

OPHTHALMOLOGY

MEDICAL TERMINOLOGY COURSE

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SET English





WHY DO PATIENTS GO TO AN OPHTHALMOLOGIST?





DRY EYE SYMPTOMS CAN BE DEBILITATING!





Burning 


Scratchy 


Irritation 


Dryness 


Red eyelids 


Heavy eyelids 


Gritty sensation 


 Light sensitivity


 Eye fatigue

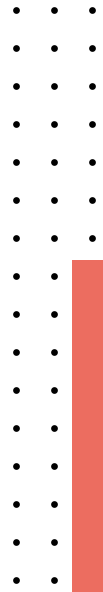
 Itching

 Stinging

 Watery eyes

 Blurry vision

 Foreign body sensation



KEY EXAM FINDINGS FOR DRY EYE DISEASE



Flaking or crusting
of eyelashes



Meibomian gland
dysfunction



Reduced tear-film
break up time



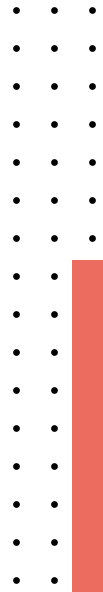
Incomplete
blinking



Decreased or increased
corneal sensitivity

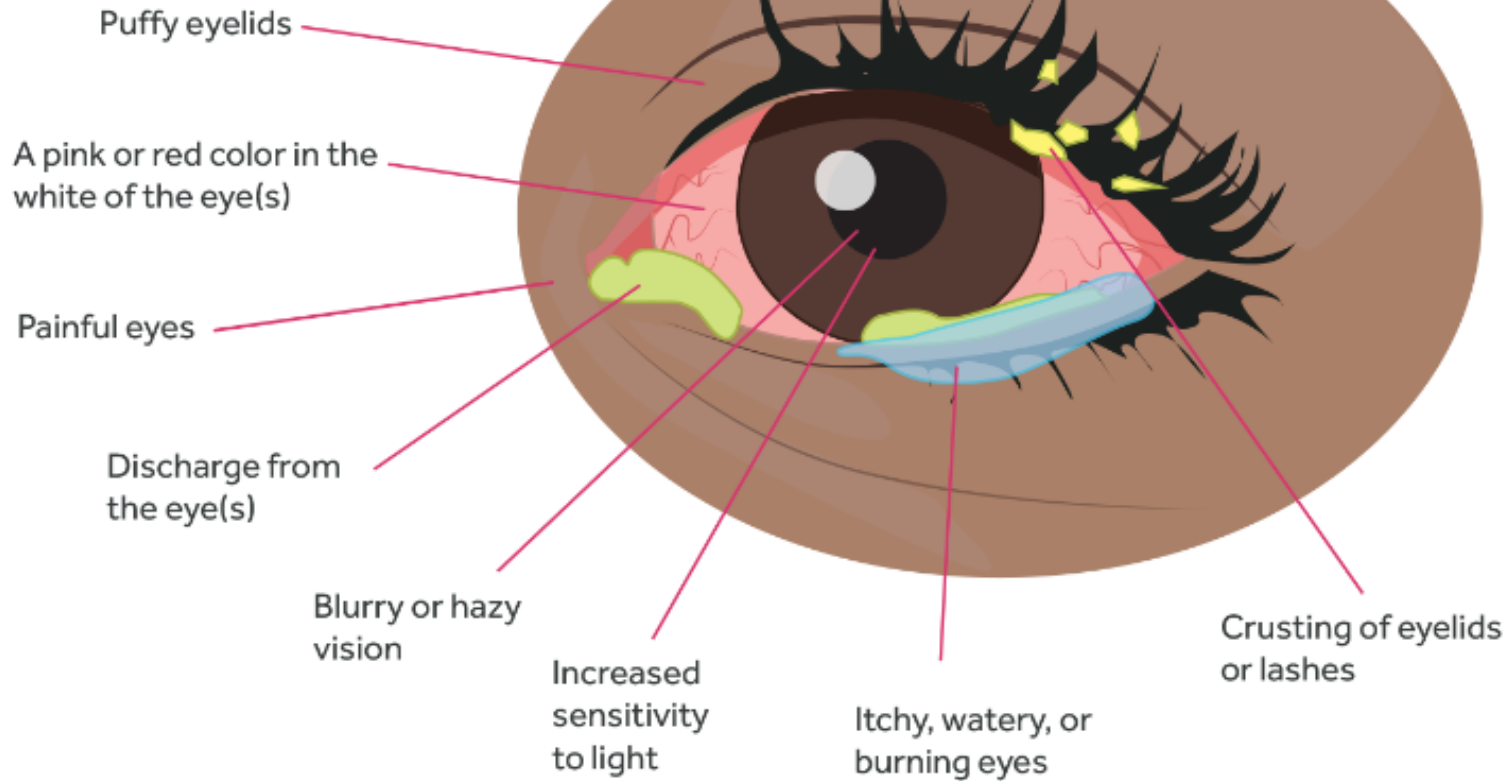


Punctuate epithelium
erosions on the cornea



Eye With Conjunctivitis

Symptoms of conjunctivitis can vary but may include:

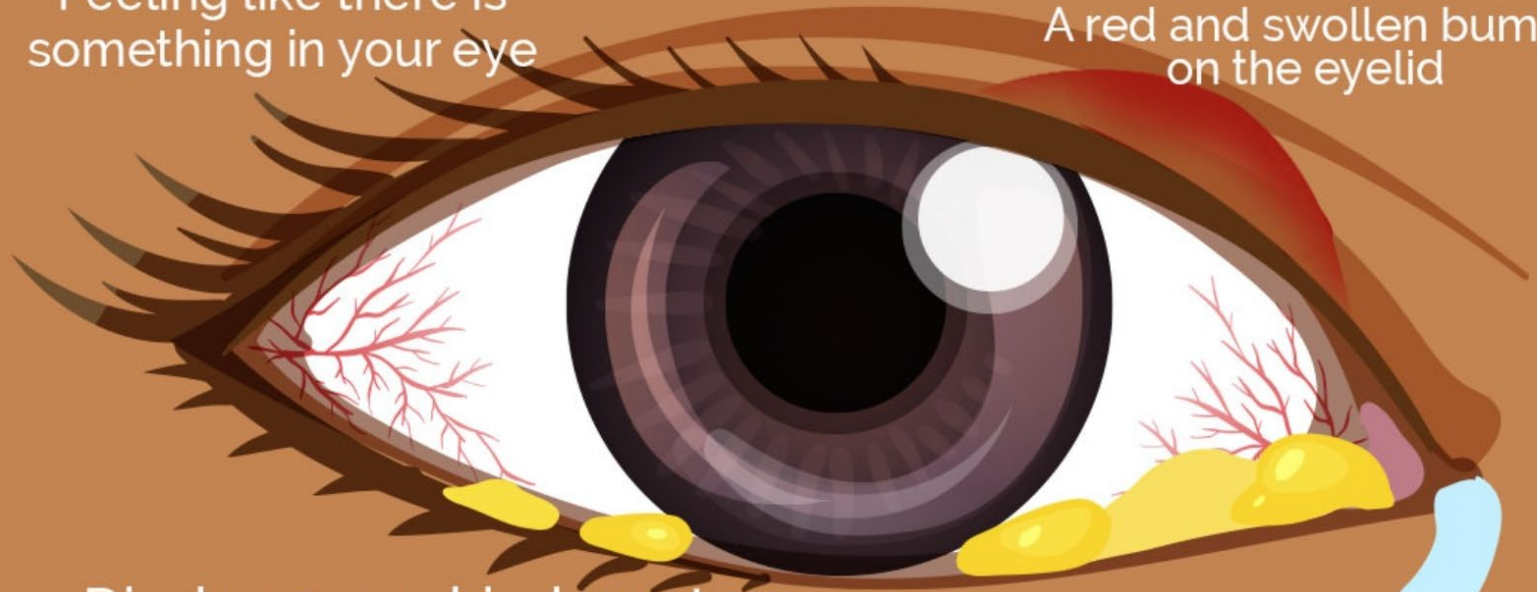


WHAT ARE THE SIGNS AND SYMPTOMS OF A STYE?

Swelling, redness, pain or tenderness of the eyelid

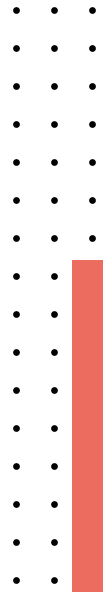
Feeling like there is something in your eye

A red and swollen bump on the eyelid



Discharge or dried crusts on the eyelid and eyelash area

Excessive tearing or eye irritation



THE WALL OF THE EYE IS COMPOSED OF
THREE LAYERS NAMED FROM OUTERMOST TO
INNERMOST

- 1- The **sclera**, commonly called the *white of the eye*, is the tough surface protective layer. The sclera extends over the eye's anterior portion as the transparent **cornea**

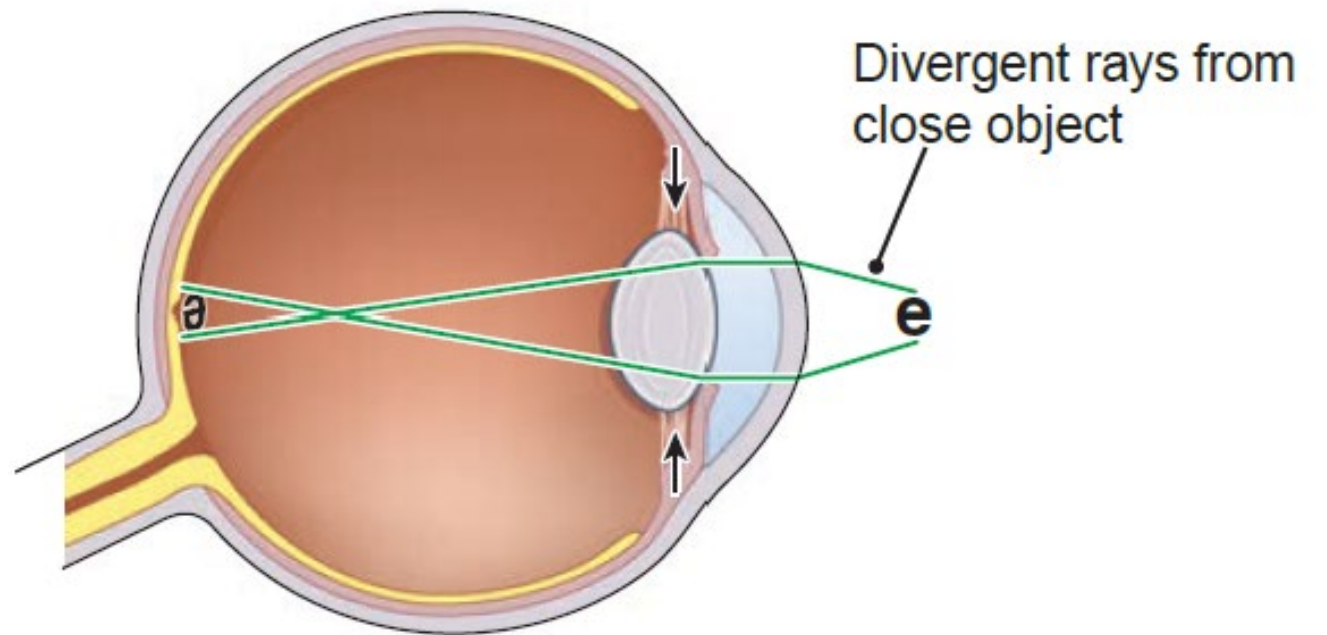
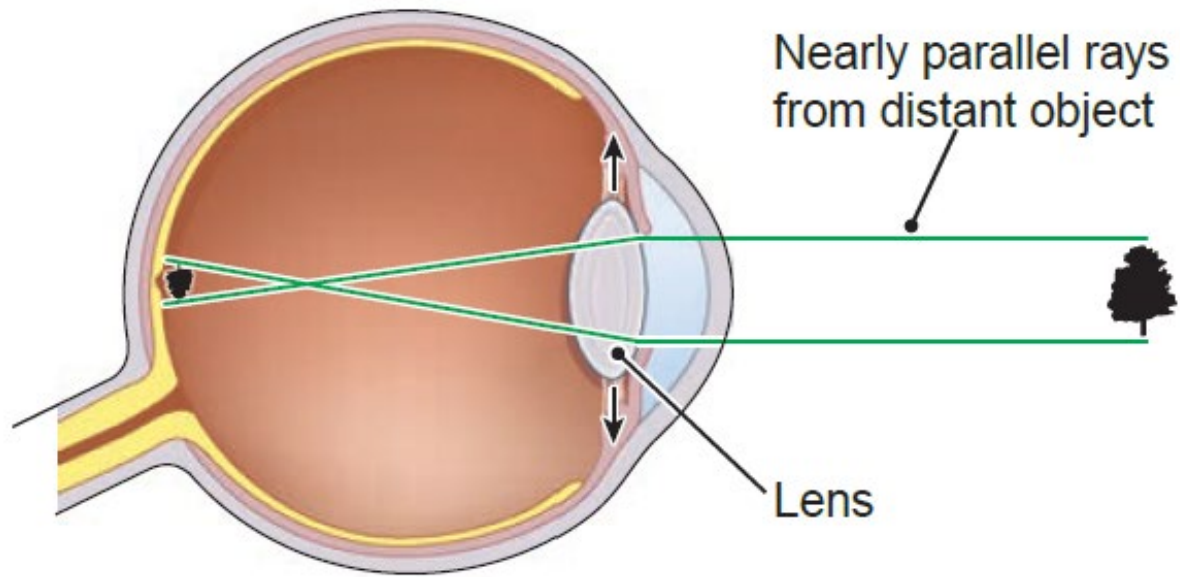


THE WALL OF THE EYE IS COMPOSED OF THREE LAYERS NAMED FROM OUTERMOST TO INNERMOST

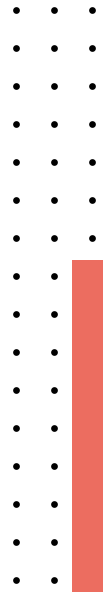
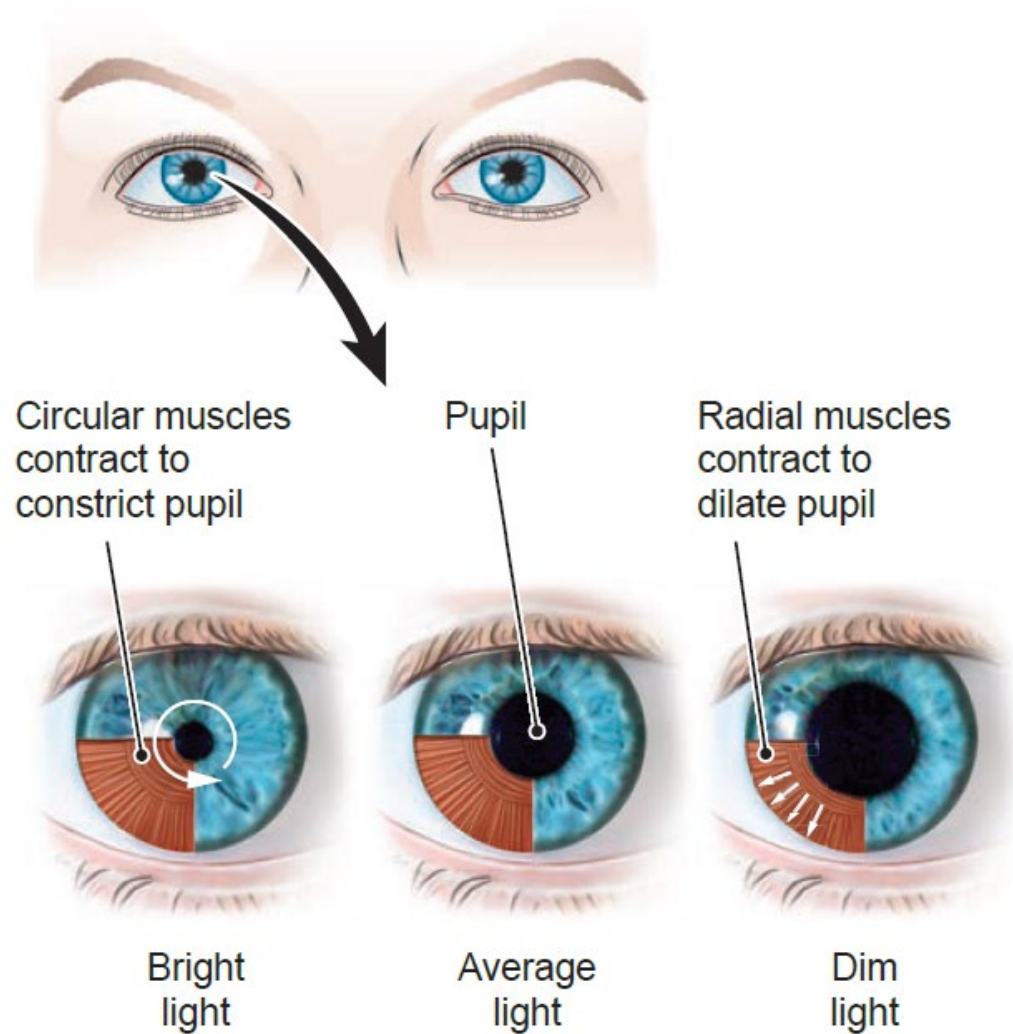
2- The **uvea** is the middle layer, which consists of the:

- **Choroid**, a vascular and pigmented layer located in the posterior portion of the eyeball. The choroid provides nourishment for the retina
- **Ciliary body**, which contains a muscle that controls the shape of the **lens** to allow for near and far vision, a process known as **accommodation**. The lens must become more rounded for viewing close objects.
- **Iris**, a muscular ring that controls the size of the **pupil**, thus regulating the amount of light that enters the eye. The genetically controlled pigments of the iris determine eye colour.





THE WALL OF THE EYE IS COMPOSED OF THREE LAYERS NAMED FROM OUTERMOST TO INNERMOST



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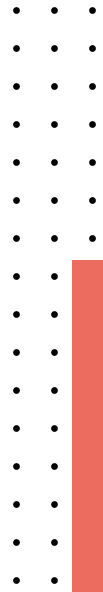
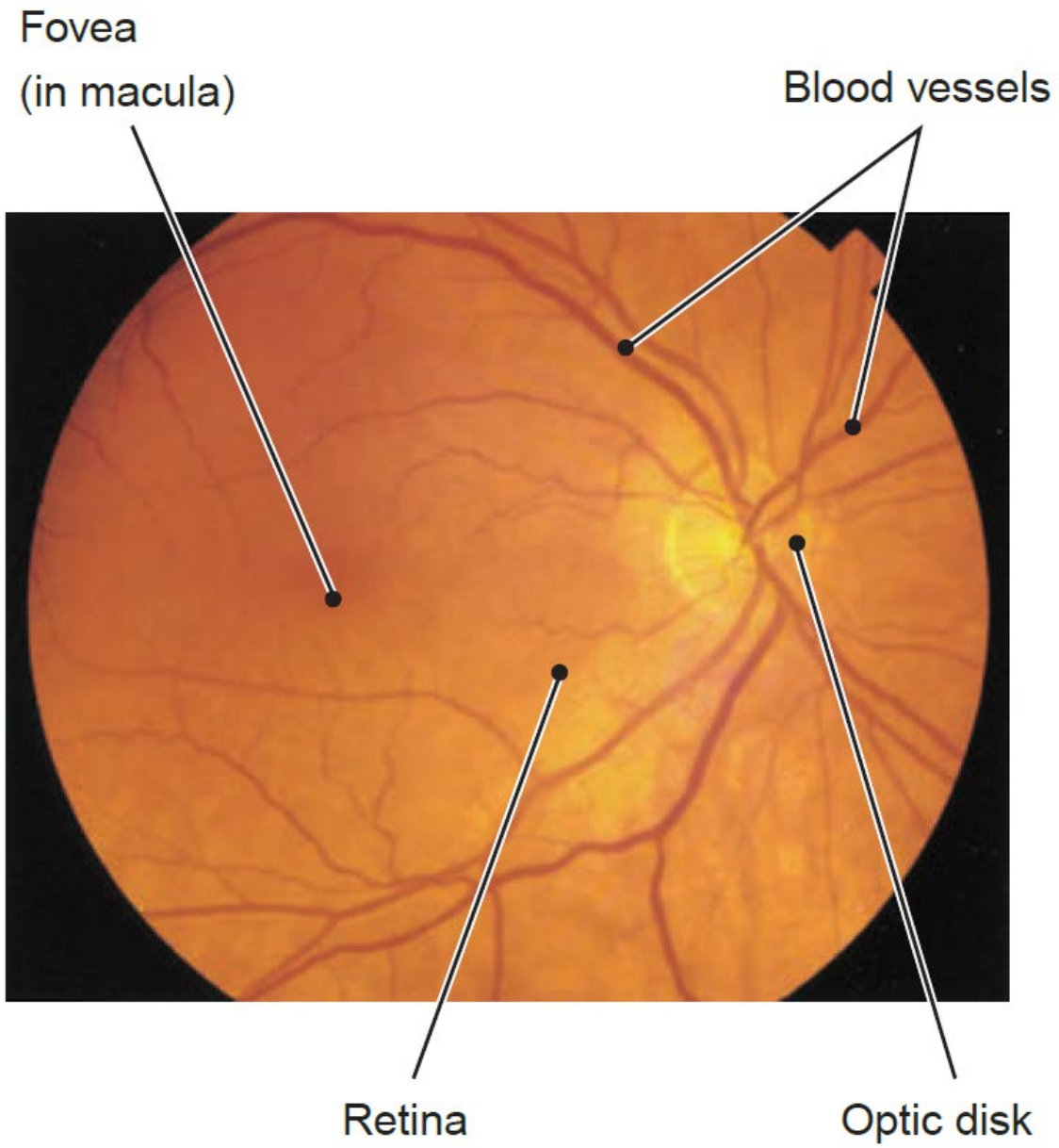
3. The **retina** is the innermost layer and the actual visual receptor. It consists of two types specialized cells that respond to light:

- The **rods** function in dim light, provide low **visual acuity** (sharpness), and do not respond to colour.
- The **cones** are active in bright light, have high visual acuity, and respond to colour.

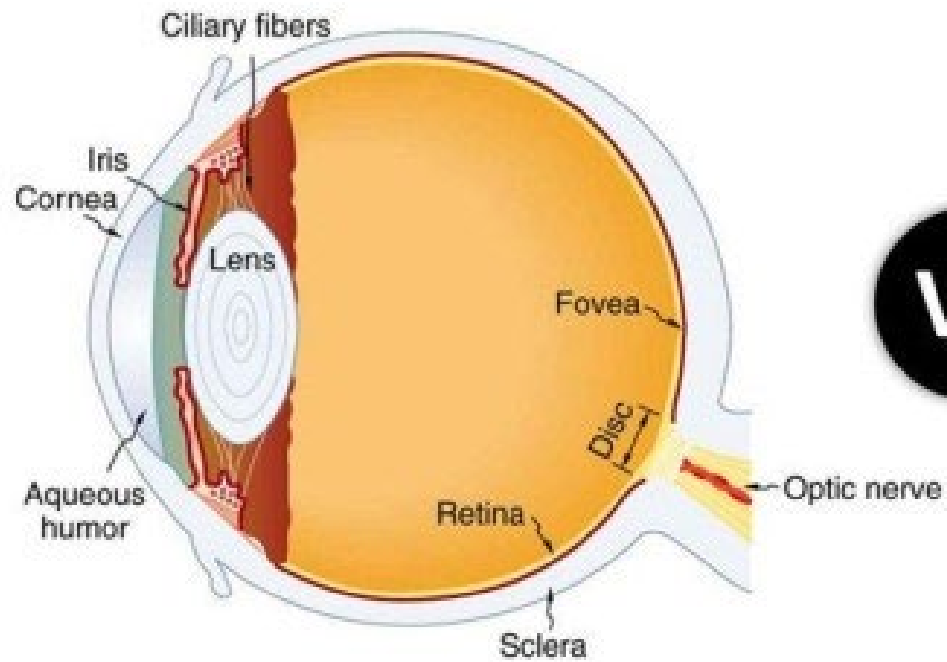


- Proper vision requires the **refraction** (bending) of light rays as they pass through the eye to focus on a specific point on the retina.
- The impulses generated within the rods and cones are transmitted to the brain by way of the **optic nerve** (second cranial nerve).
- Where the optic nerve connects to the retina, there are no rods or cones. This point, at which there is no visual perception, is called the **optic disk**, or *blind spot*.
- The **fovea** is a tiny depression in the retina near the optic nerve that has a high concentration of cones and is the point of greatest visual acuity. The fovea is surrounded by a yellowish spot called the **macula**

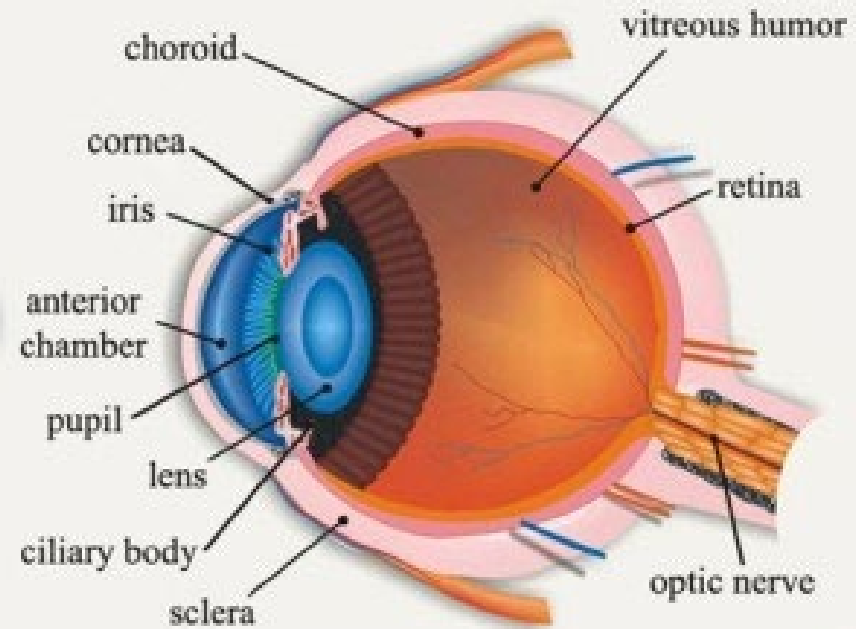




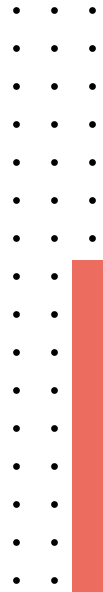
- The eyeball is filled with a jellylike **vitreous body**, which helps maintain the shape of the eye and also refracts light.
- The **aqueous humour** is the fluid that fills the eye anterior to the lens, maintaining the cornea's shape and refracting light. This fluid is constantly produced and drained from the eye.



VS

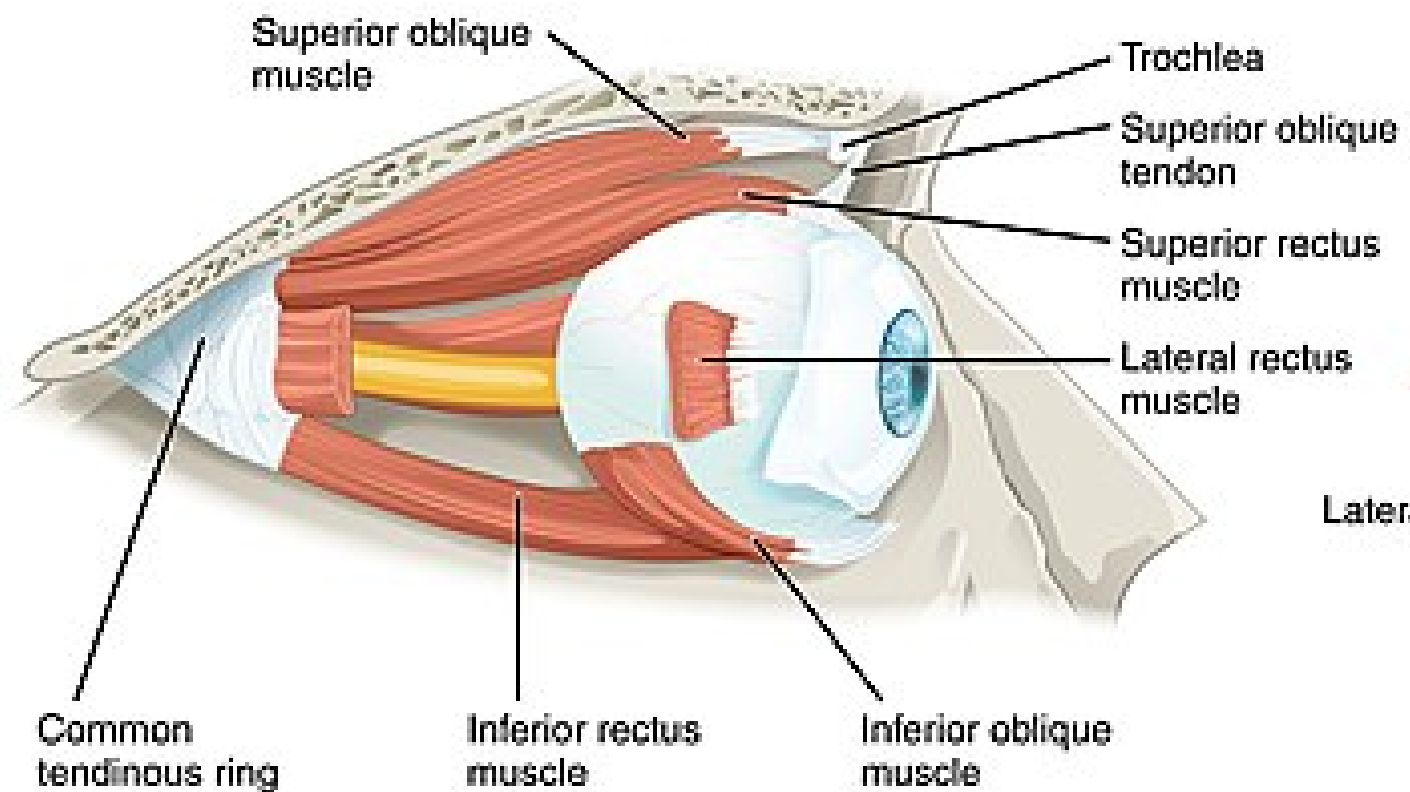


Aqueous Humor vs. Vitreous Humor

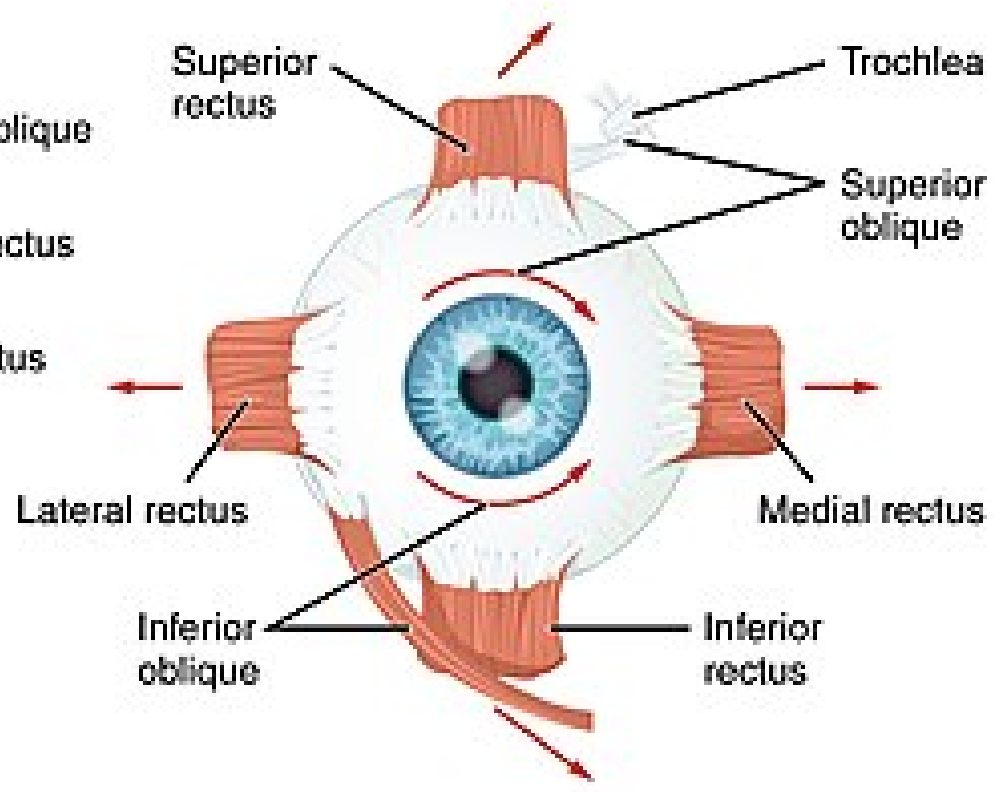


- Six muscles attached to the outside of each eye coordinate eye movements to achieve **convergence**, that is, coordinated movement of the eyes so that they both are fixed on the same point.





Lateral view of the right eye



Anterior view of the right eye



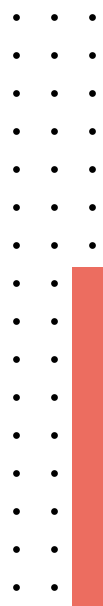
NORMAL STRUCTURE AND FUNCTION

Accommodation <i>ah-kom-o-DA-shun</i>	Adjustment of the lens's curvature to allow for vision at various distances
aqueous humor <i>AK-we-us</i>	Fluid that fills the eye anterior to the lens
Choroid <i>KOR-oyd</i>	The dark, vascular, middle layer of the eye (roots: chori/o, choroid/o); part of the uvea
ciliary body <i>SIL-e-ar-e</i>	The muscular portion of the uvea that surrounds the lens and adjusts its shape for near and far vision (root: cycl/o)
cone	A specialized cell in the retina that responds to light; cones have high visual acuity, function in bright light, and respond to colours
Conjunctiva <i>kon-junk-TI-vah</i>	The mucous membrane that lines the eyelids and covers the eyeball's anterior surface
convergence <i>kon-VER-jens</i>	Coordinated movement of the eyes toward fixation on the same point



NORMAL STRUCTURE AND FUNCTION

cornea <i>KOR-ne-ah</i>	The clear, anterior portion of the sclera (roots: corne/o, kerat/o)
fovea <i>FO-ve-ah</i>	The tiny depression in the retina that is the point of sharpest vision; fovea centralis, central fovea
Iris <i>I-ris</i>	The muscular coloured ring between the lens and the cornea; regulates the amount of light that enters the eye by altering the size of the pupil at its centre (roots: ir, irid/o, irit/o) (plural: irides [<i>IR-ih-deze</i>])
lens <i>lenz</i>	The transparent, biconvex structure in the anterior portion of the eye that refracts light and functions in accommodation (roots: lent/i, phak/o)
lacrimal gland <i>LAK-rih-mal</i>	A gland above the eye that produces tears (roots: lacrim/o, dacry/o)
macula <i>MAK-u-lah</i>	A small spot or coloured area; used alone to mean the yellowish spot in the retina that contains the fovea.
optic disk	The point where the optic nerve joins the retina; at this point, there are no rods or cones; also



NORMAL STRUCTURE AND FUNCTION

Palpebra <i>PAL-peh-brah</i>	An eyelid; a protective fold (upper or lower) that closes over the anterior surface of the eye (roots: palpebr/o, blephar/o) (adjective: palpebral) (plural: palpebrae [<i>pal-PE-bre</i>])
pupil <i>PU-pil</i>	The opening at the center of the iris (root: pupil/o)
Refraction <i>re-FRAK-shun</i>	The bending of light rays as they pass through the eye to focus on a specific point on the retina; also the determination and correction of ocular refractive errors
retina <i>RET-ih-nah</i>	The innermost, light sensitive layer of the eye; contains the rods and cones, the specialized receptor cells for vision (root: retin/o)
rod	A specialized cell in the retina that responds to light; rods have low visual acuity, function in dim light, and do not respond to colour
sclera <i>SKLE-rah</i>	The tough, white, fibrous outermost layer of the eye; the white of the eye (root: scler/o)



NORMAL STRUCTURE AND FUNCTION

Uvea <i>U-ve-ah</i>	The middle, vascular layer of the eye (root: uve/o); consists of the choroid, ciliary body, and iris
visual acuity <i>ah-KU-ih-te</i>	Sharpness of vision
vitreous body <i>VIT-re-us</i>	The transparent jellylike mass that fills the eyeball's main cavity; also called vitreous humor



1. Aqueous humour
2. Blood vessels
3. Choroid
4. Ciliary body
5. Cornea
6. Fovea
7. Iris
8. Lens
9. Optic disk
10. Optic nerve
11. Pupil
12. Retina
13. Sclera
14. Suspensory ligaments
15. Vitreous body



