

Structures of the Eye-use handout

1. **Sclera**-thick outer white portion of eye, maintains shape, protects.

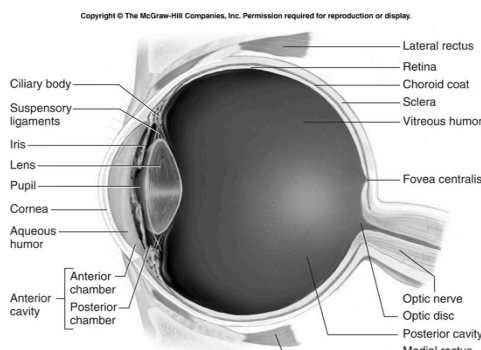
1a. **Cornea**-clear, transparent, avascular layer, contacts are placed on top of this layer.

2. **Choroid coat**-contains blood vessels that nourish the eye.

2a. **Ciliary body**-helps control the lens.

2c. **Iris**-adjusts to allow light into the eye

3. **Retina**-at the back of the eye, contains photoreceptors that detect light(rods) and color (cones).



3a. **Fovea centralis**-concentration of rods and cones, most acute vision here.

3b. **Optic disc**-location where blood vessels and nerve enter and exit the eye, the blind spot!

3c. **Optic nerve**-carries message to the occipital lobe of brain.

5. **Eyelid**-provides protection for the eye.

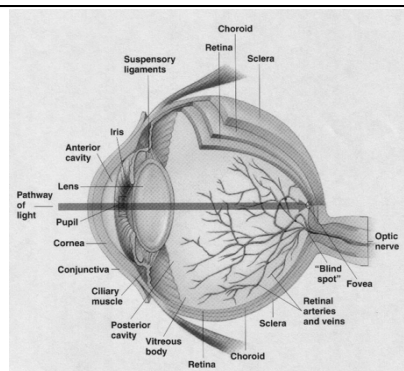
7. **Lens**-adjusts to focus light onto the retina in the back of the eye

7a. **Suspensory Ligaments**-control the lens, attached to ciliary body.

9. **Pupil**-opening in the central part of the eye, adjusted by the iris.

10. **Anterior cavity**-contains aqueous humor that nourishes and maintains shape of outer eye.

12. **Vitreous humor**-maintains shape of the eye, keeps pressure in the posterior cavity of the eye.



<http://www.youtube.com/watch?v=RE1MvRmWg7I&feature=related>

B. Disorders of the Eye

1. **Myopia**-nearsightedness, image is focused in front of the retina, eyeball is too long. Corrected with a concave lens.
2. **Hypermetropia**-farsightedness, image is focused behind the retina, eyeball is too short. Corrected by a convex lens.
3. **Presbyopia**-normal degeneration of focusing power as we age. Near point of vision increases and bifocals are needed.
4. **Astigmatism**-shape of cornea or lens is irregular so image is blurred.

5. **Retinal detachment**-retina separates from tunics of eye, vitreous humor decrease causes this or a blow to the eye and head, can cause blindness.
6. **Color blindness**- Inability to detect certain wavelengths of light, either red or green.
 - a. **red-green colorblindness** -one cannot distinguish between red and green, one color will be detected. (red or green)
 - b. sex linked trait carried by genes on x chromosomes.
7. **Glaucoma**- eye disease where there is an increase in pressure caused by aqueous humor. Leads to blindness if not treated.
8. **Cataracts**-clouding of lens by the buildup of protein