

Ophthalmology SAQ

By: 430 Ophthalmology team

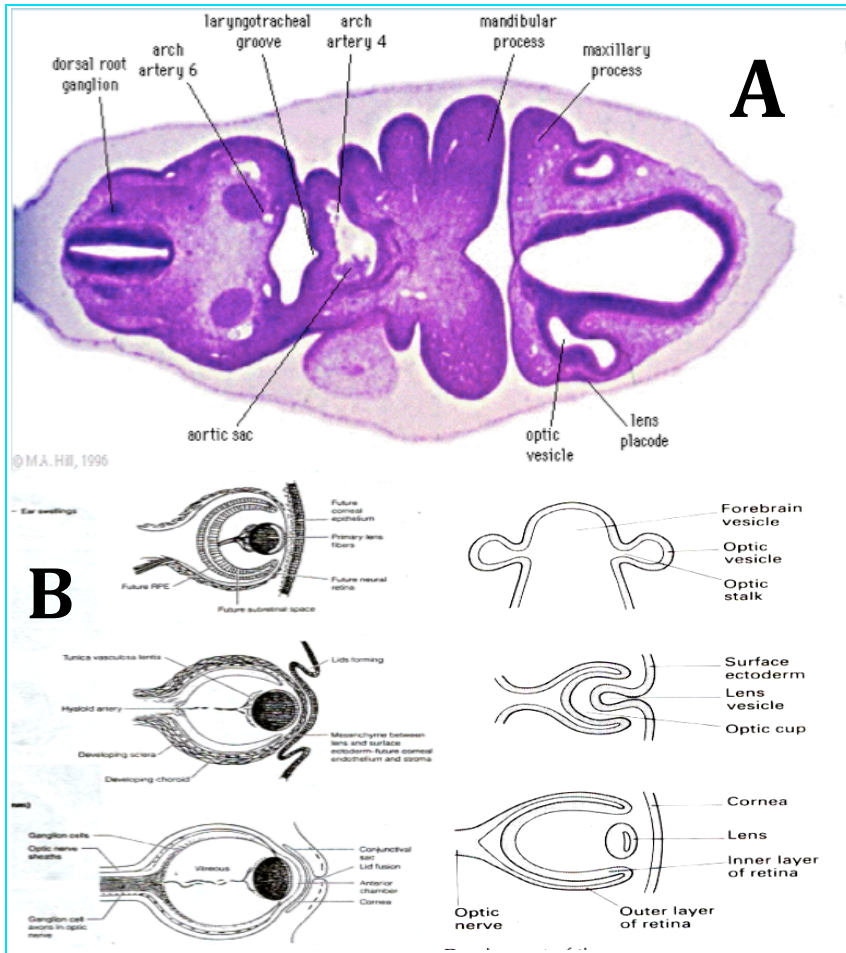
please refer to the original lecture given by the doctor

Anatomy and physiology of eyes

♣ Done By: Marwah Salem Bafadel



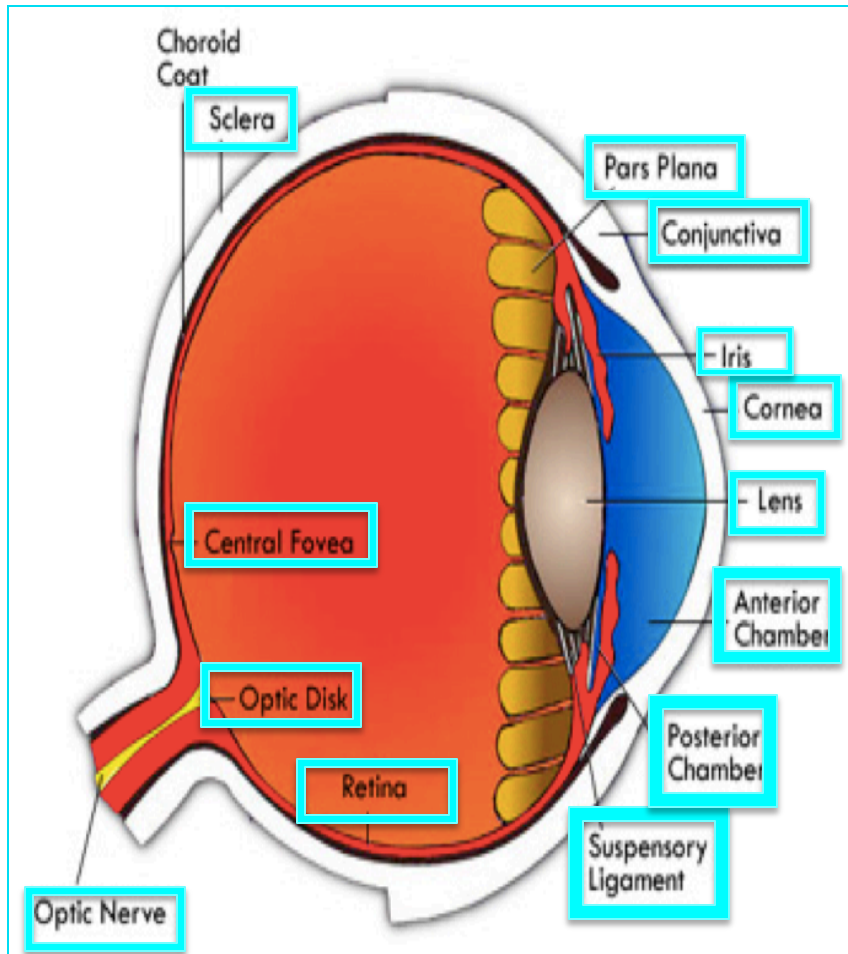
Slide 1



A- day 42 Human Embryo.

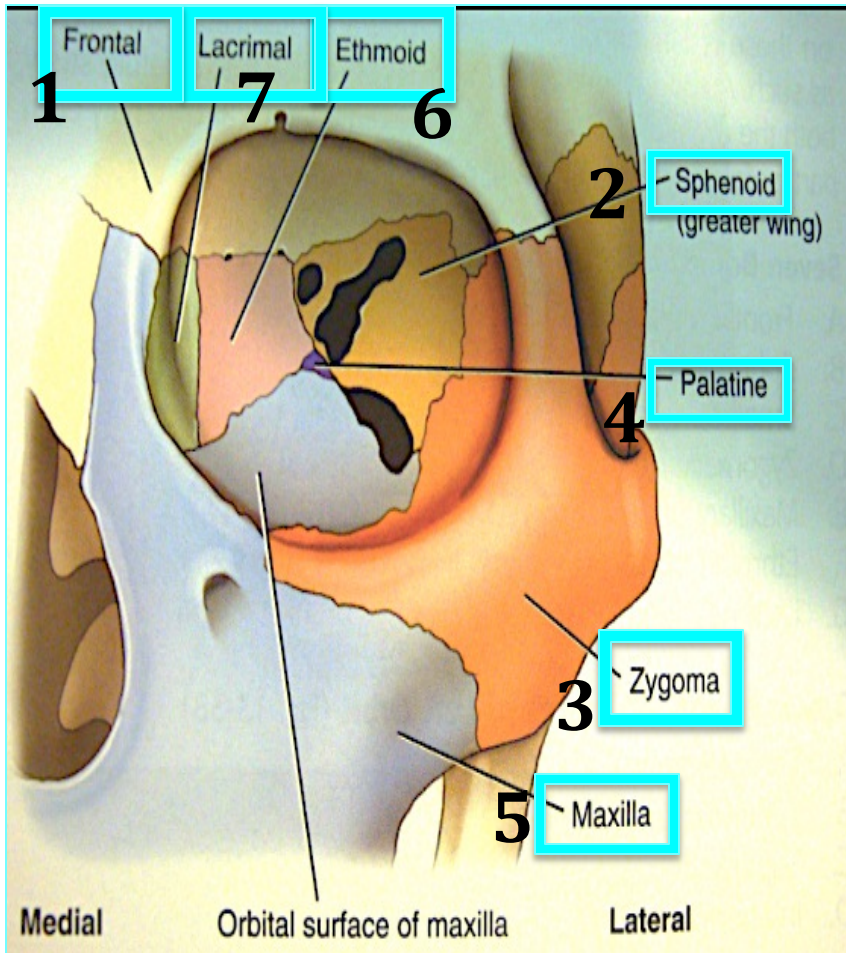
B- Development process of the eyes.

Slide 2



1. Cornea.
2. Conjunctiva.
3. Sclera.
4. Anterior Chamber.
5. Iris.
6. Lens.
7. Posterior Chamber.
8. Suspensory Ligament.
9. Pars Plana.
10. Retina.
11. Central Fovea.
12. Optic Disk.
13. Optic nerve.

Slide 3

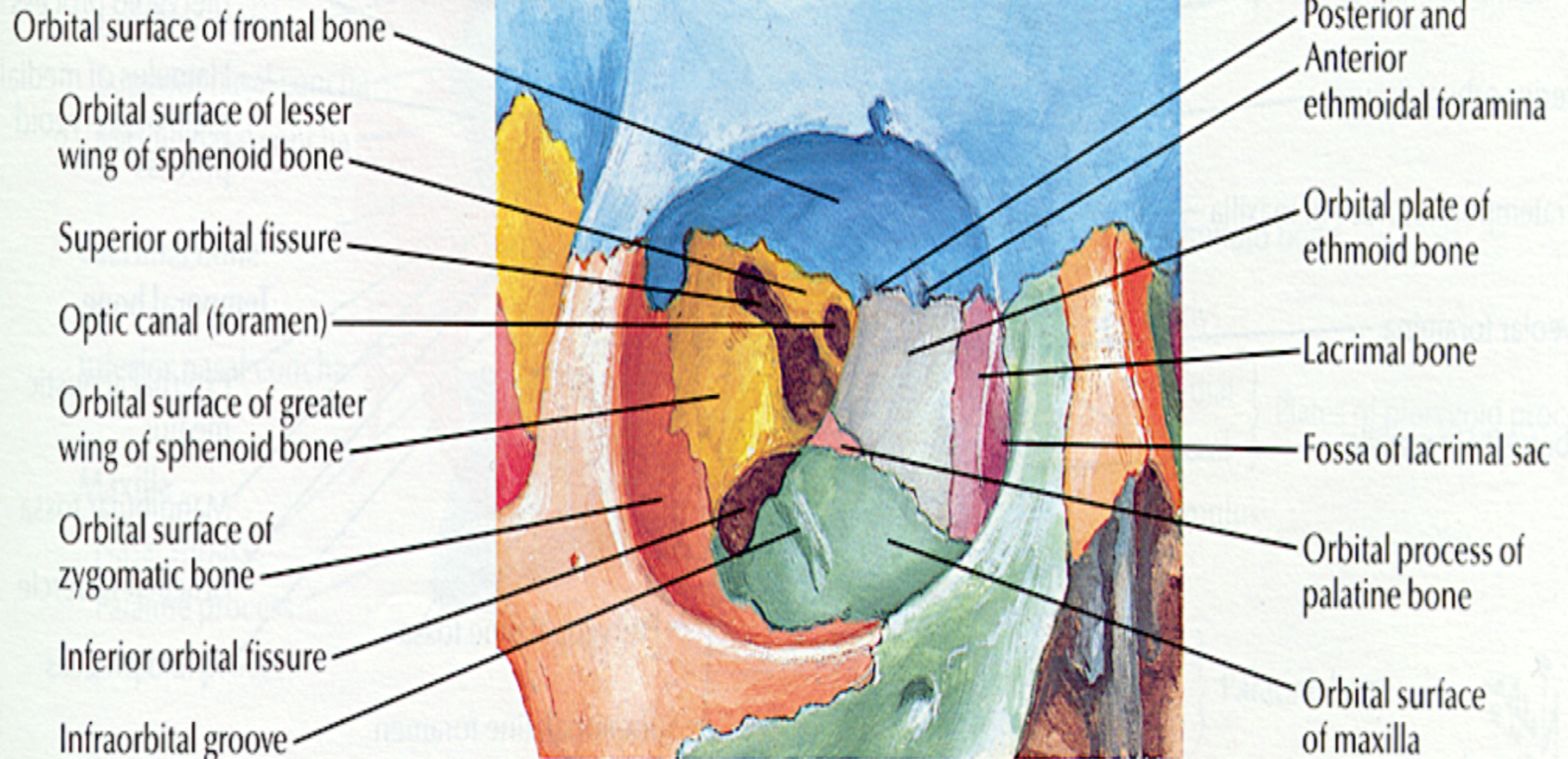


- Seven bones contribute the bony orbit.

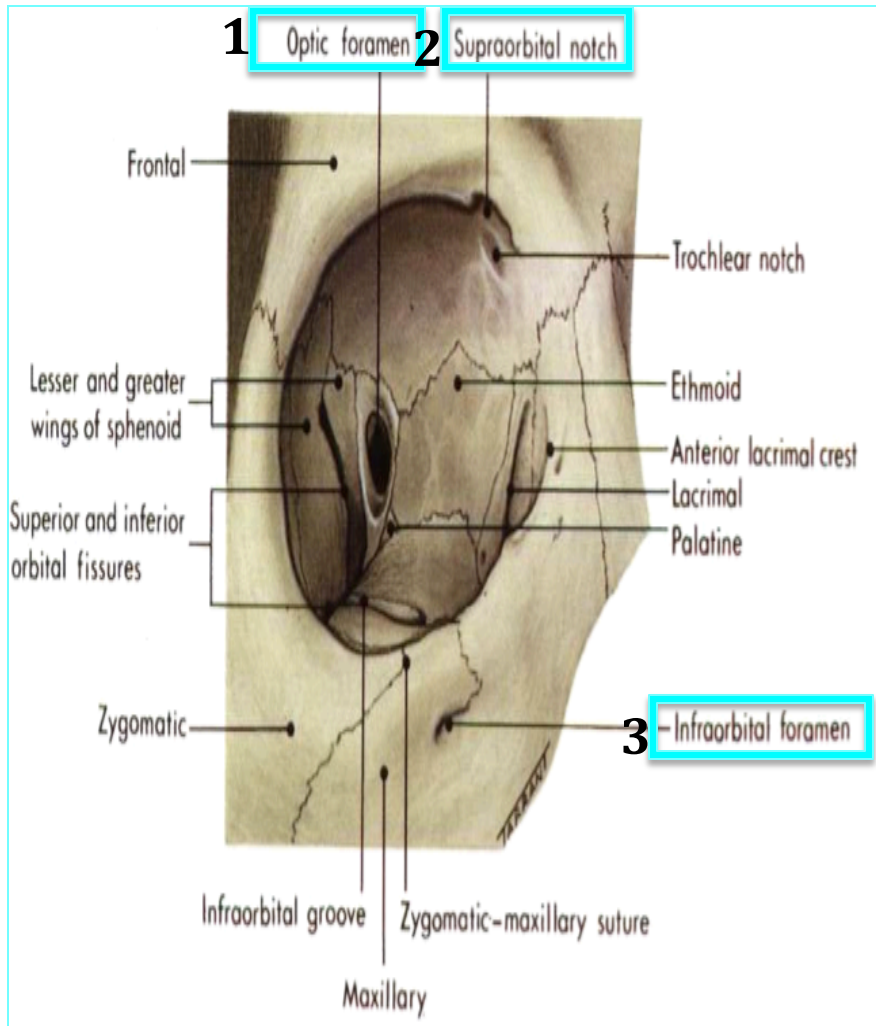
1. Frontal bone.
2. Sphenoid bone.
3. Zygomatic bone.
4. Tip of palatine bone.
5. Maxillary bone.
6. Ethmoid bone.
7. Lacrimal bone.

Slide 4

Right orbit: frontal and slightly lateral view



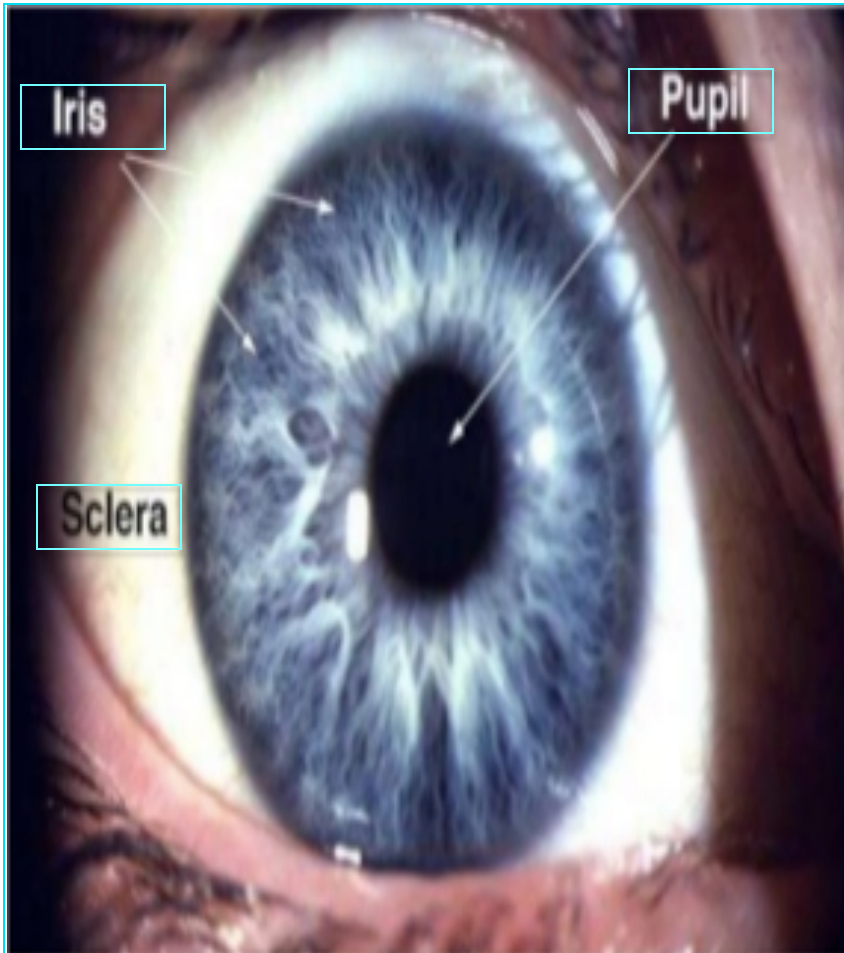
Slide 5



Important openings in the orbit are:

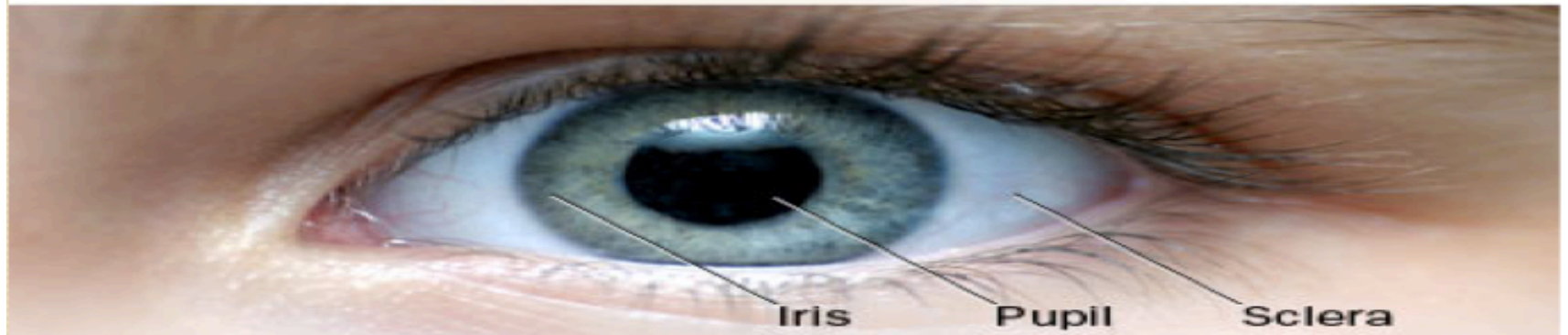
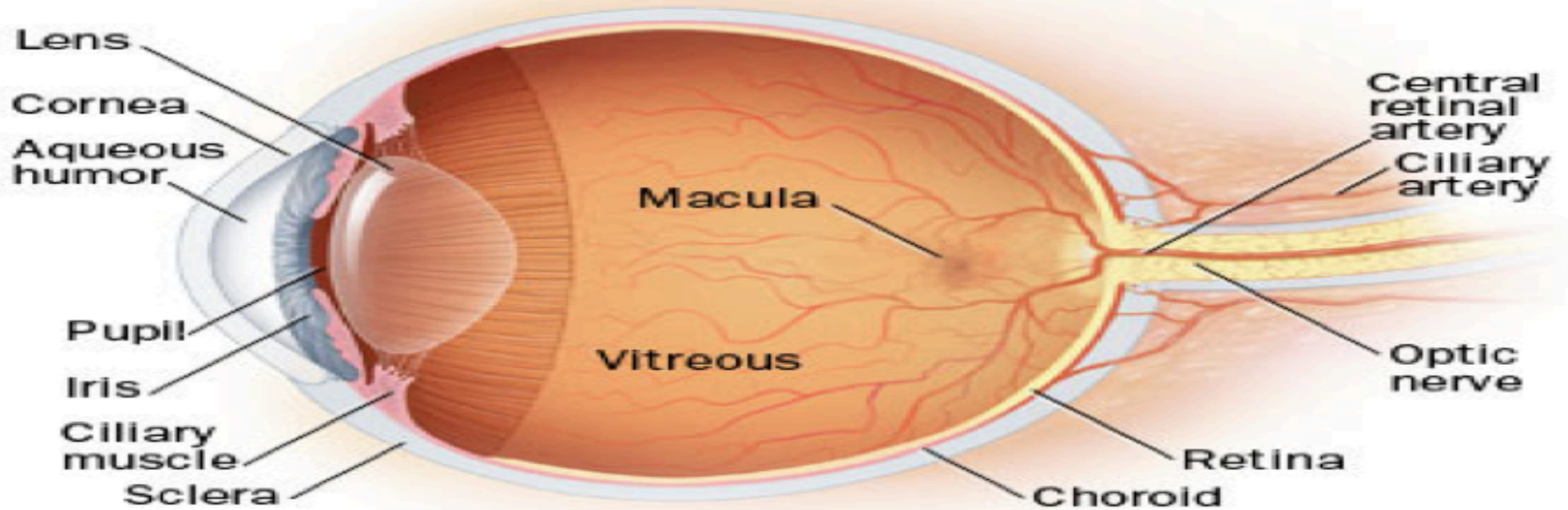
1. Optic foramen.
2. Superior orbital fissure.
3. Inferior orbital fissure.

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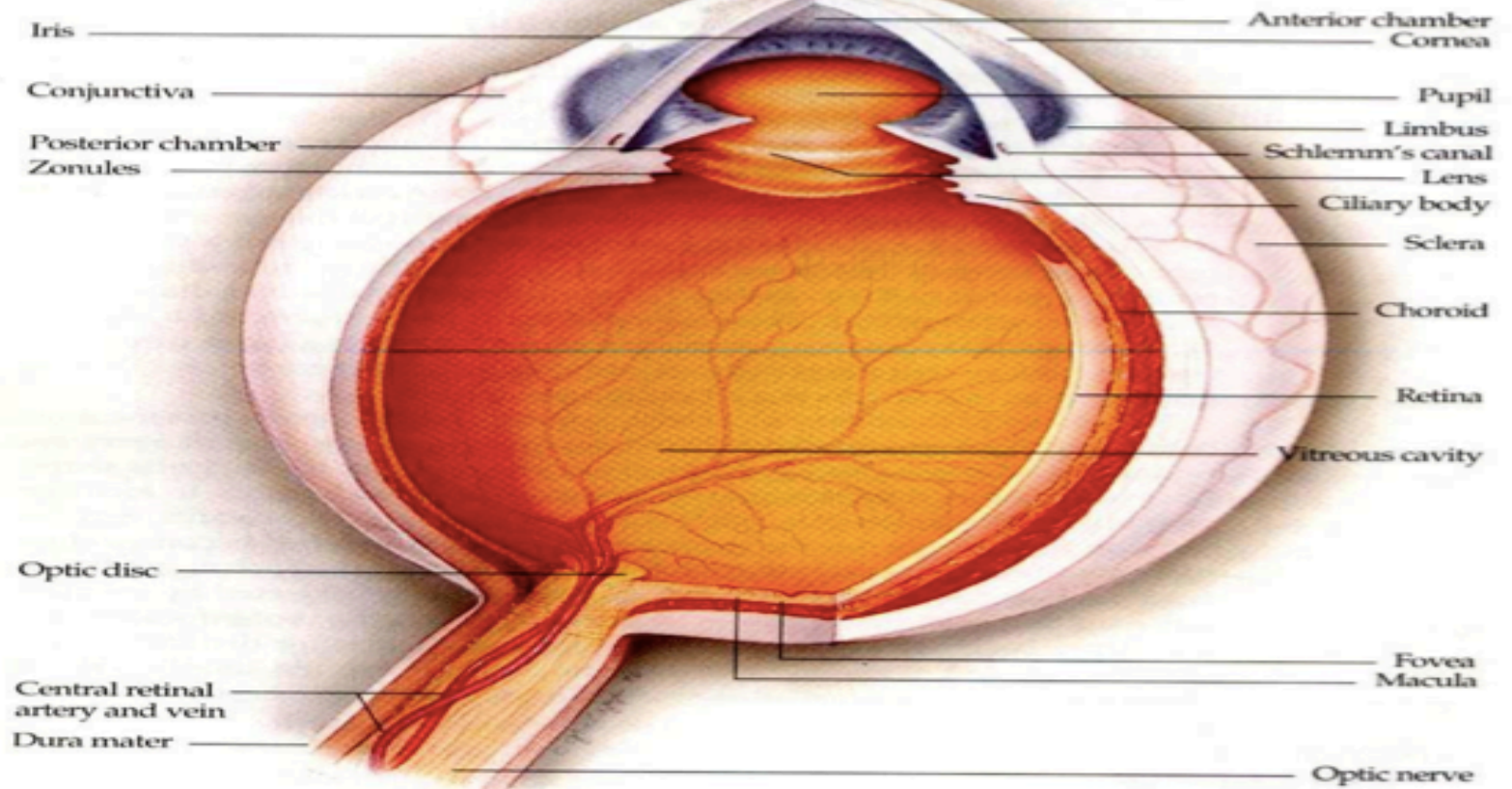


- **Pupil.**
- **Iris.**
- **Sclera.**

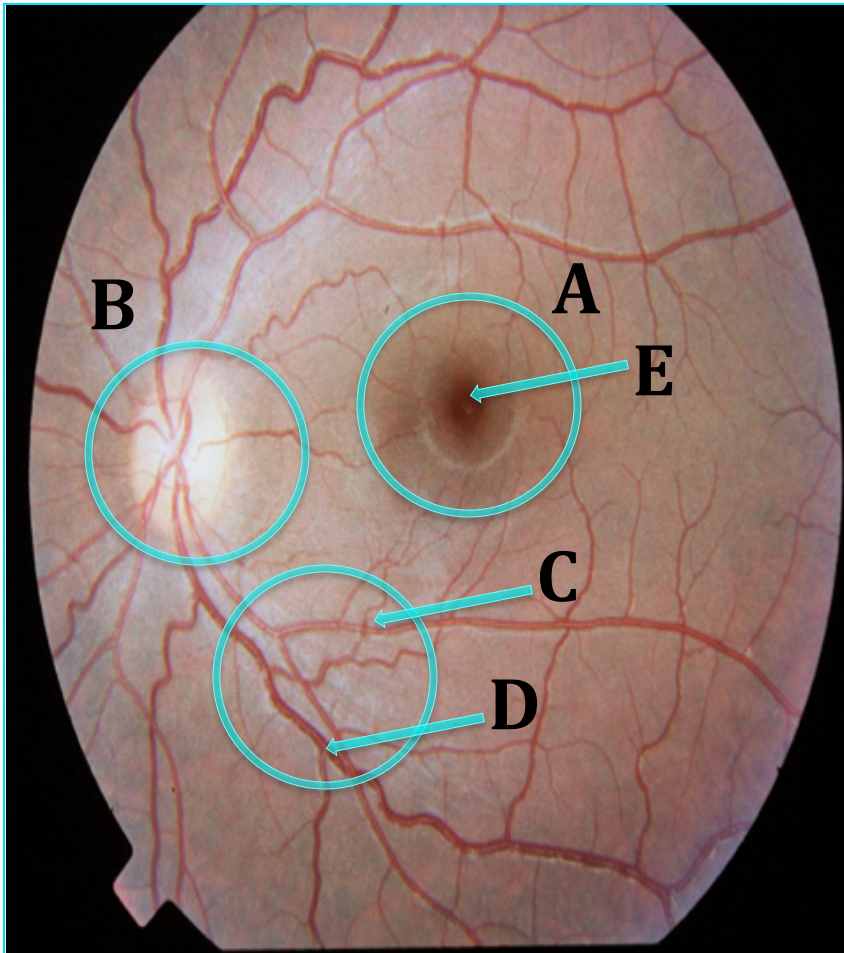
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Silde 8



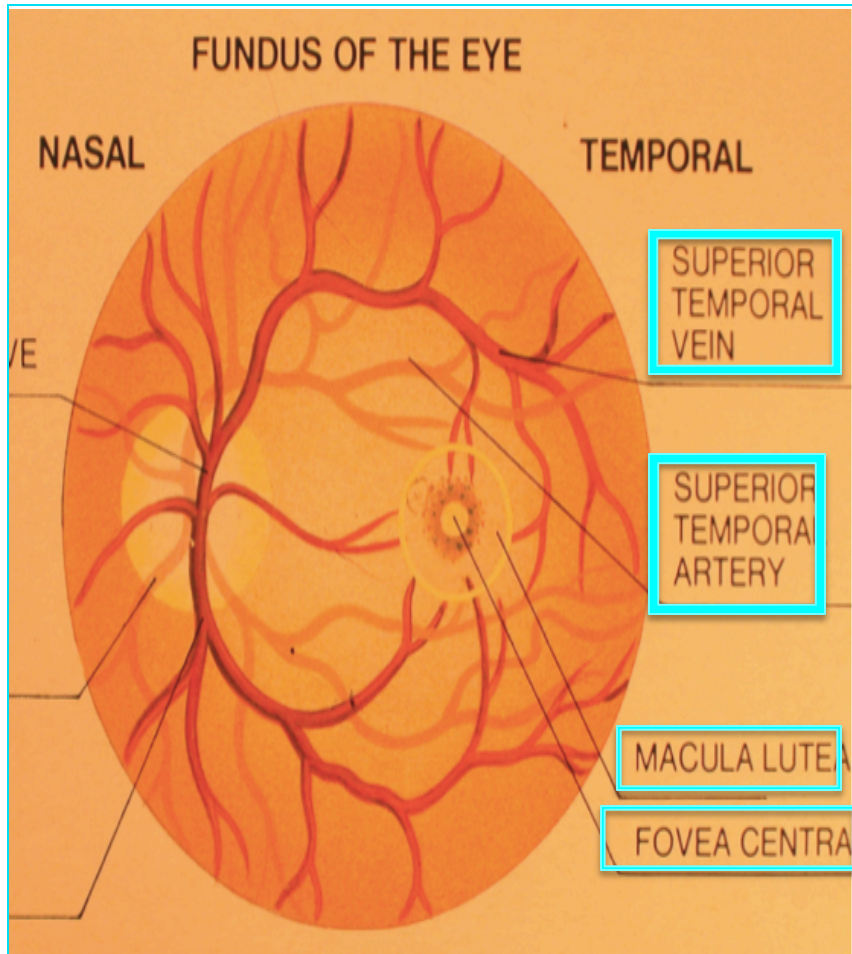
Slide 9



- **Normal fundus of the eye.**

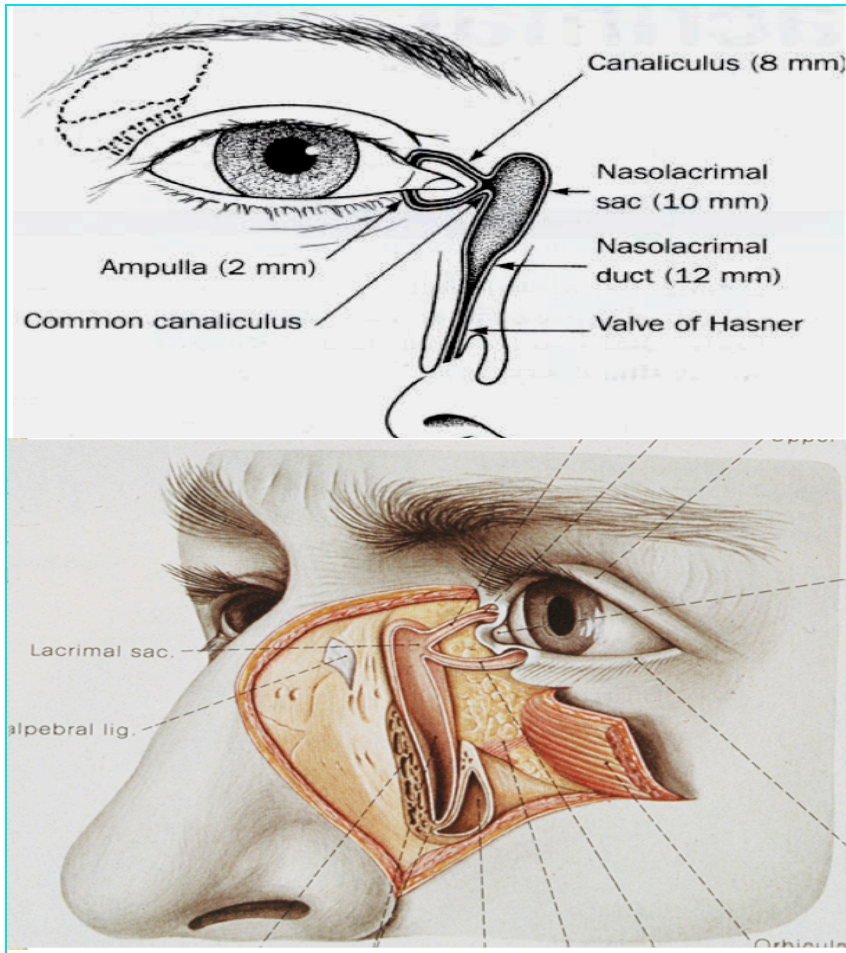
- A. Macula.**
- B. Optic disk**
- C. Retinal artery (pale red).**
- D. Retinal vein (dark red).**
- E. Fovea.**

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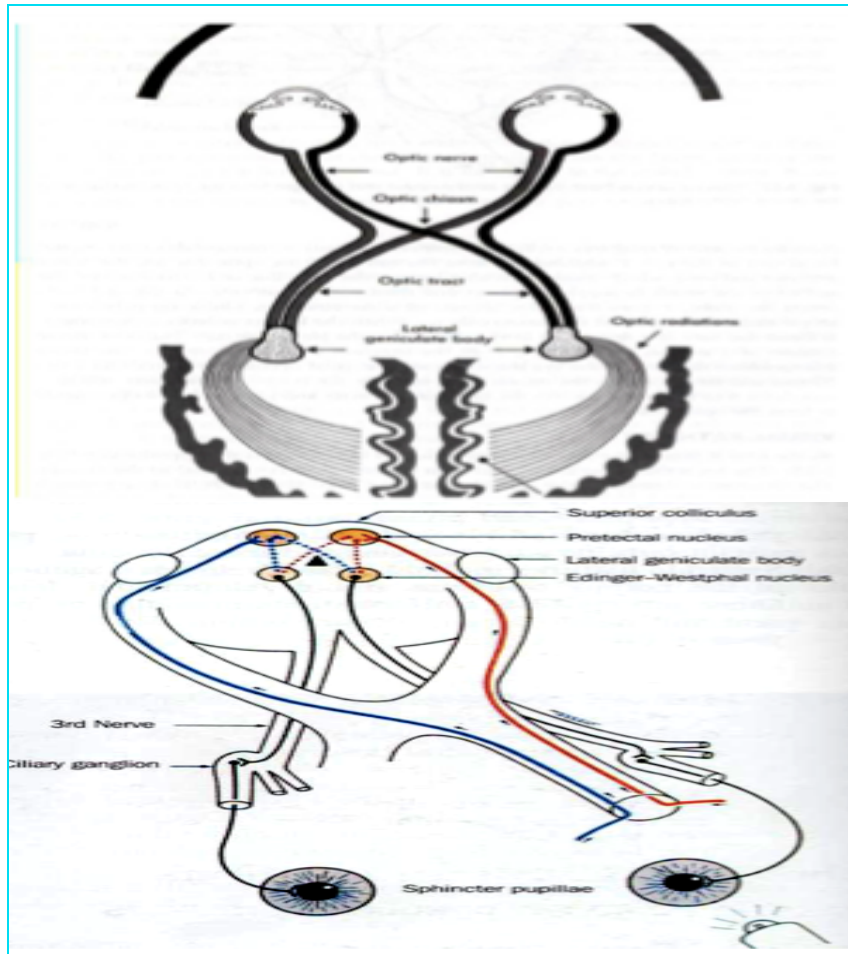
- **Fundus of the eye.**

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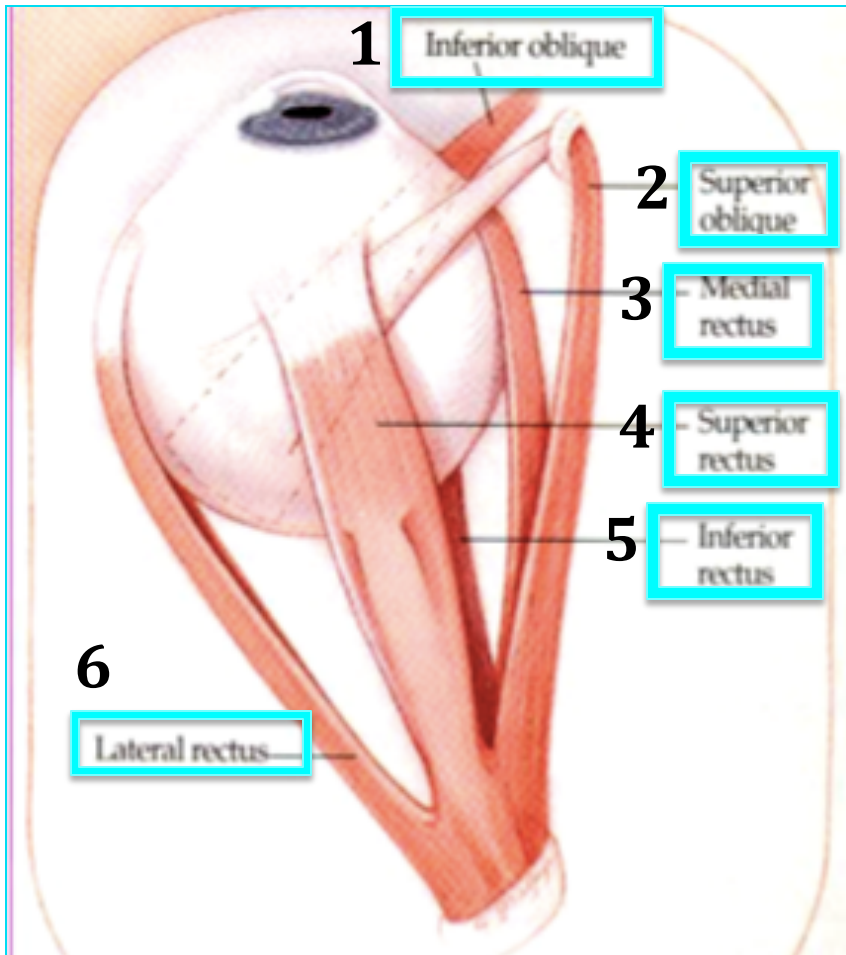
- *The lacrimal apparatus:*
 - A. Puncta.
 - B. Canaliculus.
 - C. Common Canaliculus.
 - D. Nasolacrimal Sac.
 - E. Nasolacrimal duct.
 - F. Opens into the nasal cavity just beneath the inferior turbinate.

Slide 12



- Visual pathway

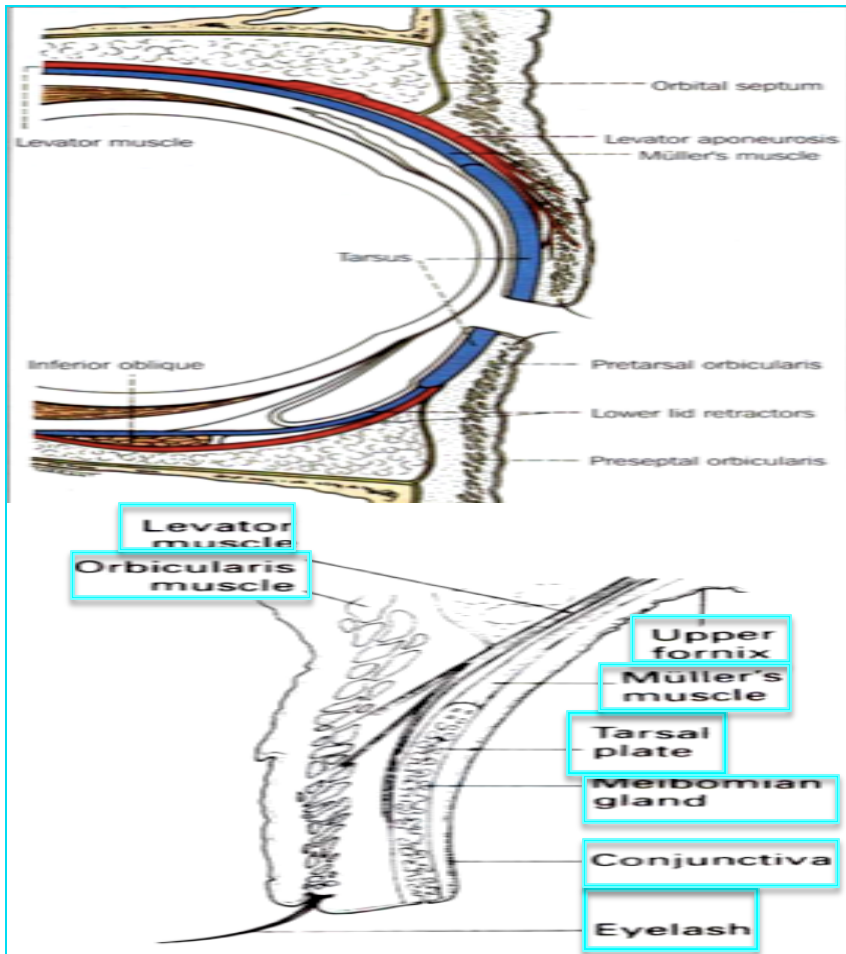
Slide 13



- **Muscles of the eyes:**

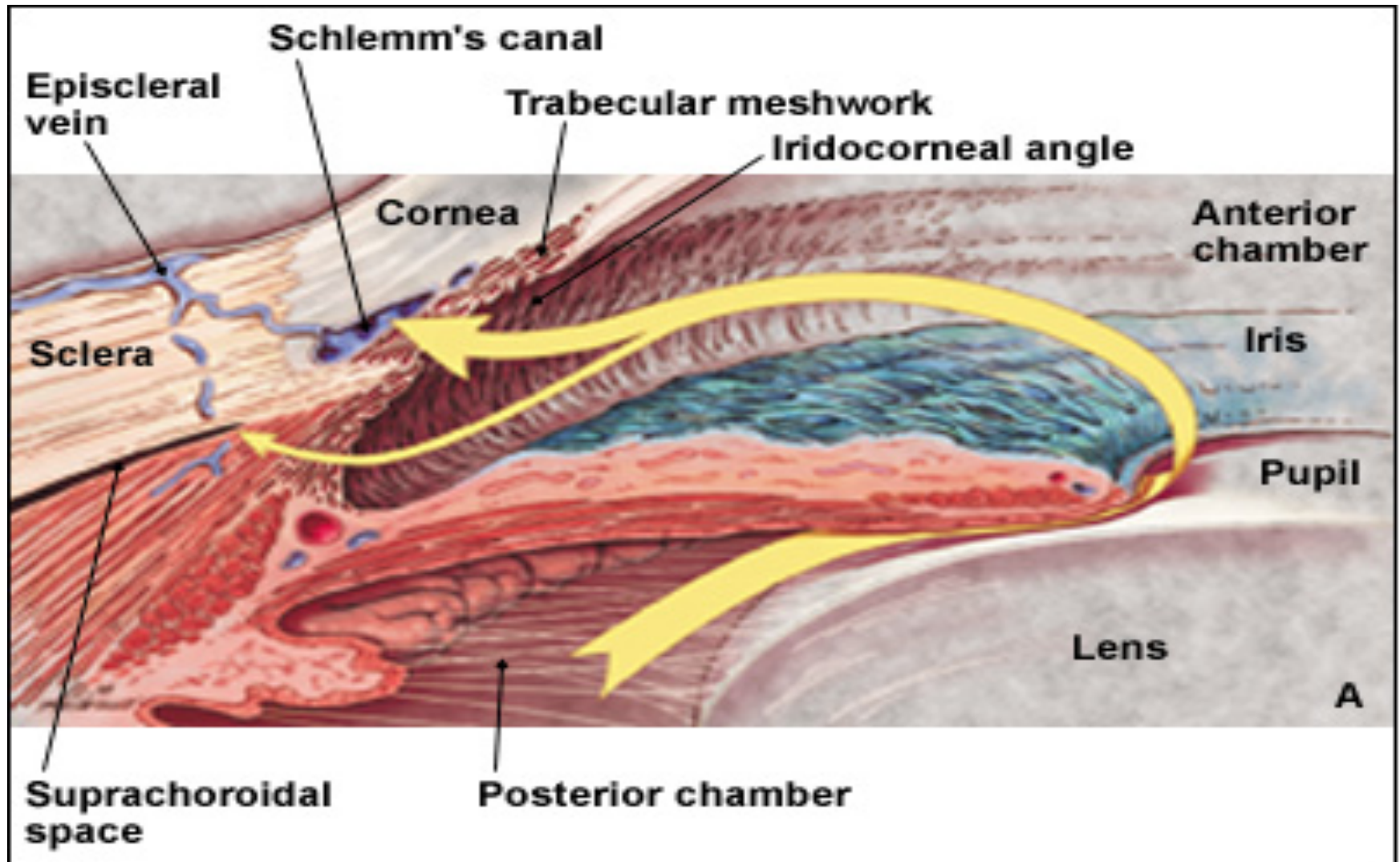
1. **Inferior oblique m.**
2. **Superior oblique m.**
3. **Medial rectus m.**
4. **Superior rectus m.**
5. **Inferior rectus m.**
6. **Lateral rectus m.**

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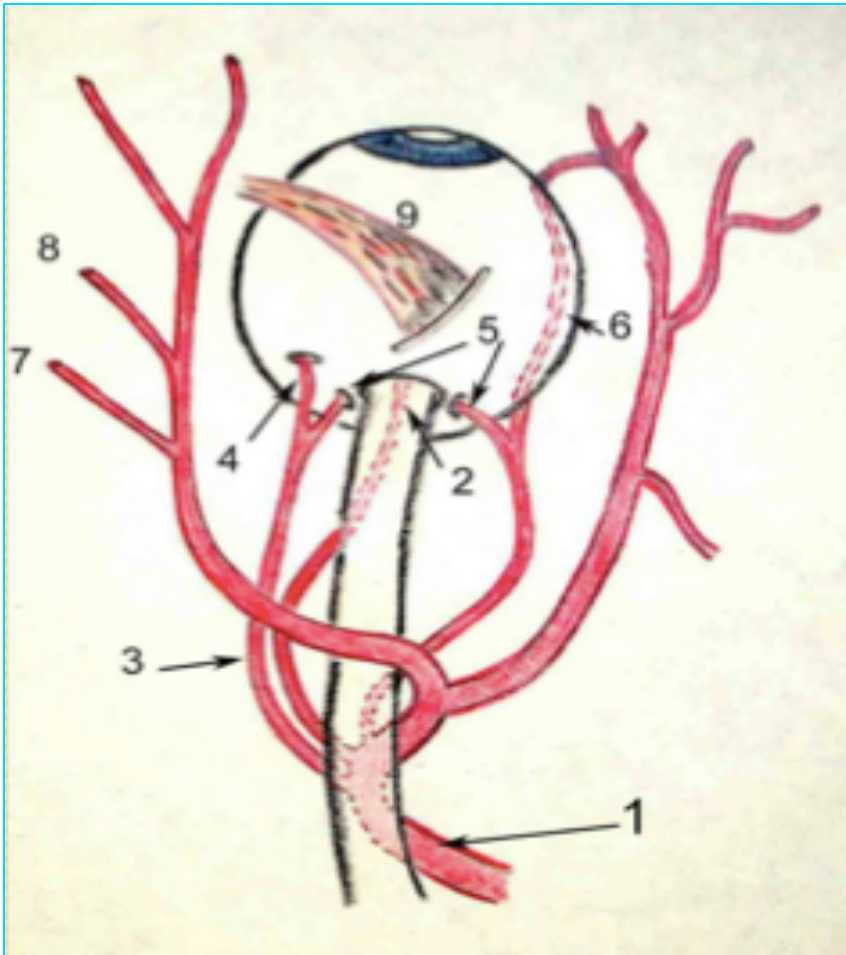


- Levator m.
- orbicularis m.
- Upper fornix.
- Muller's m.

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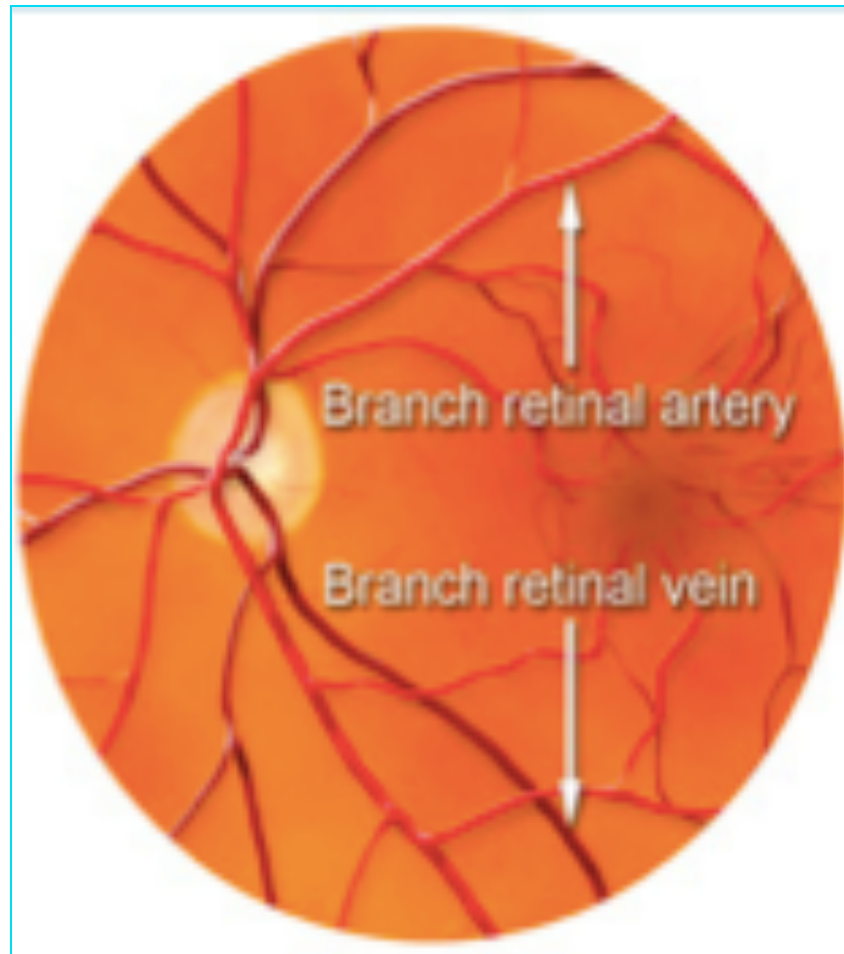
1. Ophthalmic artery.
 2. Central retinal artery
 3. Ciliary arteries (side of the optic nerve).
 4. + 6. 2 long posterior ciliary arteries.
 5. Short posterior ciliary arteries.
- The ophthalmic artery (#1 in Figure) continues to provide branches for the posterior (#7 in Figure) and anterior (#8 in Figure) Ethmoidal vessels.

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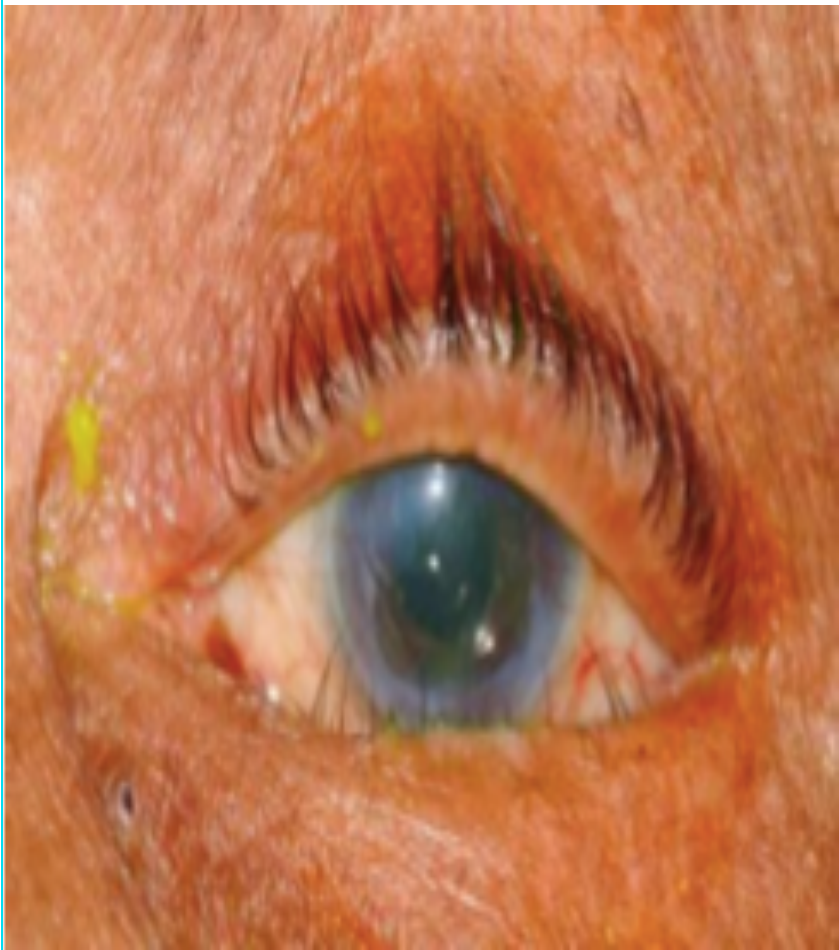


- choroid to drain into 4-6 vortex veins
- The vortex veins emerge just posterior to the equator (#2 in Figure)
- vortex veins will drain into the superior and inferior ophthalmic veins. 2,3
- cavernous sinus #5

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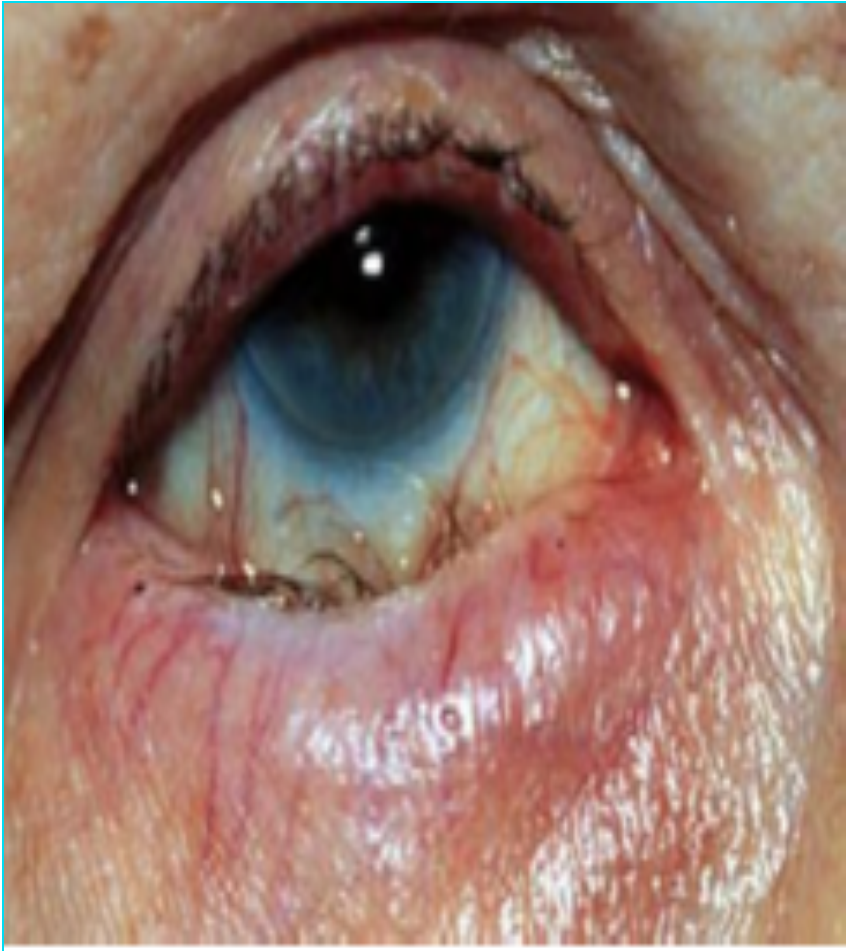


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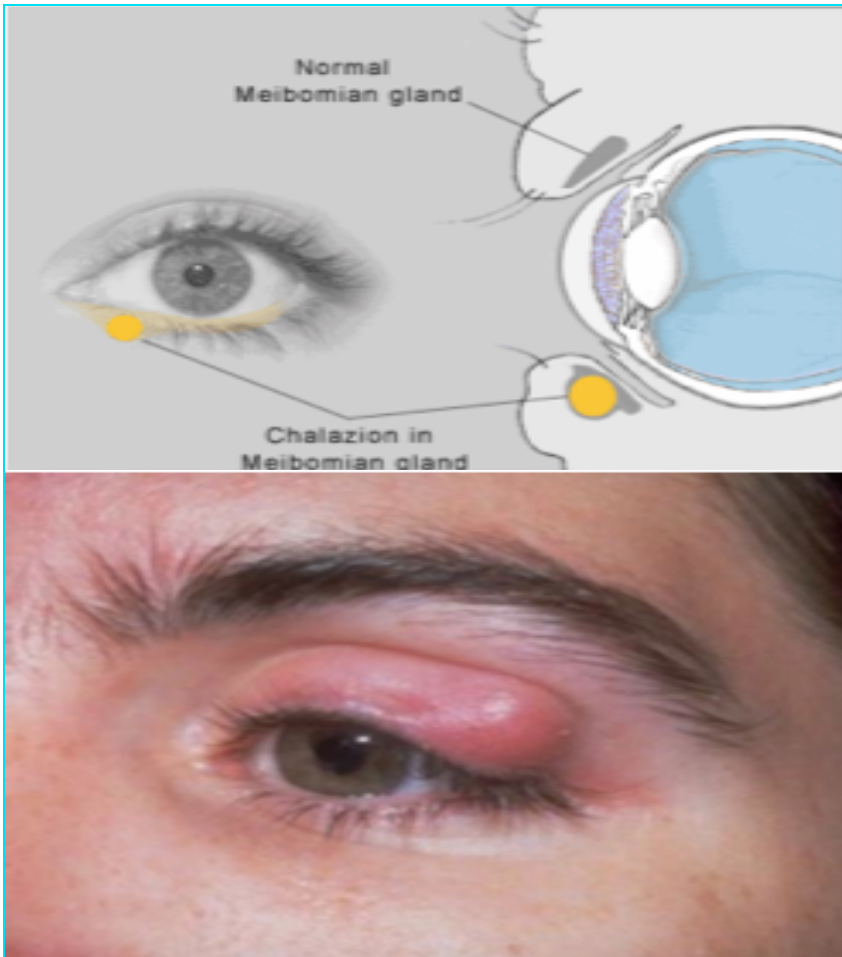
- **Ectropion:**
Contraction of the anterior lamella causing outward deviation of the lid margin.

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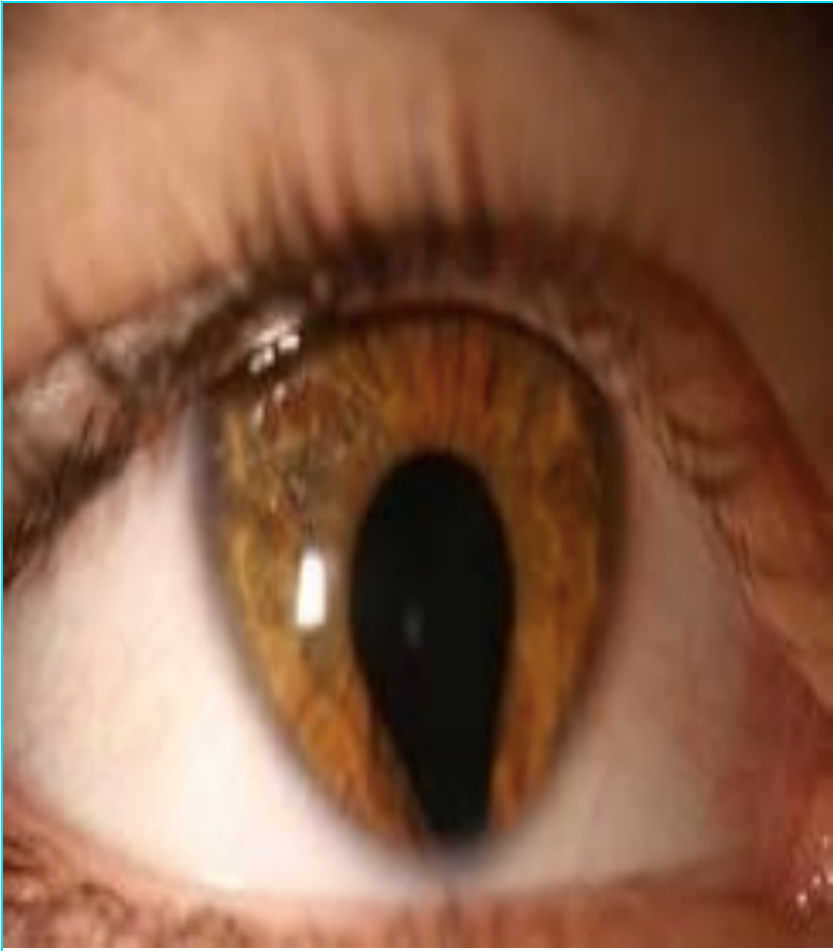
- **Entropion:**
contraction of the posterior lamella causing inward deviation of the margin.

Slide 21



- **Chalazion:** chronic granulomatous inflammation of meibomian gland.

Slide 22



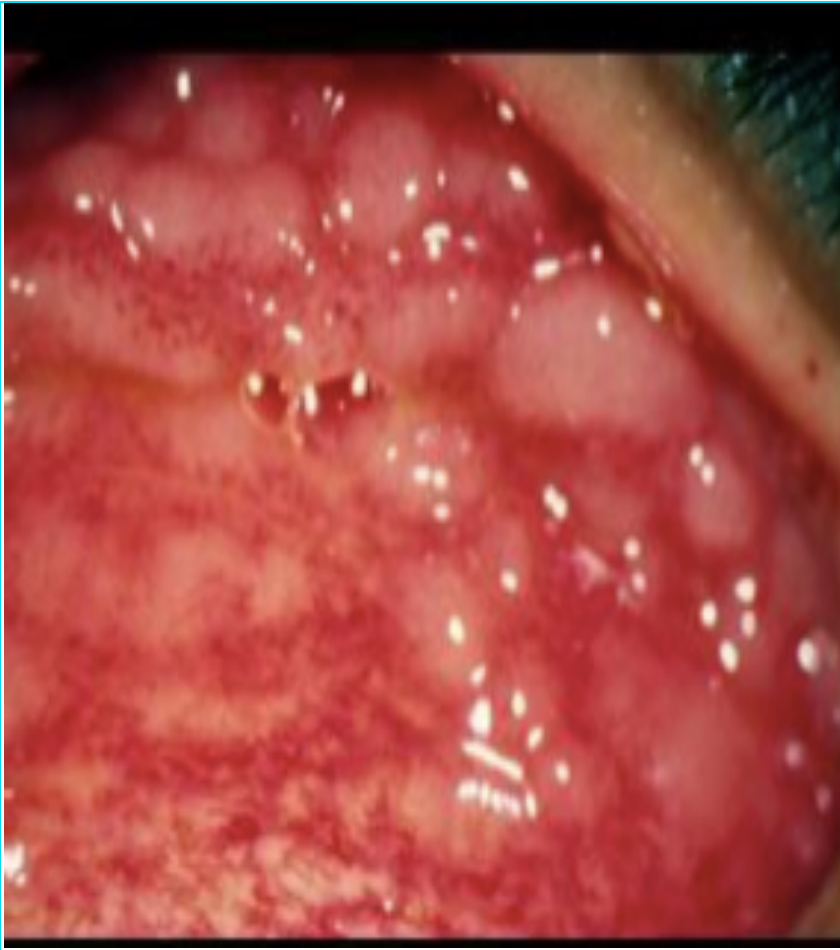
- **Coloboma** :
Congenital defect of the iris, ciliary body, choroid or even optic nerve> it will be exactly infranasal.

Slide 23



- **Ptosis**: dropping of the upper eyelid due to decreased tone of the muscle and power to elevate the eyelid.

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- **Follicles:** aggregation of lymphocyte forms dome shaped gray area surrounded by blood vessels (no central vessel).

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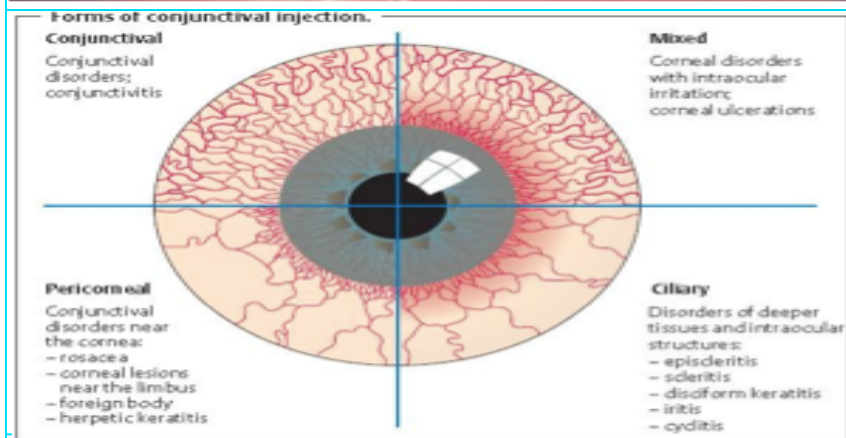


- **Papillae**: proliferation of the epithelium with central blood vessel, mostly due to ocular disease, FB, contact lens.

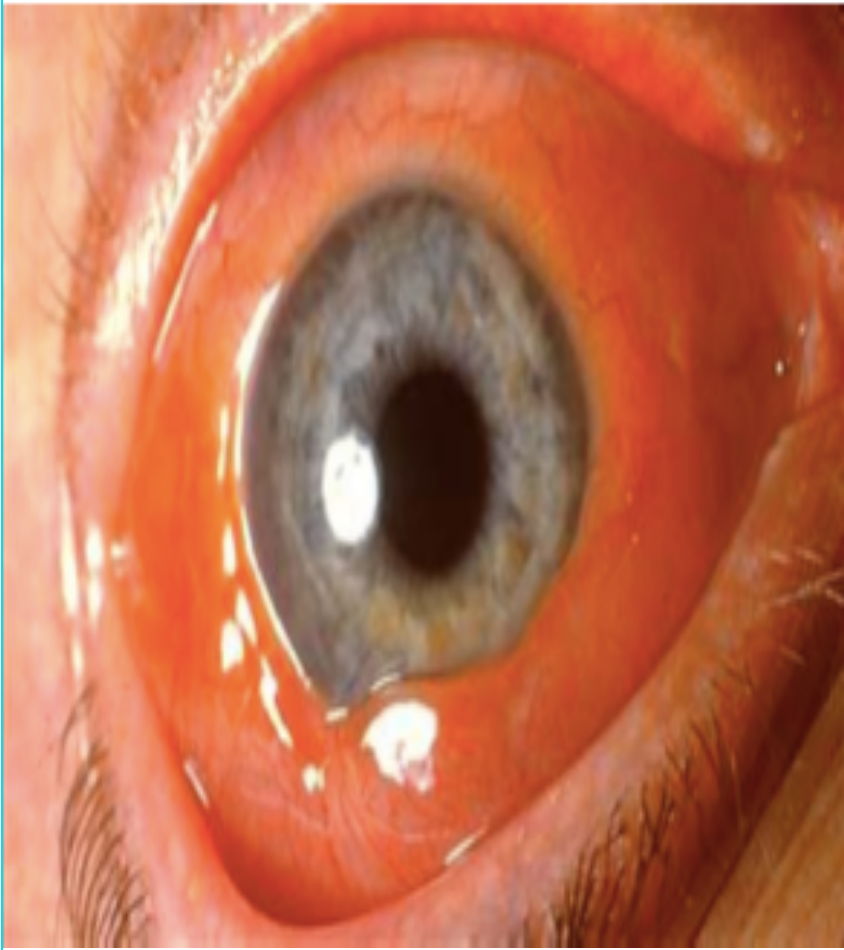
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- Conjunctival injection.

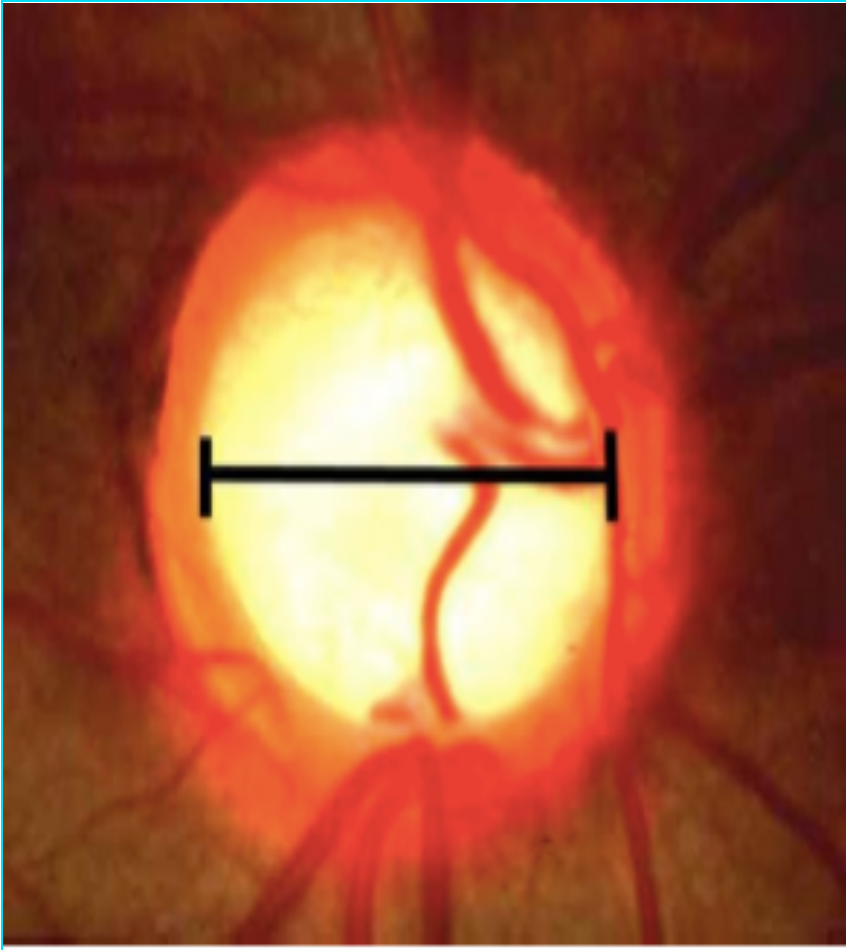


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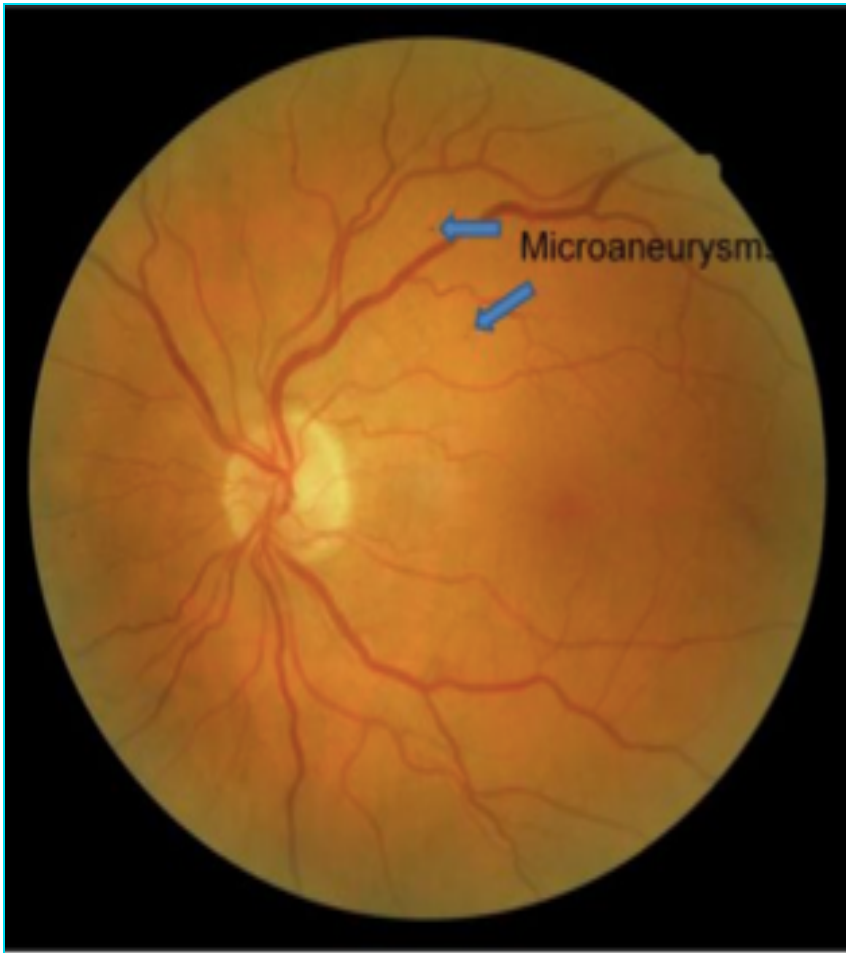
- Chemosis.

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- Cupping: sign of glaucoma.

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- Age-related macular degeneration

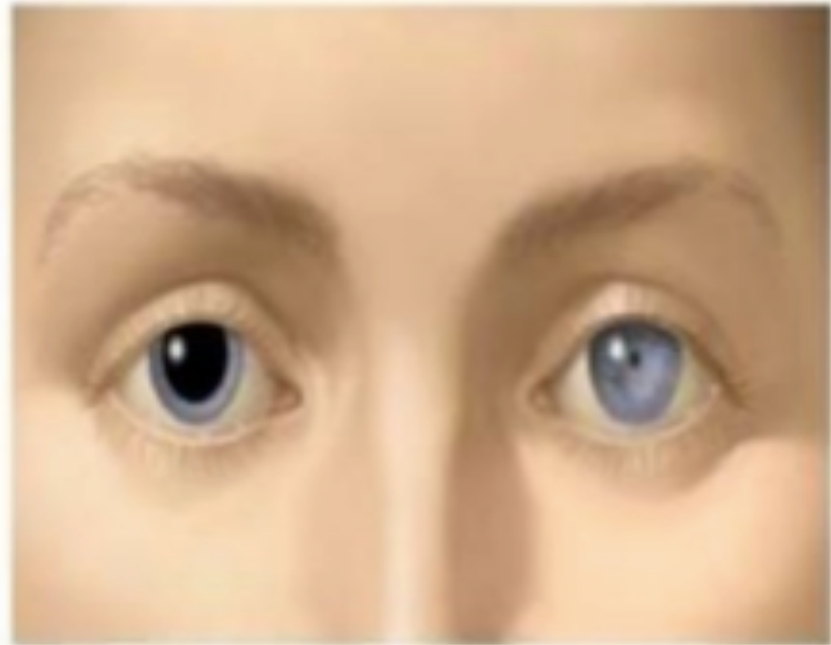
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-The *iris* works in conjunction with the *pupil* to control how much light enters the eye

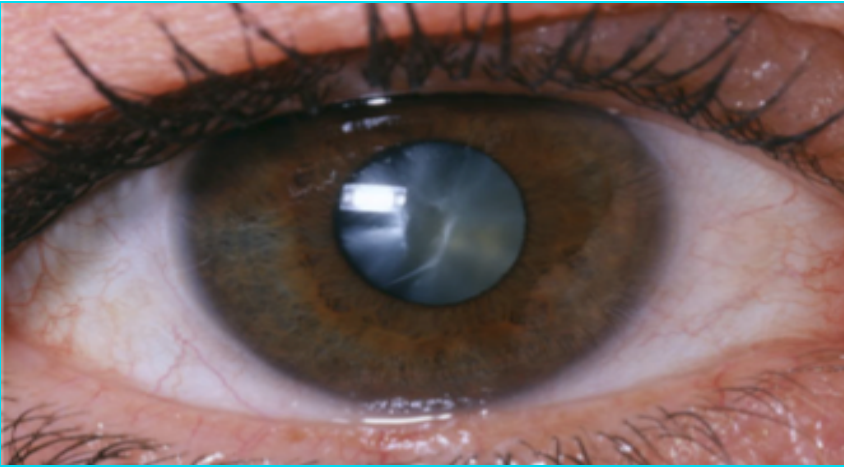
-The *iris* has tiny muscles which enable it to dilate and constrict the *pupil* to allow more or less light into the eye

Dilated pupil

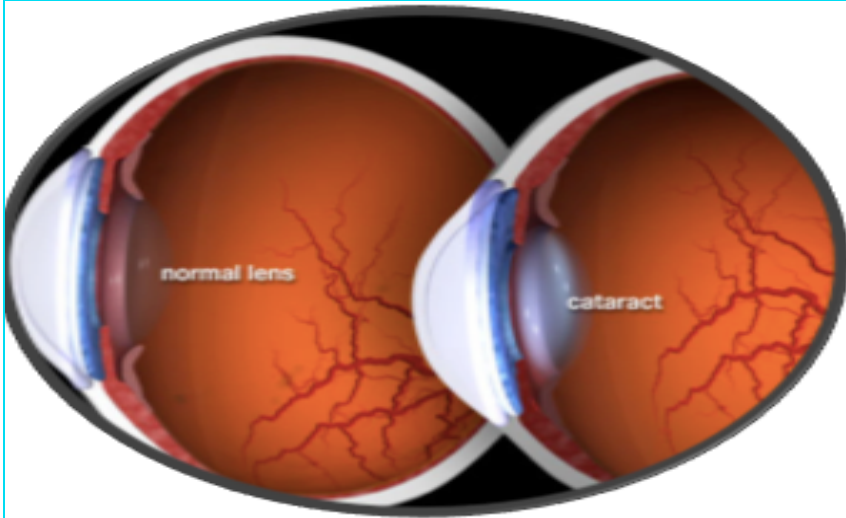
Constricted pupil



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- Cataract.

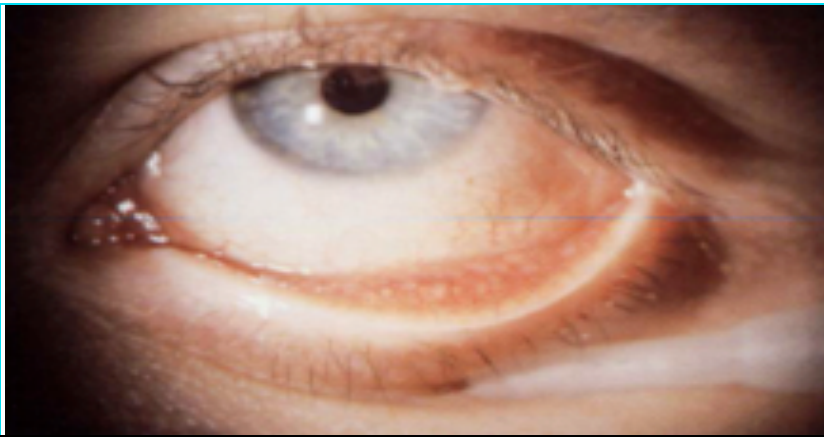


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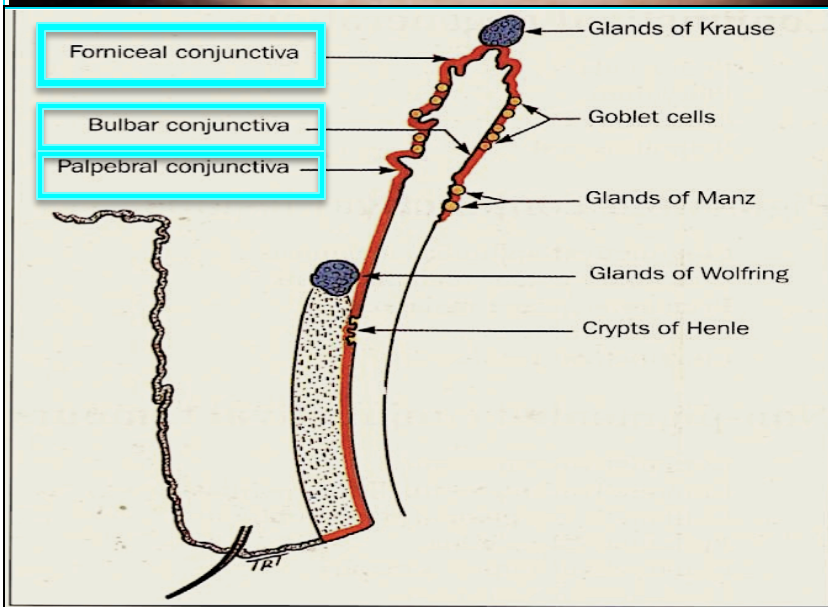
- A boxer hit by a fist is a example of inferior orbital fracture with a black eye.

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- **Conjunctiva three parts:**

1. Bulbar conjunctiva.
2. Palpebral conjunctiva.
3. Forniceal conjunctiva

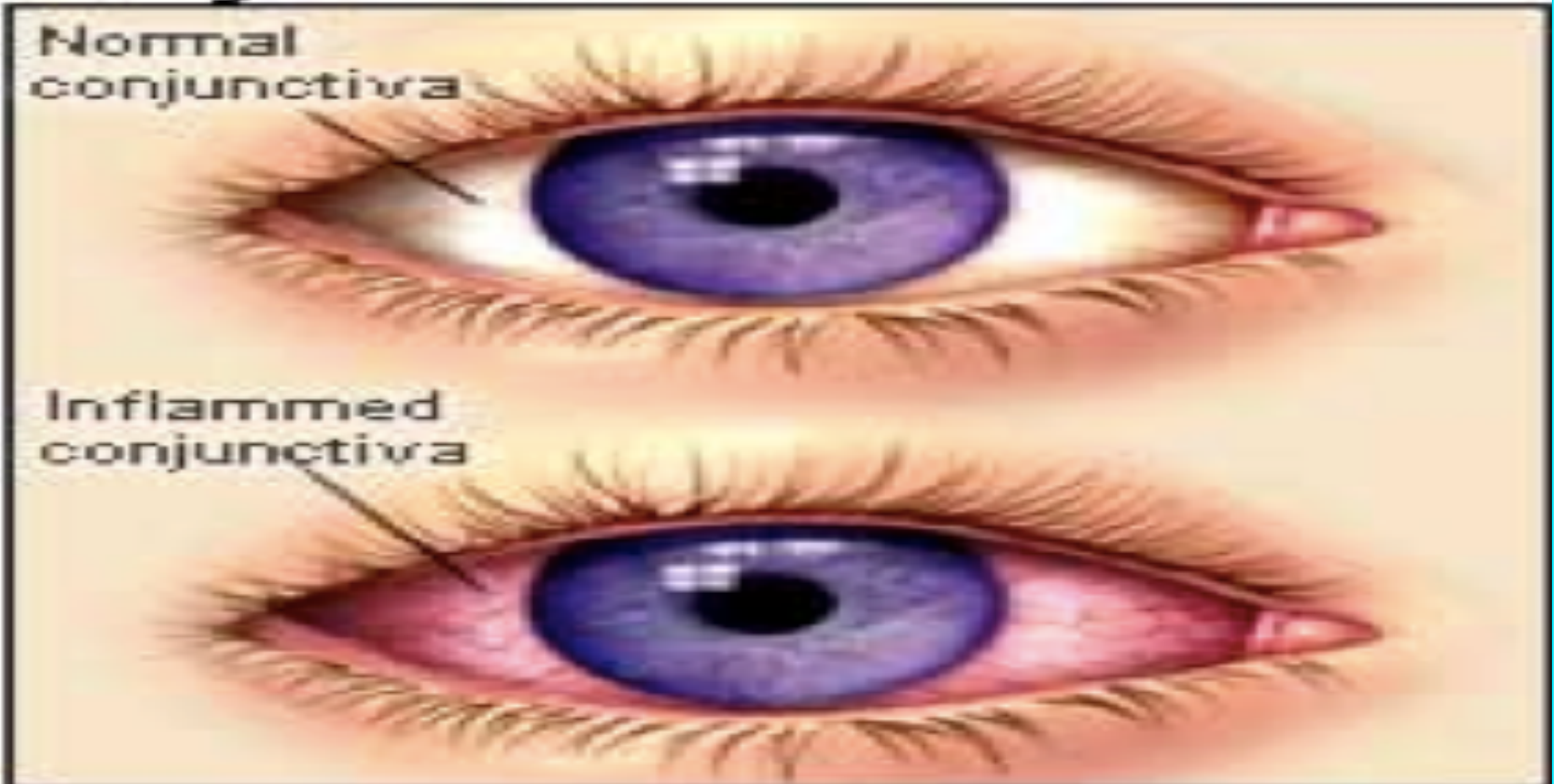


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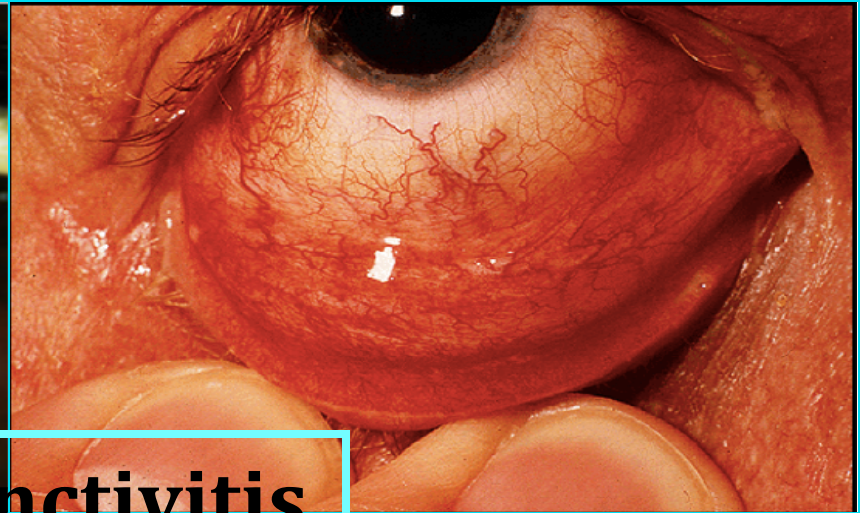
Conjunctivitis

Normal
conjunctiva

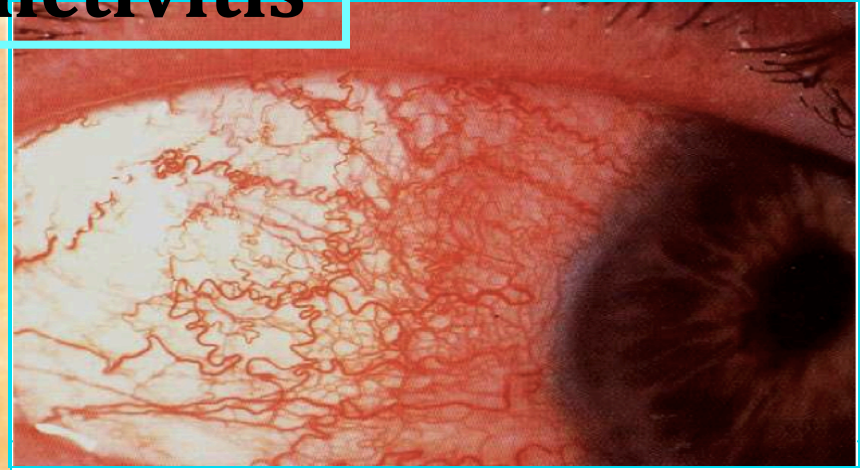
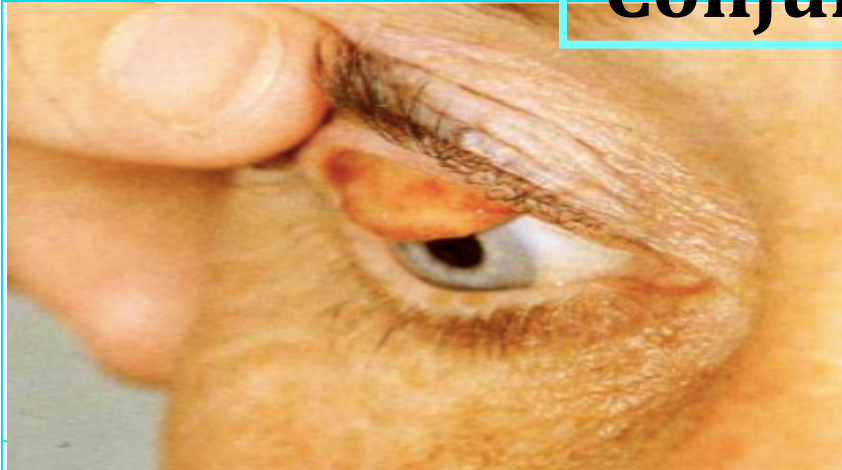
Inflammed
conjunctiva



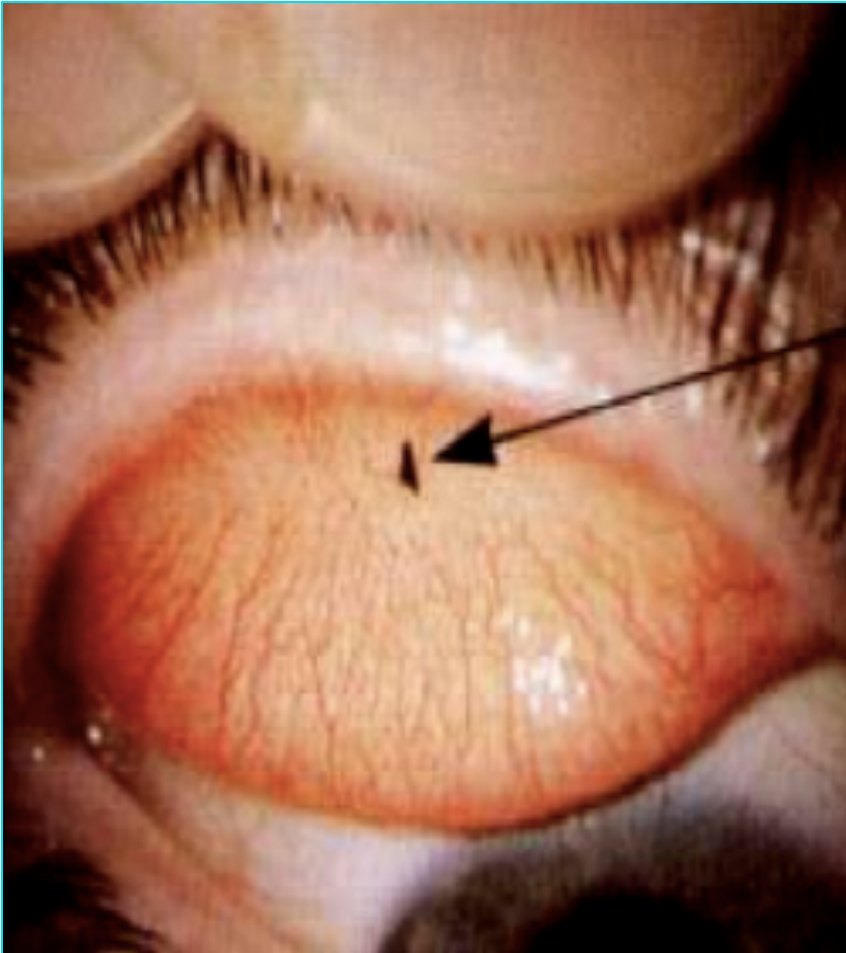
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Conjunctivitis

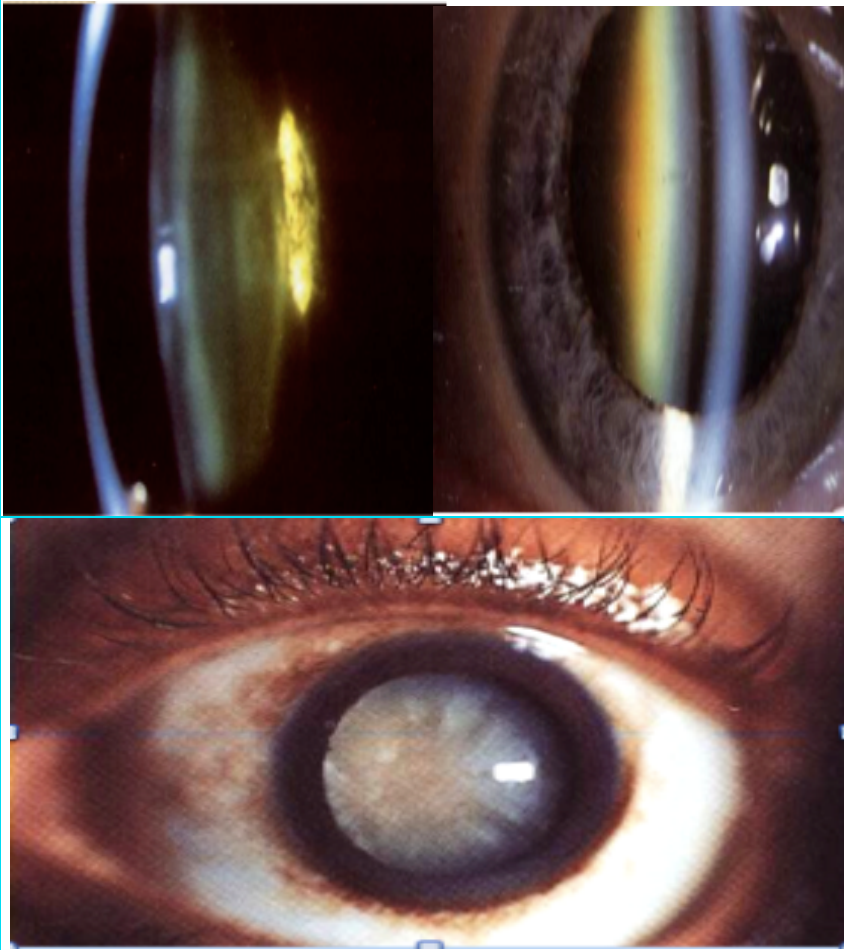


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- Conjunctivitis.

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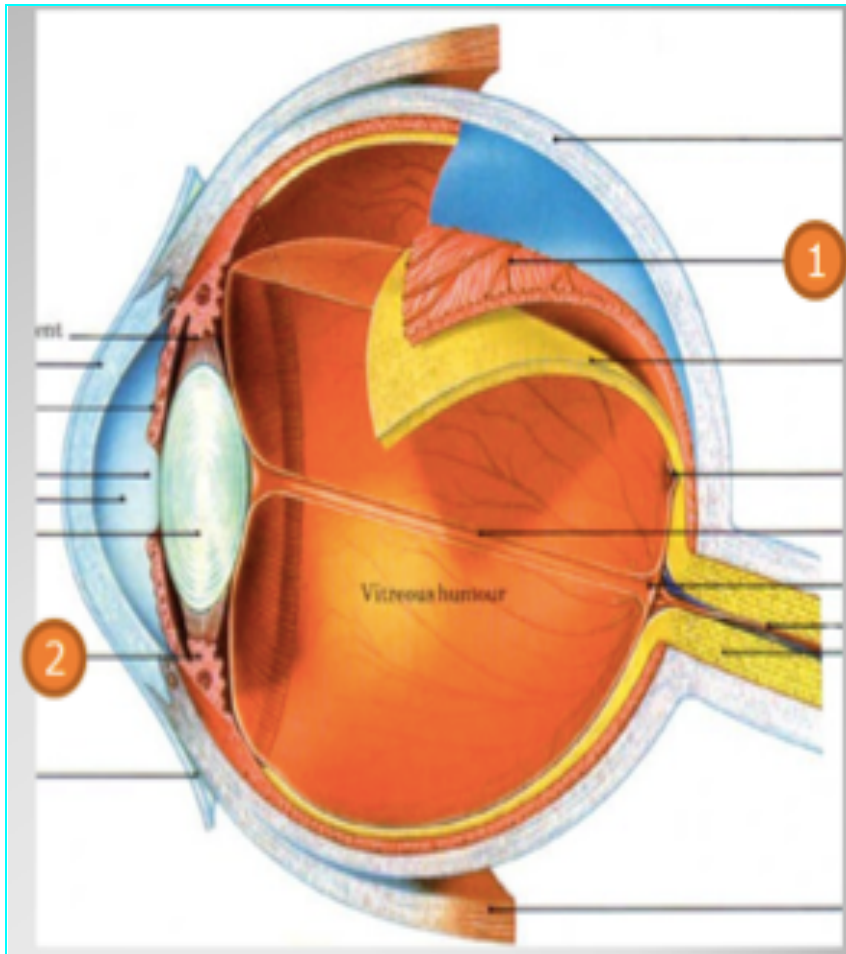
- Cataract.

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Age-related macular degeneration.

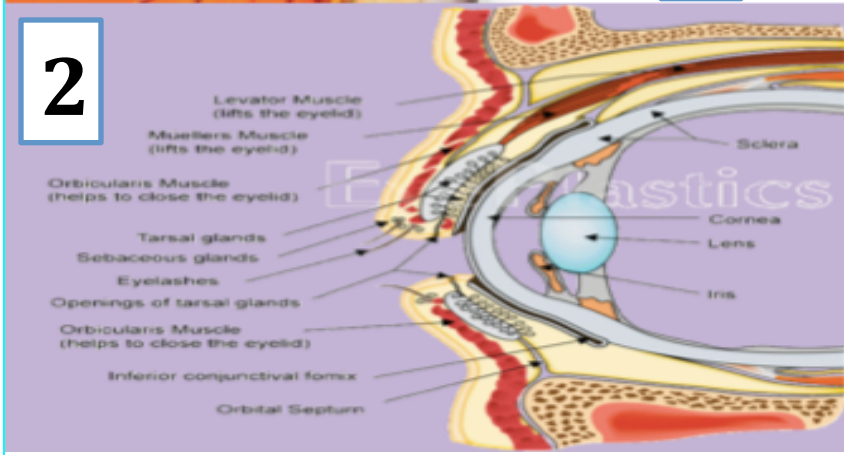
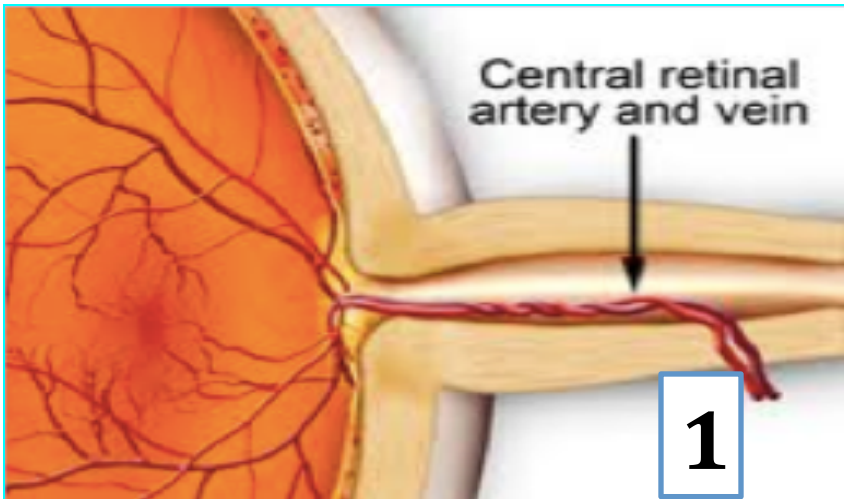
Slide 39



- **Identify:**

1. Choroid.
2. Ciliary body.

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- **Identify:**

1. **Central retinal artery and vein.**
2. **Ciliary body.**