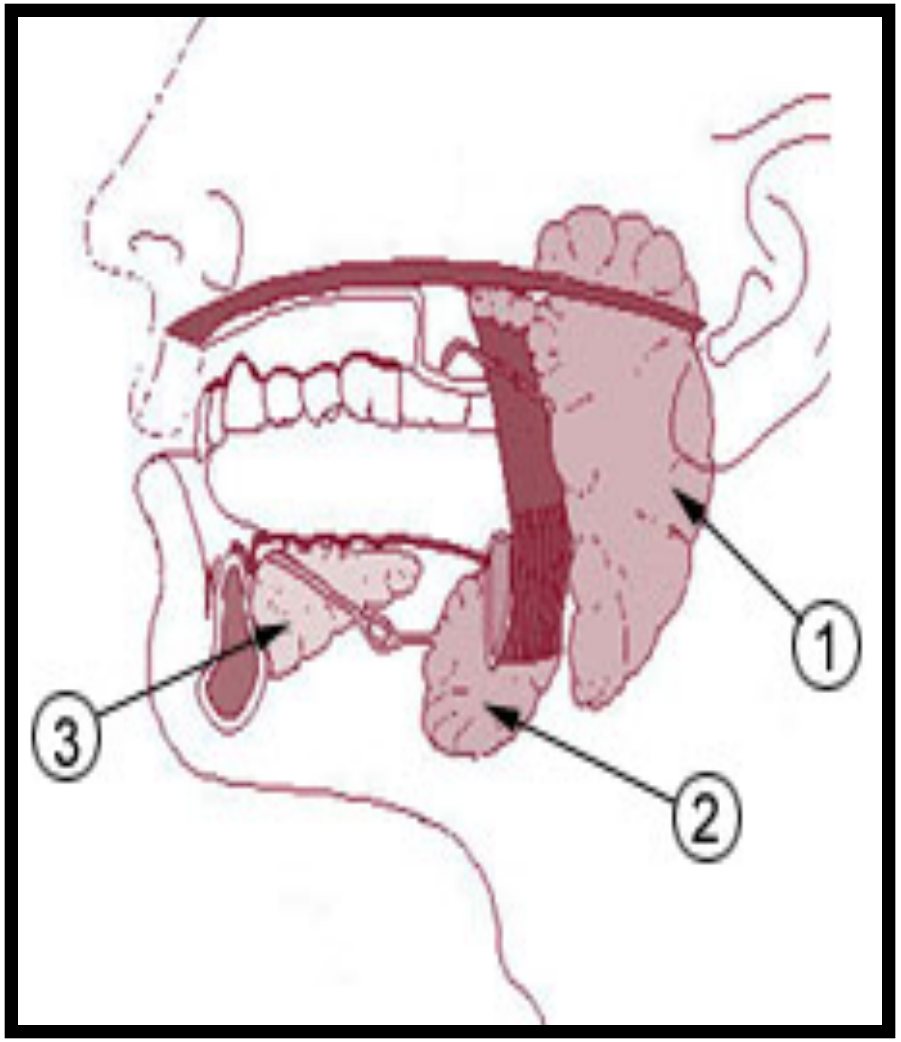
SALIVARY GLANDS

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.

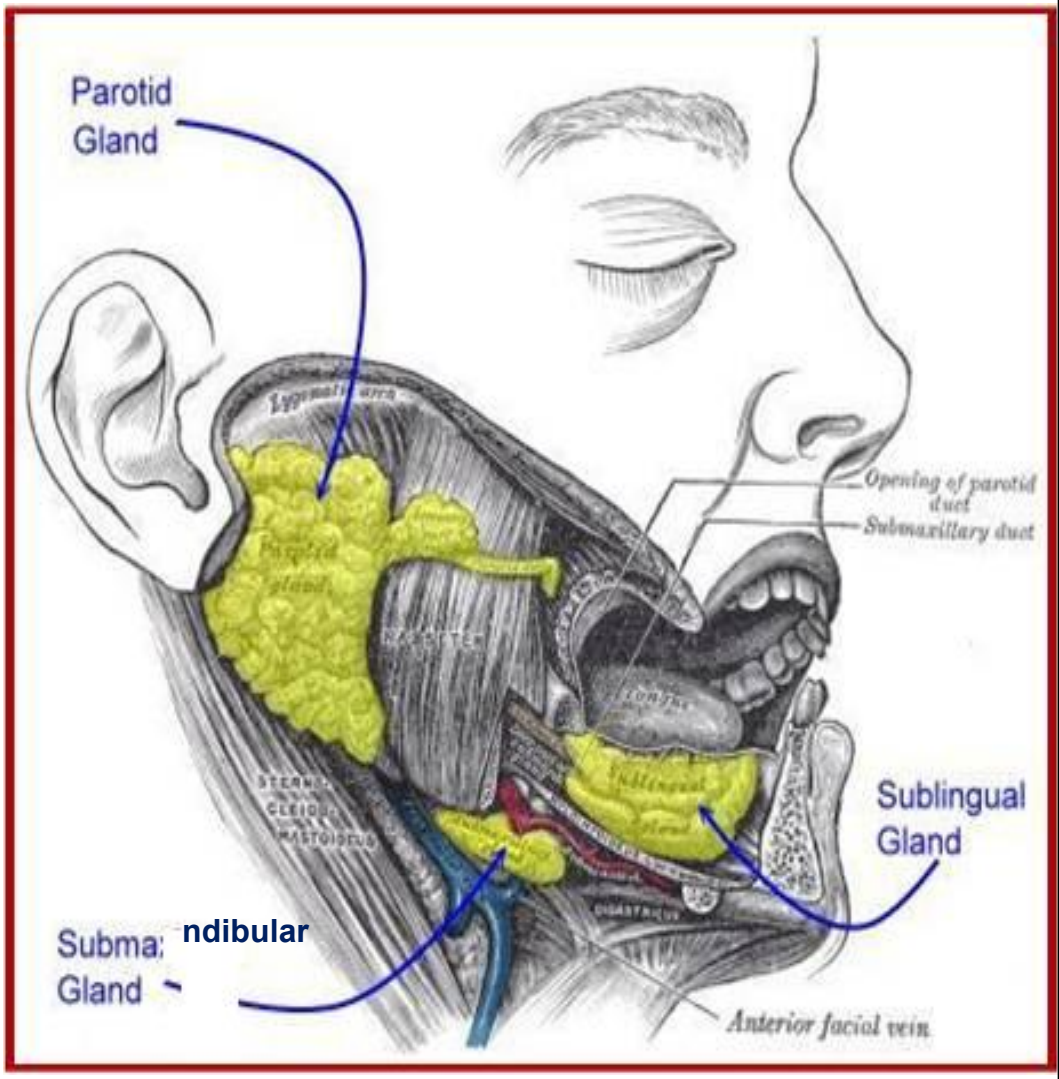
Describe the anatomy of the submandibular and sublingual salivary glands: location, shape, parts, ducts and innervation of the glands.

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.

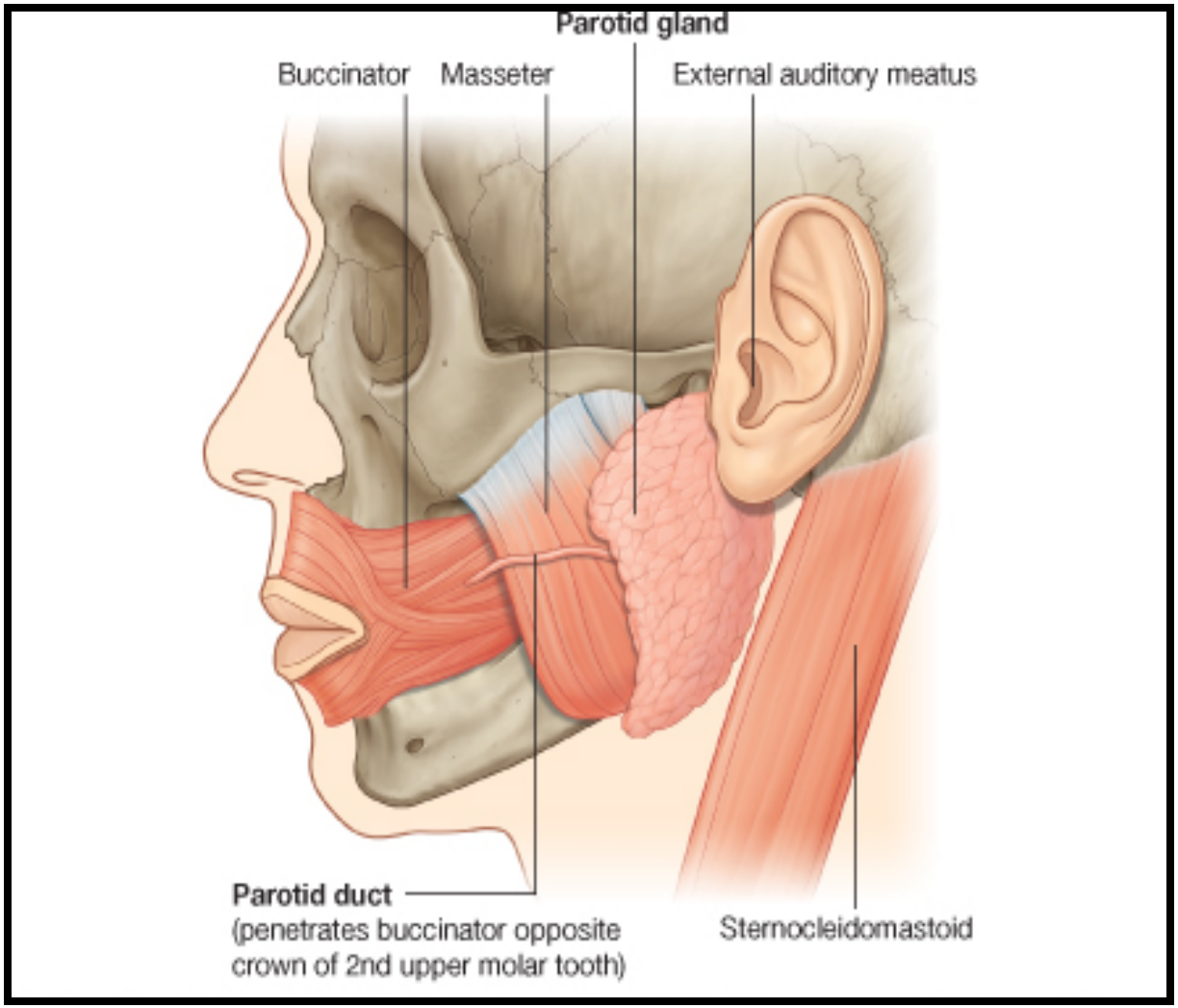
Submandibular produces a **mixed serous & mucous** secretion.

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

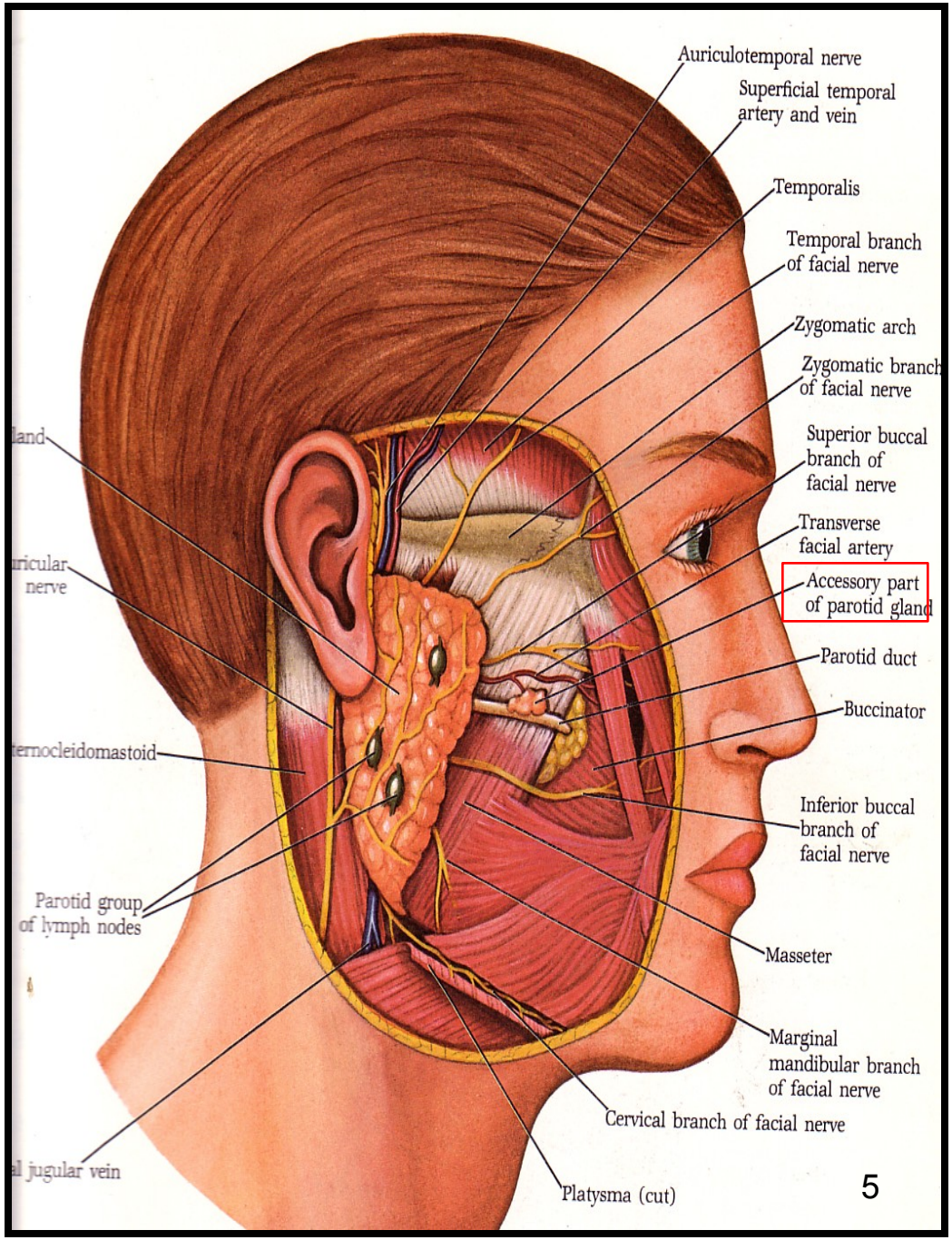


SHAPE

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

Accessory part:

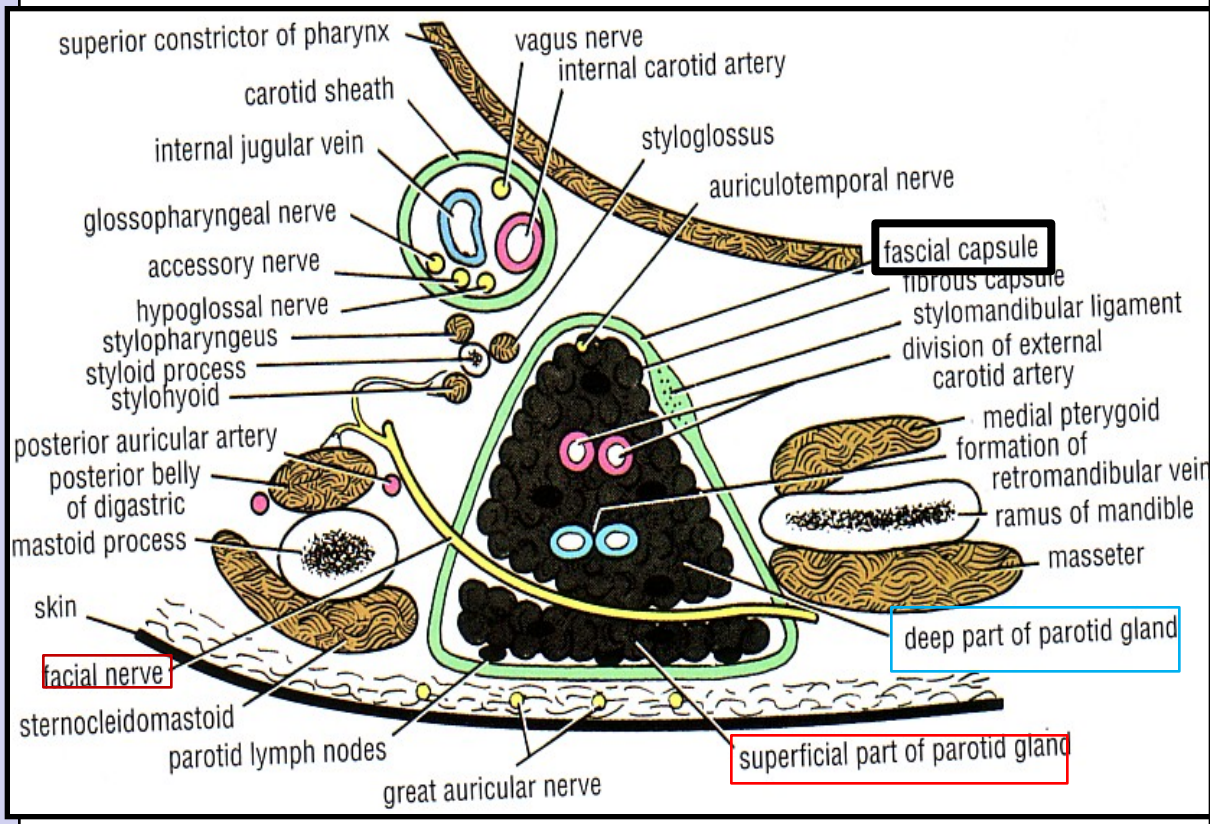
A small part that is separated from the main gland.



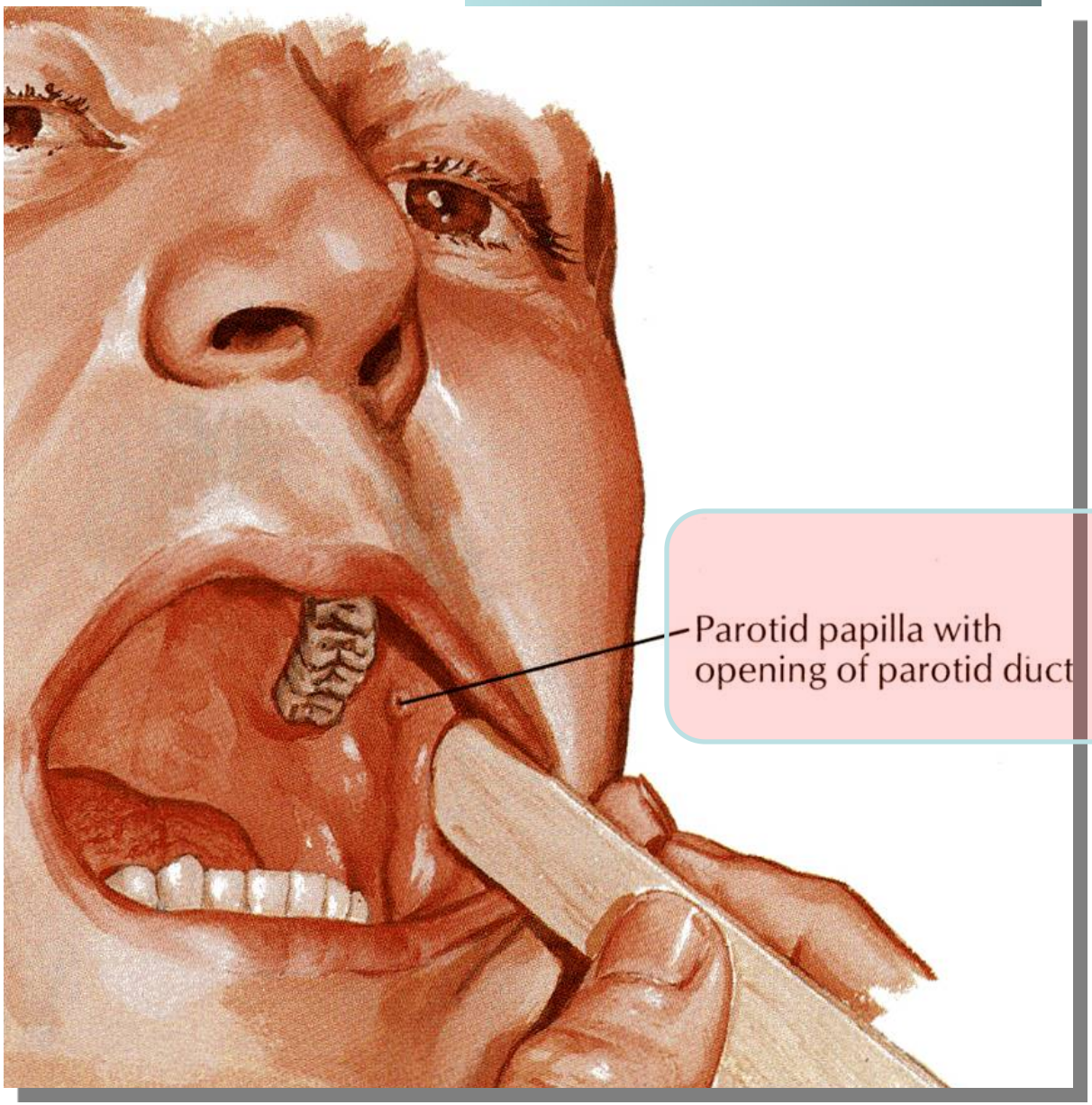
Capsule:

Tight, derived from deep cervical fascia of the neck.

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



Parotid Duct



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.

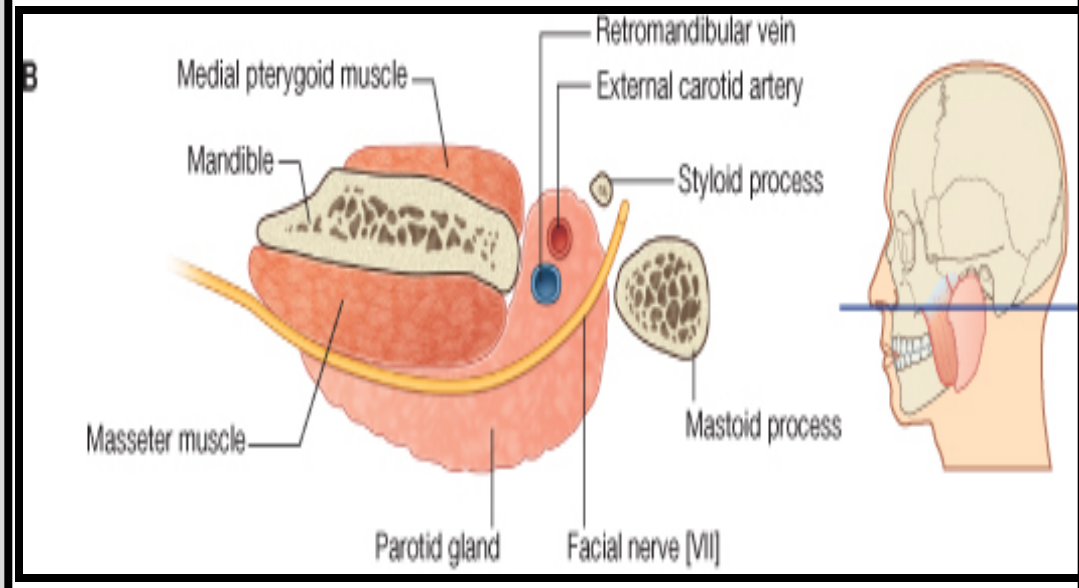
2- Retromandibular vein: *intermediate in position*

Formed by the union of maxillary & superficial temporal veins.

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

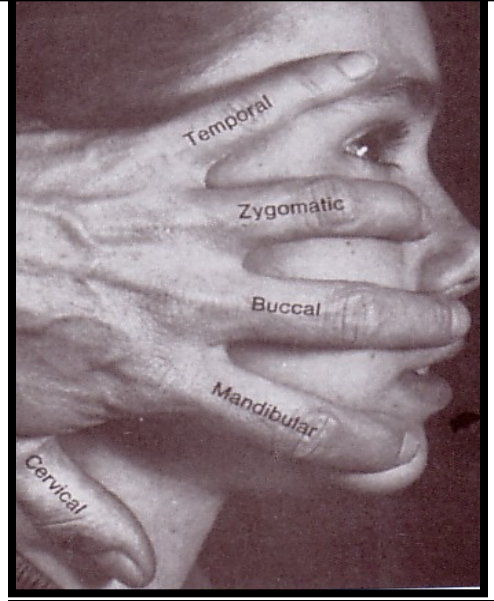
3- External carotid artery: *Most deep*,

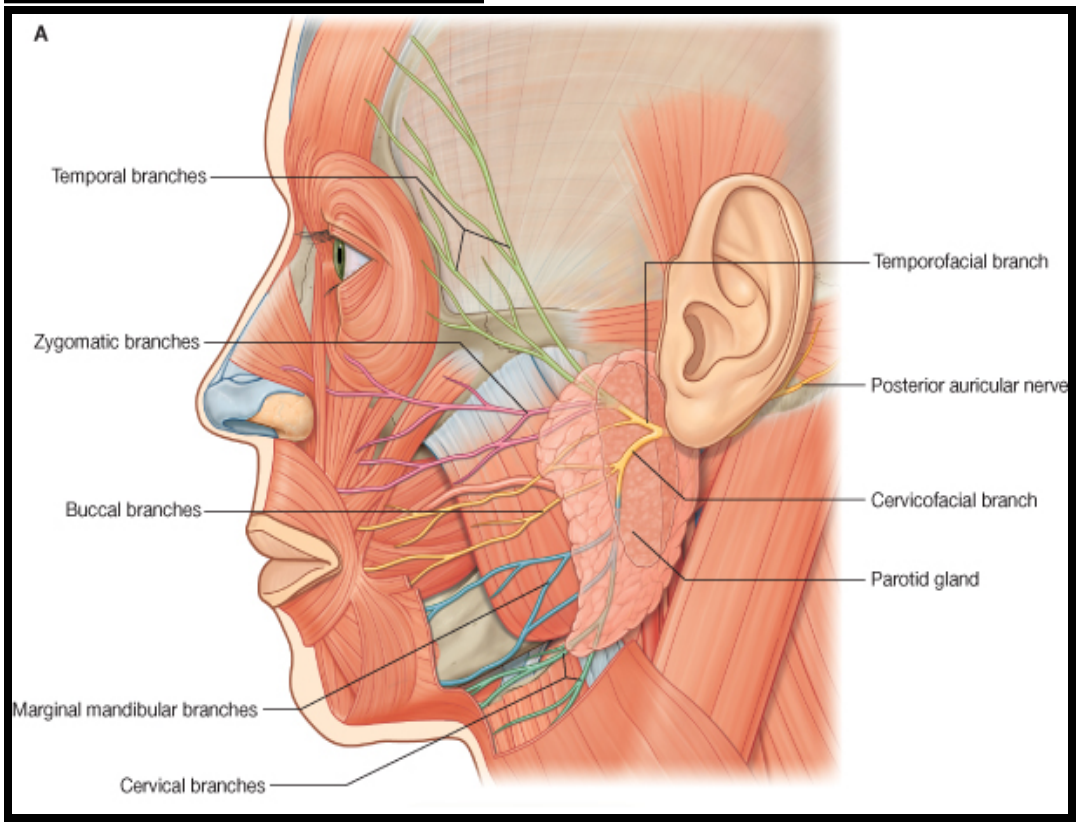
It is divided into maxillary and superficial temporal arteries.



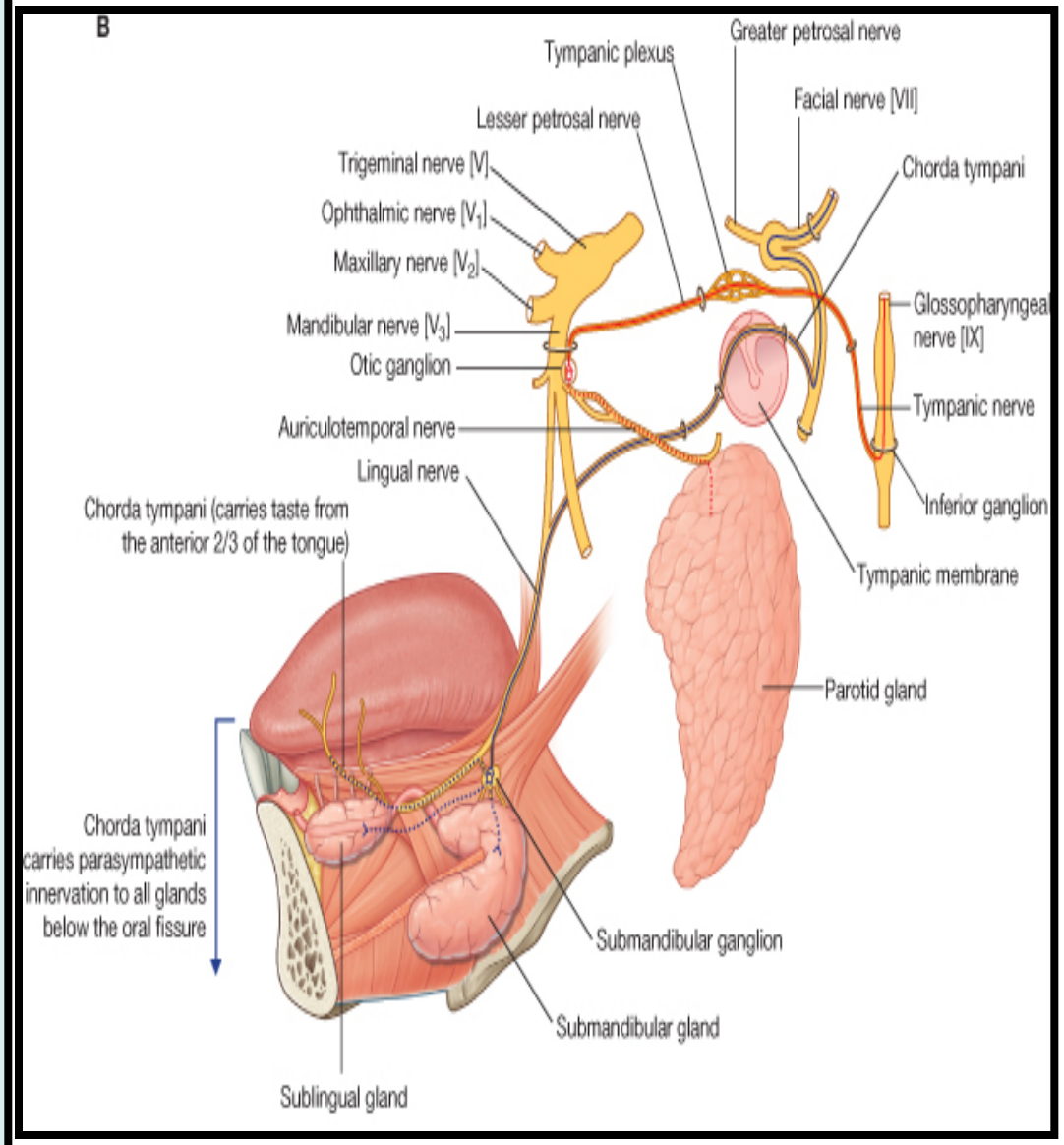
FACIAL NERVE

- **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.

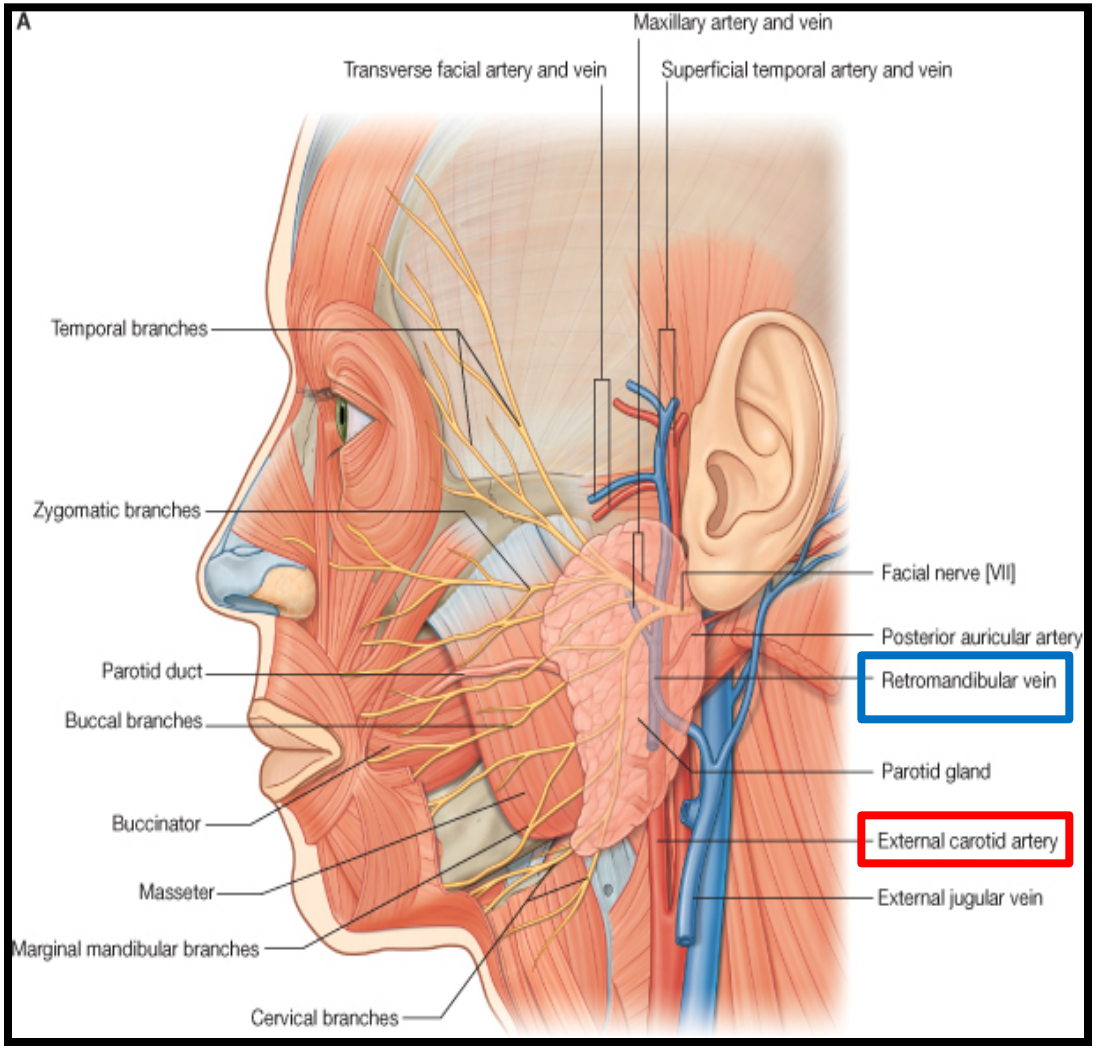


Blood supply

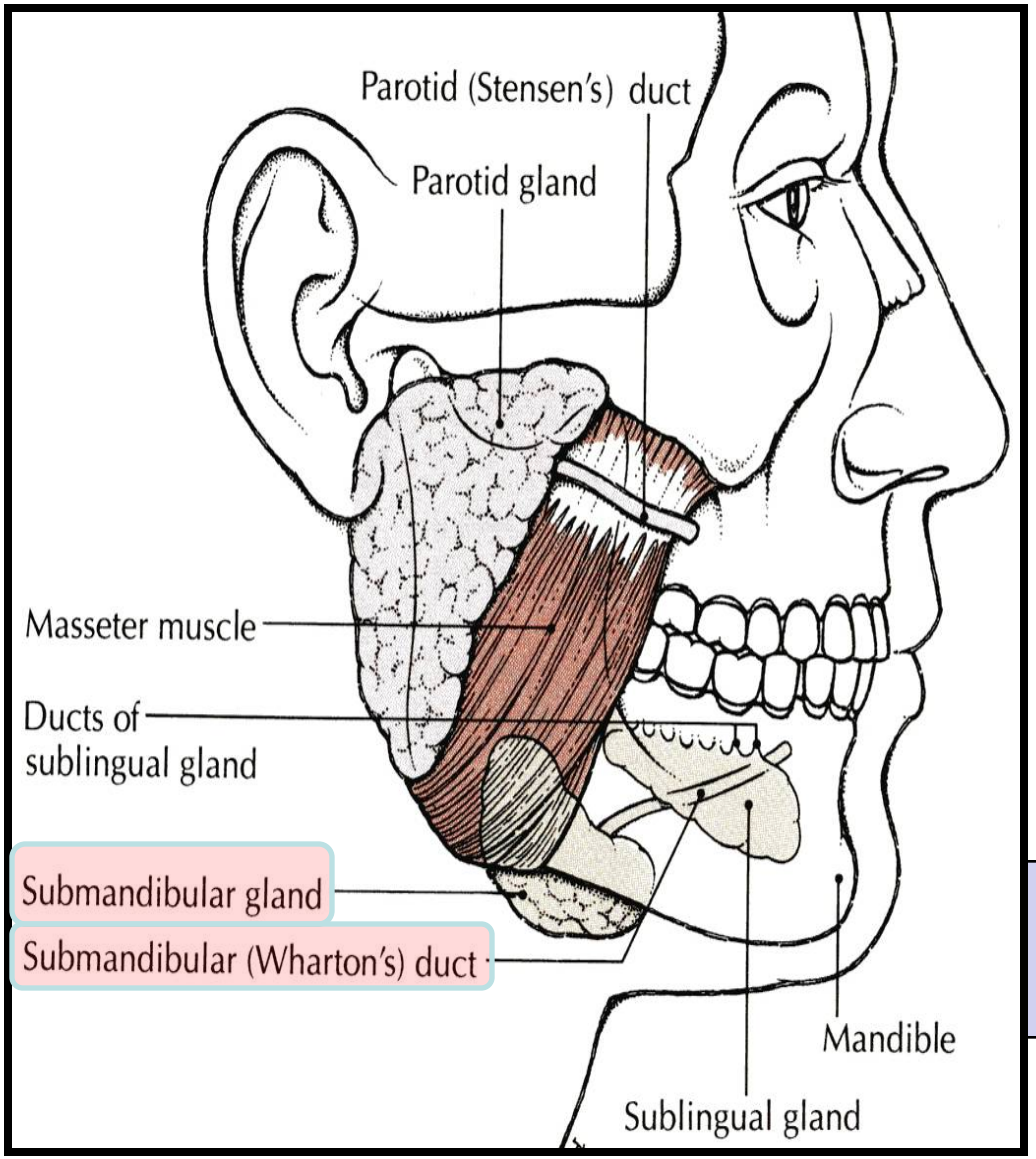
Arterial: **ECA** & its branches.

Venous drainage: retromandibular vein.

Lymphatic: parotid & deep cervical lymph nodes.

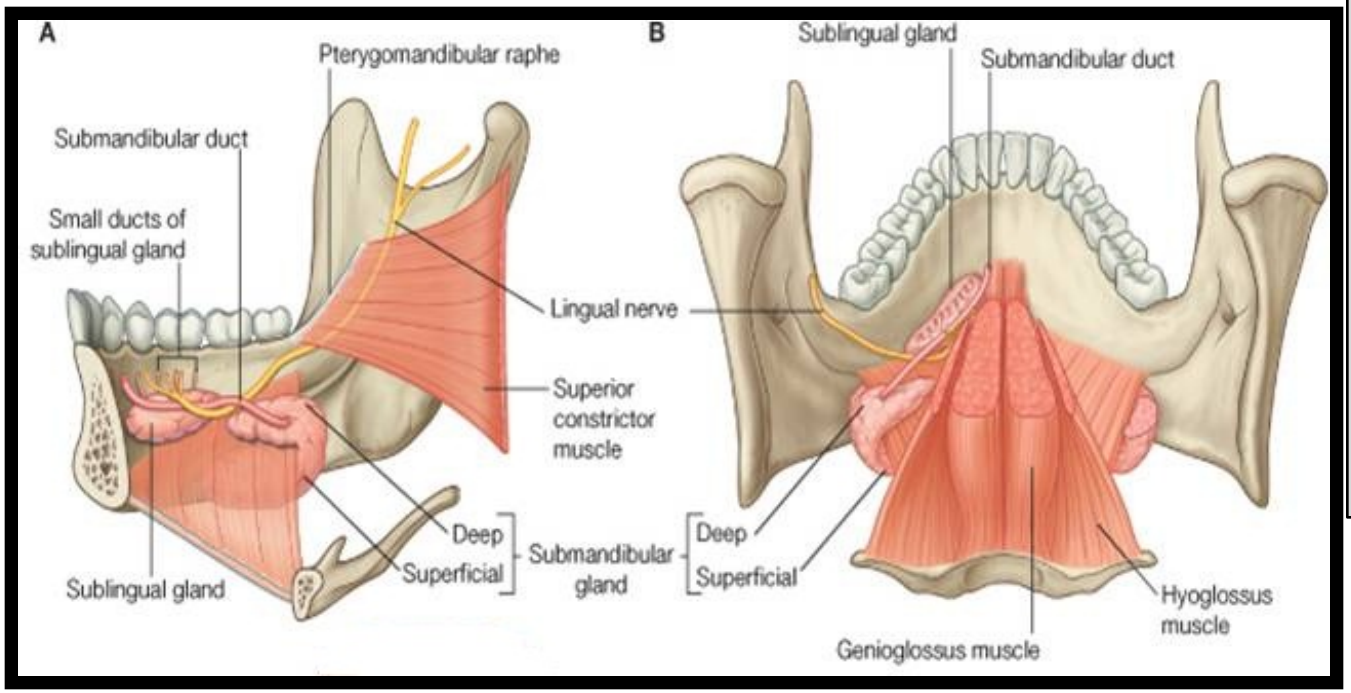


SUBMANDIBULAR SALIVARY GLAND



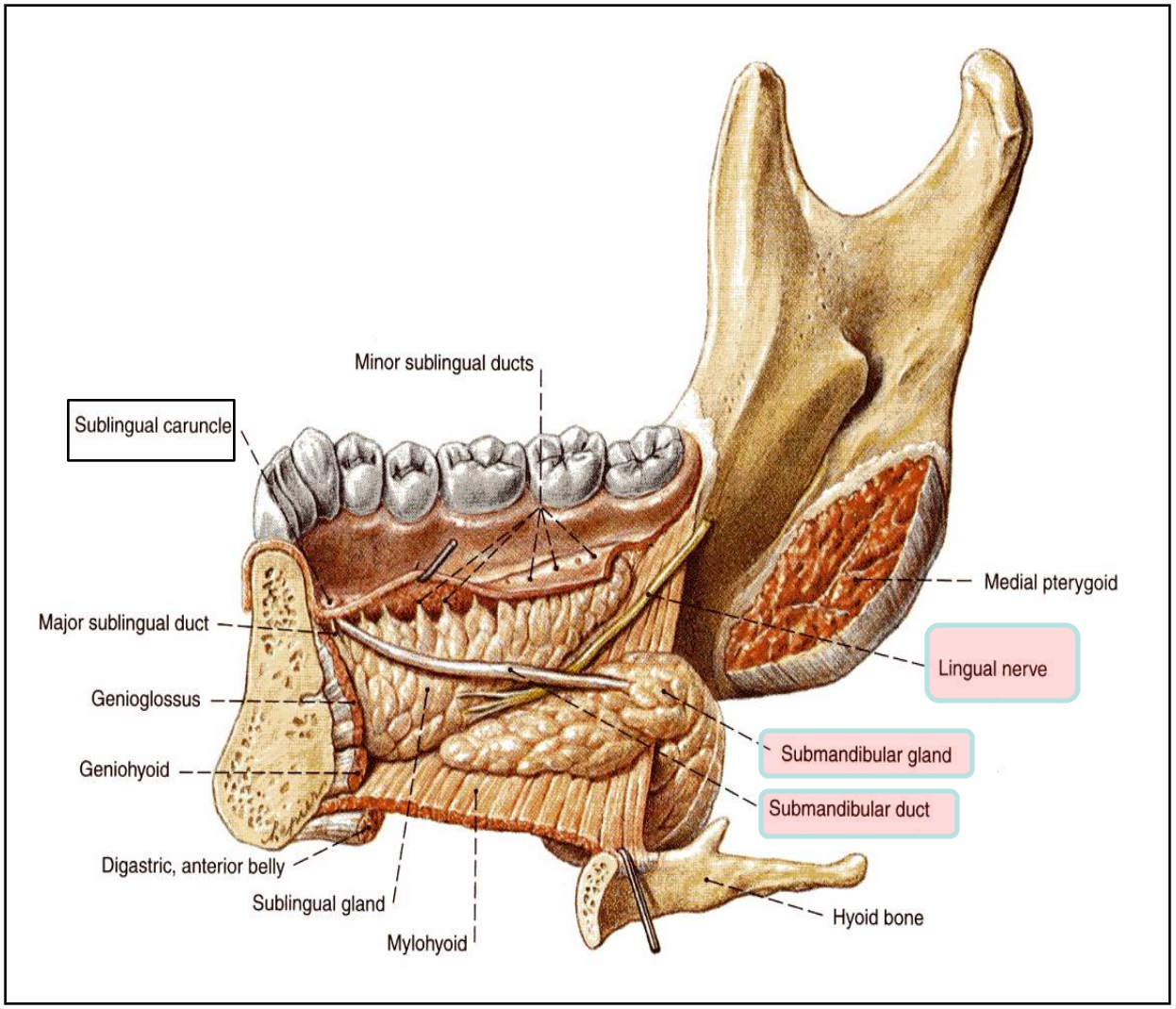
Located deep to the body of the mandible

PARTS



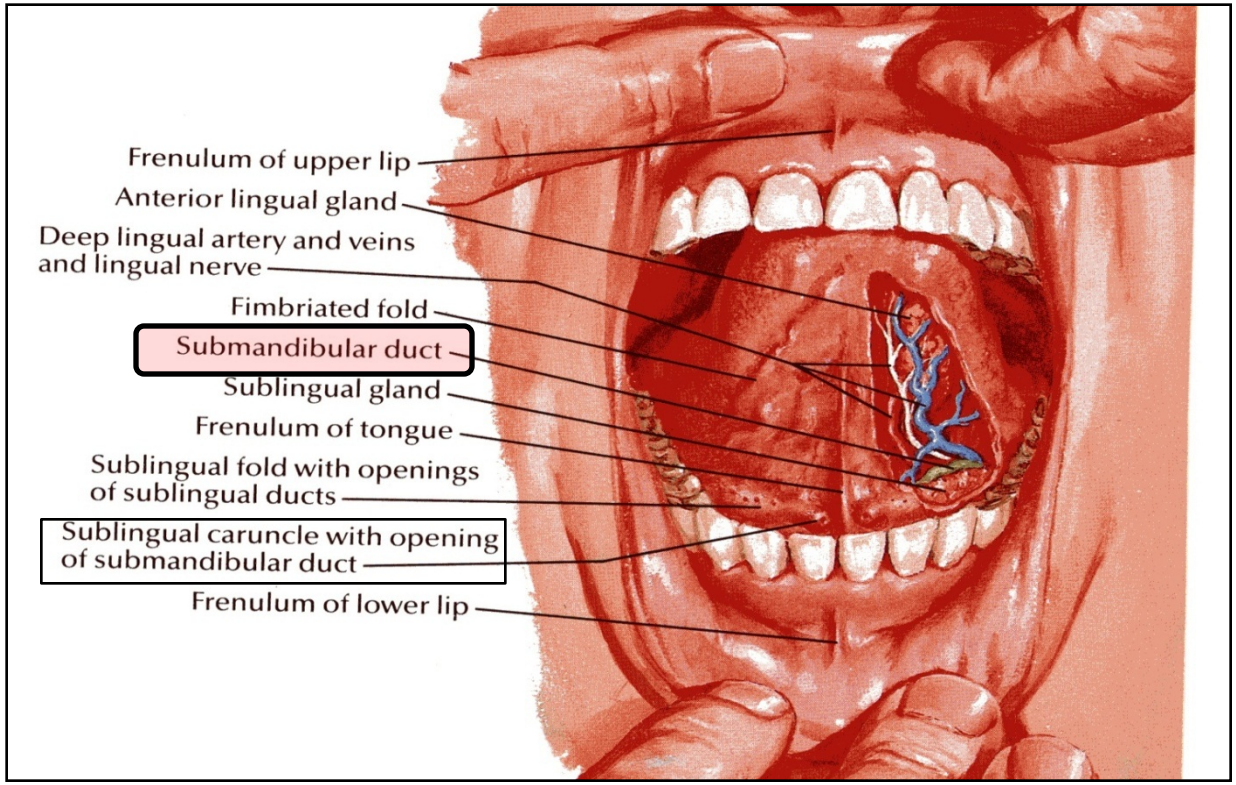
- Formed of 2 parts:
- **Large superficial part**
- **Small deep part**

SUBMANDIBULAR DUCT



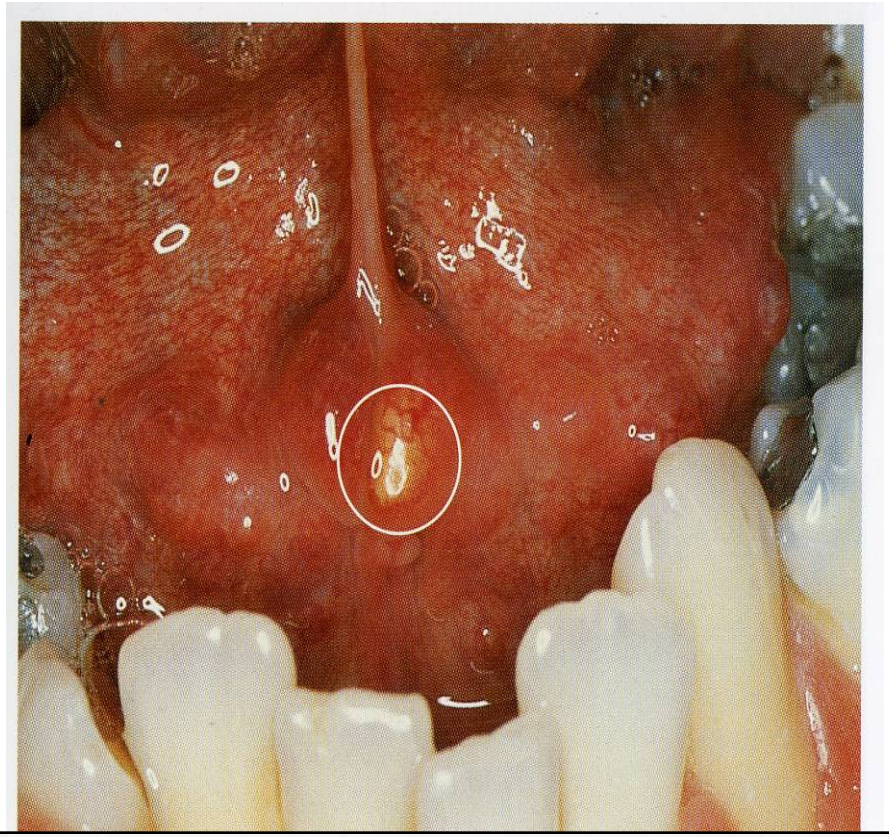
- The **duct** emerges from the **deep part of the gland.**
- It passes forward along the side of the tongue, under the mucous membrane of the floor of the mouth.
- It is crossed laterally by the **lingual nerve**
- It opens on the summit of a small sublingual papilla, which lies at the side of the frenulum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

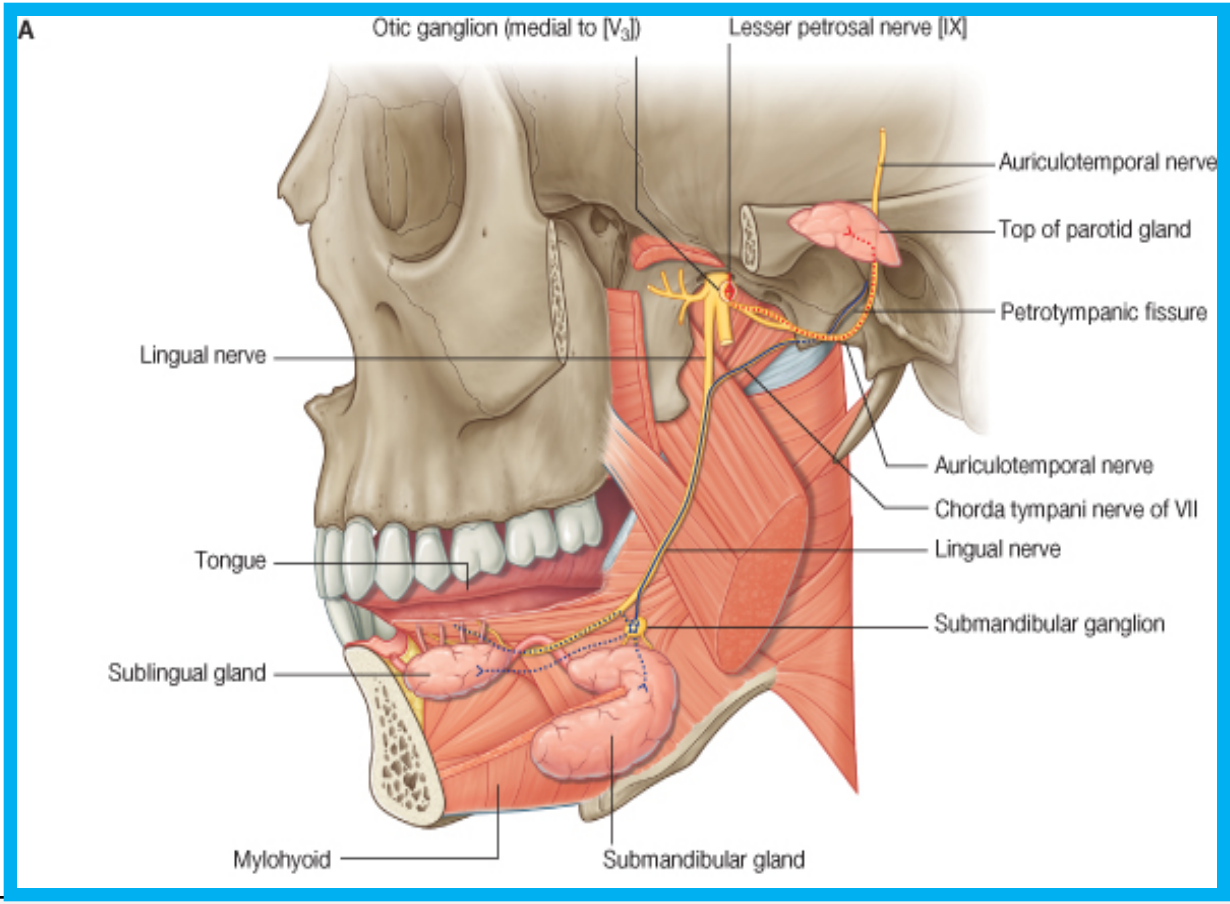


A small calcified stone blocking a salivary duct is visible as a yellowish mass (circled) in the centre of the floor of the mouth.

- 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.

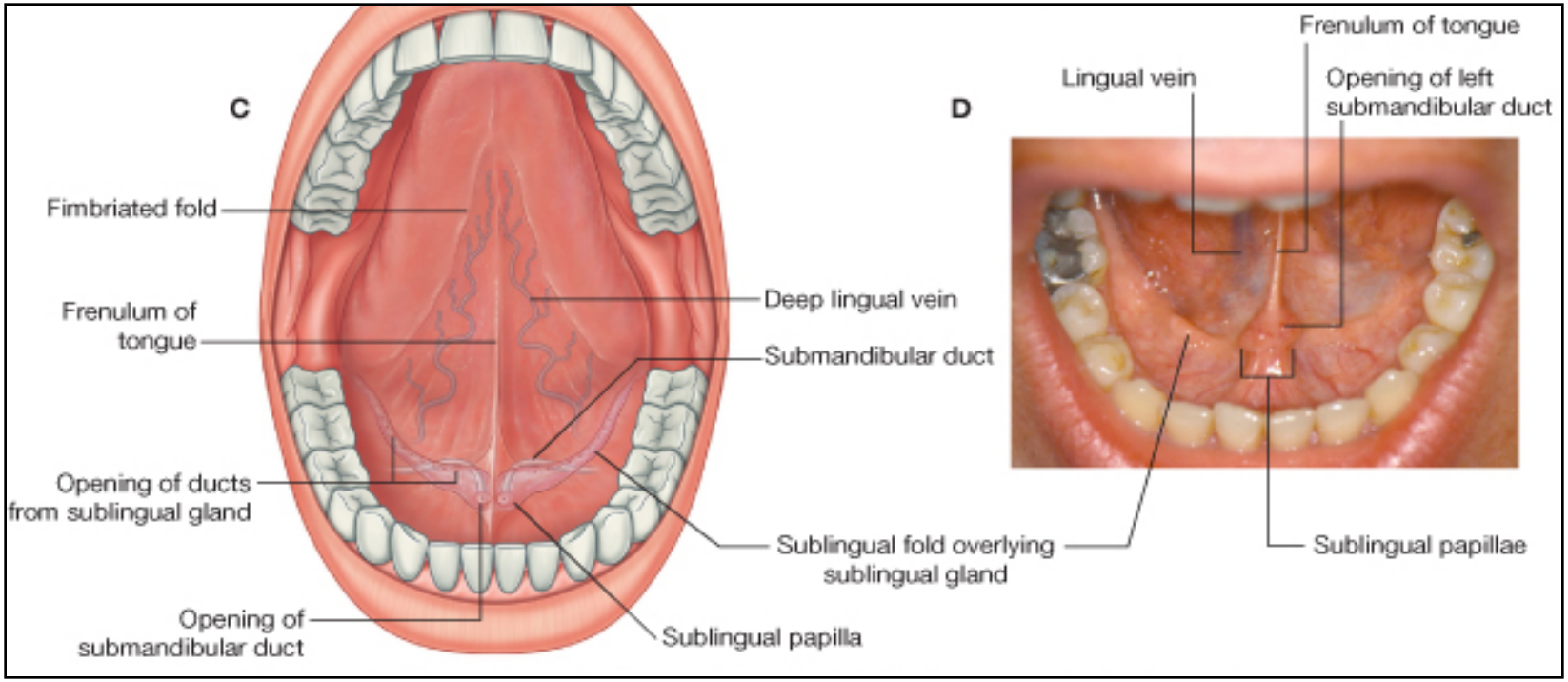
SUBLINGUAL GLAND

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:

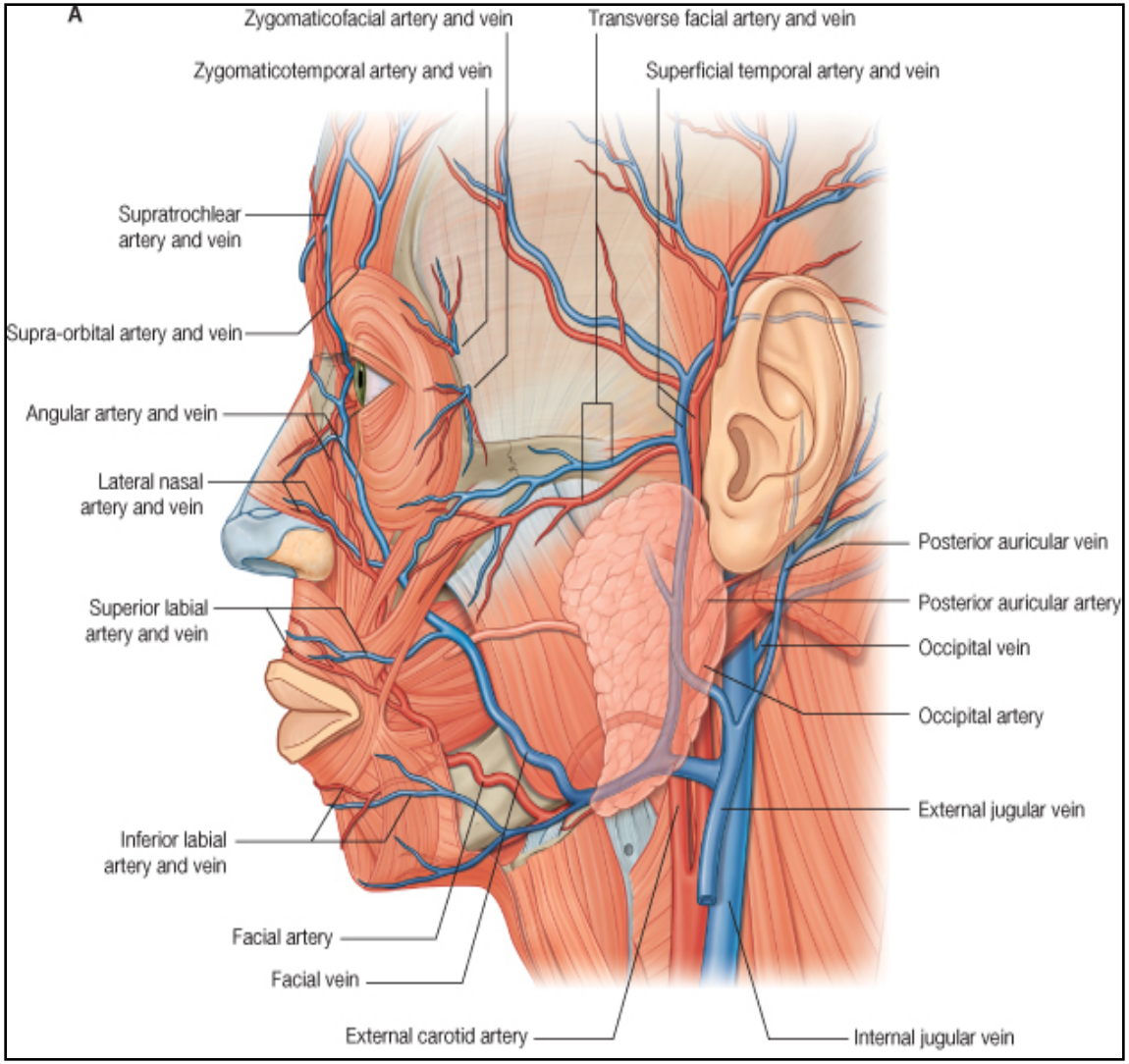
Facial artery.

Venous drainage:

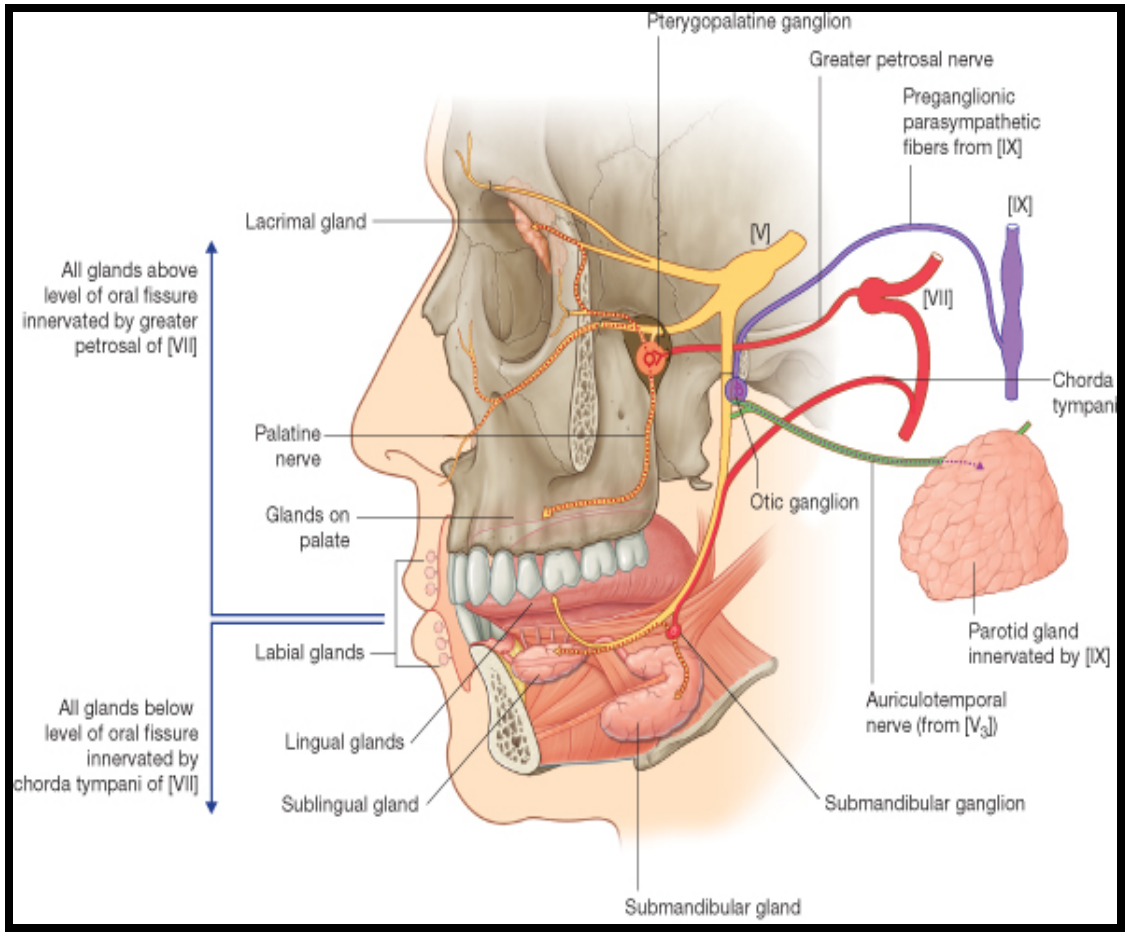
Facial vein.

Lymph drainage:

Submandibular lymph nodes.



NERVE SUPPLY



- Parasympathetic secretomotor supply is from superior salivary nucleus of the facial (7th) 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.