

# STRUCTURE AND FUCTION OF EYE

# EYE

Eye is a spherical, fluid filled structure

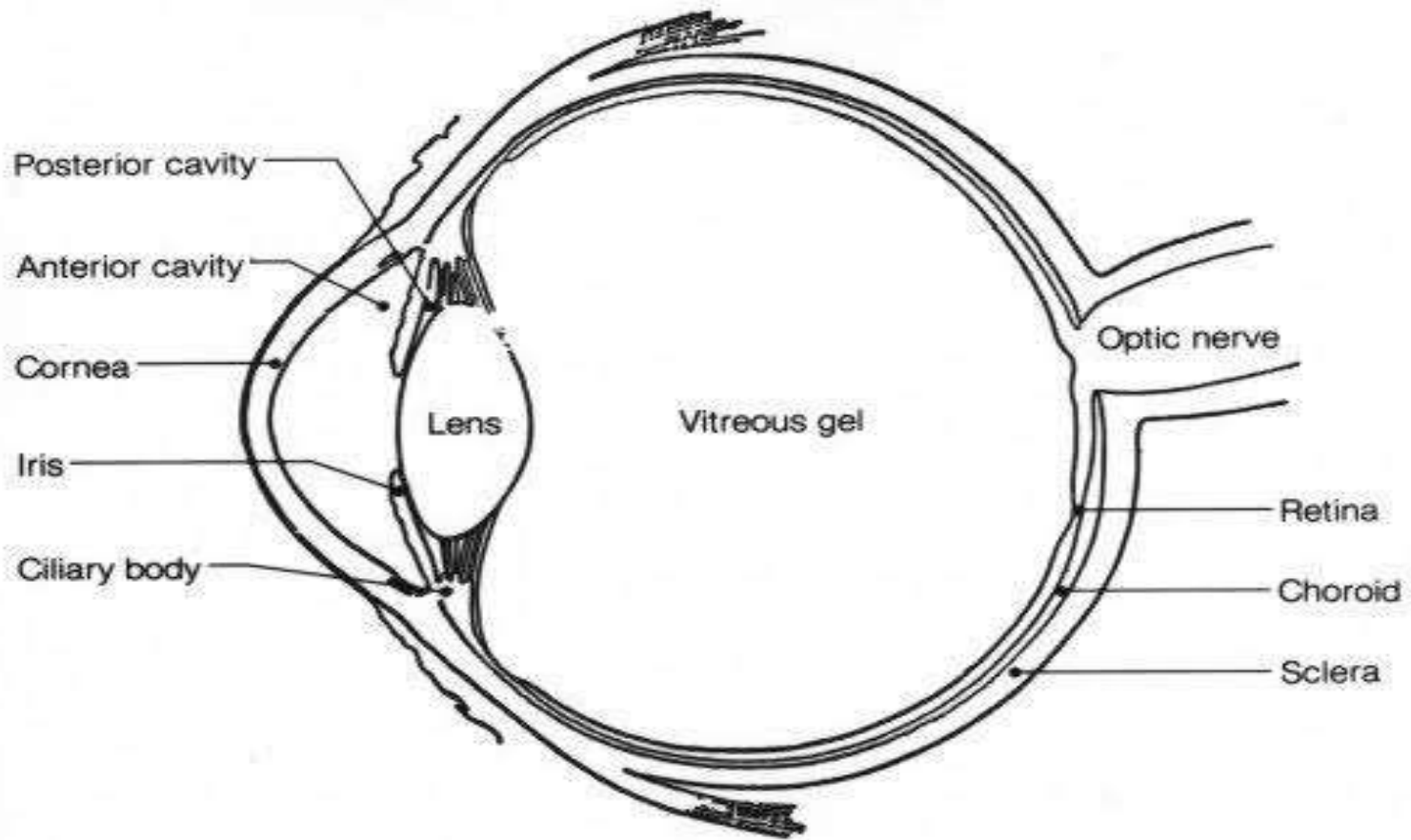
It consists of three layers

Outermost layer-sclera and cornea (protective layers)

Middle layer-choroid ,Ciliary body and iris (vascular or nutritive coat)

Innermost layer- retina

# STRUCTURE OF EYE



## Sclera (white of the eye) and cornea:

- The posterior part of eyeball is called sclera, it is opaque in nature and light cannot pass through sclera .
- The anterior part of eyeball is called cornea which is transparent in nature through which the light rays enter.
- Both sclera and cornea provides shape and protects inner parts.

## Choroid:

- It is the vascular layer that provides oxygen and nutrients to the structure of eye.
- It provides blood supply and absorbs scattered light

- Ciliary body consist of ciliary muscle (ties the lens with ciliary body with the help of suspensory ligaments responsible for accomodation and capillary network (it produces aqueous humor)

### Iris:

- It is the pigmented and colored portion of eye
- Iris contains circular muscle which is responsible for dialation and constriction of pupil

### Retina:

- It is the light sensitive inner layer of the eye
- It consists of photoreceptor cells called rods and cones.these rods and cones act as a transducers which converts electromagnetic energy into electrochemical energy
- Rods allow us to see in dim light and cones is responsible for bright vision

# CHAMBERS OF THE EYE

The human eye is divided into 2 main segments

- Anterior segment contains aqueous humor is a clear protein free liquid that nourishes the cornea and iris
- Posterior segment contains vitreous humor is gelatinous fluid mass which helps in maintaining the spherical shape of eye ball

## Refraction abnormalities

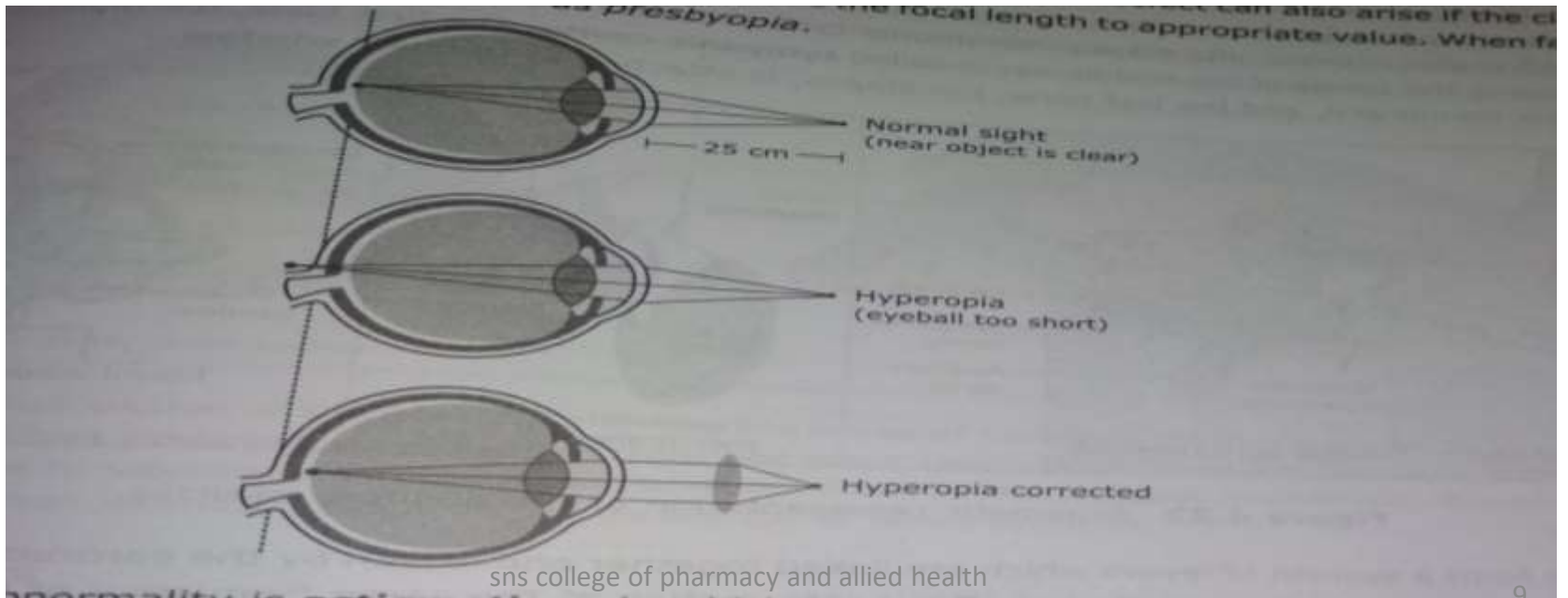
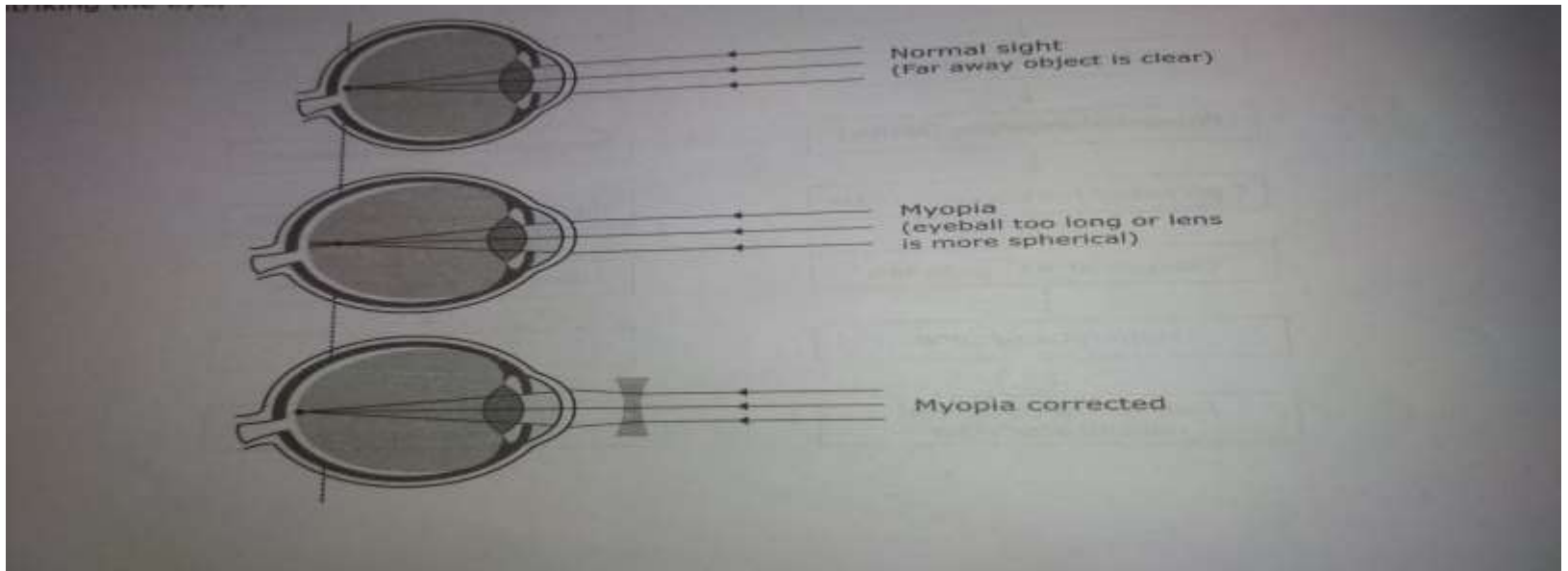
### 1. Myopia (nearsightedness):

- It occurs when too long relative to focussing power of cornea and lens or when the lens is thicker than normal, so an image converges in front of the retina.
- myopic individuals can see close objects clearly but not distance object.
- placing a biconcave lens in front of the eye causes the light rays to diverge slightly before striking the eye, so that they are brought to focus on the retina

## 2. Hypermetropia:

- It occurs when too short relative to focussing power of cornea and lens or when the lens is thicker than normal,so an image converges behind the retina.
- hypermetropic individuals can see distant objects clearly but not close object.
- A biconvex lens corrects by adding to the refractive power of the lens of the eye





### 3.Astigmatism:

- In this cornea or lens have irregular curvature results in blurred vision or distorted(out of shape).such person cannot see in all direction well.

### 4.Glaucoma:

It is caused due to increased interocular pressure results in damage of optic nerve and cause loss of vision

Types:open angle glaucoma

Closed angle glaucoma

### 5.conjunctiva:

inflammation of conjunctiva caused by irritants such as smoke,dust,wind and microbes etc