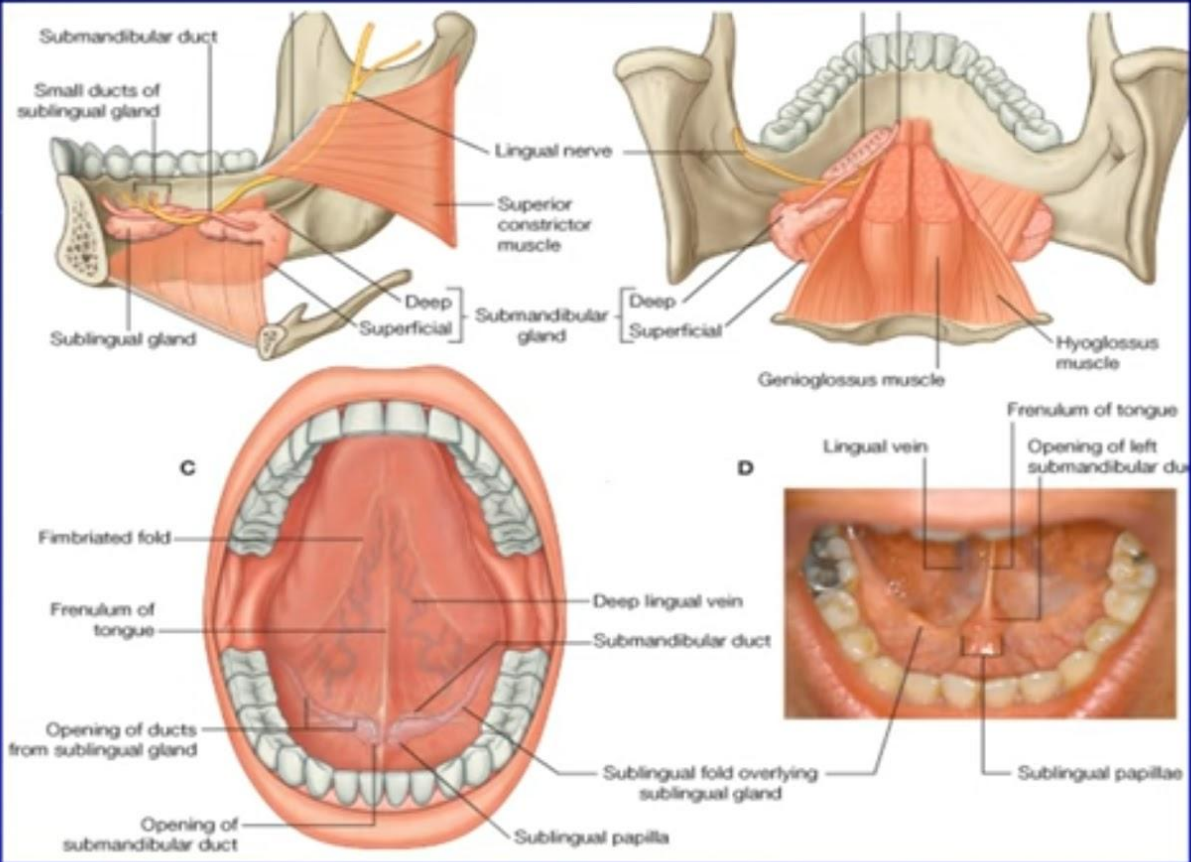
- Lie beneath angle of mandible (half size of parotid G).
- Produce mixed mucus and serous saliva.
- Deep part give rise to Submandibular duct (Warton's Duct), which can be felt beneath floor of the mouth.
- Divided by mylohyoid muscle into superficial and deep lobes.
- Duct open at the side of frenulum of the tongue.
- Gland supplied by Chorda Tympani of facial nerve Secreto-motor.



Bimanual examination of the parotid and submandibular salivary glands







Cyst

- Extravasation (Retention)cysts are common and result from trauma to overlying mucosa.
- They usually affect minor salivary glands within lower lip, producing a variable swelling that is painless and translucent.
- Some resolve spontaneously, but most require Surgical Excision.
- Recurrence is rare.



Retention cyst



Ranula

- Cystic swelling in the floor of mouth.
- Usually unilateral to midline.
- Smooth dome shaped fluctuating painless swelling.
- Mucus extravasation cyst from sublingual salivary gland.
- Usually blue in color of variable sizes.
- Is induced by local trauma ,and duct rupture followed by mucus spillage to surrounding tissue.
- **Treatment :** marsupialization and or excision of sublingual salivary gland

Plunging ranula

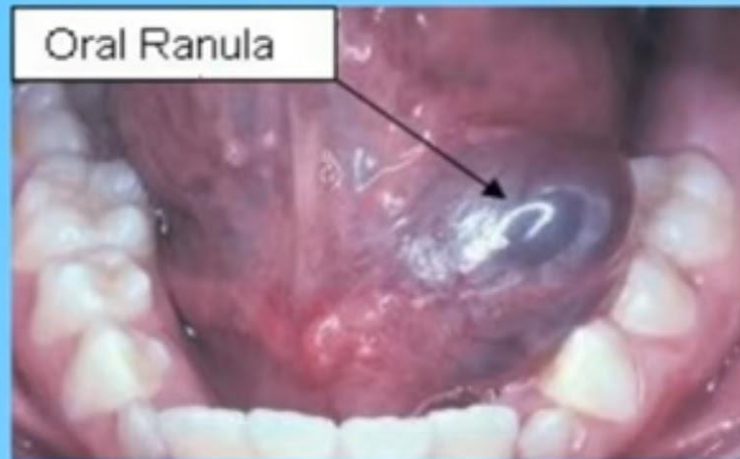
- Plunging ranula is a rare form of mucous retention cyst. Mucus collects within the cyst, which perforates through the mylohyoid muscle diaphragm to enter the neck.
- Patients present with a dumbbell-shaped swelling that is soft, fluctuant and painless in the neck .
- ***Diagnosis:*** is made on ultrasound or magnetic resonance imaging (MRI).
- ***Excision:*** is usually performed via a cervical approach removing the cyst and both the submandibular or sublingual glands.

Ranula and plunging type



Oral Ranula

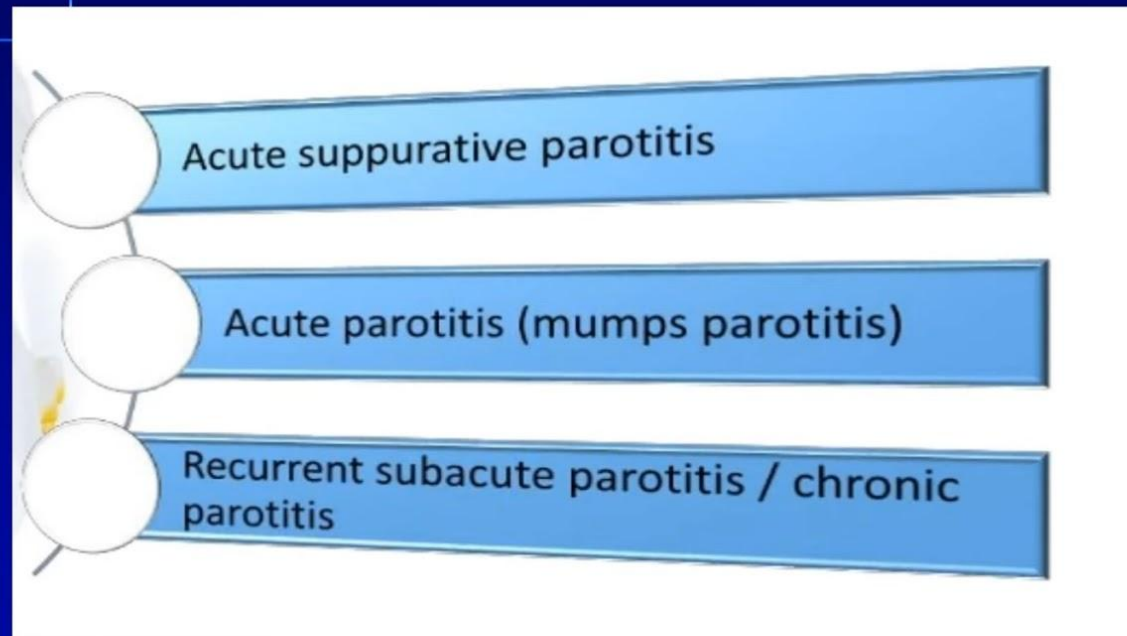
(a term derived from the Greek word for the swollen area below the mouth of a frog). Oral Ranulas are painless cysts that occur in the floor of the mouth and usually involve the major Salivary Glands. They do not extend beyond the mouth. Oral Ranulas usually present with swelling in the floor of the mouth that is painless. On occasion, they can interfere with speech or chewing.



Inflammatory disorders of the submandibular gland SMG

- Inflammation of the SMG is termed Sialadenitis. Submandibular sialadenitis may be acute, chronic.
- Acute submandibular sialadenitis
- The paramyxovirus (mumps) is a viral illness that causes painful tender swollen glands.
- Bacterial. Bacterial sialadenitis is more common than viral sialadenitis and occurs secondary to obstruction.

Inflammatory diseases of parotid gland



Parotid abscess

- Spread of infection through Stensen's duct from the mouth cavity.
- Infection to gland through parotid lymph node.





Mumps

Obstruction

- Most common cause of obstruction is stone.
- 80% of stones occur in submandibular gland.
- 80% of stones are radio- opaque .

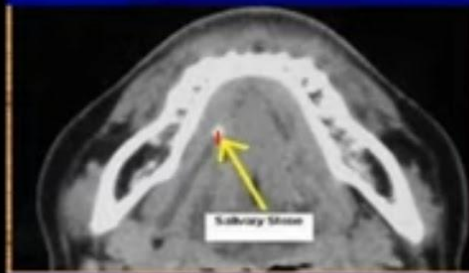
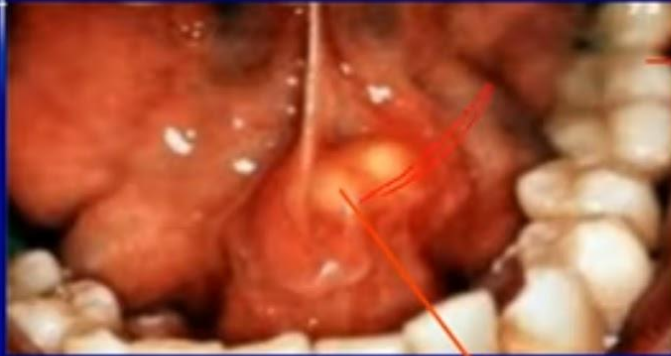
Symptoms :

Depends on partial or complete obstruction

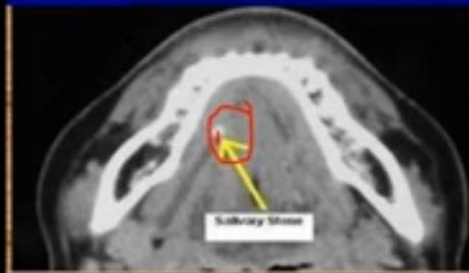
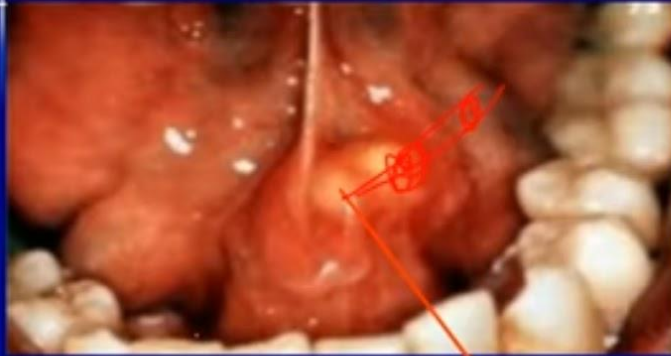
Complete one : *Acute painful swelling.*

Partial one: *infrequent symptoms .*

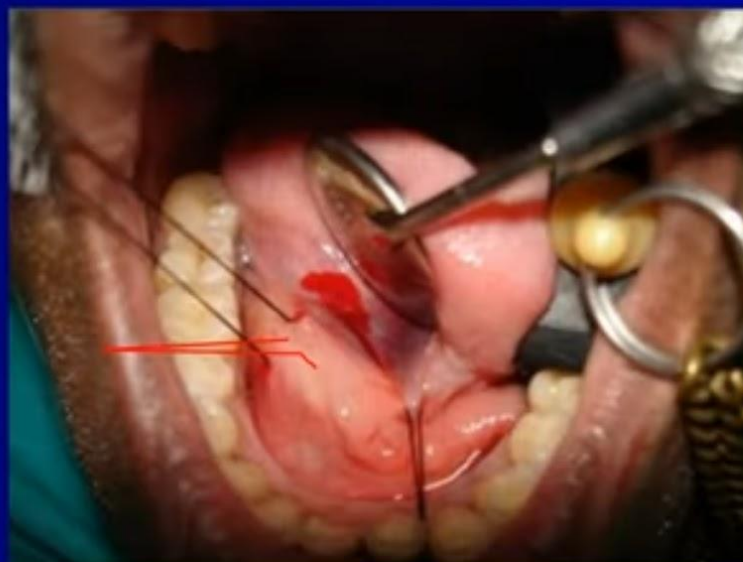
- Clinical examination an enlarged firm SMG, tender on bimanual examination
- Pus may be visible, draining from the SMD.
- *Pain referred to tongue.*
- *Pain referred to tongue .*



SMD Stones



SMD Stones



Management

- ***Stone felt in the duct:***
_Remove stone leave hole open.
- ***Stone in proximal duct or in the gland :***
Remove the gland.

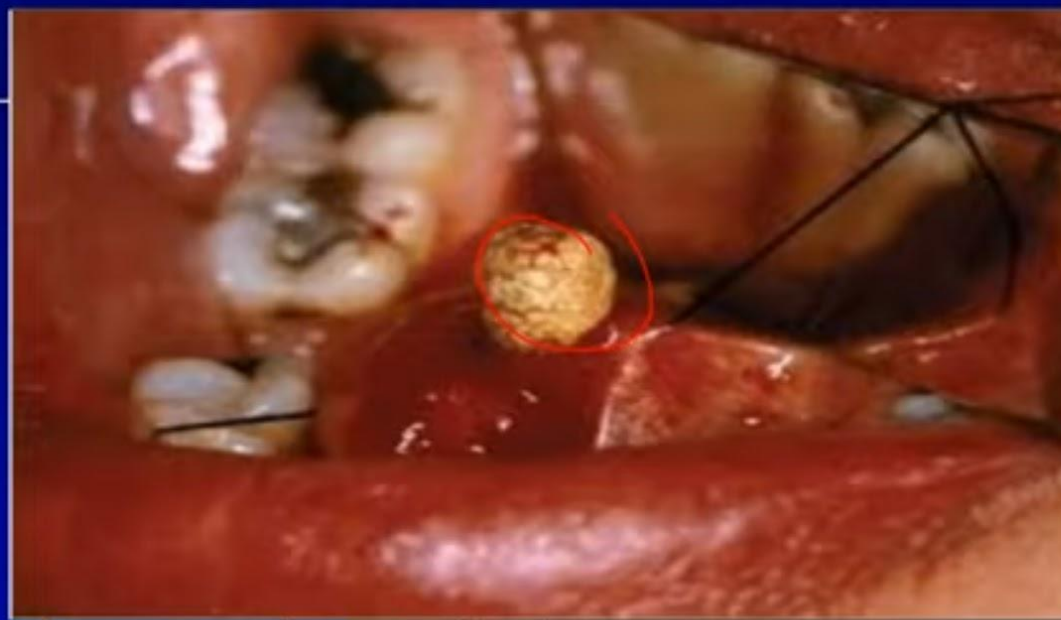


Salivary stones identified by plain radiographs





Sialadenitis; parotid salivary gland



Clip slide



Normal parotid and submandibular sialograms



Lingual
frenulum

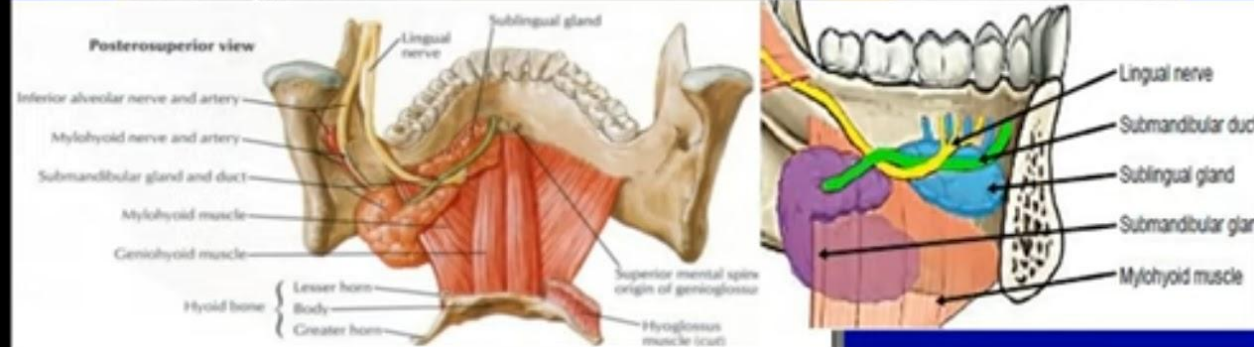
Sublingual
openings of
sublingual gland

Sublingual caruncle

Sublingual fold

Oral cavity, anterior

BlueLink © B. Kathleen Alsup & Glenn M. Fox



Complication of SMG Excision

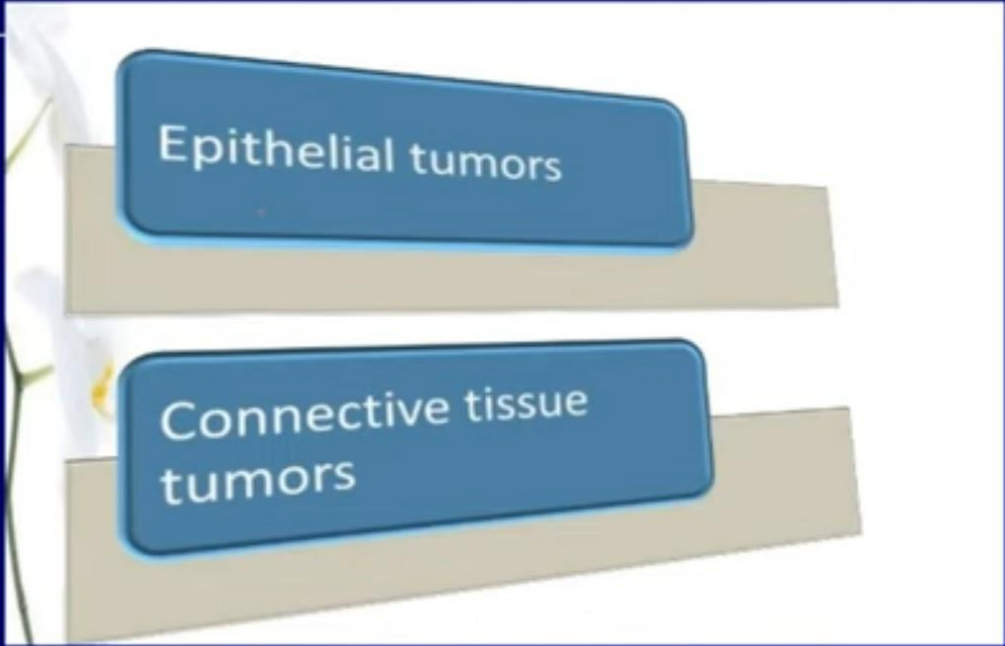
Important anatomical relationships of the submandibular glands

- Lingual nerve
- Hypoglossal nerve
- Anterior facial vein
- Facial artery
- Marginal mandibular branch of the facial nerve

SJOGREN SYNDROME

- Chronic disease characterized by dry eyes and dry mouth.
- Immune destruction of lacrimal and salivary glands.
- Either isolated disorder or part of autoimmune disease.
- Common in females 50-60 years old.
- Enlargement of parotid gland in 50% of cases.
- Diagnosis: Biopsy from lip.

Classifications



Epithelial tumors

The diagram consists of a white rectangular area containing two light blue, rounded rectangular boxes. The top box is labeled 'Epithelial tumors' and the bottom box is labeled 'Connective tissue tumors'. Both boxes are slightly tilted to the right. The boxes are set against a background of light gray, angular shapes that resemble a stylized landscape or a set of steps. A thin green line is visible on the left side of the white area, possibly representing a plant stem.

Connective tissue
tumors

Epithelial Tumors

- **Benign**
 - Pleomorphic adenoma (Mixed tumor).
 - Papillary cyst adenoma (Warthin's Tumor).
 - Basal cell adenoma.

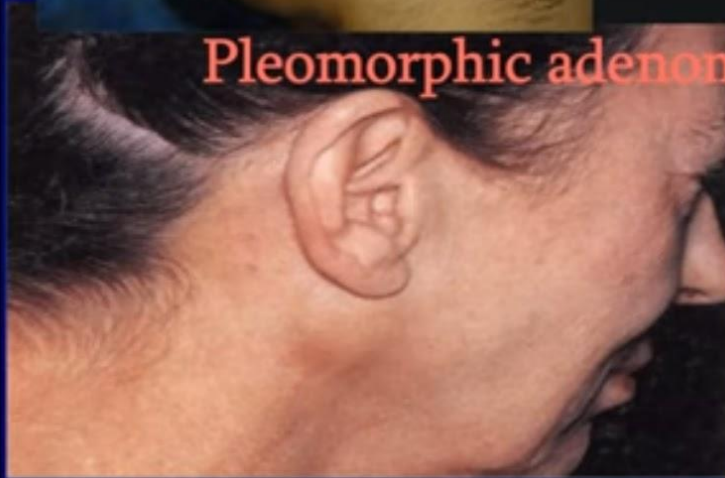


Pleomorphic adenoma

- Most common Benign tumor of salivary gland and mainly in parotid gland 50% of SGTS.
- Most common in parotid tail of superficial lobe 80%.
- Known as Mixed tumor as it is composed of epithelial and mesenchymal component .
- Encapsulated but may send pseudopodia to surrounding gland.
- Present as painless solitary mobile slowly growing tumor over months and years, usually below ear lobules women 40-60 of age twice more common.
- Complication: Malignant transformation 5%.
- Diagnosis: FNA
- Treatment: Superficial parotidectomy.



Pleomorphic adenoma



(Warthin') tumor papillary cystadenoma

- 2nd most common benign cystic tumor of parotid gland ,never turn malignant.
- Usually lower pole of gland over angle of mandible .
- Occurs exclusively in parotid gland.
- Occur from salivary tissue remnants trapped in parotid LNs.
- Smoking increase risk 8 times males 50-70 y.
- Bilateral 10% never involve facial nerve.
- **Diagnosis**: FNA
- **Treatment**: Local excision versus Superficial parotidectomy.



Epithelial Tumors

- **Malignant**
 - Mucoepidermoid carcinoma (most common previous radiation to neck two types low and high grade).
 - Adeno-cystic .
 - Adenocarcinomas .
 - CA in pleomorphic adenomas.
 - Undifferentiated.