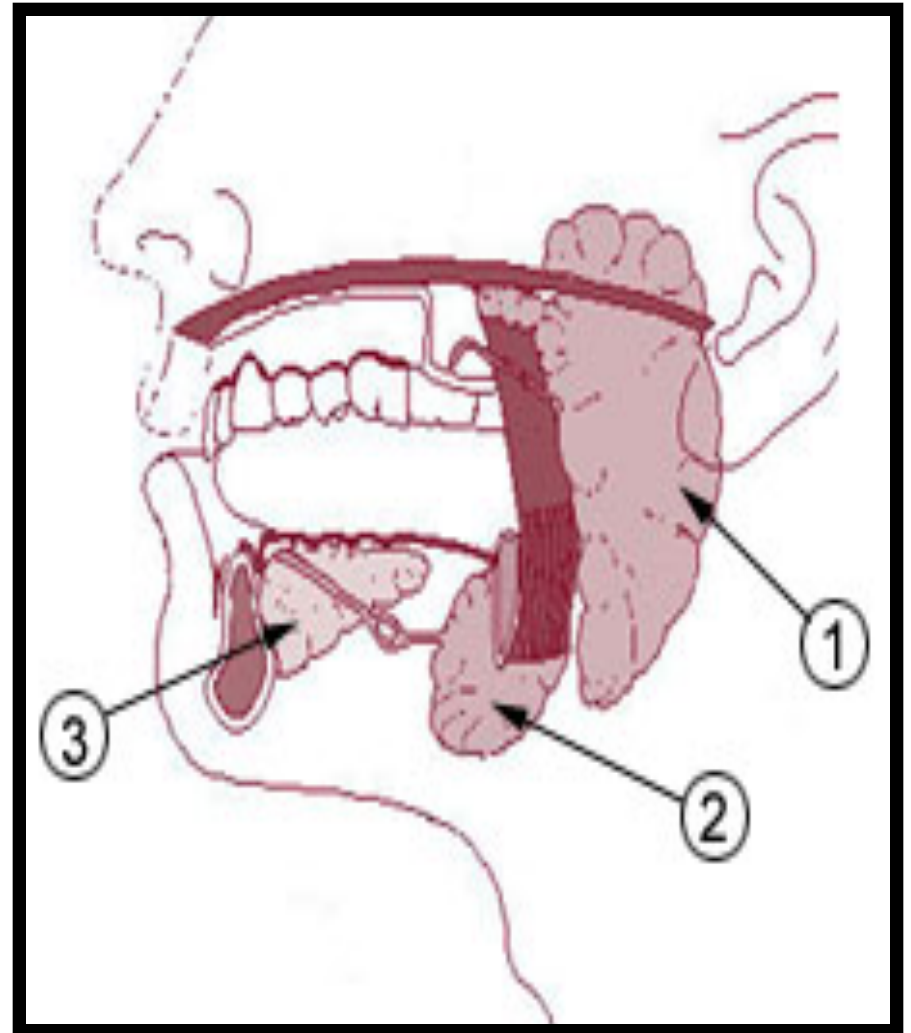


# SALIVARY GLANDS

***Dr. Jameela El-  
Medany***



# OBJECTIVES

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

Describe the anatomy of the parotid gland: position, shape, structures within it, innervation and parotid duct.

Describe the anatomy of the submandibular and sublingual salivary glands: location, shape, parts, ducts and innervation of the glands.

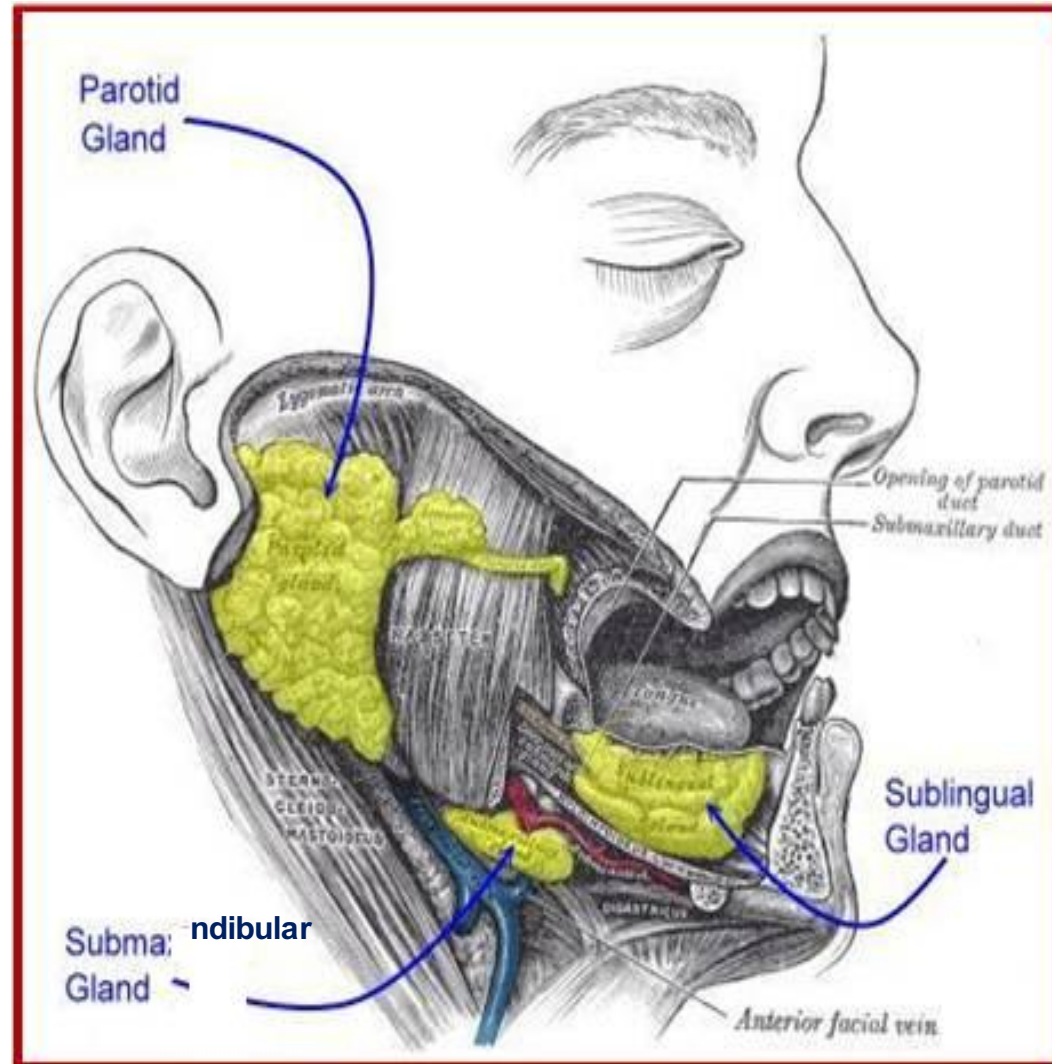
Salivary glands are exocrine glands, that produce saliva.

There are 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).

Parotid produces a **serous**, watery secretion.

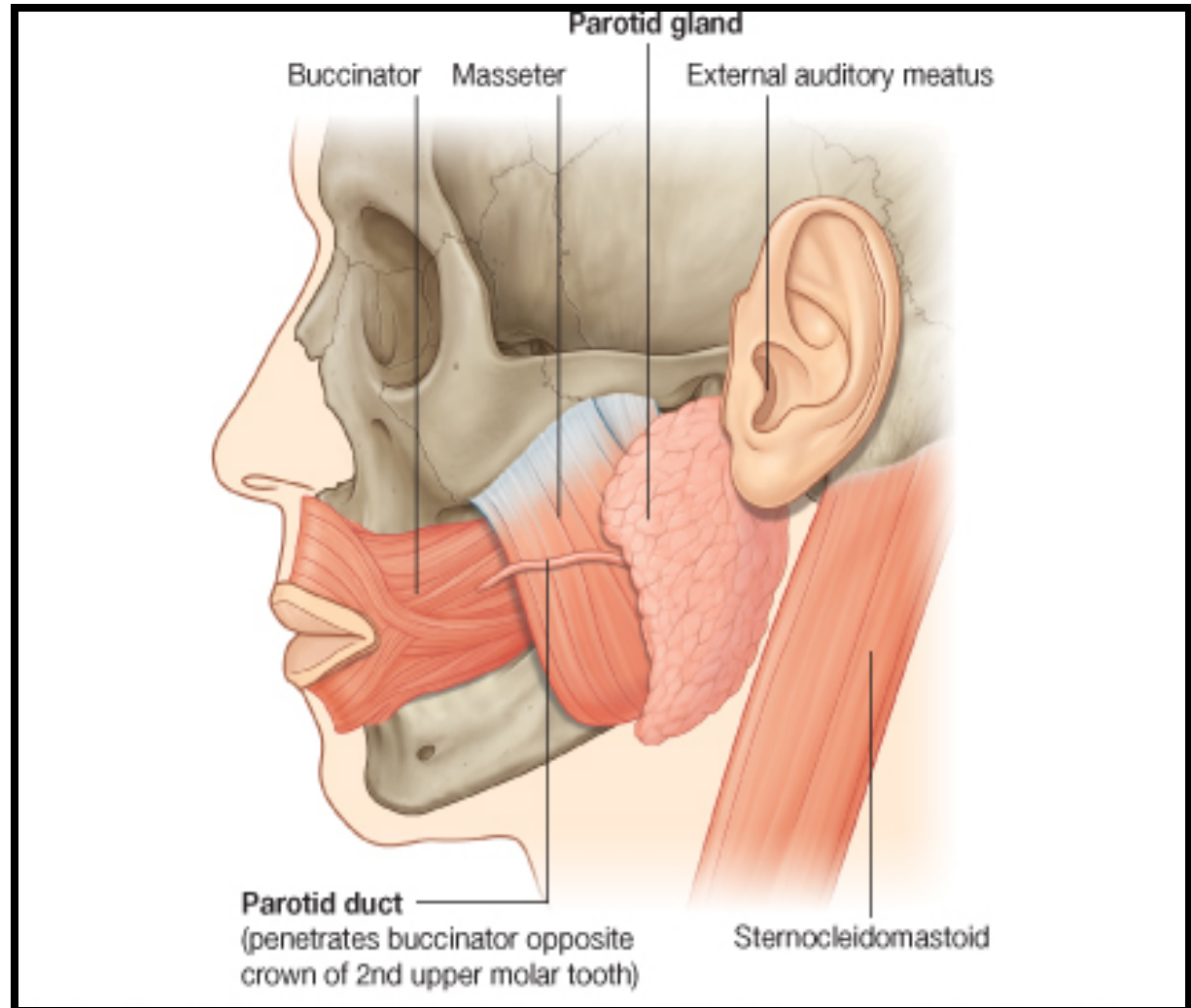
Submandibular produces a **mixed serous & mucous** secretion.

Sublingual secretes saliva that is predominantly **mucous** in character.



# PAROTID GLAND

- **Largest** salivary gland.
- **Formed** entirely of **serous acini**.
- **Position:**
- Wedged between mandibular ramus & masseter anteriorly,
- Mastoid process & sternomastoid muscle posteriorly

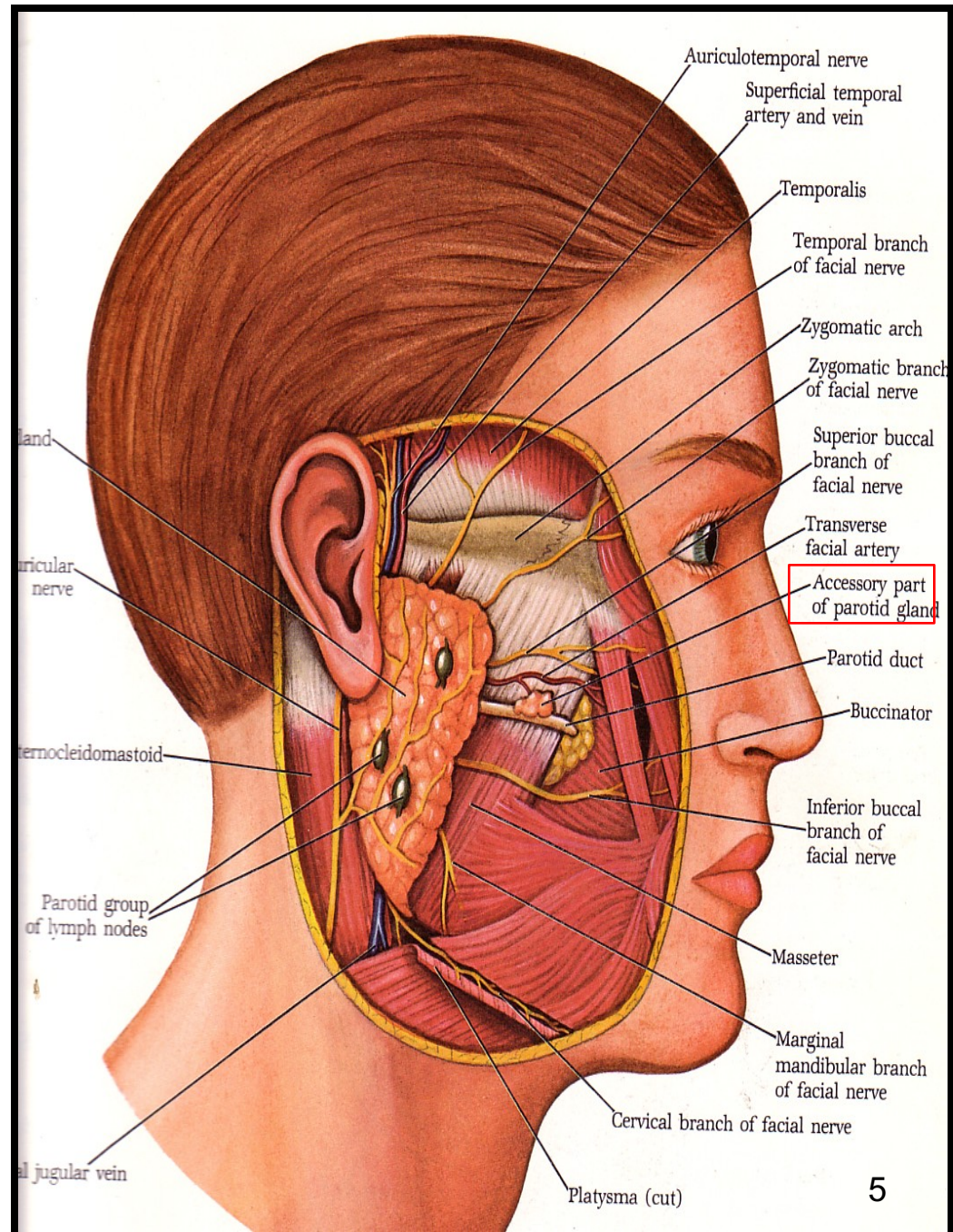


# SHAPE

- **Triangular:**
- Apex behind angle of the mandible
- Base directed upward just below the zygomatic arch, external auditory meatus & TMJ.

## **Accessory part:**

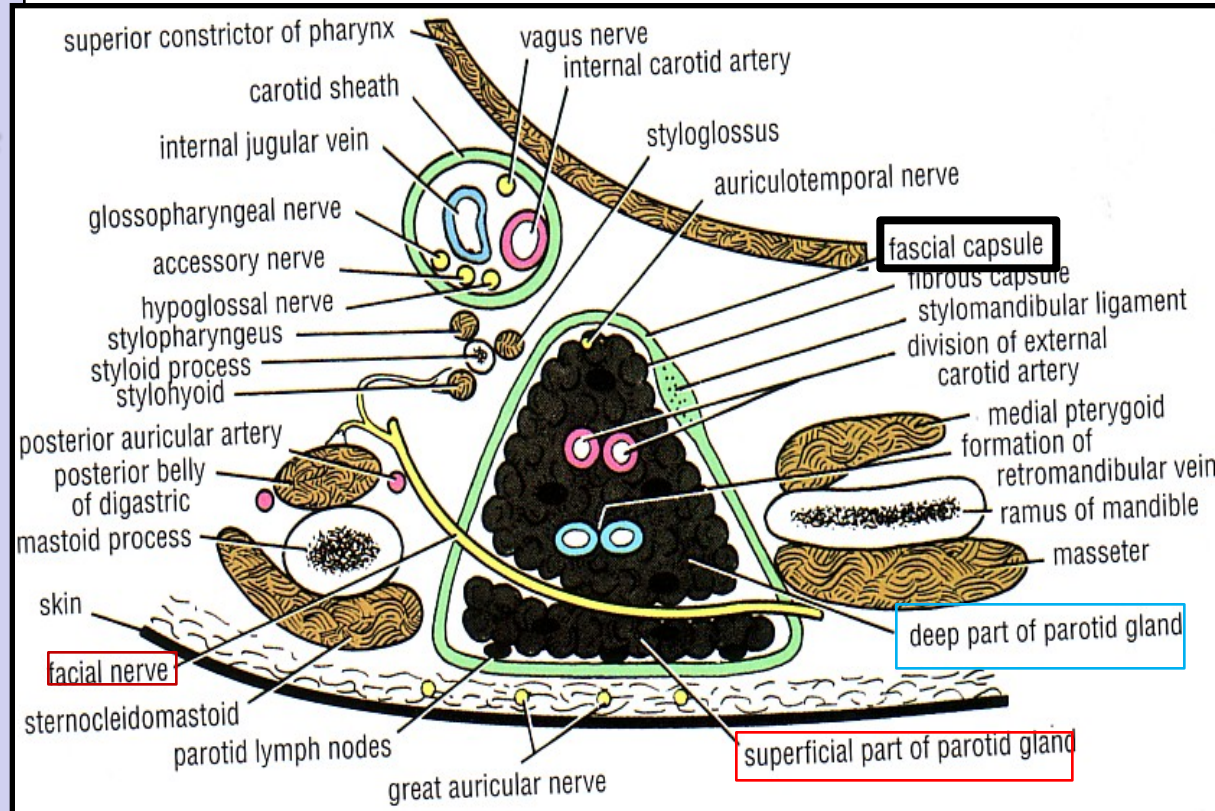
**A small part that is separated from the main gland.**



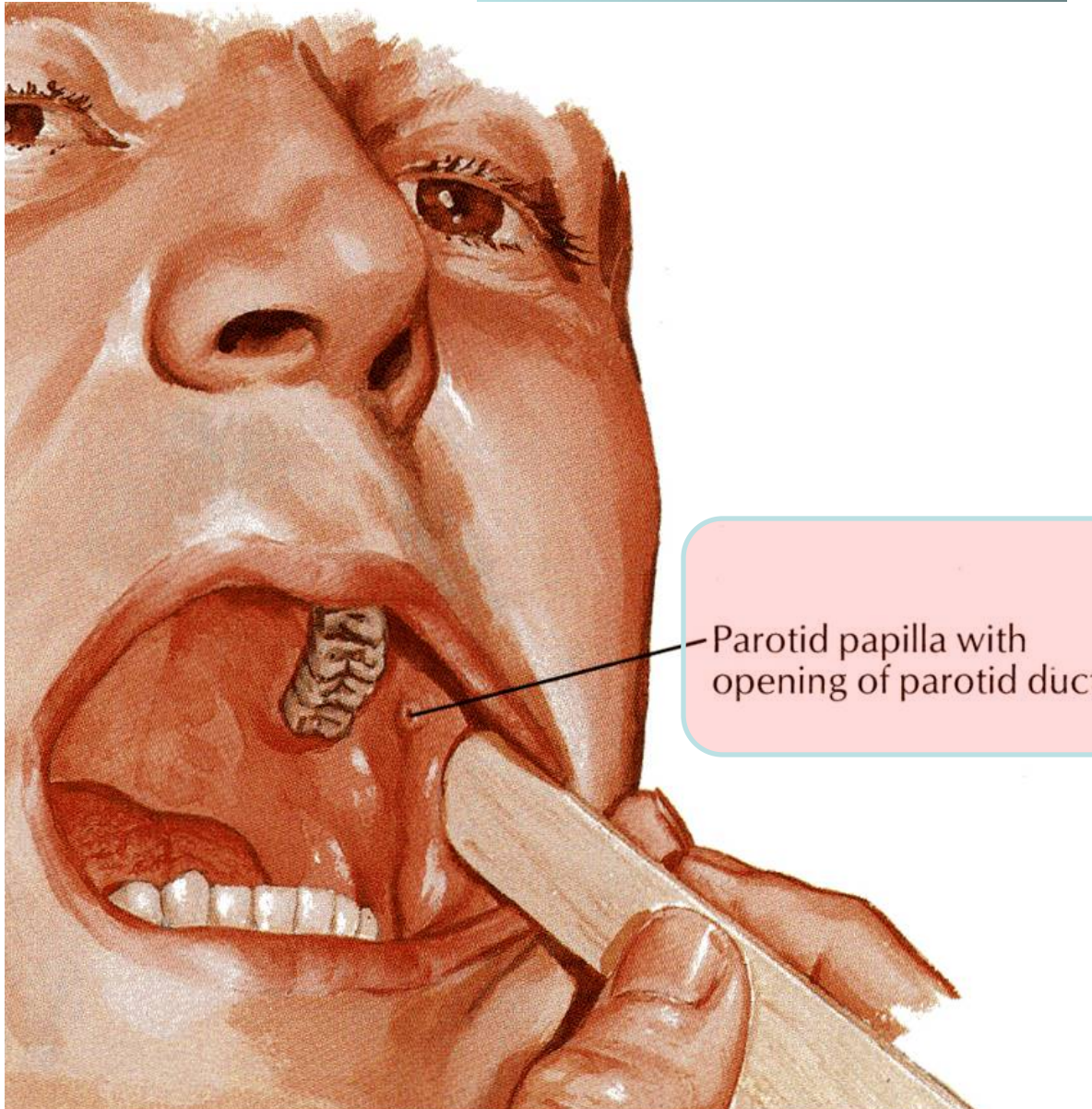
## Capsule:

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

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



## Parotid Duct



Parotid papilla with  
opening of parotid duct

It opens into the vestibule of the mouth on a small **papilla**, opposite the upper **second molar** (**maxillary**) tooth.

# What are the Structures within the Parotid gland?

From superficial to deep

## 1- Facial nerve:

It is the most superficial structure, it divides the gland into superficial & deep parts.

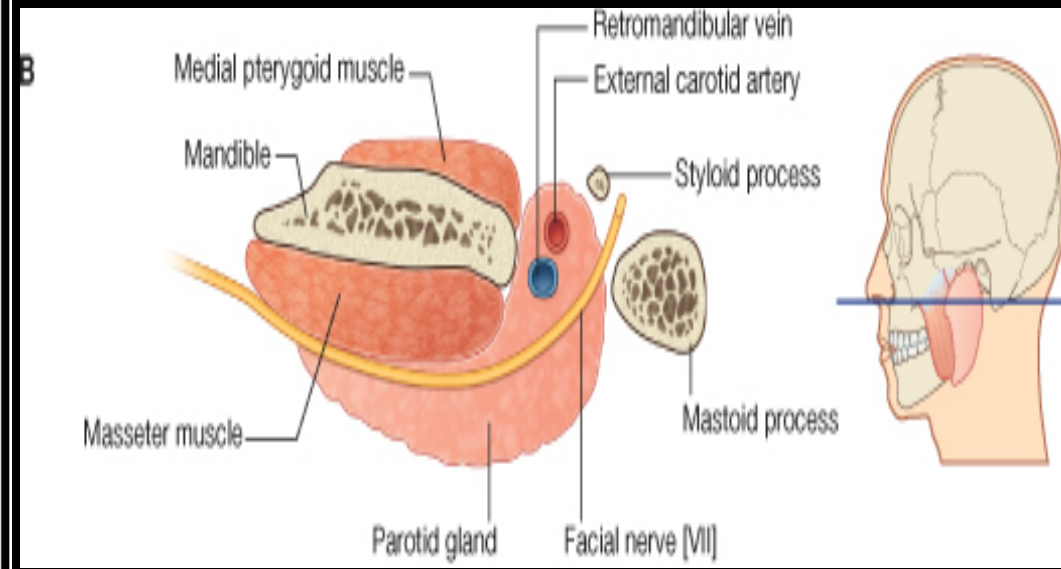
## 2- Retromandibular vein: *intermediate in position*

**F**ormed by the union of maxillary & superficial temporal veins.

Before it leaves the gland it is divided into anterior & posterior branches.

## 3- External carotid artery: *Most deep,*

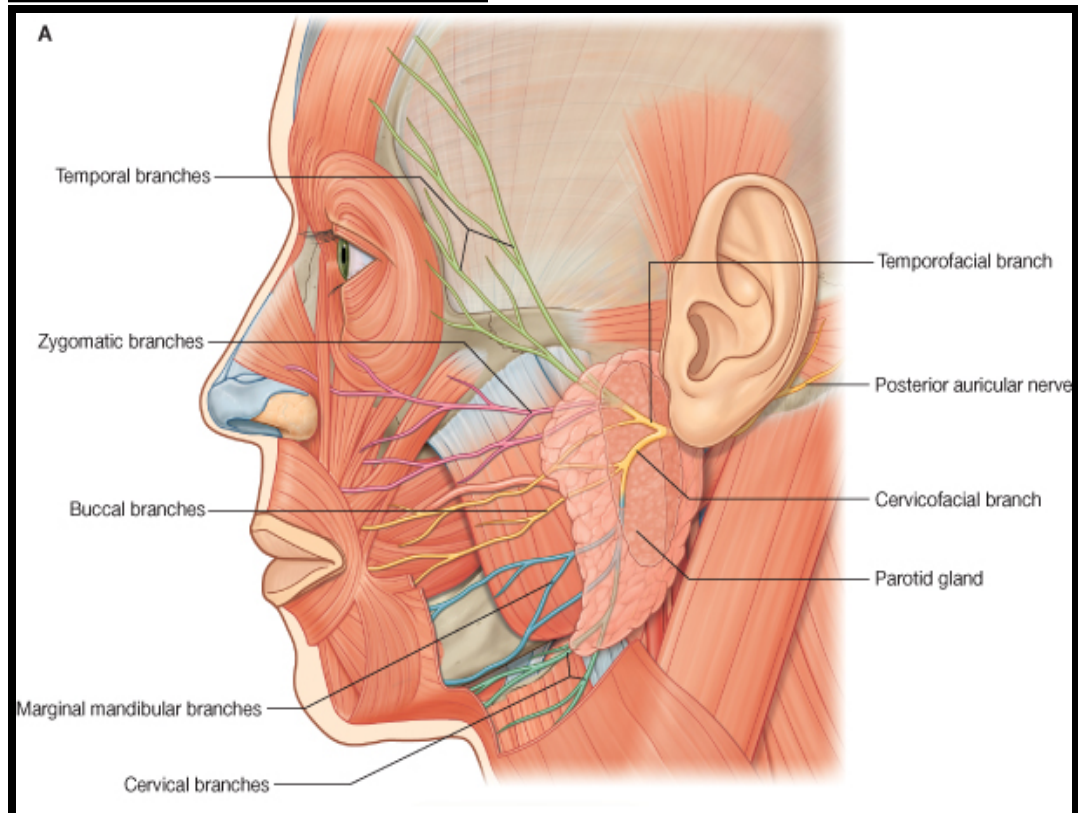
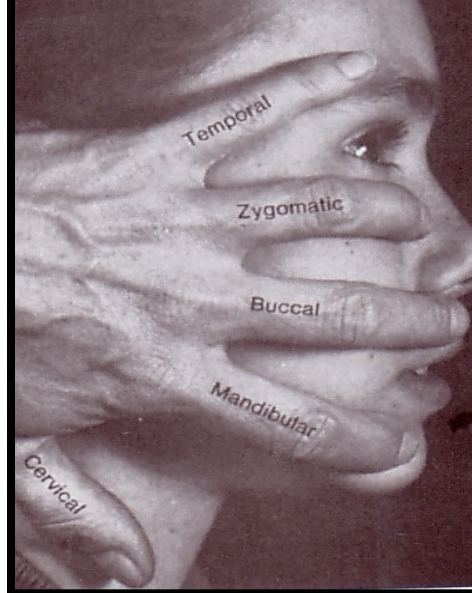
**I**t is divided into maxillary and superficial temporal arteries.



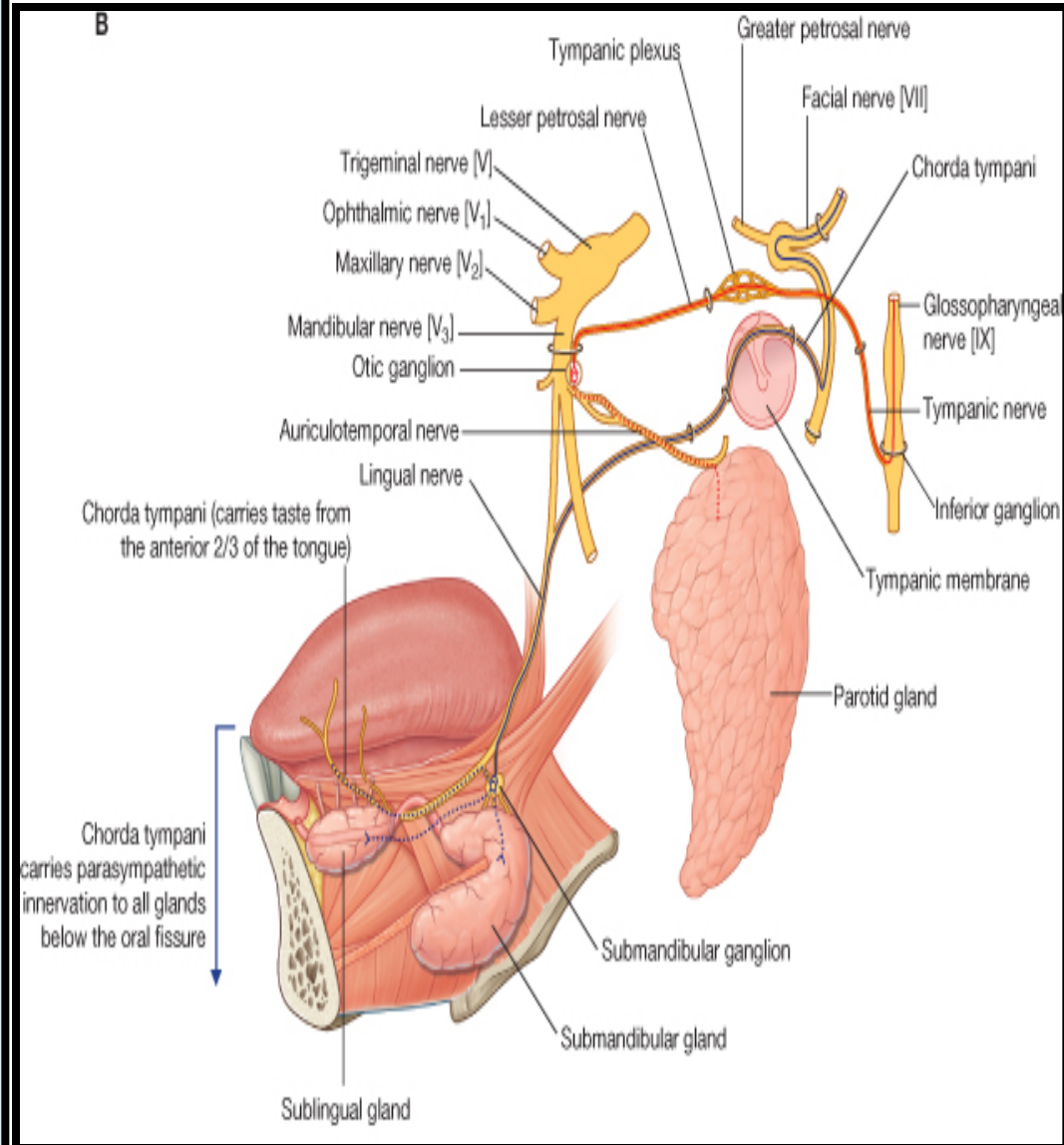


# FACIAL NERVE

- Gives:
- TWO Branches before it enters the gland
- FIVE Branches within the parotid:
- 1- Temporal
- 2- Zygomatic
- 3- Buccal
- 4- Mandibular
- 5- Cervical.



- **Nerve Supply:**  
**Parasympathetic** from **inferior salivary nucleus** – tympanic nerve- through the glossopharyngeal nerve to tympanic plexus- **lesser petrosal** to **otic ganglion**-
- The postganglionic fibers running in auriculotemporal nerve.
- **Sympathetic**: from plexus around external carotid artery.

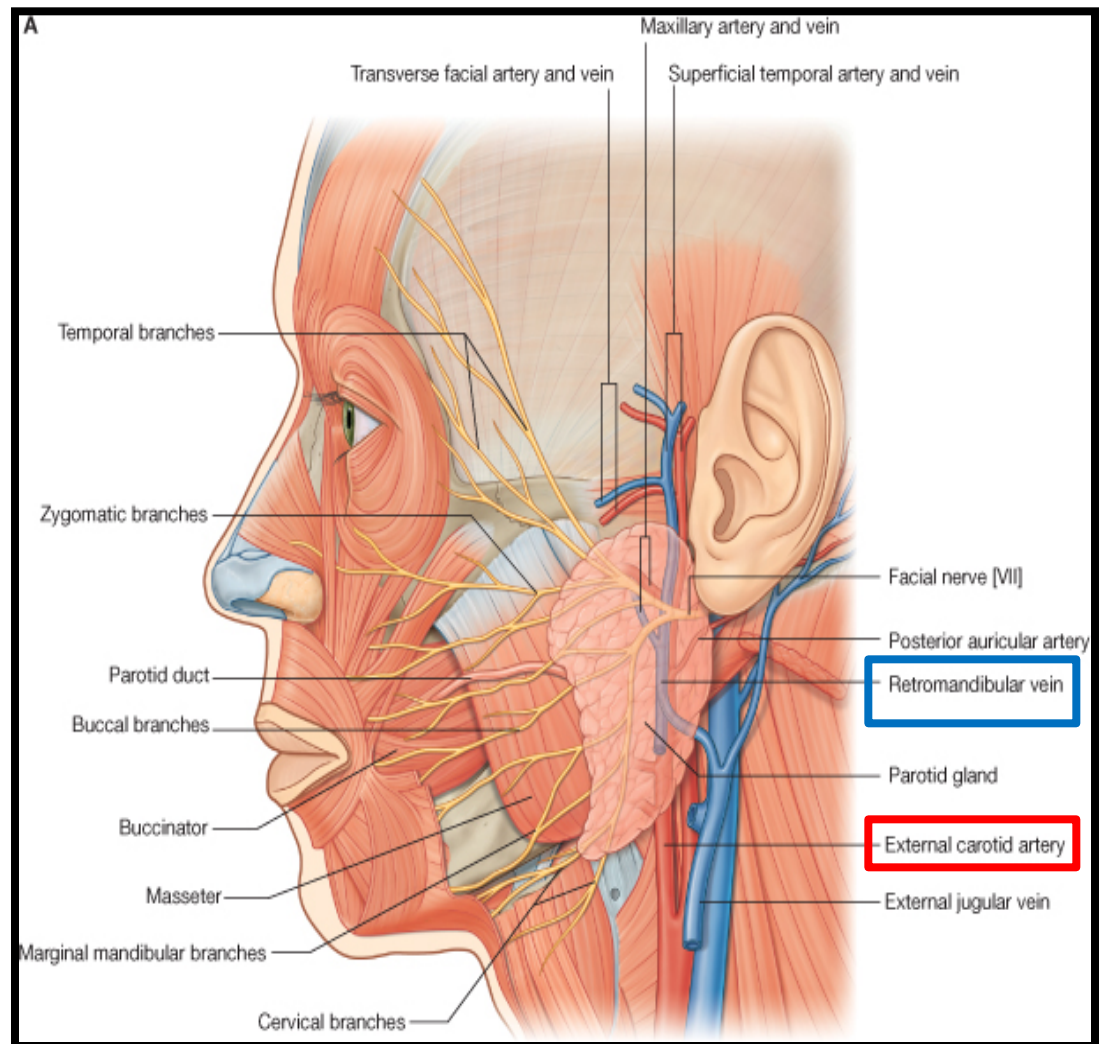


# Blood supply

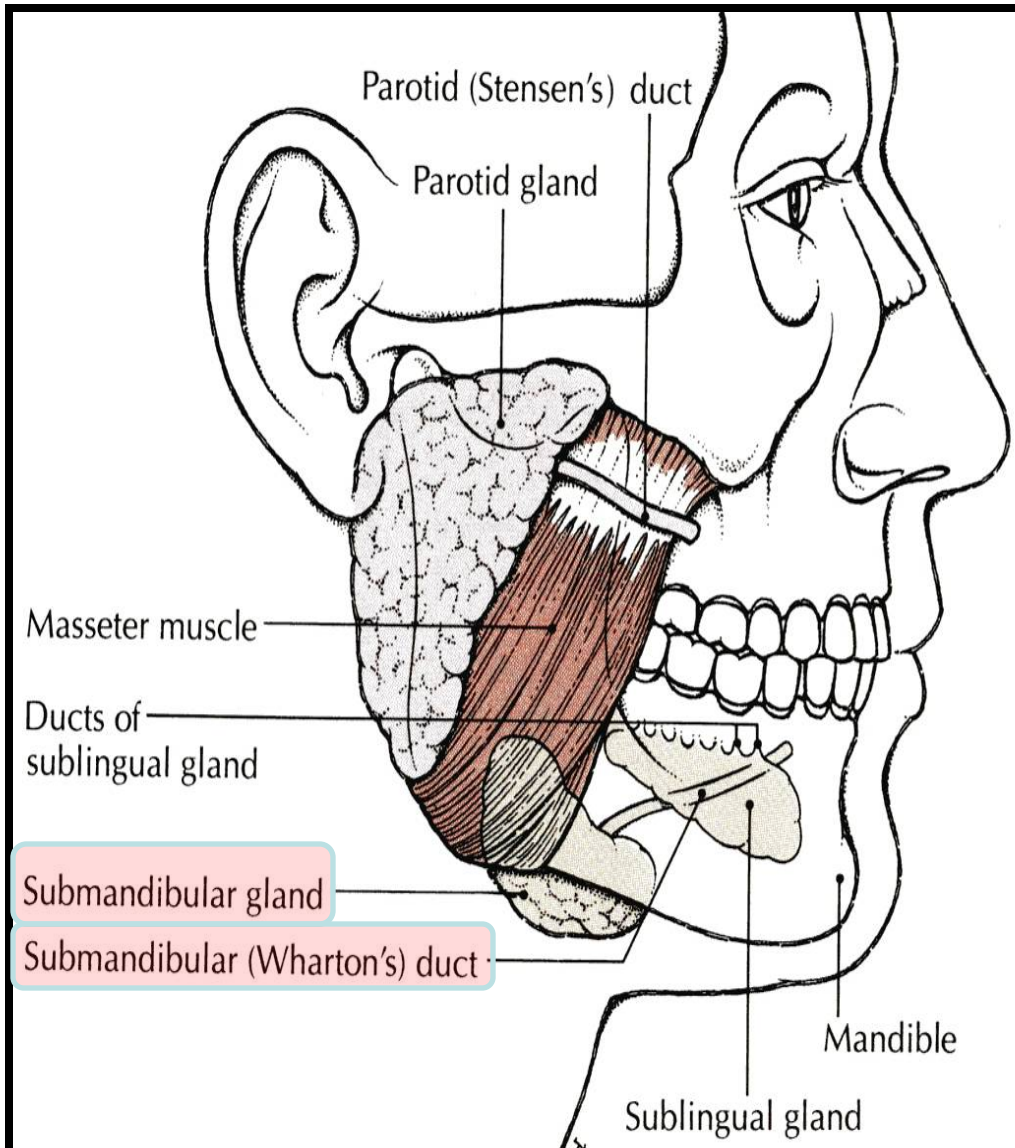
**Arterial**: ECA & its branches.

**Venous** drainage: retromandibular vein.

**Lymphatic**: parotid & deep cervical lymph nodes.

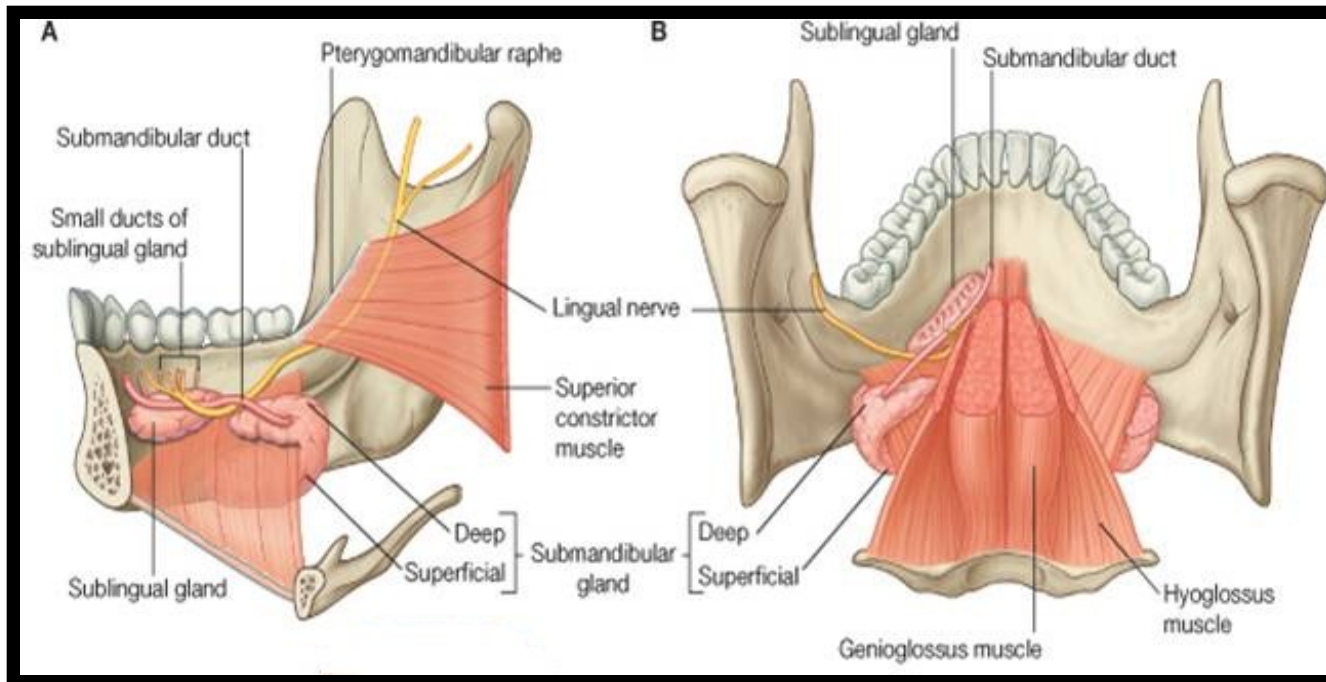


# SUBMANDIBULAR SALIVARY GLAND



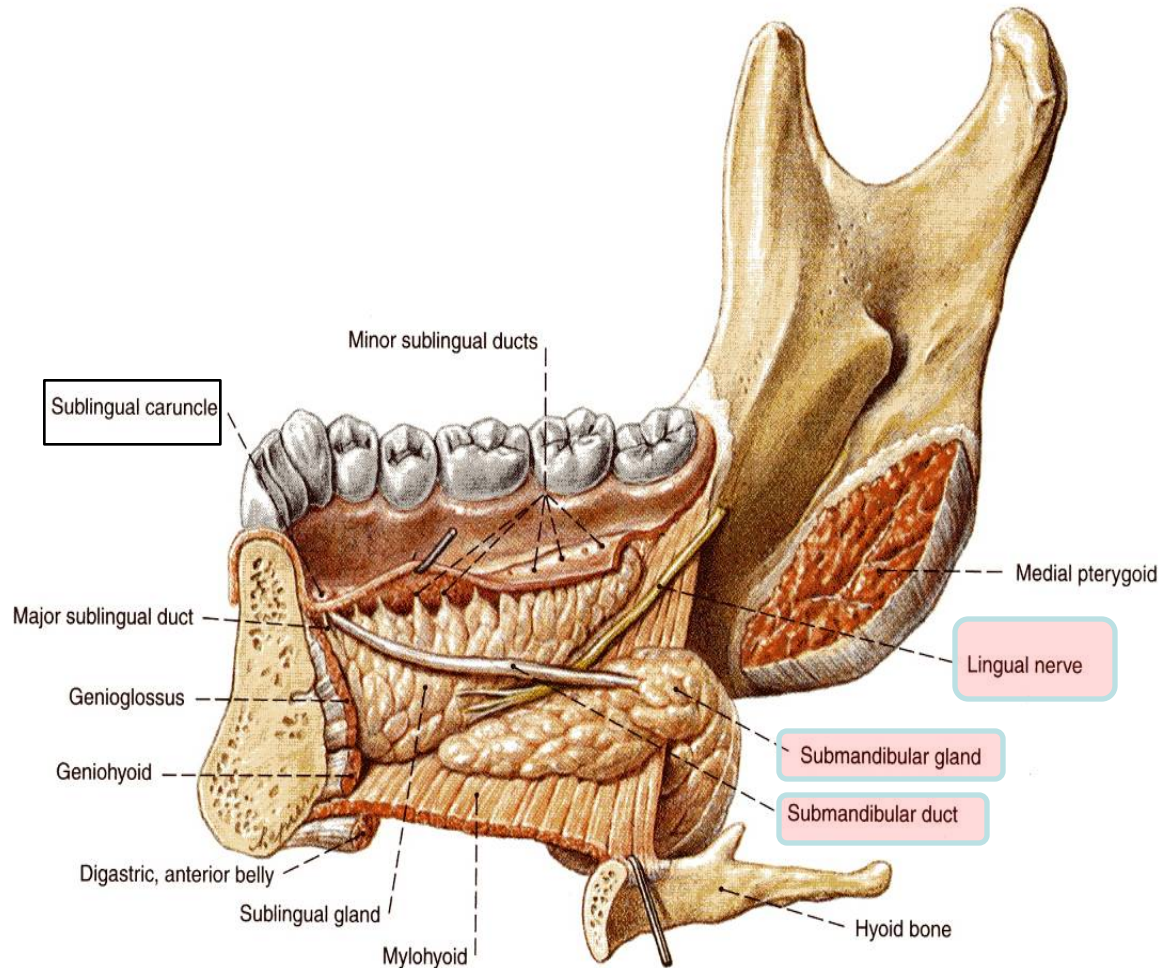
Located deep to the body of the mandible

# PARTS



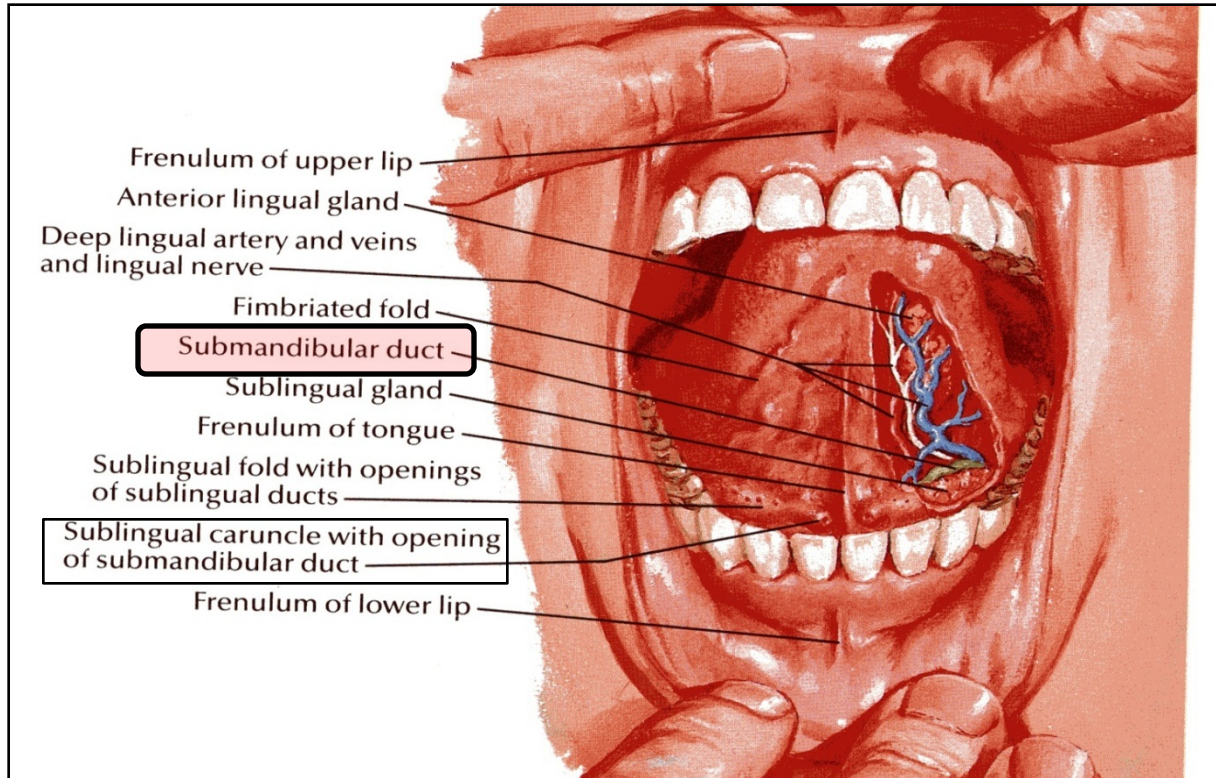
- Formed of 2 parts:
- **Large superficial part**
- **Small deep part**

# SUBMANDIBULAR DUCT



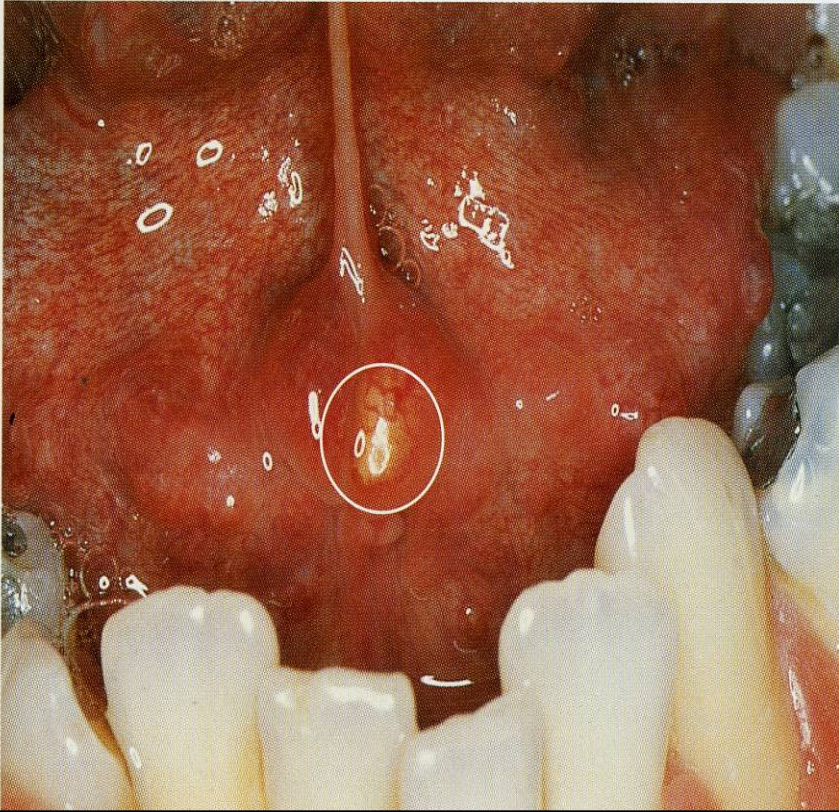
- The **duct** emerges from the **deep part of the gland**.
- It passes forward along the side of the tongue, under the mucous membrane of the floor of the mouth.
- It is crossed laterally by the **lingual nerve**
- It opens on the summit of a small sublingual papilla, which lies at the side of the frenulum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

# SUBMANDIBULAR DUCT



- Clinically, it is important to remember that the 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.

# CALCULUS FORMATION



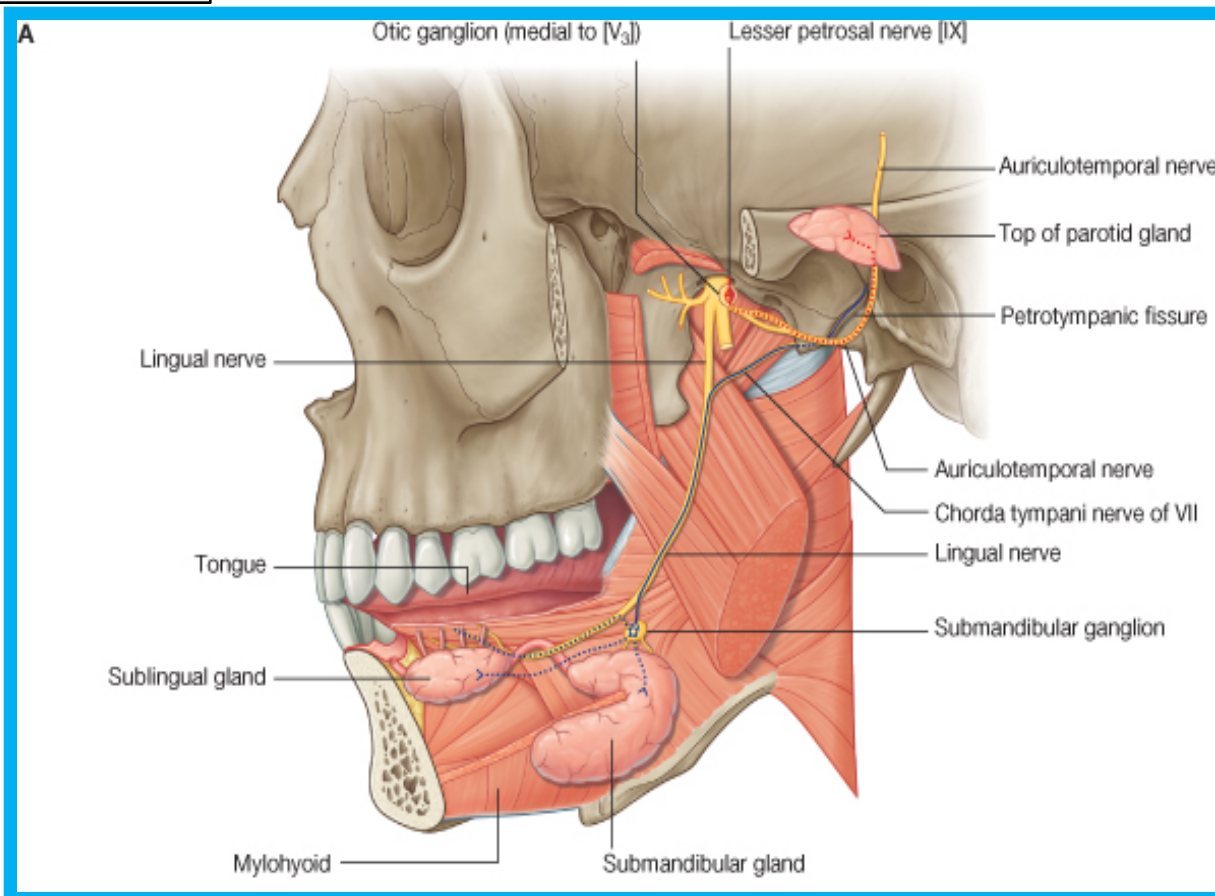
*A small calcified stone blocking a salivary duct is visible as a yellowish mass (circled) in the centre of the floor of the mouth.*

- 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.



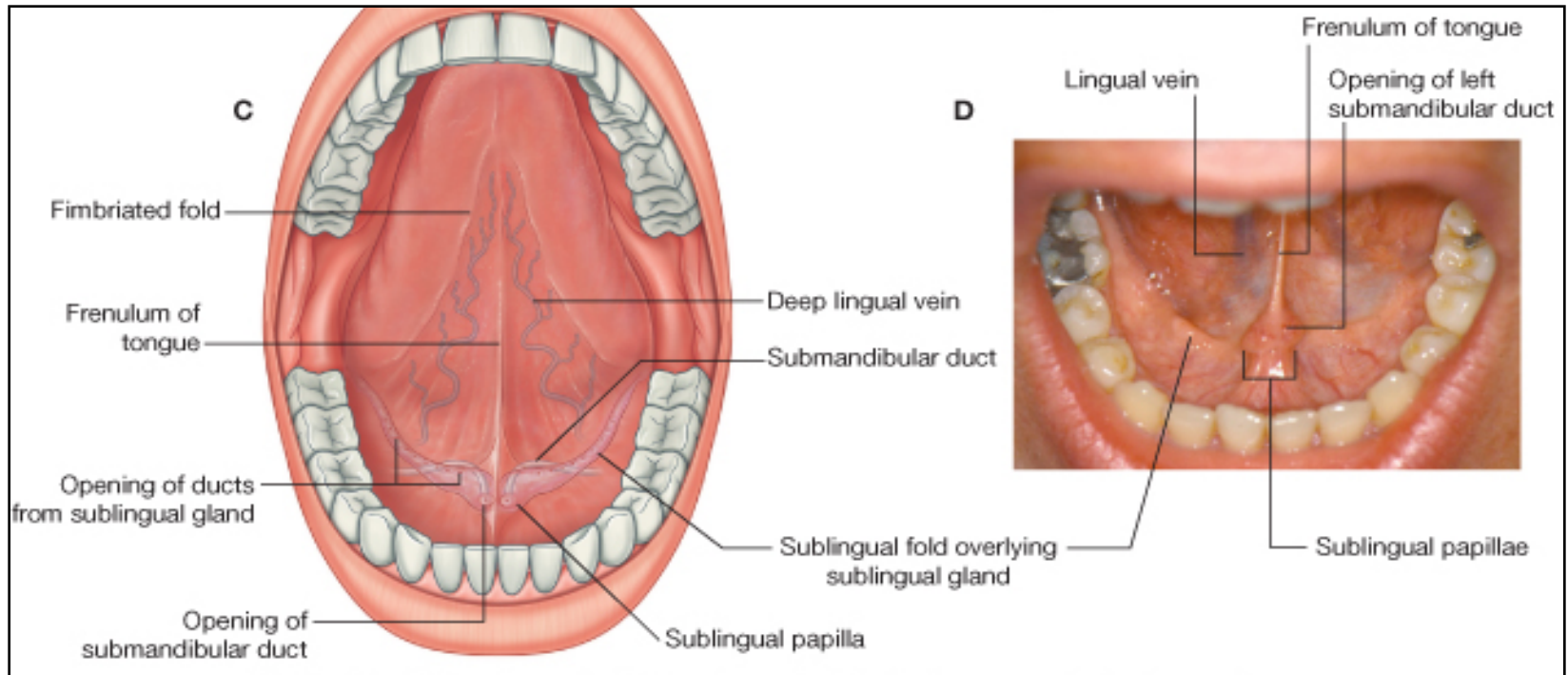
# SUBLINGUAL GLAND

## LOCATION



- The smallest of the three salivary glands.
- It lies below the mucous membrane of the floor of mouth, close to the midline.

# Sublingual ducts



- 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.

# Blood Supply

Arterial supply:

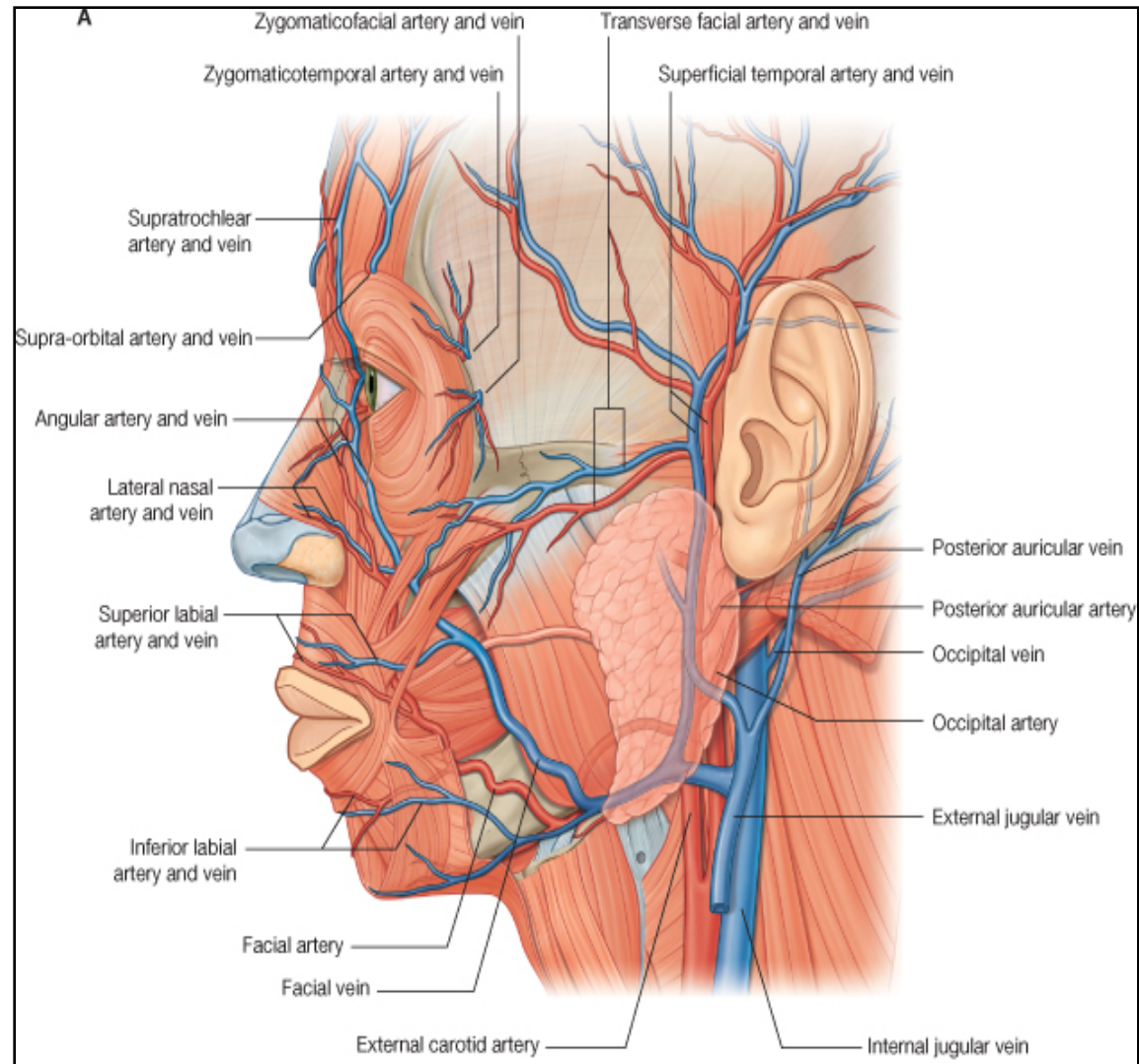
Facial artery.

Venous drainage:

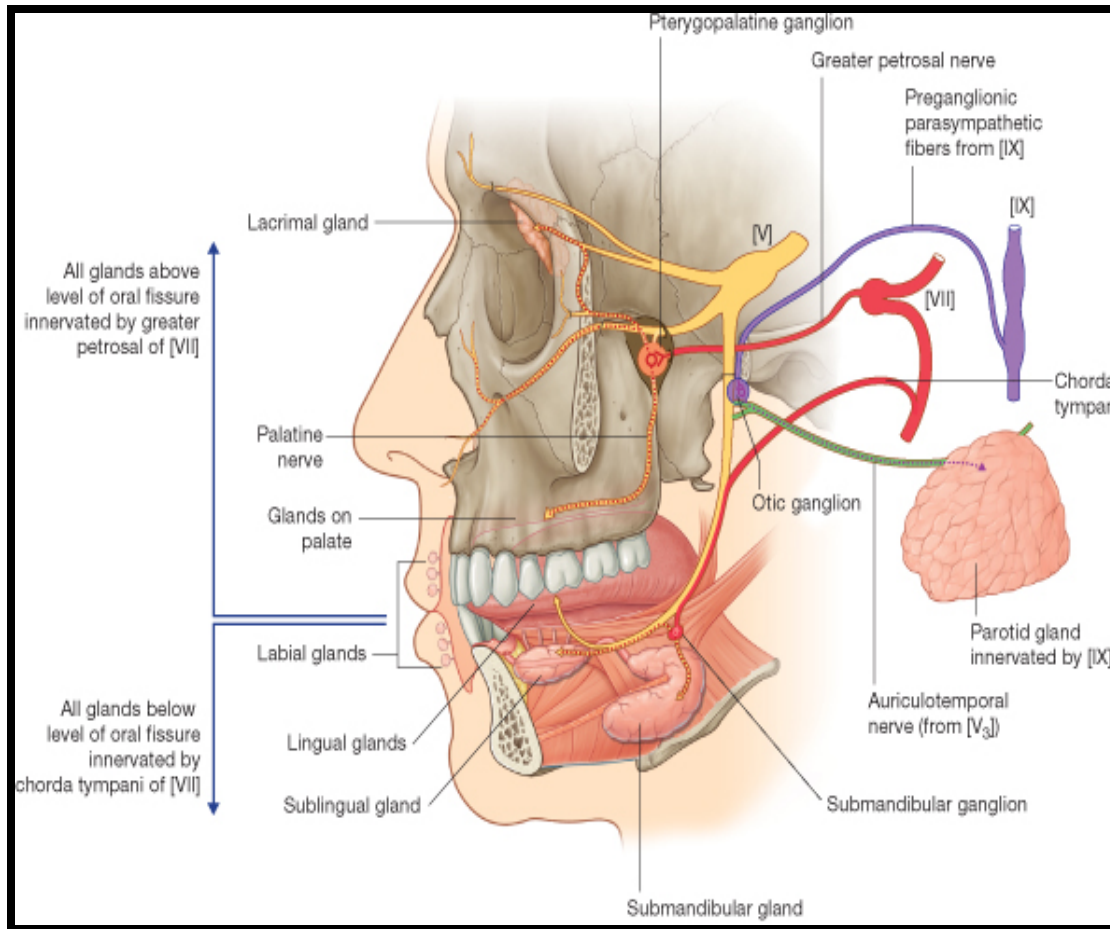
Facial vein.

Lymph drainage:

Submandibular lymph nodes.



# NERVE SUPPLY



- **Parasympathetic** secretomotor supply is from **superior salivary nucleus** of the facial (7<sup>th</sup>) nerve. The fibers pass to the **submandibular ganglion** via the **chorda tympani nerve** and the **lingual nerve**.
  - Postganglionic parasympathetic fibers reach the submandibular & sublingual glands either directly or along the duct.