Anatomy of the Eye

Its parts and how they function

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Anatomy
The Protective – Fibrous Tunic

- Sclera -
- Limbus -
**The Protective – Fibrous Tunic**

- **CORNEA:**
Anterior Chamber and Aqueous
Nourishing Tunic or Vascular or Uveal Tunic

- Pupil – opening in the iris.
- Iris – pigmented muscle.
Three pupillary responses:

- Direct –
- Consensual –
- Bilateral –
Nourishing Tunic or Vascular or Uveal Tunic

- Ciliary body, ciliary muscle –
- Choroid –
Nourishing Tunic or Vascular or Uveal Tunic

- CRYSTALLINE LENS
Nourishing Tunic or Vascular or Uveal Tunic

- Vitreous –
Light Sensitive - Inner Tunic

- Retina, rods and cones – It CANNOT regenerate.
**Light Sensitive - Inner Tunic**


- Rods – function under low light & gives shades of grey. About 120 million rods per retina. Provides “scotopic” vision, vision in dim light.

*Fig. 10-35*
**Light Sensitive - Inner Tunic**

- Macula – cones are concentrated here, no rods. Devoid of blood vessels. Macular degeneration.

- Fovea – center depressed area of the macula. It gives best visual detail – packed with cones. Size of a pinhead!
Optic nerve – a direct extension of the retina. Feeds messages to the brain. It is located about 3.5 mm nasal to the macula. No vision in this area, so projects as a blind spot. This is the area affected by glaucoma.

Visual Pathway – as the retinal fibers leave the optic nerves, half of them cross to the other side at the optic chiasm.
Light Sensitive - Inner Tunic
Extra-ocular muscles – 6 rotate the globe in all possible directions. All muscles cooperate in each movement. Some contract while others relax. Likewise the muscles of both eyes cooperate, so that neither eye moves alone.
VISUAL FUNCTION

- Emmetropia – measurement of the normal eye.
Ammetropia – measurement of an abnormal eye.

- Hyperopia – light rays focus behind the retina.
VISUAL FUNCTION

Ametropia – measurement of an abnormal eye.

- Myopia – light rays focus in front of the retina.
VISUAL FUNCTION

Ammetropia – measurement of an abnormal eye.

- Astigmatism – light rays do not come to a point on the retina. Can be corneal or lenticular astigmatism.
VISUAL FUNCTION

- Presbyopia – can no longer see clearly up close. Ability to accommodate for near vision decreases due to loss of elasticity of the crystalline lens and weakness of the ciliary muscle.