

ANATOMY OF EYE

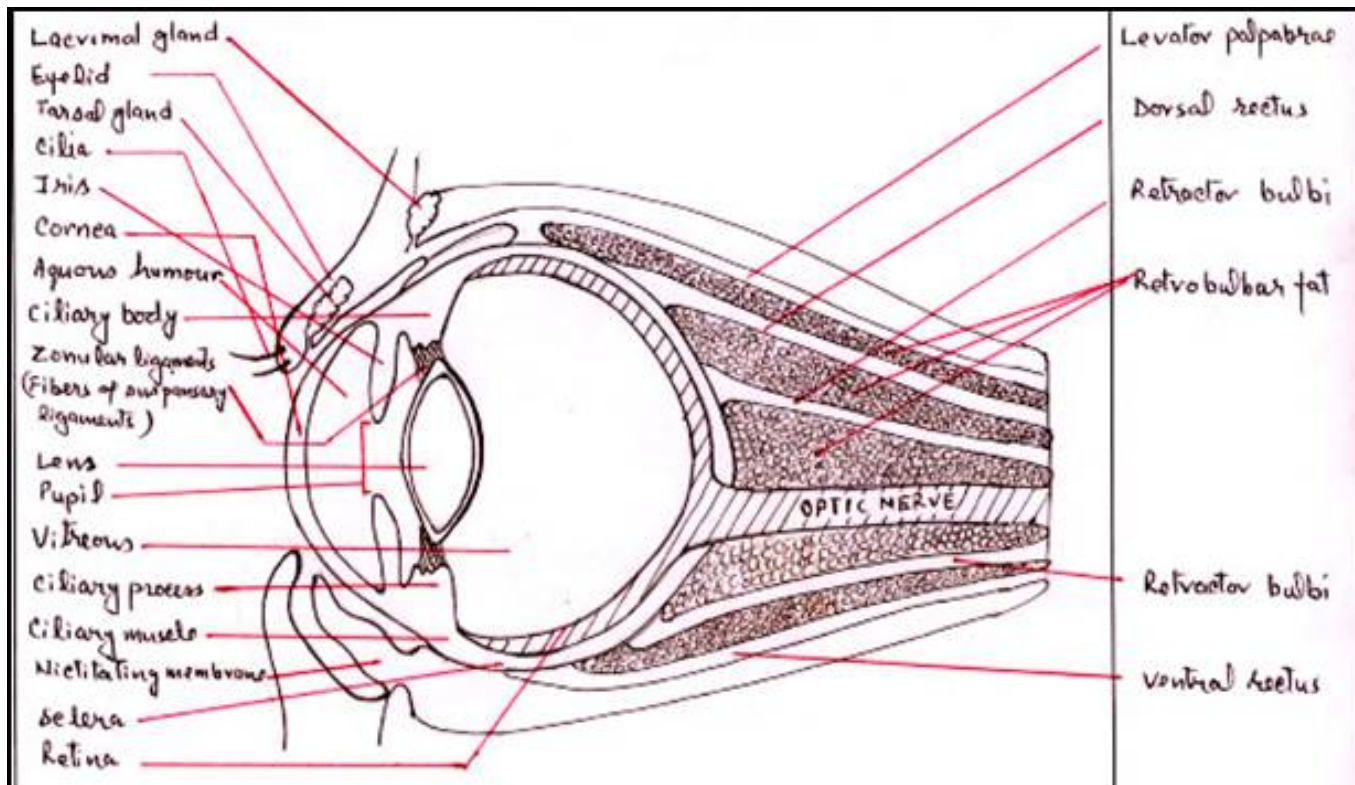
ANATOMICAL CONSIDERATIONS:

Eye the organ of vision:

- Located in the orbital cavity of the skull
- Consists of eye ball, optic nerve and associated structures; eyelids, conjunctiva, orbital fascia muscles and lacrimal apparatus.

Eye ball:

- Covered with sheet of connective tissue (**Periorbita**); reflects over the extracapsular muscles and forward to become **Tenon's capsule** and lies beneath the conjunctiva.
- Made of 3 layers:
 1. **Fibrous tunic:** External covering (Sclera and cornea). **Sclera** is opaque. Ocular muscles (7 in no.: 4 recti; 2 oblique and retractor oculi) inserted on the outer surface of sclera. The inner scleral part (**Lamina fusca**) is a layer of pigmented tissue attached to vascular tunic. The caudal part of sclera is pierced by the optic nerve. **Cornea** is transparent and avascular with a convex outer surface. Continues with sclera at junction called **Limbus**.
 2. **Vascular tunic:** Middle layer consisting of choroid, ciliary body and iris. **Choroid** is dark brown loosely attaching to sclera but firmly to retina. **Ciliary body** is the middle part with ciliary process on the inner side surrounding lens and ciliary muscle on the outer side. **Iris** is placed in front of lens and forms an opening called **pupil** of the eye.
 3. **Nervous tunic:** Innermost layer called **Retina** with 3 parts: Largest posterior part containing nervous elements. Part covering ciliary body without nervous elements. Part covering iris is pigmented.



Aqueous humor:

- Clear fluid filling anterior (between cornea and iris) and posterior (between iris and lens) chambers.
- Provides nutrition to avascular cornea.

Vitreous body:

- Situated between lens and retina.

Lens:

- Biconvex and transparent.
- Surrounded by ciliary process and kept in position by suspensory ligament.
- Outer surface less curved than inner.

Eyelids:

- Mobile folds of the skin protecting the eye ball.
- Upper eyelid more mobile.
- Joining of upper and lower eyelids form **lateral and median canthus**.
- Inner surface (**palpebral conjunctiva**) has **tarsal glands** arranged in rows.
- Palpebral conjunctiva unites with bulbar conjunctiva at junction called **fornix**.
- The fold formed by the junction of the palpebral and bulbar conjunctivae is called **Cul-de-sac**.
- Contains sebaceous (**Zies**) and sweat (**Moll or ciliary**) glands apart from accessory lacrimal glands i.e. glands of Krause and Wolfring.
- Upper and lower eyelids form an opening called **palpebral fissure**.

Membrana Nictitans (Third eyelid):

- Present at median canthus of the eye.
- T shaped cartilaginous structure covered with conjunctiva.
- Has a seromucous gland at its base.
- Has lymphoid follicles at the bulbar surface.
- Connective tissue anchorage with the orbital tissue.
- Protects cornea from injuries.
- Helps in uniform distribution precorneal tear film.
- Provides watery layer to the precorneal tear film.

Lacrimal apparatus:

- Consists of lacrimal gland, excretory ducts, lacrimal punctum, lacrimal canaliculi, nasolacrimal sac and nasolacrimal duct opening into the nasal cavity at nostrils.
- Lacrimal punctum about 3-5mm from median canthus