

FACE

DR. AHMED SALMAN

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Face

Face Boundaries :

- **Superiorly** : The hair line.
- **Inferiorly** : Lower borders of chin and the mandible.
- **On each side** : Auricle.

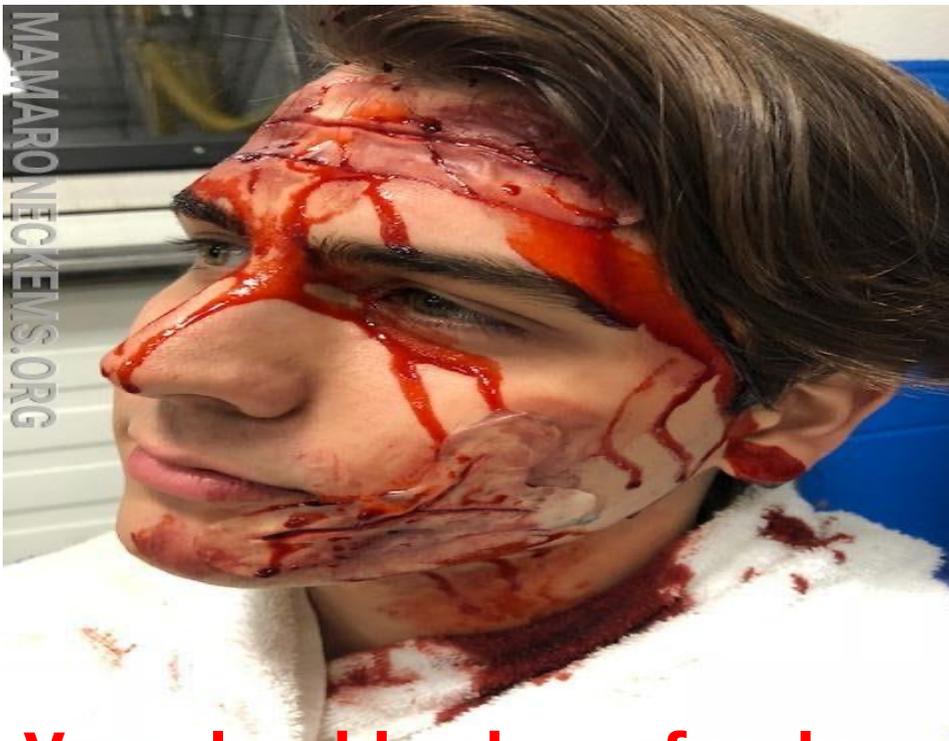
The forehead is **common** to the face and scalp.



Layers of the face

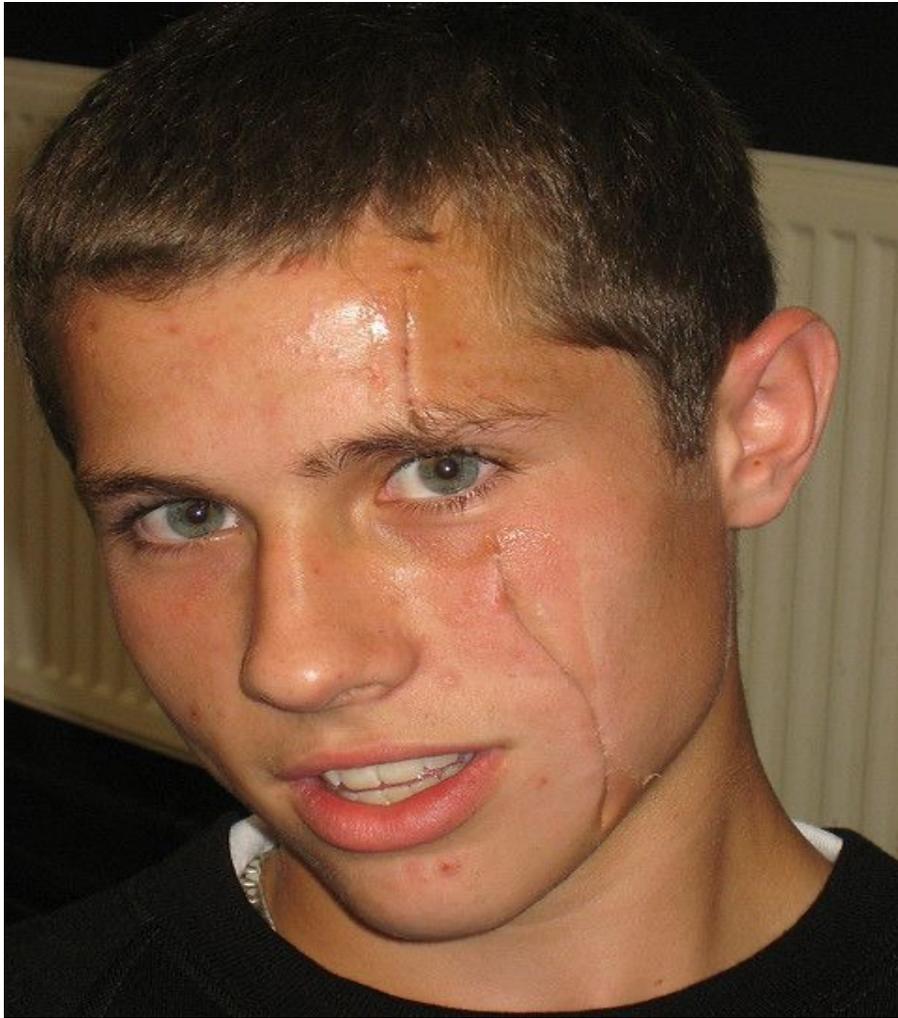
1- Skin of the Face

- It is very vascular, bleeds profusely and heals rapidly.
- It is lax, elastic and receive insertions of the facial muscles.
- It rich in sebaceous and sweat gland so it is one of the most sites for acne



Vascular, bleeds profusely

Skin tension lines

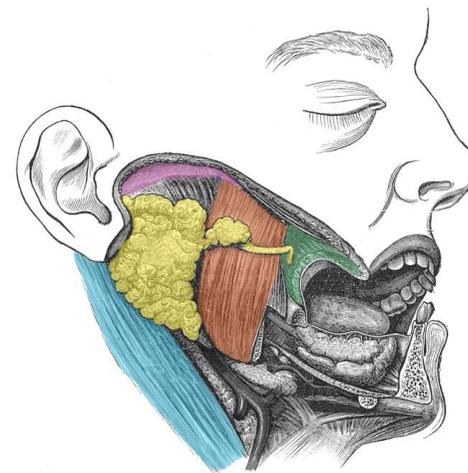
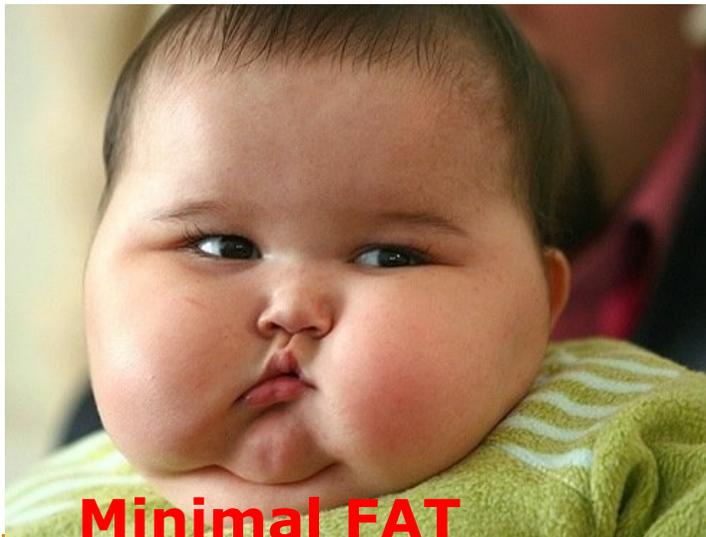


2-Superficial Fascia : contains :

- Facial muscles
- Vessels and nerves
- Small amount of fat.

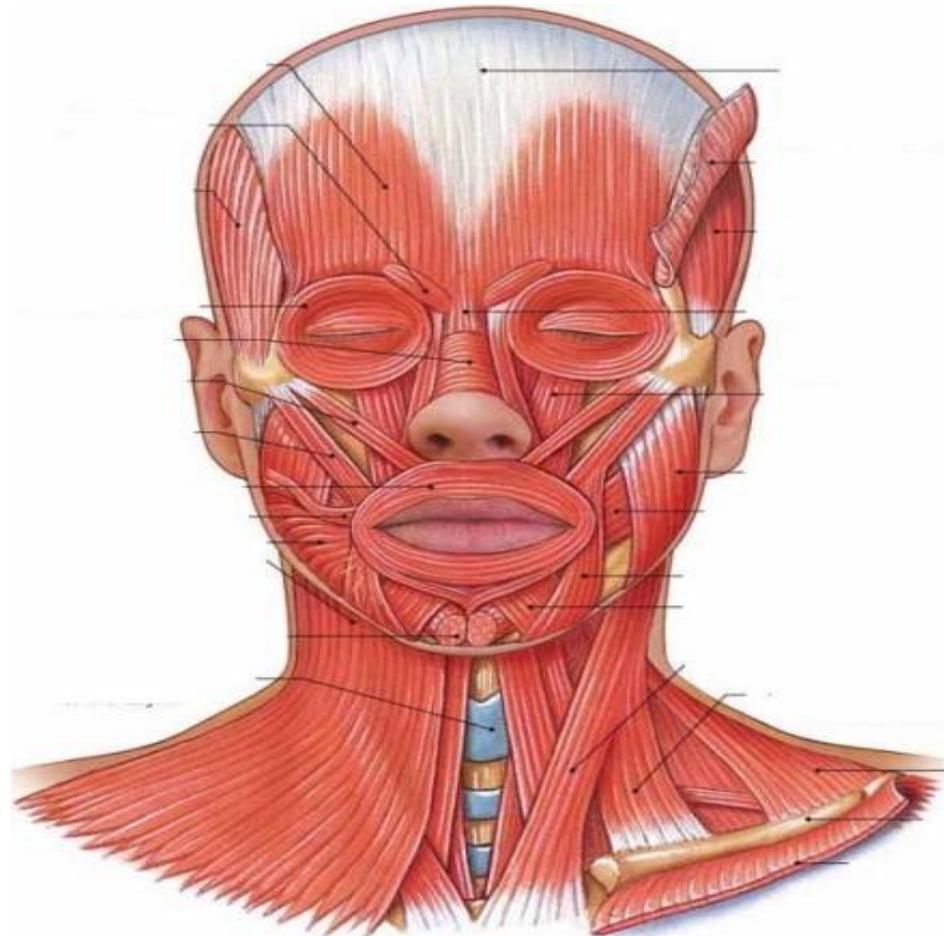
3- Deep Fascia :

- Is **absent** from most of the face (to allow facial expressions) **EXCEPT**
 - Around the parotid gland (enveloped in a capsule of deep fascia)
 - Over the buccinators (covered by buccopharyngeal fascia).

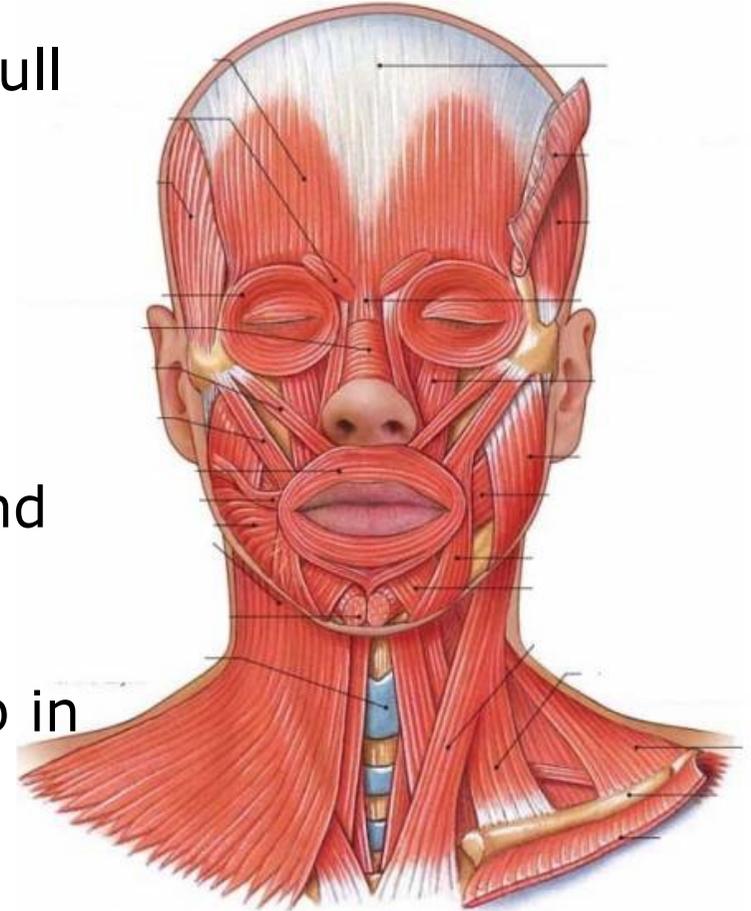


- Parotid gland and duct
- Zygomatic arch (superior border)
- Sternocleidomastoid (posterior border)
- Masseter (anterior border)
- Buccinator

Muscles of the Face



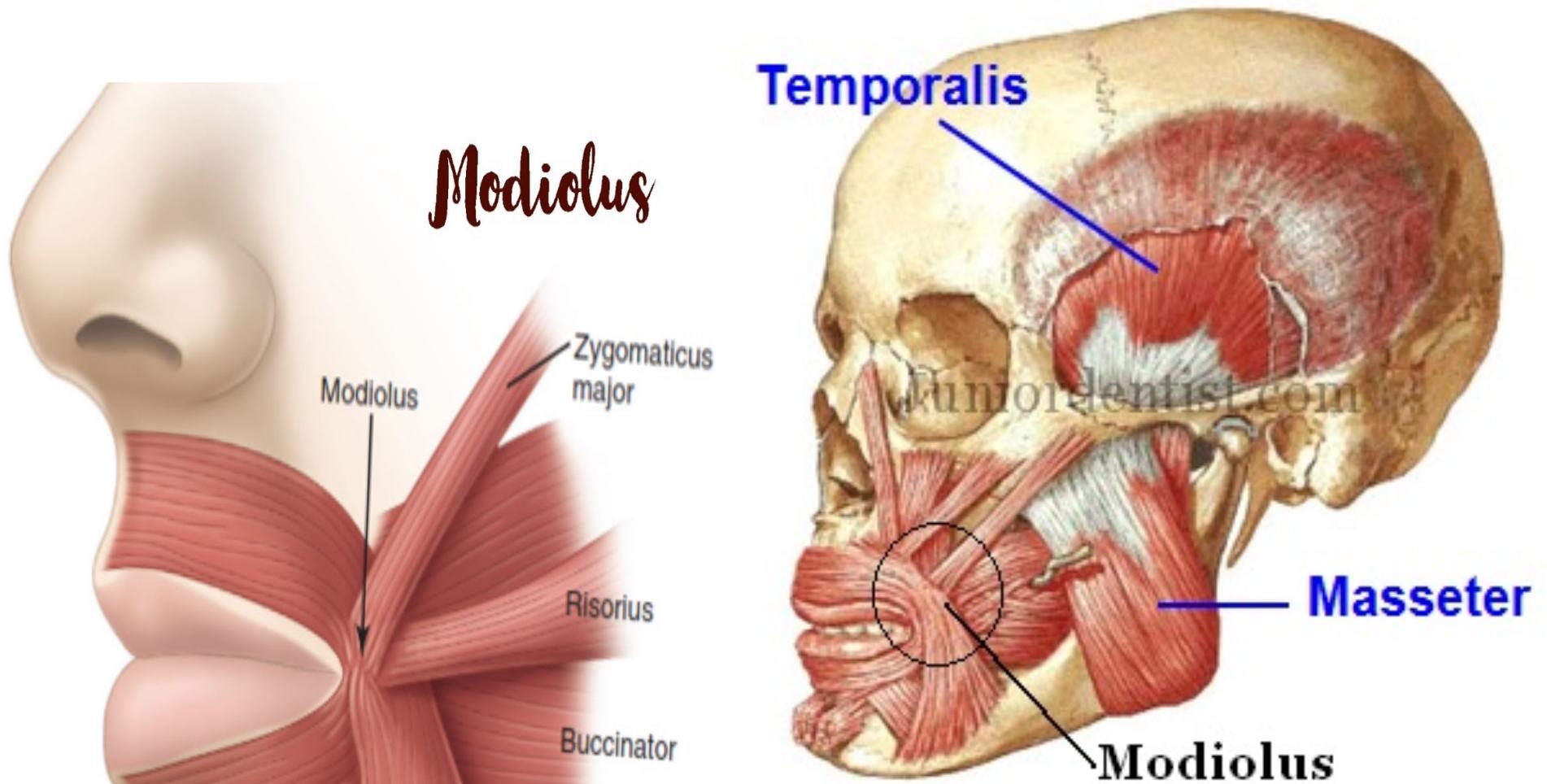
- The muscles of the face are embedded in the superficial fascia.
 - It arise from the bones of the facial bony skull and are inserted into the skin
 - They are innervated by the facial nerve
- They have two main functions :**
- They act as sphincters and dilators around the openings of face
 - They produce facial expressions and help in speaking .





Modiolus of the face :

- It is a fibromuscular mass, lying 1.25 cm from the angle of the mouth.
- It provides attachment for many muscles of the face.

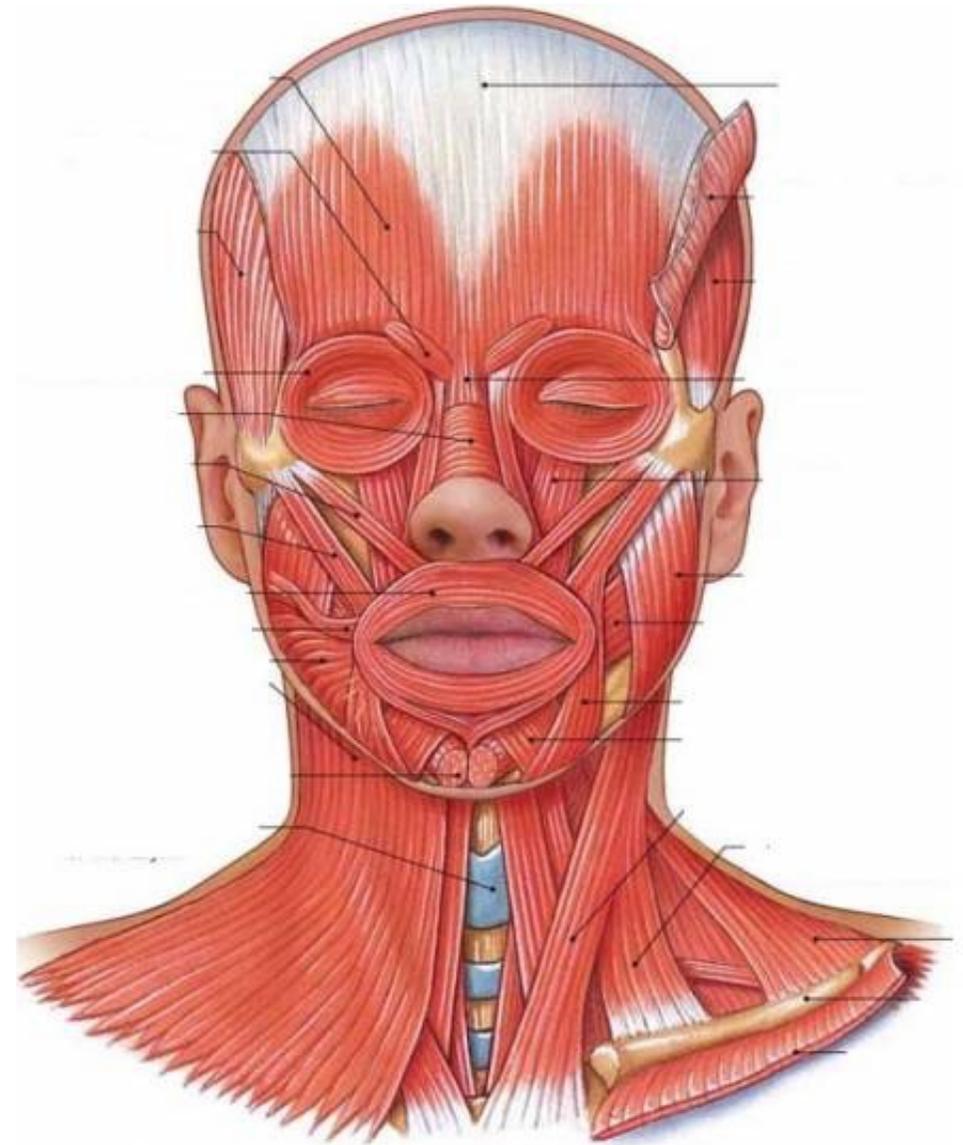


I. Three large muscles

1. Orbicularis Occuli
2. Orbicularis Oris
3. Buccinators

II. Many small muscles such as

1. Levator labii superioris
2. Zygomaticus minor
3. Zygomaticus major
4. Levator anguli oris
5. Risorius
6. Depressor anguli oris
7. Depressor labii inferioris
8. Mentalis
9. Platysma

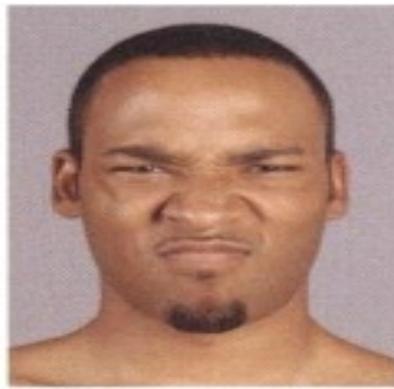




Occipitofrontalis



Corrugator supercilii



Procerus + transverse part of nasalis



Orbicularis oculi



Lev. labii sup. alaeque nasi + alar part of nasalis



Buccinator + orbicularis oris



Zygomaticus major + minor



Risorius



Risorius + depressor labii inferioris



Levator labii superioris + depressor labii



Dilators of mouth: risorius plus levator labii superioris + depressor labii inferioris



Orbicularis oris



Depressor anguli oris



Mentalis



Platysma

1-Orbicularis Oculi



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Attachment

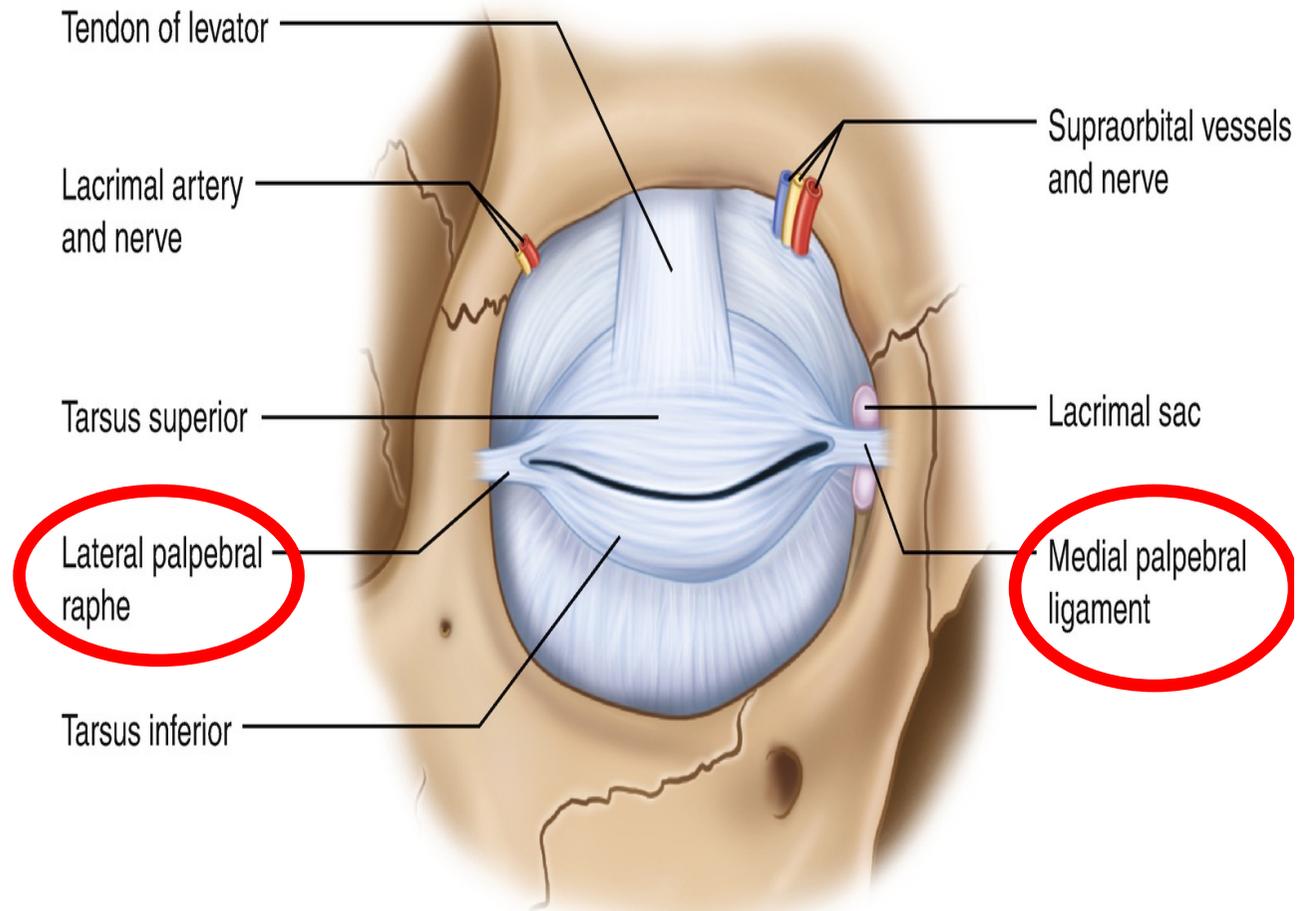
1- Orbital part :

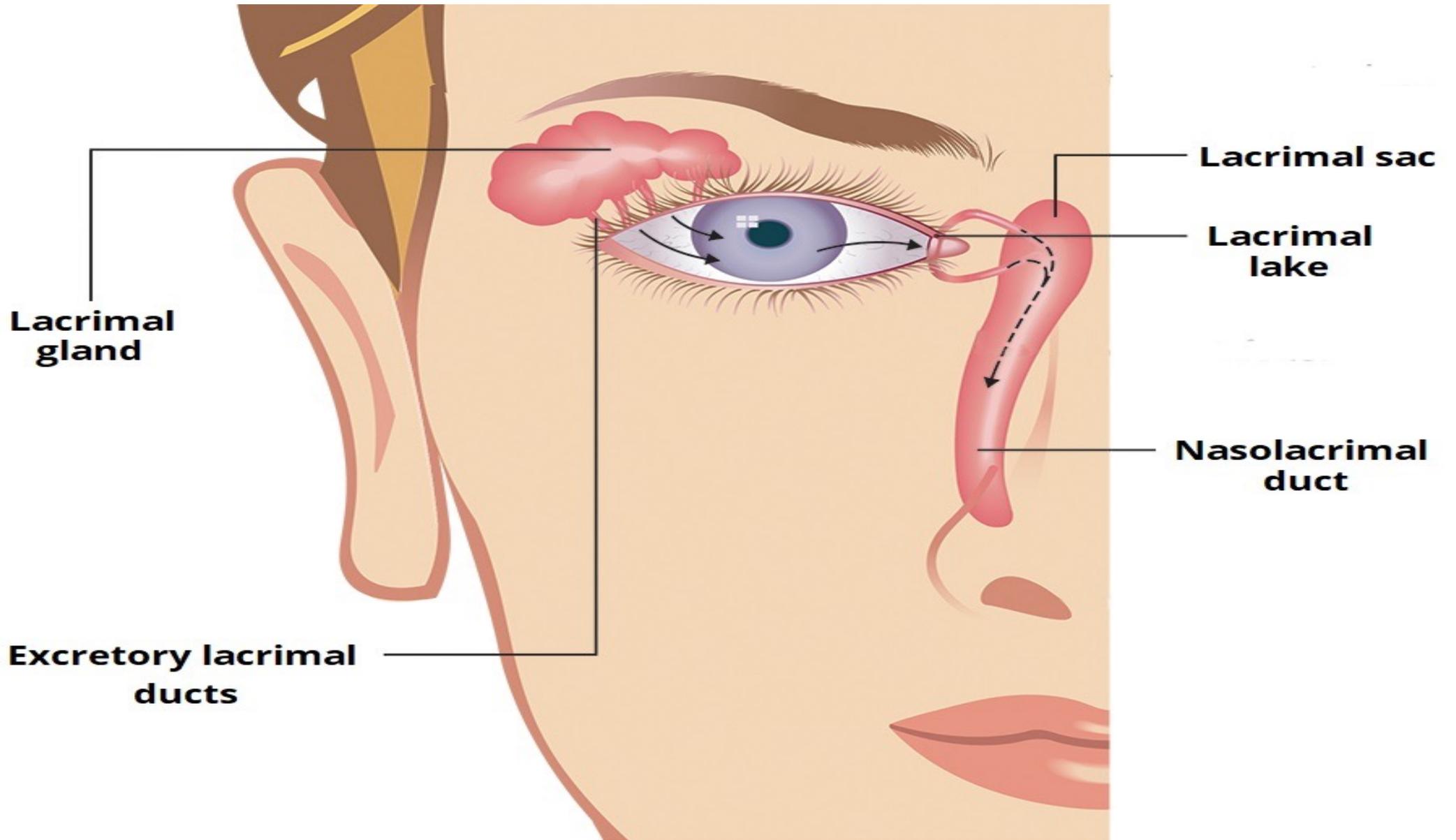
Produce complete ring around the orbit

It extends from medial palpebral ligament to medial palpebral ligament.

2- Palpebral part : from medial palpebral ligament to lateral palpebral raphe.

3-Lacrimal part : lies behind the lacrimal sac



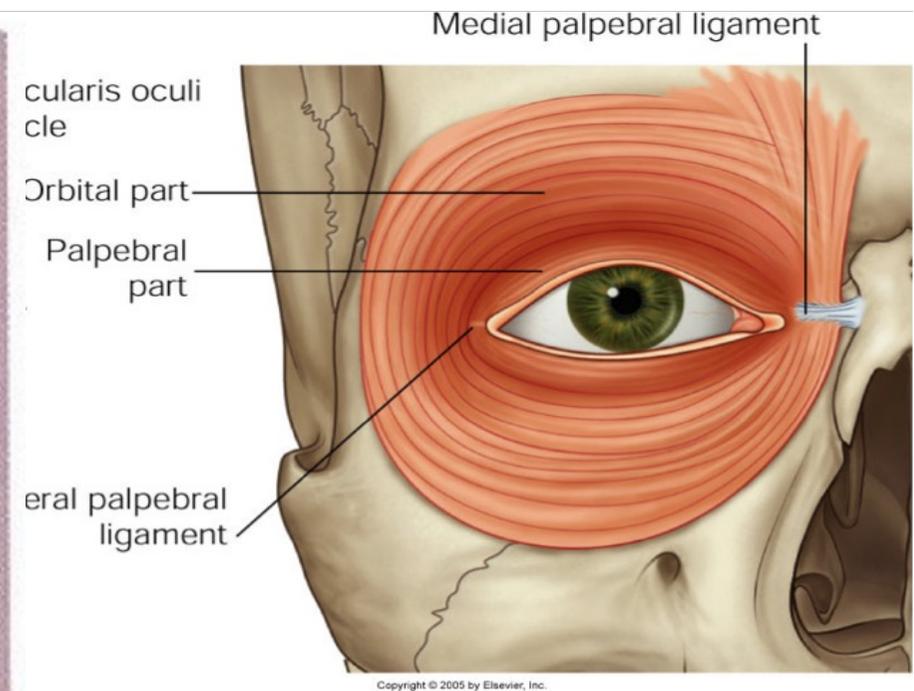
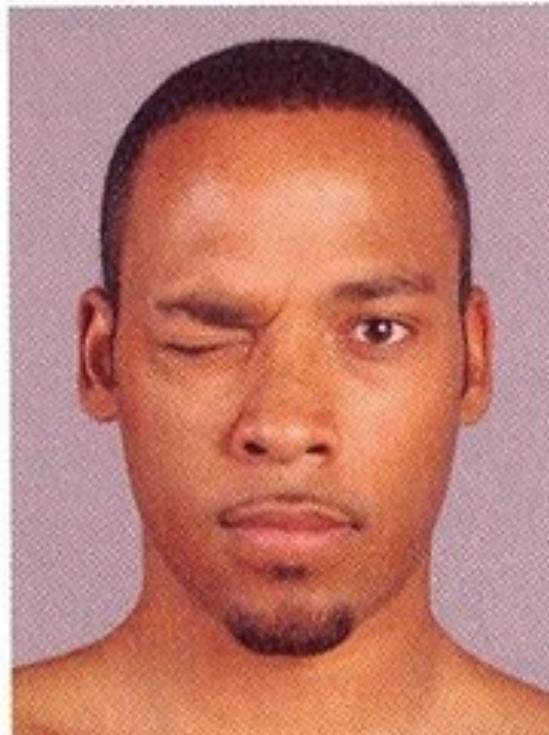


Action :

1-Orbital part : It closes to the eye tightly (as in exposure to strong light)

2-Palpebral part : closes to the eye gently (blinking reflex)

3-Lacrimal part : widens the lacrimal sac to increase flow of tears



2-Orbicularis Oris Muscle

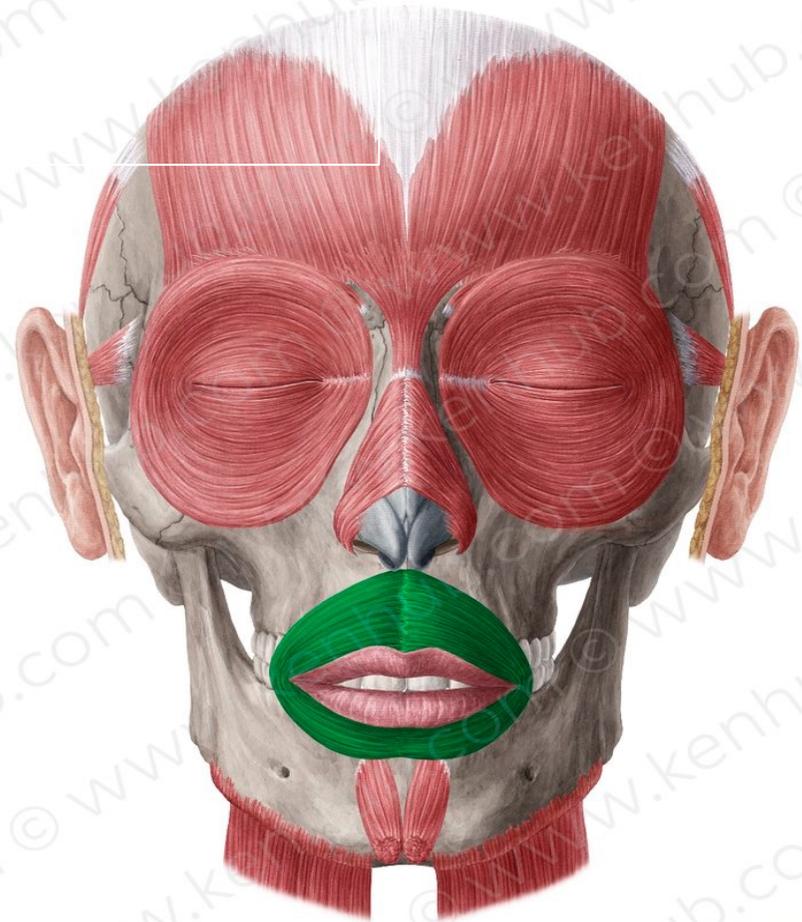
It encircles the mouth

Origin :

arise from maxilla , mandible and modiulus.

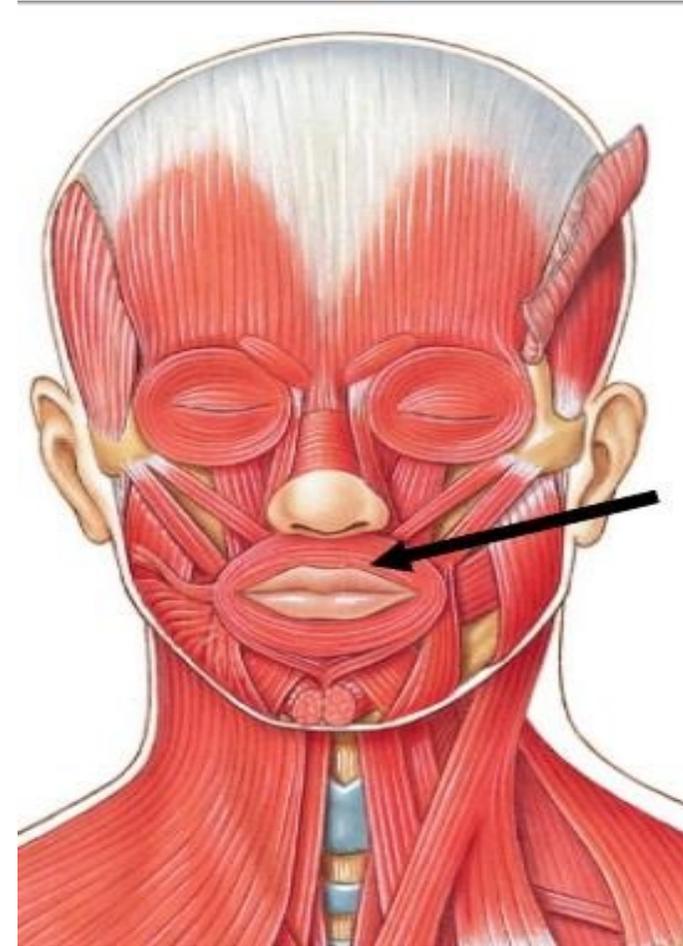
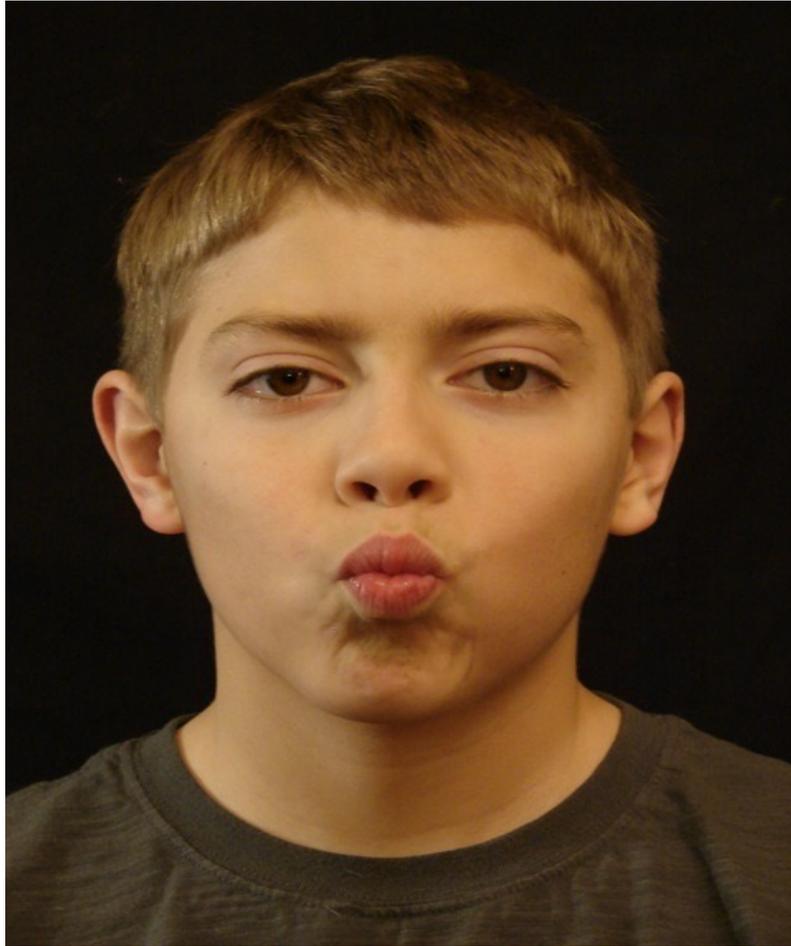
Insertion :

Subcutaneous tissue of the lips

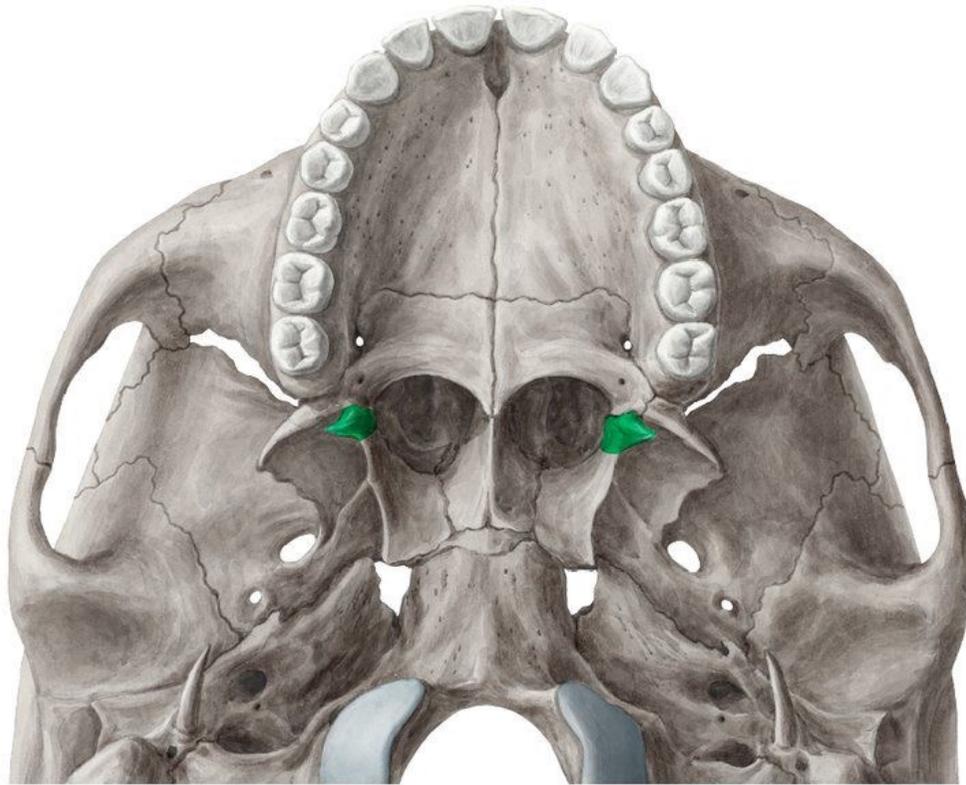


Action :

Compresses the lips together (closes the vestibule of the mouth)



Pterygomandibular raphe : It is a ligament which is attached to
superiorly: to the pterygoid hamulus of the medial pterygoid plate
inferiorly: to the posterior end of the mylohyoid line of the mandible



Pterygoid hamulus

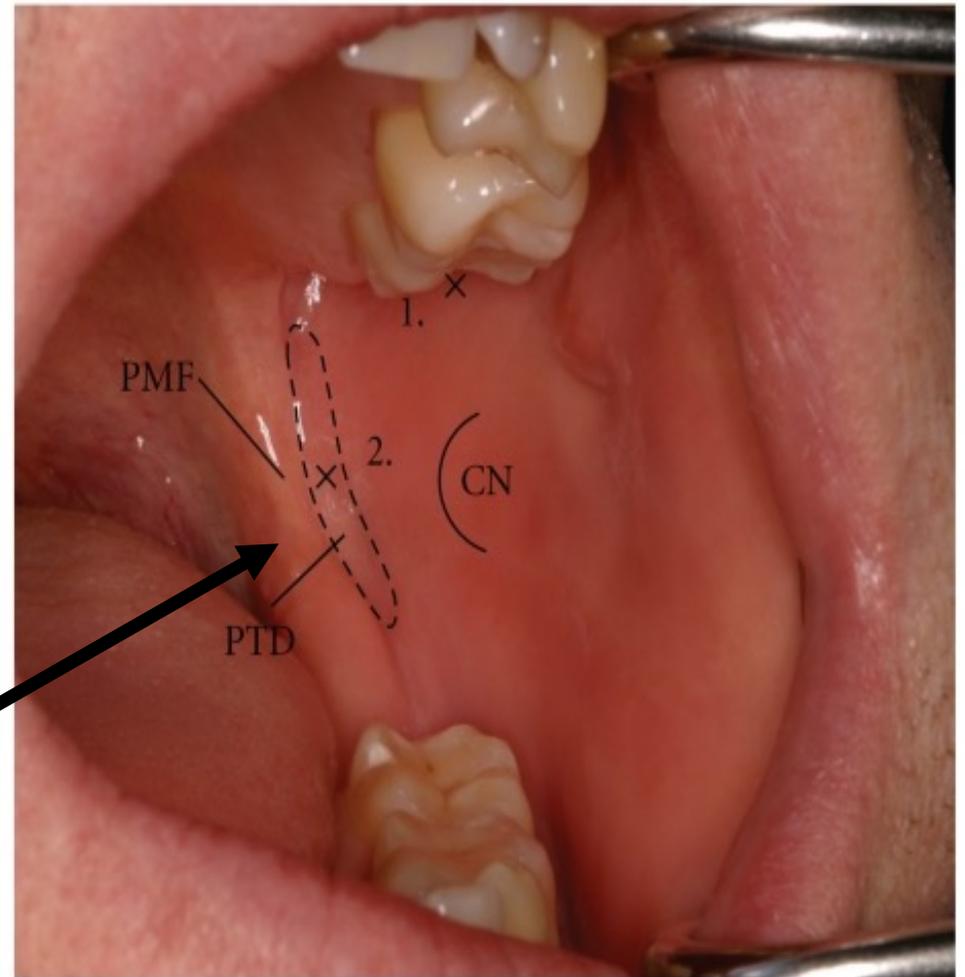
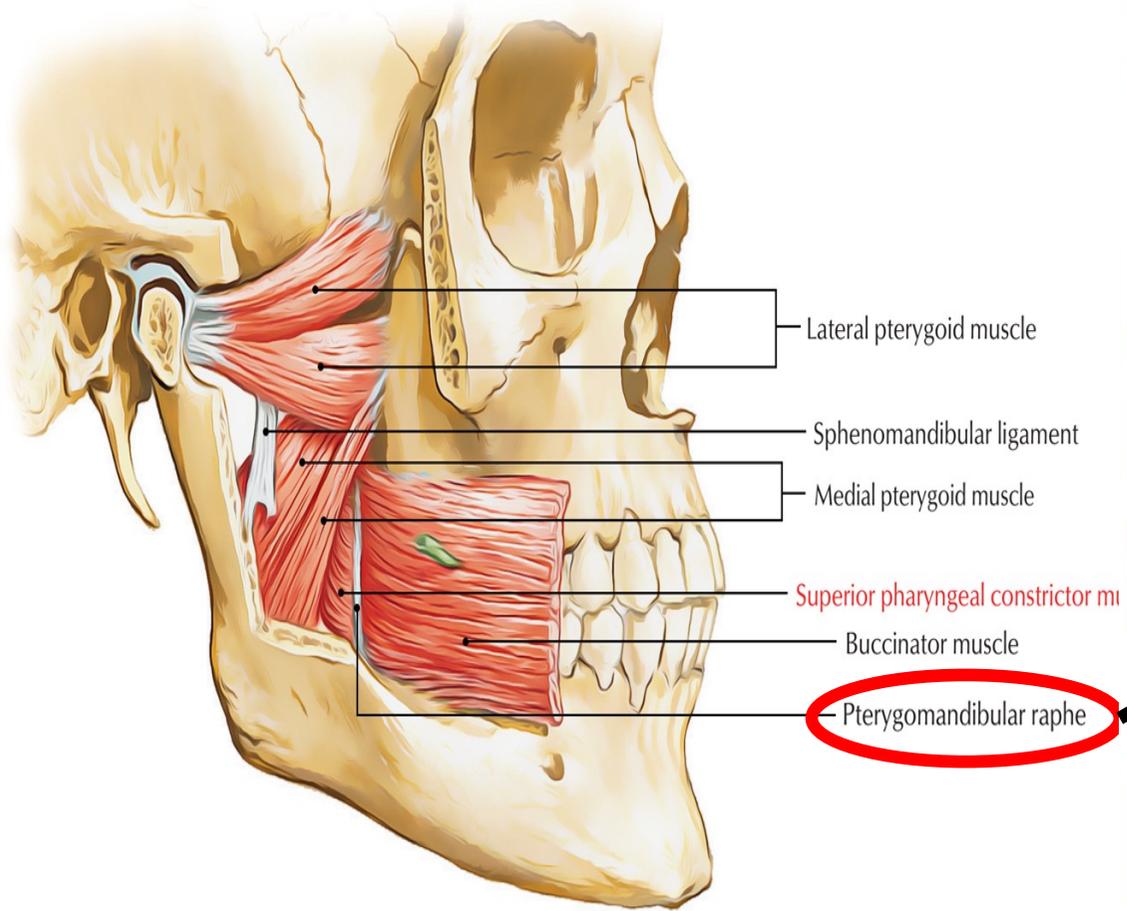
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Mylohyoid line

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Origin :

Upper fibers: from the maxilla opposite the molar teeth

Lower fibers : from mandible opposite the molar teeth

Middle fibers : from pterygomandibular raphe

Insertion :

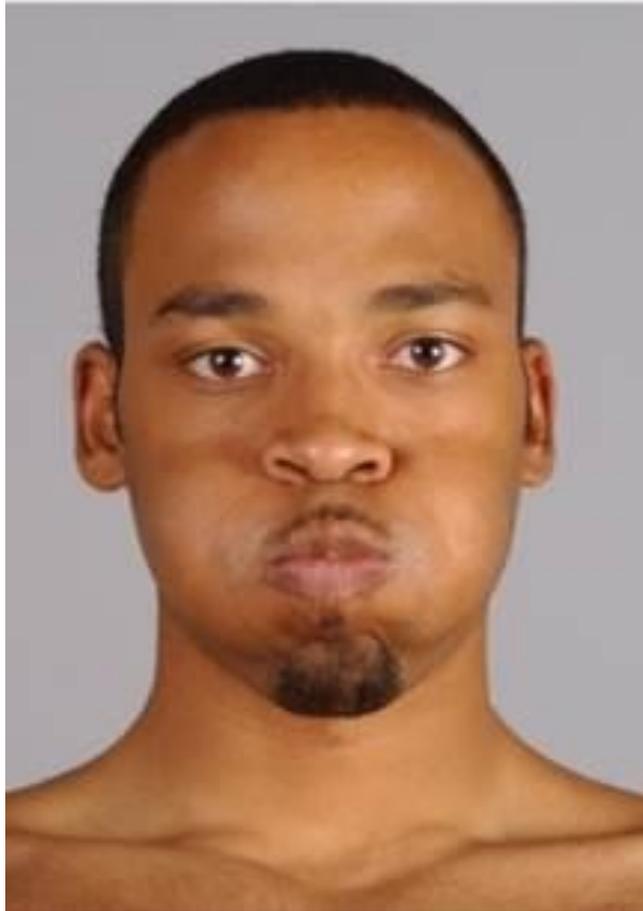
Upper fibers: pass straight to the upper lip

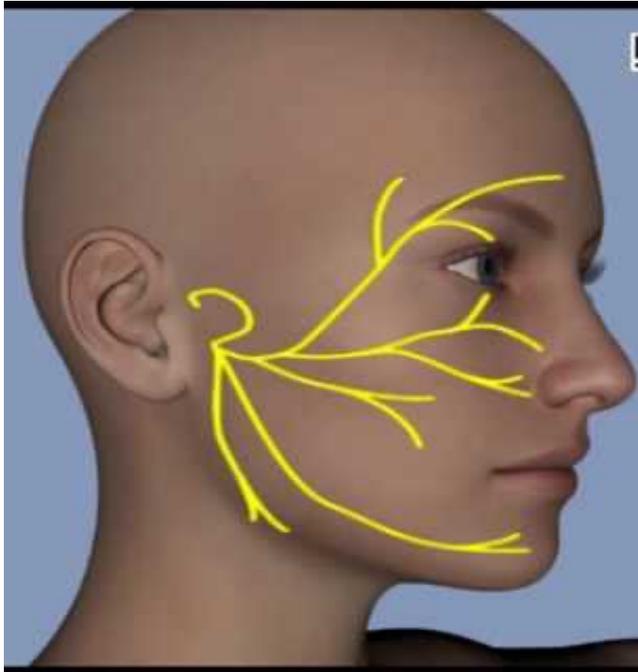
Lower fibers : pass straight to the lower lip

Middle fibers : decussate at the **m**odiolus before passing to the lips.

Buccinator Muscle action

**Compresses the cheeks and lips against the teeth
(prevents accumulation of food in the vestibule)**





Facial Nerve

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Facial nerve has motor ,sensory and parasympathetic roots

Course of Facial nerve

Intracranial :

It passes through internal acoustic meatus.

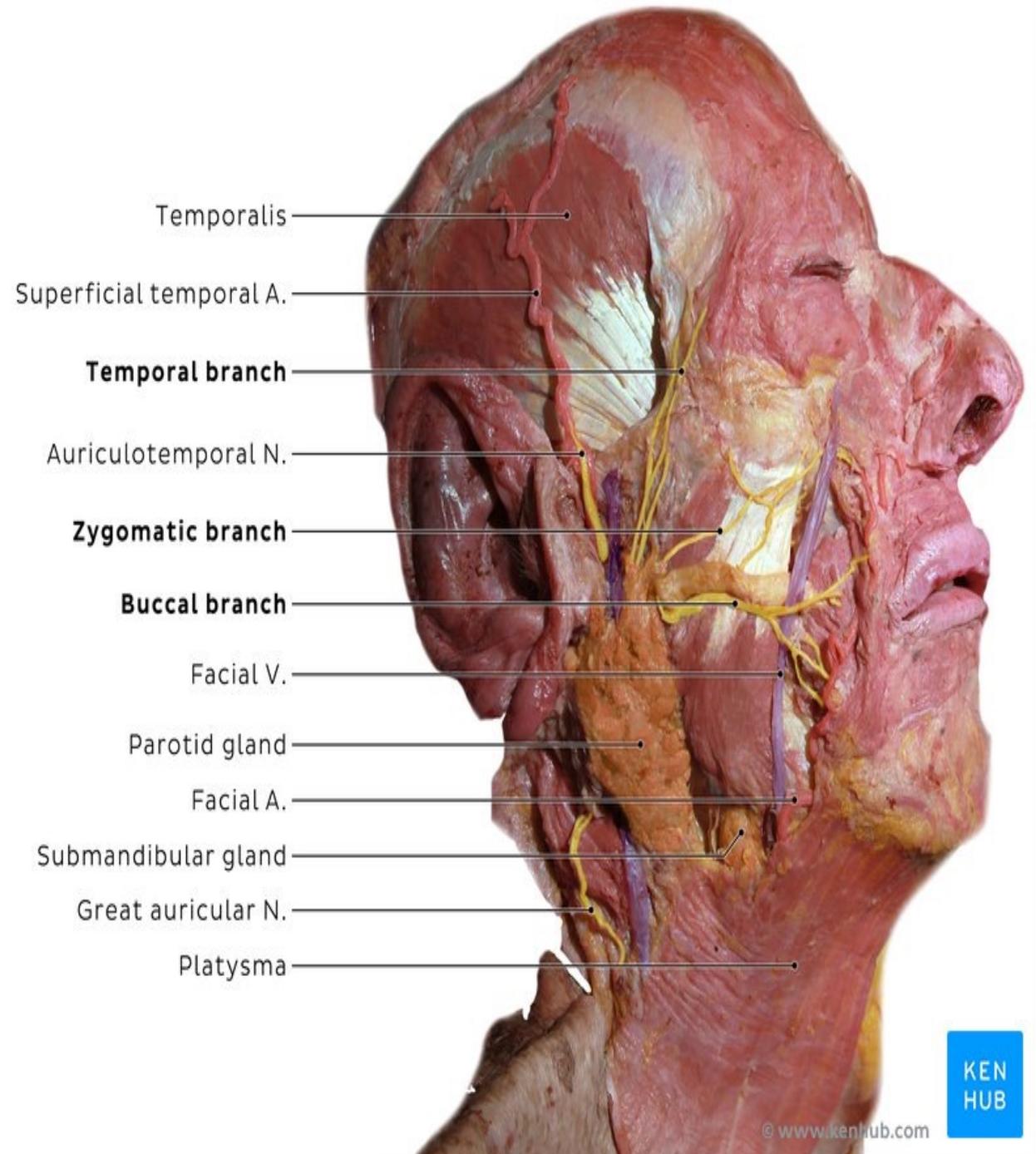
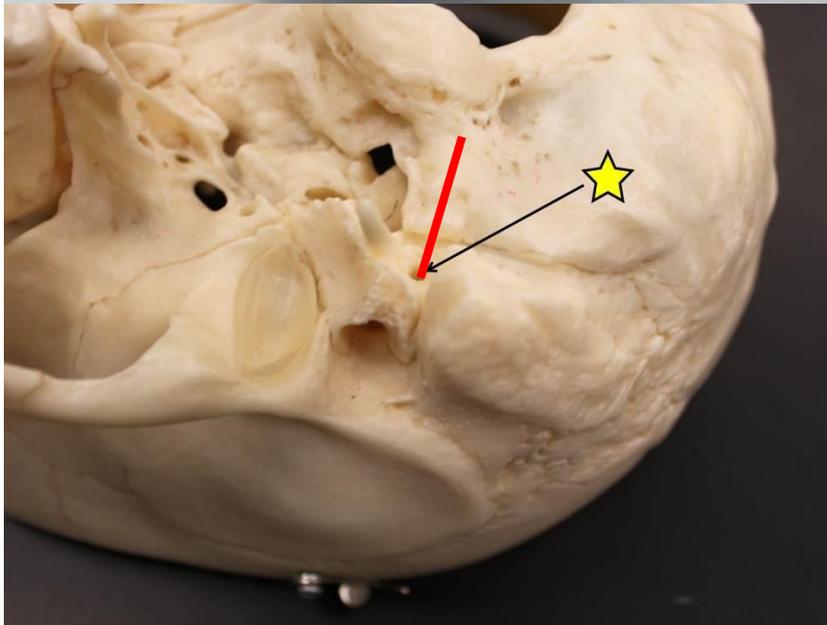
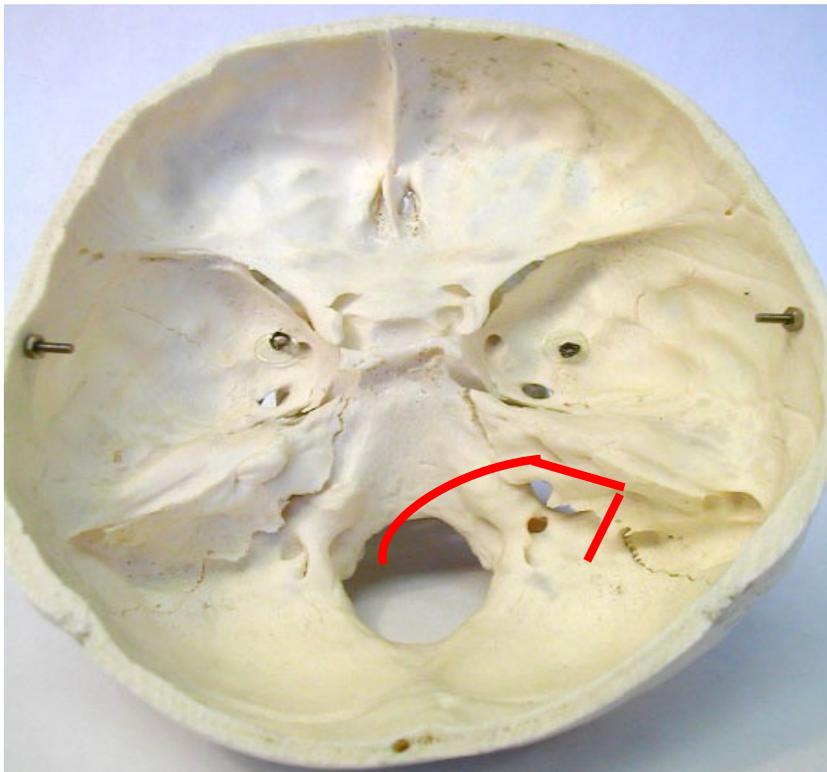
Then passes in the facial canal in medial wall of the tympanic cavity (Middle ear) where it forms sensory geniculate ganglion .

Exit from skull:

Stylomastoid foramen

Extra cranial course :

It enters the parotid gland; and gives rise to five terminal motor branches.



Temporalis

Superficial temporal A.

Temporal branch

Auriculotemporal N.

Zygomatic branch

Buccal branch

Facial V.

Parotid gland

Facial A.

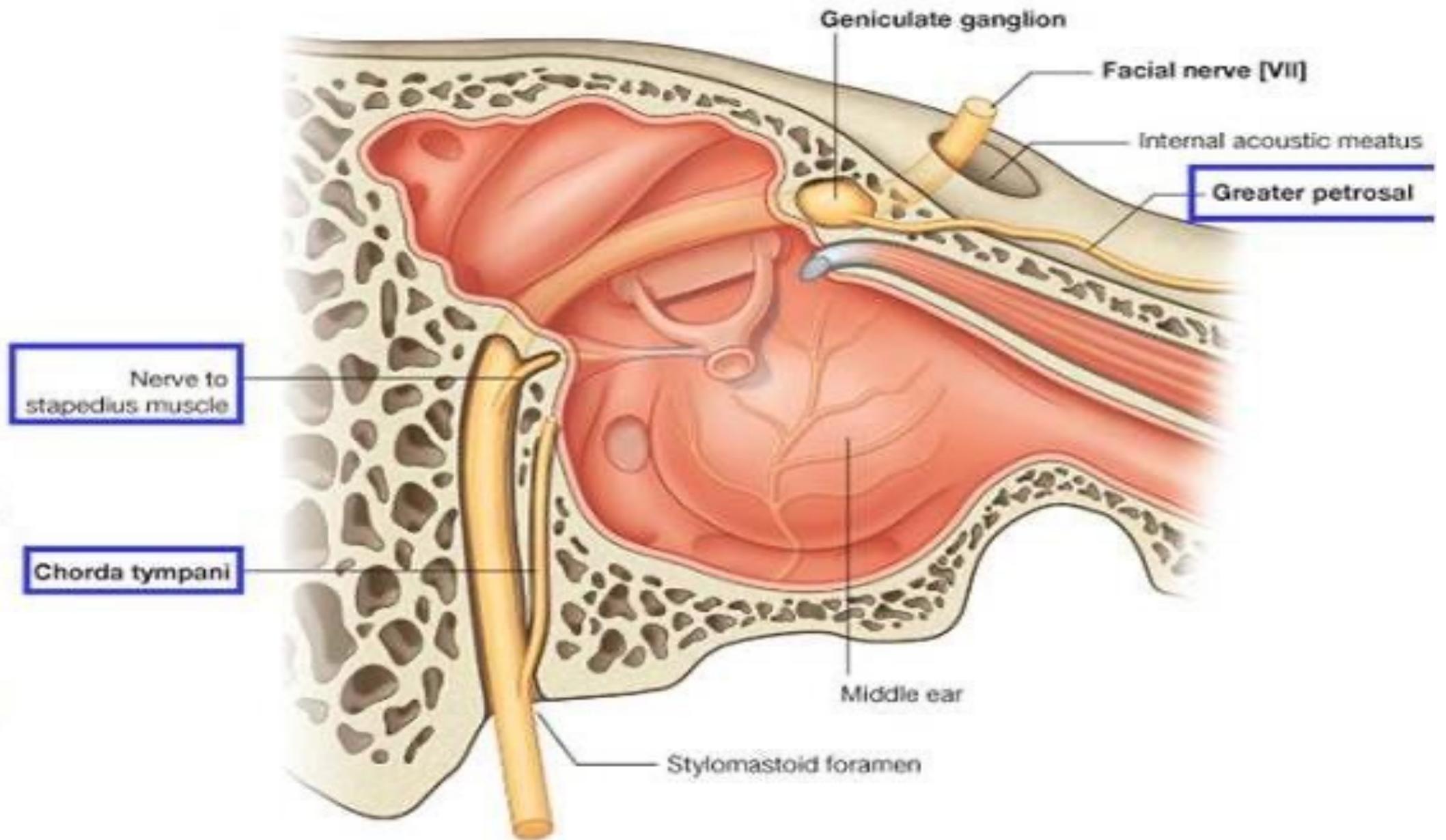
Submandibular gland

Great auricular N.

Platysma



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Branches of the Facial Nerve

Within petrous bone	Below stylomastoid Foramen	Within the parotid gland
<ol style="list-style-type: none">1. Greater petrosal2. Nerve to stapedius muscle3. Chorda tympani	<ol style="list-style-type: none">1. Posterior auricular2. Digastric3. Stylohyoid	<ol style="list-style-type: none">1. Temporal2. zygomatic3. Buccal4. Mandibular5. Cervical

N.B

1. All the sensory and parasympathetic nerve fibers leave the facial N. **within** the petrous bone, so that at the stylomastoid foramen, the facial N. is **a purely** motor nerve.

2. Along its course, the facial nerve has **two parasympathetic ganglia;** **pterygopalatine and submandibular ganglia**

Branches Within petrous bone

1. Greater petrosal Nerve:

This nerve contains mainly preganglionic parasympathetic fibers relay in the pterygopalatine ganglion (Lacrimal gland) and sensory taste afferents from the soft palate.

It is secretomotor for lacrimal gland

2. Nerve to stapedius :

supplies stapedius muscle of the middle ear.

3. Chorda tympani :

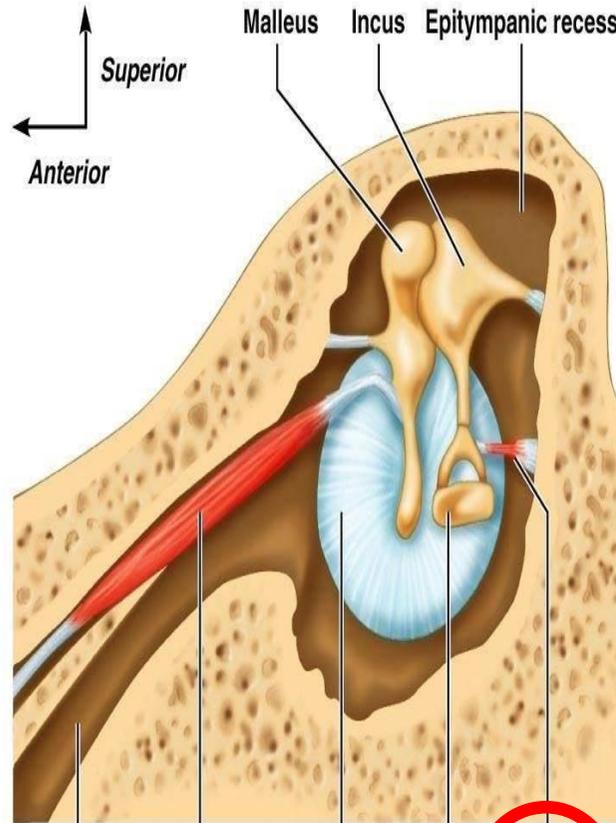
This nerve contains preganglionic parasympathetic fibers to submandibular and sublingual glands and sensory taste afferents from the anterior 2/3 of the tongue.



Greater petrosal



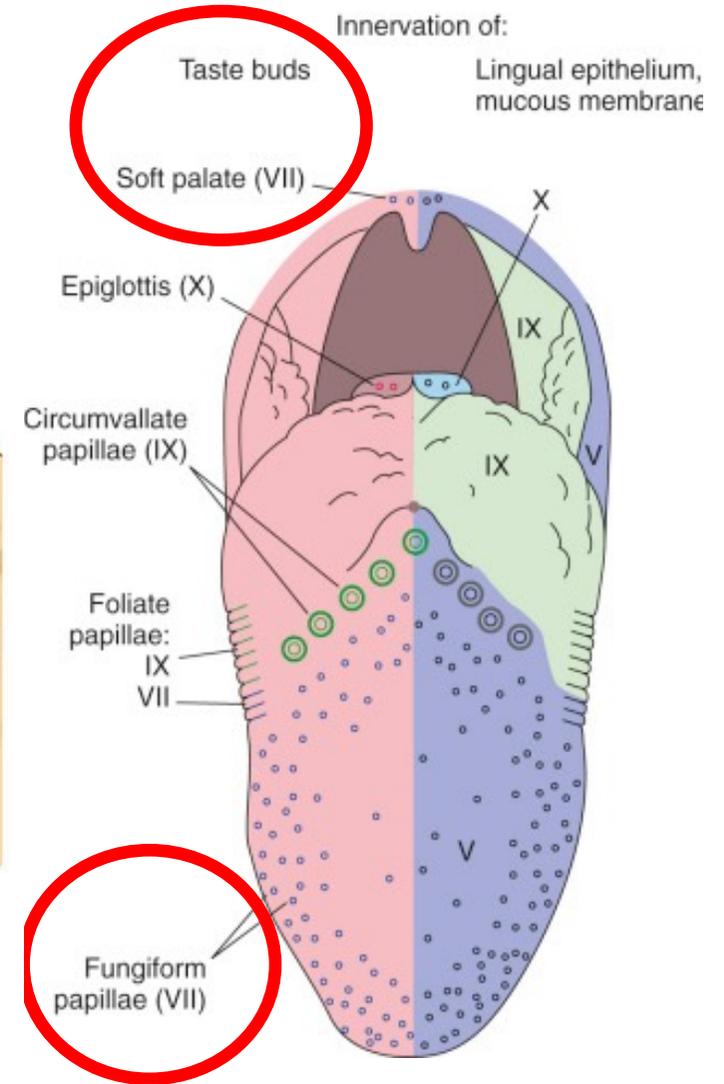
Chorda tympani



Pharyngotympanic tube
Tensor tympani muscle
Tympanic membrane (medial view)
Stapes
Stapedius muscle

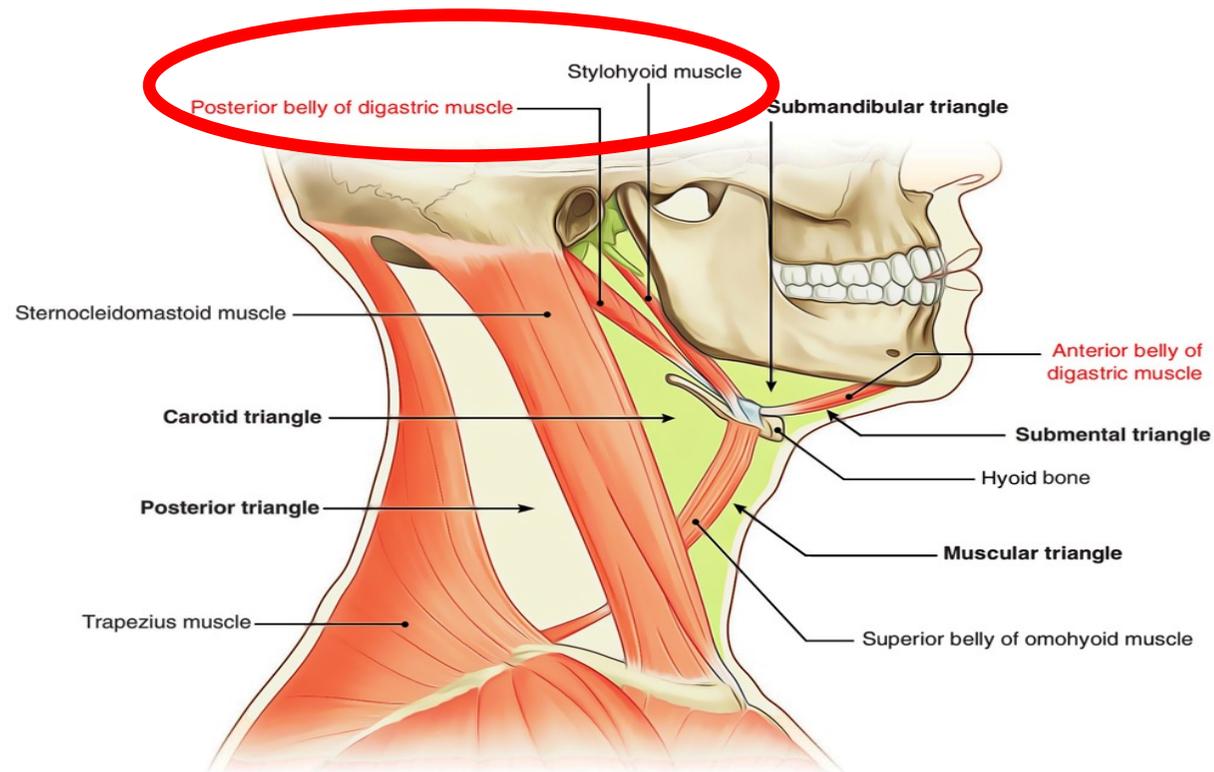
Stapedius muscle as it's attached to the posterior wall of the tympanic cavity

Nerve to stapedius



Branches Below stylomastoid Foramen

- 1. Posterior auricular :** supplies occipital belly of the occipitofrontalis muscle.
- 2. Digastric :** supplies posterior belly of the digastric muscle.
- 3. Stylohyoid :** supplies stylohyoid muscle.



Branches Within the parotid gland

The facial nerve runs forward within the substance of the parotid salivary gland it divides into its five terminal branches

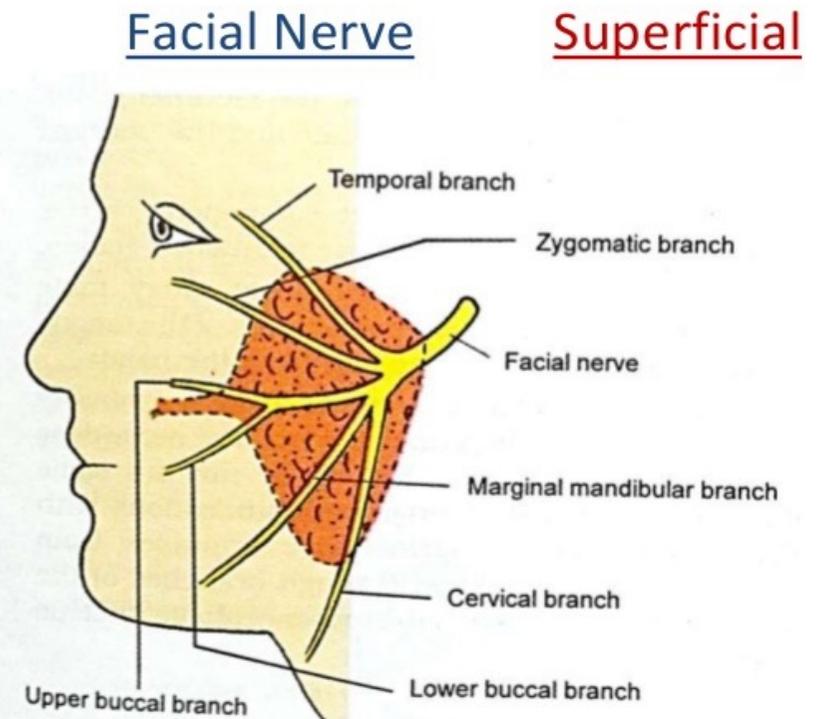
1-Temporal

2-Zygomatic

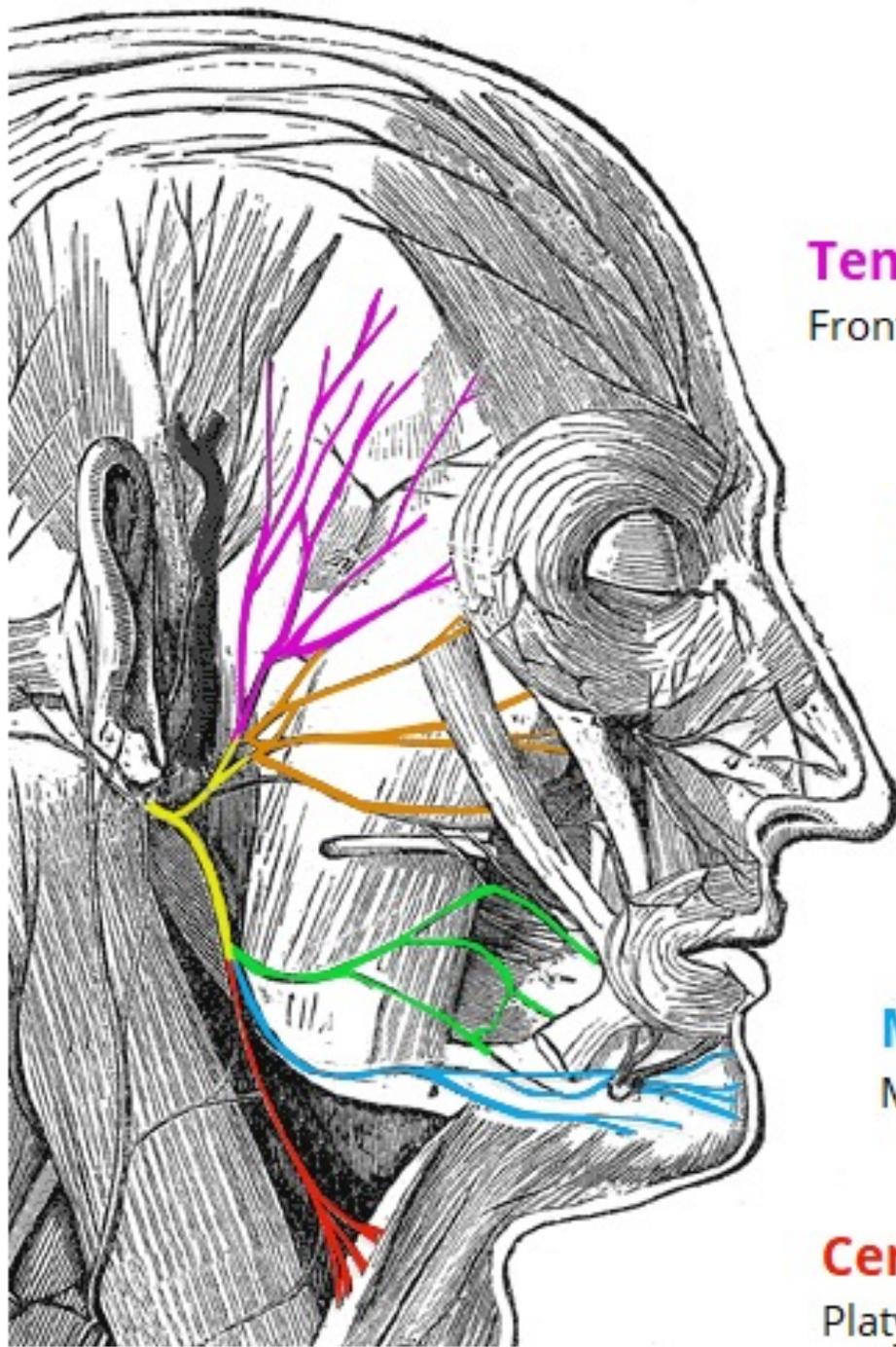
3-Buccal

4- Marginal mandibular

5-Cervical



- 1. Temporal : Supplies** frontal belly of occipitofrontalis and orbicularis oculi.
- 2. Zygomatic : Supplies** orbicularis oculi.
- 3. Buccal : Supplies** orbicularis oris, buccinator and elevators of the upper lip.
- 4. Marginal Mandibular : Supplies** muscles of the lower lip.
- 5. Cervical : Supplies** platysma muscle



Temporal branches

Frontalis, orbicularis oculi, corrugator supercilii

Zygomatic branches

Orbicularis oculi

Buccal branches

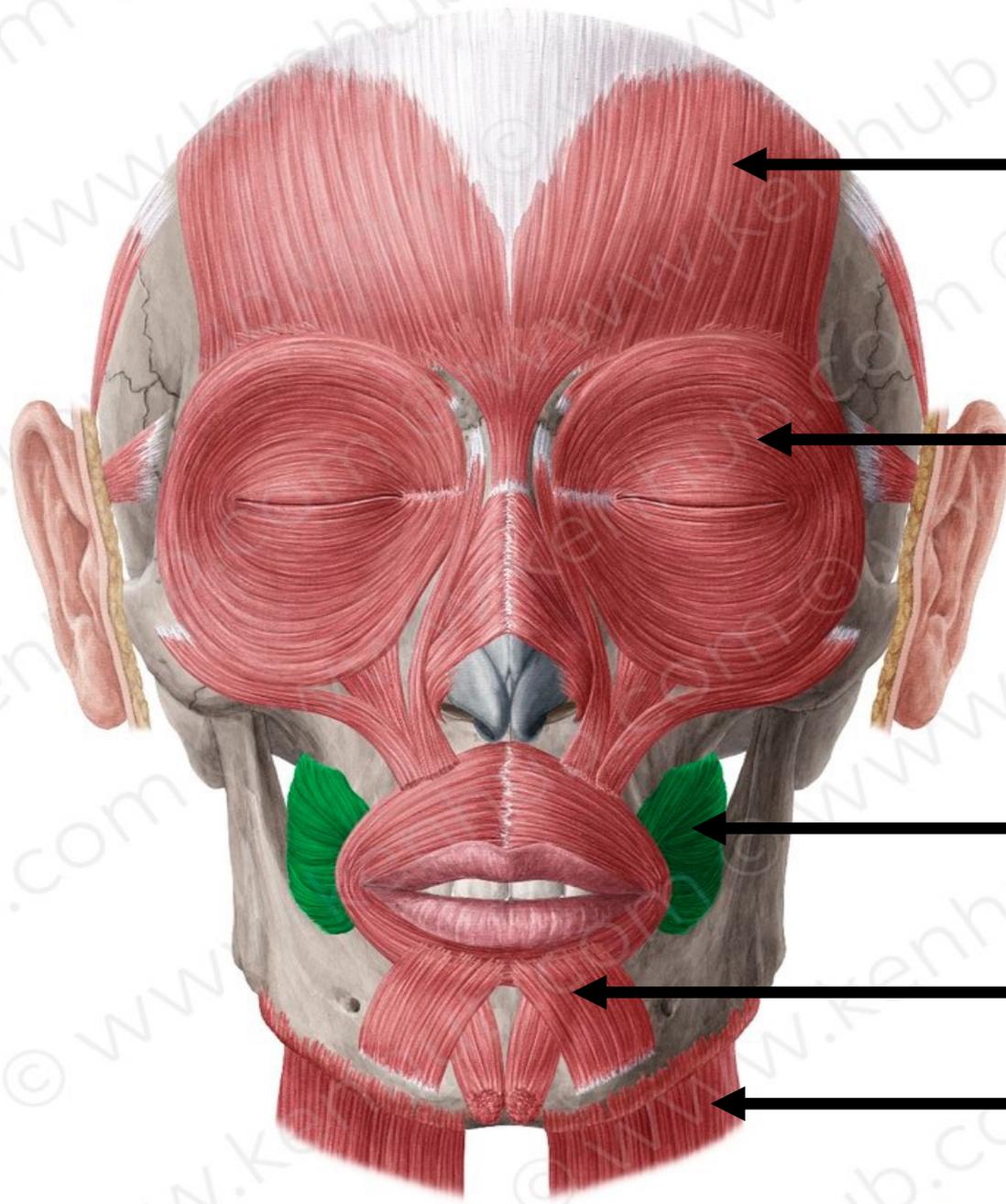
Orbicularis oris, buccinator, zygomaticus

Marginal mandibular branches

Mentalis, depressor labii inferioris, depressor anguli oris

Cervical branches

Platysma



Temporal

Temporal & Zygomatic

Buccal

Mandibular

Cervical



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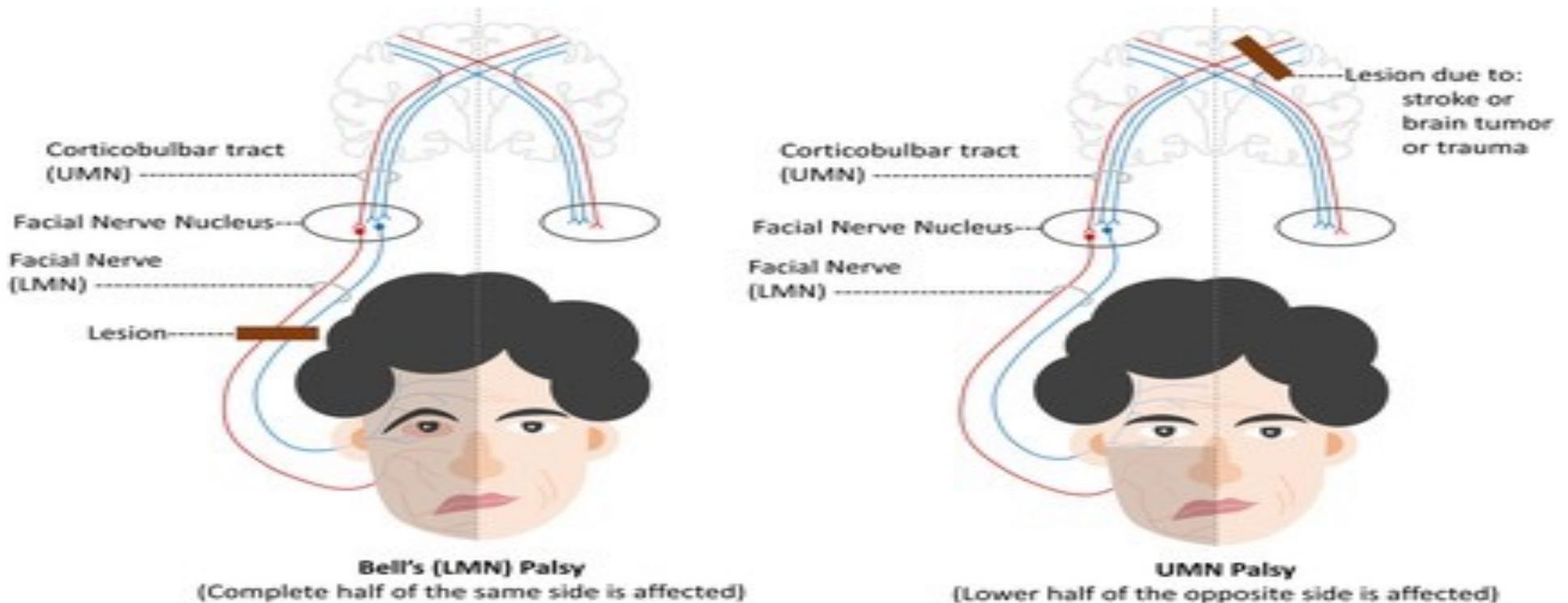
Clinical anatomy :

Upper motor and lower motor neuron type of facial nerve palsy

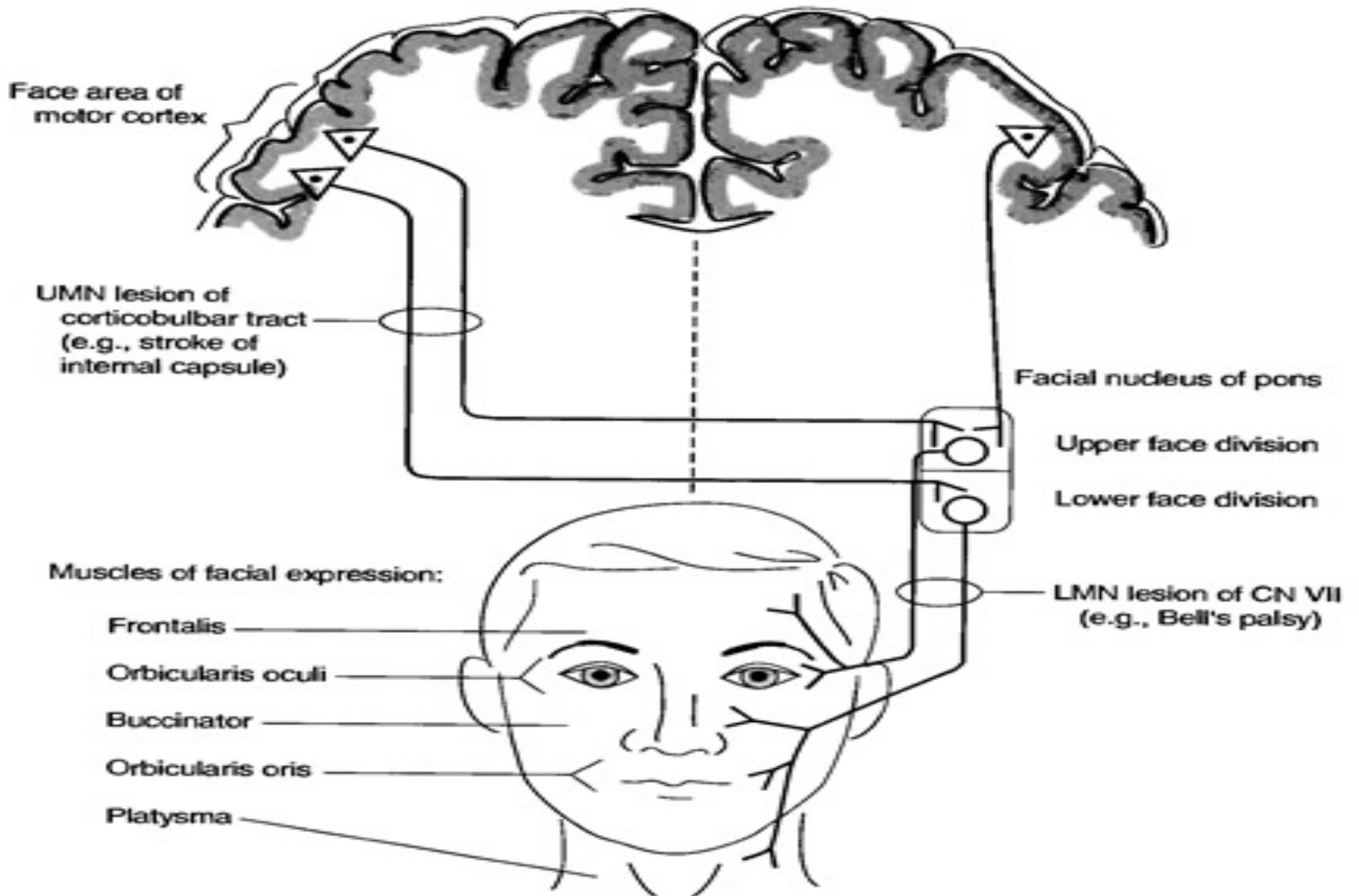
Upper motor neuron lesion	Lower motor neuron lesion
Site of lesion: above the facial nucleus (in the brain)	Site of lesion: in the nucleus or distal to the nucleus
Lower part of face is involved	Both upper and lower part of face are involved
Affects contralateral side of the face	Affects ipsilateral side of the face
Taste is not affected	Lose of taste sensation from anterior 2/3 of the tongue .
No Dry Eye	Dry Eye

Why ???

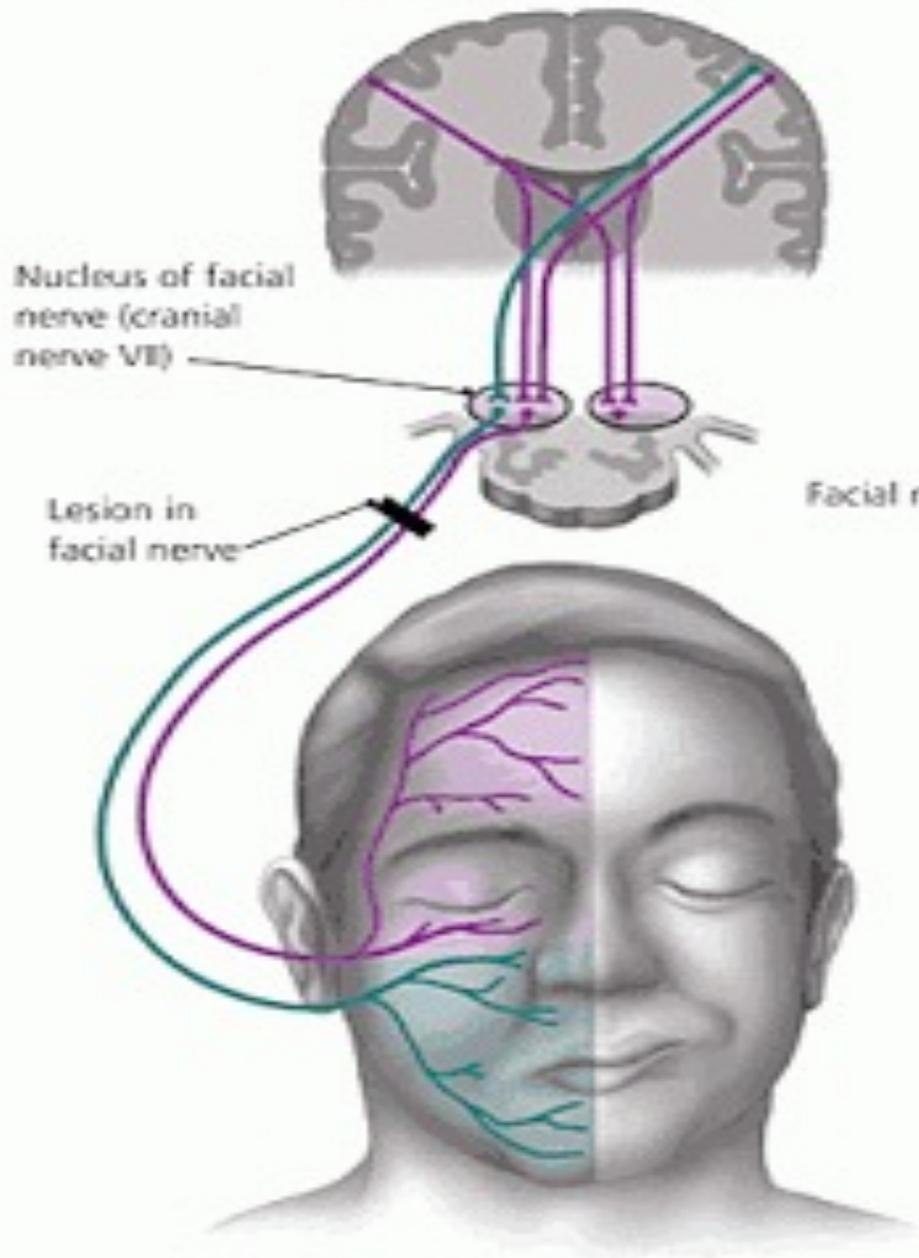
- ❑ Because the part of nucleus that supplies the muscles of the upper part of the face receives cortico-nuclear fibers from both cerebral hemisphere.
- ❑ The part of the nucleus that supplies the muscles of the lower part of the face receives only the cortico-nuclear fibers from the opposite cerebral hemisphere



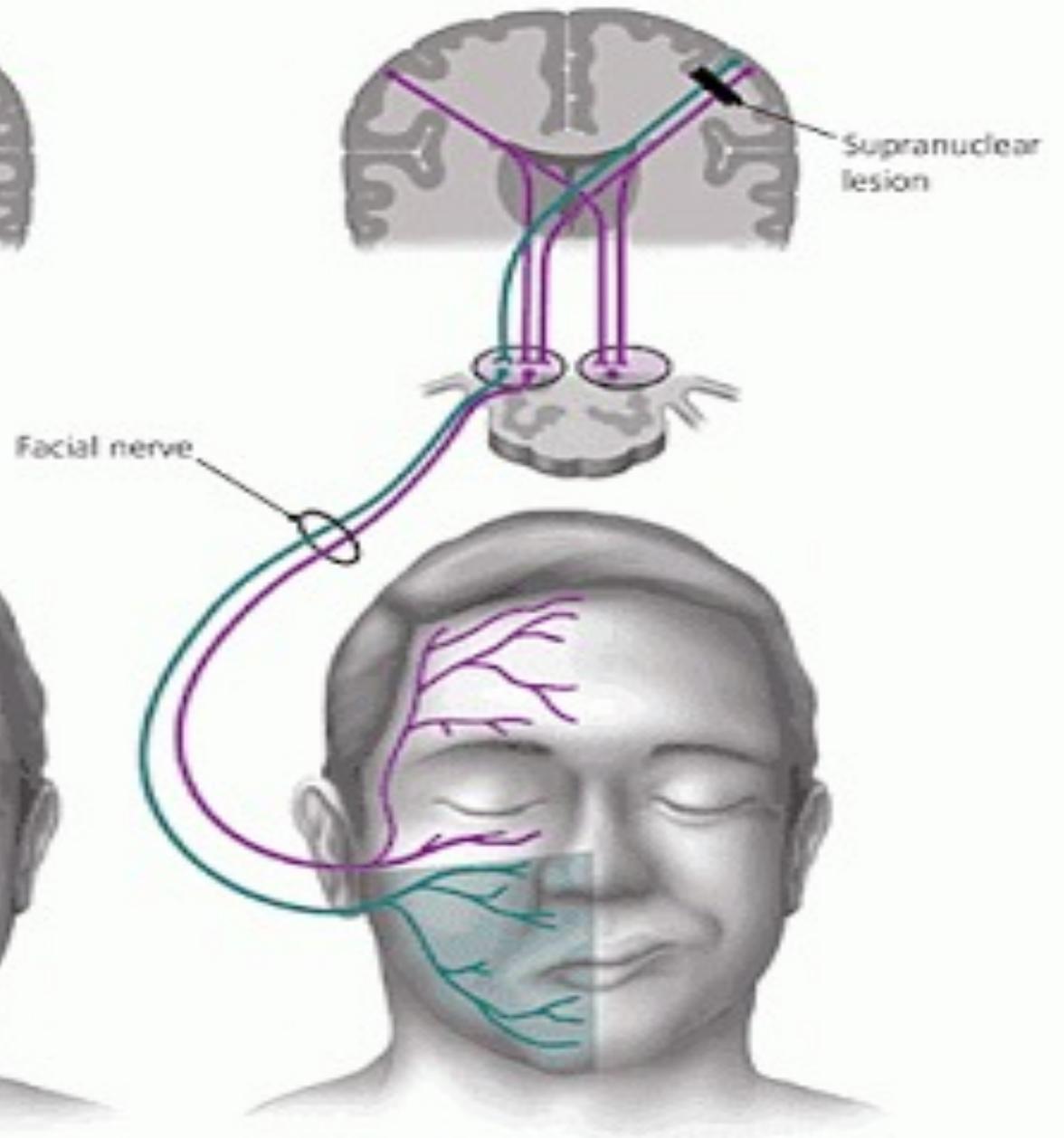
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**A. Facial nerve lesion
(Bell's palsy)**



B. Supranuclear lesion



Bell's palsy

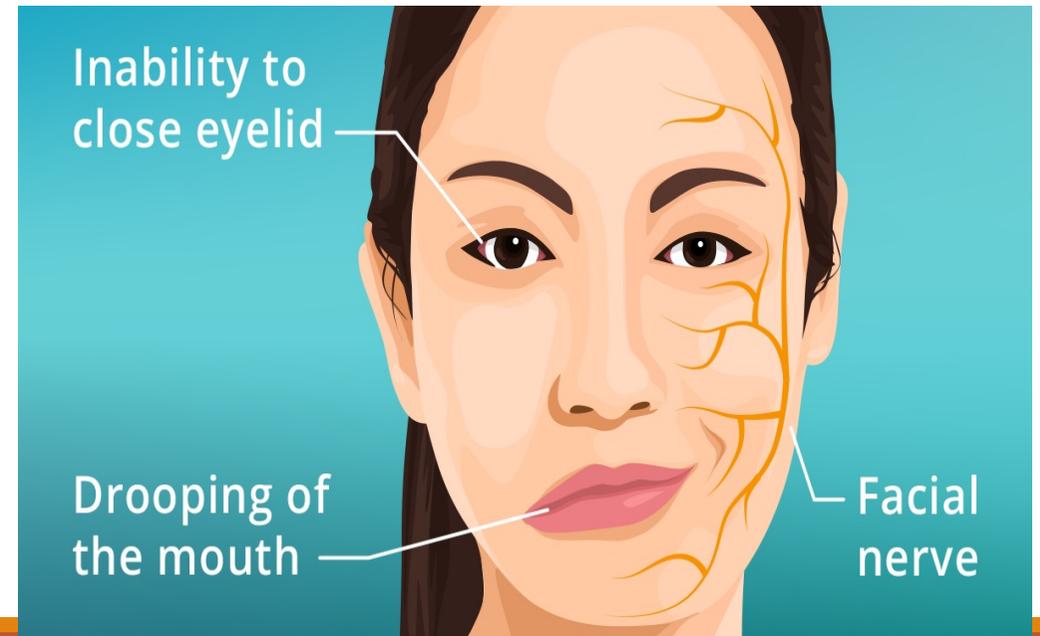
Lower motor neuron of facial nerve

Cause : Damage to the facial nerve in

- 1- The internal acoustic meatus (e.g.by a tumor)
- 2-The middle ear (e.g. by infection or operation),
- 3-The facial nerve canal (perineuritis) or edema
- 4- The parotid gland (e.g.by a tumor)
- 5- Lacerations of the face

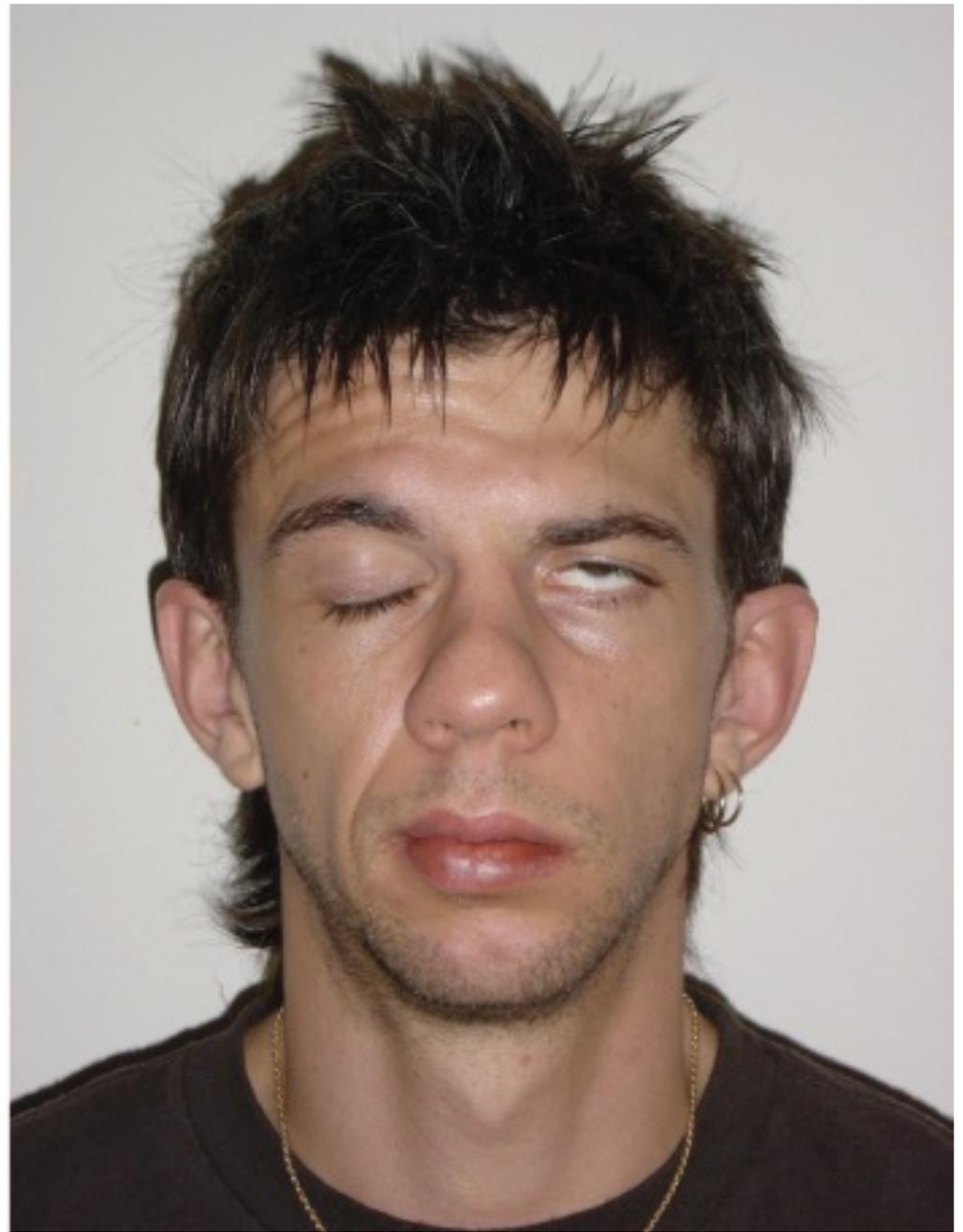
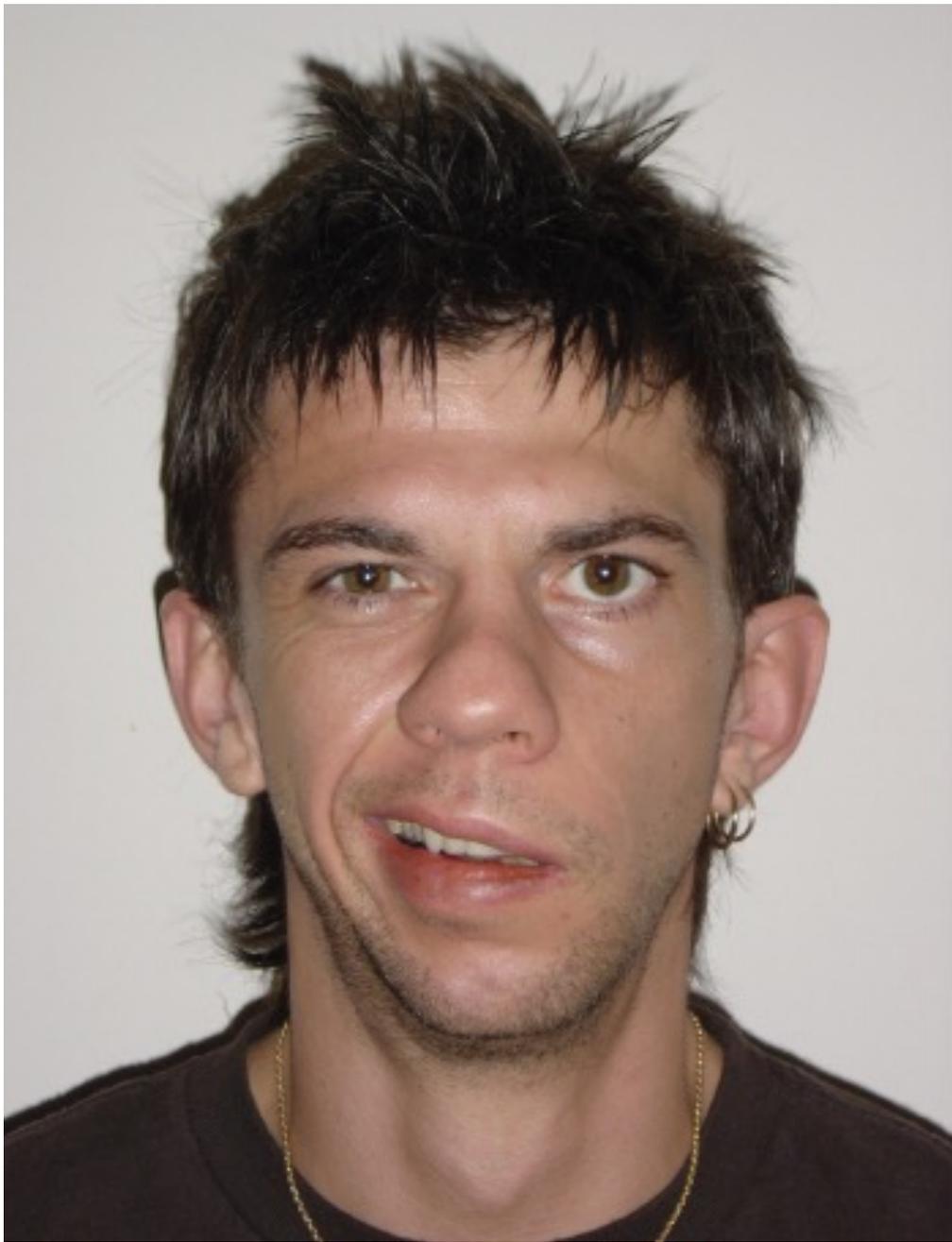
Symptoms :

- Inability to close the eye
- Inability to puff cheeks
- Lose of forehead wrinkles
- The angle of the mouth will sag on the affected side.





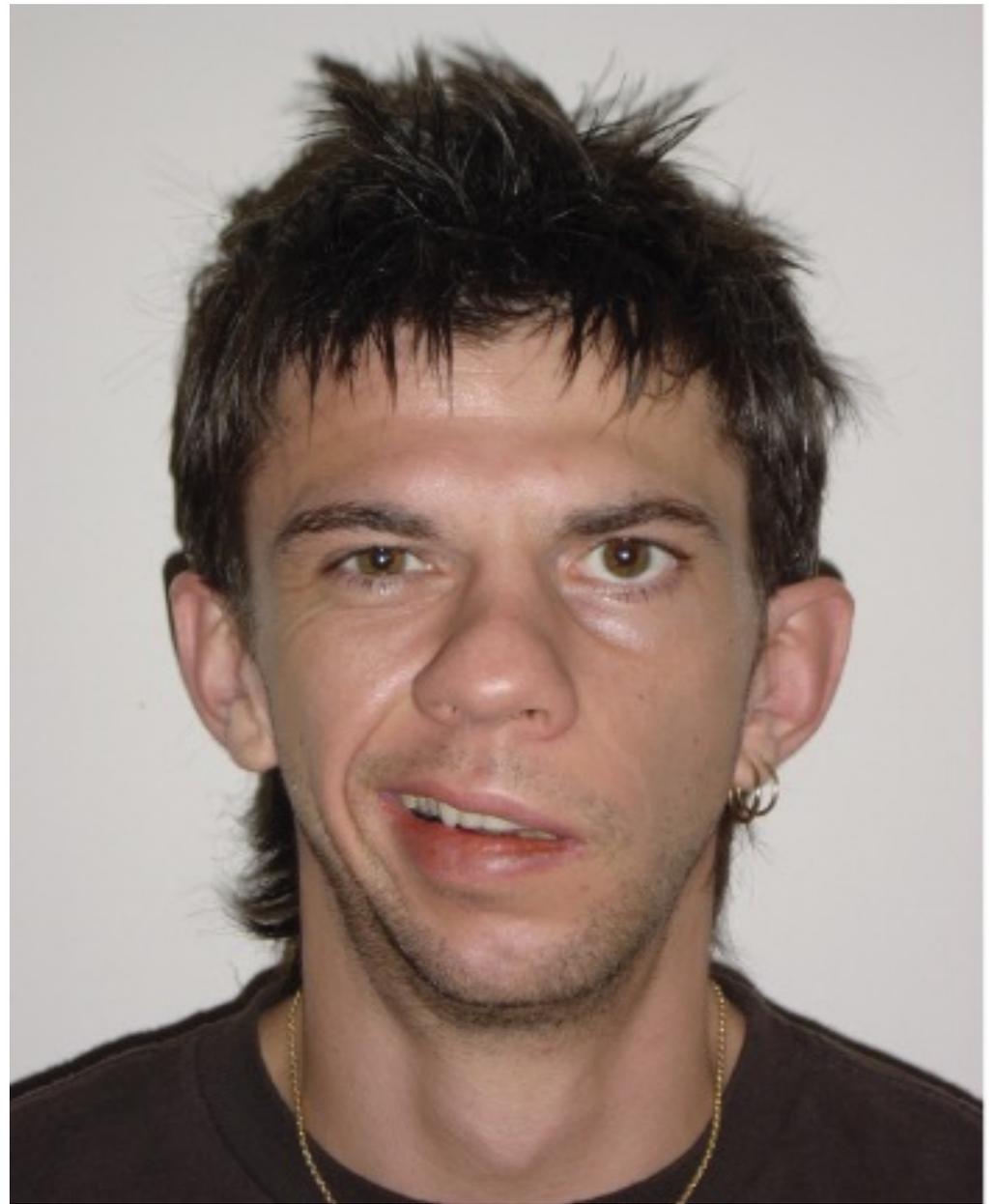
Rt. side Bell's palsy



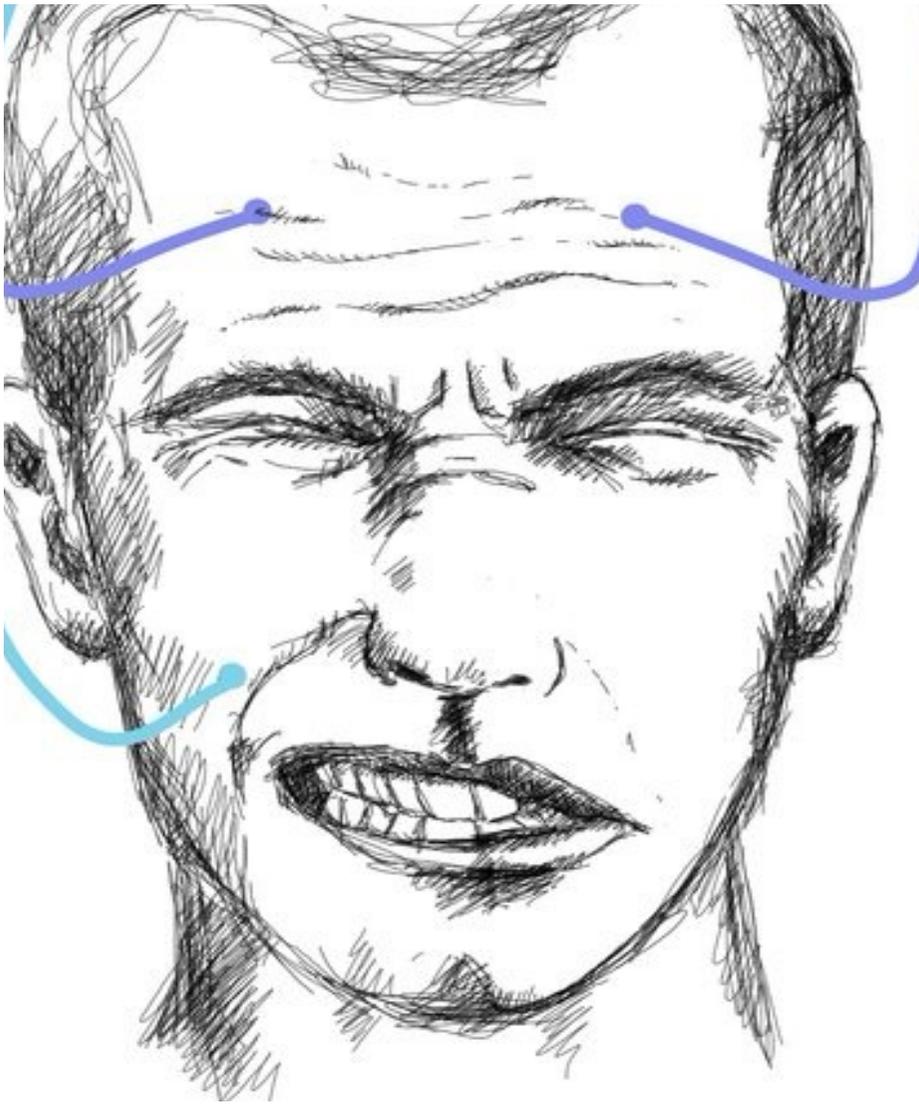
Lt. side Bell's palsy



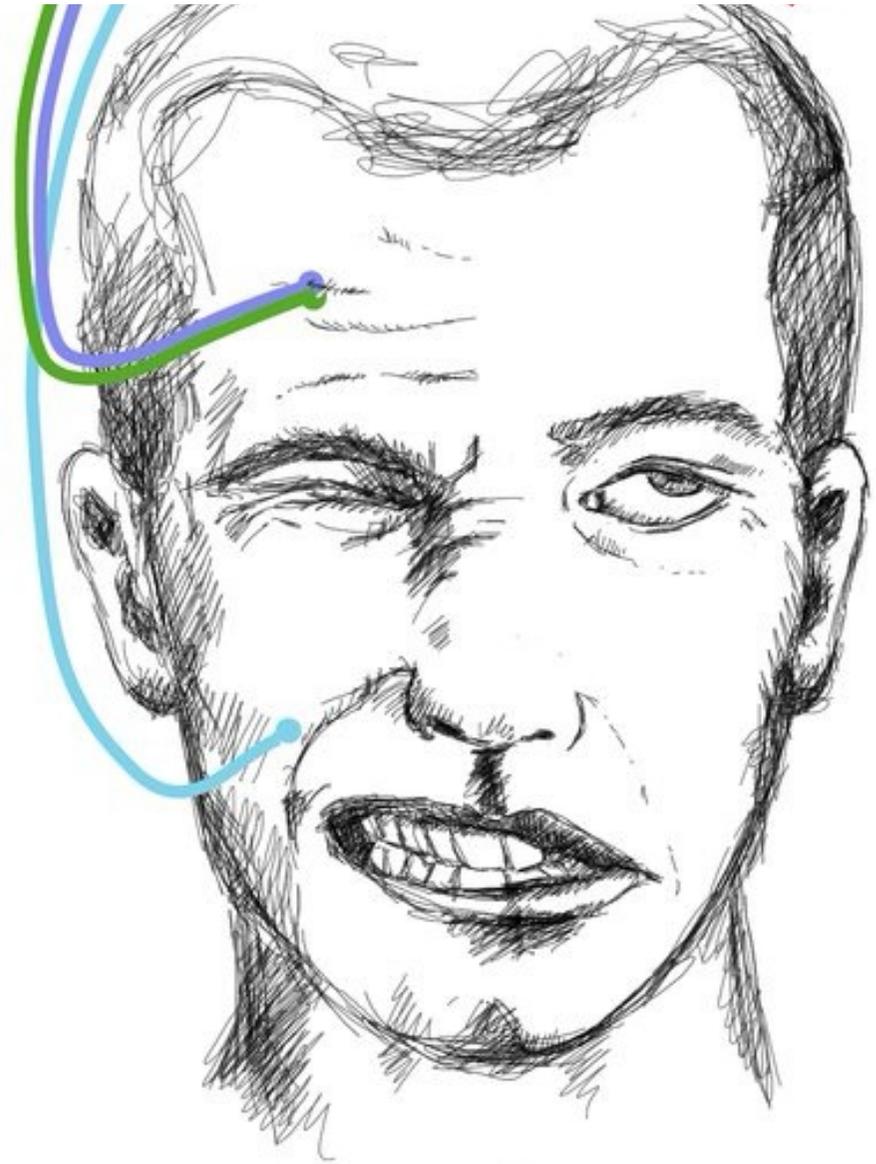
Rt. side Bell's palsy



Lt. side Bell's palsy



Rt. Upper motor NL



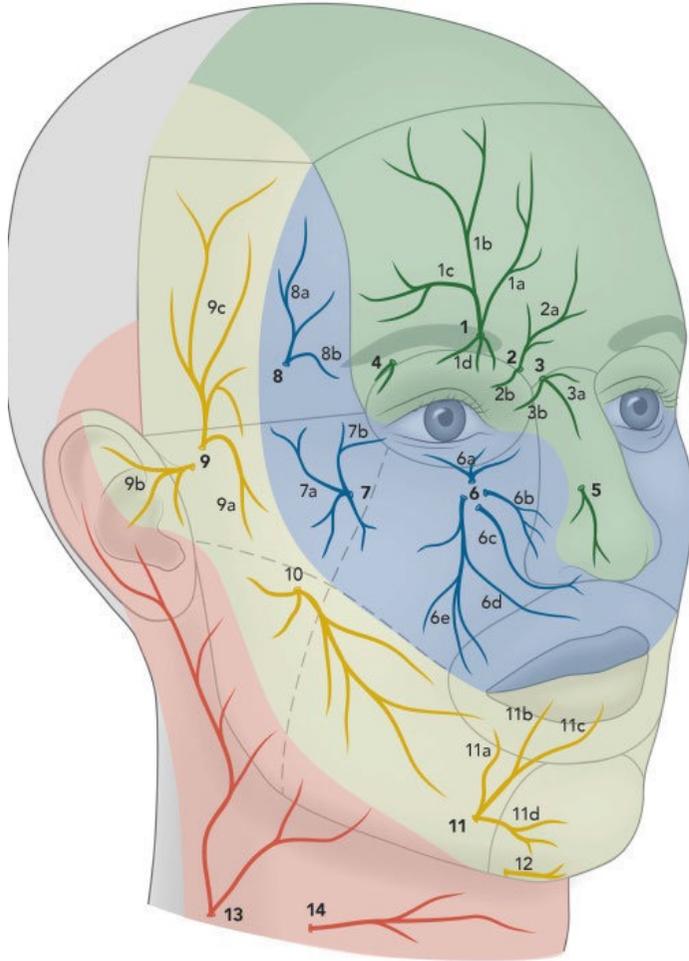
Lt. Lower motor NL



Rt. side Bell's palsy

Thank you!





Nerve and blood supply of the face

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