

Salivary glands

The **salivary glands** are exocrine glands, glands with ducts, that produce saliva and pour their secretion in the oral cavity

Major (Paired)

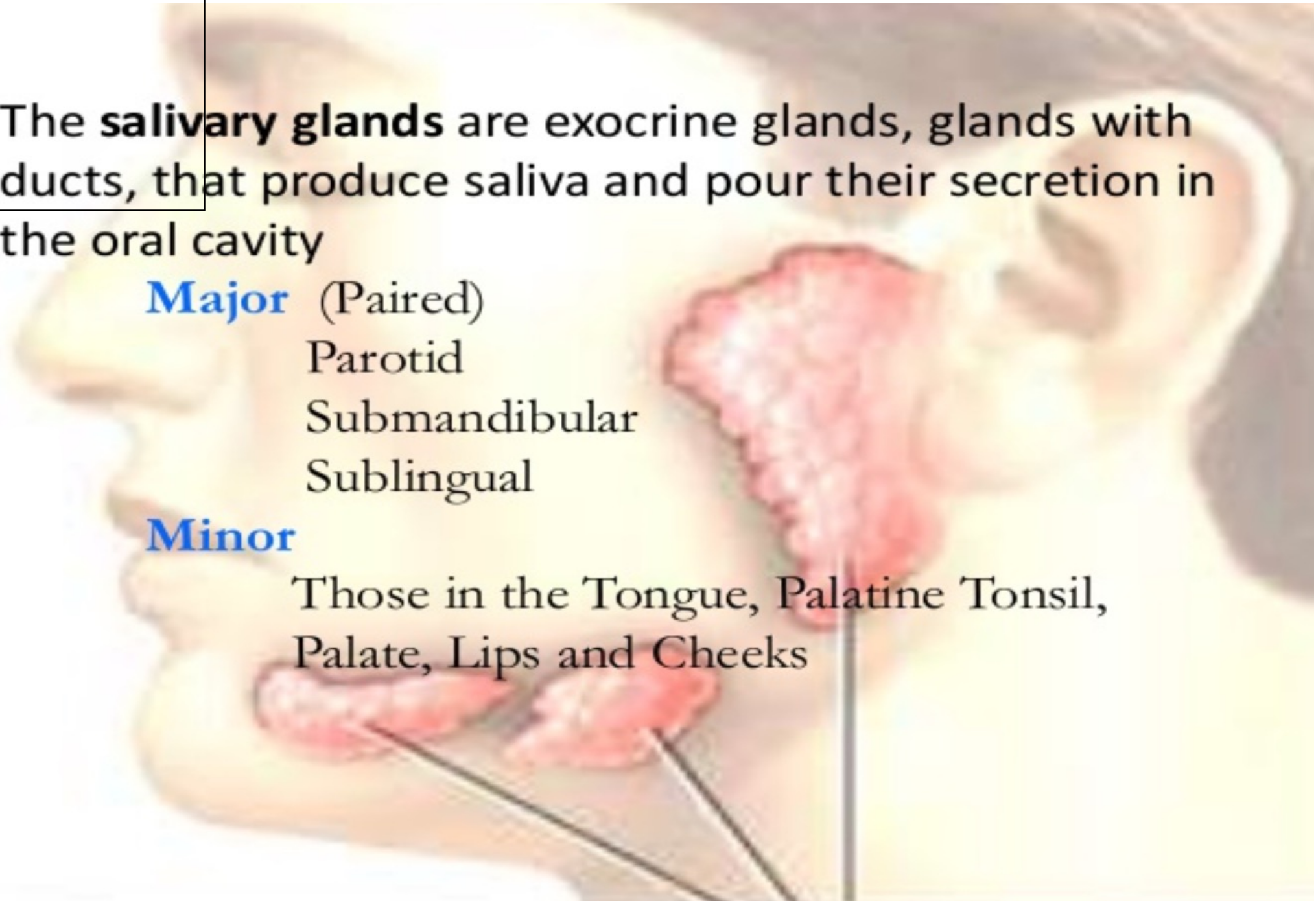
Parotid

Submandibular

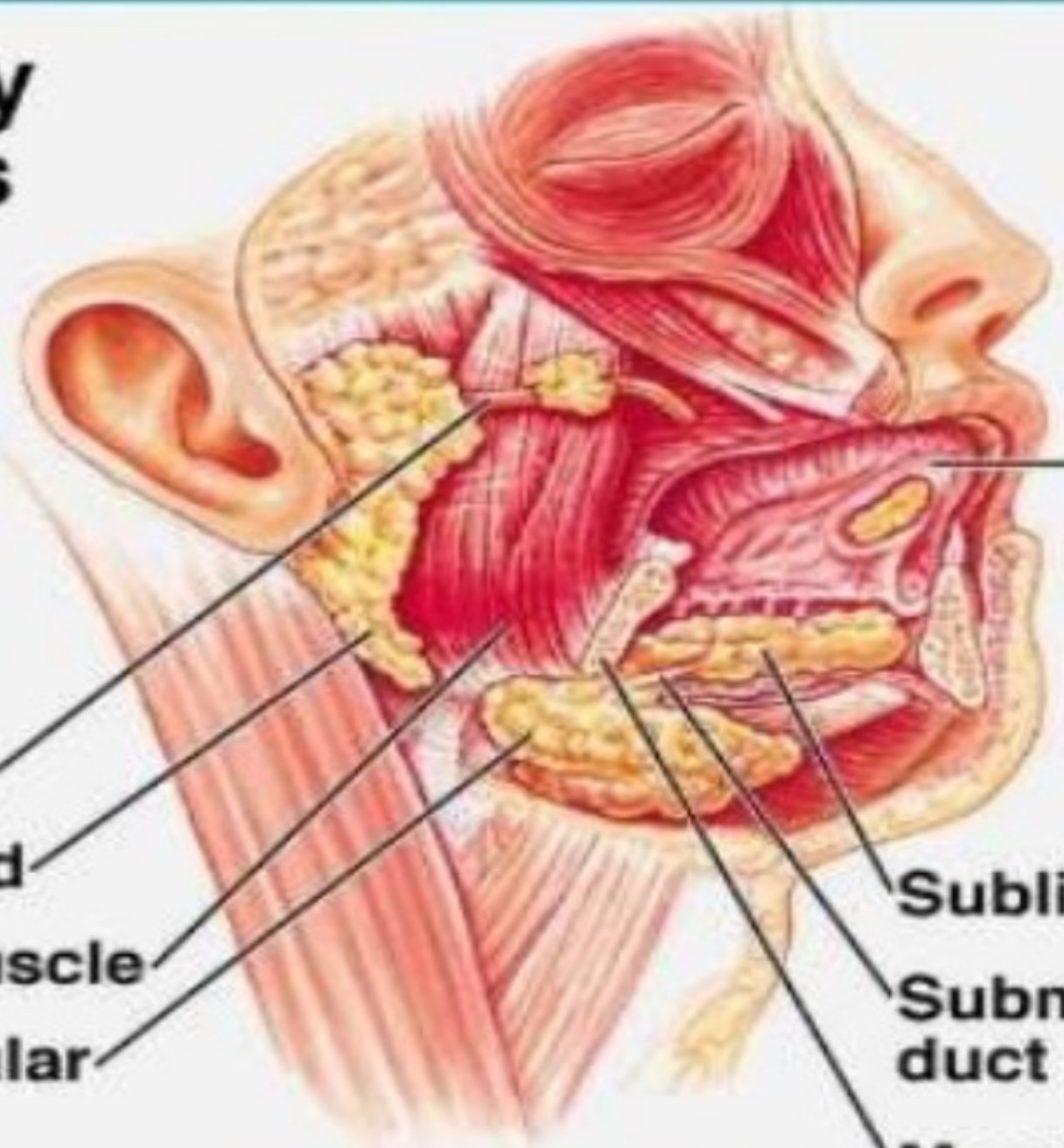
Sublingual

Minor

Those in the Tongue, Palatine Tonsil,
Palate, Lips and Cheeks



Salivary Glands



Tongue

Parotid duct

Parotid gland

Masseter muscle

Submandibular gland

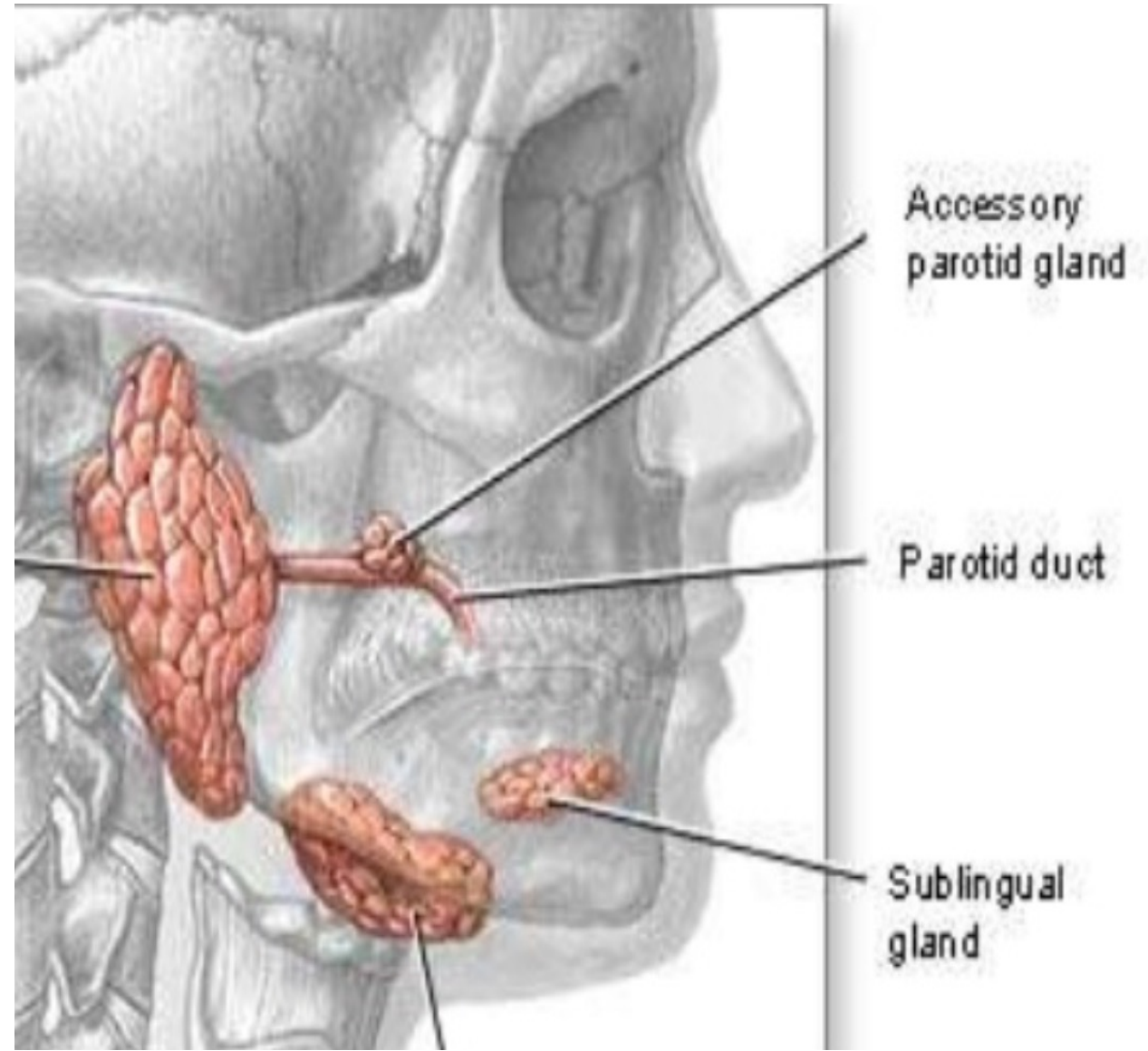
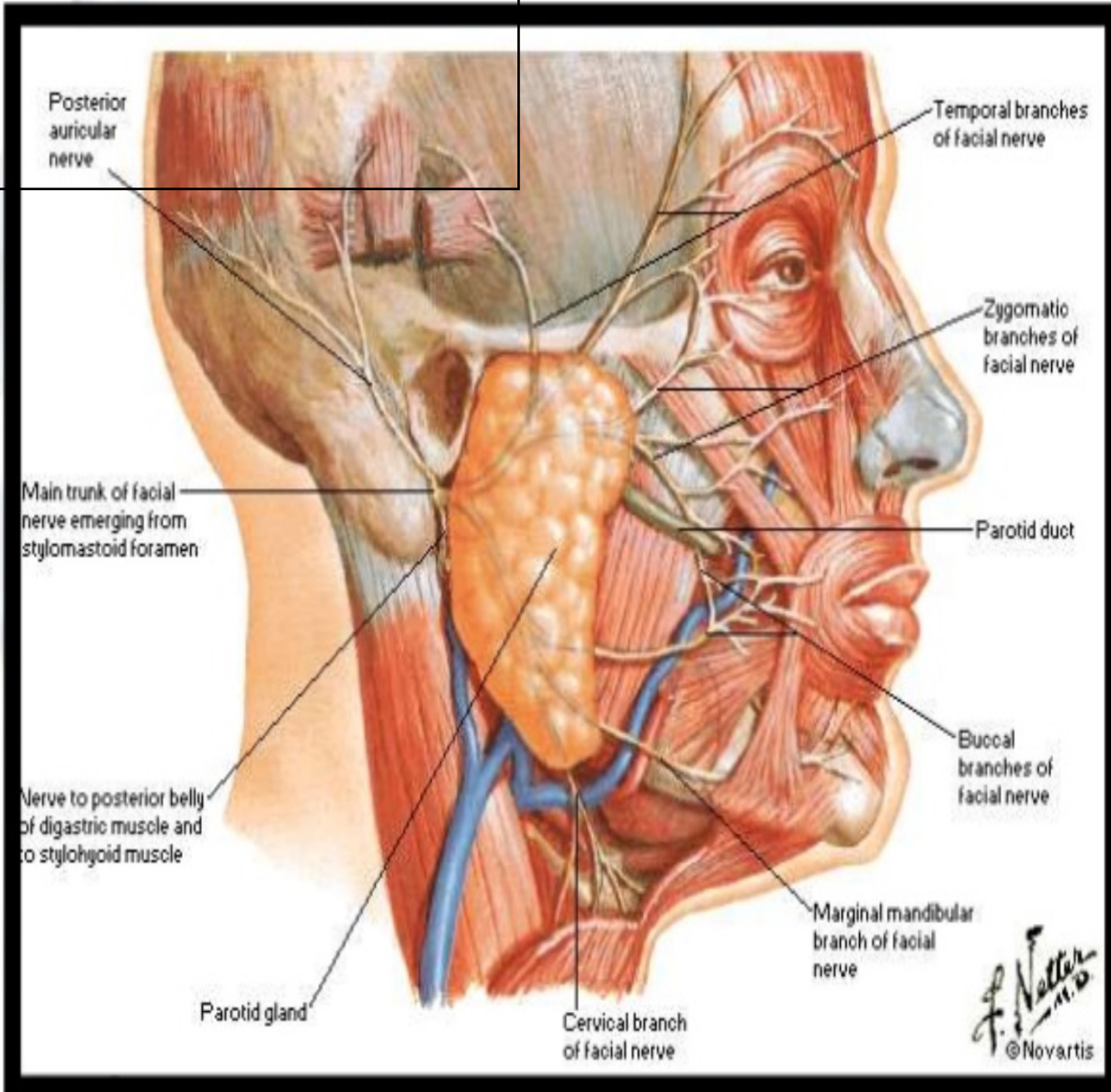
Sublingual gland

Submandibular duct

Mandible

Parotid glands

- **Largest salivary glands**
- **Average weight 25 gram**
- **Irregular lobulated mass lying mainly below the external acoustic meatus between the mandible and sternocleidomastoid muscle**
- **On the surface of masseter muscle, small detached part of parotid lies between zygomatic arch and parotid duct accessory parotid gland or “social parotid”**



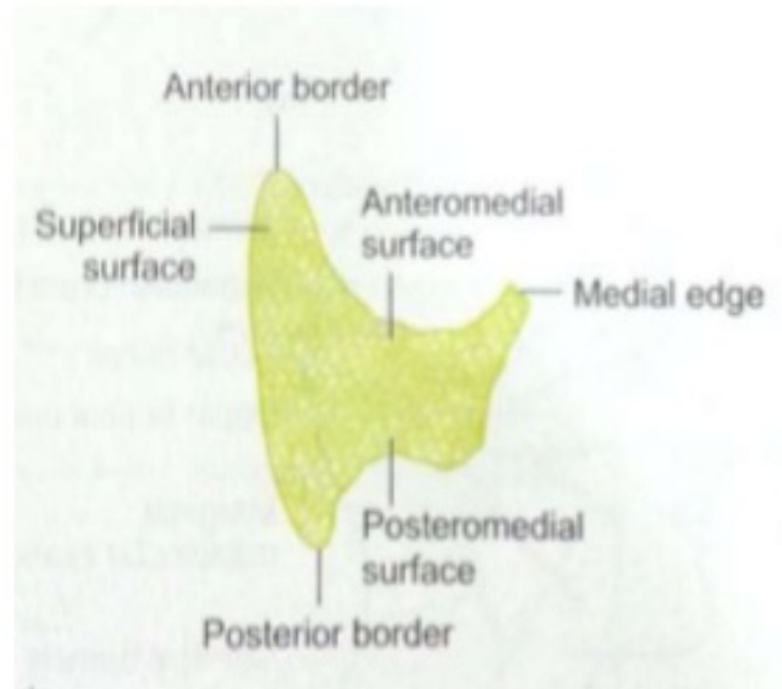
Parotid capsule

- Derived from investing layer of deep cervical fascia.
- Superficial lamina-thick, closely adherent-sends fibrous septa into the gland.
- Deep lamina-thin- attached to styloid process, mandible and tympanic plate.
- Stylomandibular ligament.

External features

- Resembles an inverted 3 sided pyramid
- Four surfaces
 - Superior(Base of the Pyramid)
 - Superficial
 - Anteromedial
 - Posteromedial

- Separated by three borders
 - Anterior
 - Posterior
 - Medial



Relations

- **Superior Surface**

- **Concave , related to :**

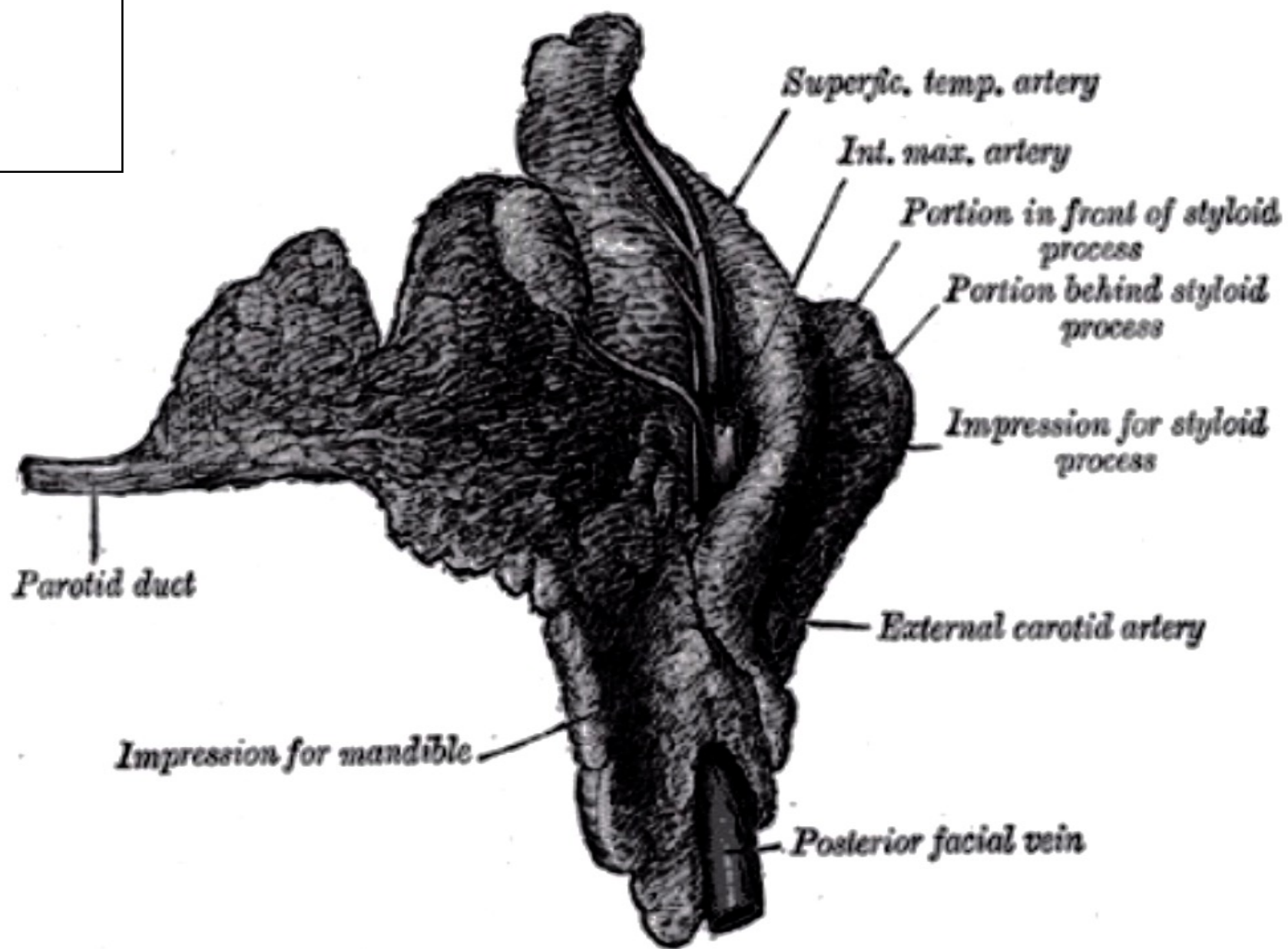
- Cartilaginous part of external acoustic meatus.
- Posterior aspect of tempomandibular joint
- Auriculotemporal nerve.
- Superficial temporal vessels

- Apex

- Overlaps posterior belly of digastric and adjoining part of carotid triangle

- Superficial Surface

- Covered by
 - Skin
 - Superficial fascia containing facial branches of great auricular N
 - Superficial parotid lymph nodes and post fibers of platysma



Anteromedial Surface

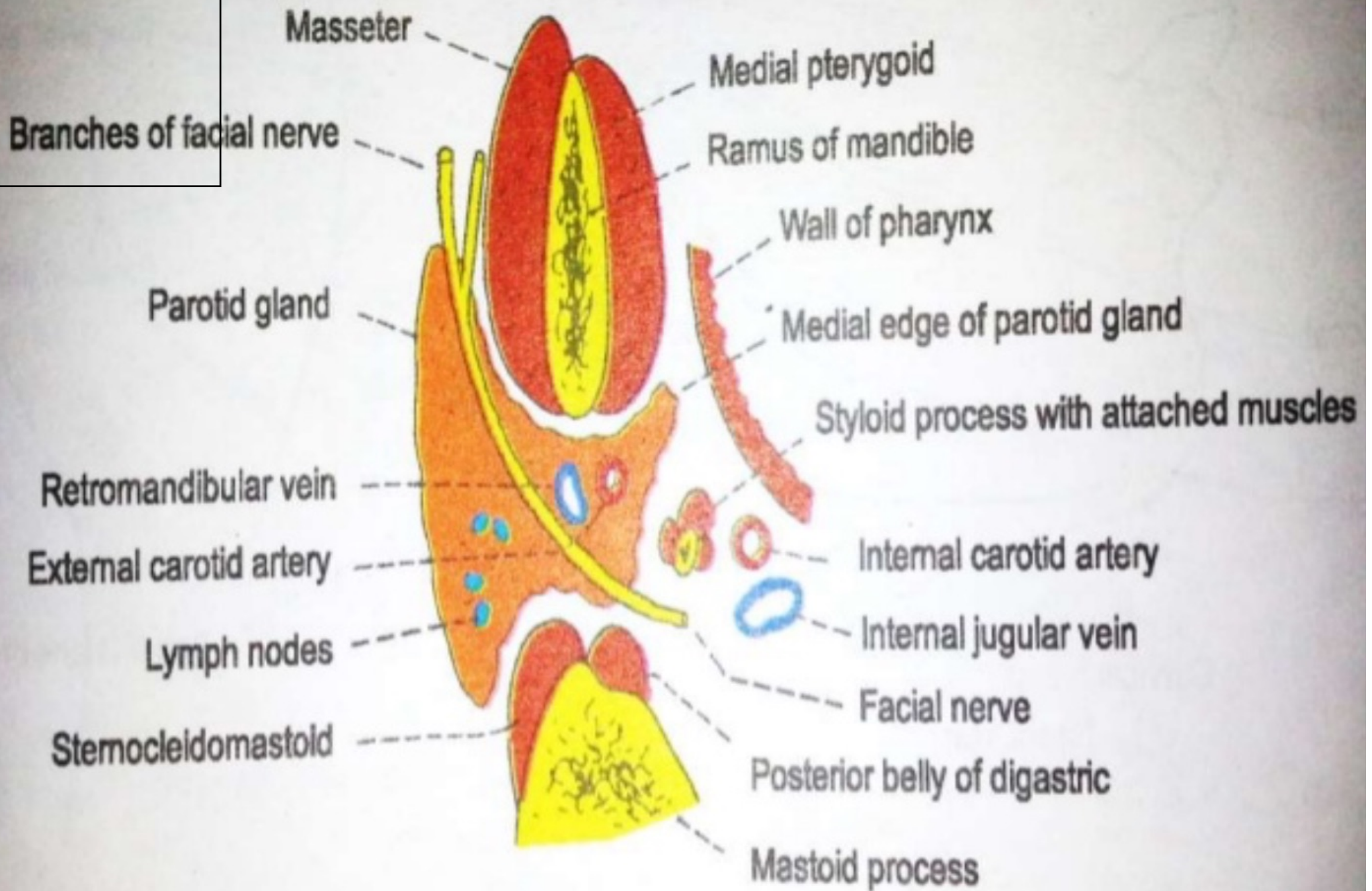
- Grooved by posterior border of ramus of mandible
- Related to
 - Masseter
 - Lateral Surface of temporomandibular joint
 - Medial pterygoid muscles
 - Emerging branches of Facial N

• Posteromedial Surface

Related

- to mastoid process with sternomastoid and posterior belly of digastric.
- Styloid process with structures attached to it.
- External Carotid A. which enters the gland through the surface
- Internal Carotid A. which lies deep to styloid process

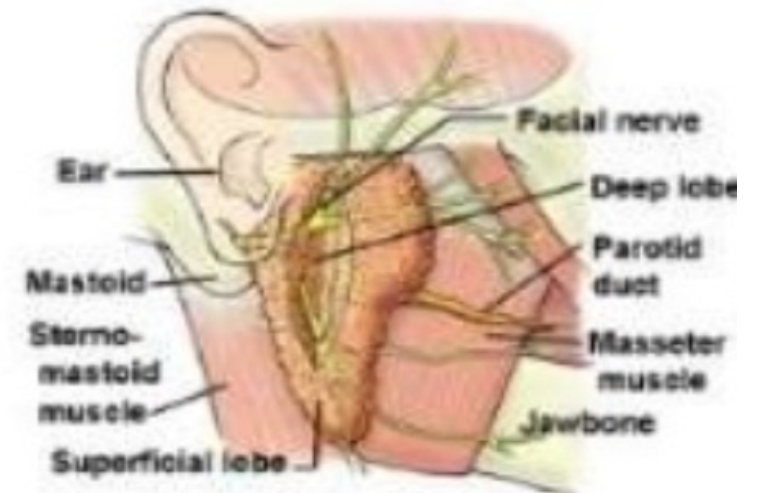
Branches of facial nerve



Borders

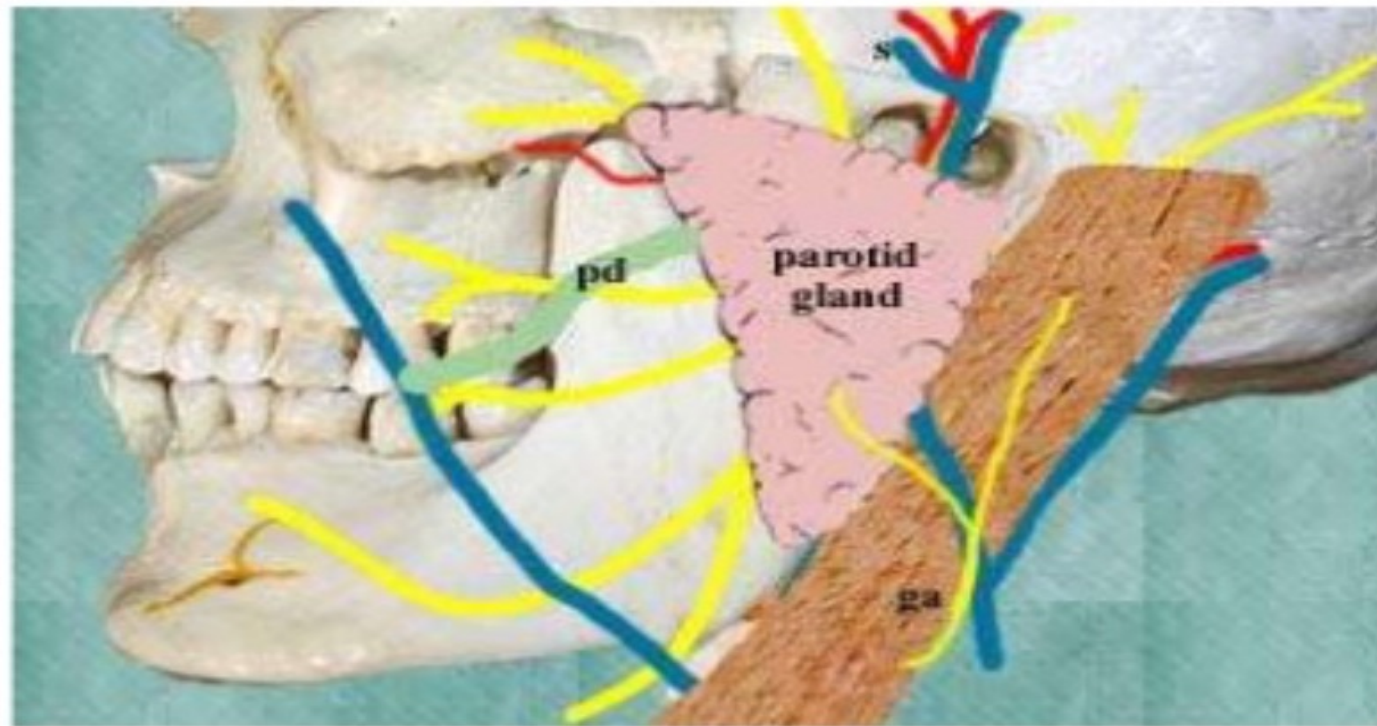
- Anterior border

- Separates superficial surface from anteromedial surface.
- Structures which emerge at this border
 - Parotid Duct
 - Terminal Branches of facial nerve
 - Transverse facial vessels



Posterior Border

- Separates superficial surface from posteromedial surface
- Overlaps sternomastoid

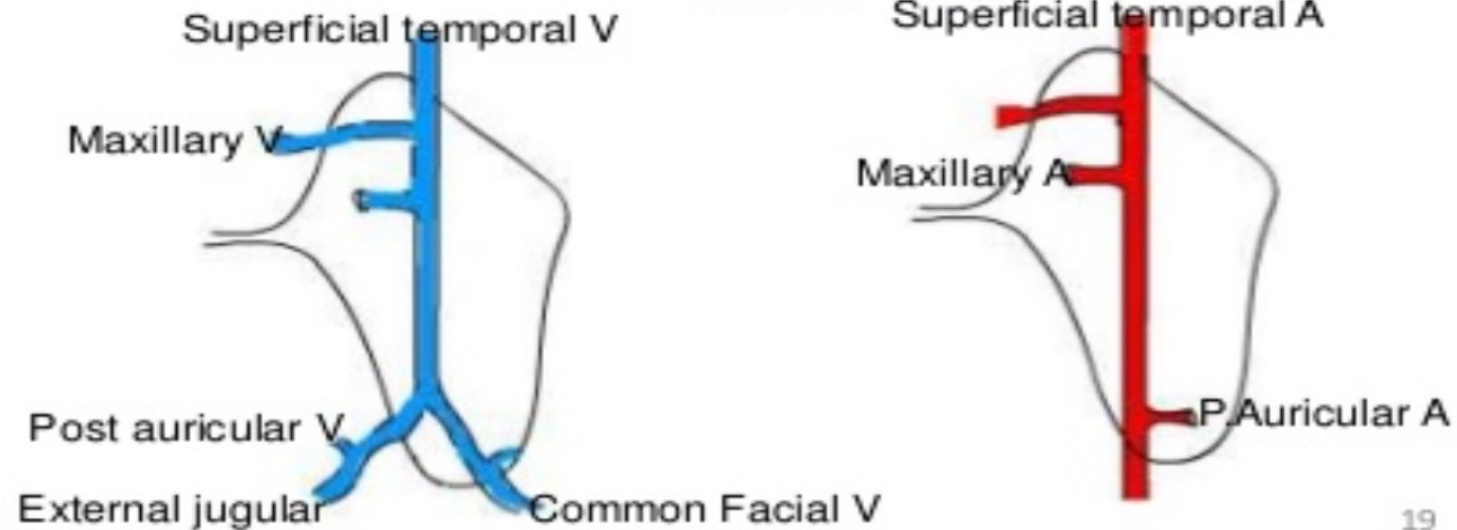
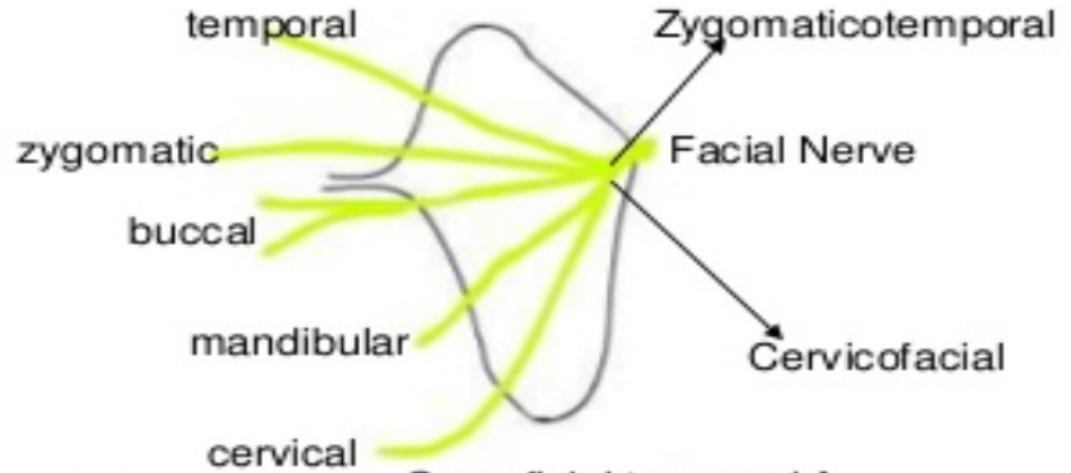


Medial Border

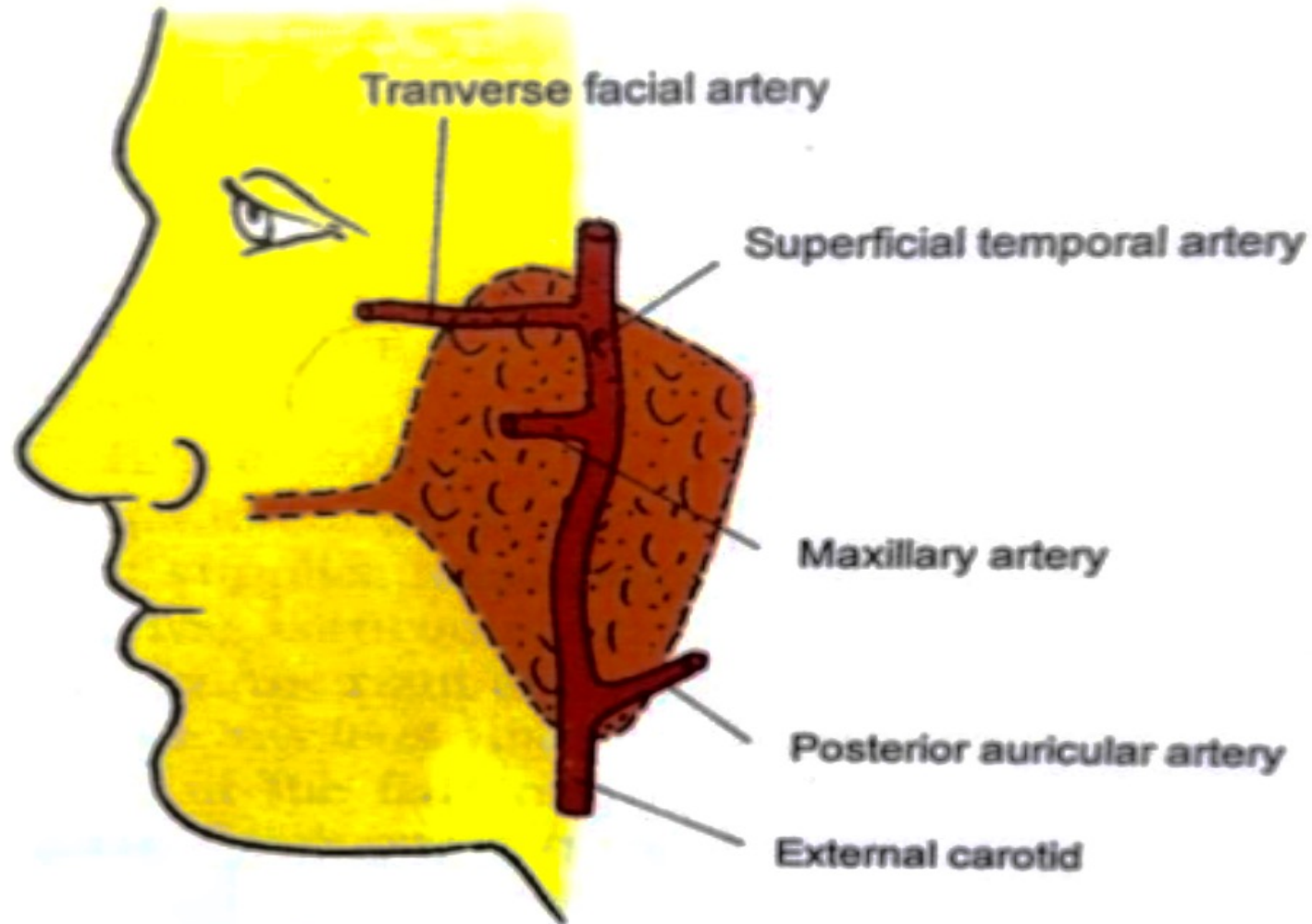
- Separates anteromedial surface from posteromedial surface
- Related to lateral wall of pharynx

Structures within parotid gland

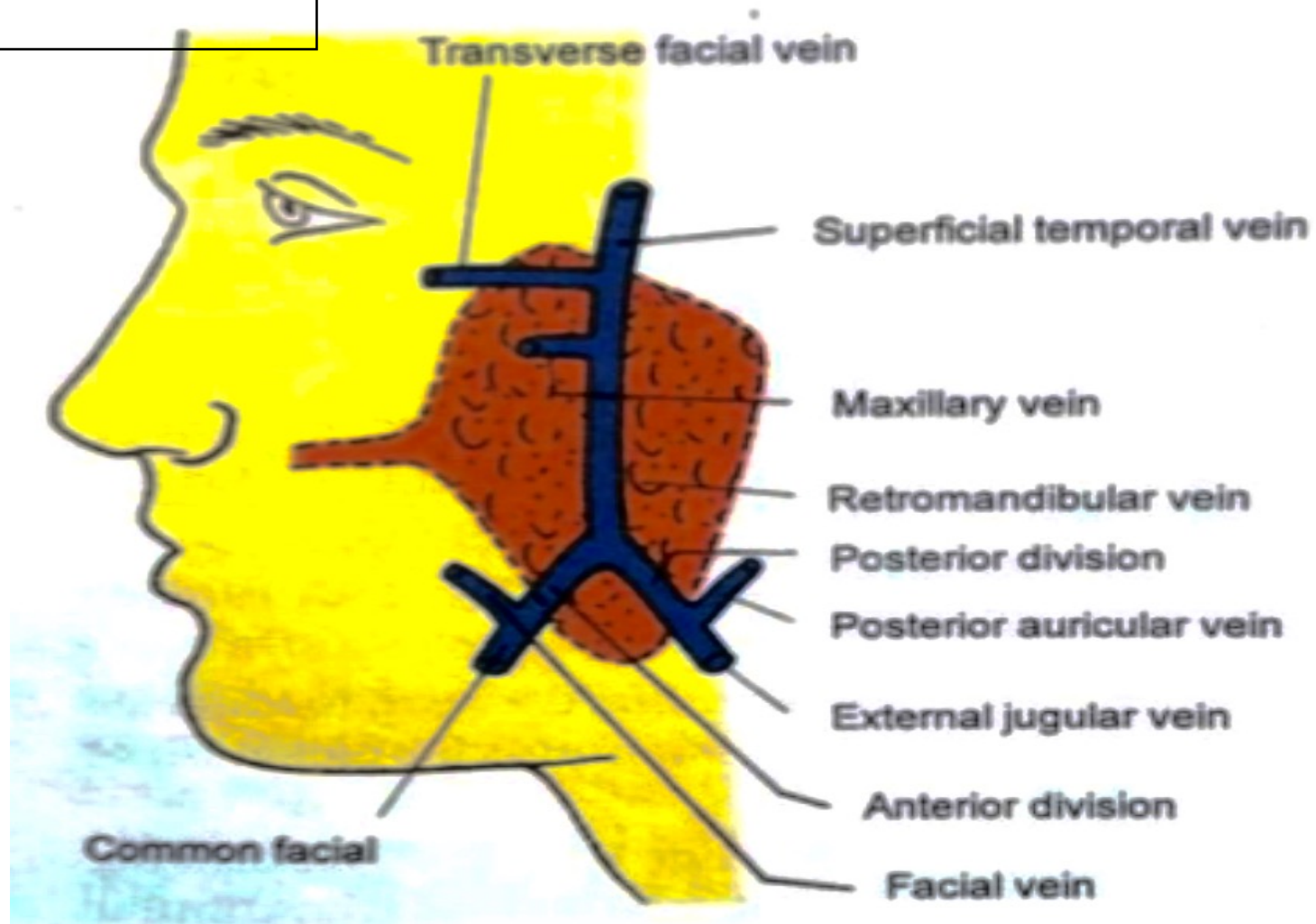
1. External carotid A
2. Retromandibular Vein
3. Facial Nerve
4. Parotid lymph nodes



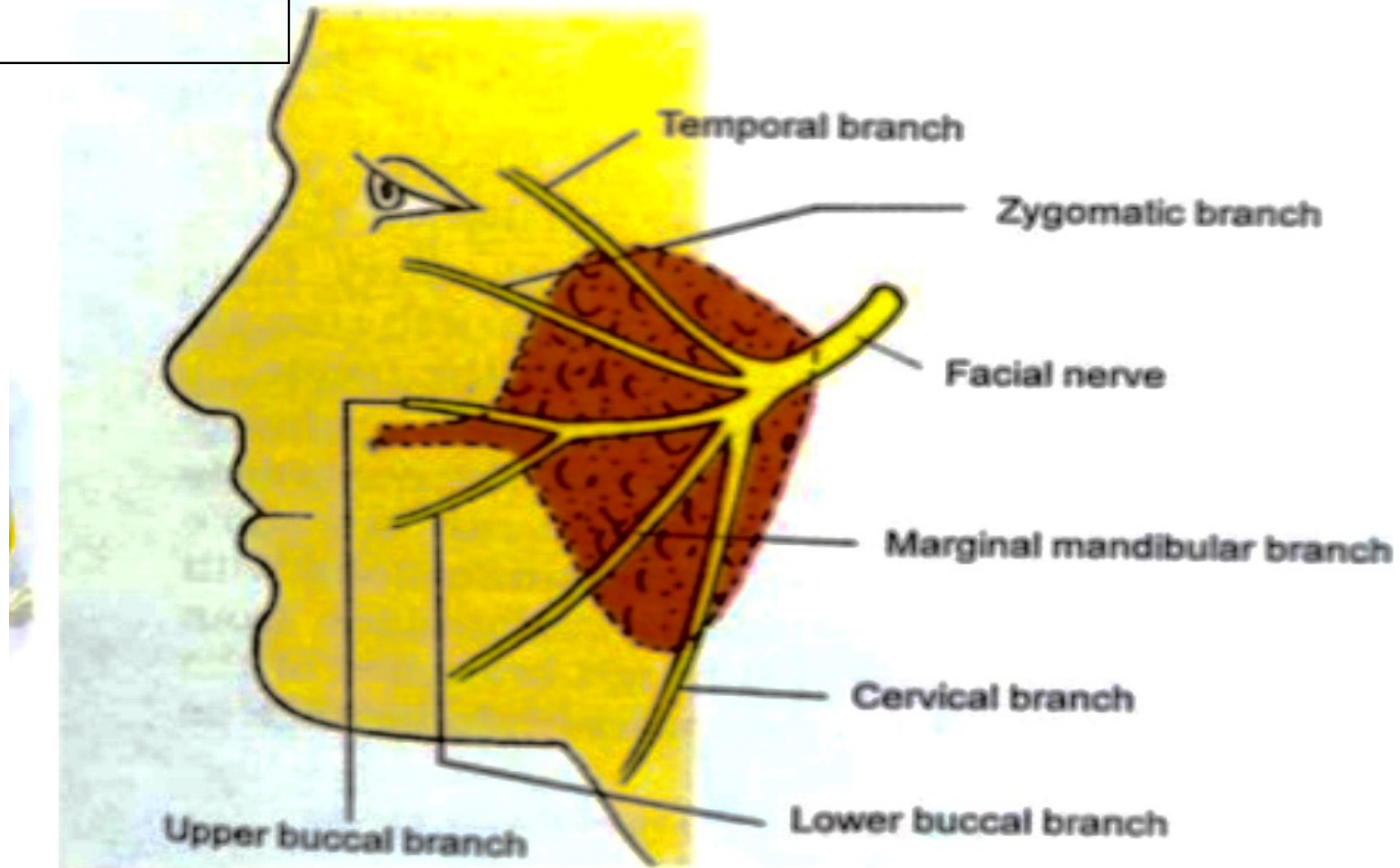
ARTERIES



VEINS



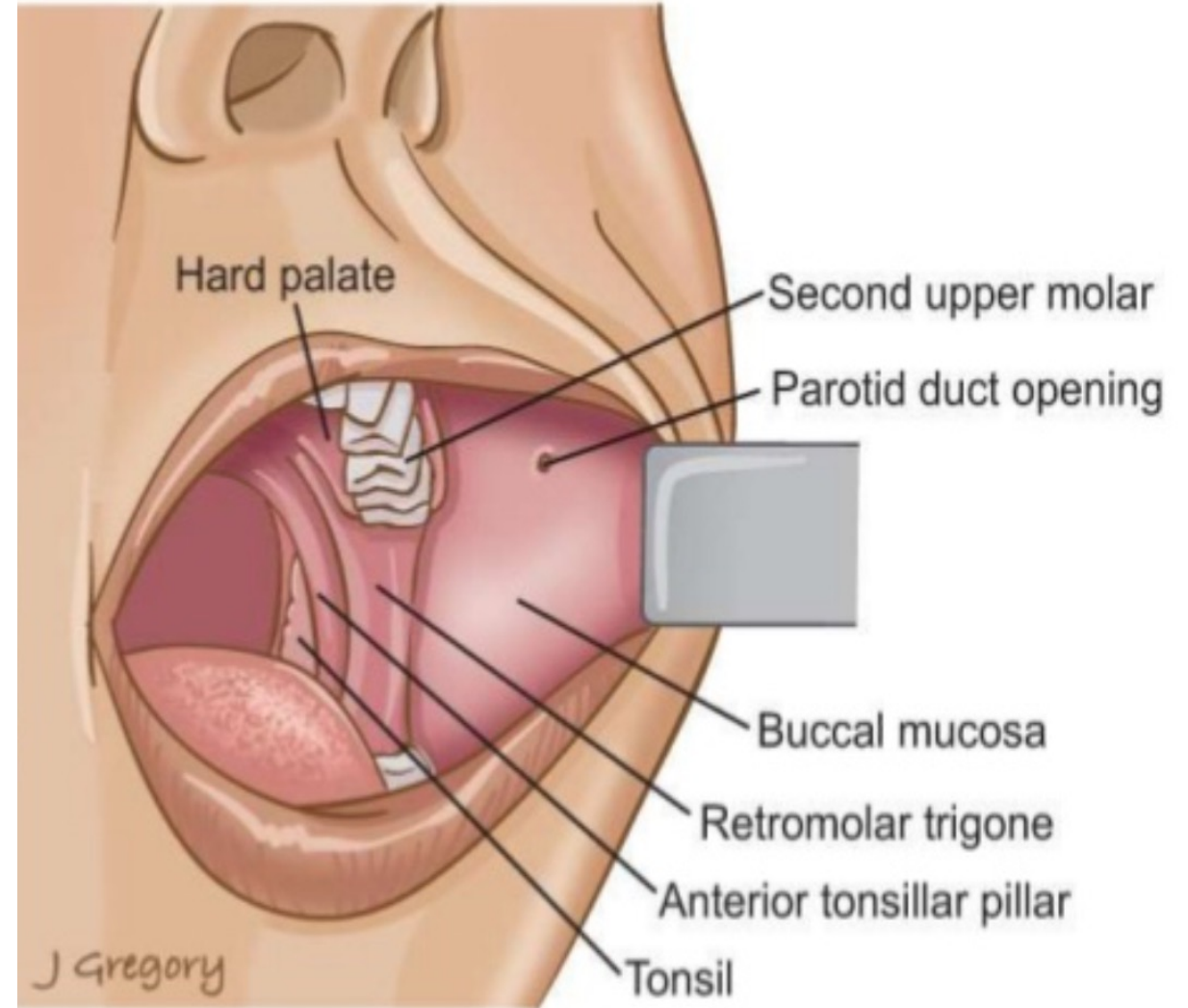
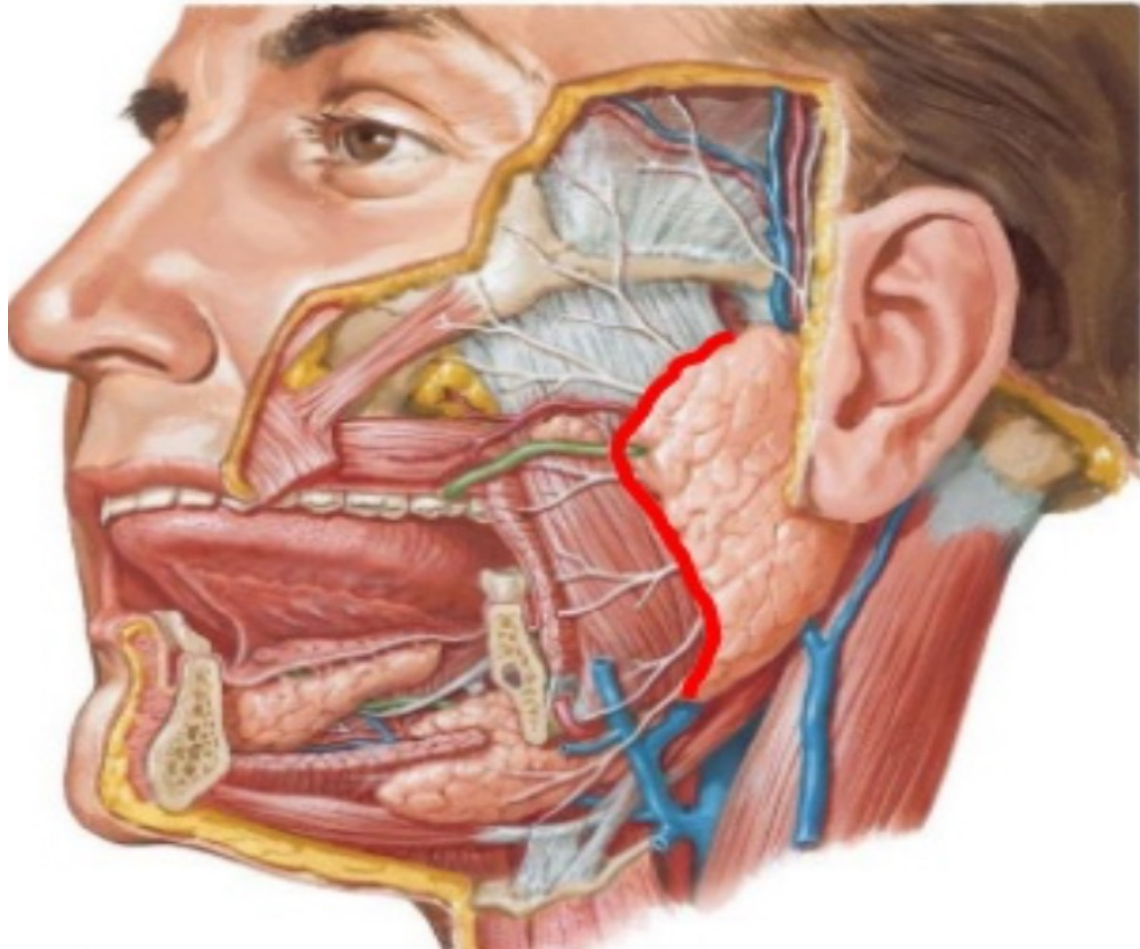
NERVES



Parotid duct

- Also called Stenson's duct
- 5cm in length
- Appear in the anterior border of the gland
- Runs anteriorly and downwards on the masseter muscle between the upper and lower buccal branches of facial nerve.
- At the anterior border of masseter muscle, it pierces the Buccinator muscle.
- It open into the vestibule of the mouth opposite to the 2nd upper molar tooth

Parotid duct



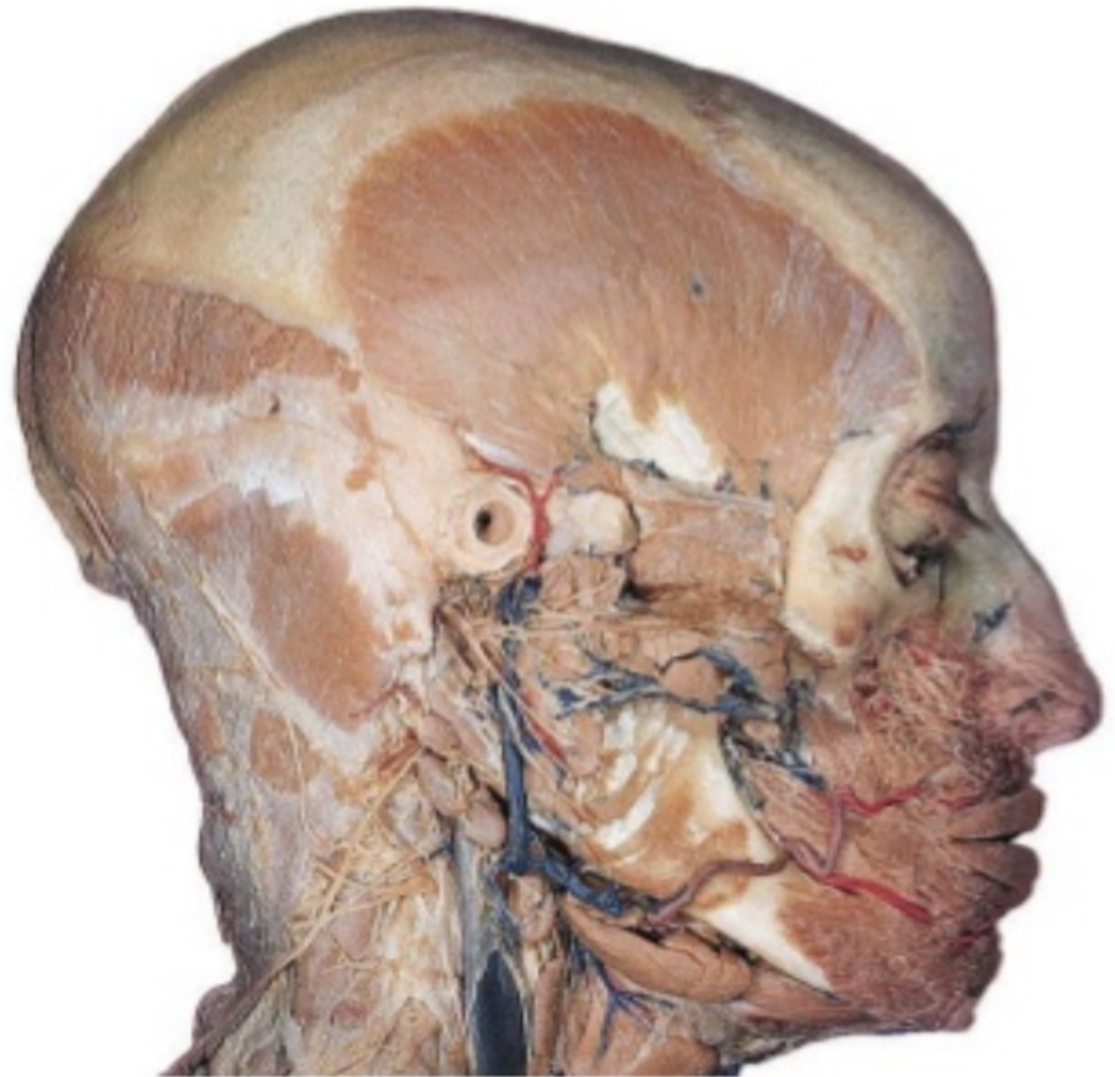
Blood supply

Arterial supply:

- Branches from external carotid artery (superficial temporal & maxillary artery)

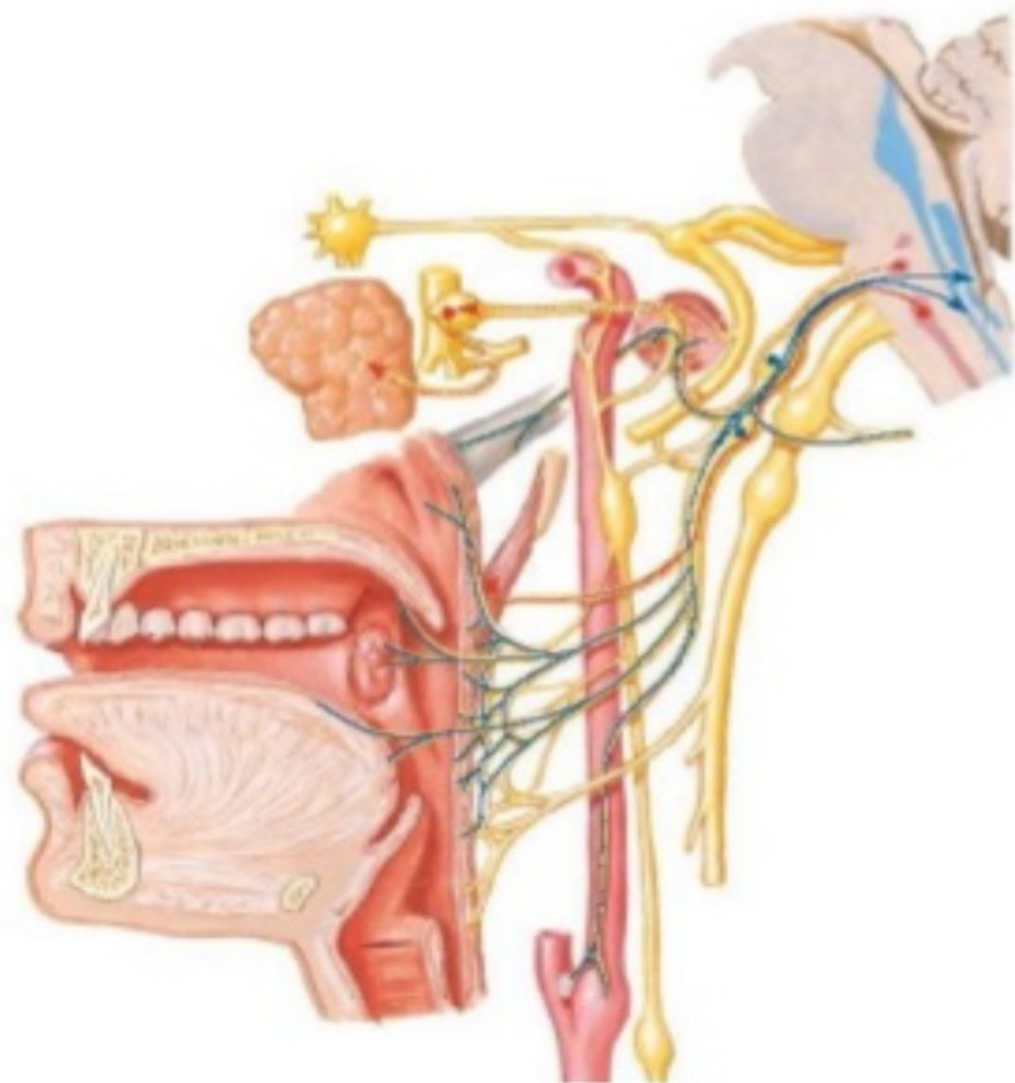
Venous drainage:

- Drain into tributaries of external jugular vein



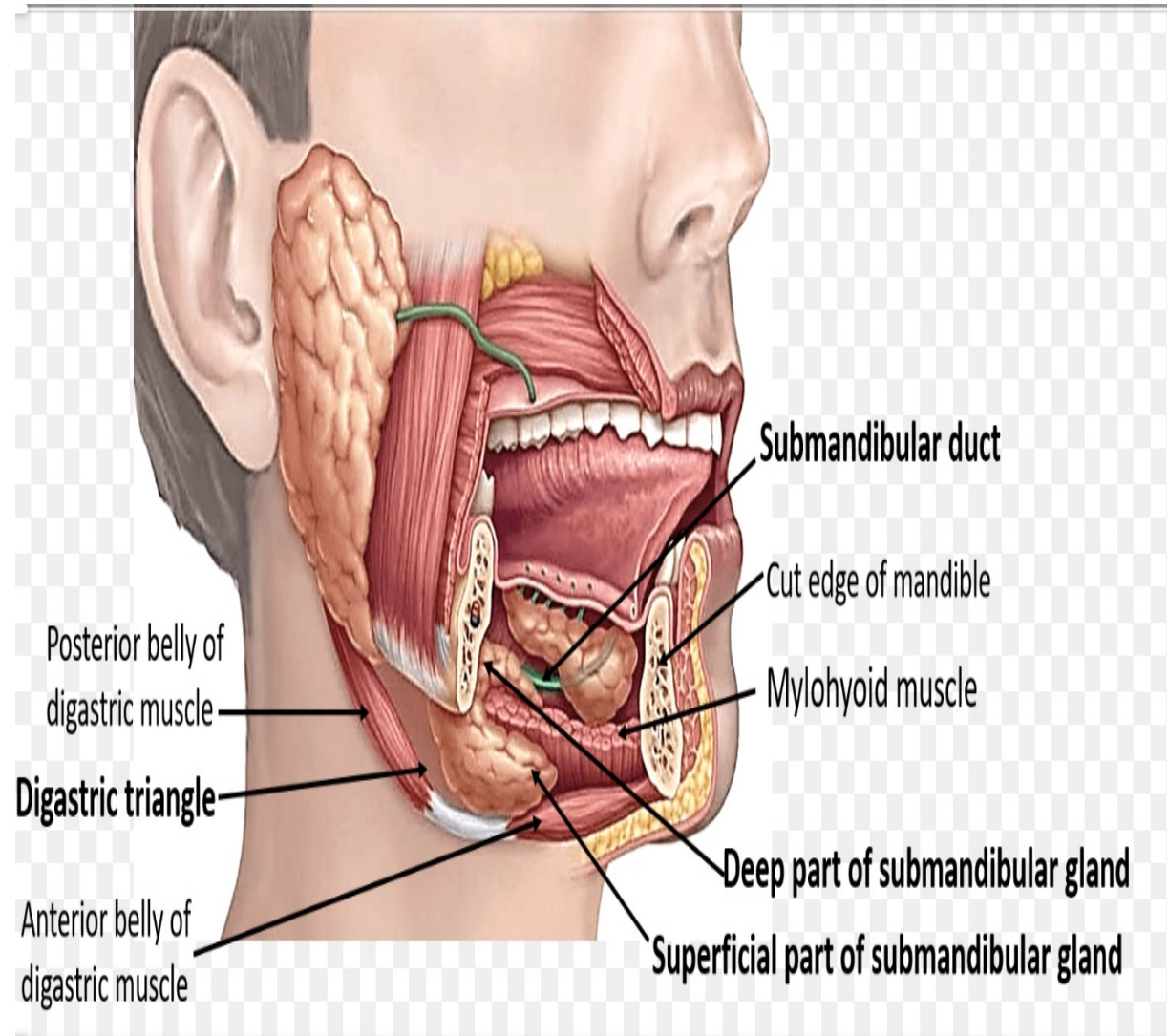
Nerve supply

1. **Parasympathetic** – secretomotor (watery)
2. **Sympathetic** – secretomotor (mucous rich sticky) & vasomotor (blood vessels)
3. **Sensory** – auriculo-temporal nerve (gland) & great auricular nerve (parotid fascia)



Submandibular salivary gland

- Lies in the digastric triangle partly below and partly deep to the mandible
- Consists of large superficial and deep parts.
- Continued around the posterior border of mylohyoid muscle



Submandibular duct

Mandible sectioned

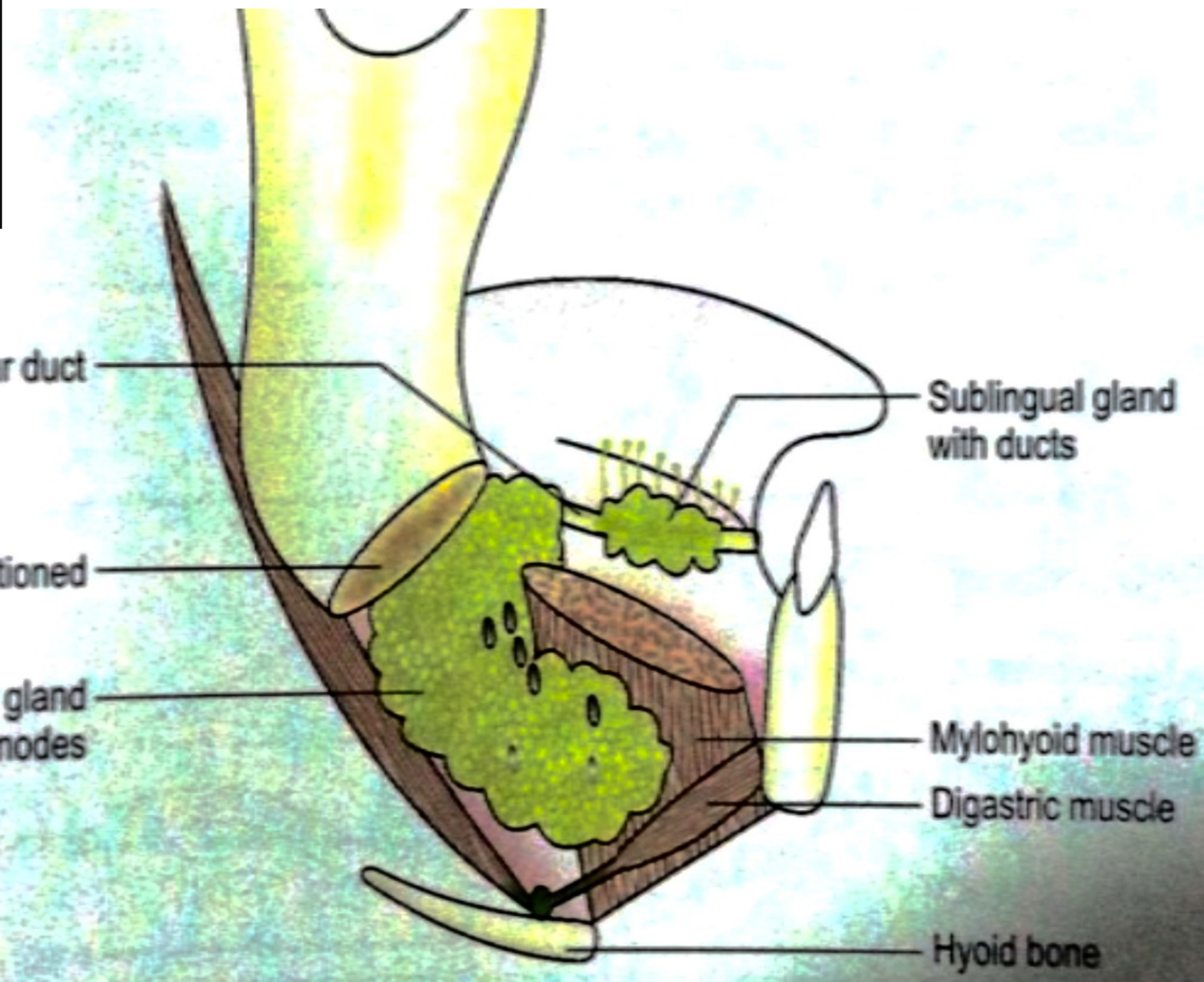
Submandibular gland
with lymph nodes

Sublingual gland
with ducts

Mylohyoid muscle

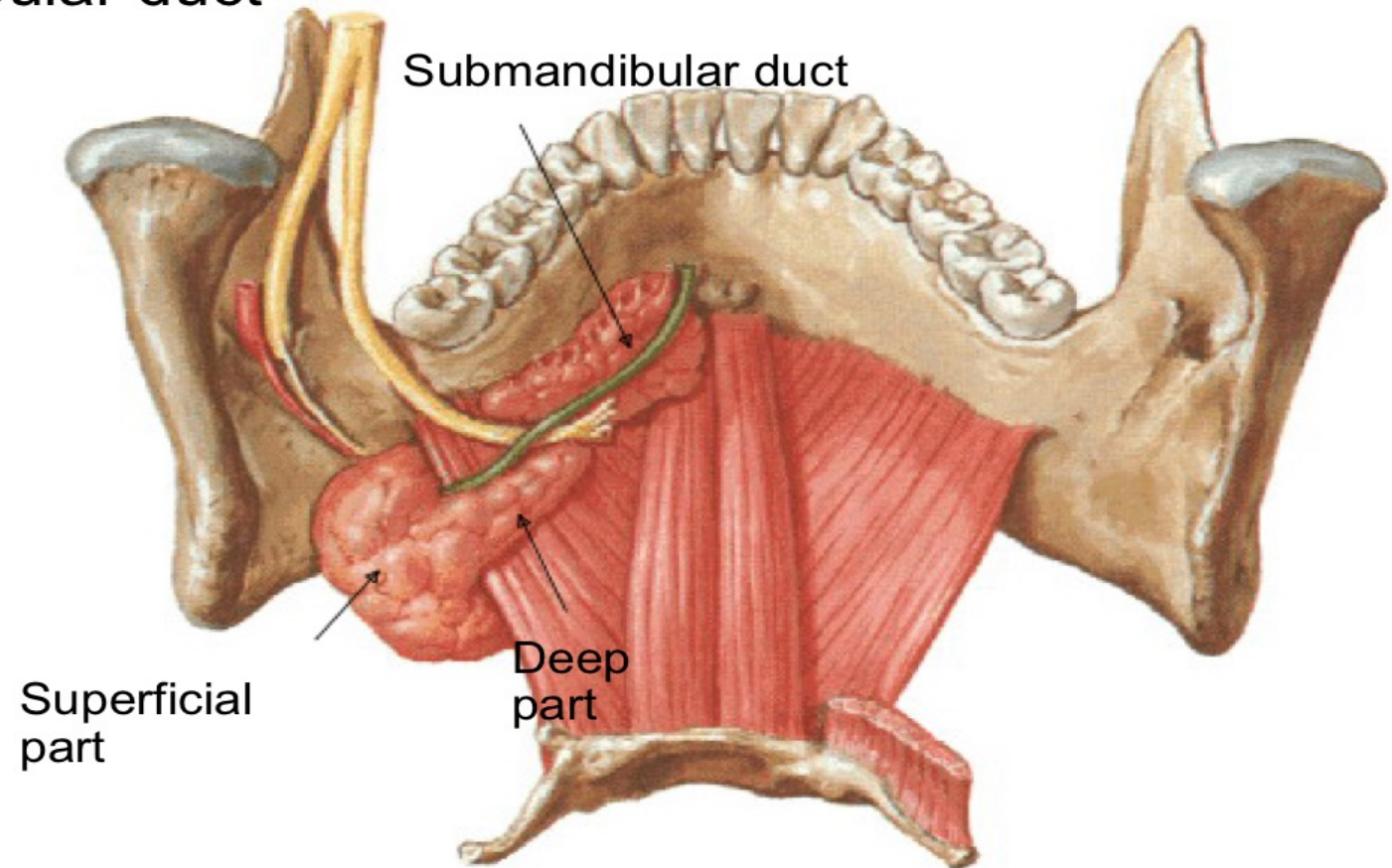
Digastric muscle

Hyoid bone



Parts

1. Superficial part
2. Deep part
3. Submandibular duct



Superficial part

- **Wedge shape** situated in the digastric triangle.
- **Lies between body of mandible and mylohyoid muscle, extending :**
 - **Posteriorly** to angle of mandible
 - **Superiorly** to mylohyoid line of mandible
 - **Inferiorly** , it overlaps the 2 bellies of digastric muscle.
- **It has 3 surfaces:**
 - **Inferior**
 - **Medial**
 - **Lateral**

Relations

➤ Inferior

- Skin
- Superficial fascia containing platysma muscle and cervical branch of facial nerve
- Deep fascia
- Facial vein
- Submandibular lymph node.

Lateral surface

- Related to submandibular fossa on the mandible
- Mandibular attachment of Medial pterygoid
- Facial Artery

Medial surface

- Anterior part is related to mylohyoid muscle, nerve and vessels
- Middle part - Hyoglossus, styloglossus, lingual nerve, submandibular ganglion, hypoglossal nerve and deep lingual vein.
- Posterior Part - Styloglossus, stylohyoid ligament, 9th nerve and wall of pharynx

Deep part

- Small in size
- Lies deep to mylohyoid and superficial to hyoglossus and styloglossus
- Posteriorly continuous with superficial part around the posterior border of mylohyoid

Submandibular duct

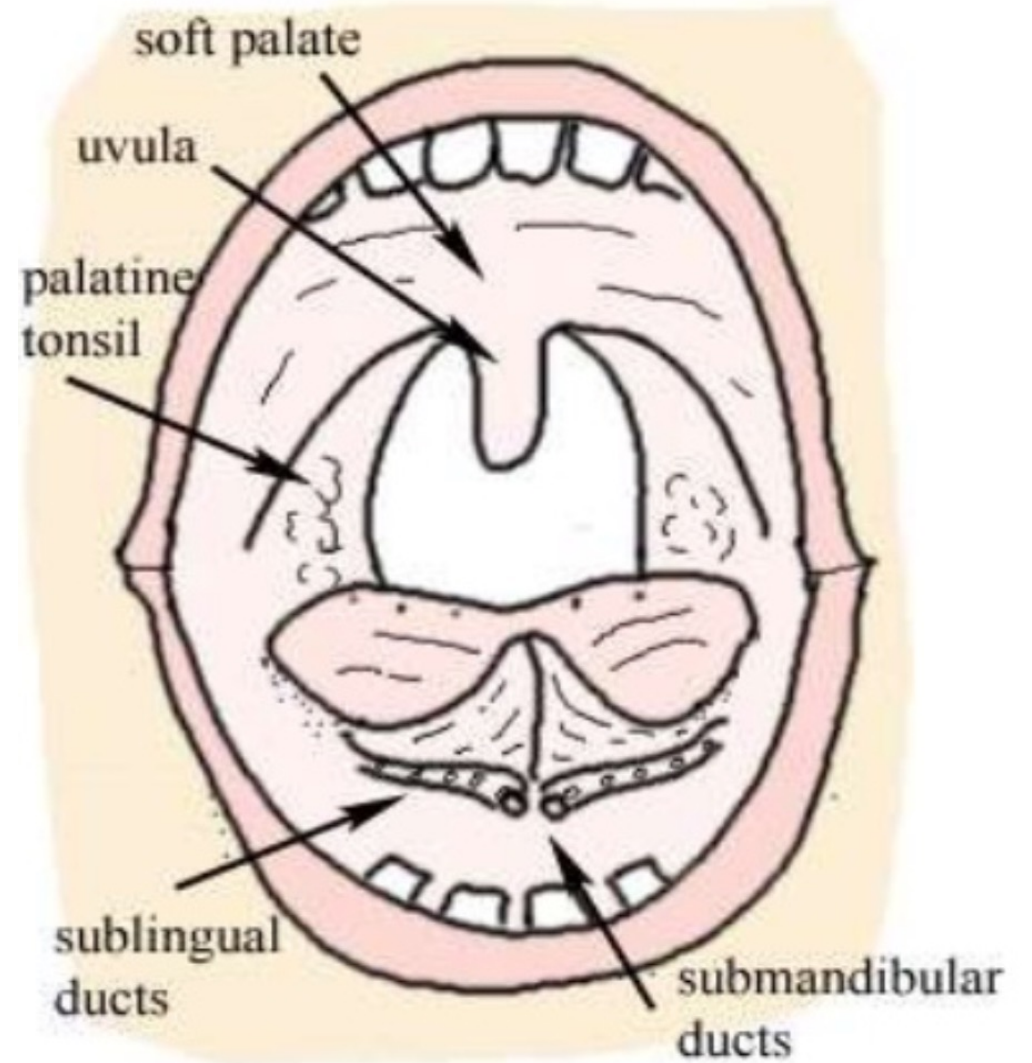
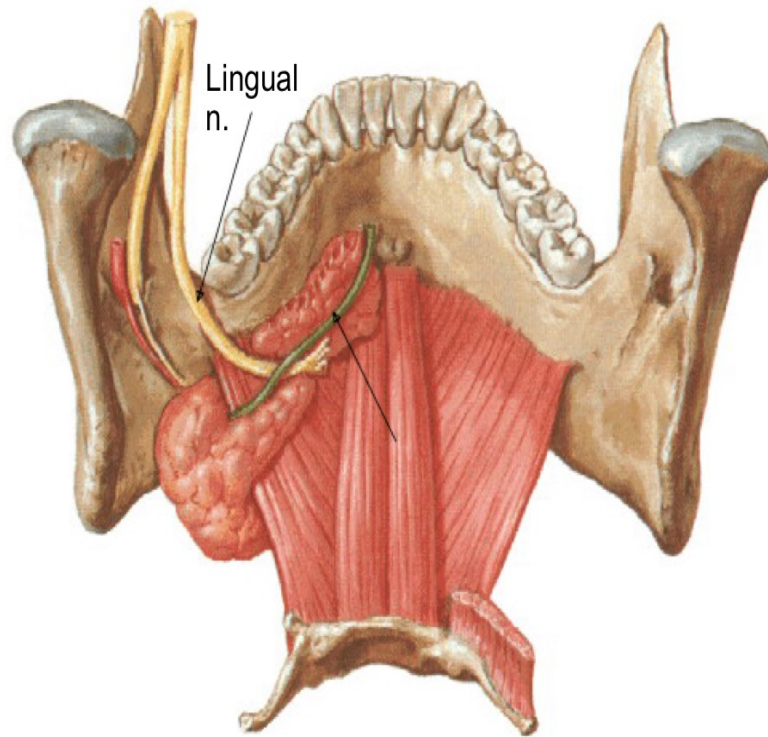
- **Also called Wharton duct**

- Emerges at the anterior end of deep part of the gland.
- Runs forwards on hyoglossus muscle between lingual nerve and hypoglossus nerve.
- At the anterior border of hyoglossus , it is crossed by lingual nerve.
- Opens in the floor of the mouth at the side of frenulum of the tongue

Submandibular Duct

5cm long

Triple relations with the lingual nerve



Blood supply of submandibular gland

➤ Arteries

- Branches of facial and lingual arteries.

➤ Veins

- Drains to the corresponding veins.

➤ Lymphatics

- Deep cervical nodes via submandibular nodes

Nerve supply

- Parasympathetic fibers from chorda tympani
- Sensory fibers from lingual branch of mandibular nerve.
- Sympathetic fiber from plexus on facial artery

Sublingual Salivary gland

- smallest of the three glands
- weighs nearly 3-4 gm
- Lies beneath the oral mucosa in contact with the sublingual fossa on lingual aspect of mandible.

Relations

Above

- Mucosa of oral floor, raised as sublingual fold

Below

- Mylohyoid Infront
- Anterior end of its fellow

Behind

- Deep part of Submandibular gland



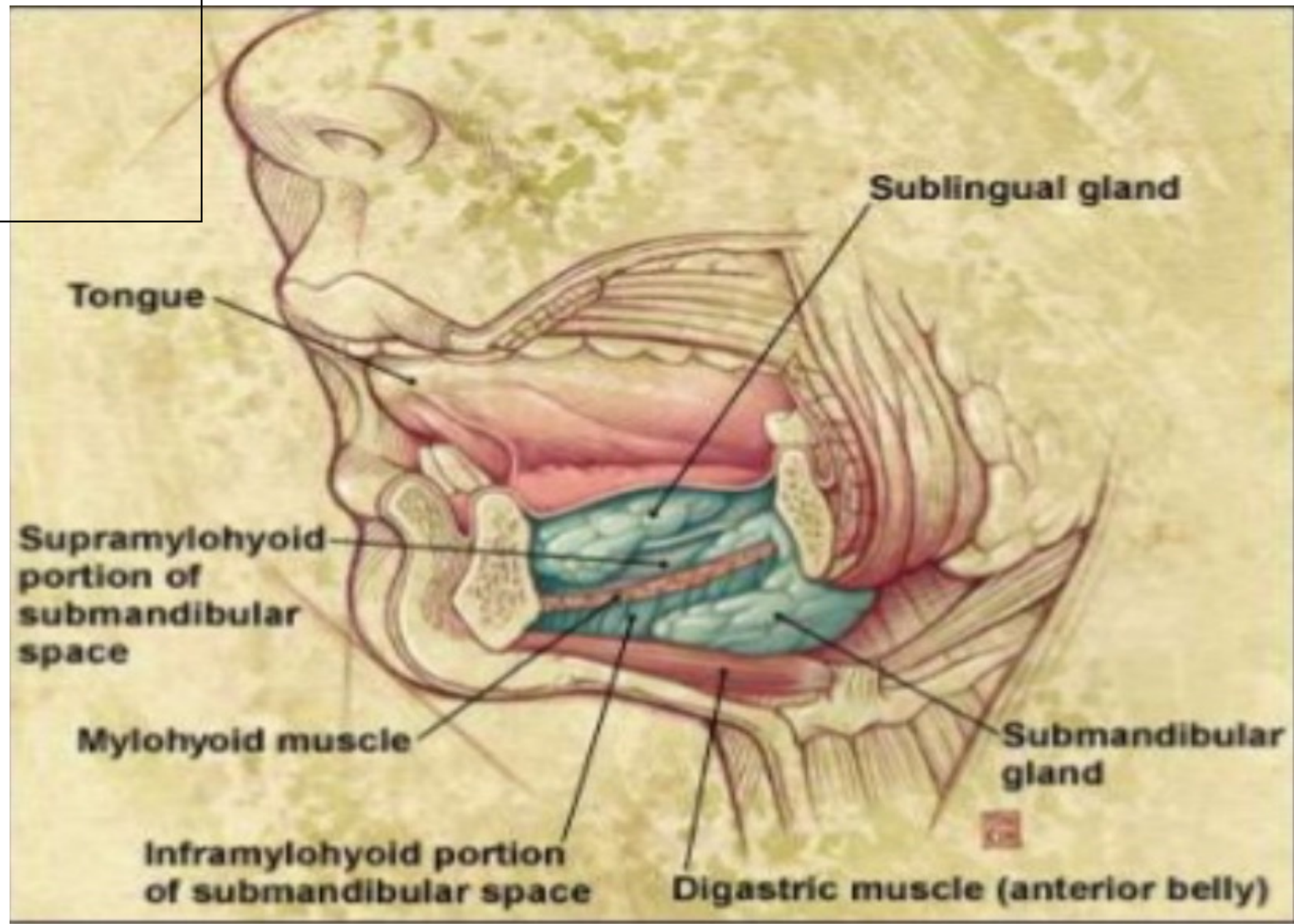
Lateral

- Mandible above the anterior part of mylohyoid line



Medial

- Genioglossus and separated from it by lingual nerve and submandibular duct



Tongue

Sublingual gland

Supramylohyoid
portion of
submandibular
space

Mylohyoid muscle

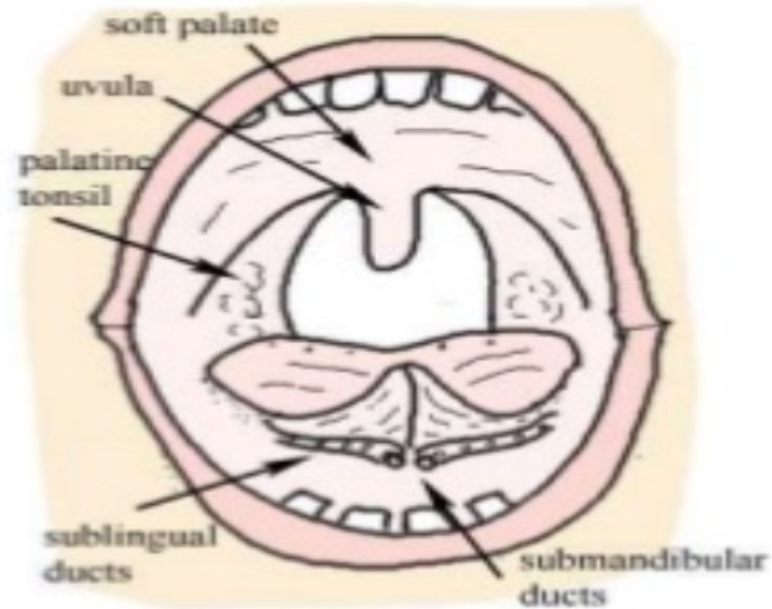
Inframylohyoid portion
of submandibular space

Digastric muscle (anterior belly)

Submandibular
gland

Duct of sublingual gland

- *Ducts of Rivinus*
- 8-20 ducts
- Most of them open directly into the floor of mouth
- Few of them join the submandibular duct



Blood supply

Arterial from sublingual and submental arteries

Venous drainage corresponds to the arteries

Nerve Supply

Similar to that of submandibular glands(via lingual nerve , chorda tympani and sympathetic fibers)

**A PERSON WILL CREATE
ENOUGH SALIVA TO FILL TWO
AVERAGE SIZE SWIMMING
POOLS DURING HIS LIFETIME.**

