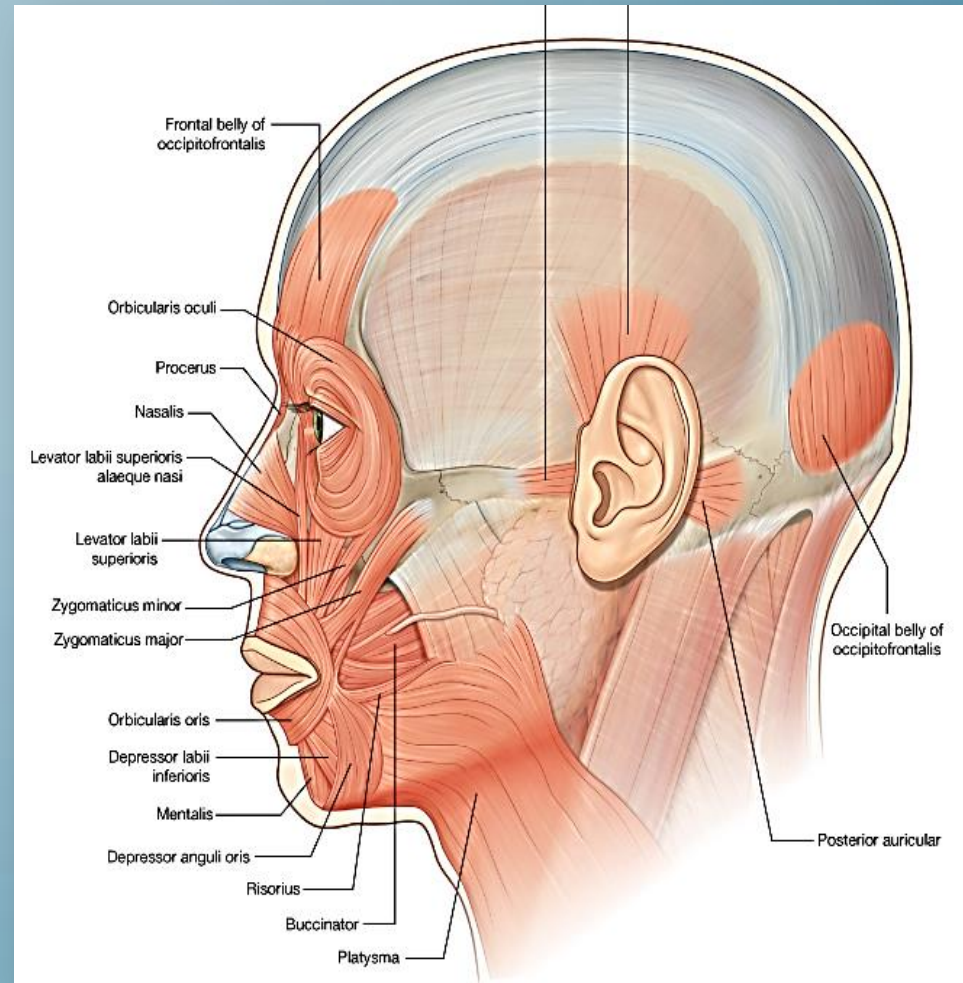


# ***PAROTID REGION***

***Dr. Munqith Mazin***  
***(M.B.Ch.B. – M.Sc. Anatomy)***

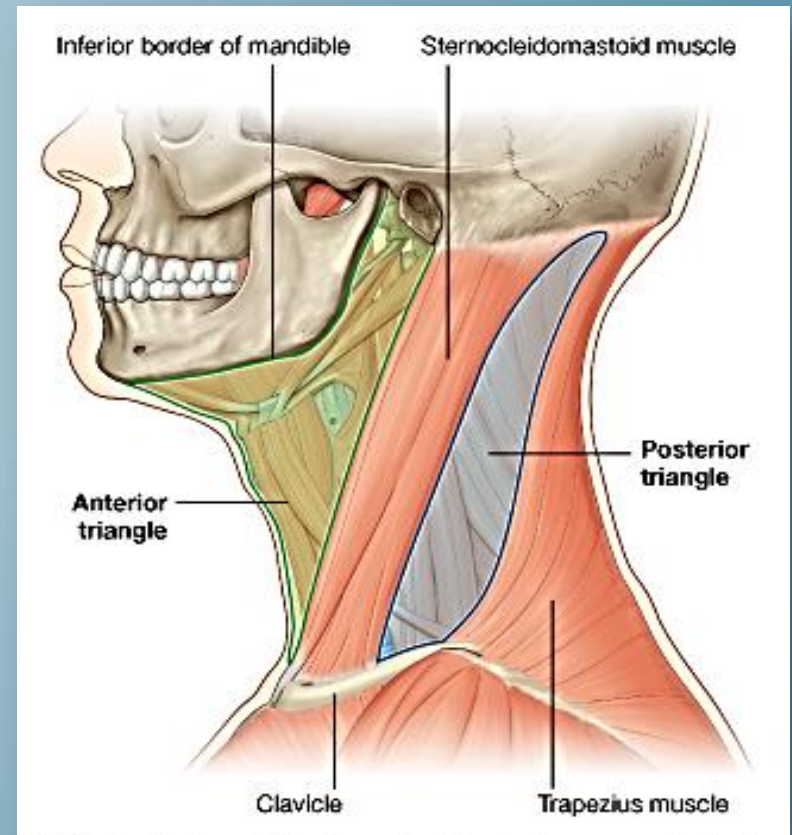
# PARTS OF THE HEAD

- *SCALP*
- *Temporal Fossa*
- *Infratemporal Fossa*
- *FACE*
- *Orbit and Eye*
- *Nose and Nasal Cavity*
- *Ear*
- *Mouth and Oral Cavity*
- *Parotid Region*
- *Occipital Region*



# PARTS OF THE NECK

- *Posterior Triangle*
- *Anterior Triangle*
  - *Submental Triangle*
  - *Submandibular Triangle*
  - *Muscular Triangle*
  - *Carotid Triangle*



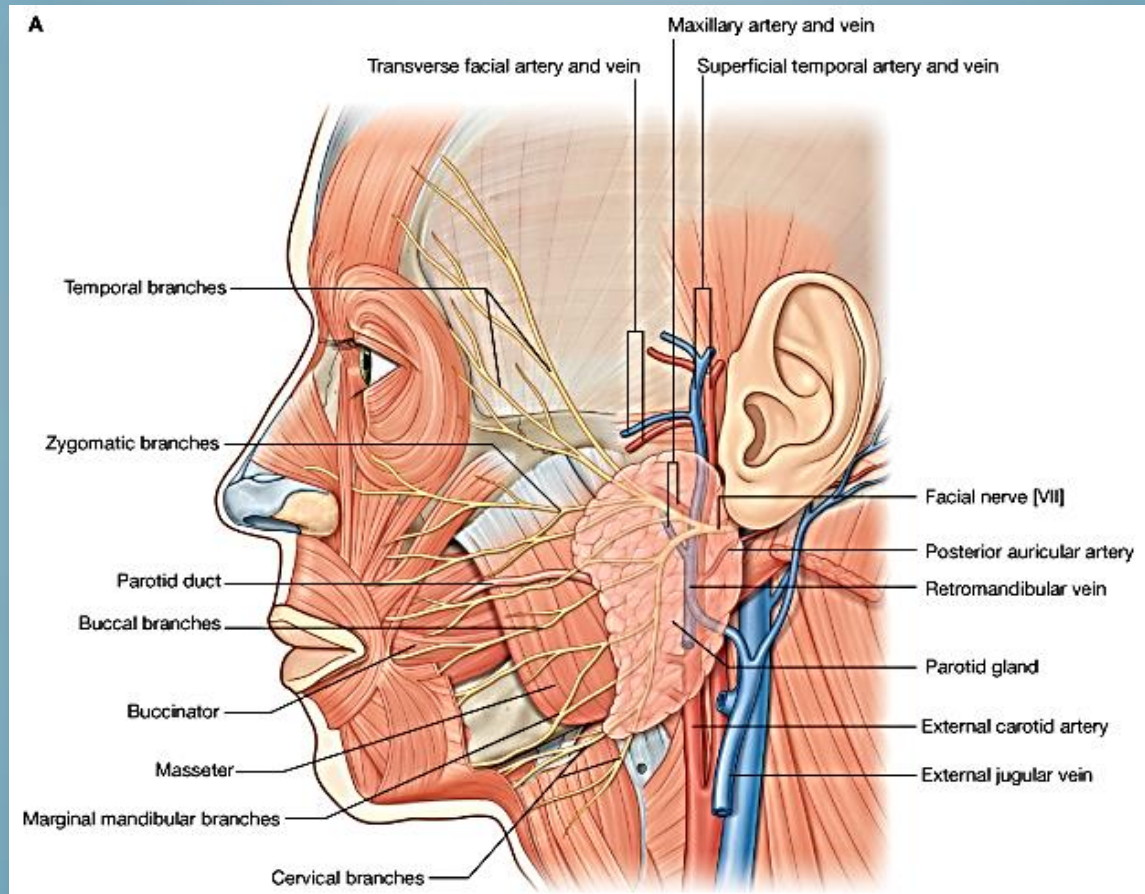
# PAROTID REGION

- The parotid region is actually part of the neck but it extends into the facial region as well.
- We will study the parotid region from superficial to deep pointing out the gland itself and the structures running through it.





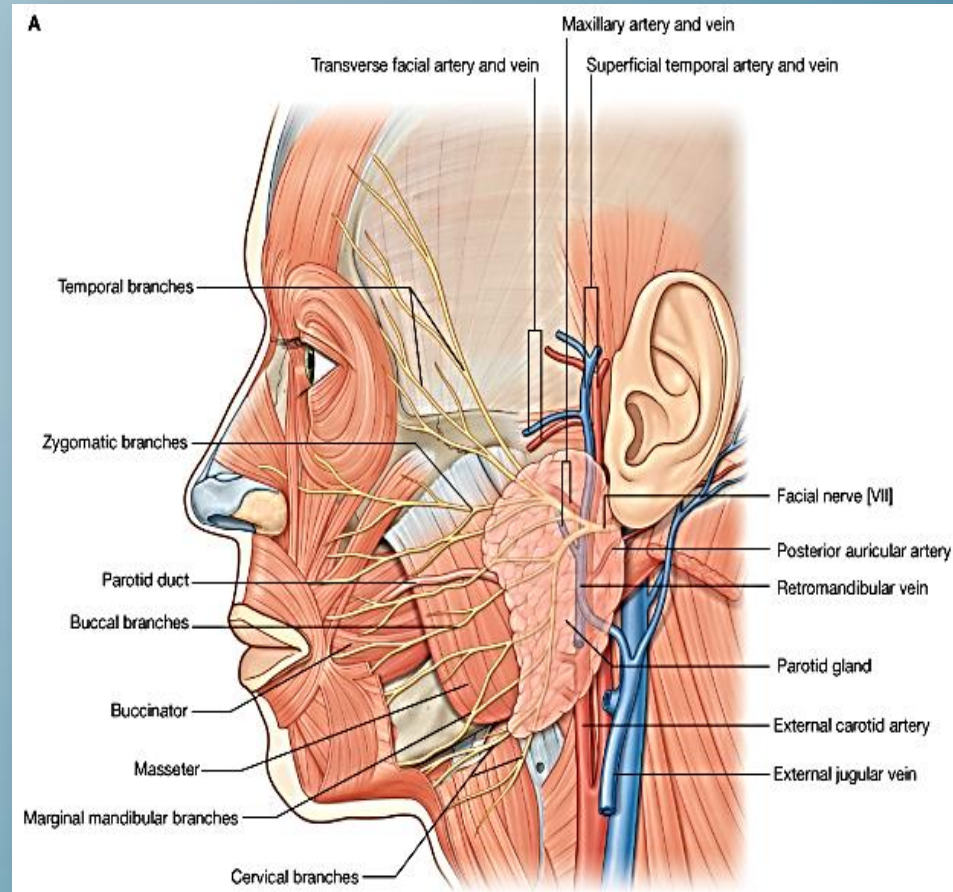
# PAROTID GLAND



- It is the largest of the three main salivary glands in the head and numerous structures pass through it.

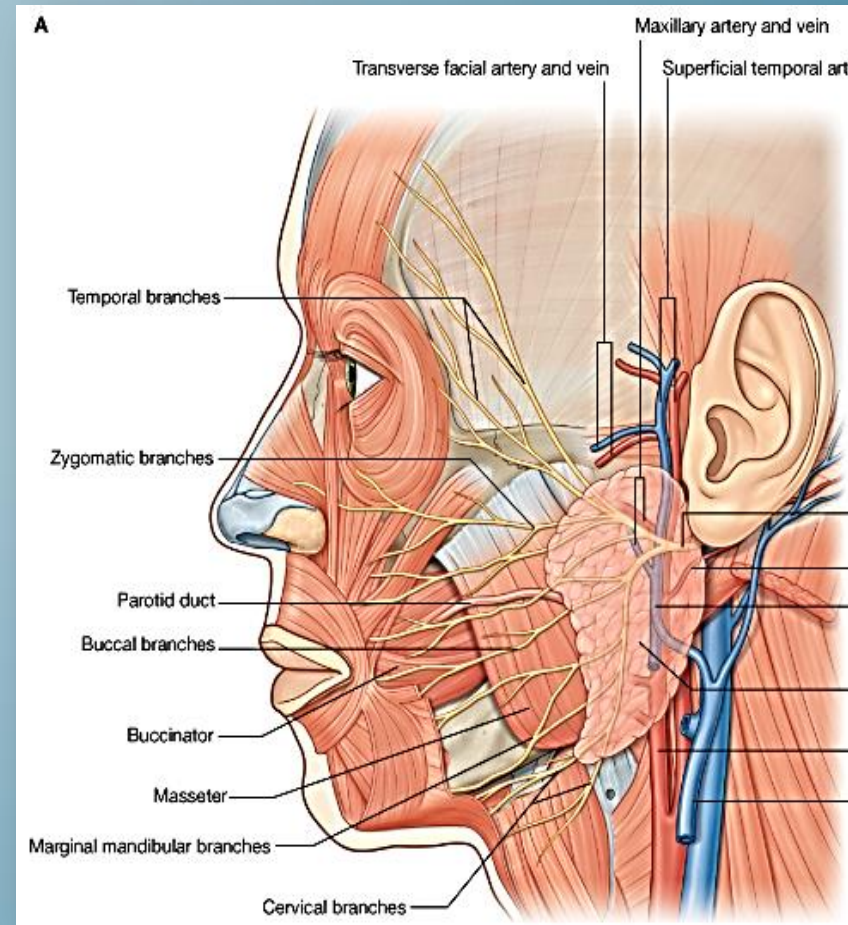
# PAROTID GLAND

- **Position:** It is anterior to and below the lower half of the ear, superficial, posterior, and deep to the ramus of the mandible.
- It extends down to the lower border of the mandible and up to the zygomatic arch.
- Posteriorly it covers the anterior part of the sternocleidomastoid muscle and continues anteriorly to halfway across the masseter muscle.



# PAROTID GLAND

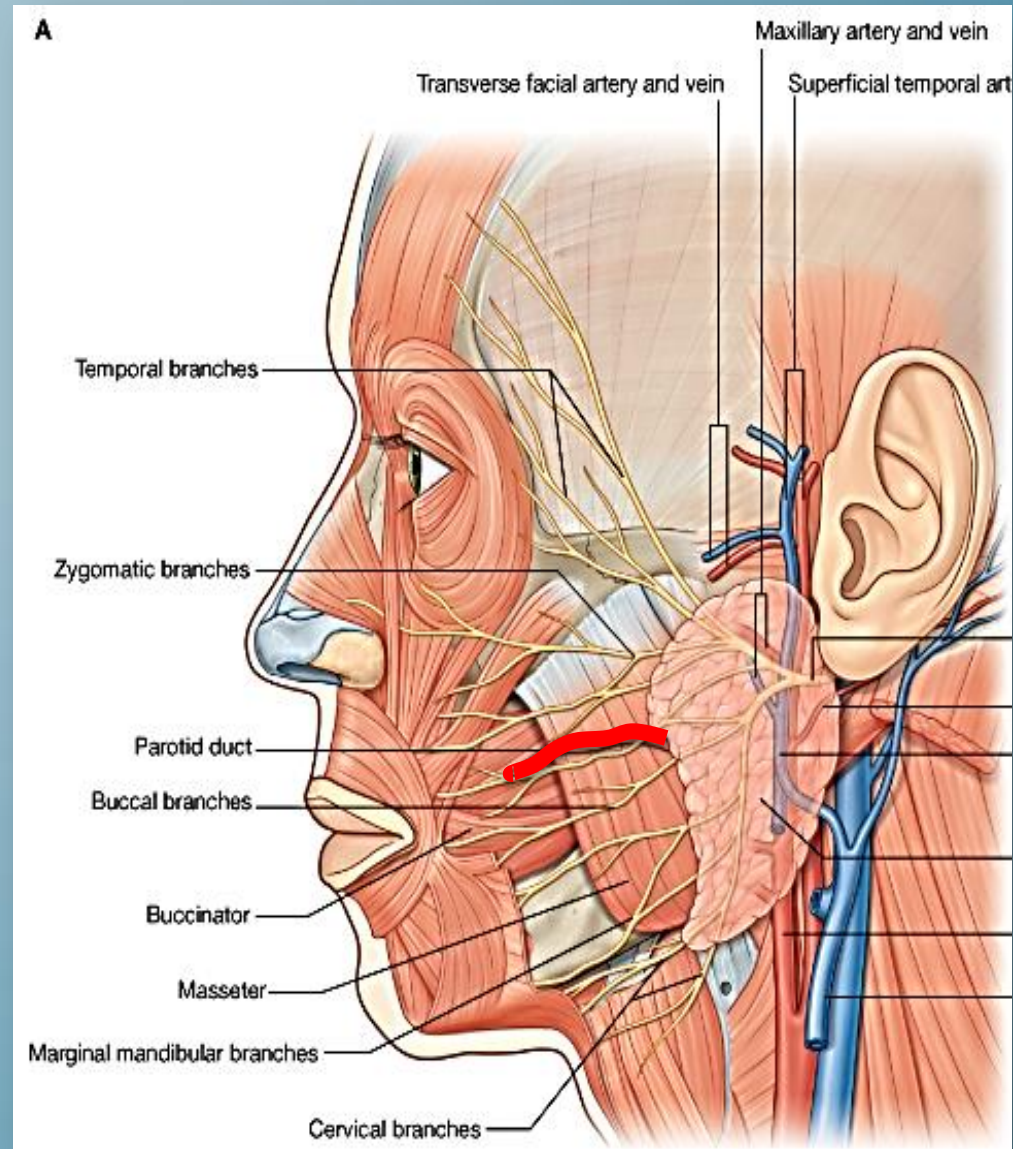
- The parotid gland is enclosed within a tough fascial capsule, *the parotid sheath*, derived from the investing layer of deep cervical fascia .
- It has an irregular shape because the area occupied by the gland, *the parotid bed*, is anteroinferior to the external acoustic meatus, where it is wedged between the ramus of the mandible and the mastoid process.
- Fatty tissue between the lobes of the gland confers the flexibility the gland must have to accommodate the motion of the mandible.





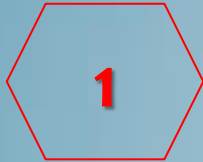
# PAROTID GLAND

- The **Parotid Duct** leaves the anterior edge of the parotid gland midway between the zygomatic arch and the corner of the mouth.
- It crosses the face in a transverse direction and, after crossing the medial border of the masseter muscle, turns deeply into the buccal fat pad and pierces the buccinator muscle.
- It enters the inside of the mouth near the second upper molar tooth.



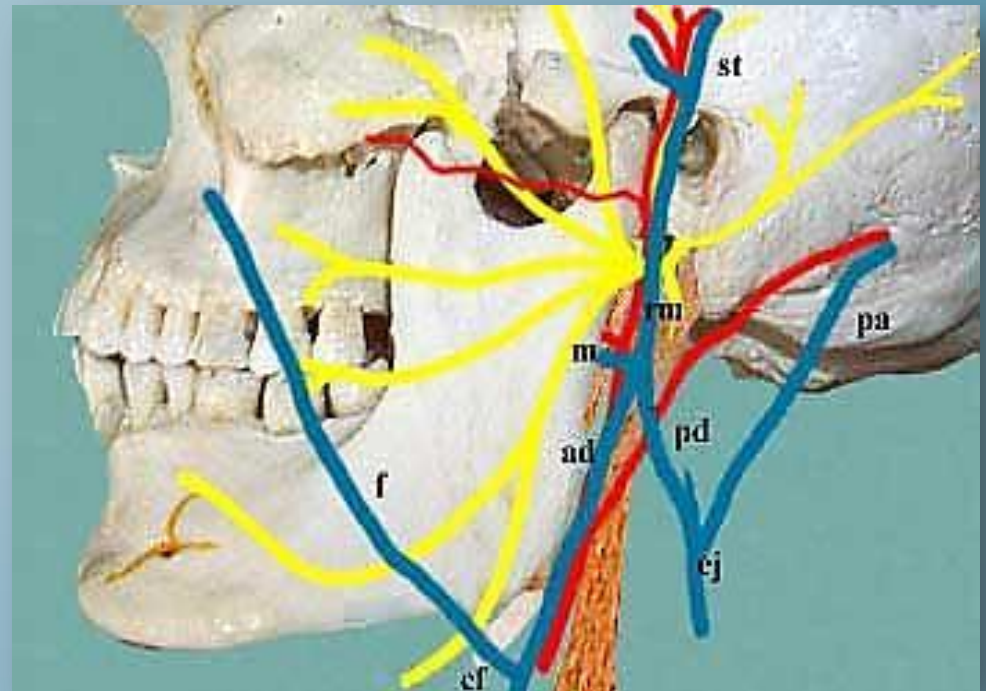


If the parotid gland is carefully removed, you can identify the structures located within it.



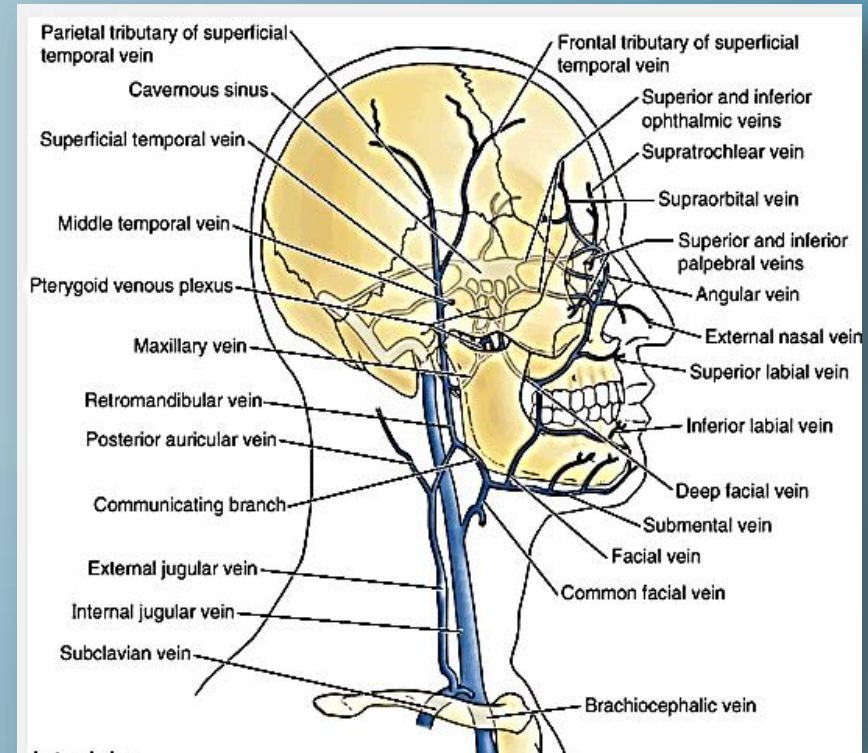
The first plane is the venous plane and consists of the Retromandibular vein and its tributaries and branches:

- st--superficial temporal
- rm--retromandibular vein
- m--maxillary vein
- ad--anterior division
- f--facial
- cf--common facial
- pd--posterior division
- pa--posterior auricular
- ej--external jugular



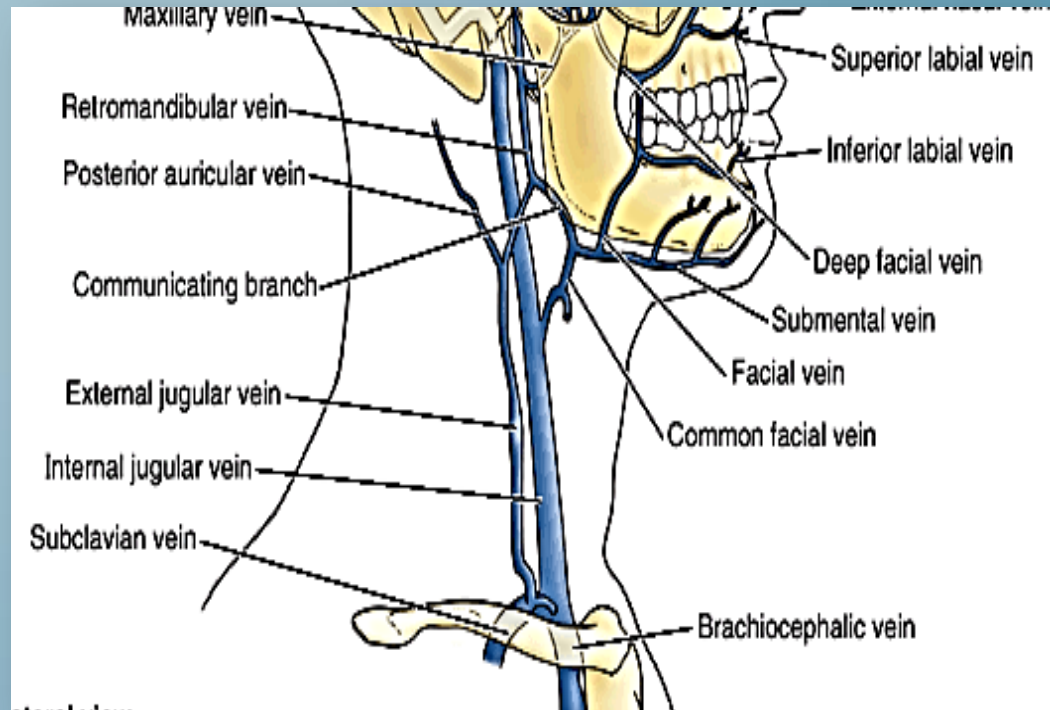
# Retromandibular vein

- The retromandibular vein is formed in the substance of the parotid gland when the **superficial temporal** and **maxillary veins** join together
- It passes inferiorly in the substance of the parotid gland.
- It usually divides into anterior and posterior branches just below the inferior border of the gland.



# Retromandibular vein

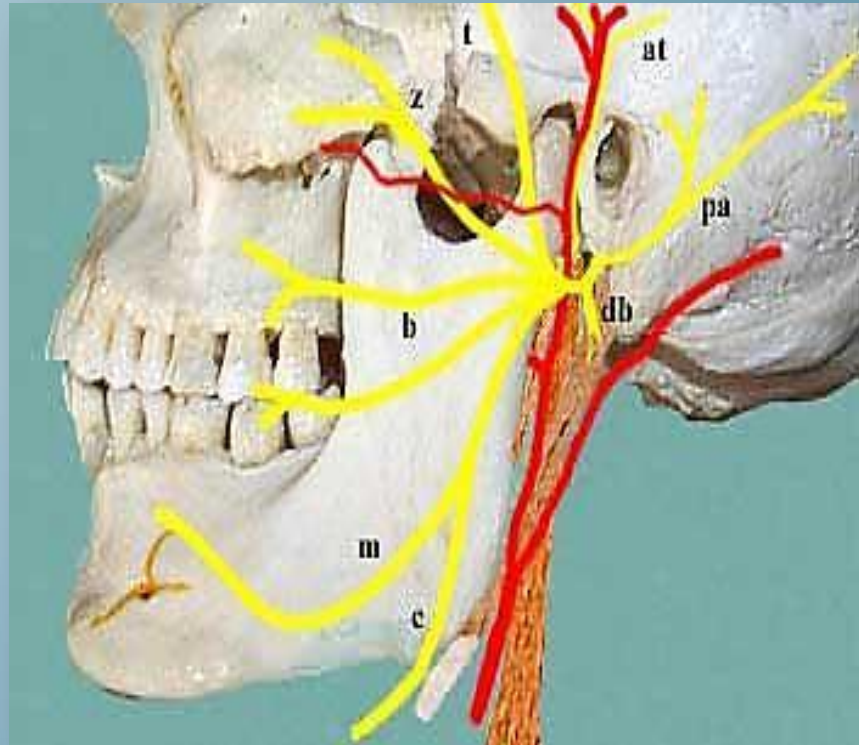
- Anterior division communicates with the facial vein to form common facial vein that drains to internal jugular vein.
- Posterior division communicates with the posterior auricular vein to form the external jugular vein.





When the venous plane is removed we reach the important nervous plane.

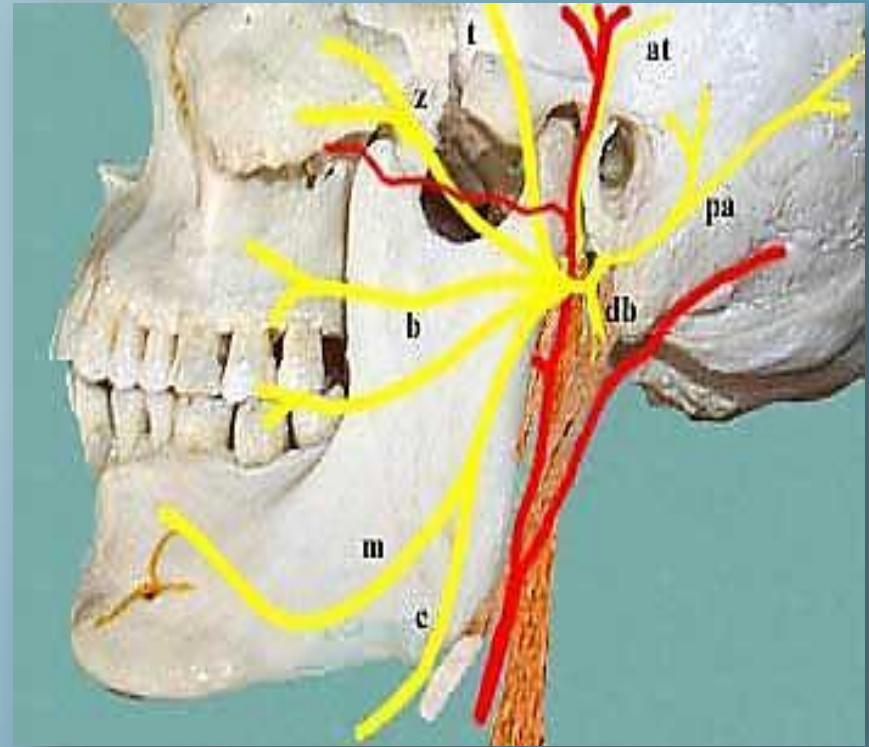
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- The importance of this plane is the presence of the facial (VII) nerve.

# Facial Nerve

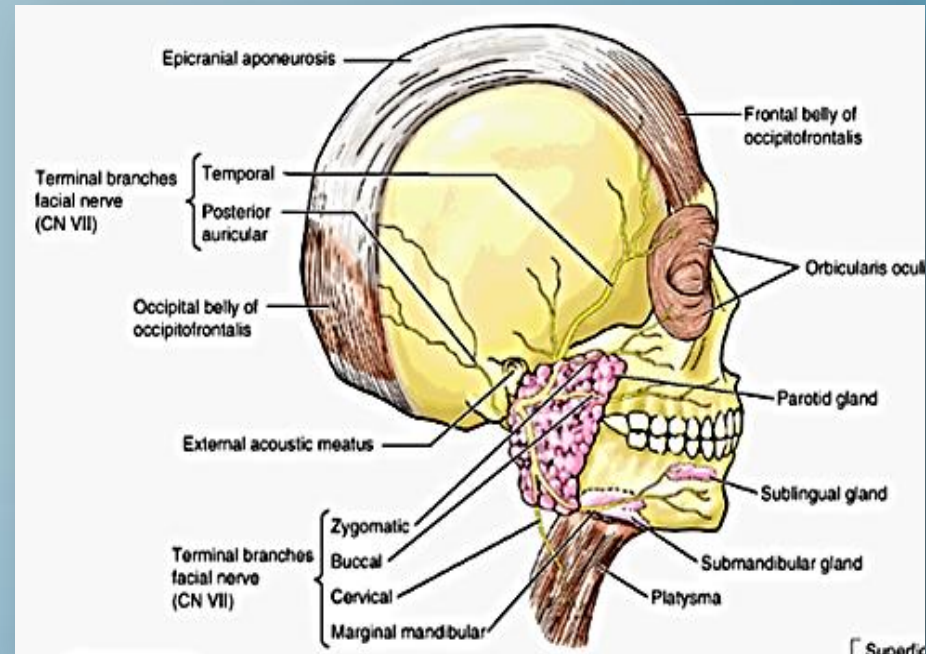
- The facial nerve leaves the skull through the stylomastoid foramen and immediately enters the deep part of the parotid gland where it usually divides into upper and lower trunks.
- These pass through the substance of the parotid gland, where there may be further branching and anastomosing of the nerves.



- The terminal branches of Facial Nerve are:

1. Posterior auricular (pa)
2. Temporal branch (t)
3. Zygomatic branch (z)
4. Buccal branches (b)
5. Mandibular branch (m)
6. Cervical branch (c)

- The last five branches emerge from the upper, anterior, and lower borders of the parotid gland.

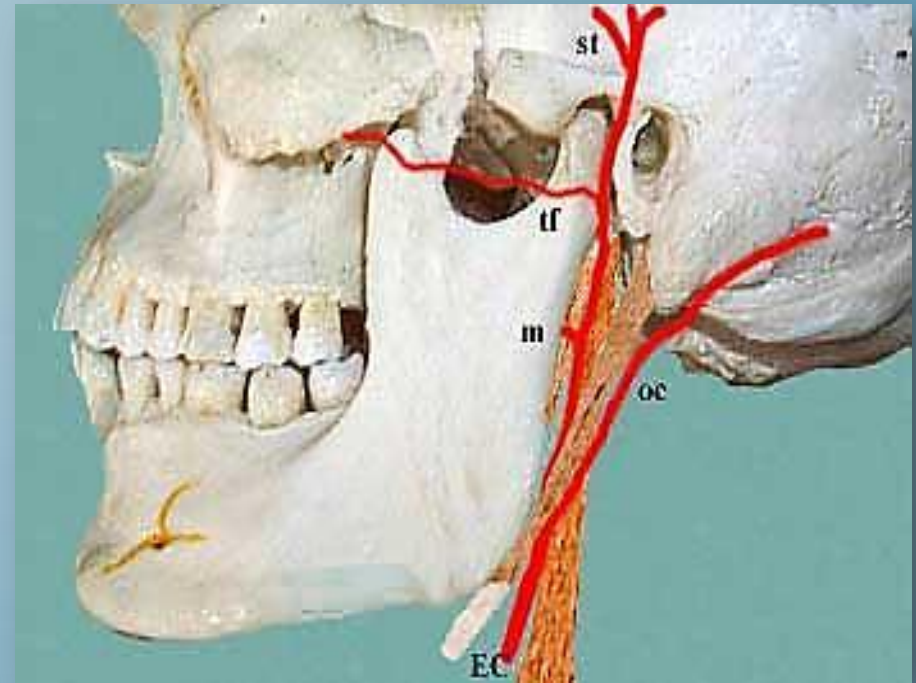




Deep to the nerves lies the arterial plane which includes terminal parts of the external carotid artery and its branches:

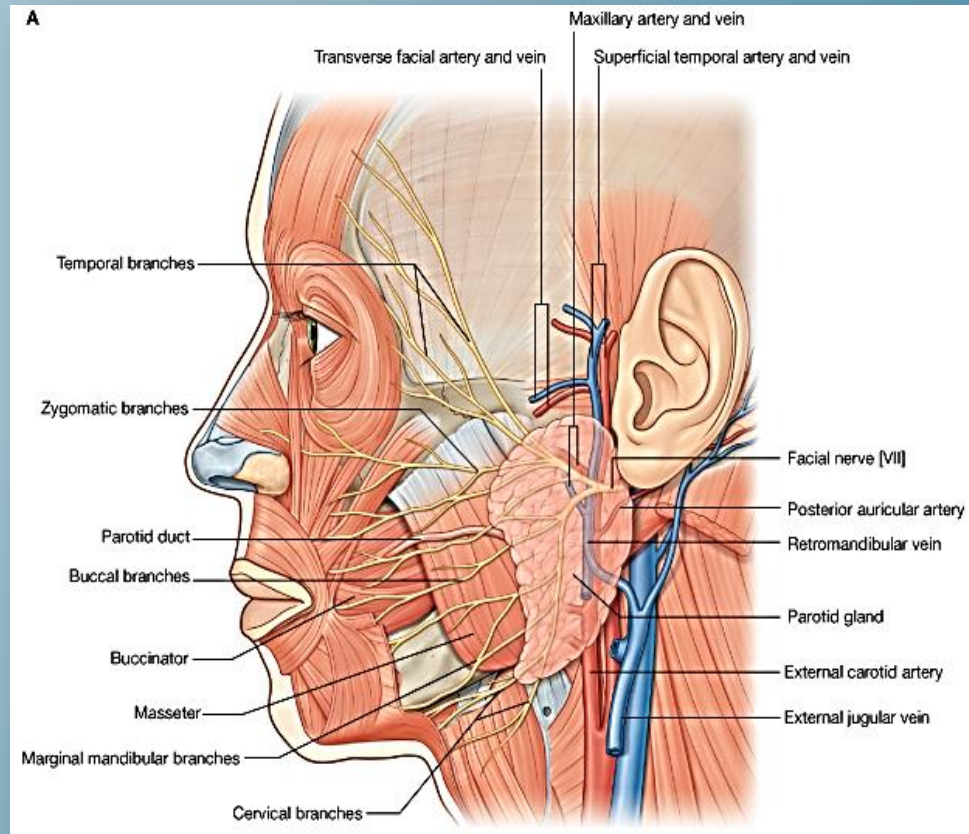
- i. External carotid artery (EC)
- ii. Occipital artery (oc)
- iii. Maxillary artery (m)
- iv. Transverse facial artery (tf)
- v. Superficial temporal artery

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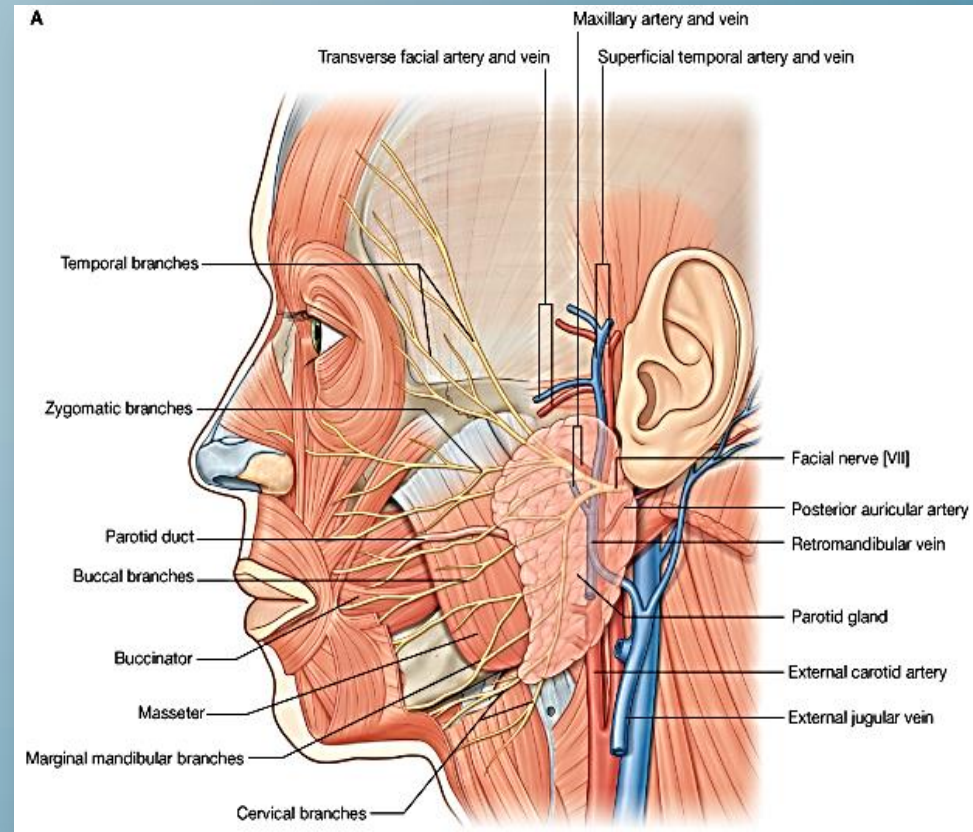
# External Carotid Artery

- The external carotid artery enters into or passes deep to the inferior border of the parotid gland
- As it continues in a superior direction it gives off the **posterior auricular artery** before dividing into its two terminal branches (the **maxillary** and **superficial temporal arteries**) near the lower border of the ear.



# External Carotid Artery

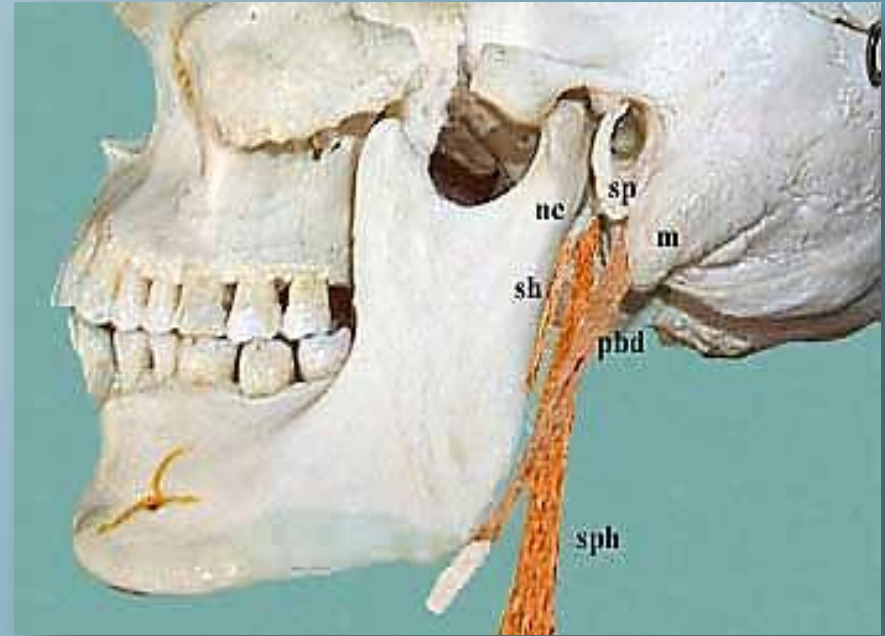
- The maxillary artery passes horizontally deep to the mandible.
- The superficial temporal artery continues in a superior direction and emerges from the upper border of the gland after giving off the **transverse facial artery**.





- The deepest part of the parotid region is the *parotid bed* and houses the deep part of the gland which fills the small space between the neck of the condyle of the mandible (nc) and the mastoid process (m).
- Other structures forming the floor of this space are the:
  - i. styloid process (sp)
  - ii. stylohyoid muscle (sh)
  - iii. stylopharyngeus muscle (sph)
  - iv. posterior belly of the digastric muscle (pbd)

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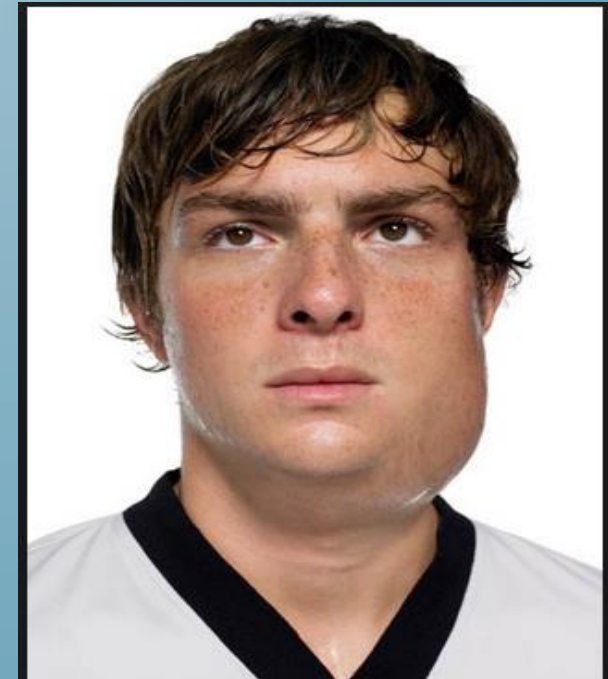


# INNERVATION OF PAROTID GLAND

- The Facial nerve does not provide innervation to the gland.
- Sensory innervation is by the great auricular (C2,3) and auriculotemporal nerves (from mandibular nerve).
- Parasympathetic supply is by the Glossopharyngeal nerve, which stimulate production of thin, watery saliva.
- Sympathetic innervation is derived from the cervical ganglia through the external carotid nerve plexus on the external carotid artery. The vasomotor activity of these fibers may reduce secretion from the gland.

# Diseases of Parotid Gland

1. Infection (Viral, bacterial, fungal, ...)
  2. Tumor (benign or malignant)
  3. Blockage of parotid duct
  4. Congenital anomalies ( accessory parotid gland)
- The gland becomes infected and swollen in mumps.
  - If you have had the mumps, you will realize just how difficult it is to open your mouth. Now, you can see why this is so.
  - When you open the mouth, you narrow the parotid bed space and compress the deep parotid gland between the neck of the condyle and the mastoid process.





## *Parotidectomy*

- Surgical removal of parotid gland.
- An important step in parotidectomy is the identification, dissection, isolation, and preservation of the facial nerve.
- A superficial portion of the gland is removed, after which the parotid plexus, which occupies a distinct plane within the gland, can be retracted to enable dissection of the deep portion of the gland.

## *Summary*

- The head and neck are divided into many regions.
- The parotid region is found in the lateral side of the face and upper part of the neck.
- The parotid region contain:
  1. Parotid gland
  2. Retromandibular vein and its tributaries
  3. Facial nerve and its branches
  4. External carotid artery and its branches

**Any Question ???**