

The Face

1-Skin of the Face

The skin of the face is:

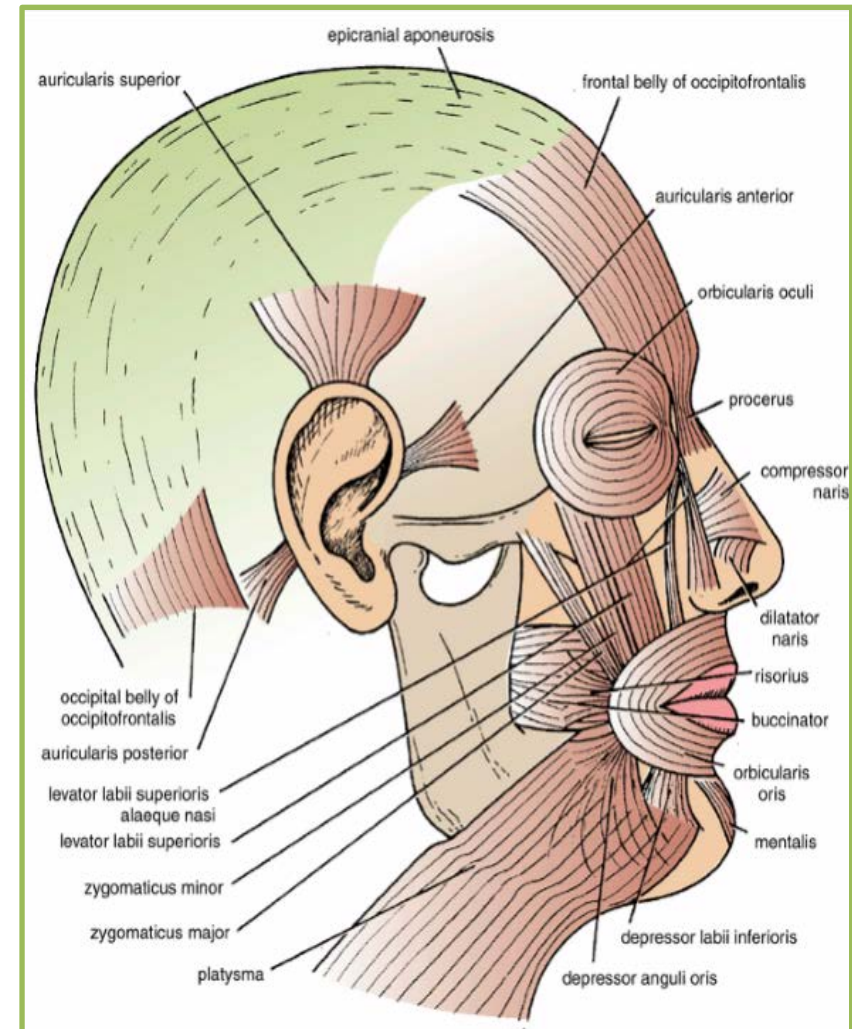
- Elastic
- Vascular (bleed profusely however heal rapidly)
- Rich in sweat and sebaceous glands
(can cause acne in adults)
- It is connected to the underlying bones by loose connective tissue, in which are embedded the muscles of facial expression

2-Superficial fascia of the face

Contains:

- a-facial muscles
- b-vessels & nerves
- c-fat tissue (absent in the eye lids but it is well developed in the cheeks)

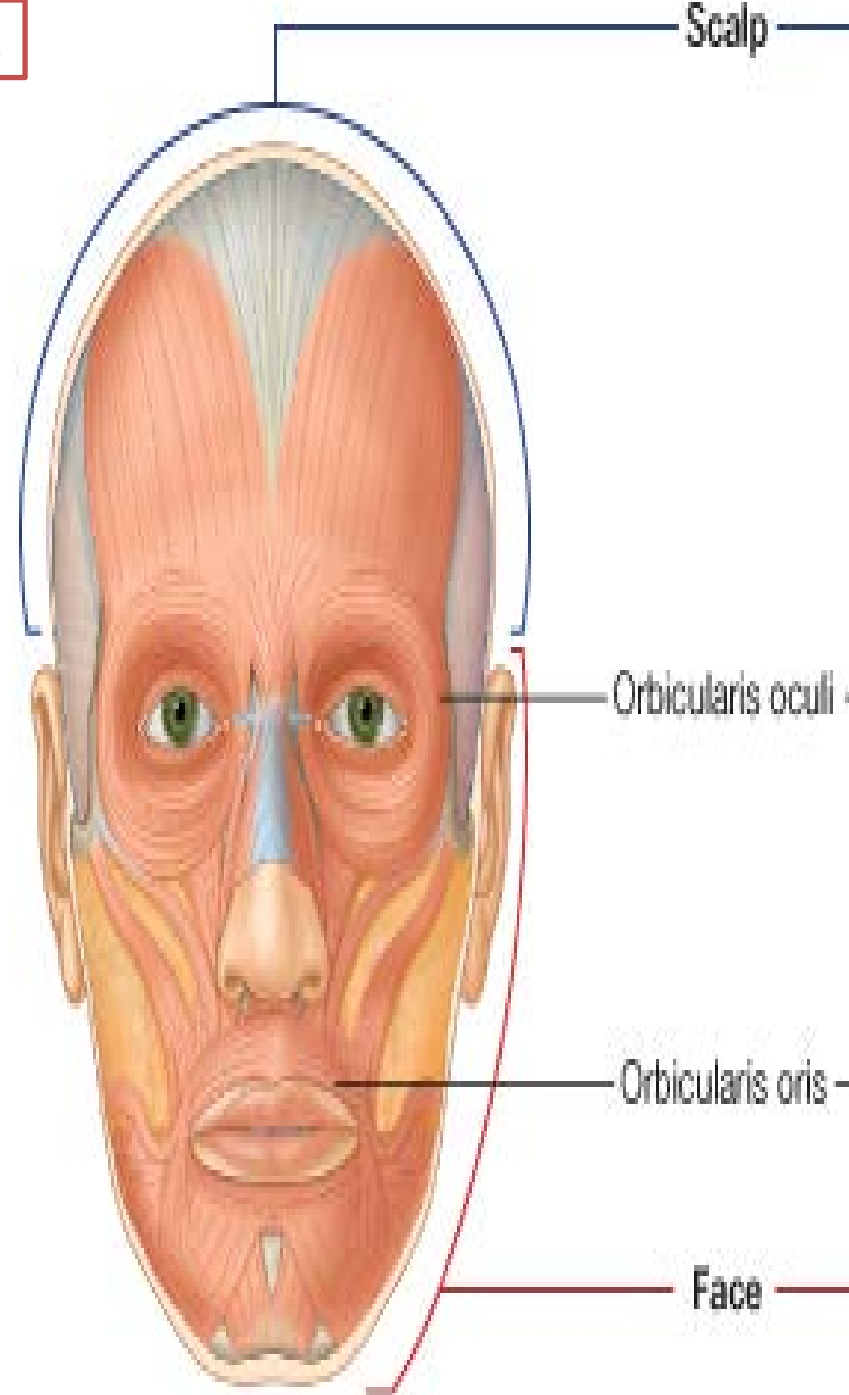
3-Deep fascia: is absent (except over the parotid gland & buccopharngal fascia covering the buccinator muscle)



Muscles of the face: muscles of the facial expression

General features

- 1-They lie within the superficial fascia
- 2-They take their origin from the facial bones
- 3-They are inserted into the skin
- 4- They are arranged around the three openings of the face namely, the orbit, nose, and mouth either as sphincters or dilators
- 5- They are supplied by the facial nerve
- 6- Embryologically, they are originating from the mesoderm of the second branchial arch and therefore are supplied by the facial nerve
- 7- Can be divided into two groups
 - 1- Three large muscles
 - 2- Many small muscles



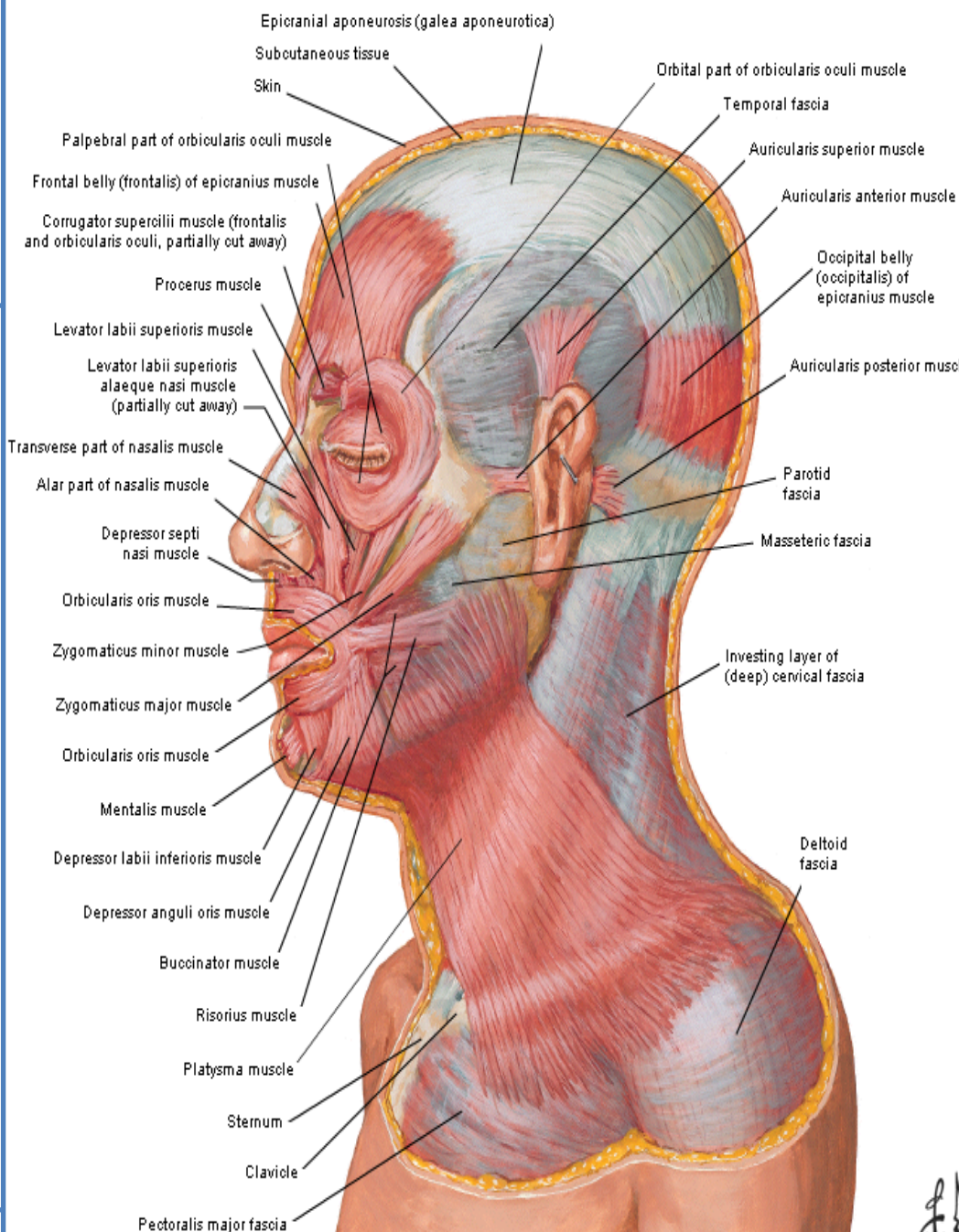
1- Three large muscles

- 1-Buccinator muscle
- 2- Orbicularis oris muscle
- 3- Orbicularis oculi muscle

2-Many small muscles such as:

- Levator labii superioris alaeque nasi
- Levator labii superioris
- Zygomaticus minor
- Zygomaticus major
- Levator anguli oris
- Risorius
- Depressor anguli oris
- Depressor labii inferioris
- Mentalis
- Platysma

Muscles of Facial Expression: Lateral View



Muscle of the Cheek

Buccinator

Origin:

Upper fibers: from the maxilla opposite the molar teeth

Lower fibers:from the mandible opposite the molar teeth

Middle fibers: from the pterygomandibular ligament

Insertion: *At the angle of the mouth.*

Read only

the **central (middle)** fibers decussate, those from below entering the upper lip and those from above entering the lower lip
the **highest (upper)** and **lowest (lower)** fibers continue into the upper and lower lips, respectively, without intersecting.

The buccinator muscle thus blends and forms part of the **orbicularis oris muscle**

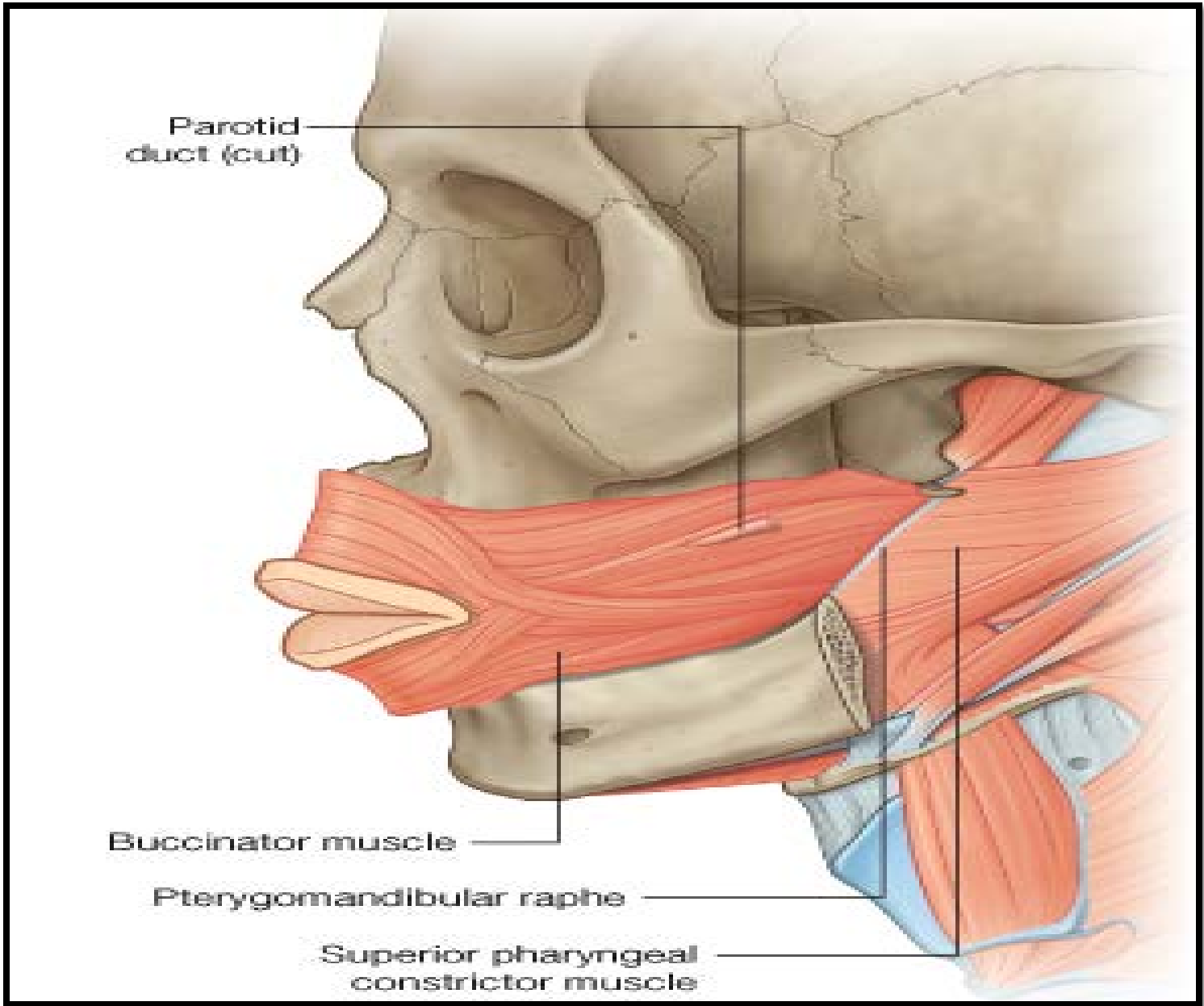
Important

The muscle is pierced by *the parotid duct.*

Nerve supply: Buccal branch of the **facial nerve**

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





Parotid duct (cut)

Buccinator muscle

Pterygomandibular raphe

Superior pharyngeal constrictor muscle

Orbicularis Oris

Origin : *The fibers encircle the oral orifice within the substance of the lips*

Some of the fibers arise near the midline from the maxilla above and the mandible below.

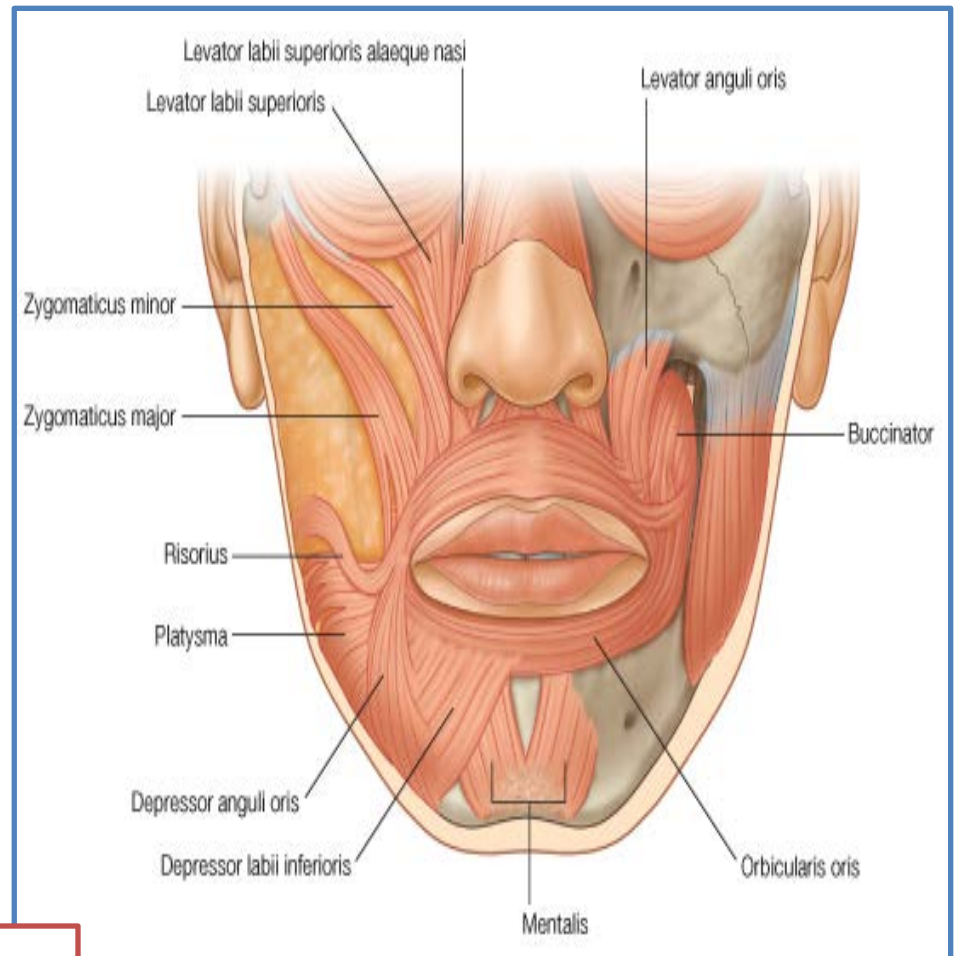
Other fibers arise from the deep surface of the skin and pass obliquely to the mucous membrane lining the inner surface of the lips.

Read only Many of the fibers are derived from the buccinator muscle.

Insertion: *angles of the mouth and lips*

Nerve supply: *Buccal and mandibular branches of the facial nerve*

Action: *Compresses the lips together (closes the vestibule of the mouth)?!*



How you should test it?

Orbicularis oculi

The **orbicularis oculi** is a large muscle that completely surrounds each orbital orifice and extends into each eyelid

It has two major parts:

1-The outer orbital part is a broad ring that encircles the orbital orifice and extends beyond the orbital rim;

2-The inner palpebral part is in the eyelids and consists of muscle fibers originating in the medial corner of the eye that arch across each lid to attach laterally.

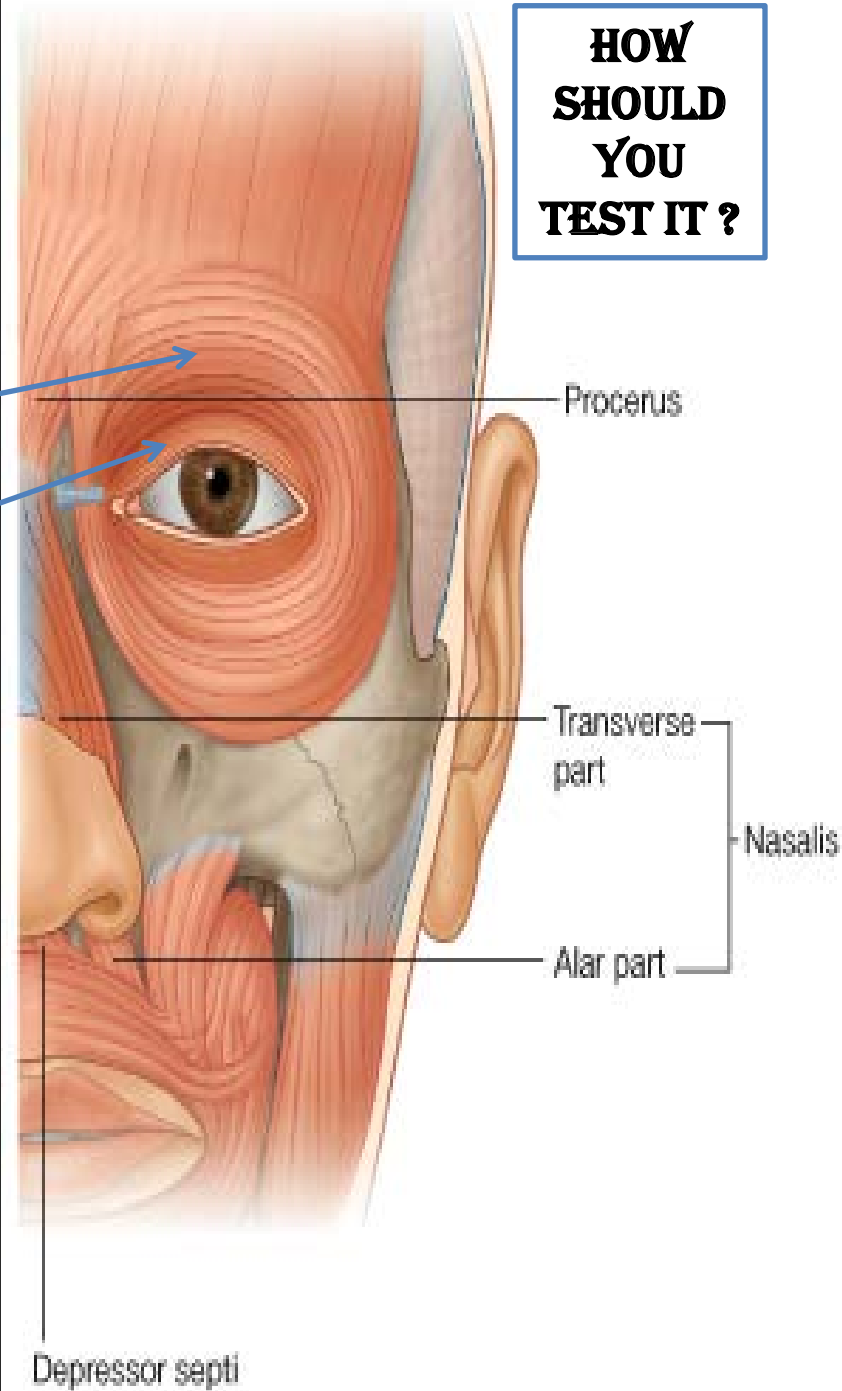
Action:

The orbital and palpebral parts have specific roles to play during eyelid closure.

The palpebral part closes the eye **gently** whereas

The orbital part closes the eye **more forcefully** and produces some wrinkling on the forehead

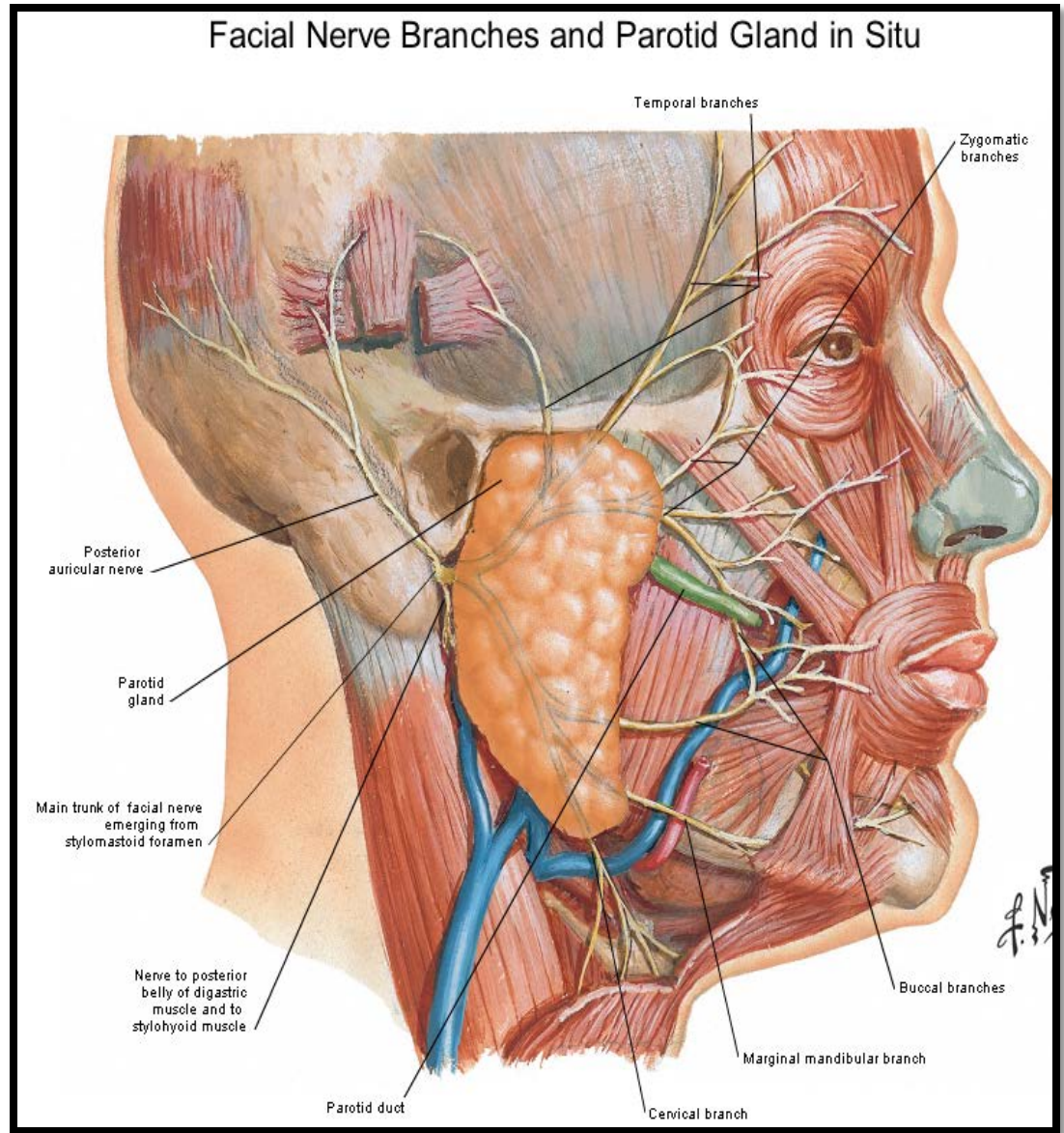
**HOW
SHOULD
YOU
TEST IT ?**



Facial Nerve

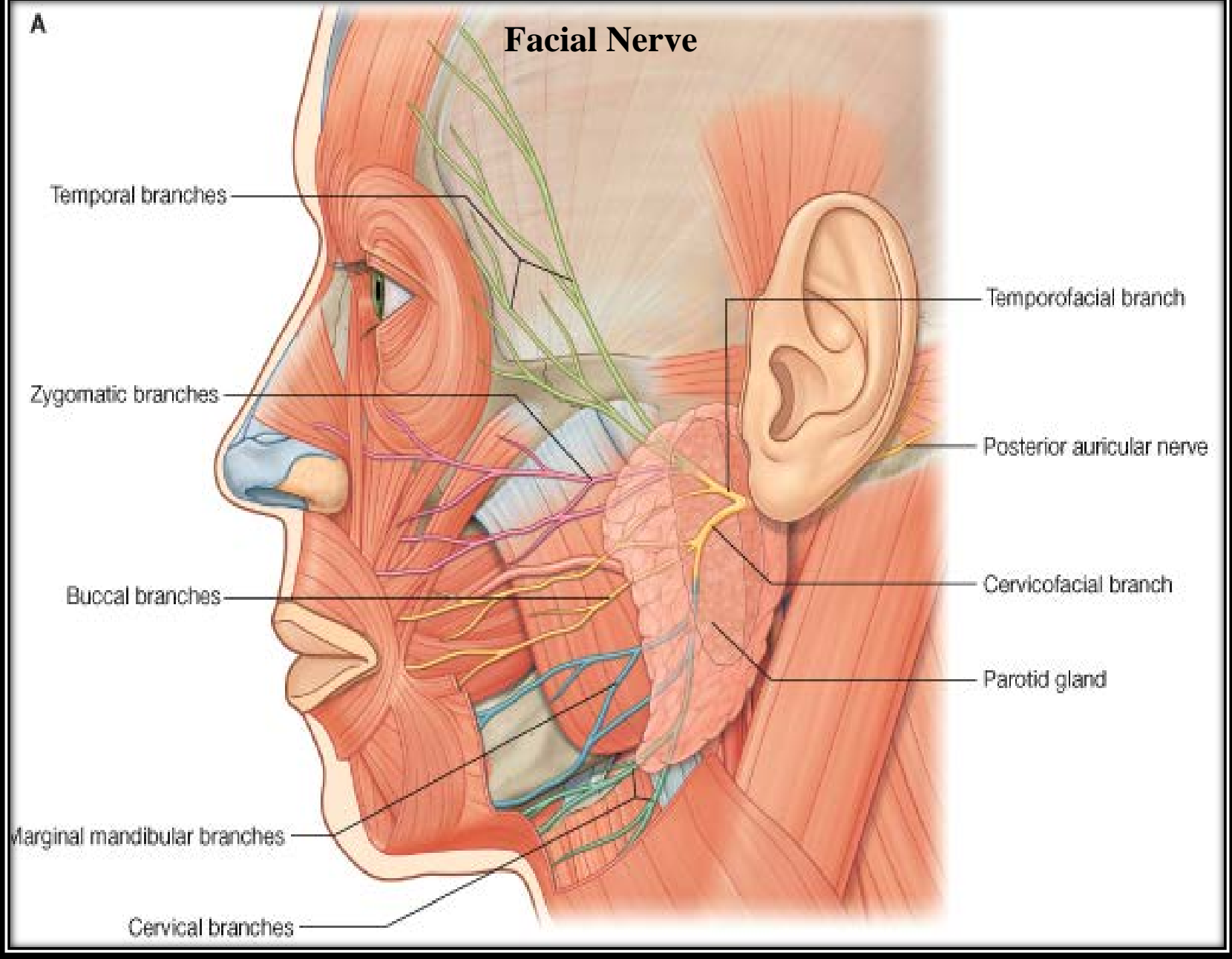
As the facial nerve runs forward within the substance of the parotid salivary gland it divides into its five terminal branches

- 1-The temporal
- 2-The zygomatic
- 3-The buccal
- 4-The mandibular
- 5-The cervical



A

Facial Nerve



Facial Muscle Paralysis

A-a lower motor neuron lesion

Damage to the facial nerve in

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

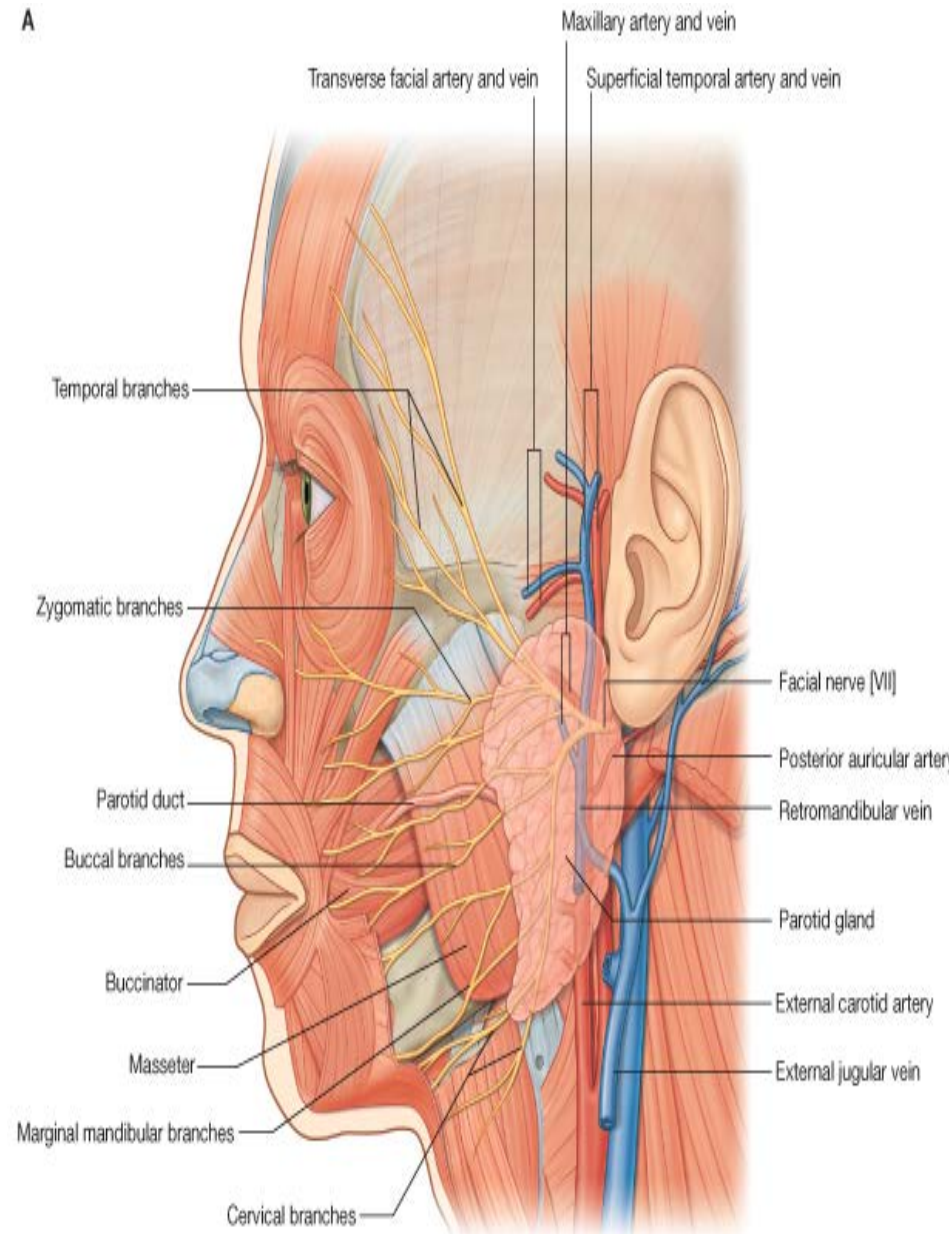
will cause distortion of the face
drooping of the lower eyelid,
and the angle of the mouth will sag on
the affected side.

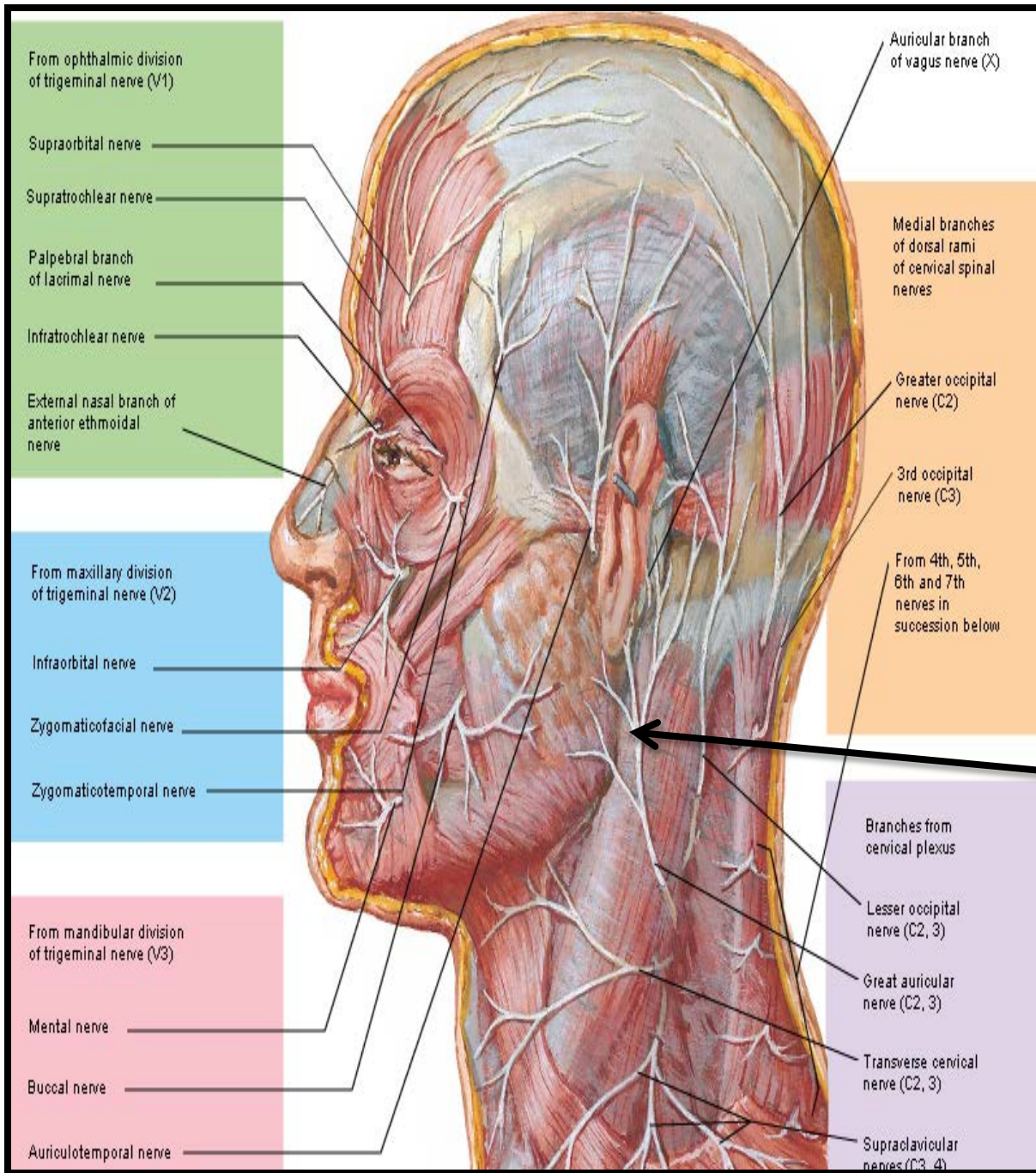
Bell's palsy

Read only

B-An upper motor neuron lesion

(involvement of the pyramidal tracts) will leave the upper part of the face normal because the neurons supplying this part of the face receive corticobulbar fibers from both cerebral cortices.





Sensory Nerves of the Face

The skin of the face is supplied by branches of:

the three divisions of the trigeminal nerve

except for the small area over the angle of the mandible and the parotid gland which is supplied by ***the great auricular nerve (C2 and 3)***.

Ophthalmic Nerve

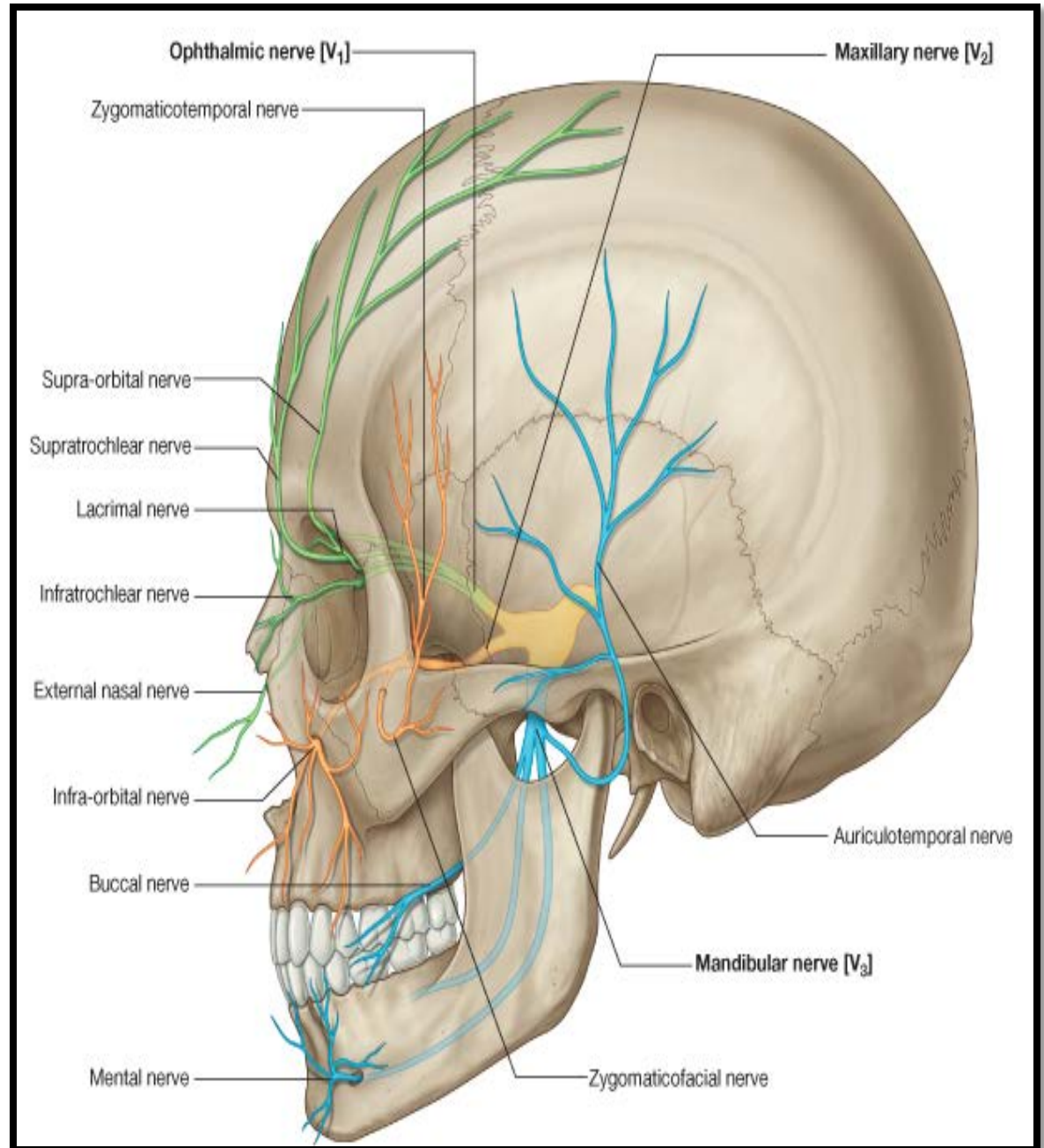
A-Frontal nerve:

1-The supratrochlear nerve

supplies the skin and conjunctiva on the medial part of the upper eyelid and the skin over the lower part of the forehead, close to the median plane.

2-The supraorbital nerve

supplies the skin and conjunctiva on the central part of the upper eyelid; it also supplies the skin of the forehead



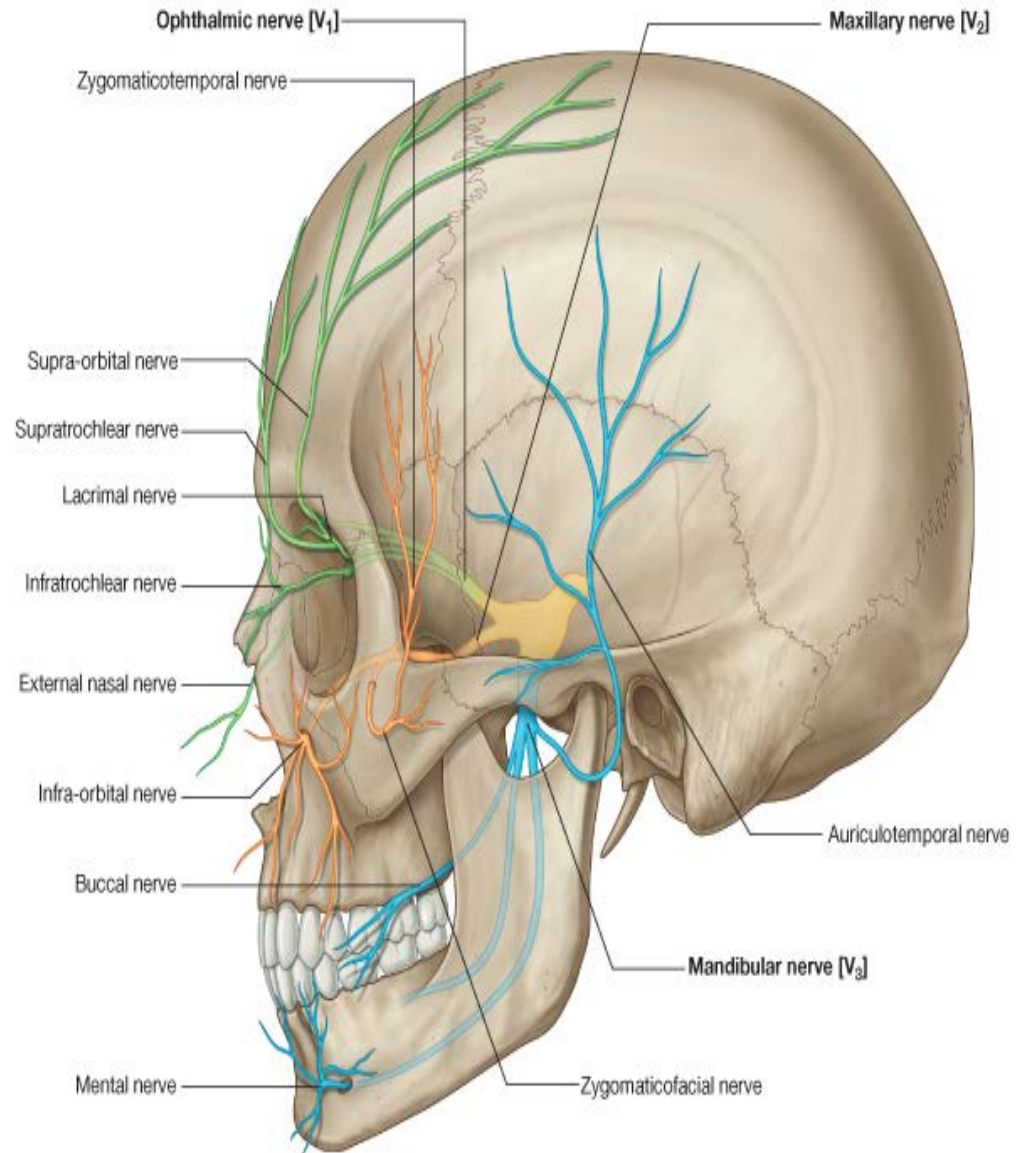
B-The lacrimal nerve supplies the skin and conjunctiva of the lateral part of the upper eyelid

C- Nasociliary nerve

1-The infratrochlear nerve

It supplies the skin and conjunctiva on the medial part of the upper eyelid and the adjoining part of the side of the nose

2-The external nasal nerve It supplies the skin on the side of the nose down as far as the tip

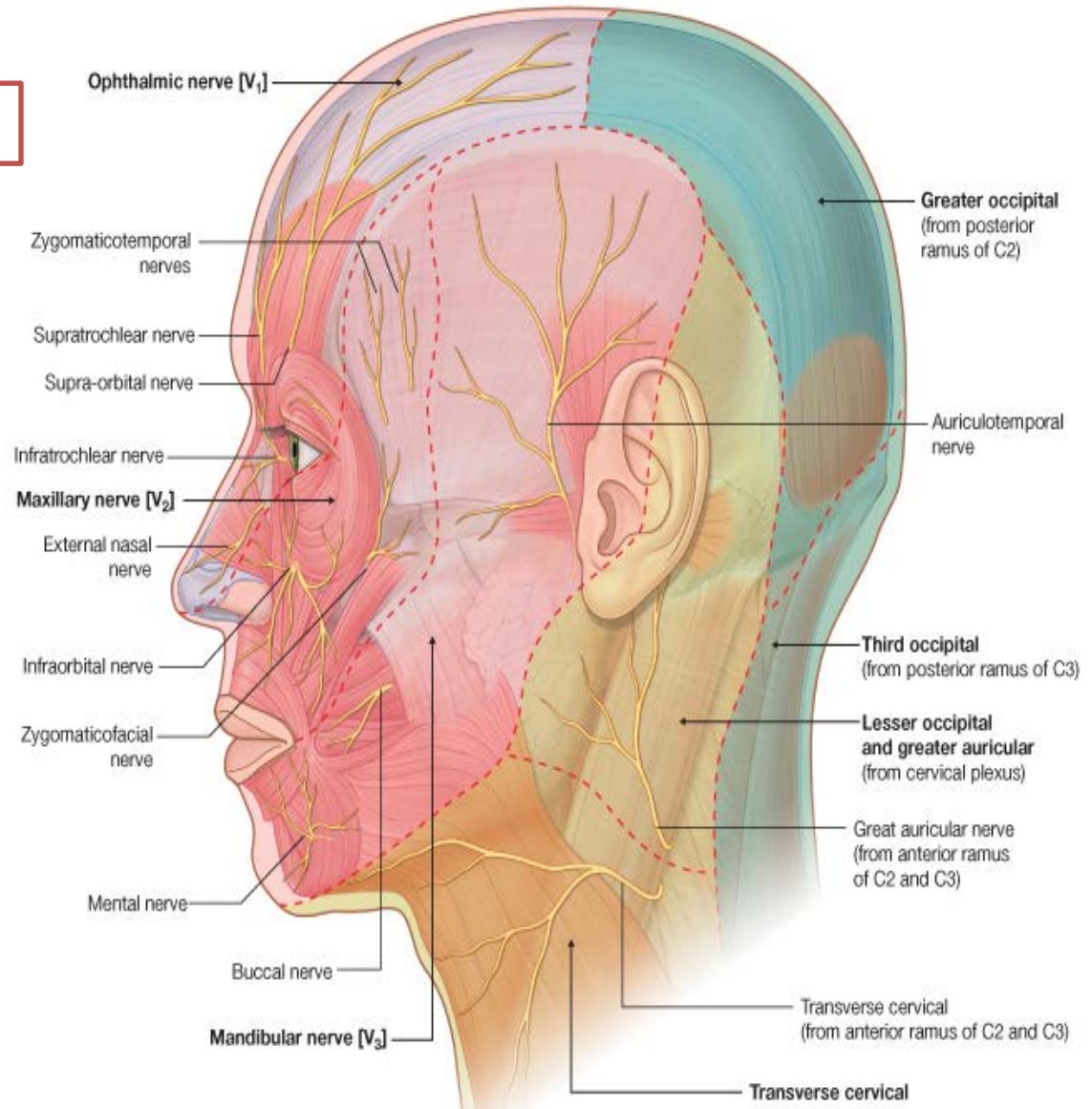


Maxillary Nerve

Three branches of the nerve pass to the skin.

1-The infraorbital nerve

is a direct continuation of the maxillary nerve. It enters the orbit and appears on the face through the infraorbital foramen. It immediately divides into numerous small branches, which radiate out from the foramen and supply the skin of the lower eyelid and cheek, the side of the nose, and the upper lip

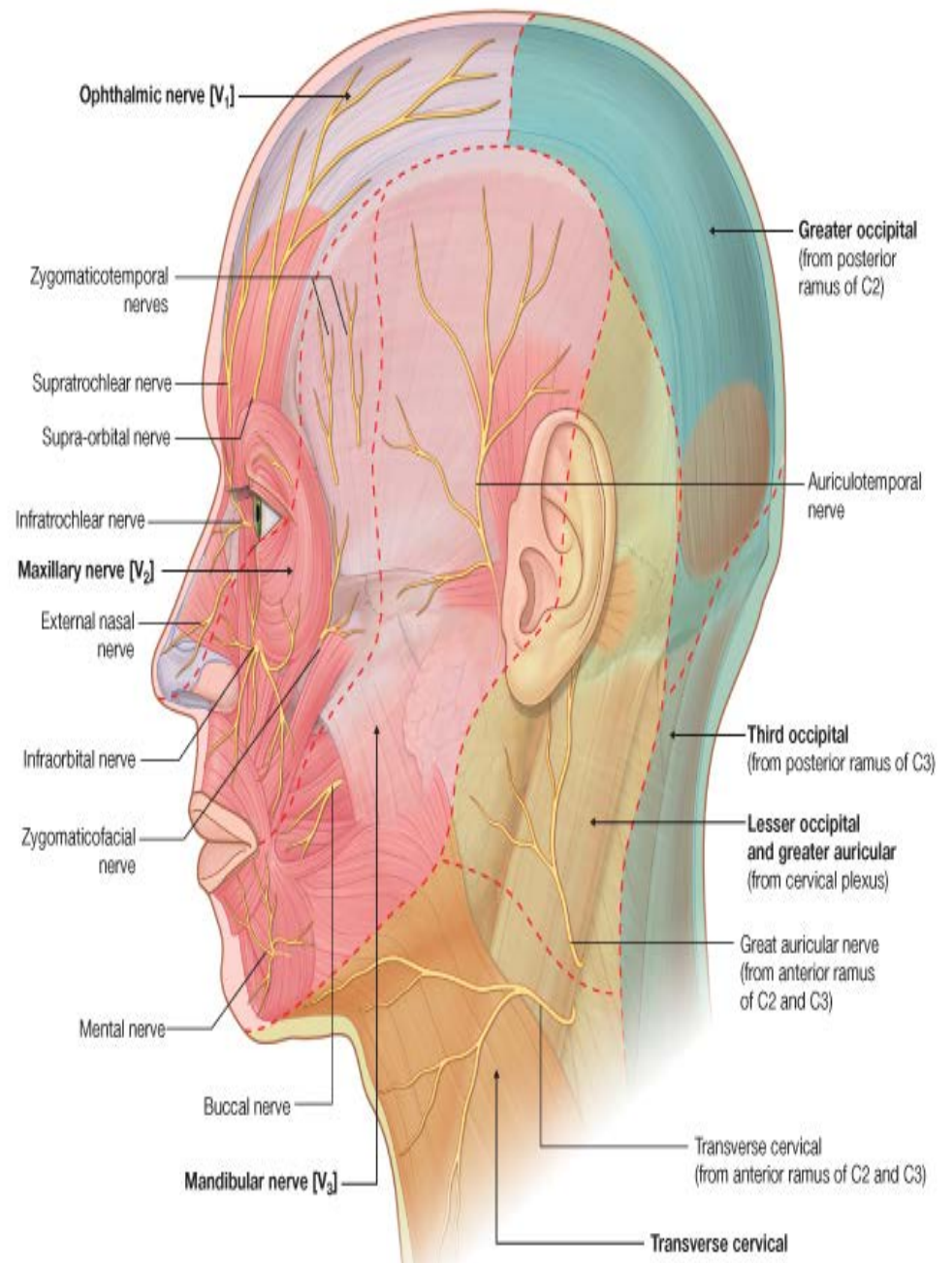


2-The zygomaticofacial nerve

passes onto the face through a small foramen on the lateral side of the zygomatic bone. It supplies the skin over the prominence of the cheek

3-The zygomaticotemporal nerve

emerges in the temporal fossa through a small foramen on the posterior surface of the zygomatic bone. It supplies the skin over the temple



Mandibular Nerve

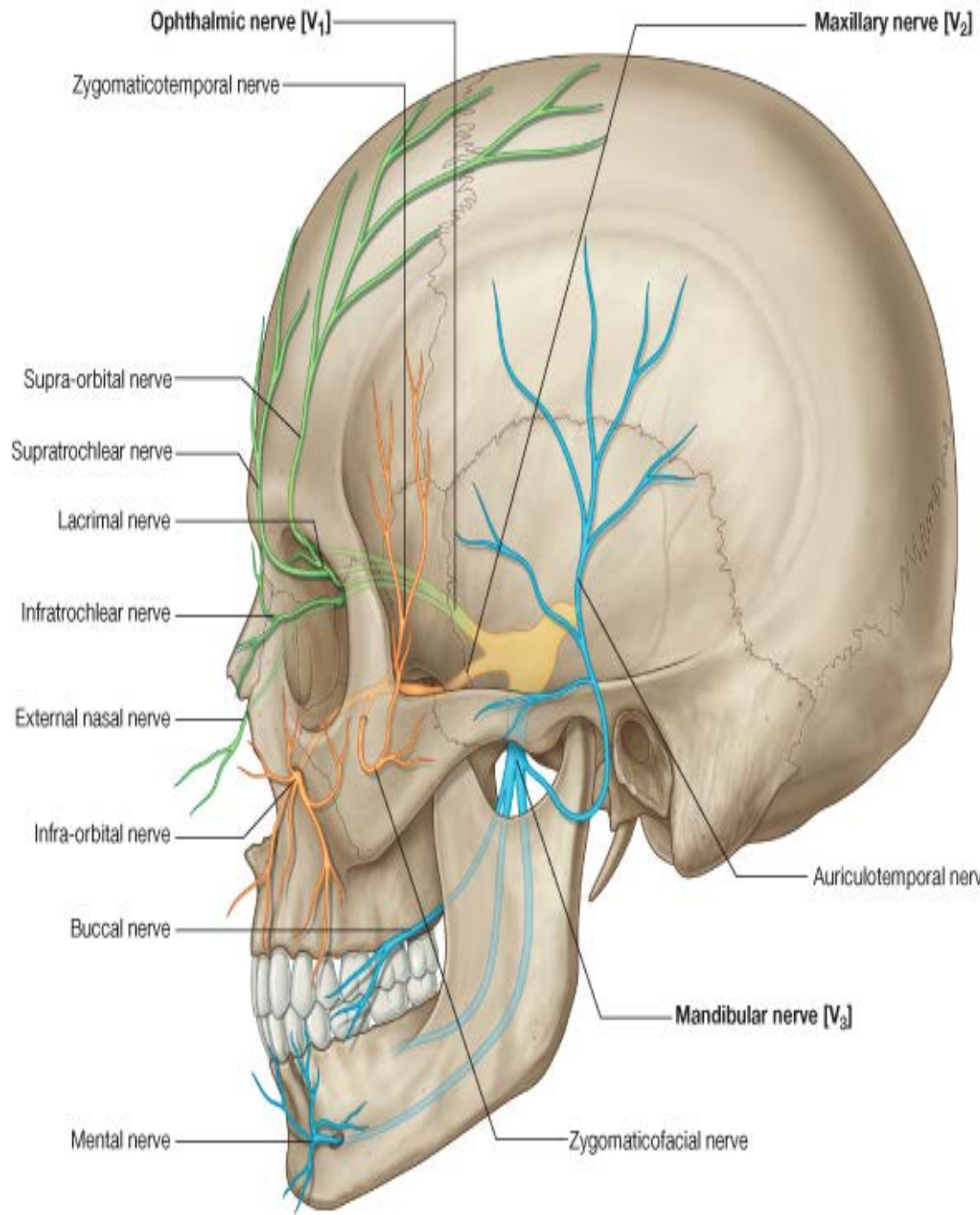
The mandibular nerve supplies the skin of the lower lip, the lower part of the face, the temporal region, and part of the auricle

1-The mental nerve emerges from the mental foramen of the mandible

2-The buccal nerve

3-The auriculotemporal nerve

It supplies the skin of the auricle, the external auditory meatus, the outer surface of the tympanic membrane, and the skin of the scalp above the auricle



V₁

V₂

V₃

C2,3

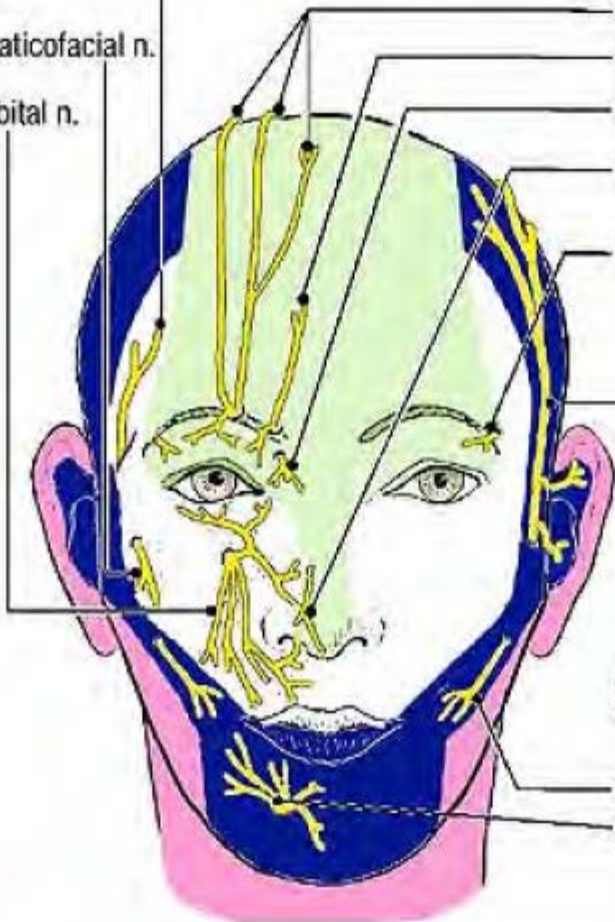


V₂

V₁

Zygomaticotemporal n.
Zygomaticofacial n.
Infraorbital n.

Supraorbital n.
Supratrochlear n.
Infratrochlear n.
External nasal n.
Lacrimal n.



V₃

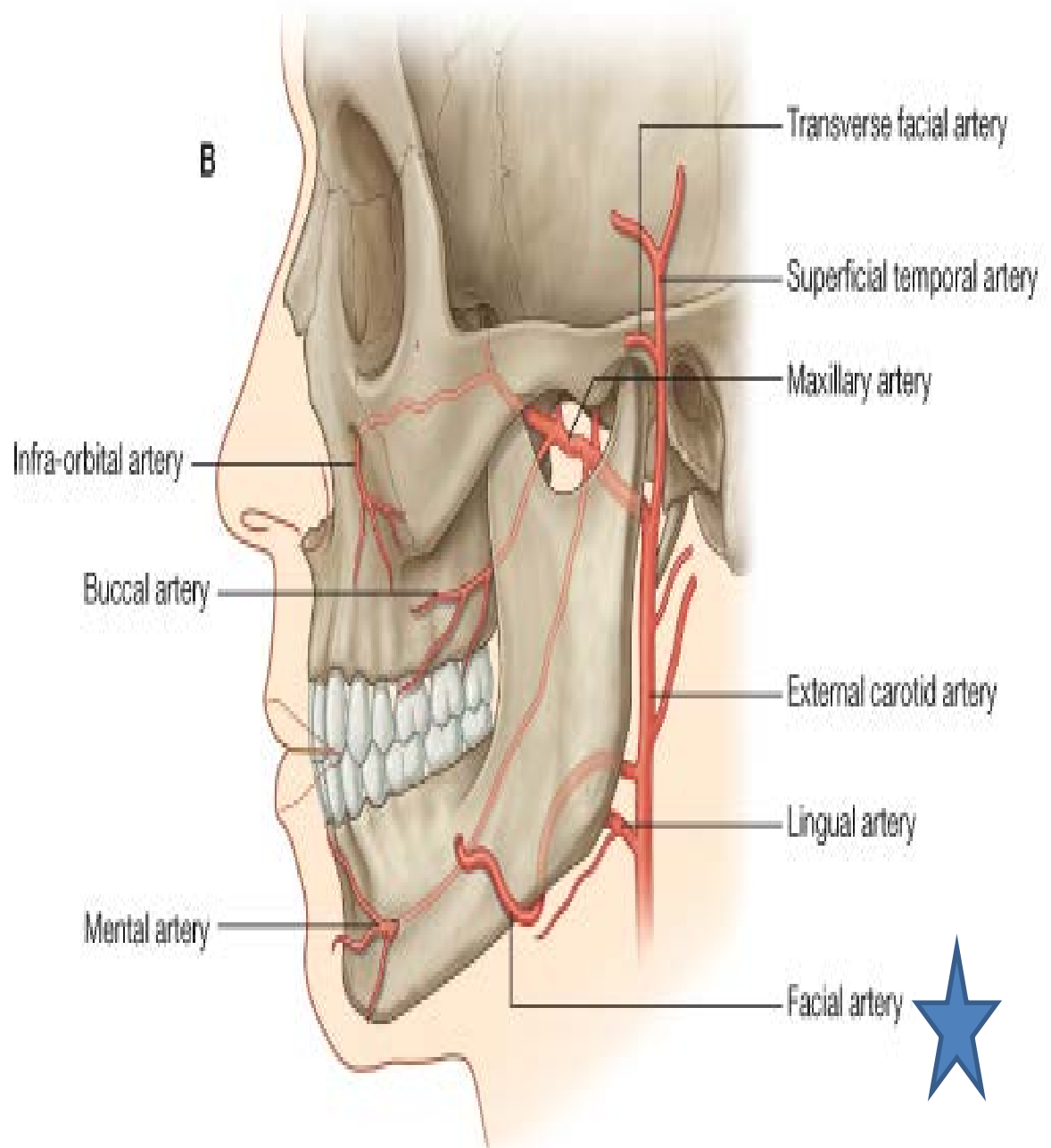
Auriculo-temporal n.
Buccal n.
Mental n.

C2-3

Arterial Supply of the Face

The face receives a rich blood supply from two main vessels:

- 1-The facial artery
- 2-Superficial temporal artery



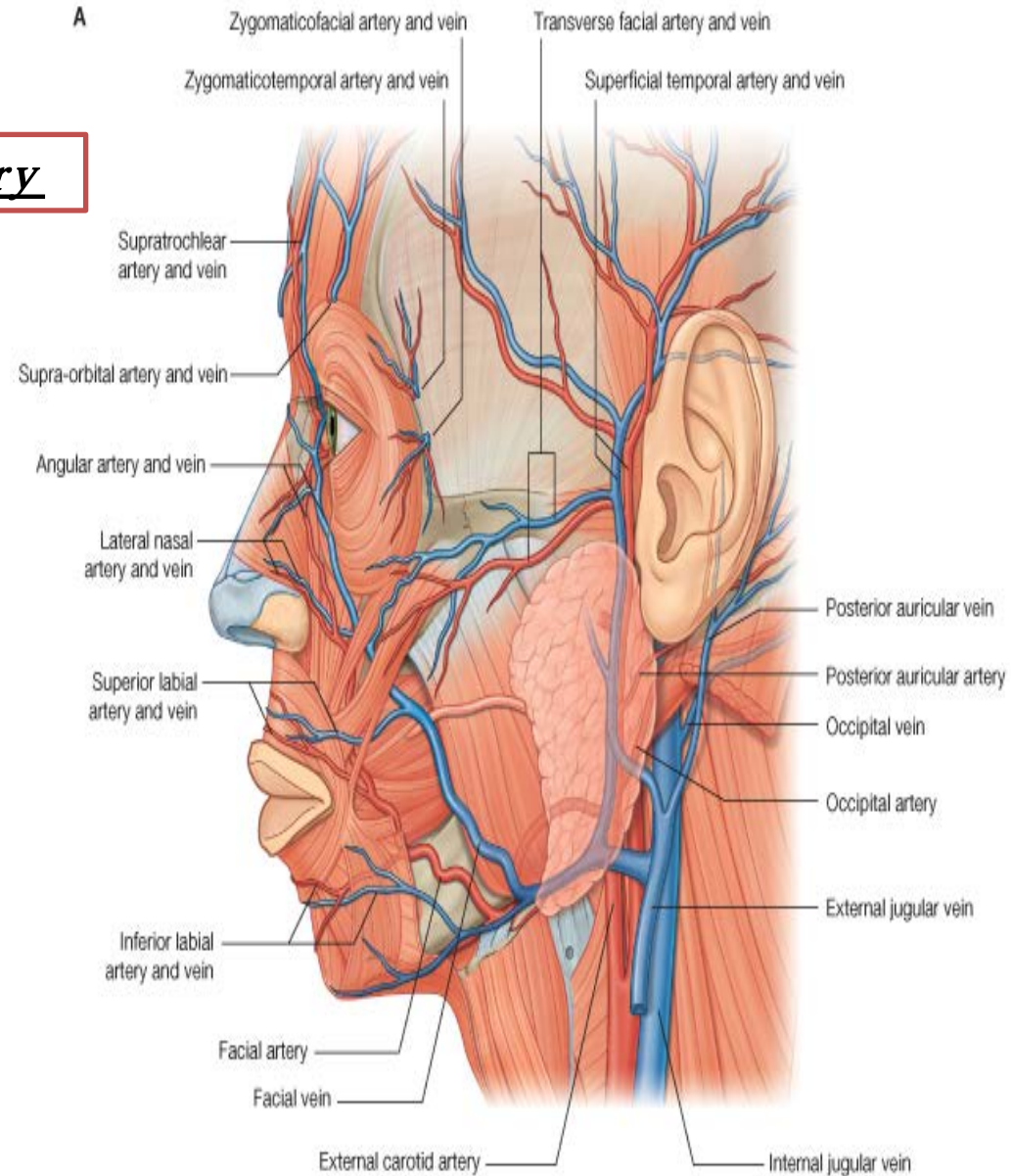
The facial artery

➤ Arises from the external carotid artery

Ascends over the submandibular salivary gland

➤ It curves around the inferior margin of the body of **the mandible**

➤ Passes on and in front of the anterior border of the masseter muscle (pulse)



➤ It runs upward **in a tortuous** course toward the angle of the mouth

➤ It then ascends deep to the zygomaticus muscles and runs along ***the side of the nose to the medial angle of the eye***, where it anastomoses with the terminal branches of ***the ophthalmic artery***

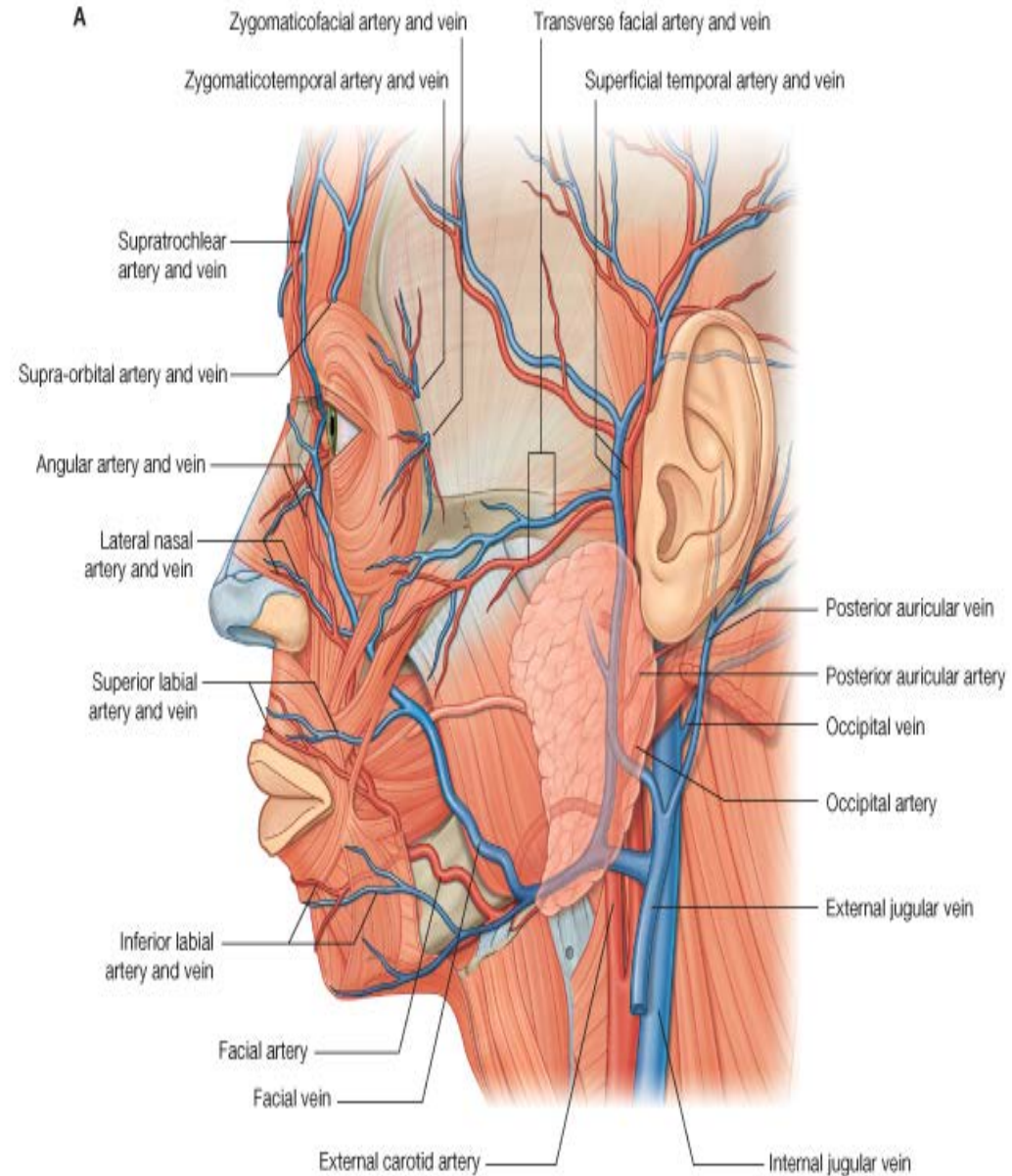
Branches (Read Only)

Anterior branches which are large and named while the posterior are small and unnamed

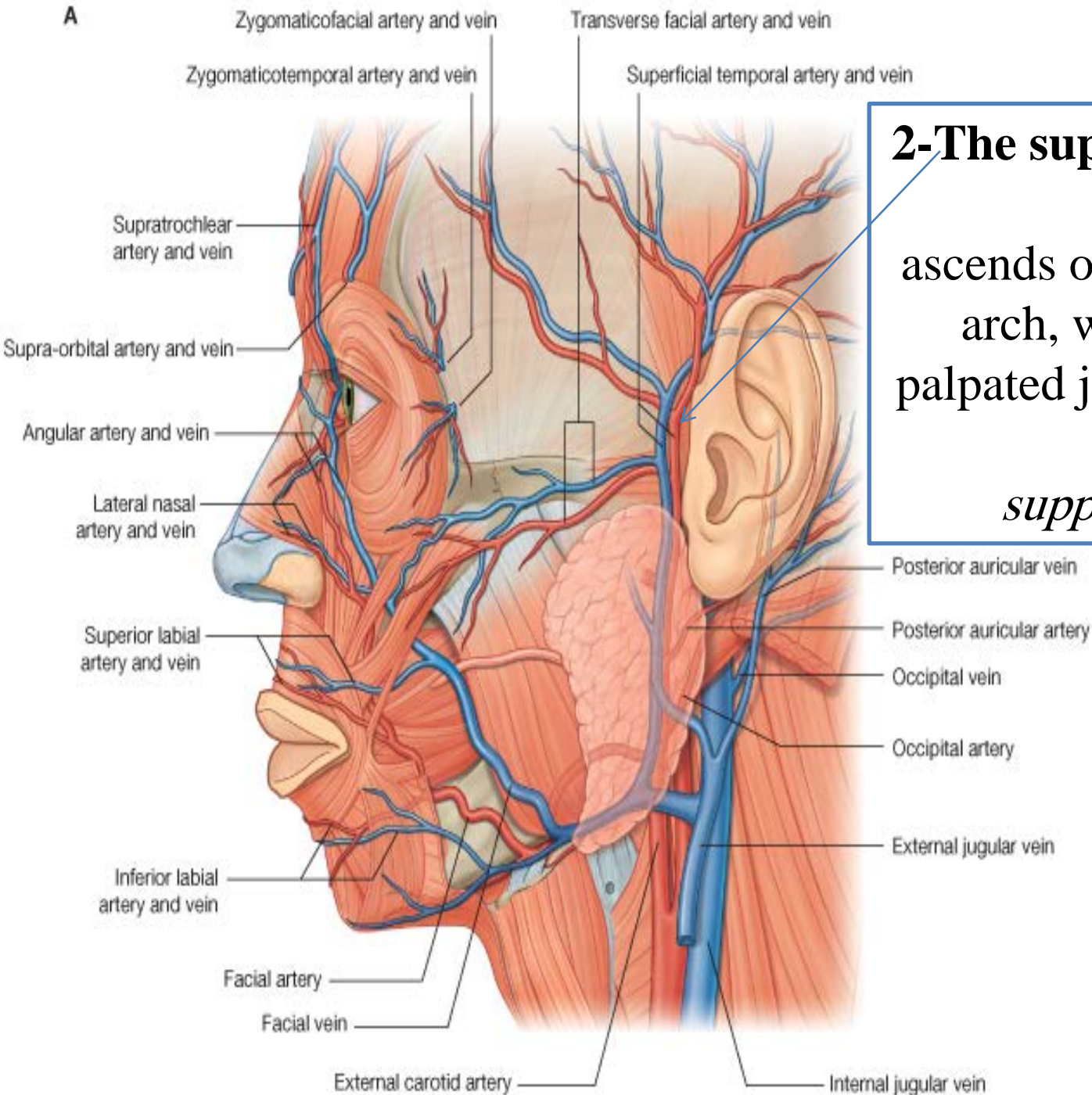
The inferior labial artery supplies ***the lower lip***.

The superior labial artery supplies ***the upper lip***

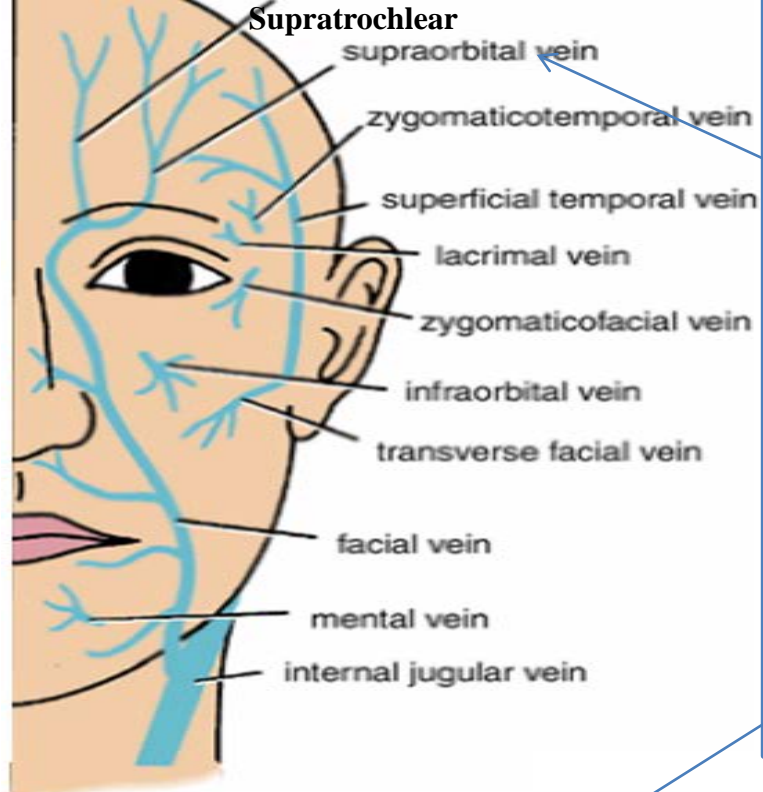
The lateral nasal artery supplies the skin ***on the side and dorsum of the nose***.



A



2-The superficial temporal artery ascends over the zygomatic arch, where it may be palpated just in front of the auricle, supplies the scalp



Venous Drainage of the Face

The facial vein is formed at the medial angle of the eye by the union of

The Supraorbital and Supratrochlear veins

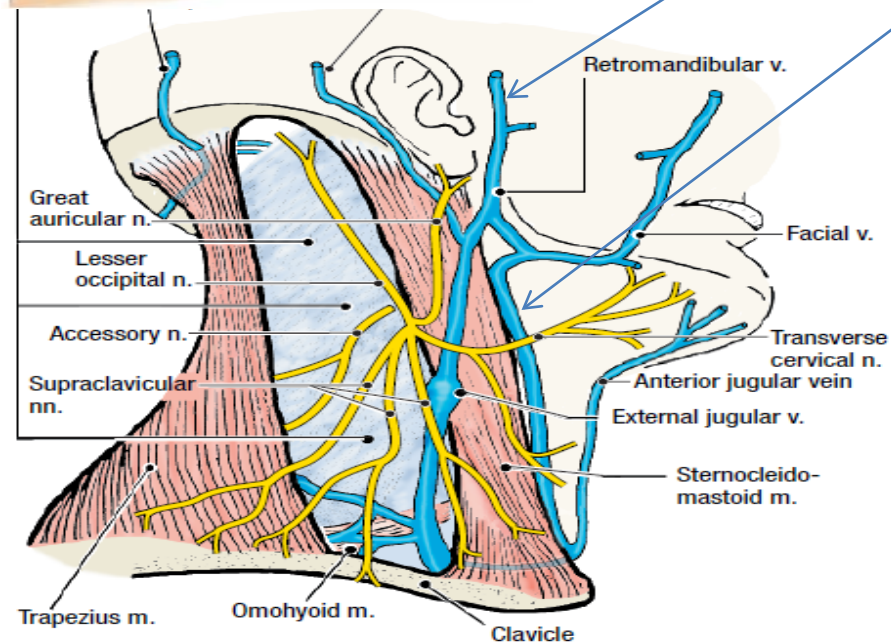
The facial vein descends behind the facial artery to the **lower margin of the body of the mandible**

It crosses superficial to the submandibular gland and is joined by the *anterior division of*

The retromandibular vein.

The facial vein ends by draining into

The internal jugular vein.



Important communications

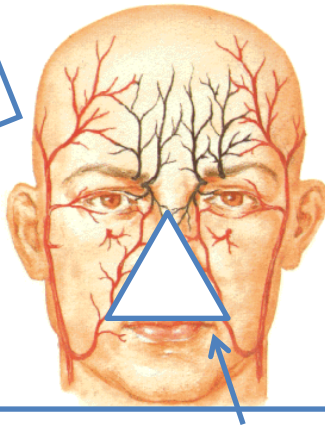
It communicates with the pterygoid venous plexus **by the deep facial vein**

It communicates with the cavernous sinus by the **superior ophthalmic vein**

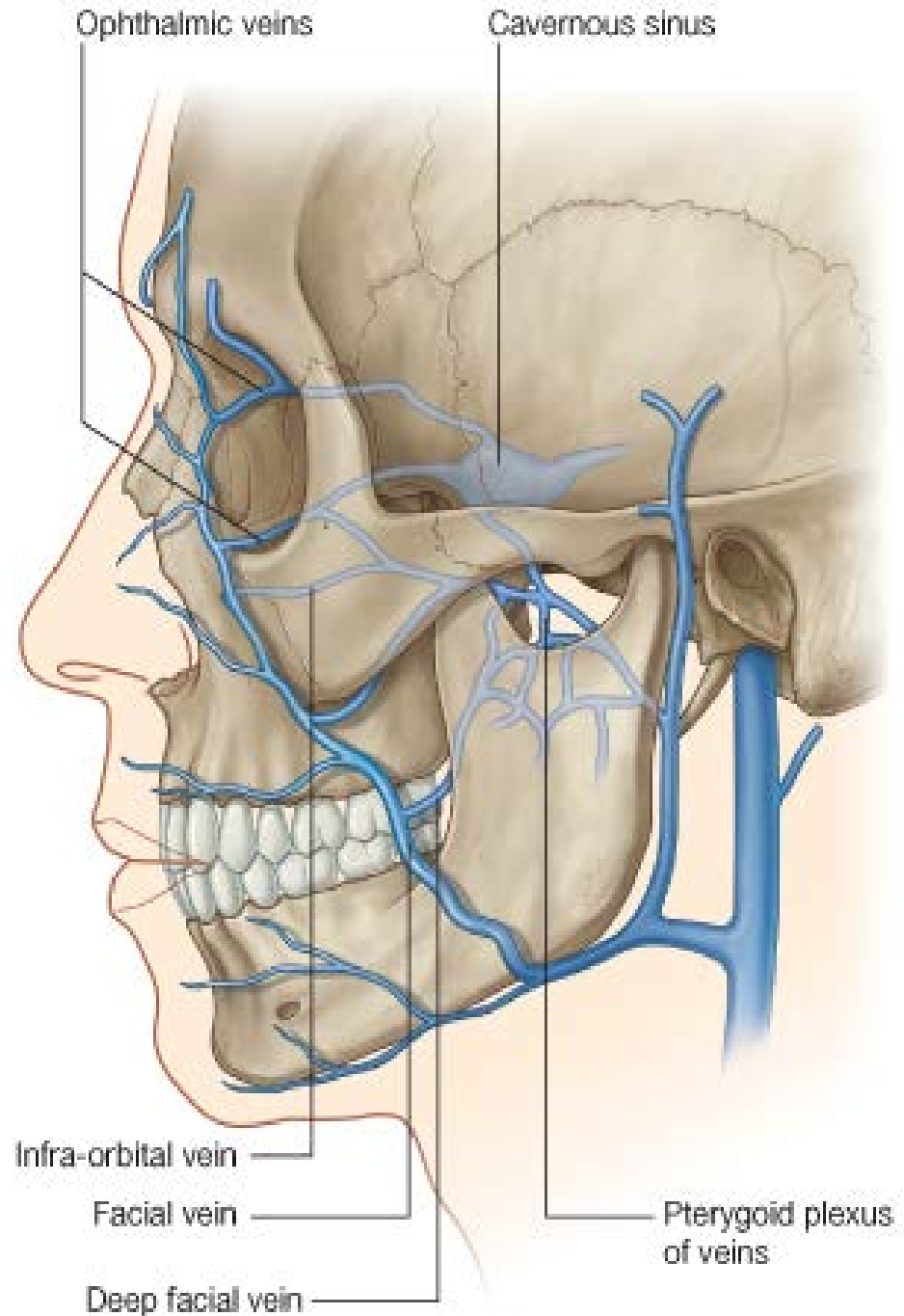
It is connected to *the superior ophthalmic vein* directly through the supraorbital vein. By means of *the superior ophthalmic vein*, the facial vein is connected to

The cavernous sinus

this connection is of a great clinical importance because it provides a pathway for the spread of infection from **DANGEROUS AREA OF THE FACE** (THE LOWER PART OF THE NOSE AND THE UPPER LIP) to the cavernous sinus



Infection from the triangular area can cause Thrombosis of the cavernous sinus



Arterial Supply of the Scalp

The arteries lie in the superficial fascia.

A-Branches of the ophthalmic artery

1-The supratrochlear

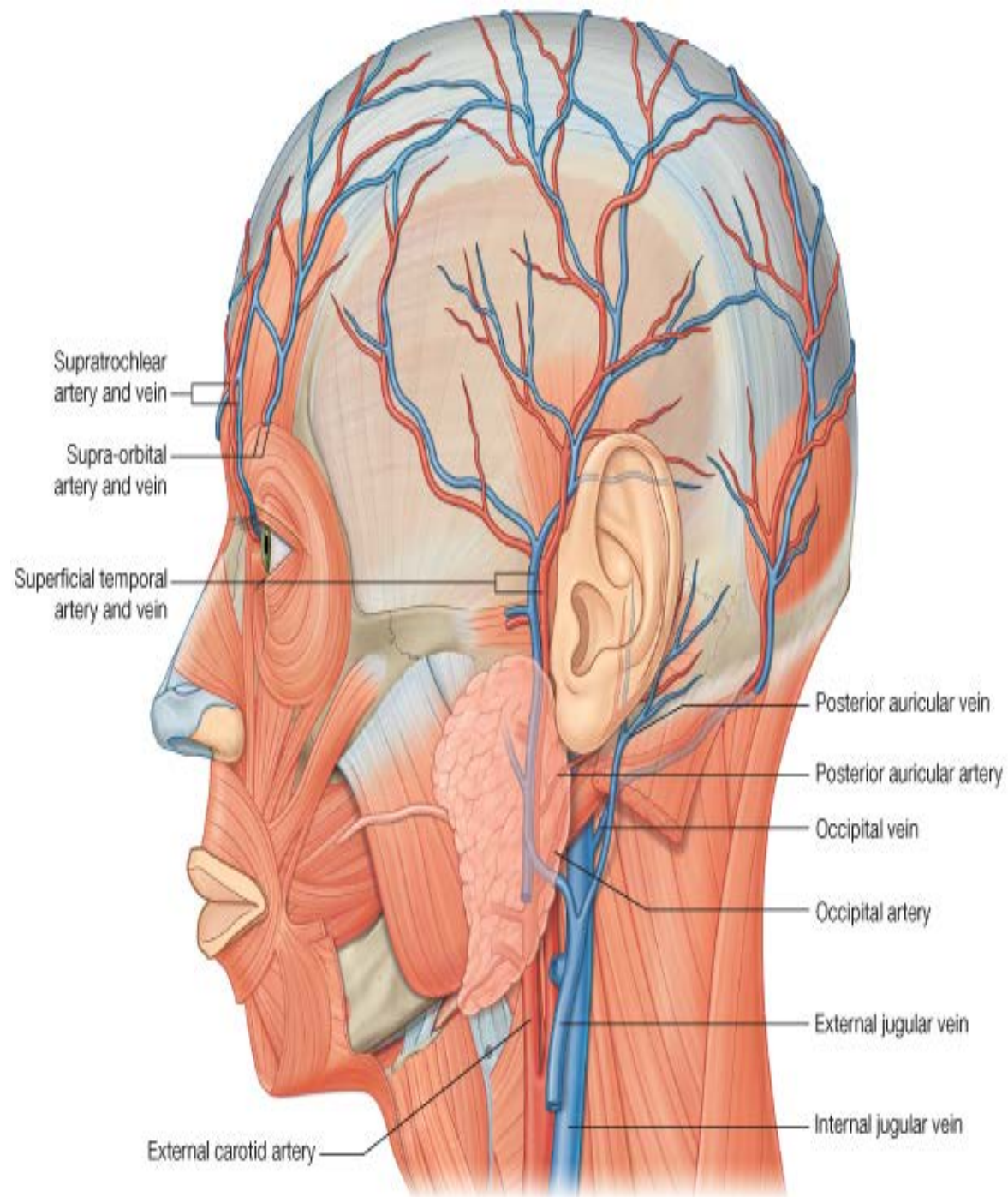
2-The supraorbital

B-Branch of the external carotid artery

The superficial temporal artery

The posterior auricular artery

The occipital artery



Anatomically, it is useful to remember in an emergency that all the superficial arteries supplying the scalp ascend from the face and the neck.

Thus, in an emergency situation, encircle the head just above the ears and eyebrows with a tie, shoelaces, or even a piece of string and tie it tight.

Then insert a pen, pencil, or stick into the loop and rotate it so that the tourniquet exerts pressure on the arteries

