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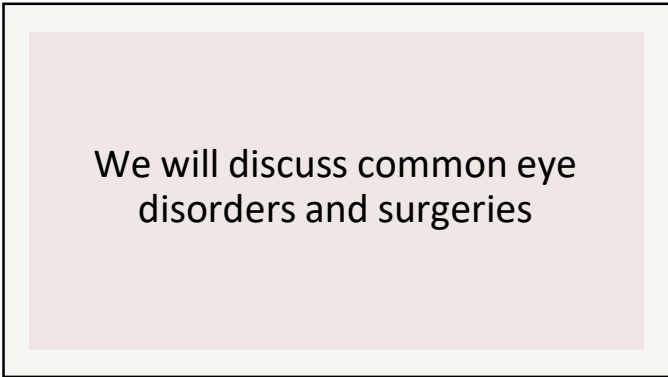
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### Blepharitis

- Inflammation of the eyelids margins
- Dandruff like flakes from bacteria
- Itchy, irritated, crusty , redness
- Lid hygiene with warm compress and lid scrubs



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### Hordeolum vs Chalazion

- **Hordeolum** "Stye"
  - Glands become blocked infected and inflamed in the eyelid margins
  - Acute localized pain
  - Antibiotic ointment with warm compress
- **Chalazion**
  - Slow growing lump that painless due to glands becoming blocked
  - More in the upper eyelid
  - Warm Compress for 10-15 minutes 4-6 times a day to soften the hardened oil



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**Conjunctivitis**  
"Pink eye"

- **Inflammation and swelling of the conjunctivitis**
- **Allergic:** watery discharge , itching
  - Remove irritant and cool compress with Artificial tears, antihistamines or steroids
- **Infectious :** Yellow green discharge , eye lids swelling and crusty
  - Antibiotics , cool compress , wash hands frequently
- **Chemical :** watery and mild pain
  - Flushing the eyes and steroids



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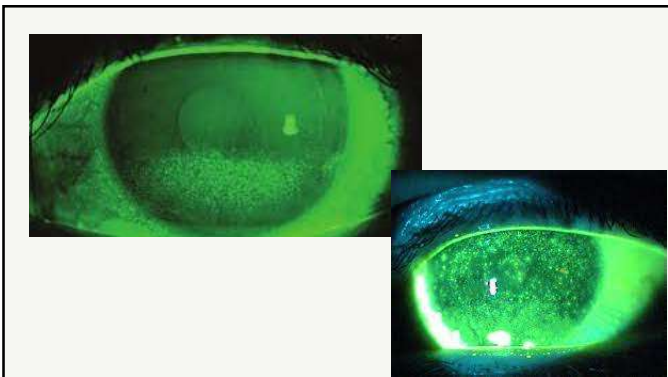
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### Dry Eye Syndrome

- Burning, gritty , tearing, redness, blurred vision , contact lens discomfort , eye fatigue , light sensitivity
- Blinking spreads tears across the front surface of the eyes and into the drainage system
- Poor tear quality , tear evaporation, decrease production
- Ocular Lubrication , Lid hygiene , Nutrition



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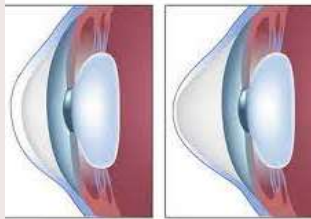
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### Keratoconus

- Disorder of the cornea that becomes thin and irregular (cone ) shaped
- Heredity 1 in 10 has a close family member . Late teens and early 20s
- Frequent eye rubbing
- Contacts lens , cornea cross linking surgery , corneal transplant



Normal      Keratoconu

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**Pinguecula**

- Yellowish abnormal growth of tissue on the conjunctiva
- Due to chronic exposure to the sun and UV radiation
- Cause redness or irritation
- Artificial tears , steroids
- Sunglasses / Transitions

A close-up photograph of a human eye. The conjunctiva is significantly red and inflamed, with visible blood vessels. The iris is dark blue. This image illustrates the redness and irritation associated with a pinguecula.

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### Subconjunctival hemorrhage

- Accumulation of blood under the conjunctiva
- Broken blood vessel
- Straining , lifting heavy, coughing, vomiting and blood thinner medication
- No treatment - resolves in a week or two



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### Cataract

- Cloudy or opaque area of a crystalline lens
- Interferes with normal vision - scatters light
- Age related but can be due to trauma or medications
- Types include nuclear , cortical (spoke) , posterior capsular
- Diabetes, UV radiation , Alcohol, Smoking , Family History
- **Aphakia** - absence of the lens, corrected with CL or spectacles
- **Pseudophakia** - intraocular implant



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**Strabismus**

- Condition where both eyes do not look at the same place at the same time.
- Due to poor eye control
- Lack of depth perception, cause double vision, develop poor vision in the turned eye
- More common in infants and young children
- ESO, Exo , Hyper, Hypo,
- Constant or intermittent
- Alternating or unilateral



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**Nystagmus**

- Eye makes repetitive, uncontrolled movements
- Results in reduced vision and depth perception , balance and dizziness
- Causes of nystagmus : Albinism , high refractive errors, CNS diseases, lack of development early in life
- Null point, where the least amount of nystagmus is seen- adopt a head posture
- No cure. Glasses , contact lens and surgery can help improve vision

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**Computer Vision Syndrome / Digital Eye Strain**

- Caused by prolonged computer and cell phone use
- Eye strain , headaches, blurred vision, dry eyes, neck and shoulder pain
- Poor lighting , glare, viewing distance, poor posture, uncorrected vision correction
- 20/20/20 rule



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**Glaucoma**

- Disorders that cause progressive damage to the tissue of the optic nerve resulting in loss of vision
- Commonly due to increase of ocular pressure ( primary open angle glaucoma)
- Angle closure - less common and is a medical emergency that can cause vision loss in within a day
- Lower pressures : medications, surgery , implants
- Family history



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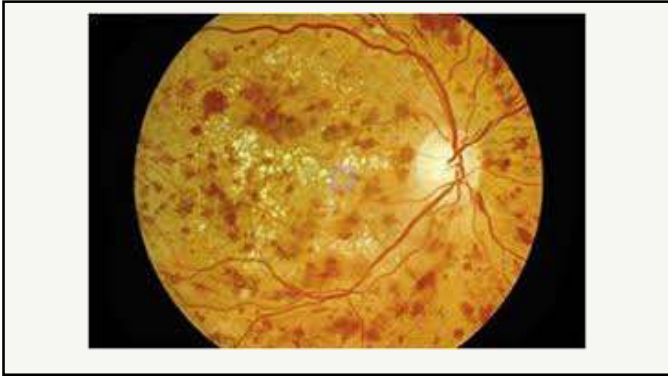
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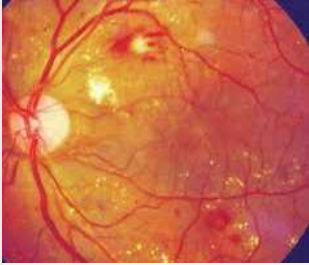
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**Diabetic Retinopathy**

- Diabetes damages the small blood vessels in the retina causing blood and fluid to leak
- If left untreated can cause blindness
- Treatment is injections or laser to stop new vessel formation and leakage
- Annual exams with dilation
- Take medications, follow up with PCP , exercise and eat healthy , control blood pressure



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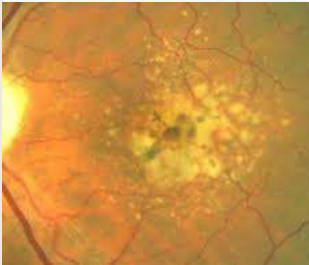
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**Macular Degeneration**

- Disease affecting the macula causing loss of central vision
- Occurs in adults over 50years , leading cause of severe vision loss
- Two forms : Dry (atrophic ) and Wet (exudative)
- Gradual loss of vision , distortion , wavy or crooked lines , loss of color vision
- Vitamins, Mediterranean diet, UV protection, no smoking , injections



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### Flashes and Floaters

- Small cloudy particles in the vitreous seen in your vision floating around
- Appear as the vitreous fluid deteriorates due to aging
- Flashes are stimulation of the nerves in the retina due to tugging of the retina
- New floaters and flashes need dilated eye exam
- Brain will ignore over time
- Can be associated with retinal tears , holes, detachments



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### Retinal Detachment

- Separation of the layer of the retina
- Causes: high myopia, trauma, retinal breaks, lattice retinal degeneration, after cataract surgery
- Symptoms of flashes of light , floaters and curtain moving over vision
- Treatment includes laser, cryotherapy, sclera buckle, oil injection



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### Refractive Surgery

- **LASIK (laser in-situ keratomileusis)**
  - Treats myopia, hyperopia, astigmatism
  - Cut a cornea flap, laser the stroma, then flap set back in place to heal
- **Photorefractive keratectomy (PRK)**
  - Similar to LASIK but great for thin corneas or dry eyes.
  - Does not cut a flap, special brush is used to remove the outermost layer of the cornea
- **Radial keratotomy (RK)**
  - Oldest surgery
  - Cuts are made to flatten the cornea

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### Refractive Surgery

- **Automated Lamellar keratoplasty (ALK)**
  - Treated high levels of myopia and mild hyperopia
- **Laser thermal keratoplasty (LTK)**
  - Holmium laser to heat certain areas of the cornea and shrinks part of the cornea making it steeper
- **Conductive keratoplasty (CK)**
  - Noninvasive procedure which uses radio frequency energy to correct presbyopia and low hyperopia. Can also correct for residual refractive error after LASIK
- **Intracorneal ring (intacs)**
  - Micro thin prescription inserts previously used for low myopia but it now FDA approved for keratoconus

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### Cataract Surgery

- Cloudy natural lens is removed and replaced by a clear artificial lens. (Intraocular lens)
- Tiny incisions with a laser or blade at the edge of the cornea
- They break down the lens with a phacoemulsification instrument to remove it
- Placement of new lens
- <https://youtu.be/LIza4BiEoOk>
- Posterior capsular pacification can over after surgery and needs a YAG laser to remove it

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### Glaucoma Surgery

- Trabeculectomy: creates a tiny opening in the top of the eye under the eyelid allowing fluid to drain away lowering the pressure.
- Implant : a tiny tube or shunt is implanted onto the white of the eye and helps drain extra fluid out of the eye lowering the pressure
- Minimally invasive glaucoma surgery (MIGS) : newest procedures to help minimize complications
- Possible side effects : cataract, eye pressure to low and vision loss

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### Retinal Surgery

- Retinal detachment is a medical emergency
- **Pneumatic retinopexy**: inject small air bubble into the eye pushing the retina back into place so the doctor can laser it freeze any holes or tears
- **Scleral buckle**: place a tiny flexible band around the white part of the eye pushing the eye toward the retina helping it reattach. Its permanent
- **Vitrectomy**: removing the vitreous with a suction tool then use a laser or inject a bubble of air to hole the retina place. Also replace the vitreous with silicone oil

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THANK YOU AND QUESTIONS?

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