

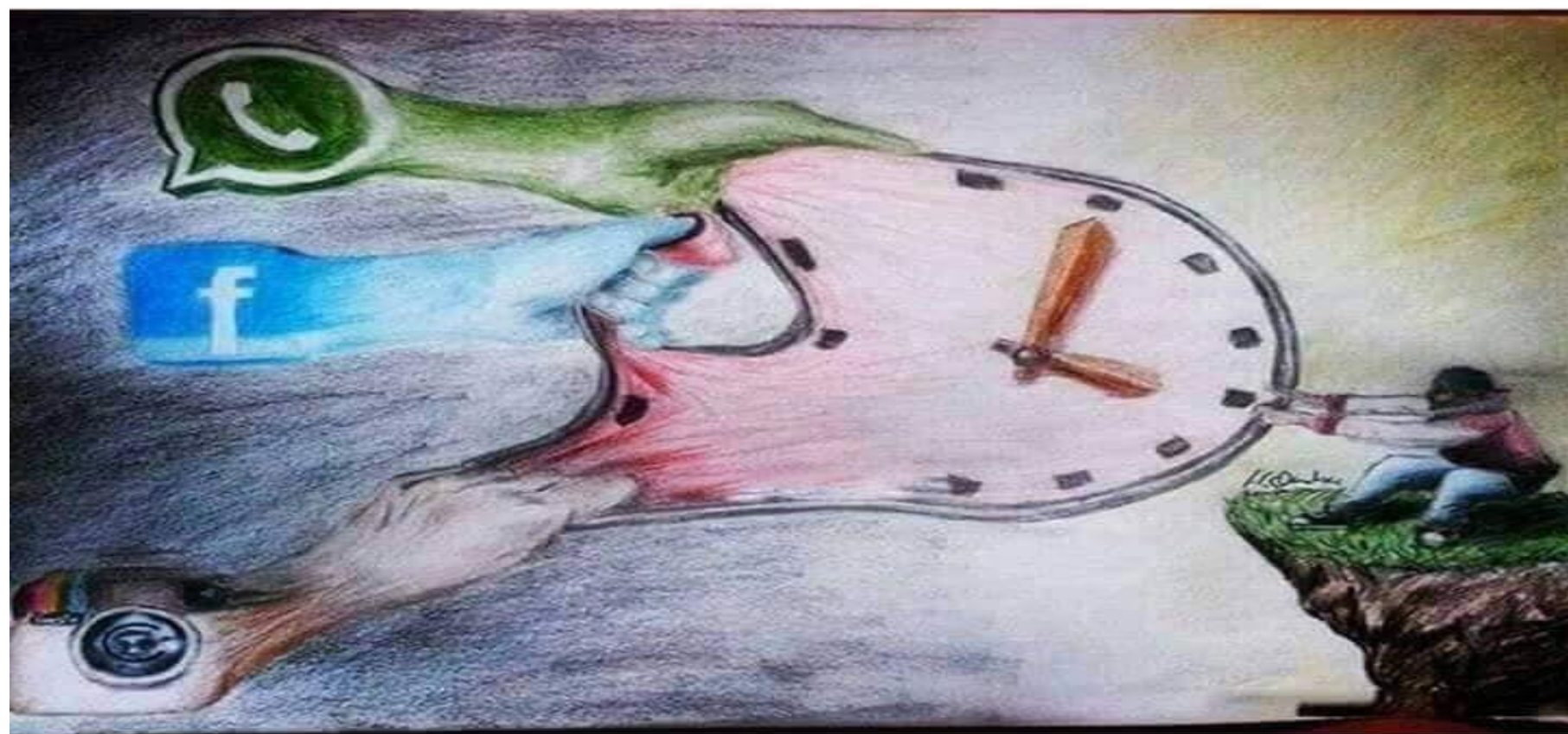
-
- أظعمكم الله من ثمار الجنة
صباح الخير والهنا والسعادة
-



face



Don't let them take



**Too much of your time
Away. 😊**



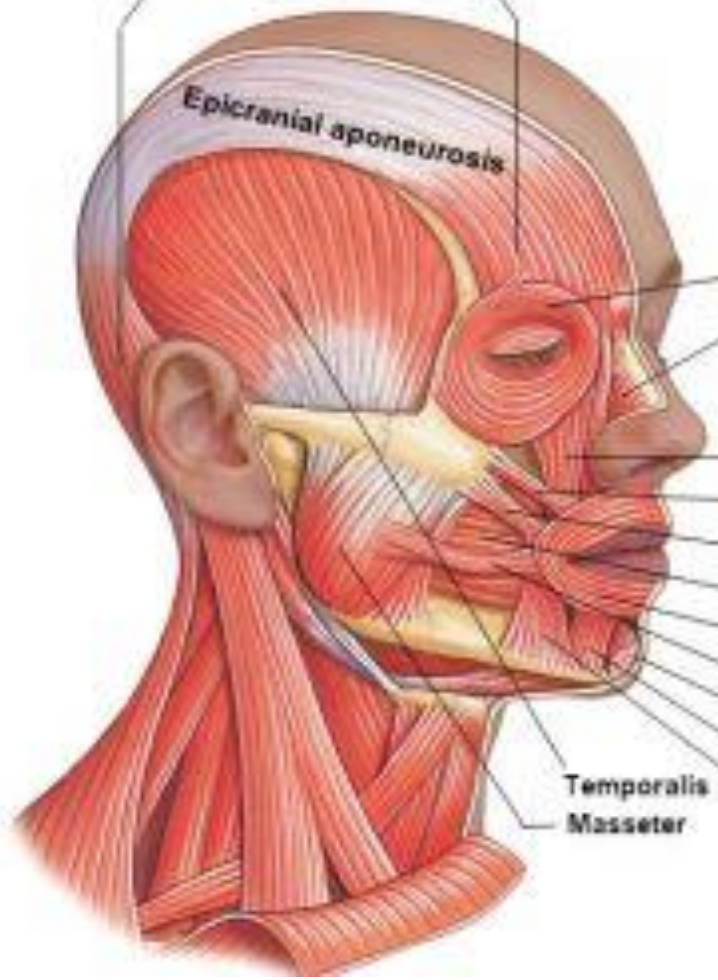
Face

- The front of the human head is called the face. It includes several distinct areas, of which the main features are:
- The forehead, comprising the skin beneath the hairline, bordered laterally by the temples and inferiorly by eyebrows and ears.
- The eyes sitting in the orbit and protected by eyelids, and eyelashes.
- The distinctive human nose shape, nostrils, and nasal septum.
- The cheeks covering the maxilla and mandibula (or jaw), the extremity of which is the chin.

major facial muscles

Occipital belly of the occipitofrontalis muscle

Frontal belly of the occipitofrontalis muscle



- Muscles of the Mouth and Cheek**
- Levator labii superioris
 - Zygomaticus minor
 - Zygomaticus major
 - Buccinator
 - Orbicularis oris
 - Risorius
 - Mentalis (cut)
 - Depressor labii inferioris
 - Depressor anguli oris

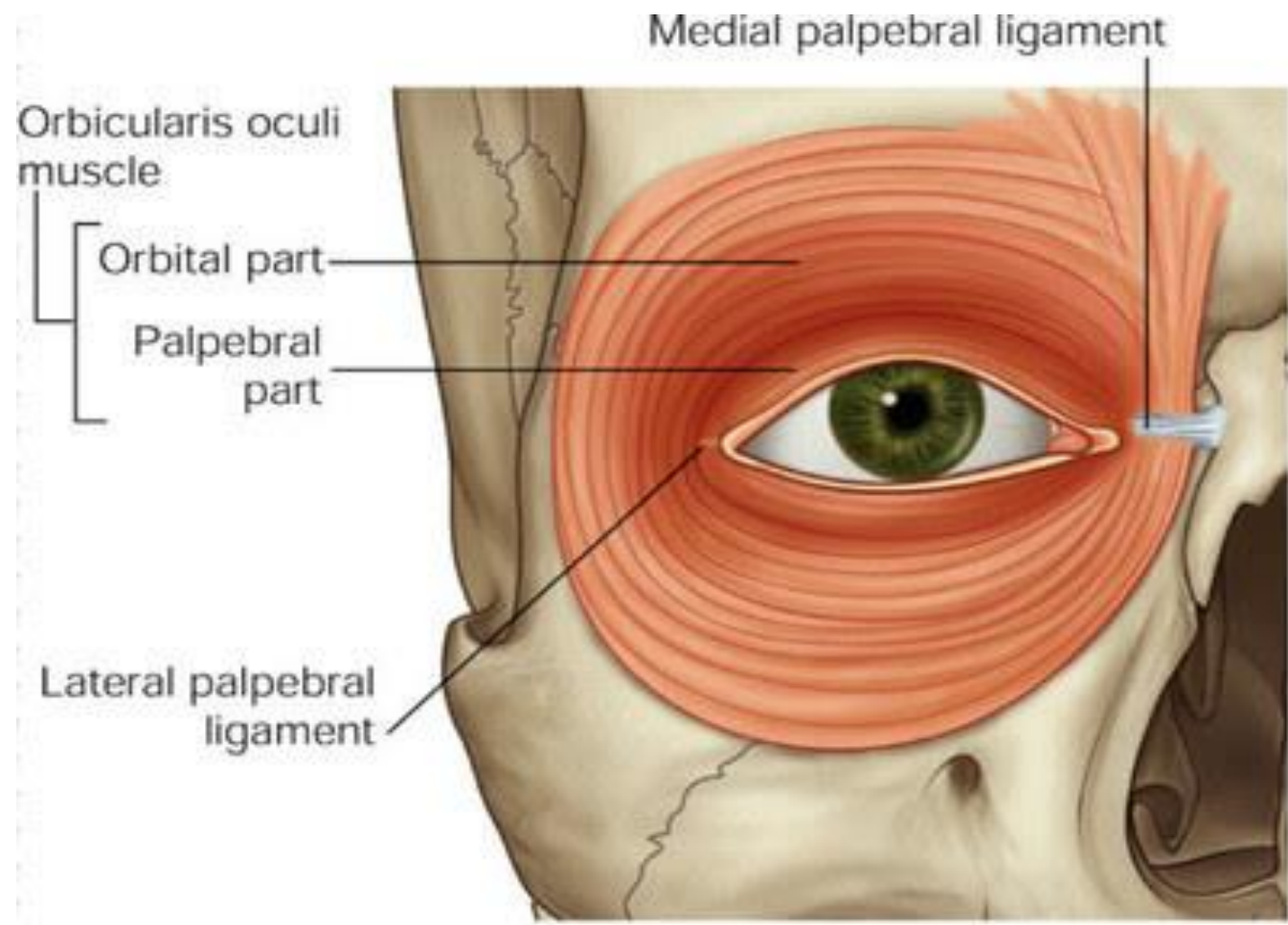
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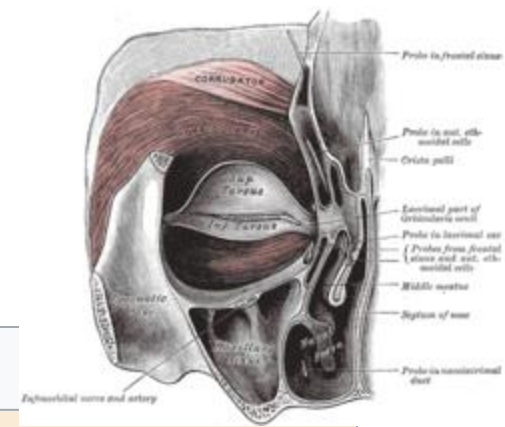
when



Orbicularis oculi muscle

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- The **orbicularis oculi** is a muscle in the face **that closes the eyelids**.
- It arises from the nasal part of the frontal bone, from the frontal process of the maxilla in front of the lacrima groove, and from the anterior surface and borders of a short fibrous band, the medial palpebral ligament.
- From this origin, the fibers are directed laterally, forming a broad and thin layer, which occupies the eyelids or palpebræ, surrounds the circumference of the orbit, and spreads over the temple, and downward on the cheek





ORbicularis oculi muscle

Details

<u>Origin</u>	frontal bone ; medial palpebral ligament ; lacrimal bone
<u>Insertion</u>	lateral palpebral raphe
<u>Artery</u>	ophthalmic , zygomatico-orbital , angular
<u>Nerve</u>	Temporal (orbital, palpebral) & Zygomatic (lacrimal) branches of Facial Nerve
<u>Actions</u>	closes eyelids
<u>Antagonist</u>	levator palpebrae superioris

- there are at least 3 clearly defined sections of the orbicularis muscle. However, it is not clear whether the lacrimal section is a separate section, or whether it is just an extension of the [Preseptal orbicularis](#) and the [Pretarsal orbicularis](#) sections.

Orbital orbicularis

- The orbital portion is thicker and of a reddish color; its fibers form a complete ellipse without interruption at the lateral palpebral commissure; the upper fibers of this portion blend with the [Frontalis](#) and [Corrugator](#).

- **Palpebral orbicularis]**

- The palpebral portion of the muscle is thin and pale; it arises from the bifurcation of the [medial palpebral ligament](#), forms a series of concentric curves, and is inserted into the [lateral palpebral raphe](#) at the outer canthus (corner) of eye.^[3] The palpebral portion contains the [Preseptal orbicularis](#) and the [Pretarsal orbicularis](#) muscles. The Pretarsal orbicularis is thought to be responsible for the [spontaneous blink](#)

- **Lacrimal orbicularis**[

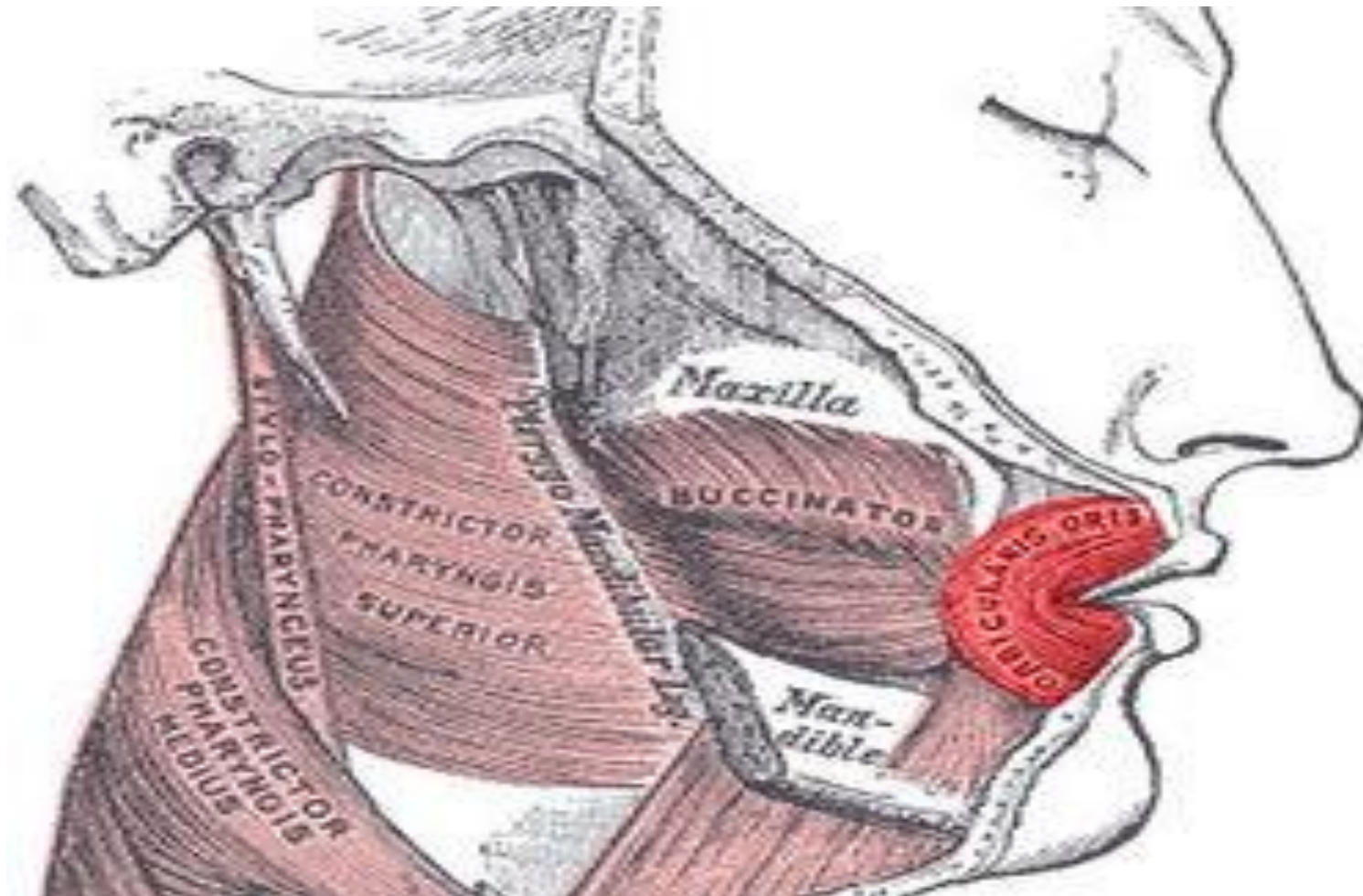
- The lacrimal part (tensor tarsi) is a small, thin muscle, about 6 mm in breadth and 12 mm in length, situated behind the medial palpebral ligament and lacrimal sac. It arises from the posterior crest and adjacent part of the orbital surface of the [lacrimal bone](#), and passing behind the lacrimal sac, divides into two slips, upper and lower, which are inserted into the superior and inferior tarsi medial to the [puncta lacrimalia](#); occasionally it is very indistinct. The lacrimal orbicularis facilitates the [tear pump](#) into the [lacrimal sac](#).^[4]

- Function

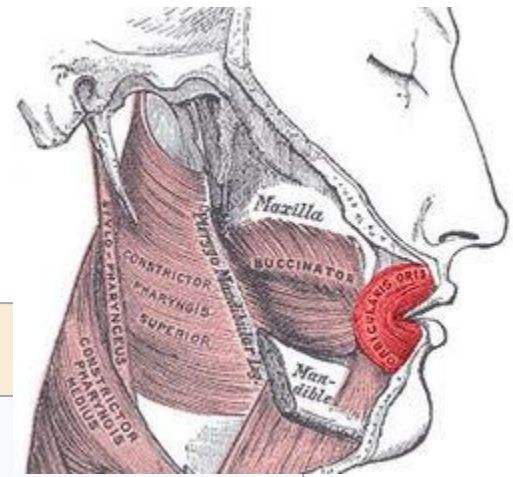
- The muscle acts to close the eye, and is the only muscle capable of doing so. Loss of function for any reason results in an inability to close the eye, necessitating [eye drops](#) at the minimum to [surgical closure](#) of the eye in extreme cases.
- The palpebral portion acts involuntarily, closing the lids gently, as in [sleep](#) or in [blinking](#); the orbital portion is subject to conscious control. When the entire muscle is brought into action, the skin of the forehead, temple, and cheek is drawn toward the medial angle of the orbit, and the eyelids are firmly closed, as in [photophobia](#). The skin thus drawn upon is thrown into folds, especially radiating from the lateral angle of the eyelids; these folds become permanent in [senescence](#), and form the so-called “[crow's feet](#).” The [Levator palpebræ superioris](#) is the direct [antagonist](#) of this muscle; it raises the upper eyelid and exposes the front of the bulb of the eye. In addition, the orbital and palpebral portions can work independent of each other, as in the frowning of the brows by contraction of the orbital to reduce glare while keeping the eyes open by virtue of the relaxation of the palpebral.^[3]

- Each time the eyelids are closed through the action of the Orbicularis, the medial palpebral ligament is tightened, the wall of the lacrimal sac is thus drawn lateralward and forward, so that a vacuum is made in it and the tears are sucked along the lacrimal canals into it. The lacrimal part of the Orbicularis oculi draws the eyelids and the ends of the lacrimal canals medialward and compresses them against the surface of the globe of the eye, thus placing them in the most favorable situation for receiving the tears; it also compresses the [lacrimal sac](#). This part comprises two pieces: [Horner's muscle](#) and the [muscle of Riolan](#), the latter helps hold the eyelids together to keep the lacrimal passage waterproof.^[3]
- Associated pathology, such as a lesion of the [facial nerve](#) seen in [Bell's palsy](#) results in the inability to blink or close the ipsilateral eyelid. Subsequent lack of irrigation increases the risk of corneal inflammation and ulcers.^{[cit}

Orbicularis oris muscle



- In [human anatomy](#), the **orbicularis oris muscle** is a complex of muscles in the lips that encircles the [mouth](#). Until recently, it was misinterpreted as a [sphincter](#), or circular muscle, but it is actually composed of four independent quadrants that interlace and give only an appearance of circularity.^[3]
- It is also one of the [muscles](#) used in the playing of all [brass instruments](#) and some [woodwind instruments](#). This muscle closes the mouth and puckers the lips when it contracts.



Orbicularis oris

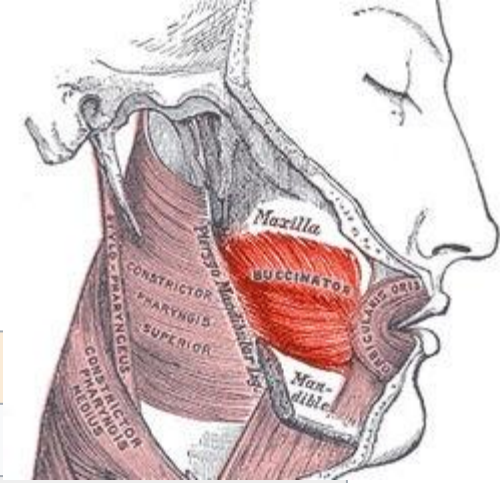
Details

<u>Origin</u>	<u>Maxilla</u> and <u>mandible</u>
<u>Insertion</u>	Skin around the lips
<u>Artery</u>	<u>Inferior labial artery</u> and <u>superior labial artery</u> .
<u>Nerve</u>	<u>cranial nerve VII</u> , <u>buccal branch</u>
<u>Actions</u>	It is sometimes known as the <u>kissing muscle</u> because it is used to pucker the <u>lips</u> .

Buccinator muscle



Buccinator muscle



Buccinator muscle	
Buccinator outlined in red.	
Details	
<u>Origin</u>	from the <u>alveolar processes</u> of <u>maxilla</u> and <u>mandible</u> , and <u>temporomandibular joint</u>
<u>Insertion</u>	in the fibers of the <u>orbicularis oris</u>
<u>Artery</u>	<u>buccal artery</u>
<u>Nerve</u>	<u>buccal branch of the facial nerve</u> (VII cranial nerve)
<u>Actions</u>	The buccinator compresses the cheeks against the teeth and is used in acts such as blowing. It is an assistant muscle of <u>mastication</u> (chewing) and in neonates it is used to suckle.

child close eye lids



Teaching Kids How to Whistle whistling!



Yikes! Blowing out birthday candles
Soap Bubbles

Little Girl Blowing



- Superficial Nerves of the Face and Scalp
- The superficial nerves of the face and scalp are derived from three primary nerves:
 - Cranial nerve 7 / the facial nerve (which provides motor innervation to the muscles of the face)
 - Cranial nerve 5 / the trigeminal nerve (which provides sensory innervation to the face)
 - The cervical plexus (which provides innervation to the scalp)

- Contents

1. Facial Nerve

2. Trigeminal Nerve

1. Ophthalmic Division (V1) nerves

2. Maxillary Division (V2) Branches

3. Mandibular Division (V3) Branches

3. Nerves of the Cervical Plexus

4. Clinical Notes

5. Related Atlas Images

INNERVATION OF THE FACE

- **Sensory**

Trigeminal Nerve

- The sensory innervation to the face comes from the trigeminal nerve which is the only cranial nerve that arises directly from the pons. Its three branches are the Ophthalmic (V1), Maxillary (V2) and Mandibular (V3). Each of those branches supplies the corresponding region on the face. The trigeminal also supplies the muscles of mastication (medial and lateral pterygoids, temporalis and masseter).

Ophthalmic Division (V1) nerves

- The supraorbital nerve is a terminal branch of the frontal nerve. It travels through the supraorbital foramen, and provides palpebral branches to the upper eyelid. It also supplies the conjunctiva of the eye (the transparent covering over the inside of the eyelids and the white part of the eyeball), the skin of the forehead as far back as the middle of the scalp, and the frontal sinus.

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- The supratrochlear nerve is one of the branches of the frontal nerve, which is a branch of the ophthalmic division of the trigeminal nerve (5th cranial nerve). The nerve travels superior to the pulley of the superior oblique muscle and then gives off a fine descending filament that joins the infratrochlear branch of the nasociliary nerve. The supratrochlear nerve has a complex course and initially travels between the supraorbital foramen and the pulley of the superior oblique. Then, it takes a gradually curving path up the forehead and passes in between two muscles of the head and face - the frontalis and the corrugator supercili. At that point, it pierces these muscles and also splits into branches that supply the skin of the upper eyelid, the skin of the forehead, near the midline (the glabella region) and also the conjunctiva.

- The external nasal branches are the terminal branches of the anterior ethmoidal nerves (from the ophthalmic division of the trigeminal nerve i.e. cranial nerve 5) and function to provide sensation to the skin over the cartilaginous nasal septum and also the lower half of the nose.

- The infratrochlear nerve is the terminal branch of the nasociliary nerve, which is a branch of the ophthalmic division of the trigeminal nerve. The infratrochlear nerve arises after the anterior ethmoidal nerve enters the anterior ethmoidal foramen. The nerve runs anteriorly along the superior border of the medial rectus muscle and is usually joined by a small filament of the supratrochlear nerve near the pulley of the superior oblique muscle. The nerve then travels medially to supply the skin of the bridge of the external nose and the superior eyelids, caruncle and lacrimal sac.



Maxillary Division (V2) Branches

- The zygomaticofacial nerve is a branch of the maxillary nerve which is a branch of the 5th cranial nerve (trigeminal nerve). The zygomaticofacial nerve supplies the skin which lies over both the temporal bone and zygomatic bone. It achieves that by entering the orbit. This nerve is very easily confused with the zygomatic branch of the facial nerve which is a motor nerve, not a sensory nerve.

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- The zygomaticotemporal nerve is a small branch of the V2 (maxillary) branch of the trigeminal nerve. The nerve travels along the lateral most wall of the orbital socket, specifically in a groove in the zygomatic bone. The nerve combines with a small branch of the lacrimal nerve. It enters the temporal fossa by passing through the zygomaticotemporal foramen in the zygomatic bone. From that location, the nerve progresses in the space between the temporal bone and the temporalis muscle. It goes on to pierce the temporal fascia superior to the zygomatic arch, where it divides and goes to supply sensory innervation to the skin at the side of the forehead. As the nerve pierces the fascia, it travels between the two layers of the fascia to eventually enter at the lateral angle of the orbit. This nerve also communicates with the facial nerve and the auriculotemporal branch of the mandibular nerve.

- The infraorbital nerve is a branch of the maxillary nerve as it enters the infraorbital canal. It is responsible for providing sensory innervation to the lower eyelid, upper lip, infraorbital foramen of the maxilla and the nasal vestibule.

Mandibular Division (V3) Branches

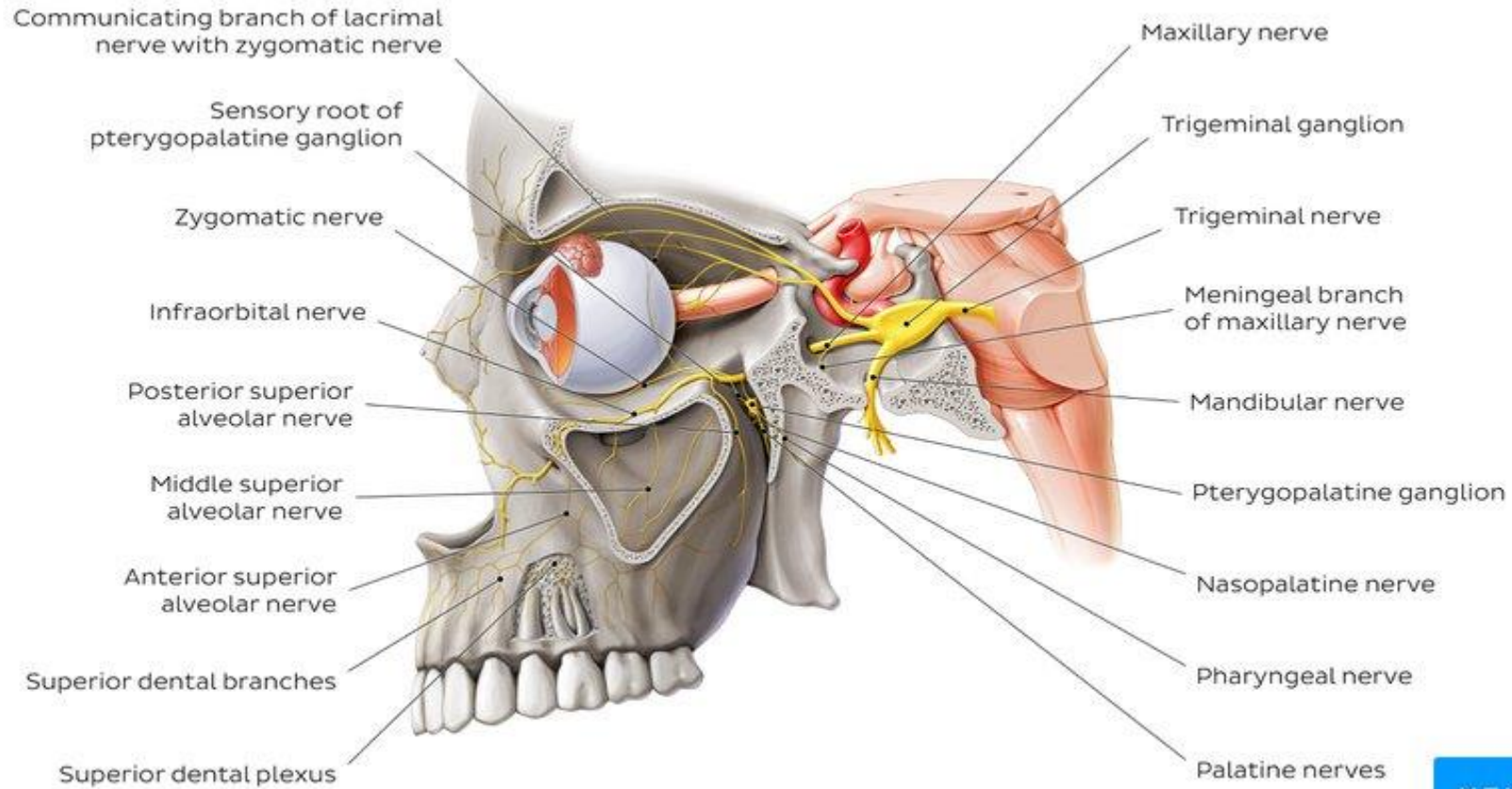
- The mandibular division (V3) of the fifth cranial nerve i.e. the trigeminal nerve gives off a branch known as the auriculotemporal nerve. Its course is similar to both the superficial temporal artery (the terminal branch of the external carotid artery) and vein. The function of the nerve is to provide sensory innervation to the areas of skin on the side of the head.
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- The buccal nerve is another branch of the mandibular nerve and is responsible for supplying sensory innervation to the skin over the buccal membrane (internal surface) of the cheek. It is important to distinguish this nerve from the buccal branch of the facial nerve which functions to provide motor innervation to the buccinator muscle on the cheek. Sensory innervation to the external skin of the face is also done via the trigeminal nerve. The mental nerve is the terminal branch of the inferior alveolar nerve (a branch of the mandibular division of the trigeminal nerve). It exits the mandible via the mental foramen to provide sensation over the chin area.

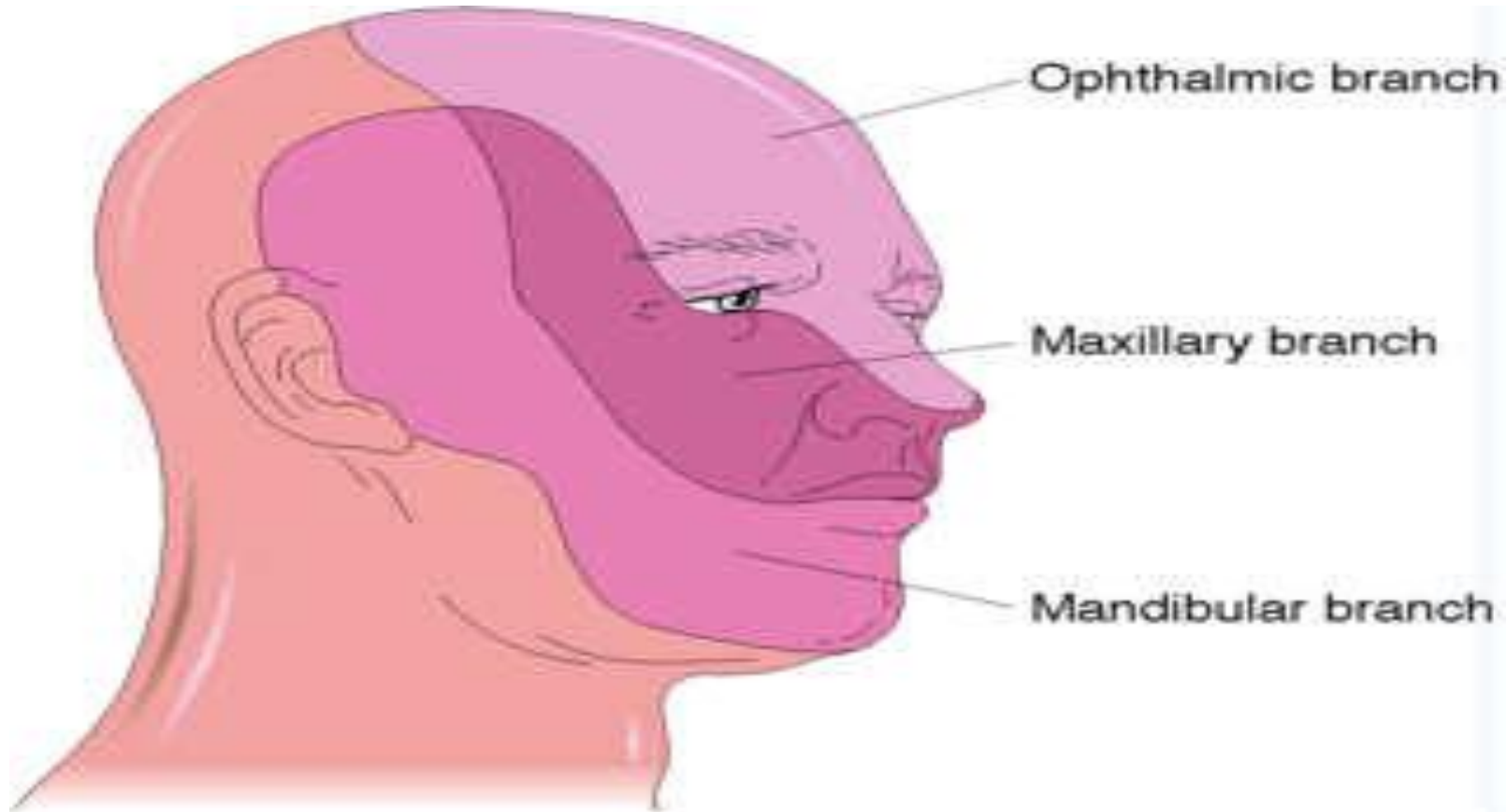
- **Nerve of the Cervical Plexus**

- The **great auricular nerve** is a branch of the cervical plexus and has nerve roots C2 and C3. Its functional role is to supply sensory innervation on the skin over the mastoid process, outer ear and parotid gland regions.

Trigeminal Nerve



Trigeminal N



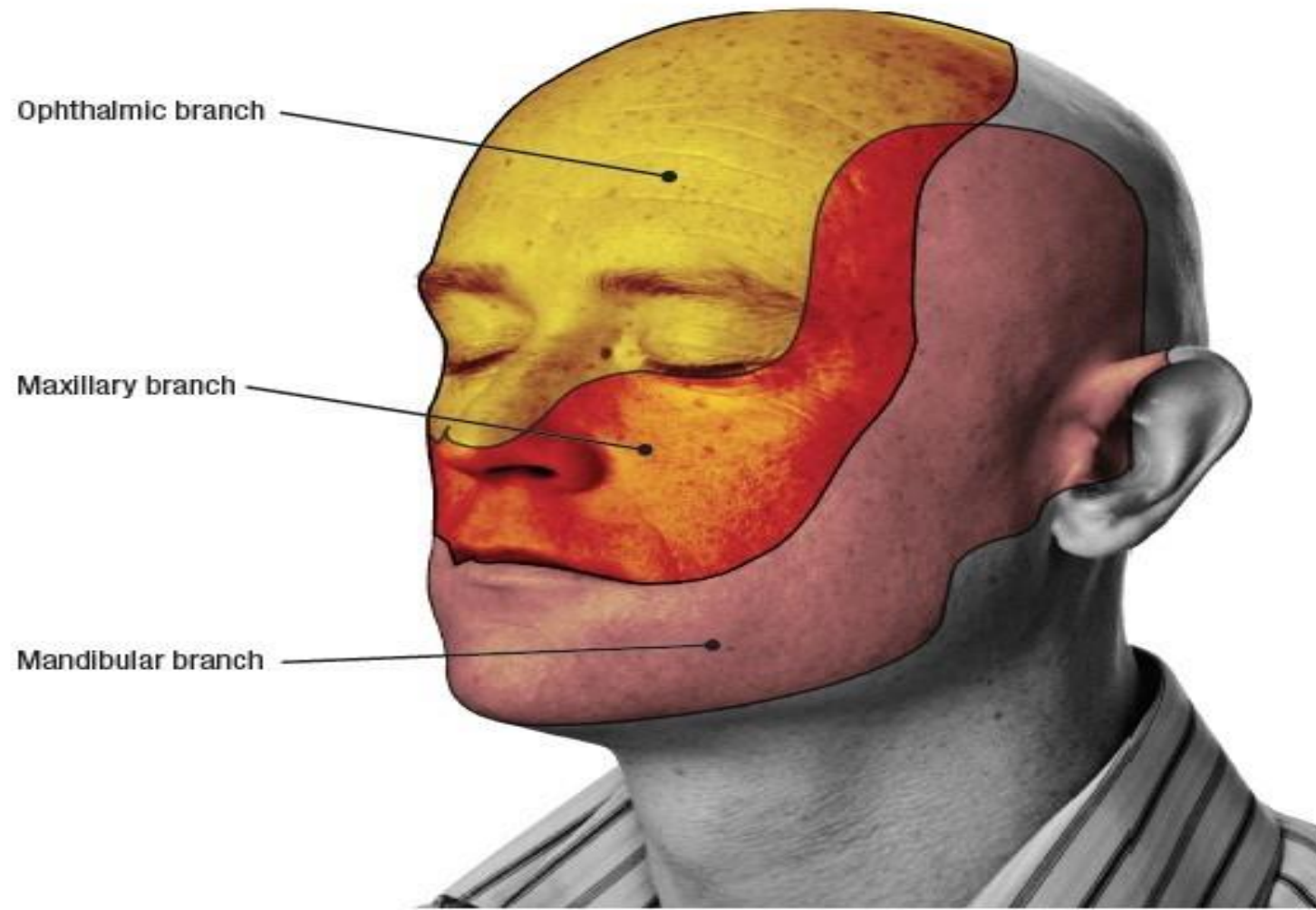


Figure 1. Distribution of the cranial nerve V: the ophthalmic nerve (V_1), the maxillary nerve (V_2), and the mandibular nerve (V_3).

