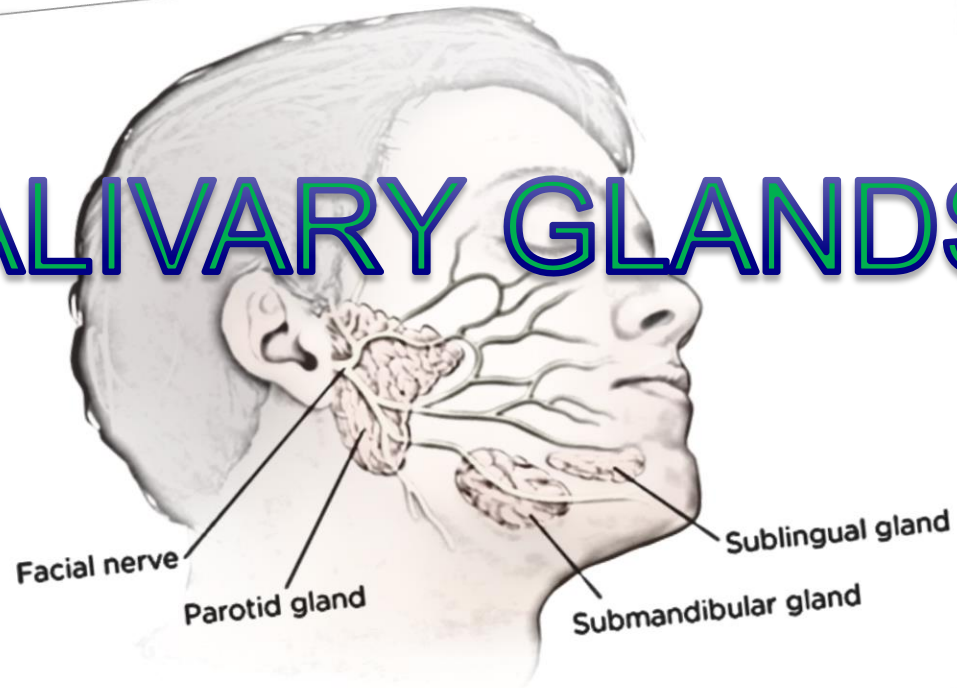


بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

SALIVARY GLANDS



DR. ZAHID ALI KAIMKHANI
M.D;M.Phil;Ph.D

SALIVARY GLANDS - OBJECTIVES

BY THE END OF THIS SESSION WE WILL BE ABLE TO:

DESCRIBE THE ANATOMY OF THE SALIVARY GLANDS (PAROTID ,
SUBLINGUAL AND SUBMANDIBULAR) WITH REFERENCE TO THEIR:

- POSITION/LOCATION,
- SHAPE,
- STRUCTURES WITHIN IT (PAROTID),
- INNERVATION
- DUCT.
- AND
- APPLIED ANATOMY

SALIVARY GLANDS - intro

Salivary glands:

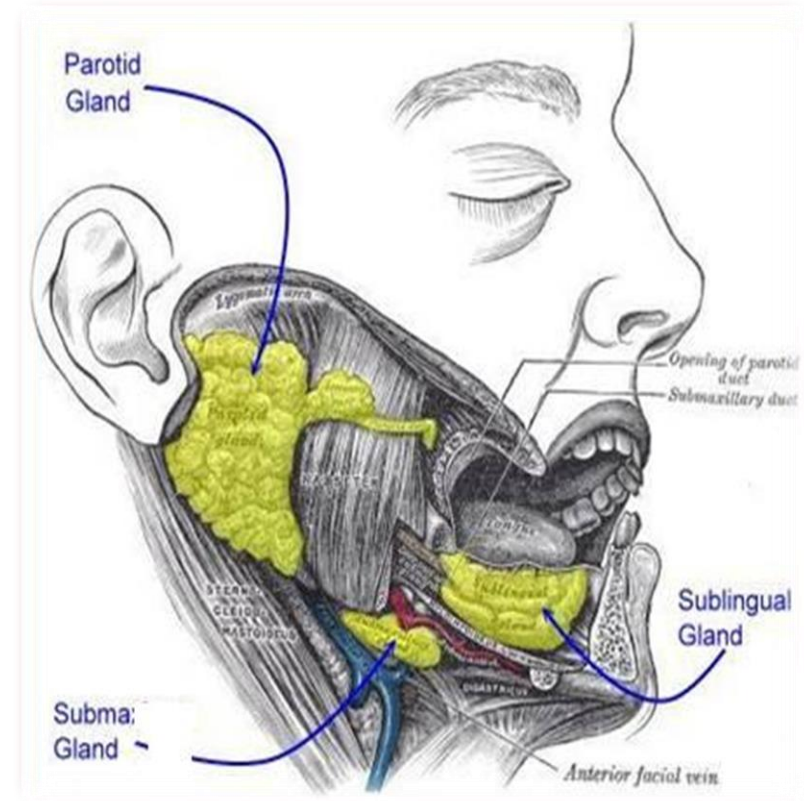
- Paired
- are exocrine glands,
- produce saliva.
- 3 large named pairs of salivary glands
and
- multiple minute unnamed glands in the submucosa of the oral cavity (lips, palate & under surface of the tongue).

Salivary glands and secretion type

Parotid – **serous**, watery secretion.

Submandibular – **mixed serous & mucous** secretion.

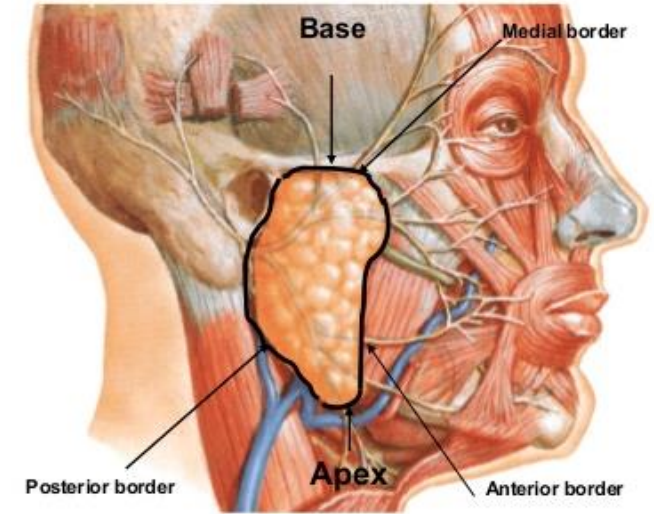
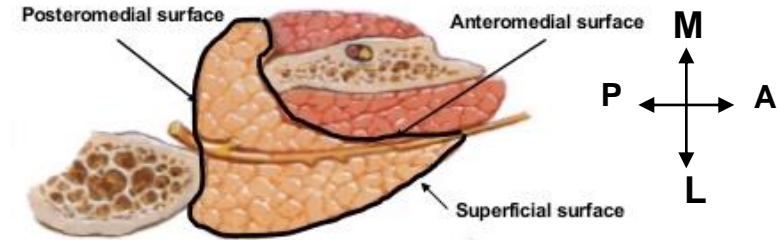
Sublingual – predominantly **mucous** in character.



- PAROTID GLAND

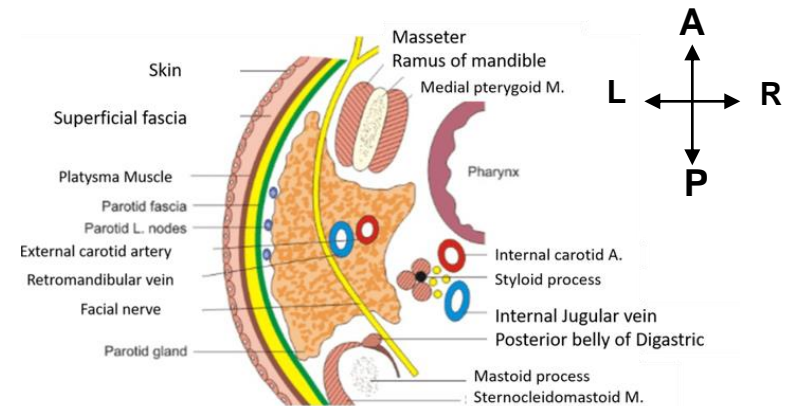
Parotid gland:

- Largest salivary gland,
- Formed of entirely of serous acini
- POSITION:
Gland Wedged between
 - Mandibular ramus & masseter anteriorly,
 - Mastoid process & SCM posteriorly
- SHAPE- Triangular:
 - Apex behind angle of the mandible
 - Base directed upward just below the zygomatic arch, external auditory meatus & TMJ.
- SURFACES
 - Superficial
 - Anteromedial
 - Posteromedial



Accessory part:

A small part that is separated from the main gland.

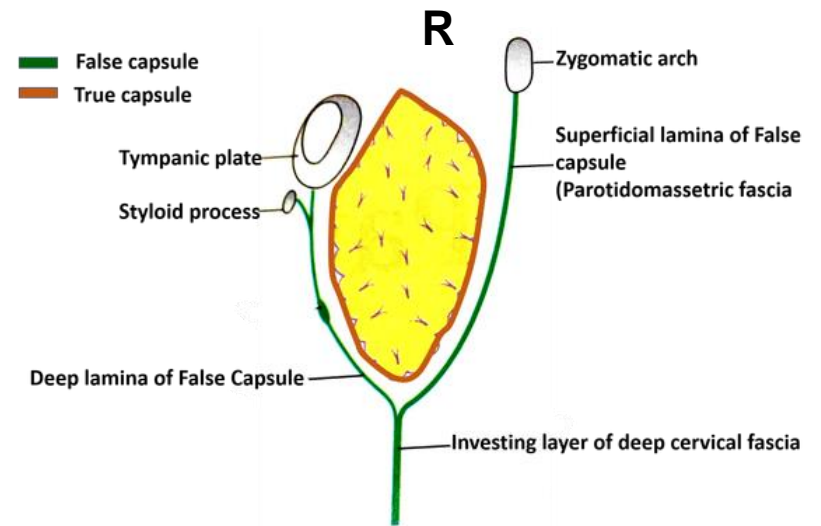
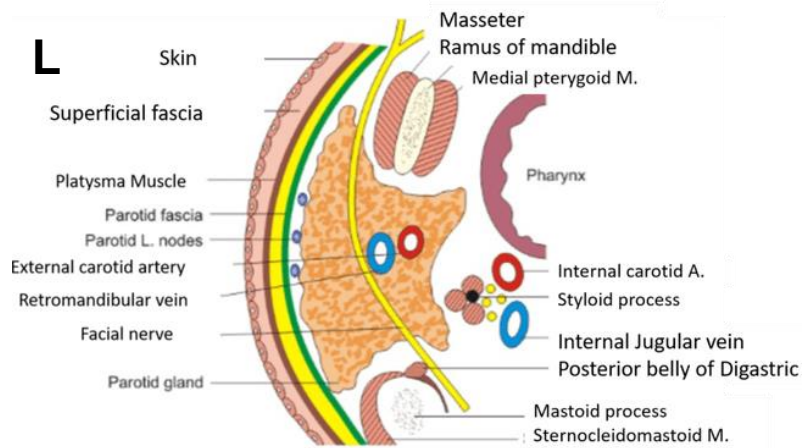
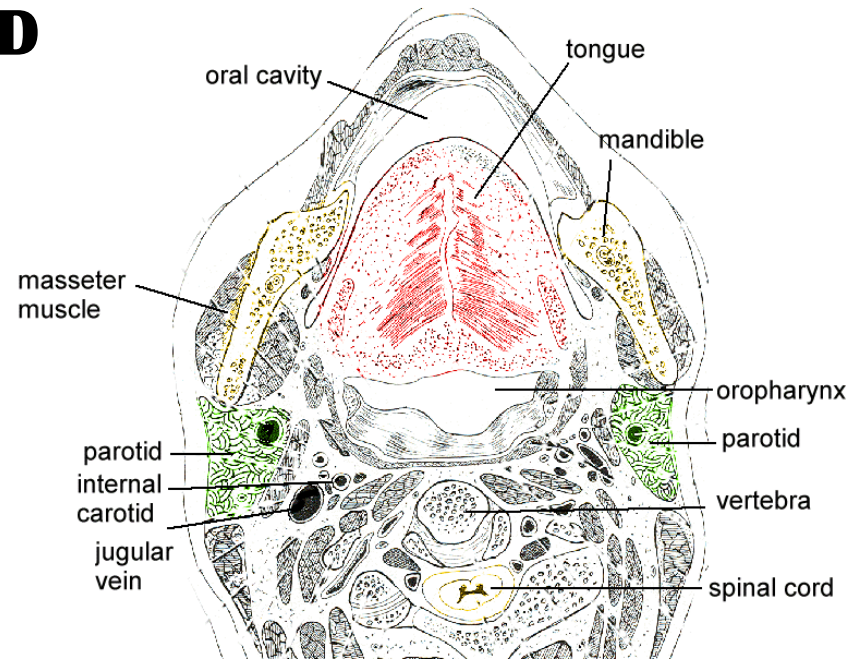


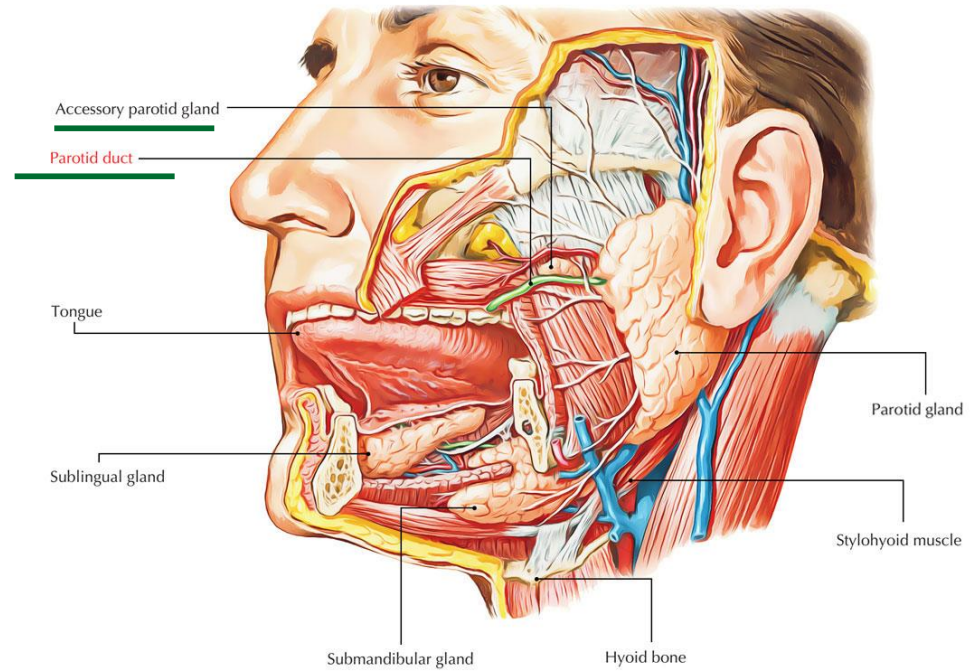
- PAROTID GLAND

Parotid gland:

- **CAPSULE:**
 - **Tight, derived from deep cervical fascia of the neck.**

- **PARTS**
 - **The gland is divided into superficial & deep parts, by the facial nerve fibers.**

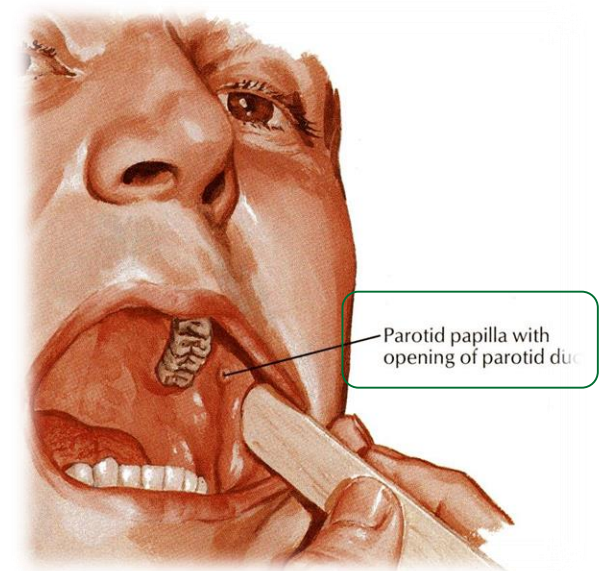




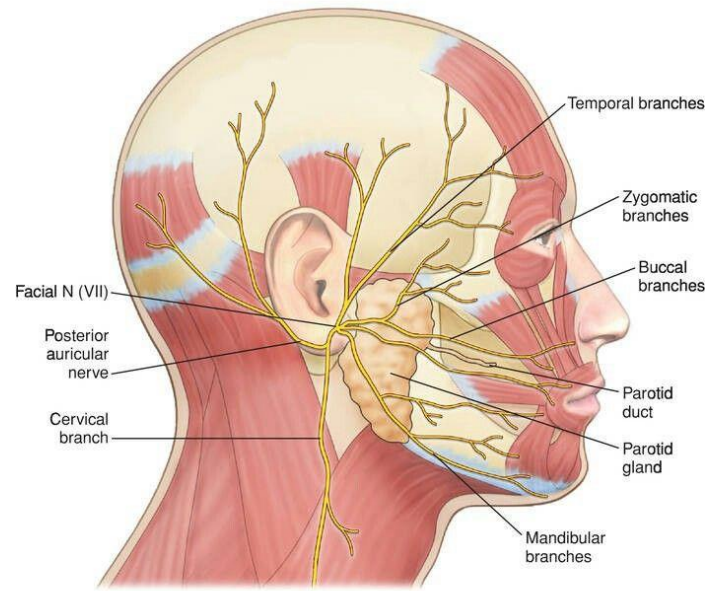
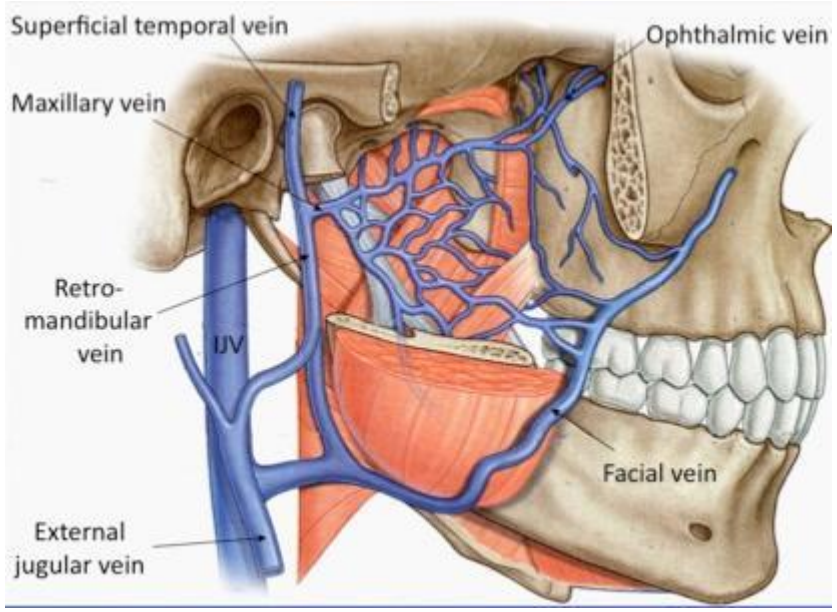
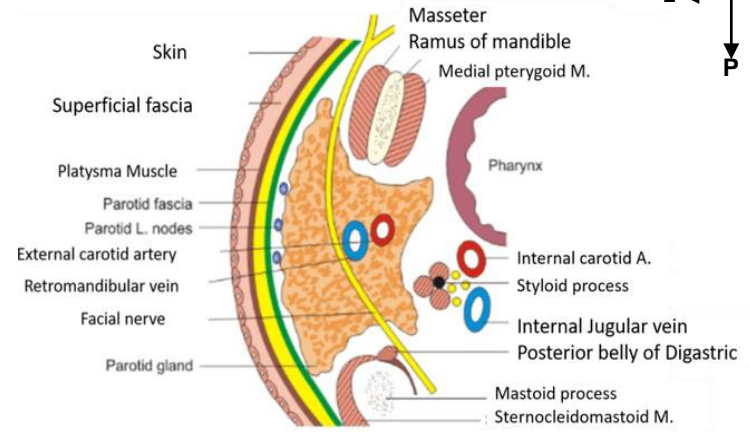
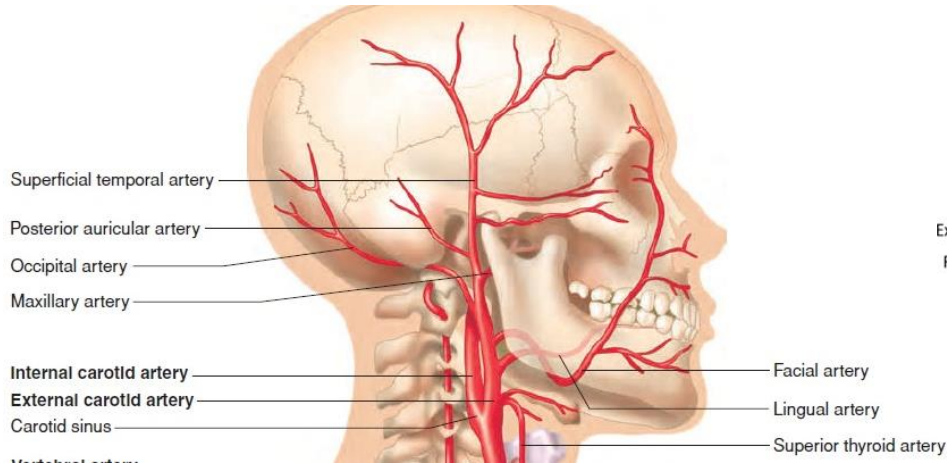
Parotid Duct (of Stensen):

- **5 cm long**
 - **Runs on the masseter muscle**
 - **Passes thru buccal pad of fat**
 - **Pierces the buccinators muscle**
- and**

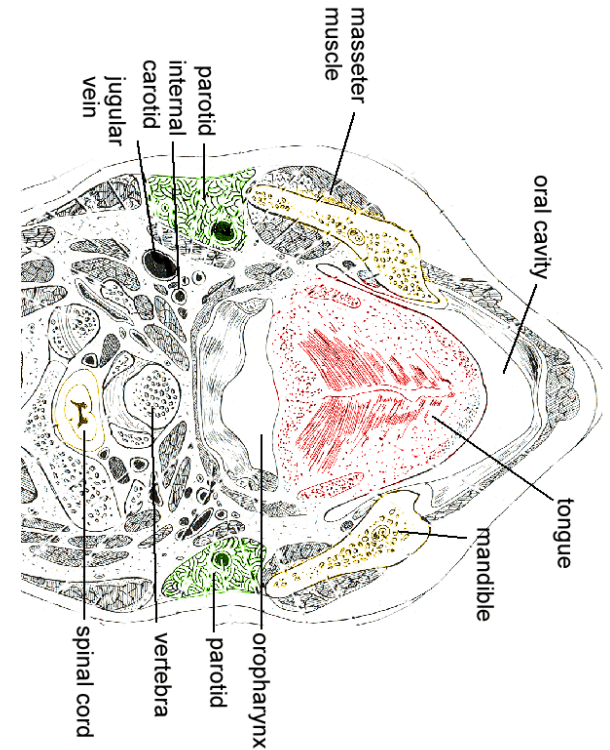
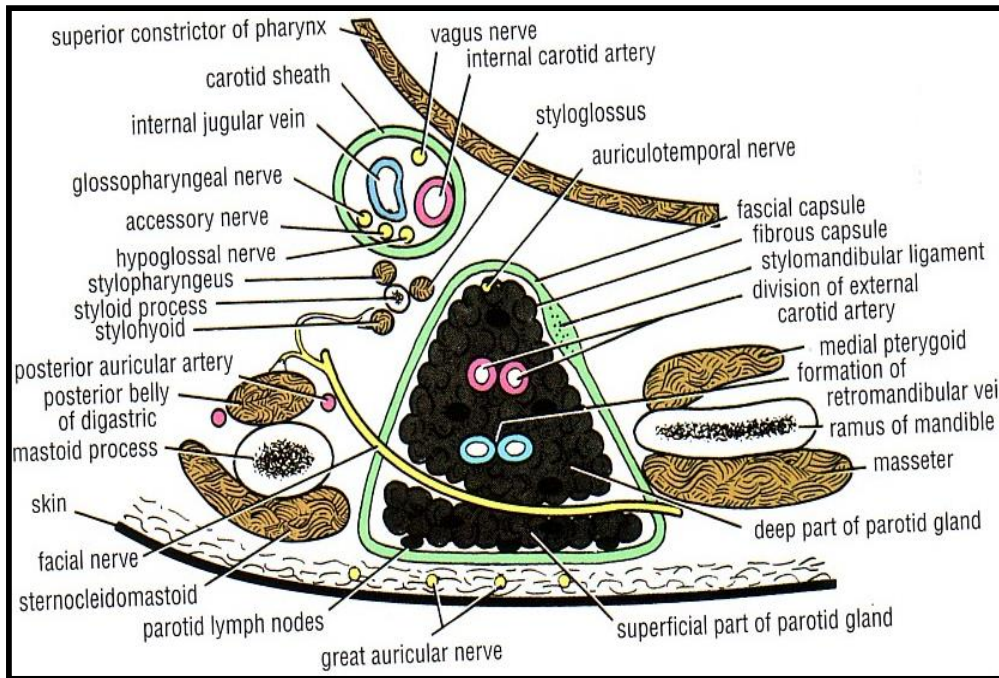
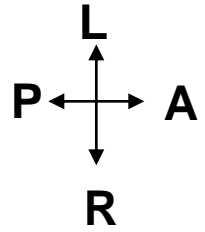
opens INTO THE VESTIBULE OF THE MOUTH on a small **papilla**, opposite the UPPER SECOND MOLAR (maxillary) tooth



Structures within the Parotid gland:



- PAROTID GLAND



Structures within the Parotid gland:

From superficial to deep

1. Facial nerve
2. Retromandibular vein
3. External carotid artery

1. Facial nerve:

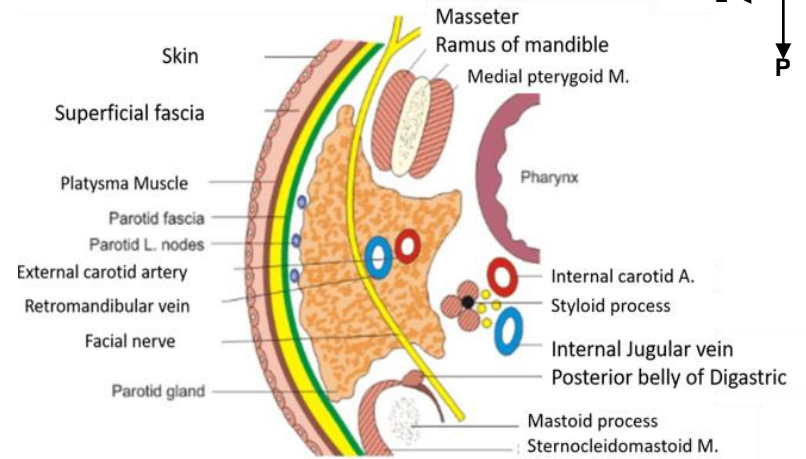
- The most superficial structure
- Divides the gland into superficial & deep parts.

2. Retromandibular vein:

- Intermediate in position
- Formed by the union of maxillary & superficial temporal veins.
- Within the gland it divides into anterior & posterior branches.

3. External carotid artery:

- Most deep,
- Divided into maxillary and superficial temporal arteries.

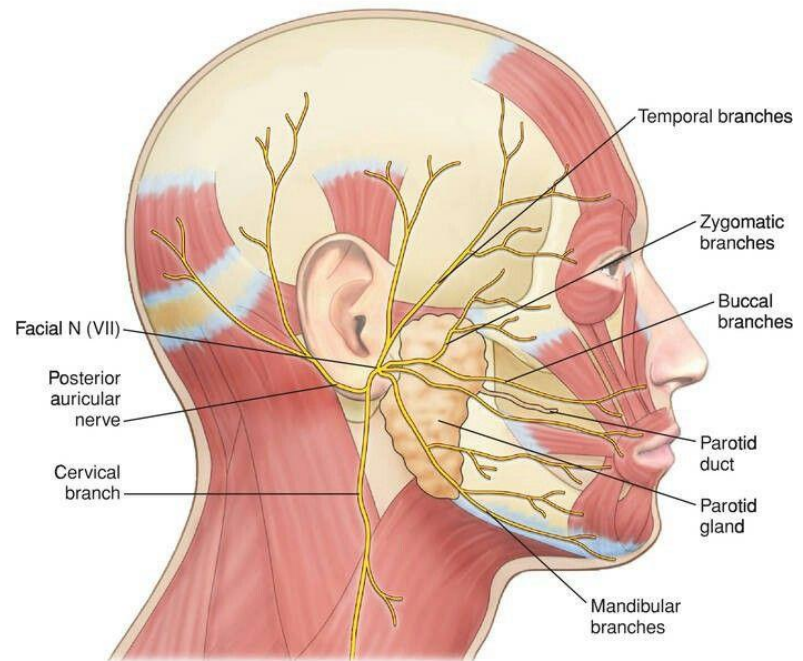


Facial nerve – Branches

2 X Before entering the parotid gland

5 X within the gland

1. Temporal
2. Zygomatic
3. Buccal
4. Mandibular
5. Cervical



SALIVARY GLANDS - PAROTID GLAND

Nerve Supply

1. Parasympathetic (Secretomotor)

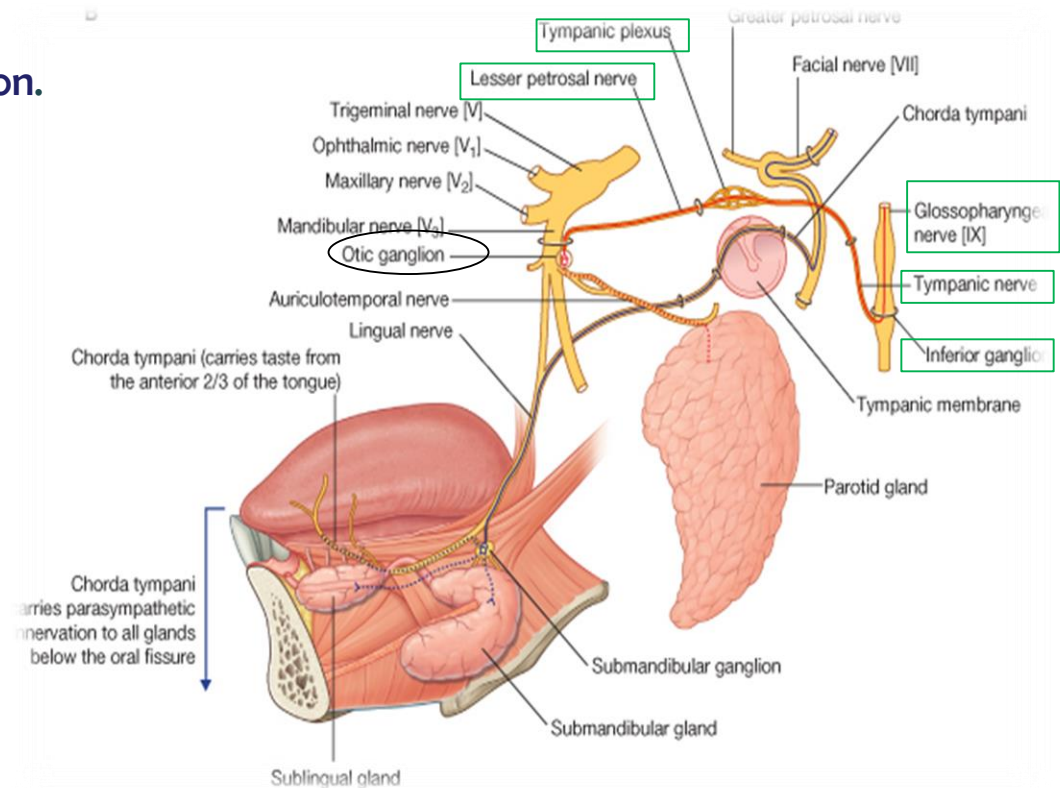
a. Preganglionic

Inferior salivary nucleus – tympanic nerve – through the glossopharyngeal nerve to tympanic plexus – lesser petrosal – Otic ganglion.

b. Postganglionic

The postganglionic fibers running in Auriculotemporal nerve.

2. Sympathetic: from plexus around external carotid artery.



SALIVARY GLANDS - PAROTID GLAND

Blood Supply

Arterial supply:

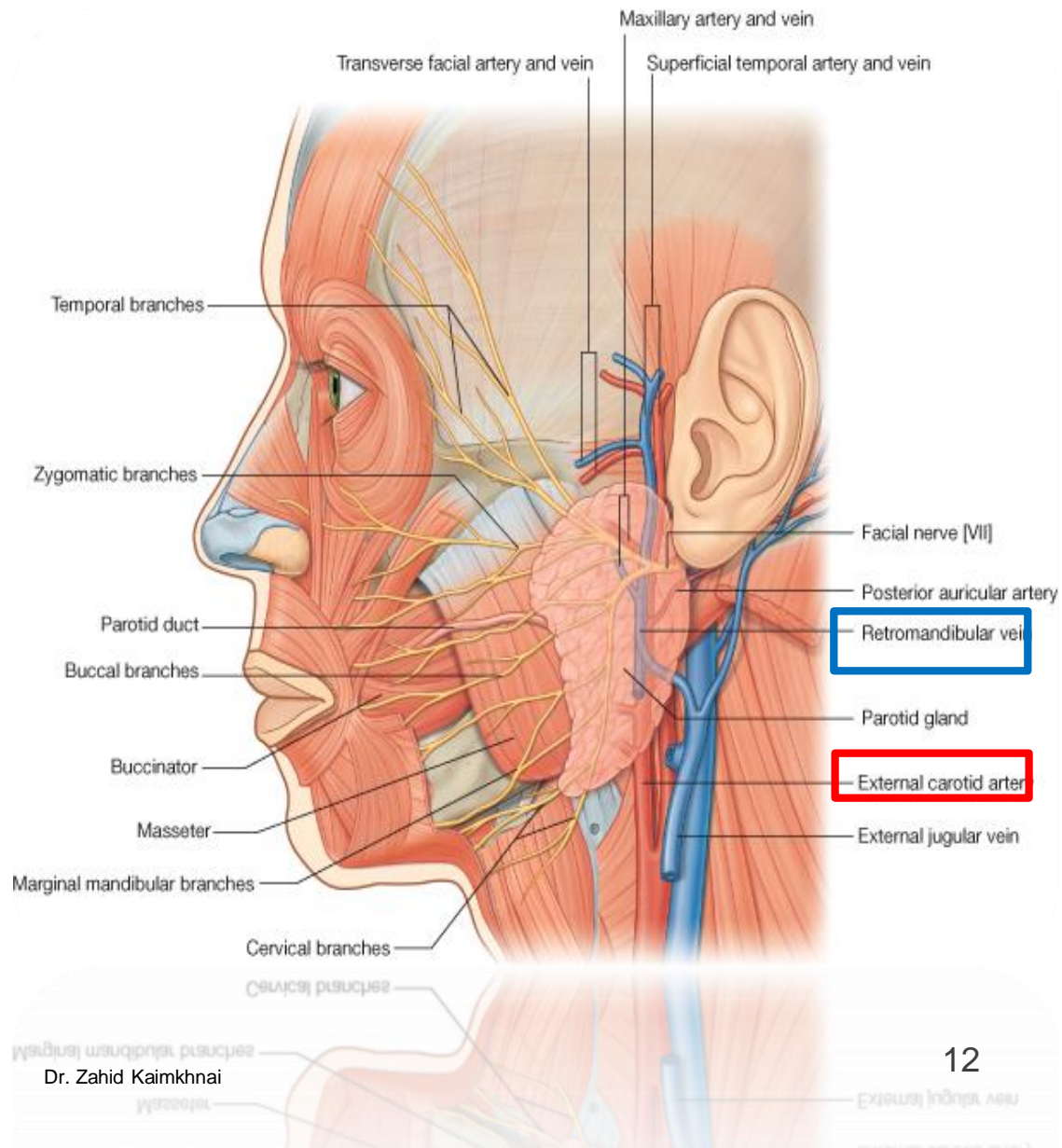
- **External Carotid Artery** & its branches.

Venous drainage:

- **Retromandibular vein.**

Lymphatic drainage:

- **Parotid (preauricular)** & thence to upper group of **deep cervical lymph nodes.**



MUMPS

- is a viral disease caused by the **mumps** virus.
- Initial signs and symptoms often include fever, muscle pain, headache, poor appetite, and feeling tired.
- This is then usually followed by painful swelling of one or both **parotid salivary glands.**
- **IN ADULT**
- About two to three out of every 10 adolescent or **adult** men who have **mumps** may experience painful swelling of the testicles.
- **Complication??**



SALIVARY GLANDS - SUBMANDIBULAR GLAND

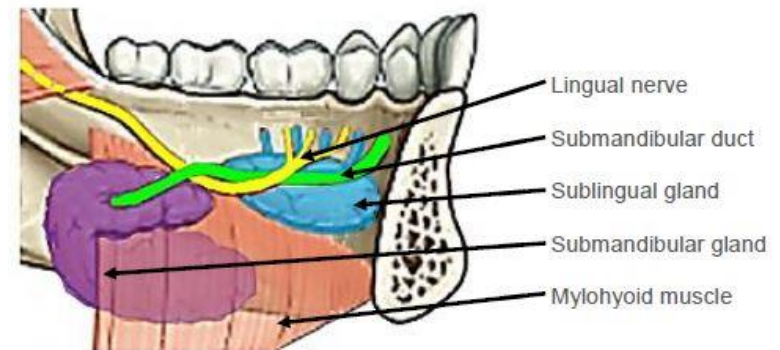
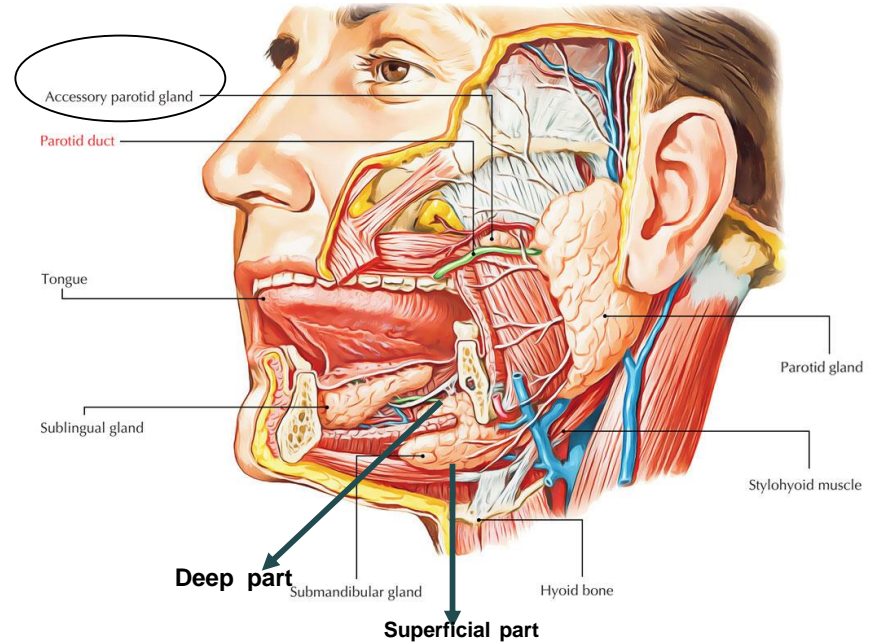
Location

- Located deep to the body of the mandible.

Parts

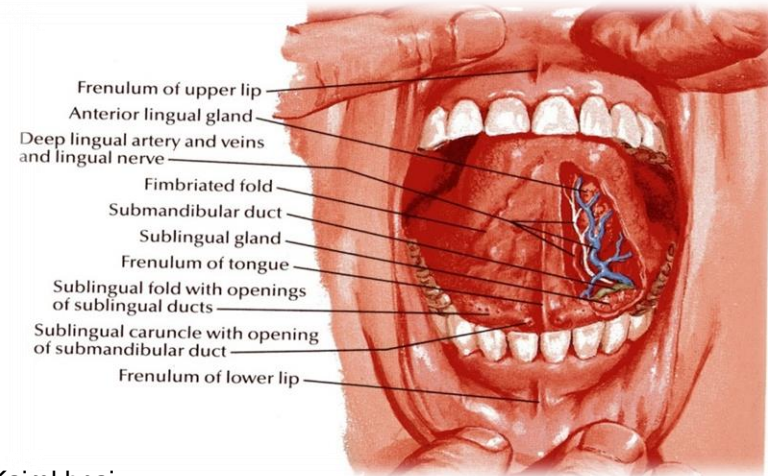
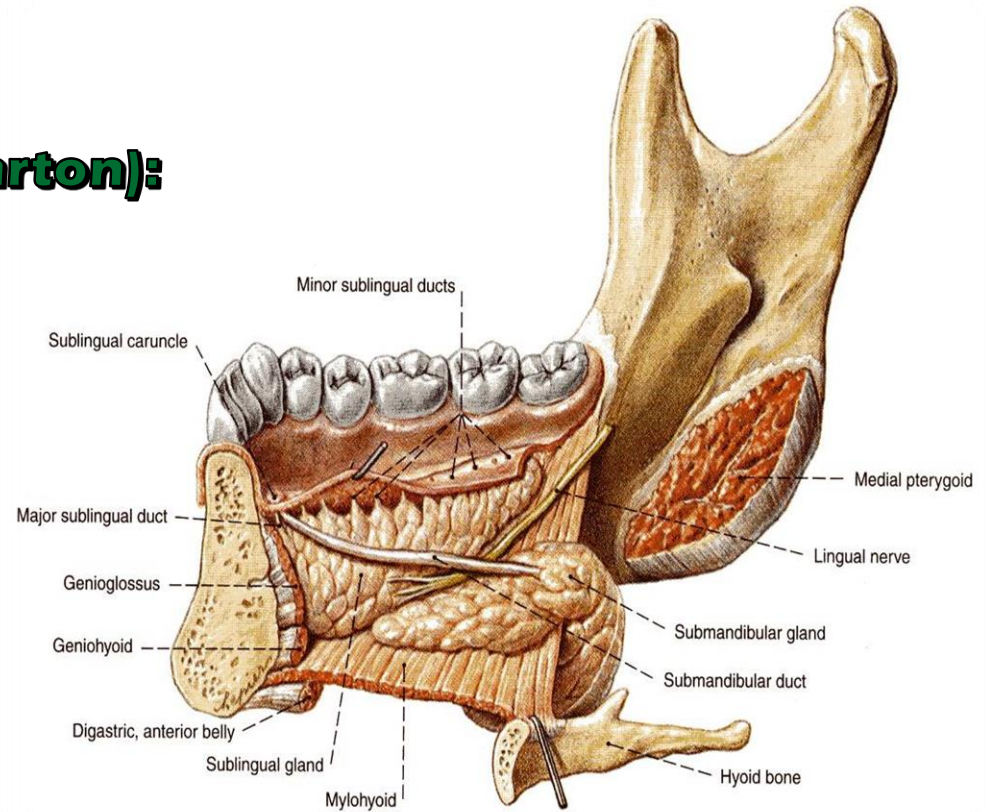
- **Superficial** (Large)
- **Deep** (small)

both parts conti. round the mylohyoid muscle



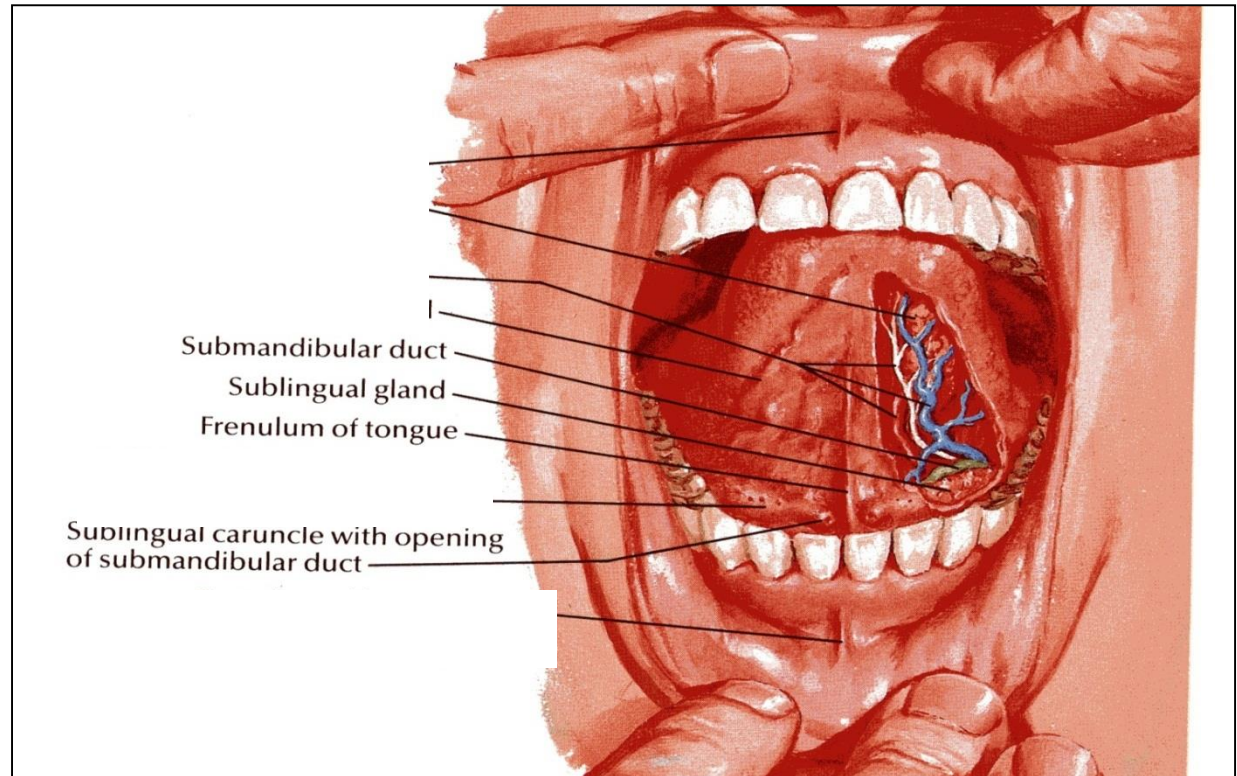
Submandibular Duct (of Wharton):

- emerges from the deep part of the gland.
- passes forward along the side of the tongue, under the mucous membrane of the floor of the mouth.
- crossed laterally by the lingual nerve
- opens on the summit of a small sublingual papilla, which lies at the side of the frenulum of the tongue.



Submandibular Duct:

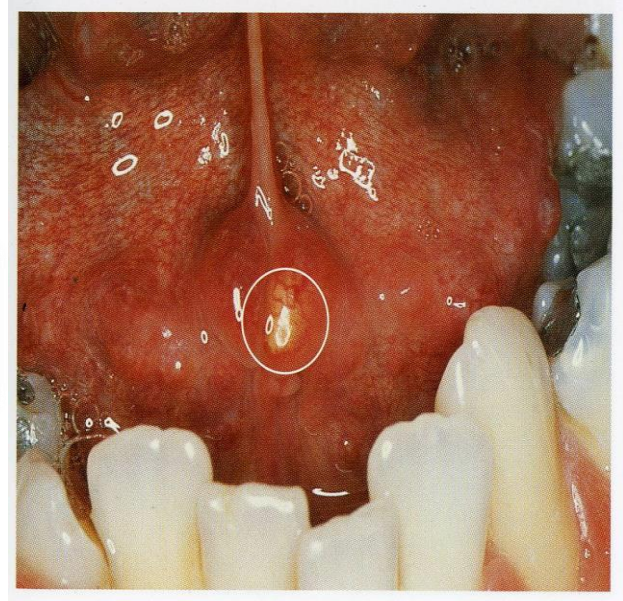
- can be palpated through the floor of the mouth alongside the tongue.
- Saliva can usually be seen emerging from the orifice of the duct.



Submandibular Duct: Calculus Formation

- The submandibular duct is a common site of calculus formation.
- The presence of a tense swelling below the body of the mandible, which is greatest before or during a meal and is reduced in size or absent between meals, is diagnostic of the condition.
- Examination of the floor of the mouth will reveal absence of ejection of saliva from the orifice of the duct of the affected gland.
- Frequently, the stone can be palpated in the duct, which lies below the mucous membrane of the floor of the mouth.

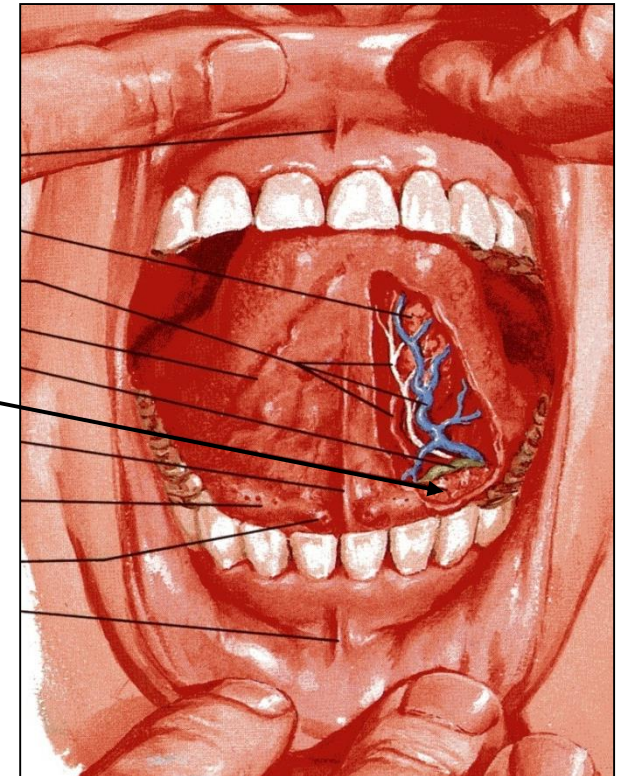
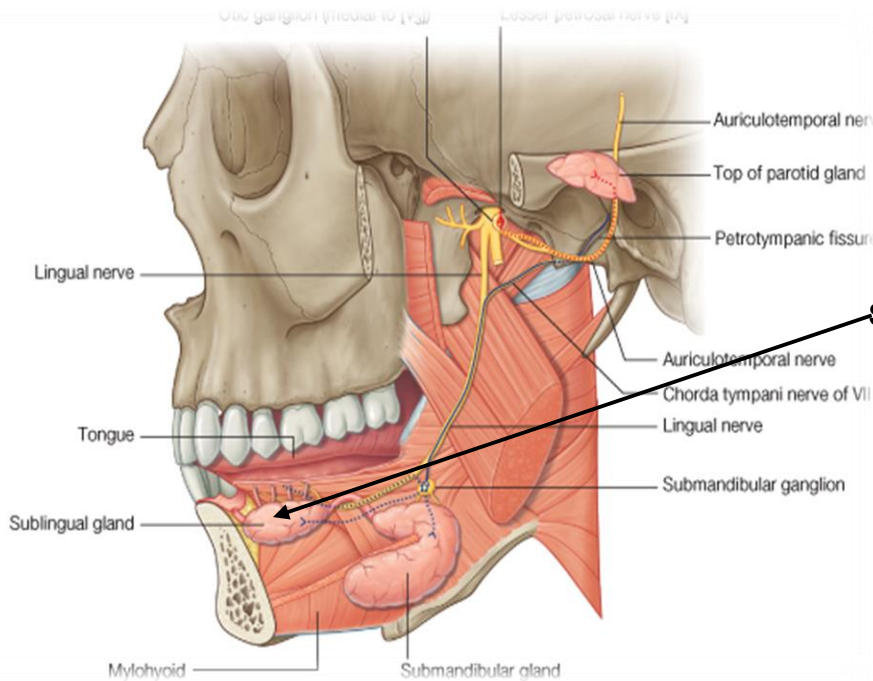
A small calcified stone blocking a salivary duct is visible as a yellowish mass (circled) in the centre of the floor of the mouth.



SALIVARY GLANDS - SUBLINGUAL GLAND

Location

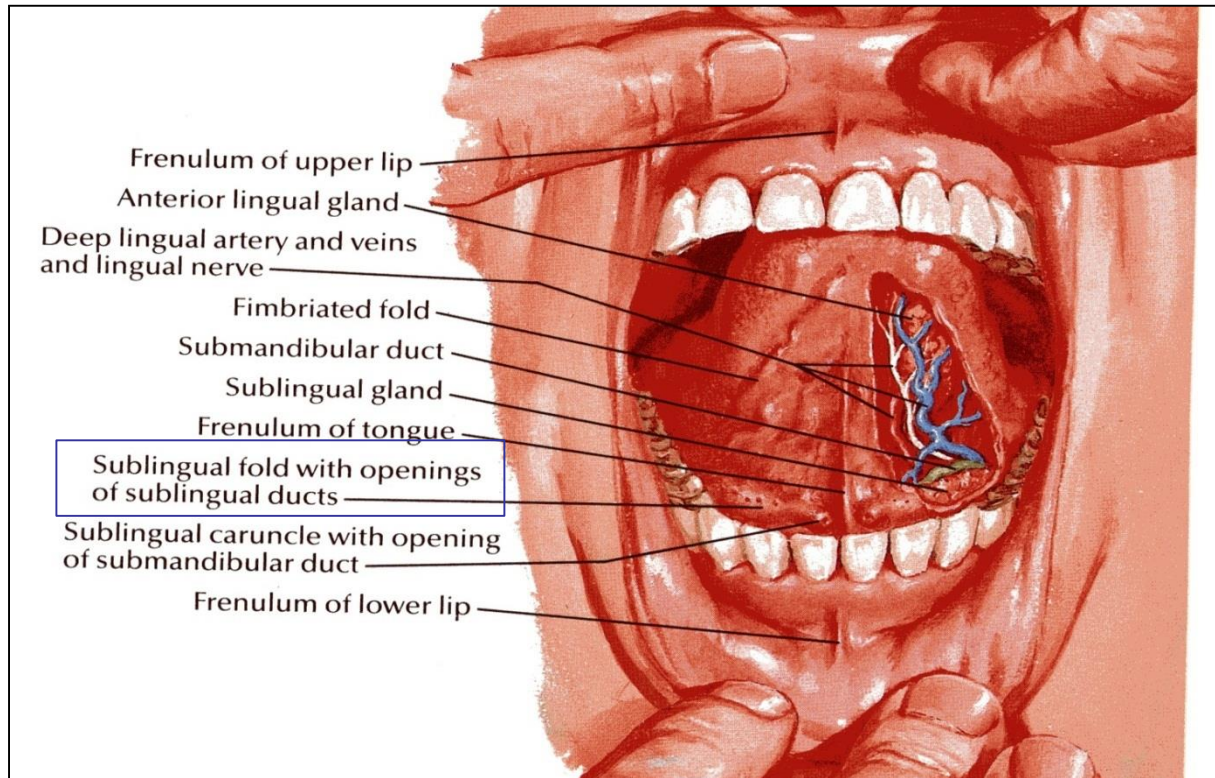
- Almond shape
- The **smallest** of the three salivary glands.
- Lies below the mucous membrane of the floor of mouth (between mylohyoid & side of the tongue)
- Close to the midline.



SALIVARY GLANDS - SUBLINGUAL GLAND

Sublingual Duct

- The sublingual ducts are 8 to 20 in number.
- Most open into the summit of the sublingual fold, but a few may open into the submandibular duct.



SALIVARY GLANDS - SUBLINGUAL GLAND

RANULA

- A **ranula** is a mucus extravasation cyst.
- Involved **sublingual gland**
- Found on the floor of the mouth.

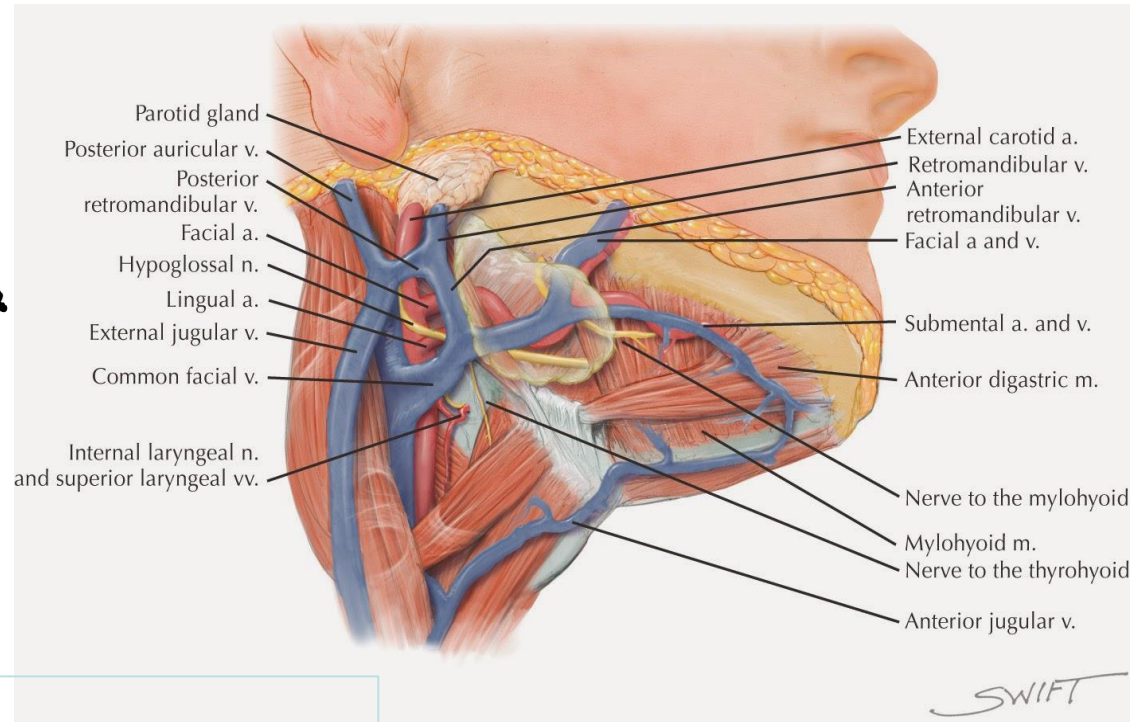


Blood Supply & Lymph drainage :

SUBMANDIBULAR GLAND

Facial vessels (Facial artery & vein)

Submandibular lymph nodes.



SUBLINGUAL GLAND

Lingual vessels & branches from Submental (Facial)vessels .
Submandibular lymph nodes.

SALIVARY GLANDS – SUBMANDIBULAR & SUBLINGUAL GLANDS

Nerve Supply:

Submandibular & Sublingual Glands

1. Parasympathetic (Secretomotor)

a. Preganglionic

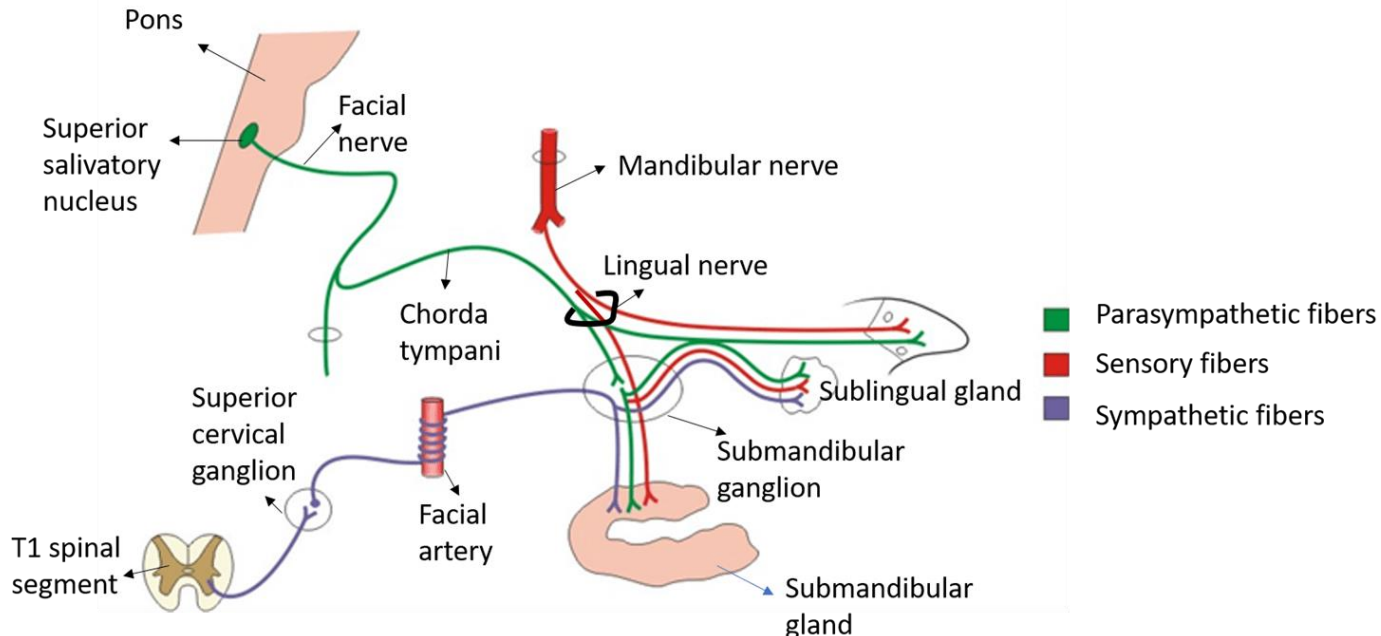
Superior salivatory nucleus – facial nerve (nervus intermedius) – chorda tympani – lingual nerve – **Submandibular Ganglion**

b. Postganglionic

The postganglionic fibers reach the glands

- running in lingual nerve
- Directly
- Along the duct

2. Sympathetic: from plexus around facial artery.



THANK YOU

Facial nerve

Parotid gland

Submandibular gland

Sublingual gland

