



# Gradual loss of vision

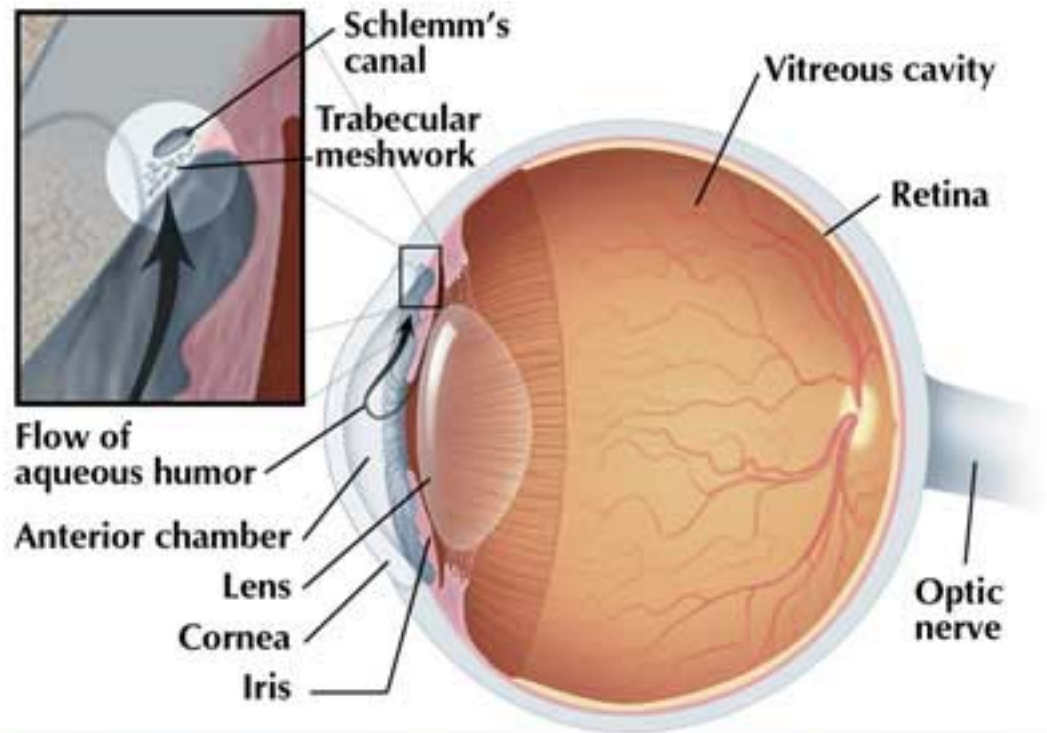
Dr. Hussameddin Muntasser

# Gradual loss of vision

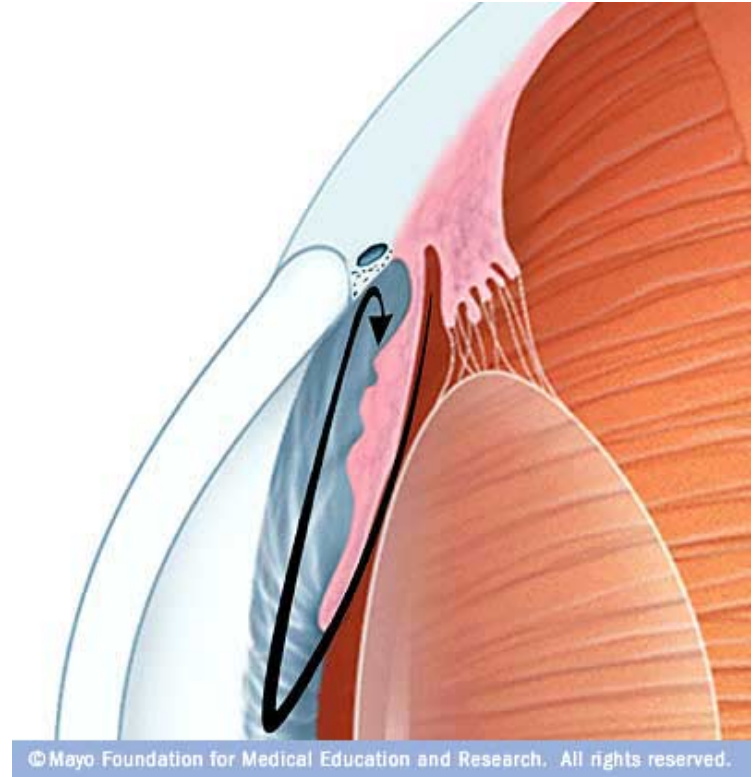
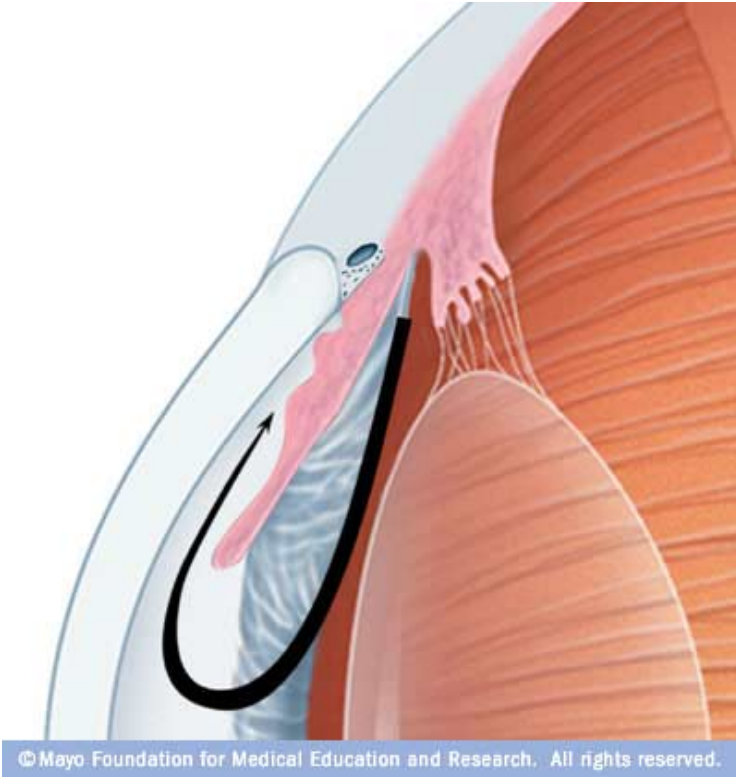
- 1. Open angle glaucoma..
- 2. Cataracts.
- 3. Refractive errors.
- 4. Macular degeneration.
- 5. Diabetic retinopathy.
- 6. Hypertensive retinopathy
- 7. Retinitis pigmentosa.

# Primary Open Angle Glaucoma

- Movement of fluid in the eye.



# Primary Open Angle Glaucoma

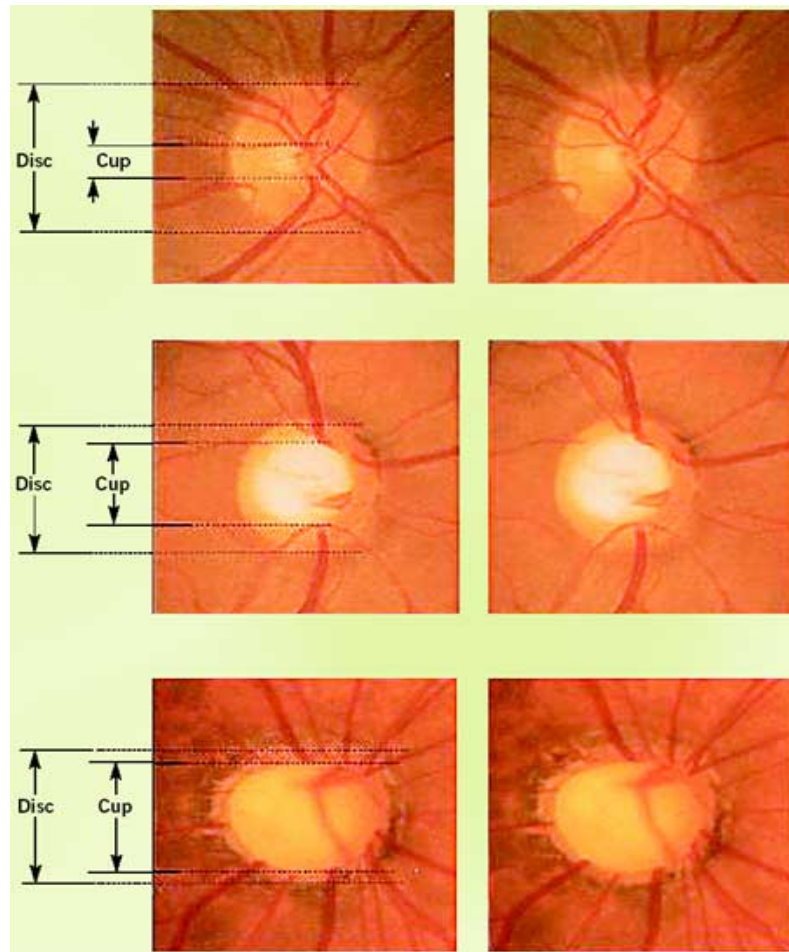




# Primary Open Angle Glaucoma

- Optic nerve damage
- Multitude of diseases
- Gradual loss of vision
- Second leading cause of blindness
  - Symptoms:
    - Loss of peripheral vision
    - Tunnel vision
    - Loss of colour vision

# Optic nerve damage



# Primary Open Angle Glaucoma

- Tests:
  - Intra-ocular pressure
  - Fundoscopy
  - Visual field tests
  - Cornea thickness

# POAG tests

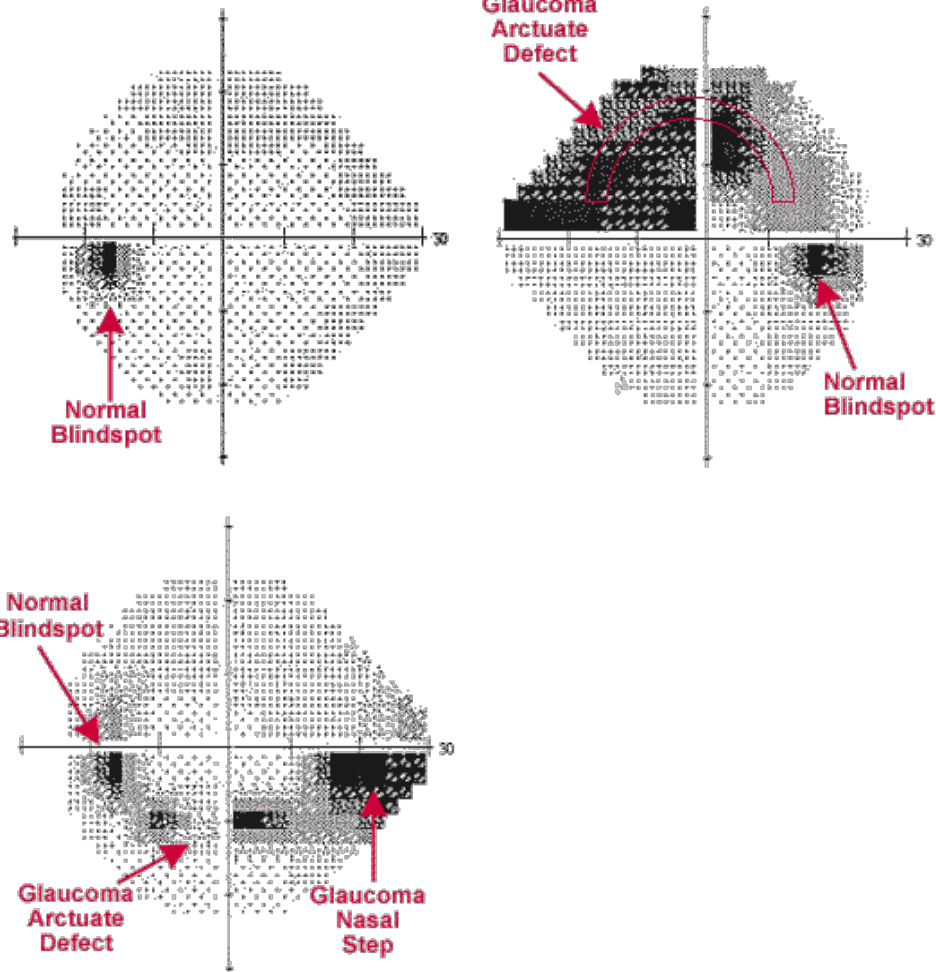
**Humphreys visual field machine**



**Goldmann's tonometer**



# Humphreys Visual field test



# POAG treatment

- Medical:
  - Reduce production or increase outflow
- Surgical:
  - Trabeculectomy

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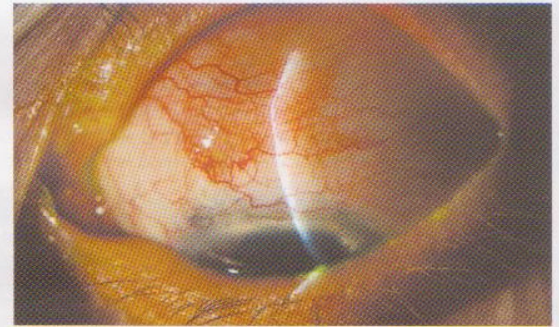


Figure 1: Failing trabeculectomy bleb with diffuse flattening of the bleb and generalised erythema over the bleb site with corkscrewing vessels.

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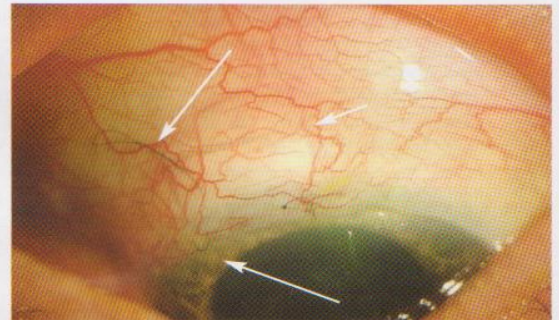


Figure 2: Trabeculectomy flap with looped releasable suture at one apex of the scleral flap and the access loop buried in the superficial cornea (long arrows). The releasable suture has already been released from the other apex of the flap (short arrow).

, if

# Cataract

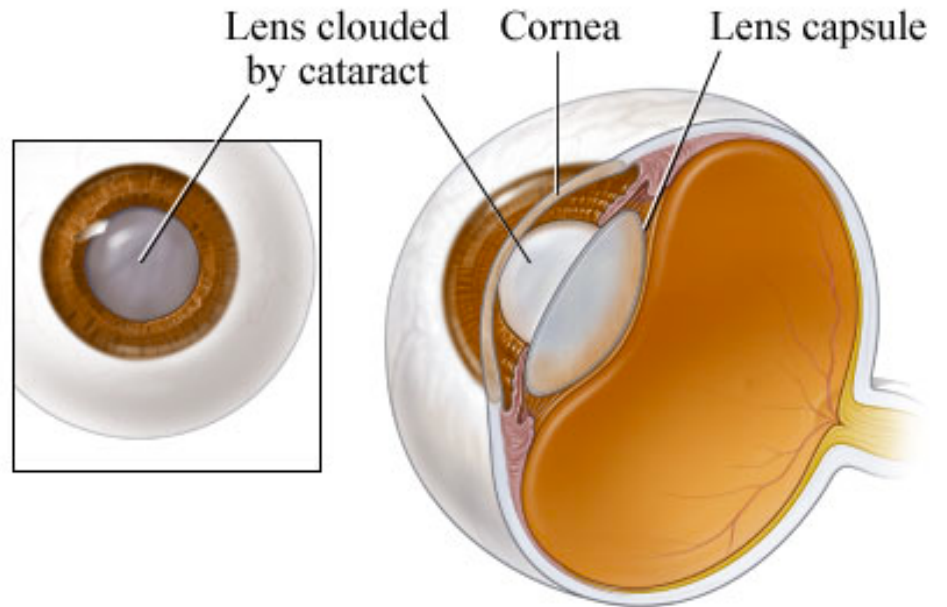
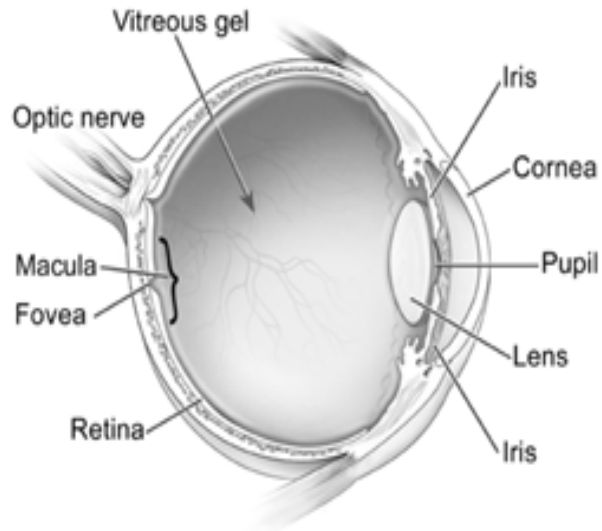


# Cataract

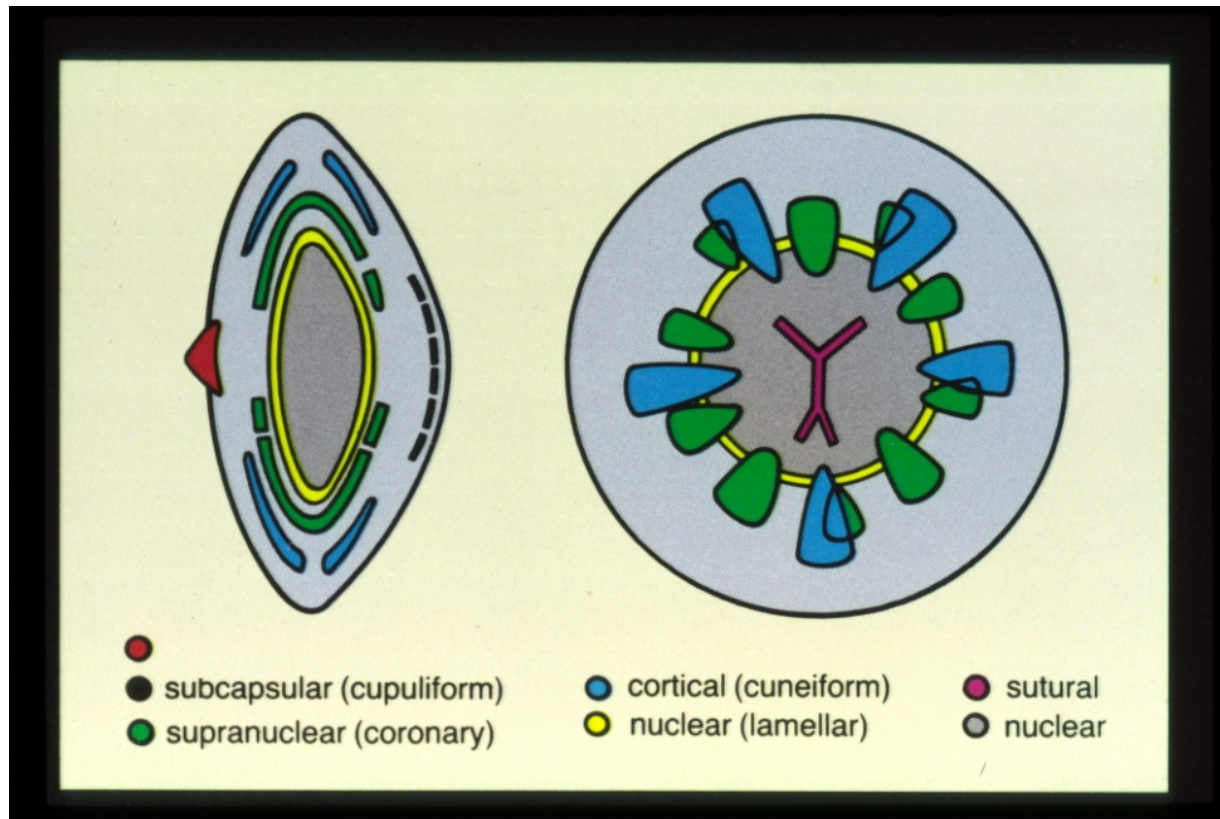
- Clouding of the lens of the eye
- Primary, senile cataract progresses slowly
  - Symptoms
    - Blurred vision
    - Worsening vision at night
    - Halos around lights
    - Fading of colours
    - Monocular diplopia
- Secondary, Diabetes/trauma
- Evaluation by direct ophthalmoscopy/red reflex
- Phacoemulsification surgery – wound size generally 3.5mm across and implantation of intra-ocular lens



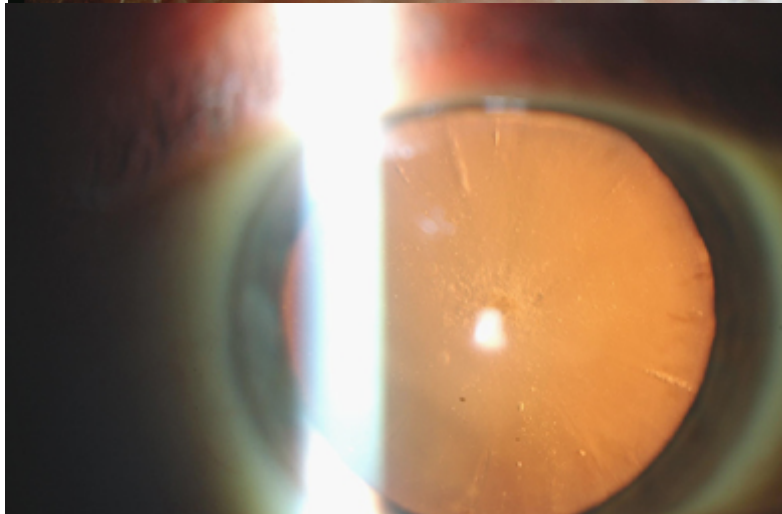
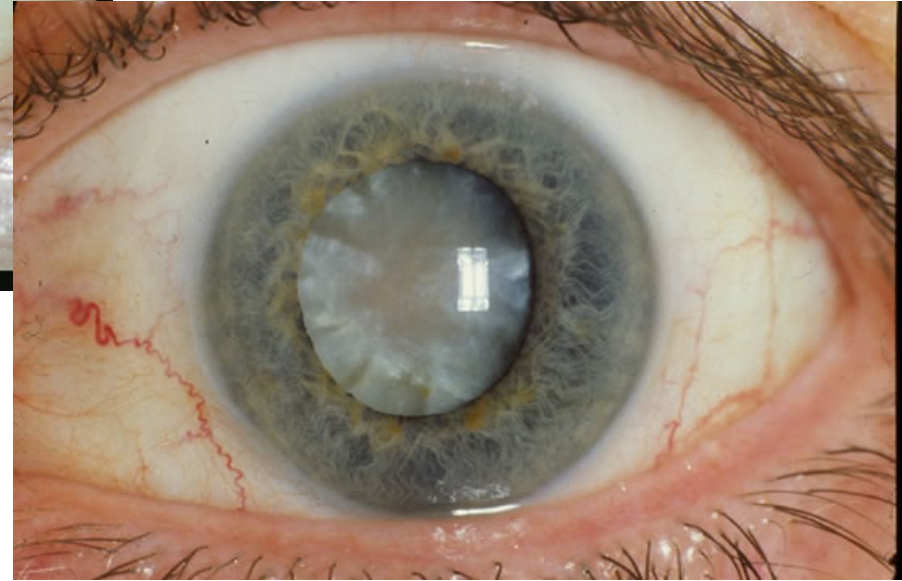
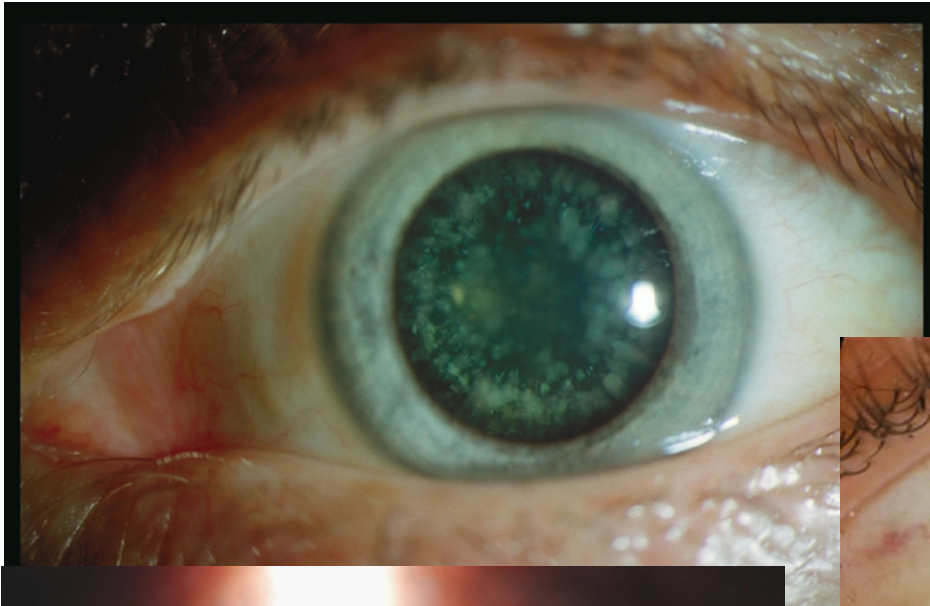
# The lens and Cataract



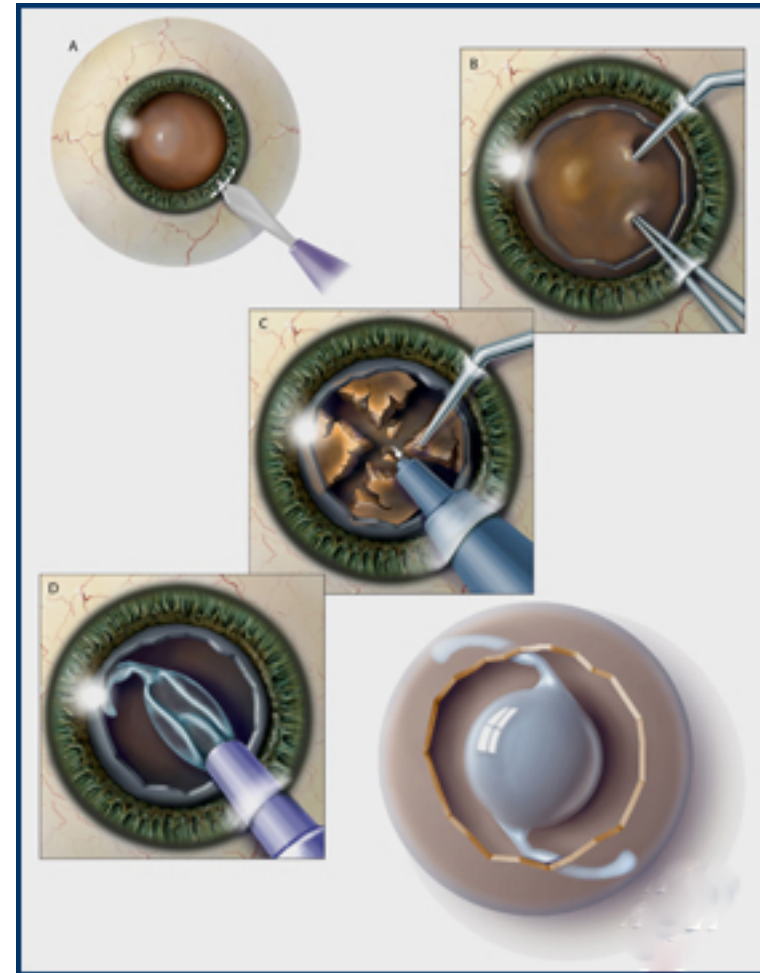
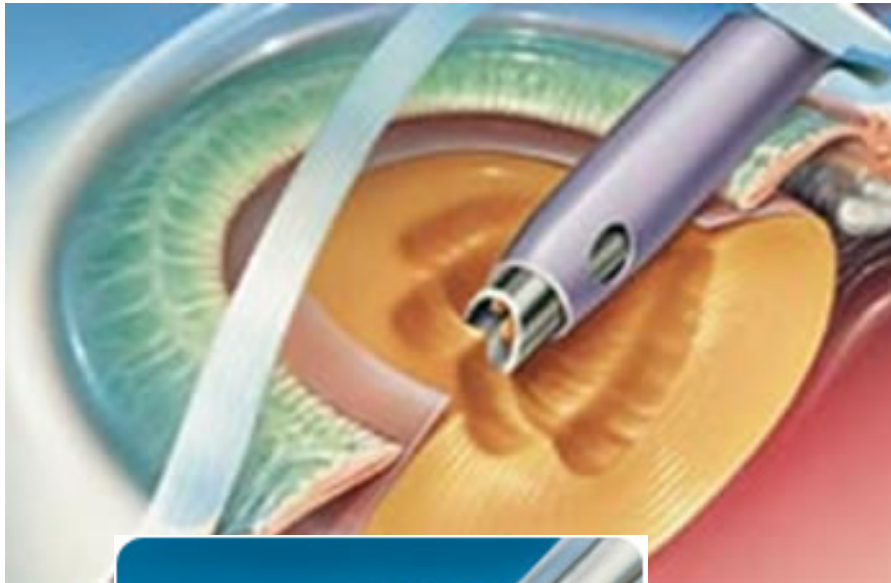
# Types of Cataract



# Types of Cataracts



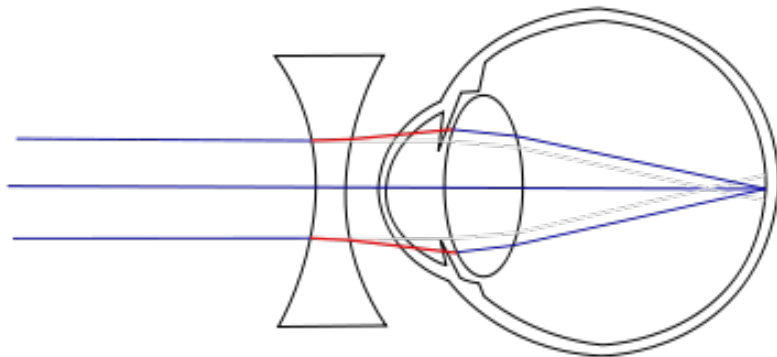
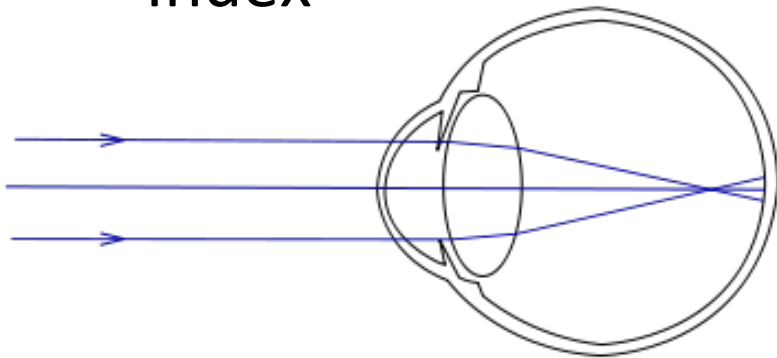
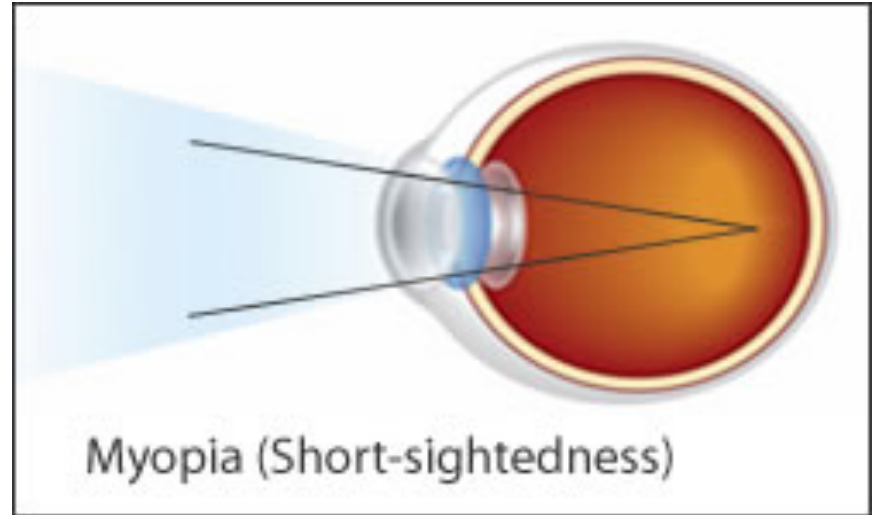
# Cataract surgery





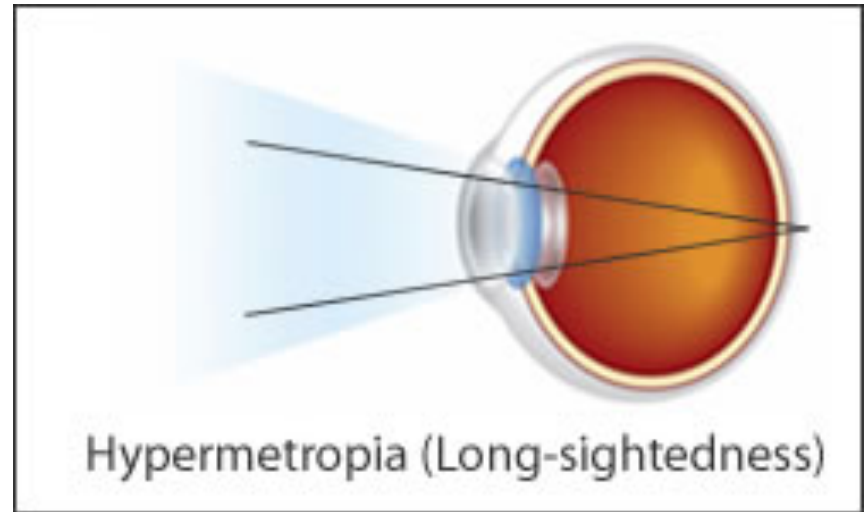
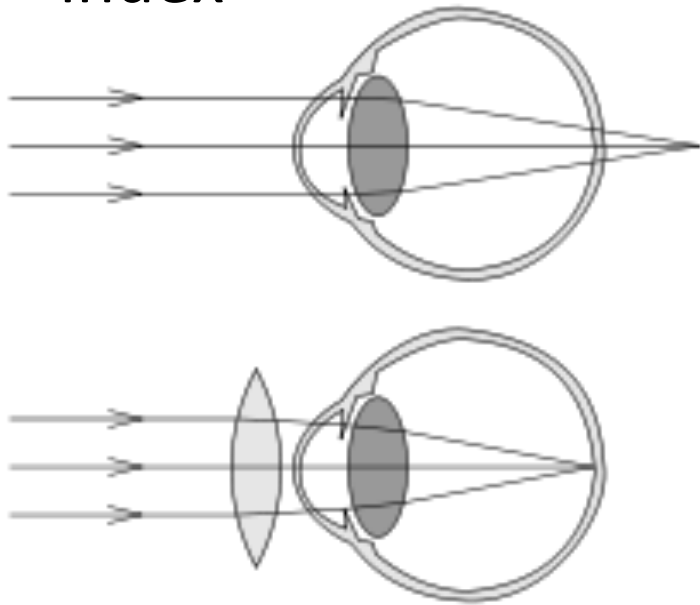
# Refractive errors

- Myopia
  - axial
  - Index



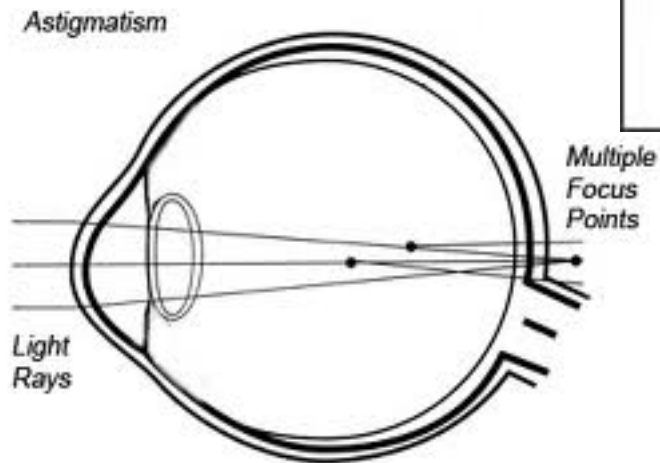
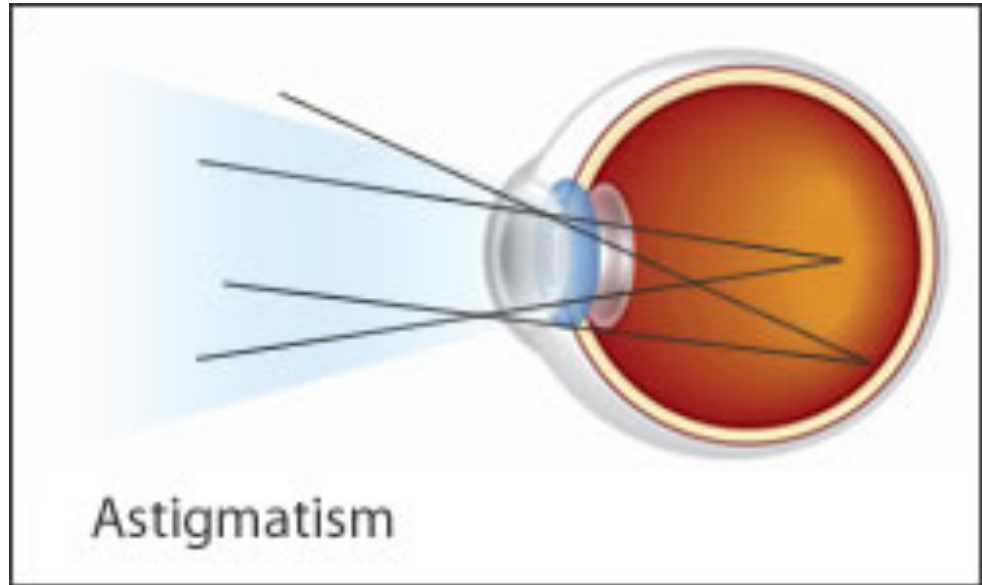
# Refractive errors

- Hypermetropia
  - Axial
  - index



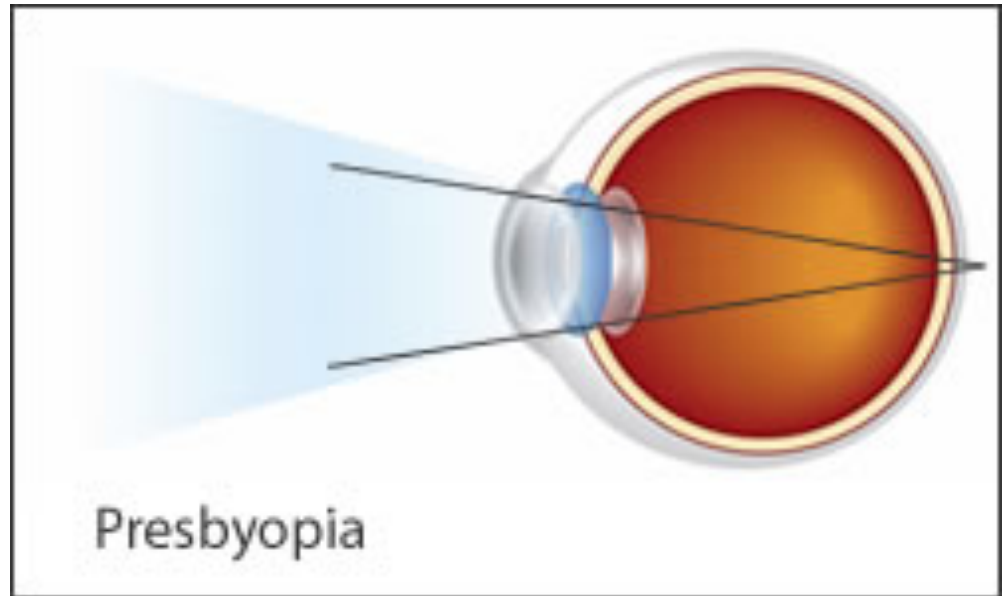
# Refractive errors

- Astigmatism



# Refractive errors

Presbyopia





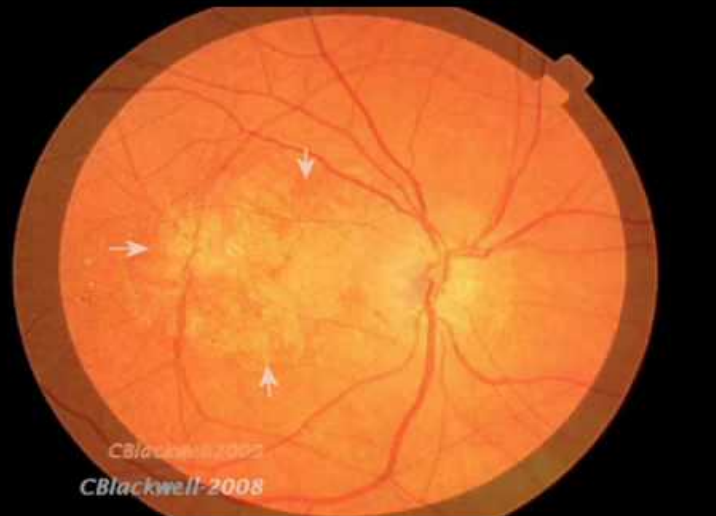
# Age-related macular degeneration

- Age-related maculopathy (ARM)
  - Drusen
  - hyper/de-pigmentation of RPE
- Age-related macular degeneration
  - Dry:
    - Geographic atrophy of RPE
    - Gradual onset, slowly progressive.
    - No treatment possible
  - Wet:
    - Neovascular AMD
    - Vessels grow from choriocapillaris through defects in Bruch's membrane
    - Metamorphopsia, positive scotoma and blurring of central vision

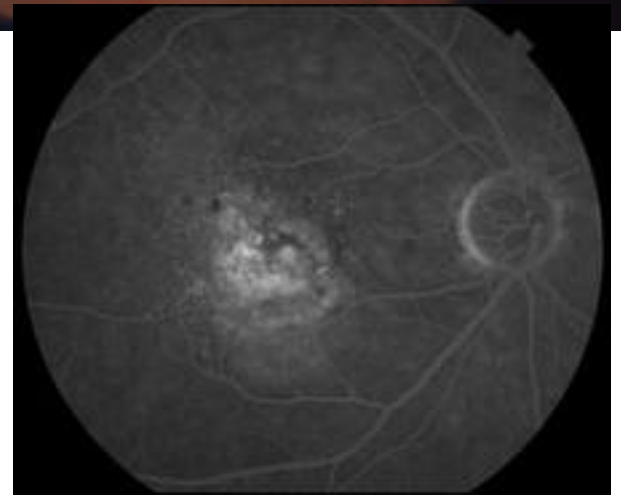
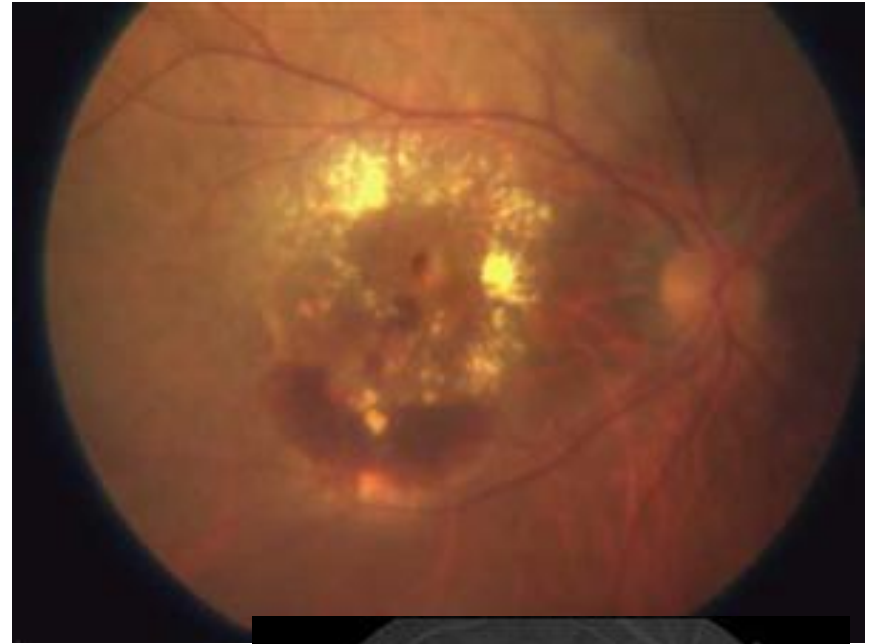
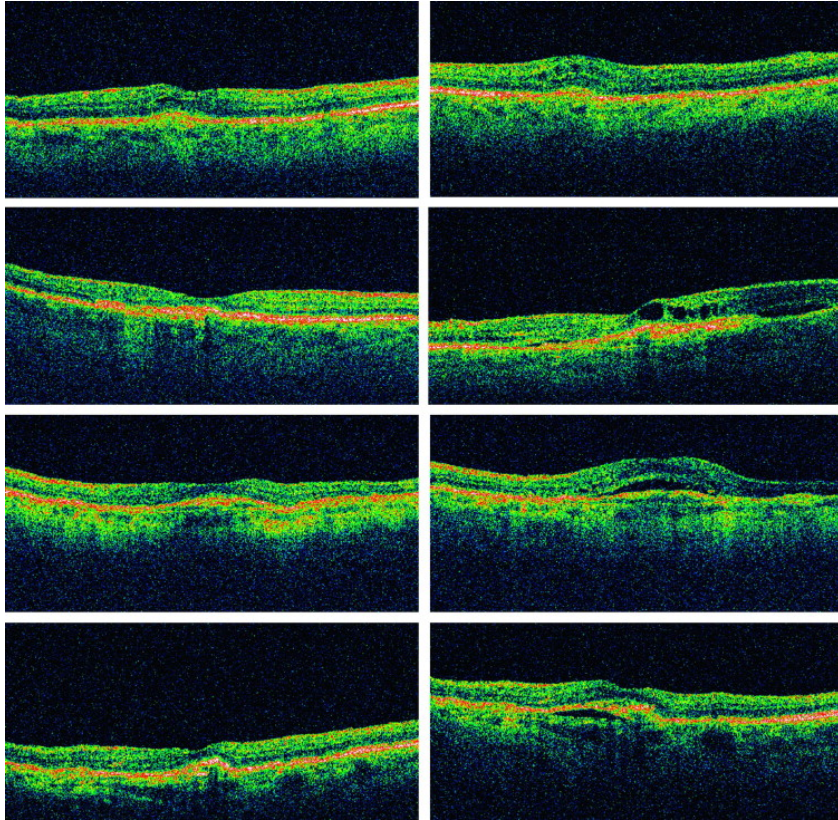
# Age related maculopathy



# Age related macular degeneration



# Wet age related macular degeneration



# Age related Macular Degeneration

- Treatment
  - Wet AMD – monthly ranibizumab (Lucentis) if Va within the range 6/12 to 6/60. (FFA)
  - Dry AMD – diet includes leafy greens, quit cigs, monitor/check BP.

# Diabetic retinopathy

- Commoner in type 1 than in type 2
- Most prevalent cause of blindness between ages of 20 and 65
  - Risk factors
    - Duration of disease, 50% at 10 years, and 90% after 30 years.
    - Poor metabolic control, can prevent or delay development or progression of DR.
    - Pregnancy
    - Hypertension
    - Nephropathy

# Diabetic retinopathy

- Pathogenesis:
  - Capillaropathy: degeneration/loss of pericytes, proliferation of endothelial cells, thickening of the basement membrane and occlusion
  - Haematological changes leading to decreased blood flow
  - Microvascular occlusion, causing AV shunts and neovascularisation

# Diabetic retinopathy

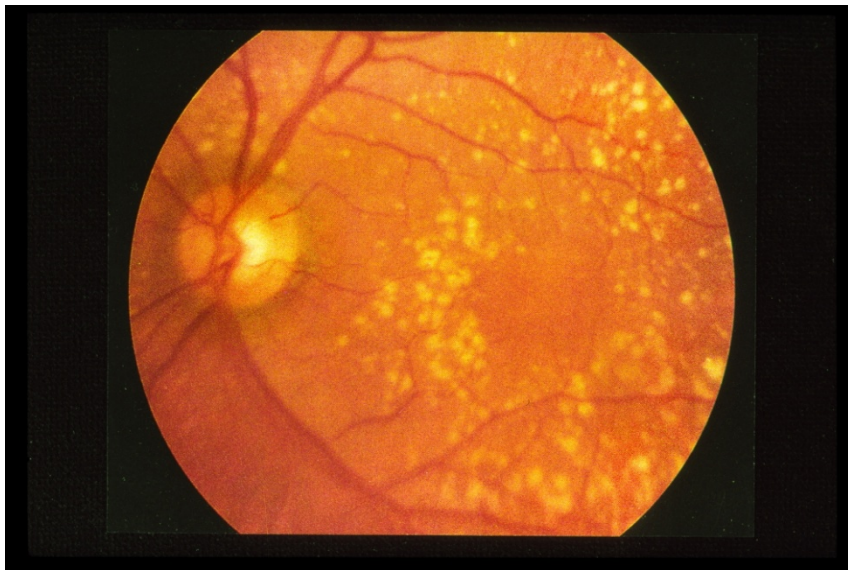
## Classification:-

- No DR
- Background
- Exudative
- Preproliferative
- Proliferative
- Advanced diabetic eye disease



# No diabetic retinopathy.

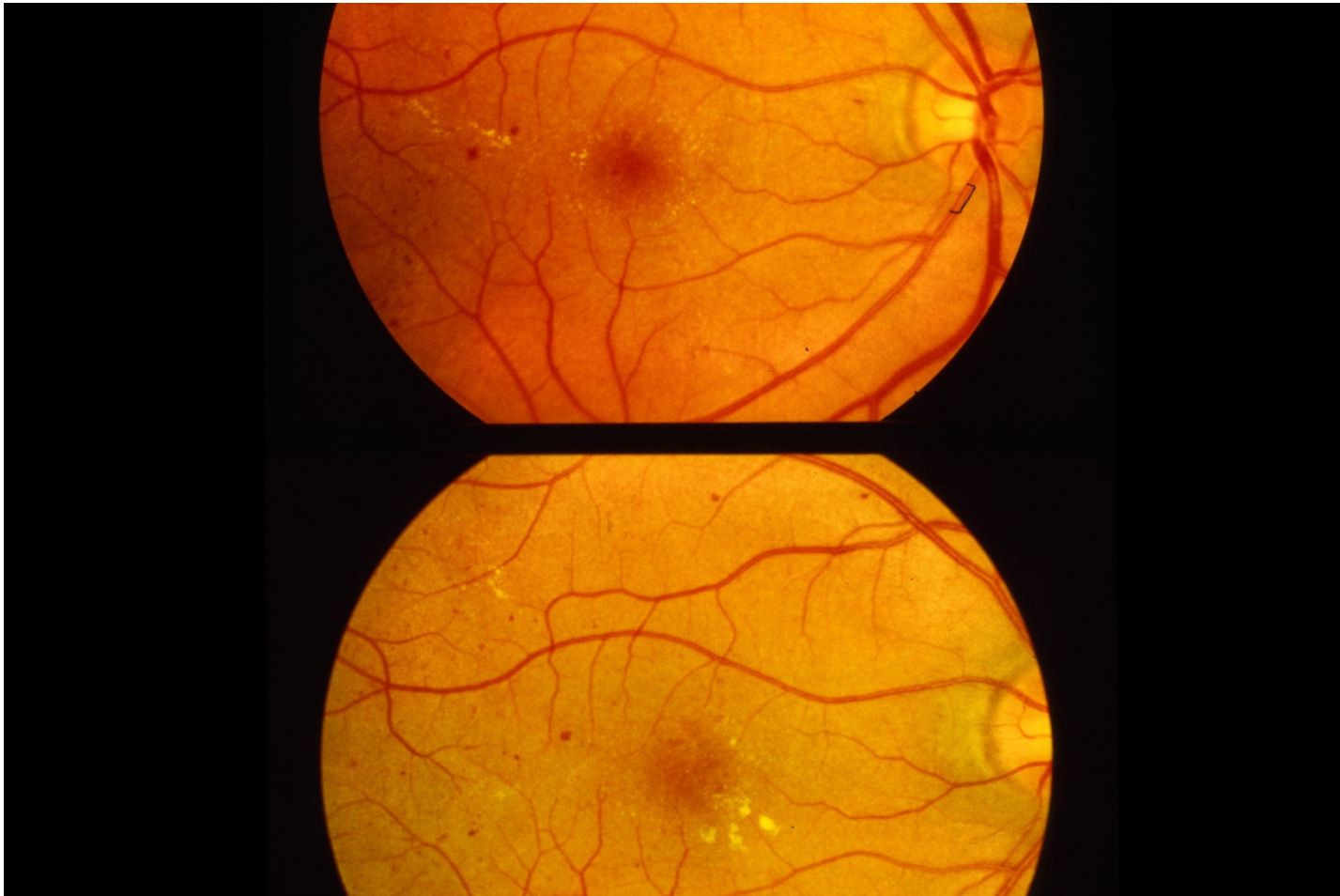
**Drusen. No diabetic retinopathy.**



**Diabetic exudative maculopathy.**



# Background diabetic retinopathy.



# Exudative diabetic retinopathy.





# Preproliferative diabetic retinopathy.

**IRMA and CWS.**



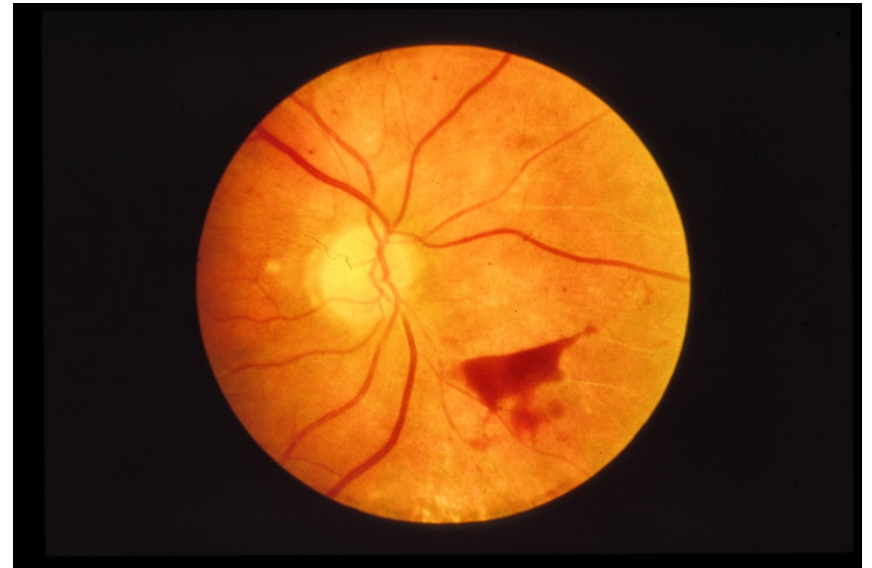
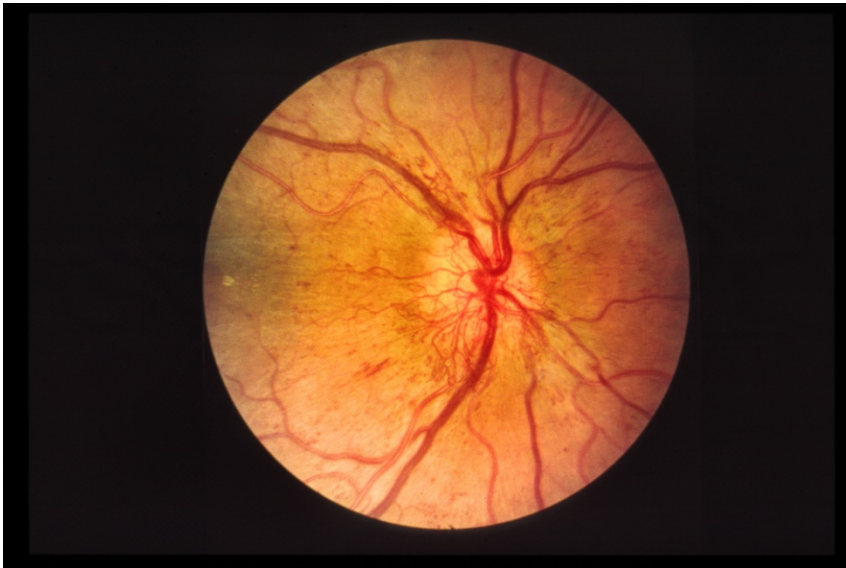
**Venous beading.**



# Proliferative diabetic retinopathy.

**New vessels at the disc (NVD)**

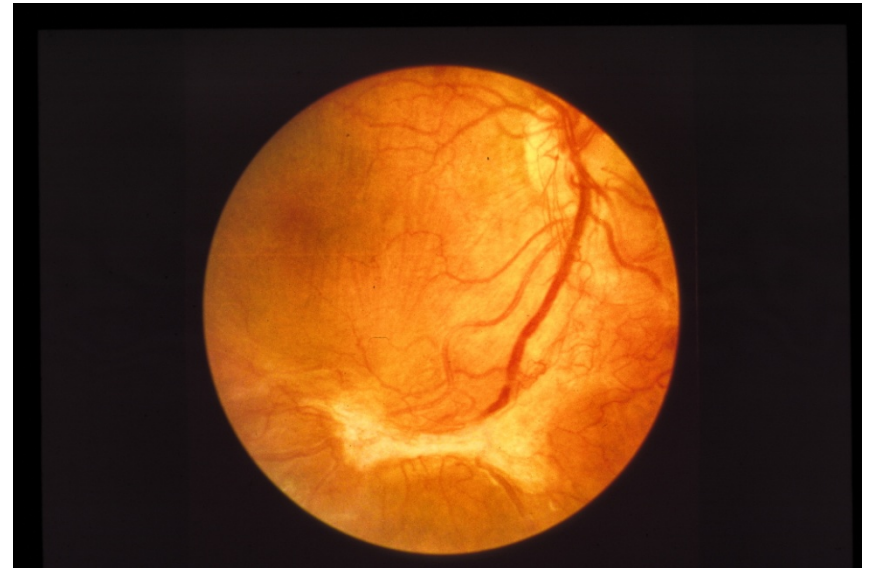
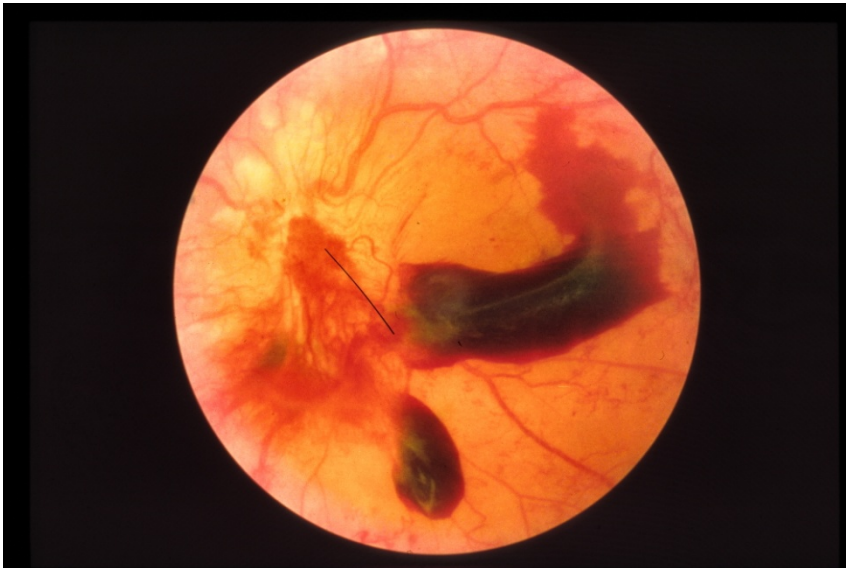
**New vessels elsewhere (NVE)**



# Advanced diabetic eye disease.

**Vitreous haemorrhage from NVD**

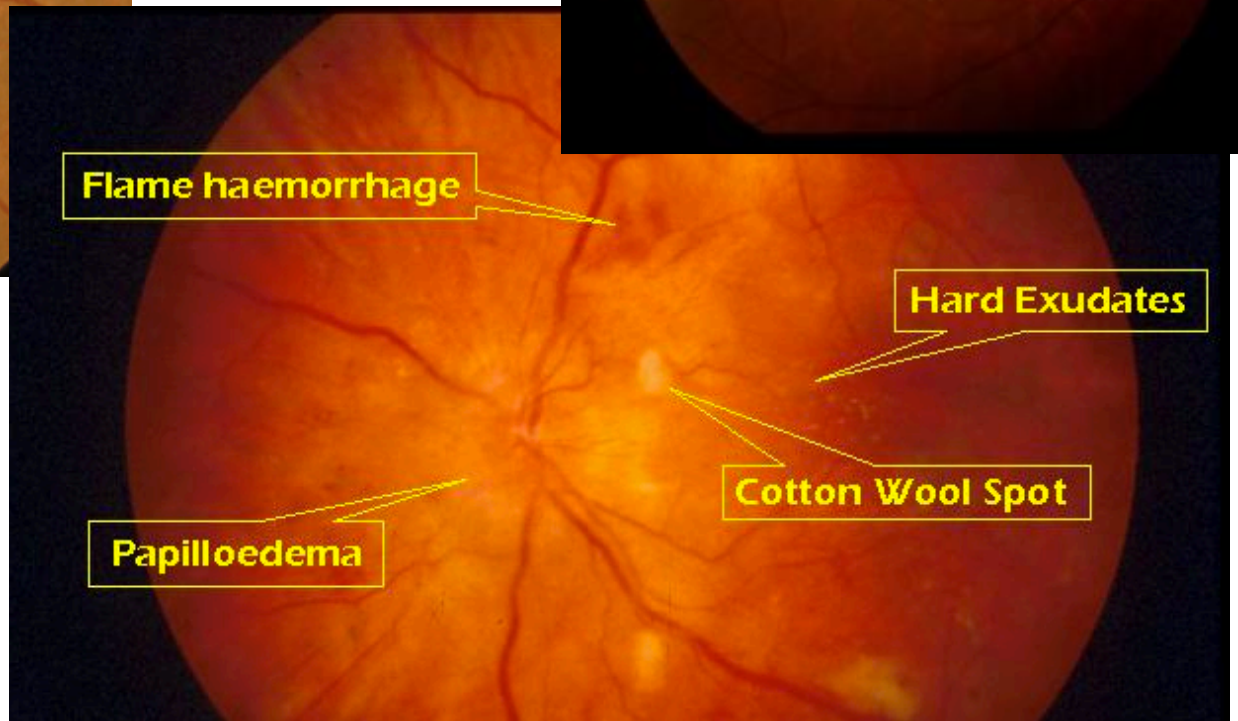
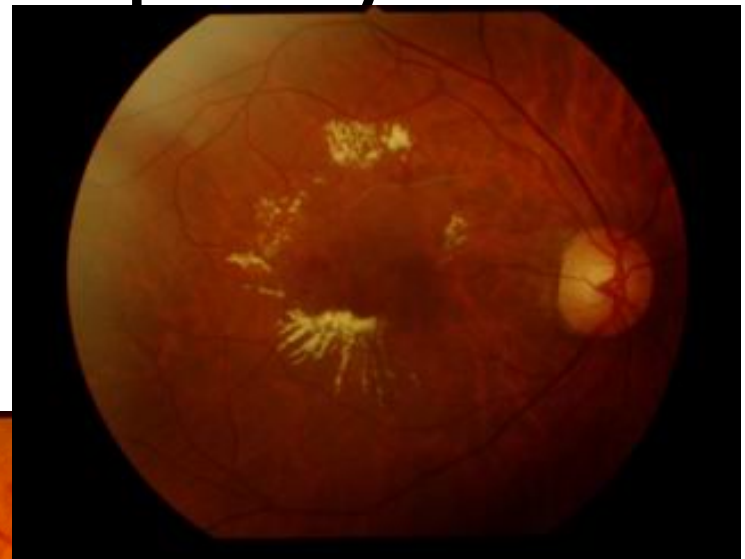
**Fibrosis from NVE**



# Hypertensive retinopathy

- Chronic:
  - AV crossing, arteriolar sclerosis, cotton wool spots, flame-shaped hemorrhages, arterial macroaneurysms, central or branch occlusion of an artery or vein.
- Acute (malignant):
  - Hard exudate “macular star”, retinal oedema, cotton-wool spots, flame-shaped hemorrhages, optic nerve head oedema,

# Hypertensive retinopathy





# Retinitis pigmentosa

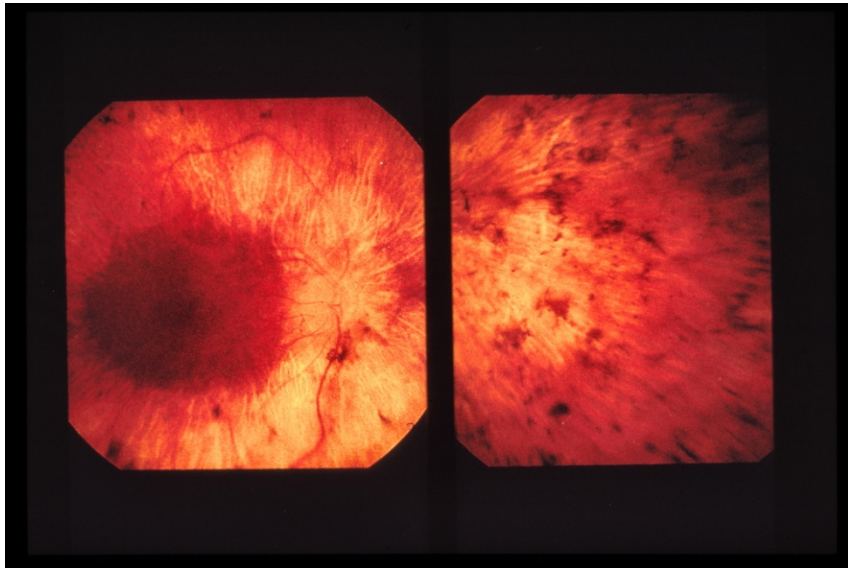
- Diverse genetic disorder leading to photoreceptor death (retinal dystrophy)
- 1:5000
- Inheritance
  - Affects age of onset, rate of progression, eventual loss of vision.
  - AD, common best prognosis
  - De-novo/sporadic
  - AR less common, intermediate prognosis
  - XL least common, worst prognosis

# Retinitis pigmentosa

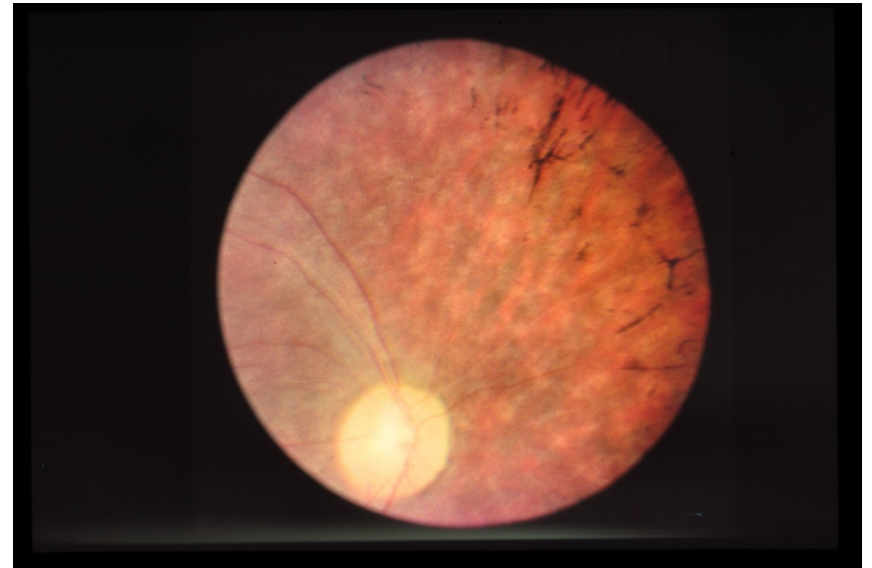
- Symptoms
  - Decreased night vision
  - Loss of peripheral vision
  - Decrease in central vision
  - Loss of colour vision
- Diagnosis:
  - Bilateral
  - Loss of vision as above
  - Arteriolar attenuation
  - Retinal bone-spicle pigmentation
  - Waxy disc pallor

# Retinitis pigmentosa.

**Retinitis pigmentosa**



**Retinitis pigmentosa**

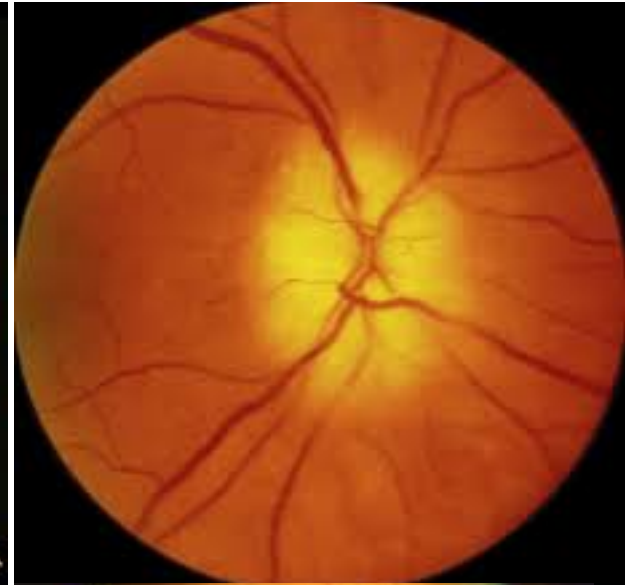


# Thanks!

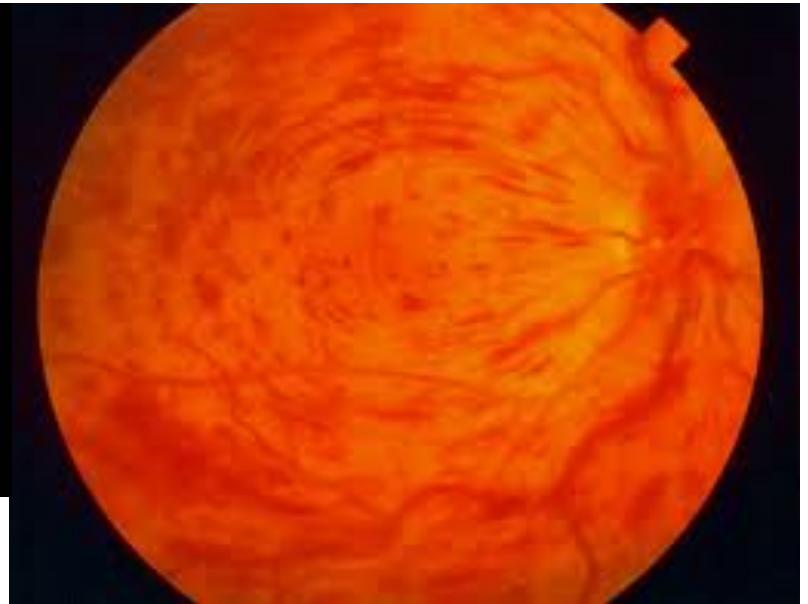
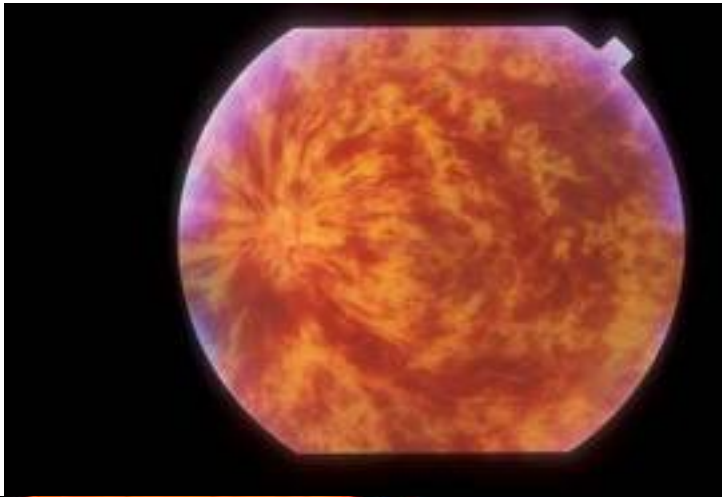
Any Questions?

Good Luck!

# Optic disc swelling



# Venous occlusion

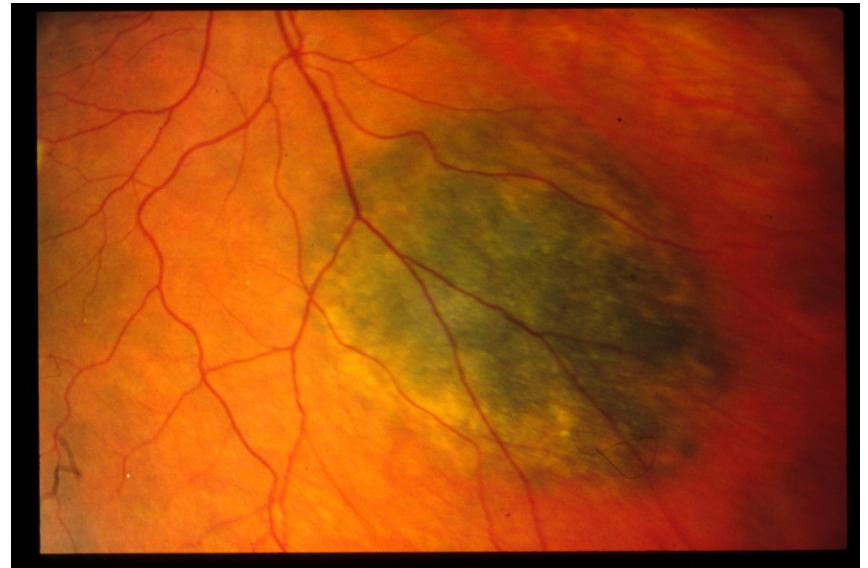


# Malignant melanoma of the choroid.

**Choroidal MM.**



**Choroidal naevus.**



# Glaucoma medications.

- Prostaglandin analogues and prostamides.
- Beta blockers.
- Combinations of the above (Xalacom, Lumigan, Travoprost).
- Trusopt, Azopt.
- Alphagan.
- Pilocarpine.
- Oral Diamox, oral glycerol, i/v mannitol.



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