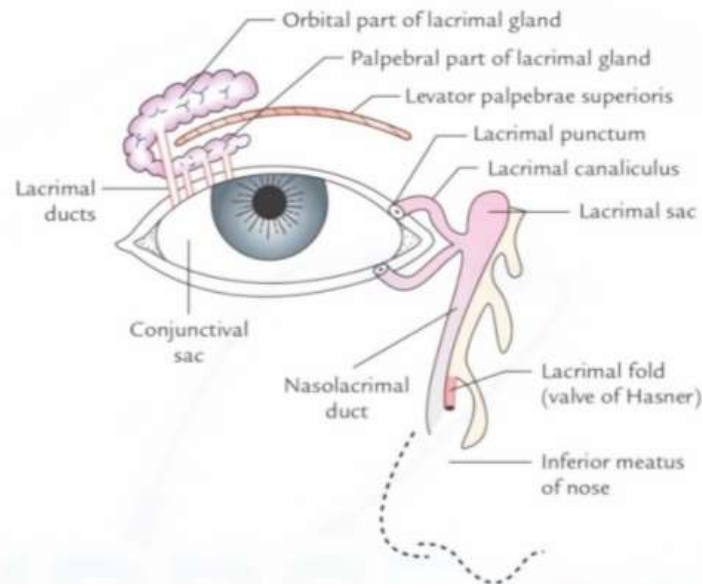


1. Lacrimal apparatus-

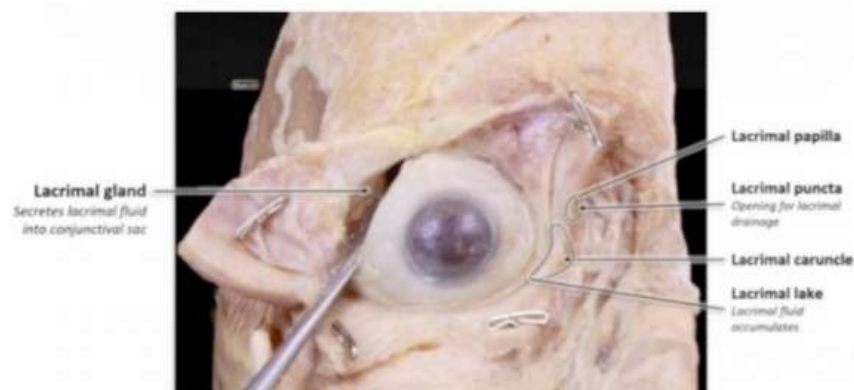
- The structures concerned with secretion & drainage of lacrimal fluid (tear) together form the lacrimal apparatus.
- The lacrimal apparatus consists of following structures :



» **Lacrimal gland** — J-shaped serous gland, contains

Upper large — orbital part — almond shaped & situated in lacrimal fossa in anterolateral part of the roof of the bony orbit.

Lower small — palpebral part — situated in lateral part of upper eyelid below the levator palpebrae superioris & it is $\frac{1}{3}$ rd size of orbital part.



ii) **Ducts of Lacrimal gland** → approx 12 in number, orbital part (4-5) palpebral part (6-8).

- They open into lateral parts of superior fornix of conjunctival sac.
- Lacrimal glands secrete lacrimal fluid → enters into conjunctival sac through ducts.
- Lacrimal fluid provides nourishment to cornea, flushes the conjunctive, keeps cornea moist, prevents infections, serves to express emotions.
- Accessory lacrimal glands are very small serous glands located beneath palpebral conjunctiva.
- Arterial supply: lacrimal branch of ophthalmic artery.
- Venous drainage: ophthalmic vein.
- Innervation: parasympathetic, sympathetic, & sensory fibres through lacrimal nerve.

iii) **Conjunctival sac** → potential space b/w palpebral & bulbar conjunctiva.

iv) **Lacrimal puncta** → small opening on lid margins, at the junction of these, there is a small conical projections called lacrimal papillae, surrounded by tiny aperture called lacrimal punctum.

v) **Lacrimal canaliculi** → 2 in number, superior & inferior in upper & lower eyelids respectively. Begins in lacrimal punctum.

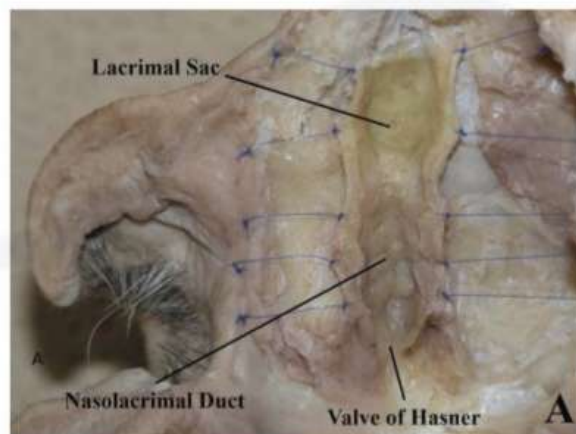
Superior canaliculi – 1st runs upwards & bends downwards medially, to open into lacrimal sac

Inferior canaliculi – 1st runs downwards & bends upwards medially, to open into lacrimal sac.

At the bending each canaliculi has dilations called ampulla.

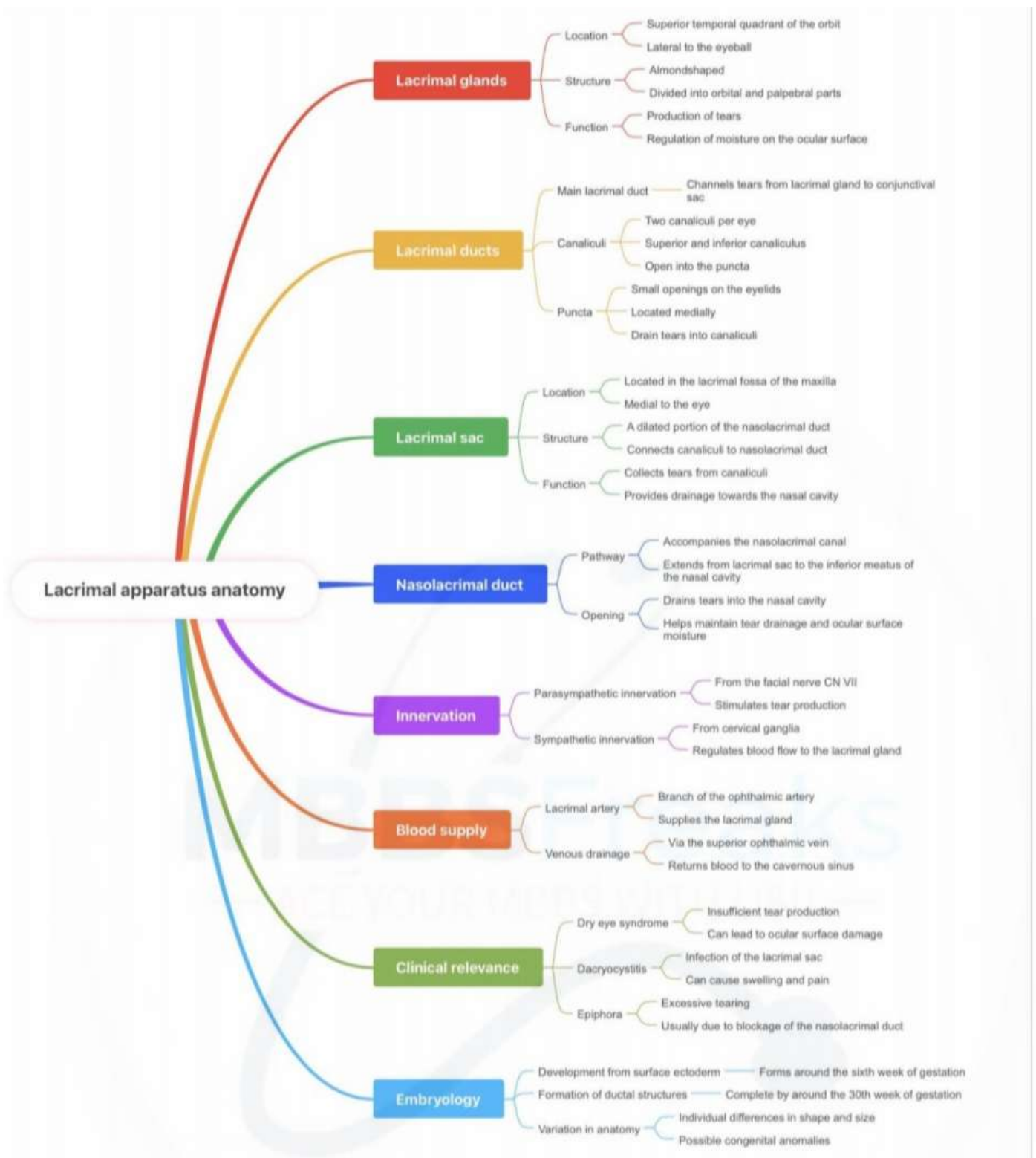
vi) **Lacrimal sac** → upper dilated end of nasolacrimal duct, situated in deep lacrimal groove. It is bounded
anteriorly – lacrimal crest of frontal process of maxilla.
posteriorly – lacrimal crest of lacrimal bone
Lacrimal sac enclosed in lacrimal fossa.

vii) **Nasolacrimal duct** → 18 mm long membranous canal extended from neck of lacrimal sac to anterior part of inferior meatus of nose.



Applied anatomy →

- i) Dry eye syndrome
- ii) Epiphora
- iii) Dacryocystitis



2. Fascial artery-

- The main arterial supply to the face is by facial artery, hence it is called chief artery of face.

Formation →

- It arises from the front of the external carotid artery just above the tip of the greater cornua of the hyoid bone.

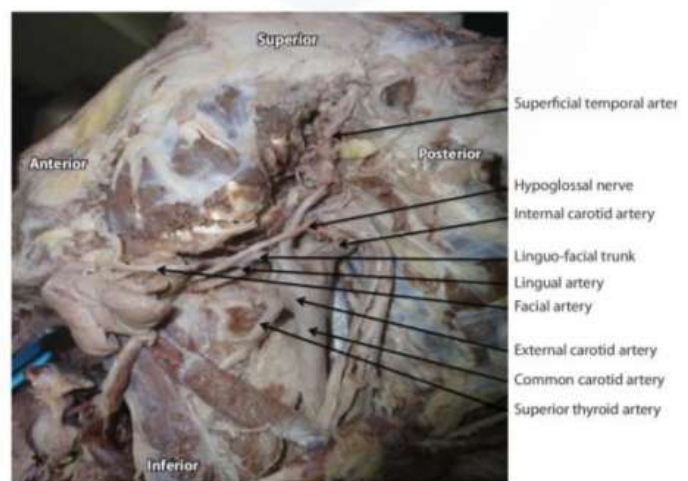
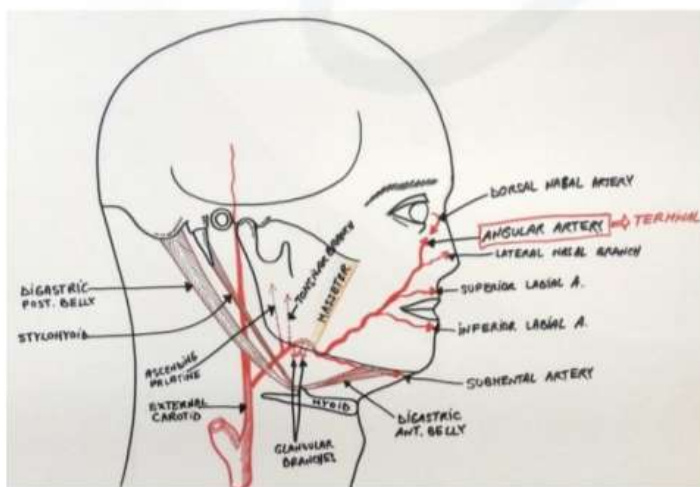
Course →

a) In Cervical part :

- Arises from external carotid artery.
- Passes deep to posterior belly of digastric & stylohyoid muscles.
- Grooves the submandibular gland.
- Winds around the lower border of mandible at the anteroinferior angle of masseter.

b) In Fascial part :

- After crossing the mandible, the artery →
- Runs upwards, forwards & lateral to the angle of mouth
- Then ascends along the sides of nose to the medial angle of the eye.
- Finally ends by anastomosing with ophthalmic artery.
- The terminal branch of fascial artery is angular artery.



Branches →

a) From the cervical part :

i. Ascending palatine artery

ii. Tonsillar artery

iii. Glandular arteries

iv. Submental artery

b) From the fascial part :

i. Superior labial artery

ii. Inferior

iii. Lateral nasal artery

iv. Muscular branches

Applied anatomy →

- Facial pulse : palpated at the lower border of mandible anterior to masseter muscle.

