



Anatomy

Summary

By Hemmeh Asnan

Content

- Difference between scalp & face
- Muscles of the face

Sensory nerve supply of scalp and face

Scalp

Trigeminal nerve (V) (anterior to the ears and the vertex)

1. Ophthalmic nerve which gives frontal nerve that gives branches:

- Supratrochlear nerve
 - Supraorbital nerve
- Both supply as far as the vertex of the skull

2. Maxillary nerve which gives zygomatic nerve which gives branches:

- zygomaticotemporal nerve — Supplies the scalp over the temple

3. Mandibular nerve which gives branch:

- auriculotemporal nerve which passes deep to the parotid gland and anterior to the ear

Cervical plexus (posterior to the ears and cervical plexus)

1. Lesser occipital nerve (C2)

2. Greater occipital nerve (C2)

Face

Trigeminal nerve (V) → supplies all the face except for the area over the angle of the mandible and parotid gland

1. Ophthalmic nerve branches:

Frontal nerve

- Supratrochlear nerve → skin and conjunctiva on the medial part of the upper eyelid
- supraorbital nerve → skin and conjunctiva on the central part of the upper eyelid

Nasociliary nerve

- infratrochlear nerve → Skin and conjunctiva on the medial part of the upper eyelid and bridge of the nose
- Anterior ethmoidal nerve which gives:
 - External nasal nerve → skin on the side of the nose down as far as the tip (is also from the nasociliary nerve)

Lacrimal nerve → skin and conjunctiva of the lateral part of the upper eyelid

2. Maxillary nerve

Zygomatic nerve:

- Zygomaticotemporal nerve → skin over the temple
- Zygomaticofacial nerve → skin over the prominence of the cheek

Infraorbital nerve:

- Inferior palpebral nerve → skin of the lower eyelid and cheek
- Nasal nerve → the side of the nose (ala)
- Superior labial nerve → upper lip

3. Mandibular nerve

- Mental nerve → skin of the lower lip and chin
- buccal nerve → skin over the buccinator and mucous membrane lining its inner surface and gingiva along the mandibular molars
- auriculotemporal nerve → skin of the auricle, the external auditory meatus, the outer surface of the tympanic membrane, and the skin of the scalp above the auricle

Cervical plexus

- Great auricular: over the angle of the mandible and the parotid gland

Arterial supply of the scalp and face

Scalp

Face

Common carotid artery

- Right common carotid; from the brachiocephalic artery
- Left common carotid artery; from arch of the aorta
 - Begins → sternoclavicular joint
 - Ends → upper border of the thyroid cartilage
 - Divisions → External and internal carotid arteries

External carotid artery

- Superficial temporal artery → supplies the lateral aspect of the scalp
- posterior auricular artery → supplies the posterior to the ear
- occipital artery → supplies the posterior aspect of the scalp

Internal carotid artery (no branches in the neck)

Ophthalmic artery

1. Supratrochlear artery
 2. Supraorbital artery
- Both supply the anterior and superior aspects of the scalp and as far as the vertex of the skull
3. Lacrimal artery which gives:
zygomaticotemporal artery → supplies the area over the temporal region

External carotid artery

- Superficial temporal artery which gives:
transverse facial artery
- facial artery gives branches:
 1. Superior labial artery
 2. Inferior labial artery
 3. Lateral nasal artery
 4. Angular artery
- Maxillary artery which gives branches:
 1. Infraorbital artery
 2. Buccal artery
 3. Mental artery (from inferior alveolar supply of chin)

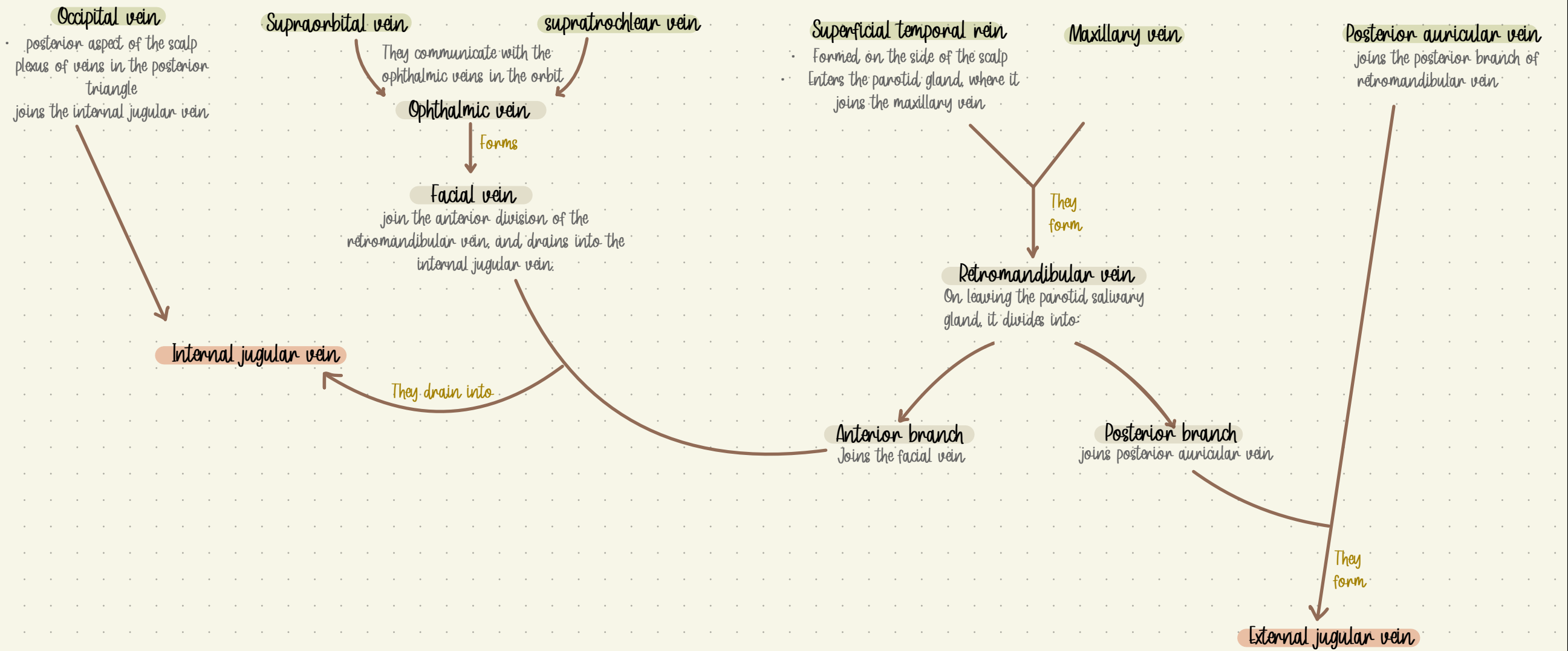
Internal carotid artery (no branches in the neck)

Ophthalmic artery

1. Supratrochlear artery
2. Supraorbital artery
3. dorsal nasal artery
4. anterior ethmoidal artery : which gives external nasal artery
5. lacrimal artery which gives:
Zygomatofacial artery

Venous drainage of the scalp and the face

Scalp



Face

Communicating veins:

- Superiorophthalmic
- Inferiorophthalmic
- Infraorbital
- Deep facial

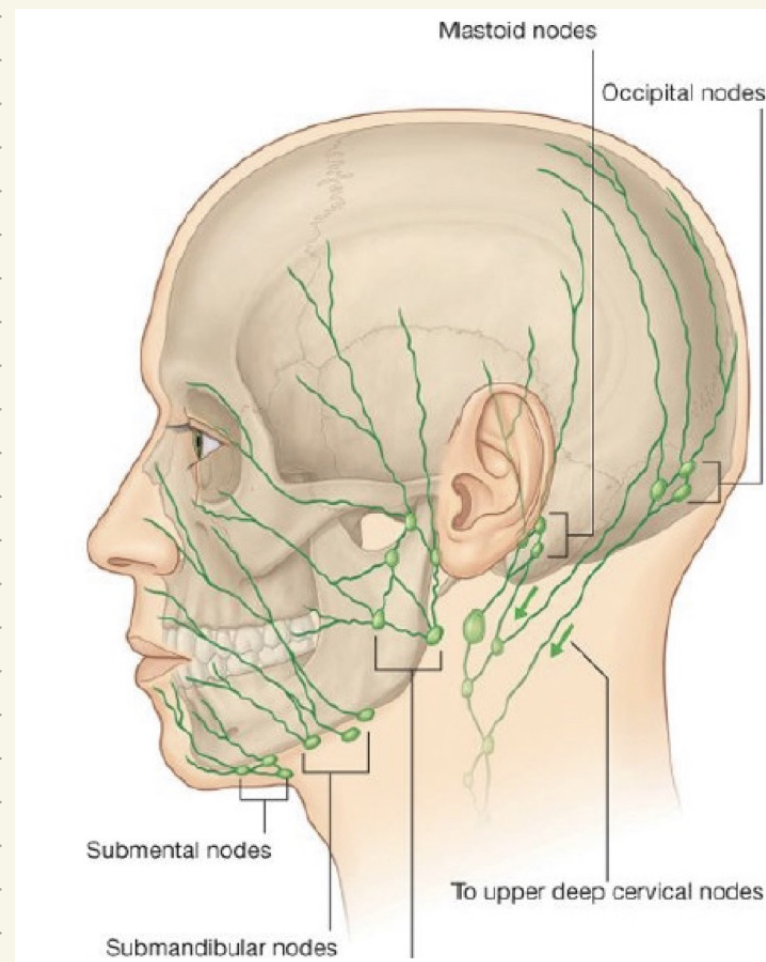
Deep veins:

- Pterygoid plexus
- cavernous sinus

Lymph drainage of the scalp and face

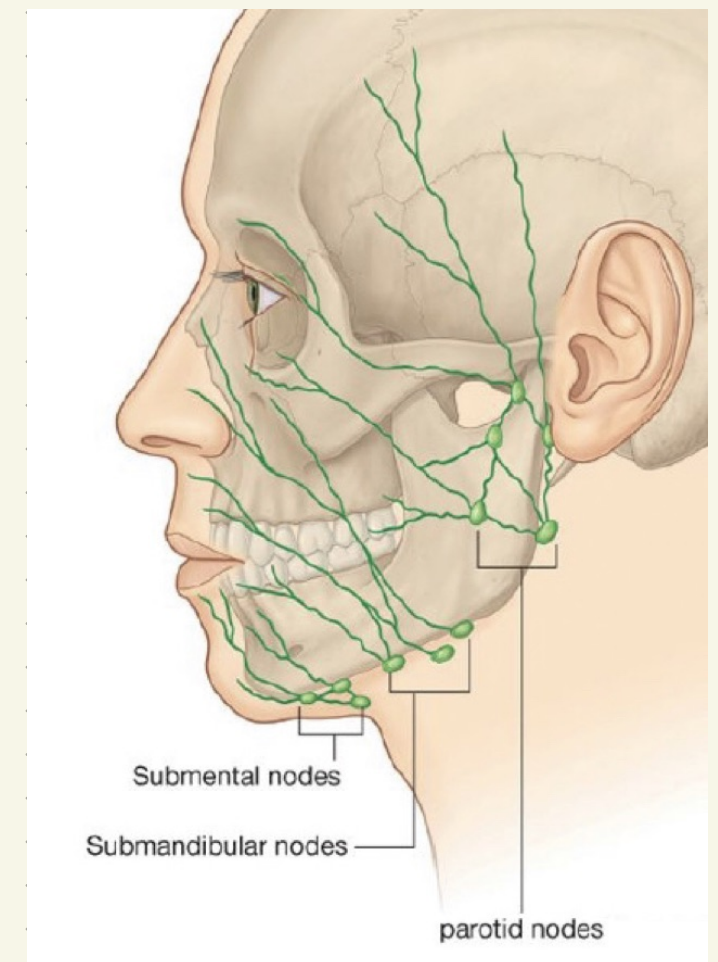
Scalp

- **Occipital nodes**
- **Mastoid nodes:**
posterior to the vertex
- **Pre-auricular and parotid nodes:**
anterior to the vertex
- **Submandibular nodes:**
forehead



Face

- **Submandibular nodes:**
medial corner of the orbit, most of the external nose, medial part of the cheek, the upper lip and the lateral part of the lower lip
- **Submental nodes:**
central part of the lower lip and the skin of the chin are drained
- **Parotid nodes:**
part of the external nose, and the lateral part of the cheek lateral parts of the eyelids



Face

Muscles of the face

- Muscles are embedded in superficial fascia
- origin: facial bones
- insertion: skin
- nerve supply: facial nerve
- localized around orifices

Auricular muscles:

- Anterior auricular
- Superior auricular
- Posterior auricular



Orbital group		
Muscle	Action	Image
Orbicularis oculi	Orbital part → closes the eyelids forcefully Palpebral part → closes eyelids gently	
Corrugator supercillii	Draws the eyebrows medially and downward. Vertical wrinkles of forehead	

Nasal group

Muscle	Action	Image
Nasalis	<ul style="list-style-type: none"> Transverse part; (compressor nasi) compresses mobile nasal cartilages alar part (dilator naris) : widens external nasal aperture 	<p>Procerus</p> <p>Transverse part</p> <p>Nasalis</p> <p>Alar part</p> <p>Depressor septi nasi</p>
Procerus	Draws down medial angle of eyebrows producing transverse wrinkles over bridge of nose	
Depressor septi nasi	Pulls nose inferiorly	

Oral group (upper)

Muscle	Info	Image
Risorius	Insertion: angle of the mouth	
Zygomaticus major	Insertion: angle of the mouth	
Zygomatic minor	Insertion: upper lip.	
levator labii superioris	Elevation of the upper lip	
levator labii superioris alaeque nasi		
Levator anguli oris		
Buccinator	<p>Origin: pterygomandibular raphe, from the alveolar part of the mandible and alveolar process of the maxilla.</p> <p>Insertion: modiolus</p> <p>Action: holds the cheeks against the alveolar arches and keeps food between the teeth when chewing</p>	
Modiolus	button-shaped connective tissue at the interface between the muscles of the lips and cheeks	

Oral group (lower)

Muscle	Info	Image
Orbicularis oris	<ul style="list-style-type: none"> Origin: Maxilla, mandible, and skin Insertion: Encircles oral orifice Action: Closes and protrudes lips 	
Depressor anguli oris		
Depressor labii inferioris		
Mentalis	Raises and protrudes	