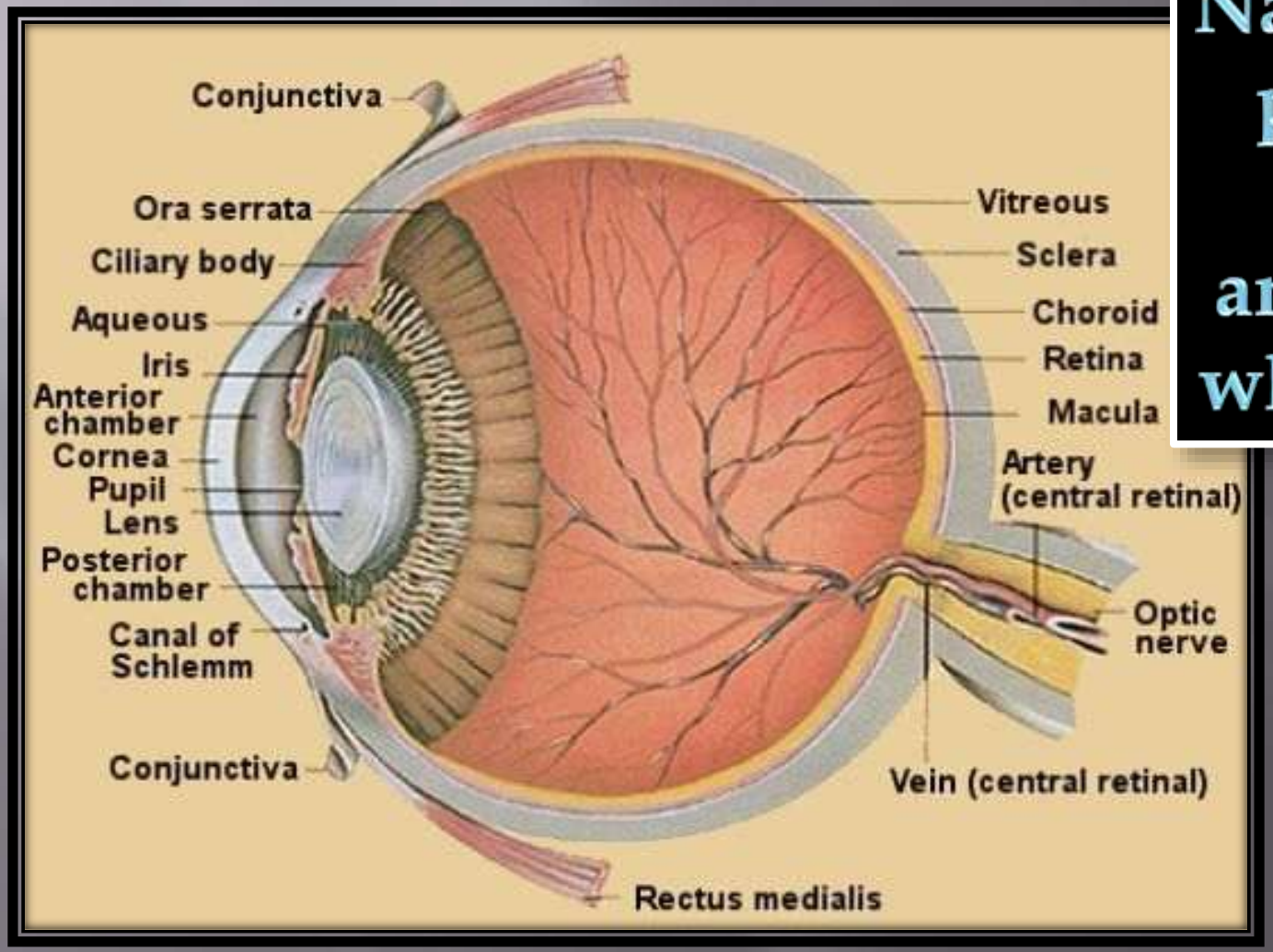
ANATOMY OF THE EYE

General Overview

- We have already discussed how light enters the eye, and how this effects vision. We have also dissected a eye to see the various components of the eye, now we will discuss those parts individually. Lets start with just looking at a image and identifying the parts we know.

General Overview



Name all the parts you know and discuss what they do

The Sclera

- The contents of the eye are closed partially in the sclera.

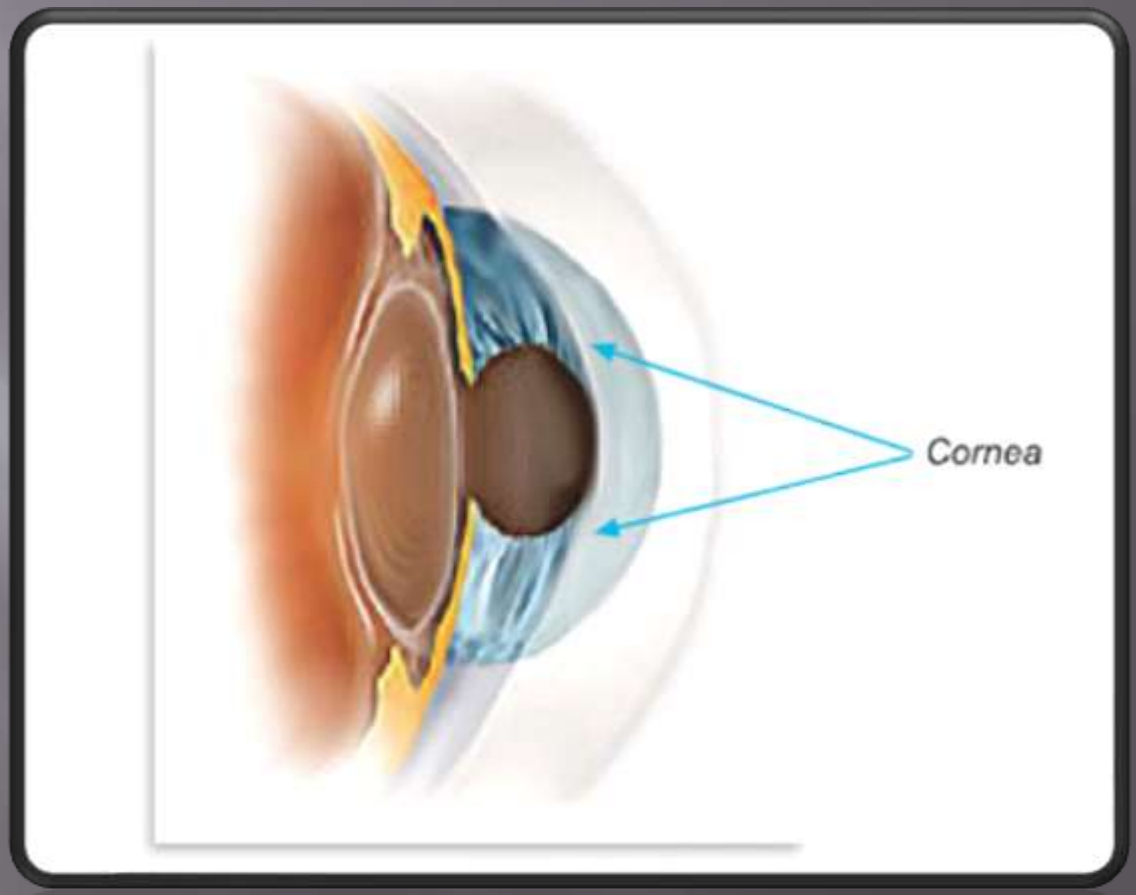
- It's a tough, fibrous outer coating often referred to as, "the White of the Eye"

The Cornea

- The front of the eye that is continuous with the sclera.

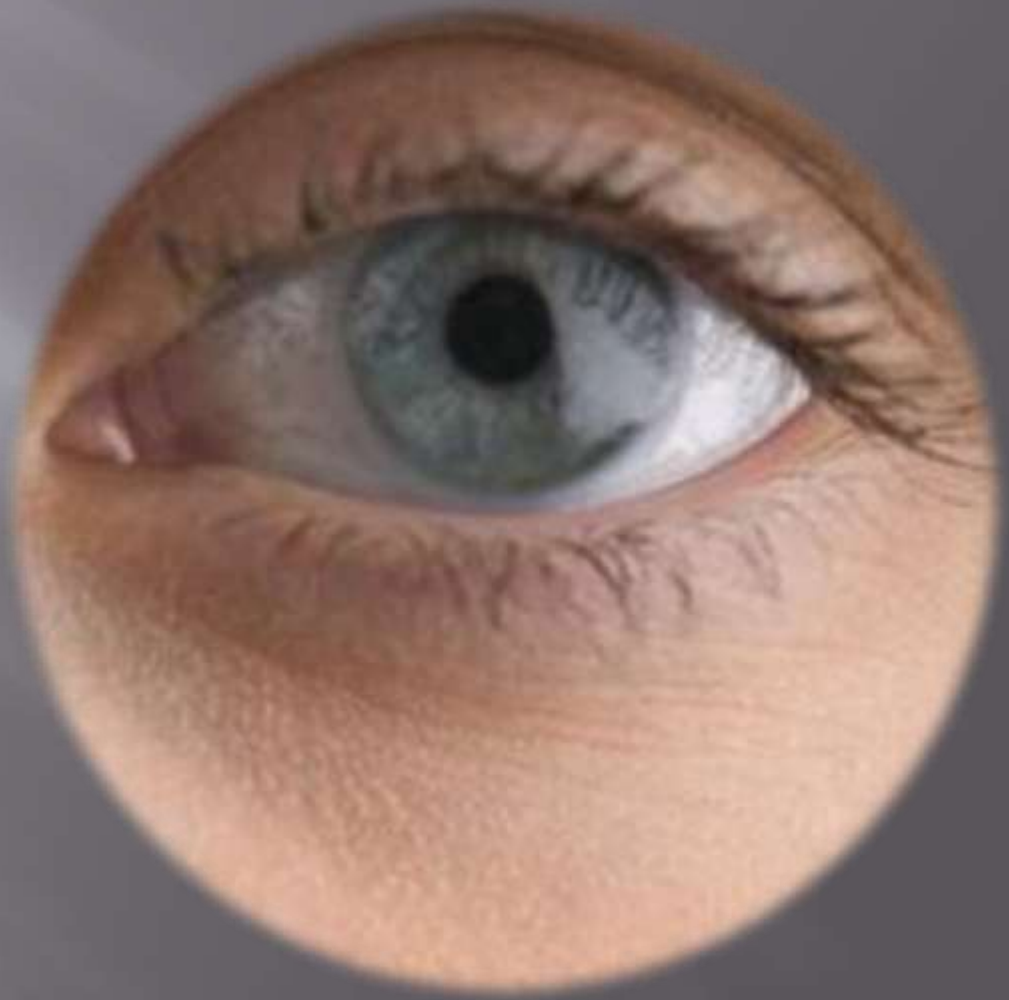
- Although being tough and protective, is also transparent.

- Has approximately 43 D of plus power.



The Iris

- Located behind the cornea.
- Color Part of the eye.
- Controls the amount of light that enters the eye.

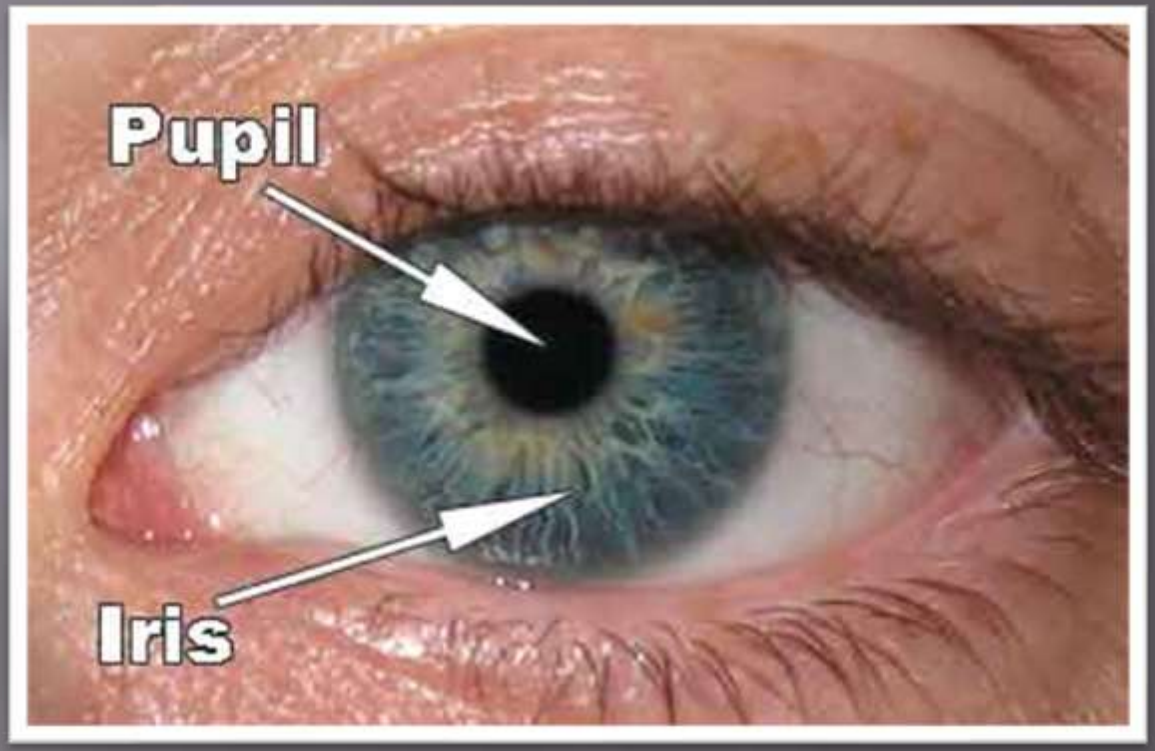


The Pupil

- Purpose: to allow just the right amount of light to enter the eye.

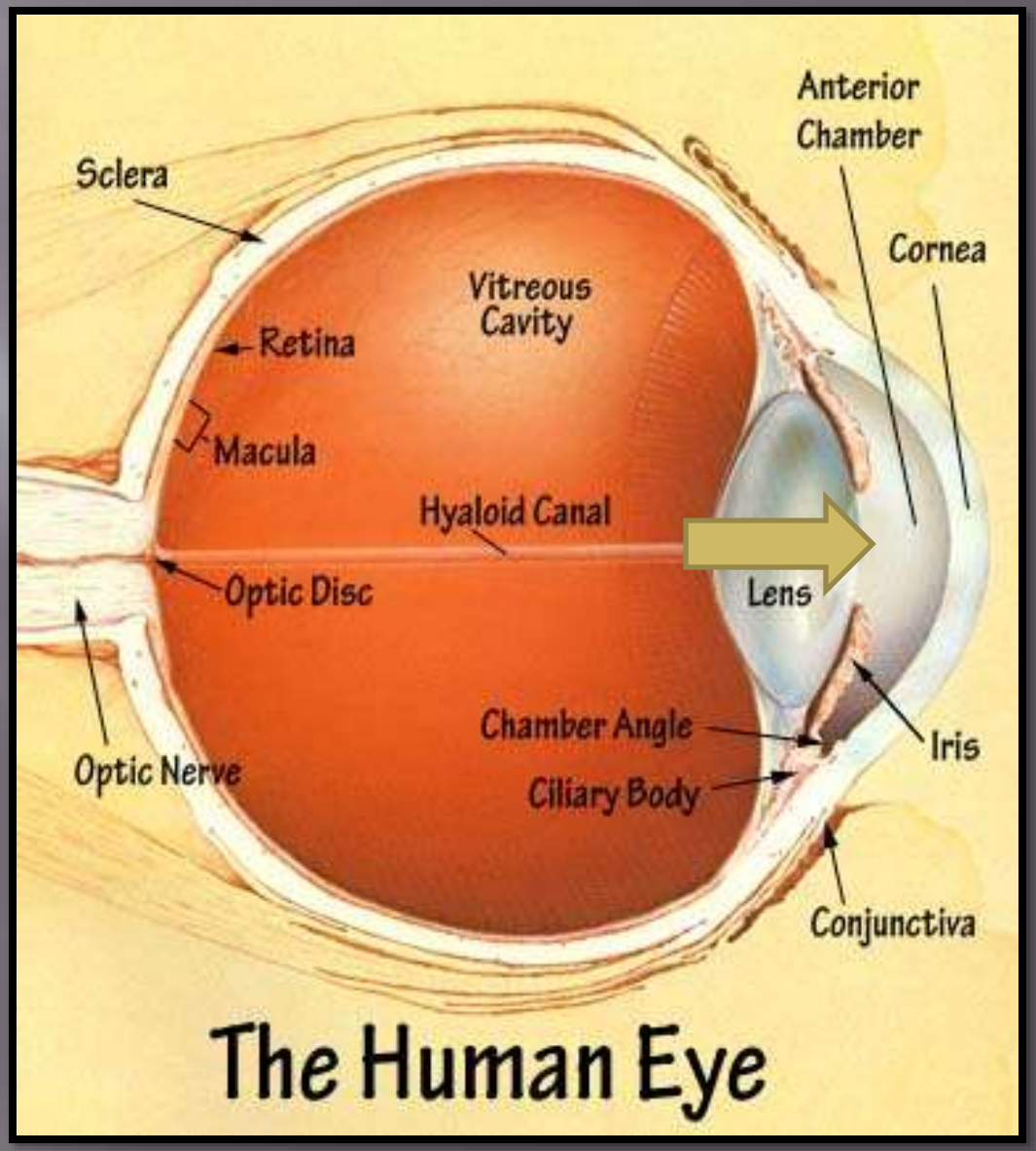
- The brighter the light, the more the pupil constricts and the Iris expands.

- The less light, the pupil will dilate and the Iris gets smaller.



Anterior Chamber

- The chamber between the Cornea and the Iris.
- Filled with a watery fluid called Aqueous Humor.
- Helps the front part of the eye maintain it's shape

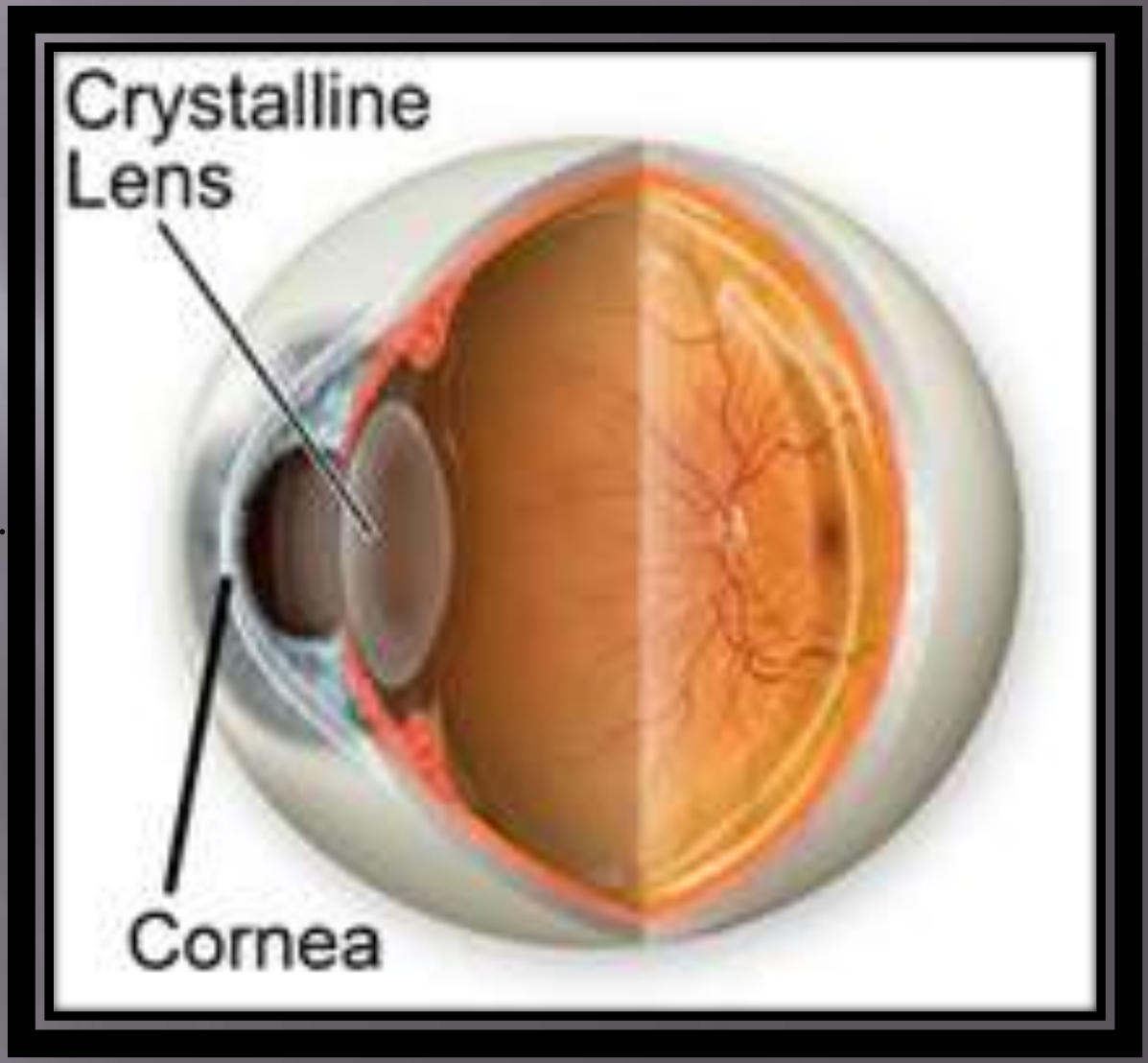


The Crystalline Lens

- Located immediately behind the pupil.
- Sometimes referred to as just the "Lens"

- Pliable and consists of layers much like an onion. It's transparent. It can change shape to a relatively thick or thin lens. Bi-convex in shape.

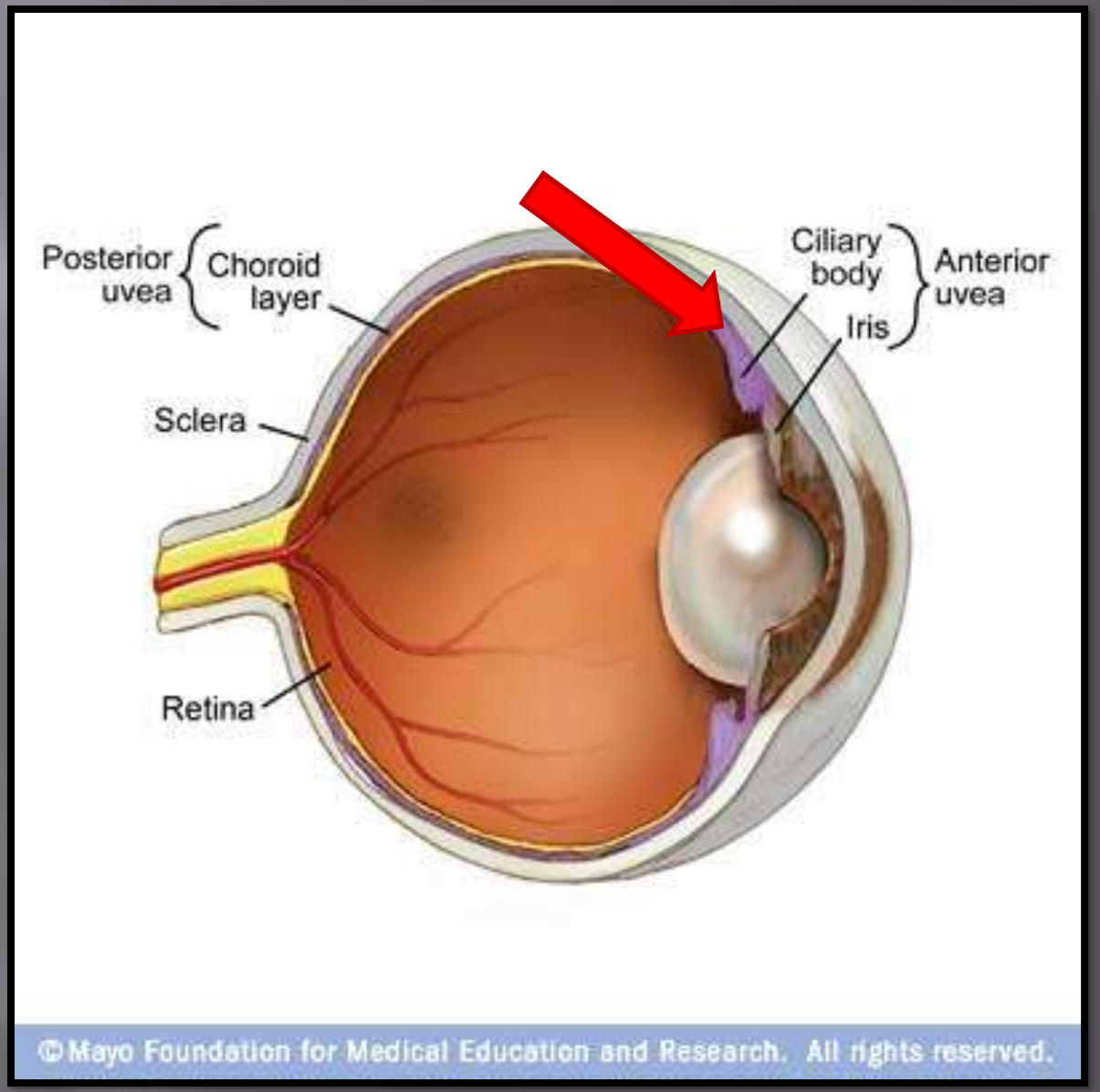
- When looking at close objects the "lens" will plump up giving more plus power approximately +17.00



The Ciliary Body

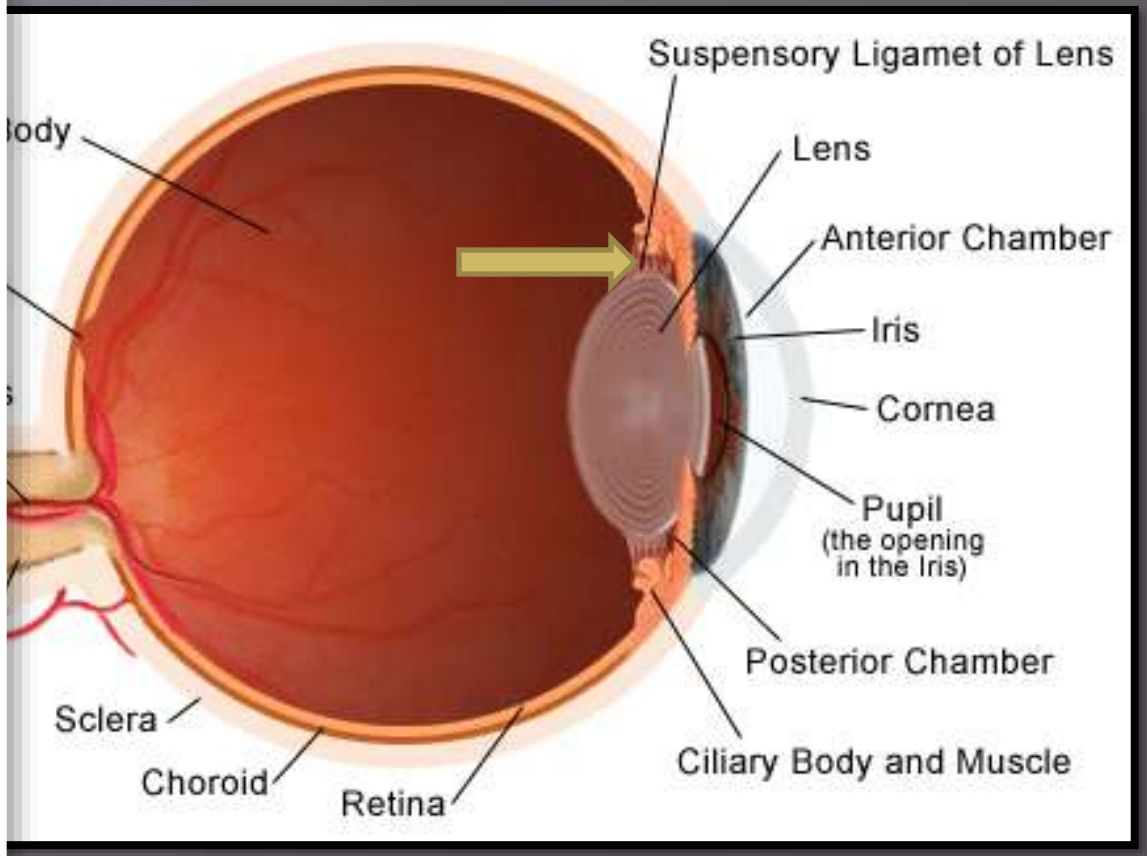
Muscles in the Ciliary body ring the inside of the eye, just behind the Iris.

The Ciliary body produces aqueous humor filling the anterior chamber.



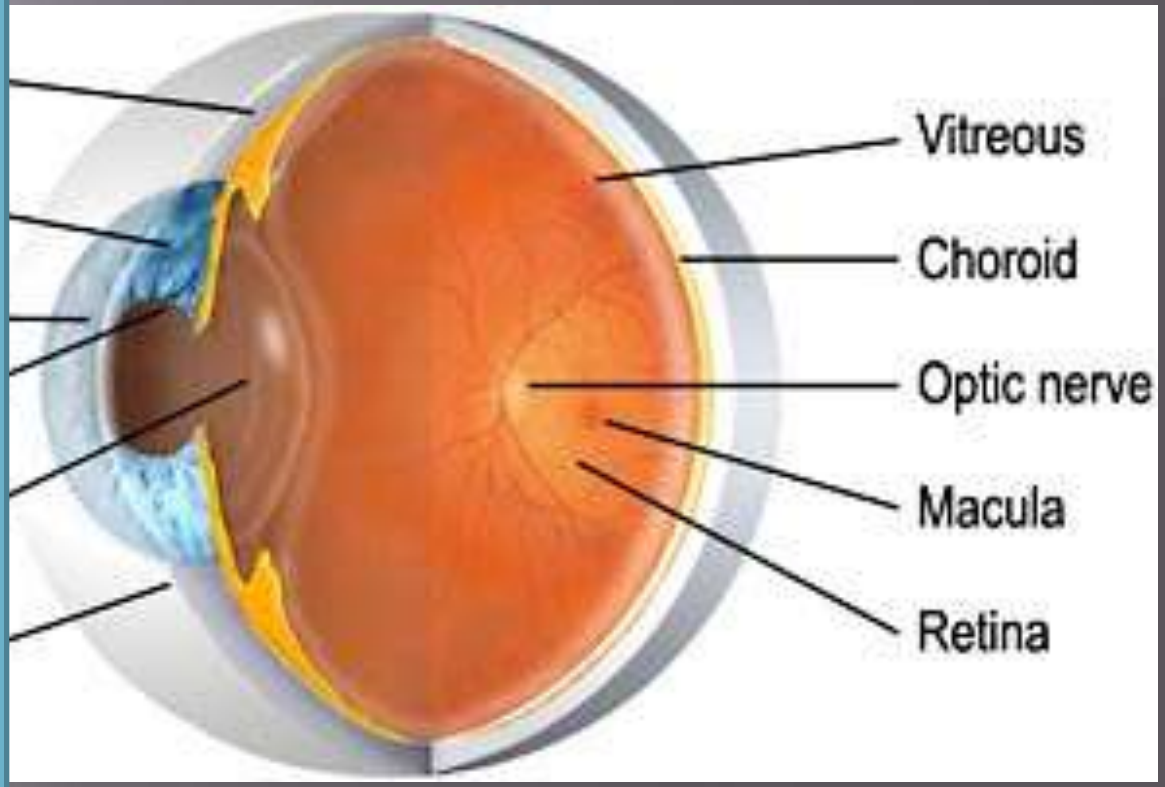
Suspensory Ligaments

- Attached to Ciliary muscles they are the Suspensory Ligaments, also known as zonular fibers.
- Which attach to all around the crystalline lens and cause the change of shape of the lens.



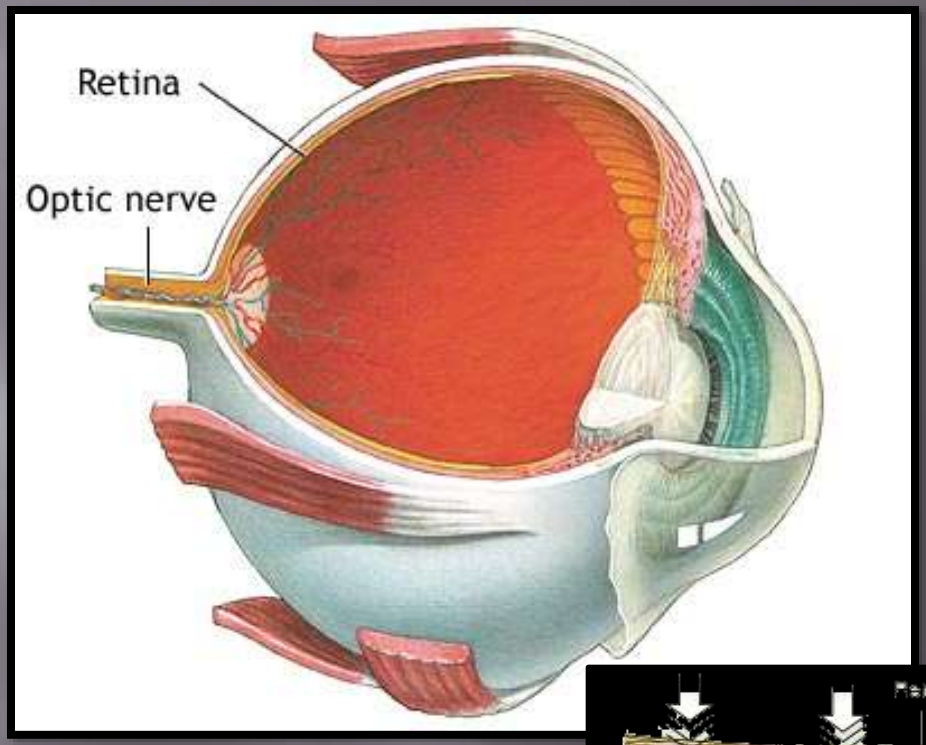
Vitreous Chamber

- Located behind the Crystalline Lens.
- Filled with a jelly-like substance called Vitreous Humor (gives the eye much of its shape.)



Retina

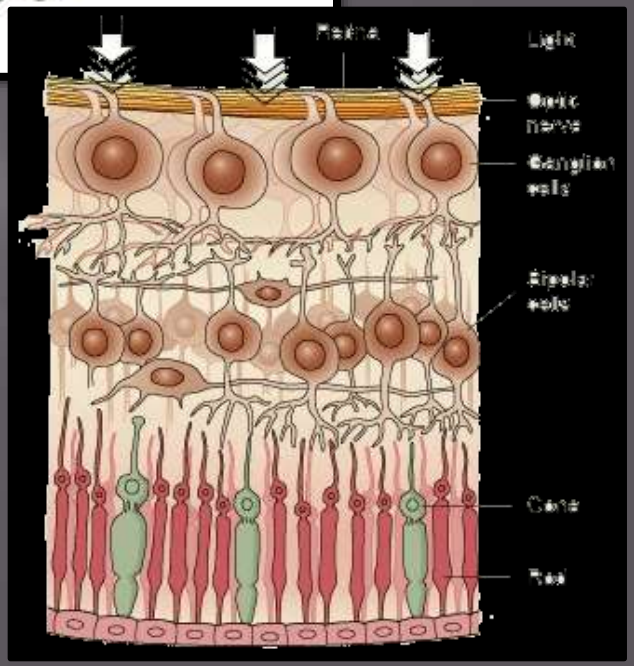
- Surrounds the vitreous chamber from the Ciliary body and covers the rest of the inside of the eye.



- Contains a layer of nerve cells(rods and cones) that are sensitive to light.

Layers of the retina

1. Optic Nerve
2. Ganglion Cells
3. Bipolar Cells
4. Rods/Cones

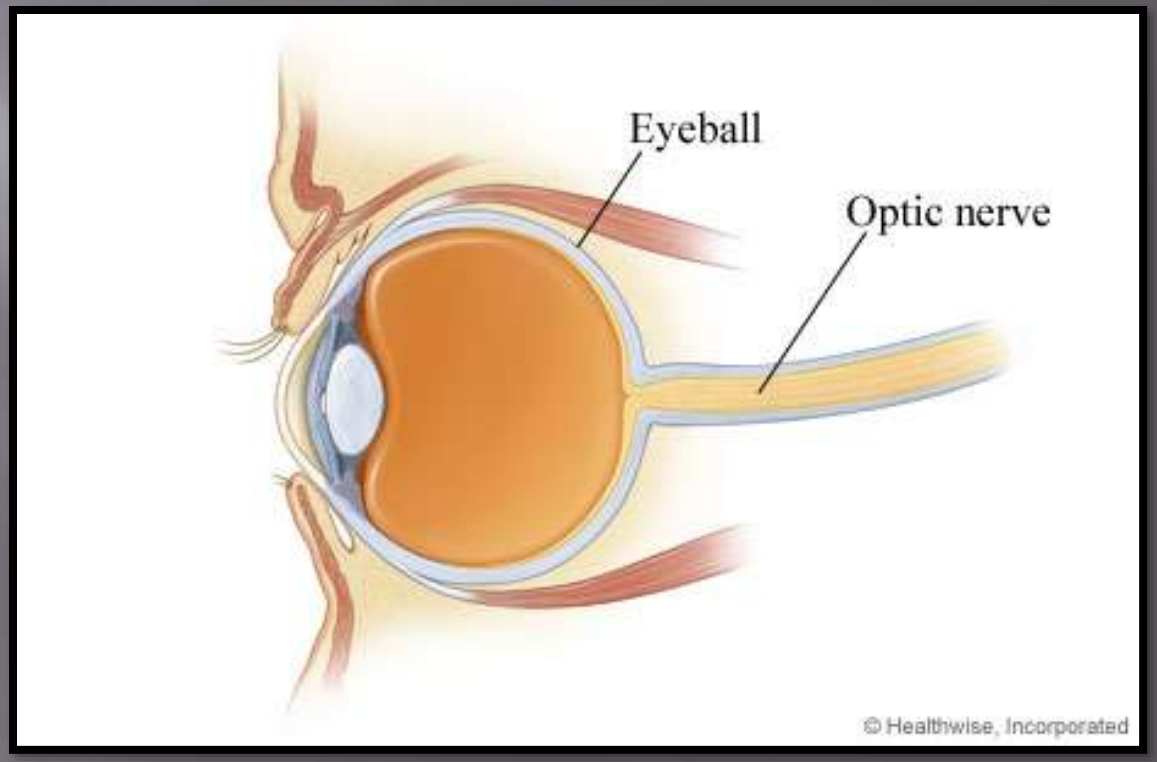


Optic Nerve

- The nerve cells line the surface of the retina, picking up the information from the rods and cones.

- These nerves bundle together into a cord at an area know as the optic disk

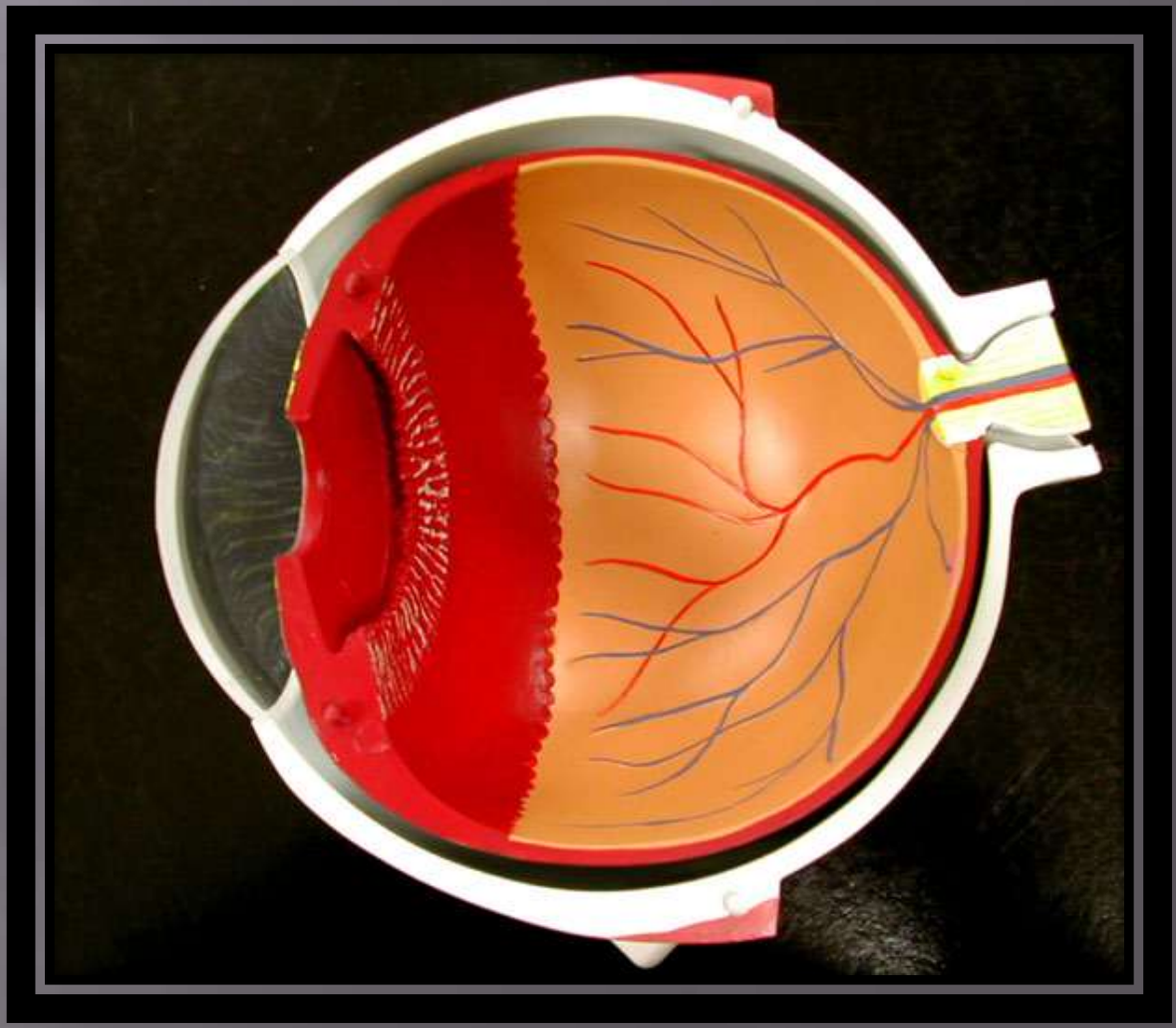
- This bundle of nerves then travel to the brain.



Choroid

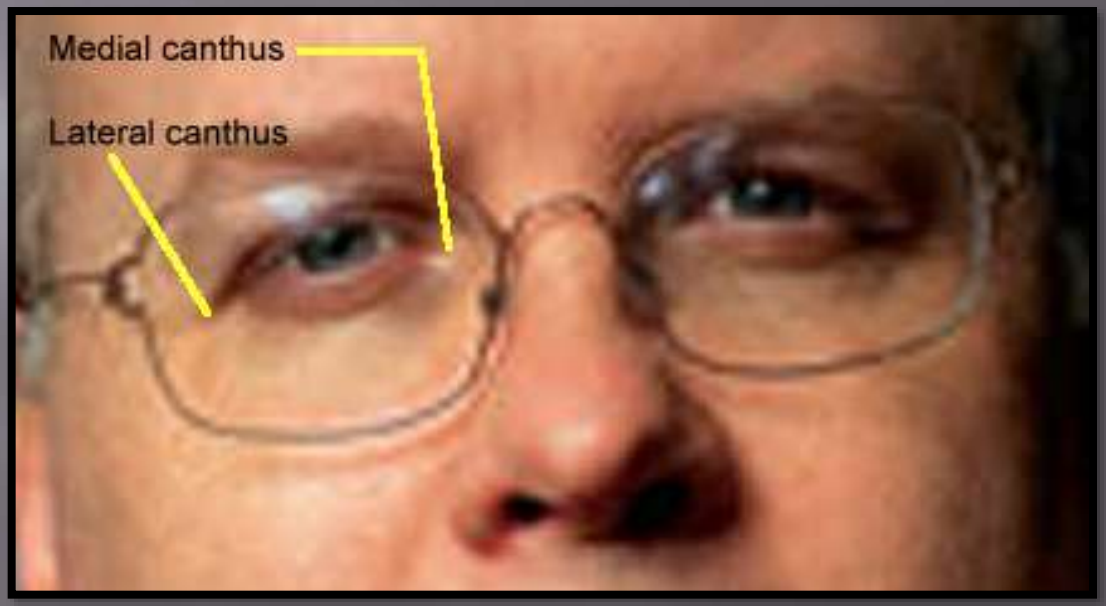
- Located between the retina and the sclera.

- Vascular coat for the eye and provides nutrients for the retina.



Canthi/ Canthus

- Basically this is the corners of our eyes, where are upper and lower eyelids



Conjunctiva

- The moist transparent membrane that lines the inside of the eyelids and covering the visible sclera.

- Two types;
  - Bulbar(eyelid)
  - Palpebral(eye ball)

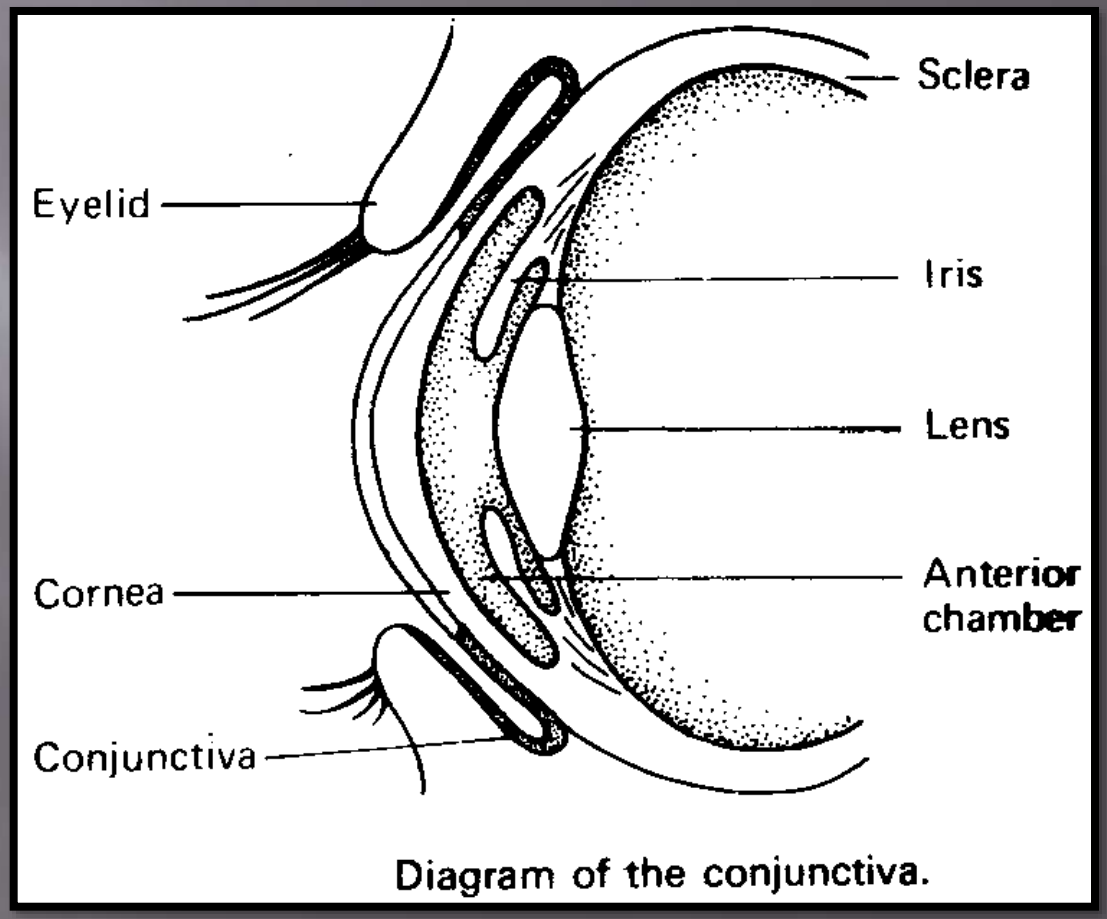


Diagram of the conjunctiva.