



GETTING STARTED WITH OCT

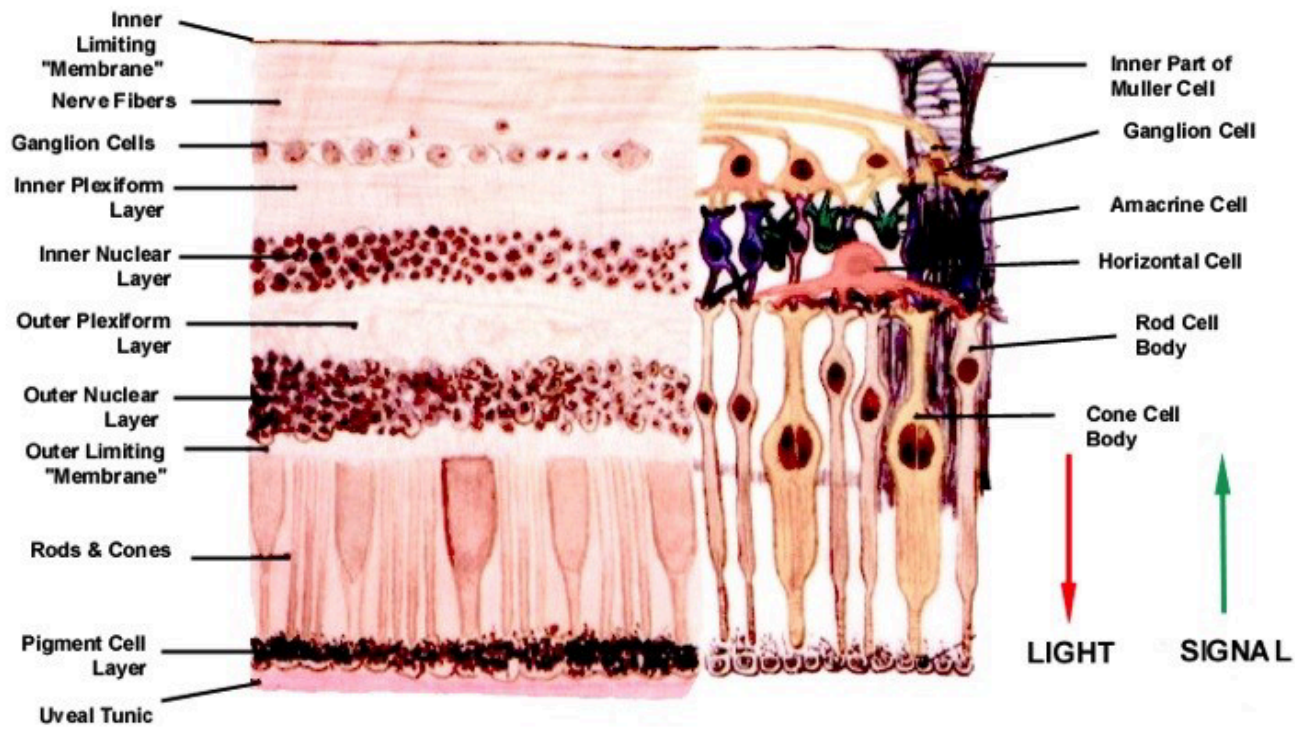
Julie Rodman OD, MSc, FAAO
Professor, Nova Southeastern University
College of Optometry

Disclosures:

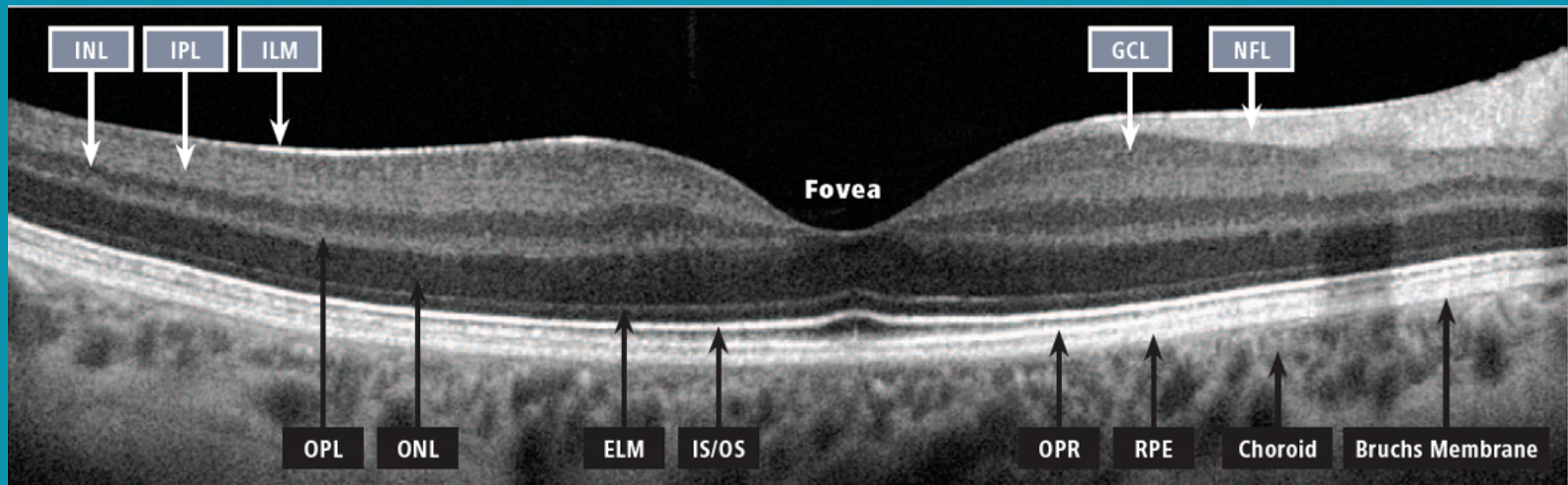
Speaker/Consultant:

- Visionix (Optovue)
- iCare
- Apellis
- Astellas
- LKC Technologies
- Regeneron

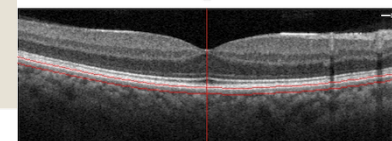
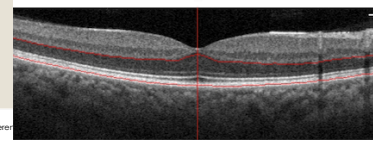
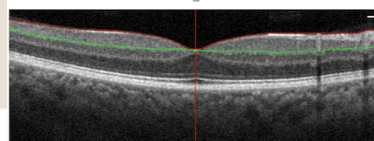
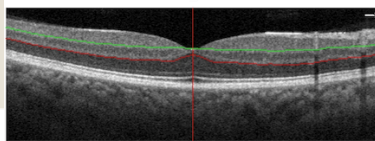
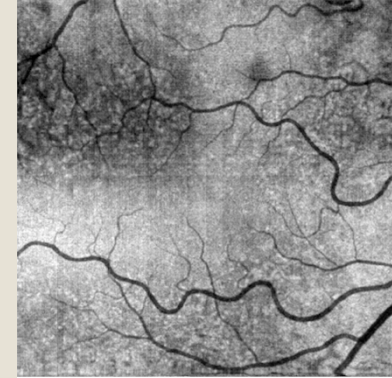
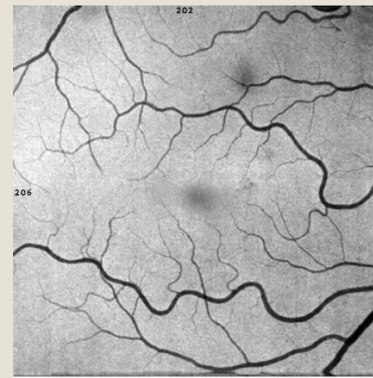
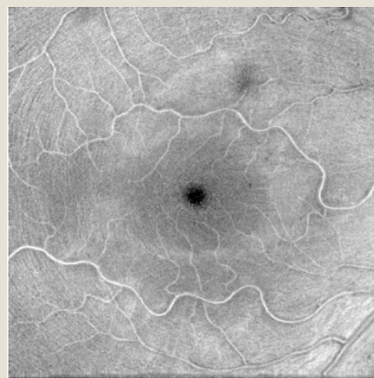
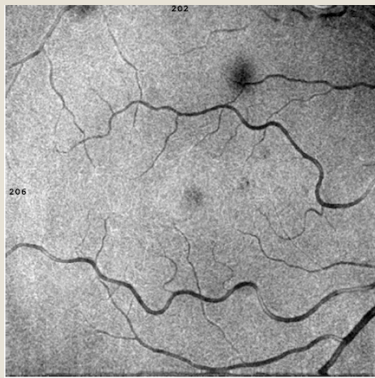
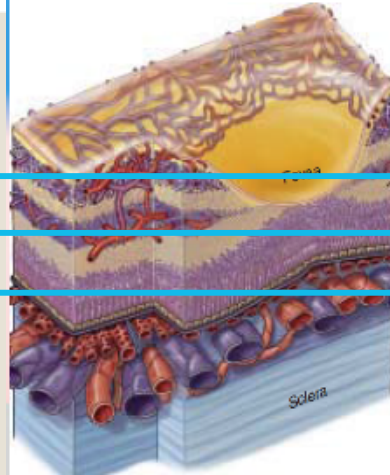




OCT B-Scan Layers

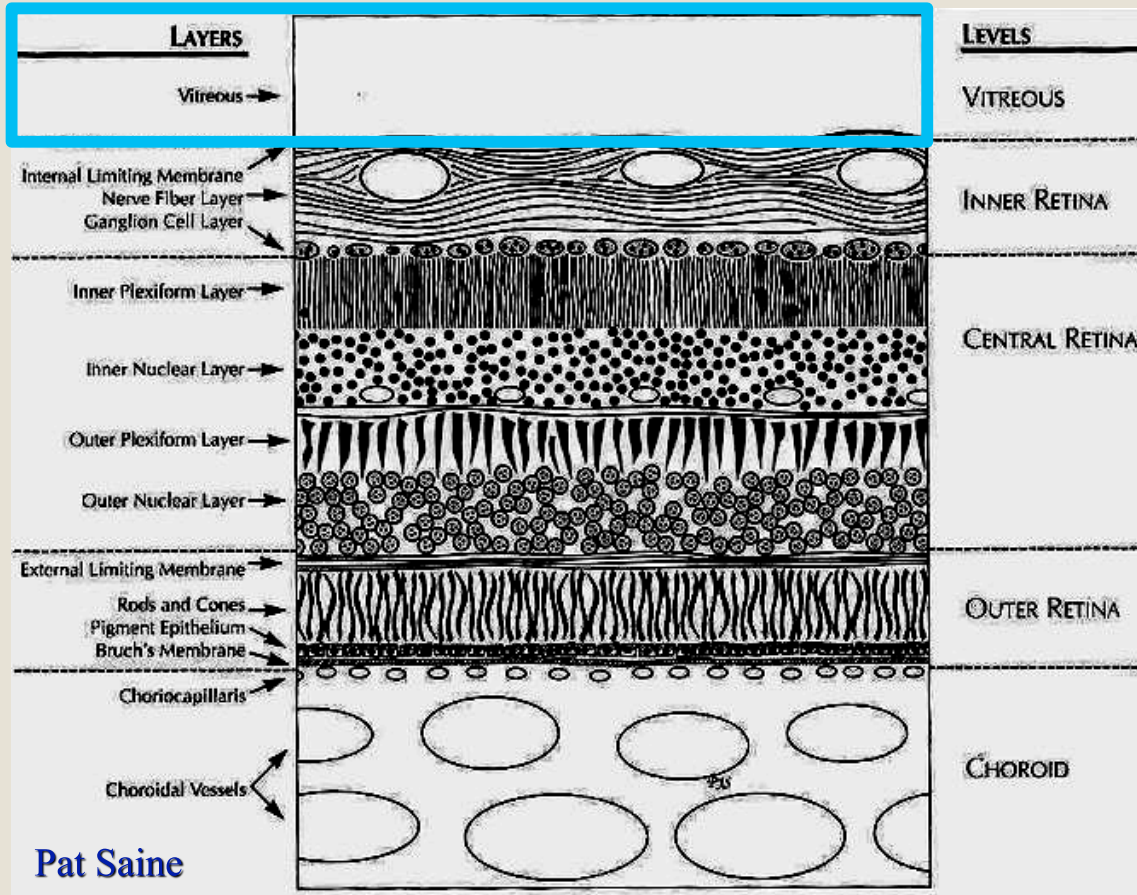


En Face Structural
Visualization of Layers
Based on Retinal
Anatomy



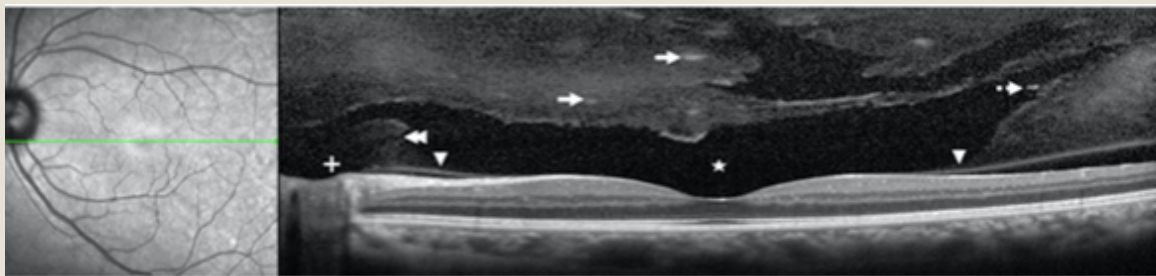
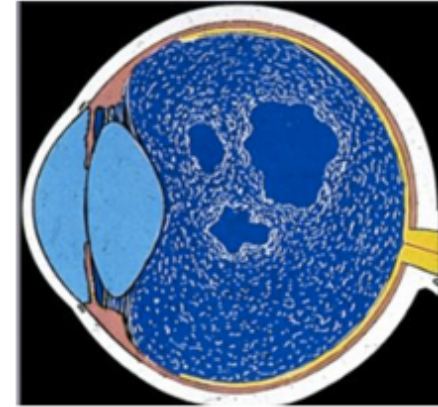


ANOMALIES OF THE VITREOUS



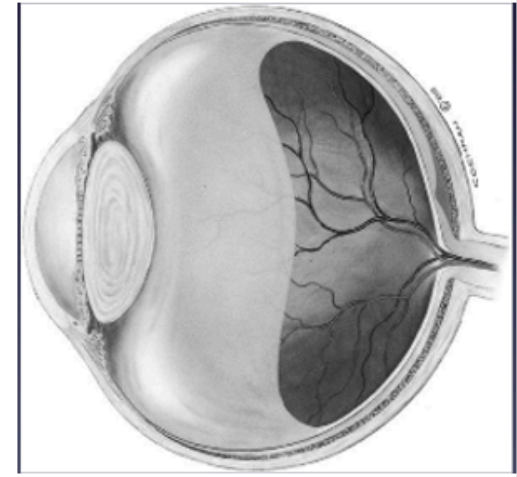
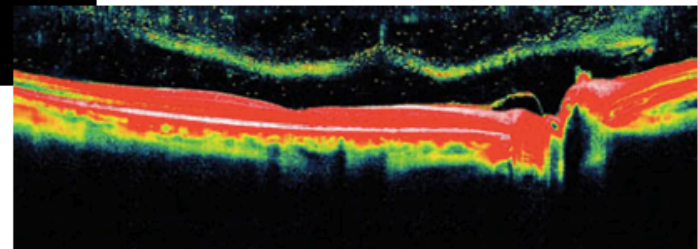
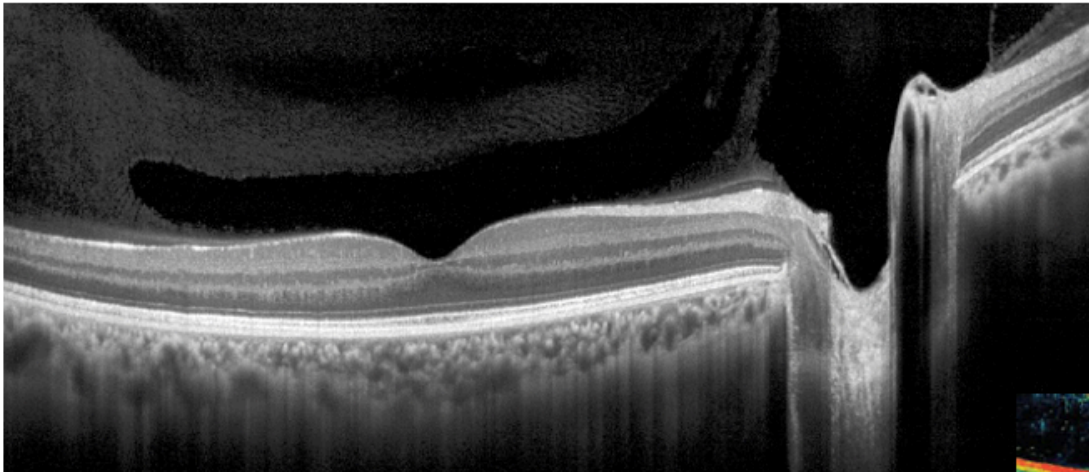
Aging of the Vitreous: Two Processes

Synchysis (liquefaction of the vitreous gel)

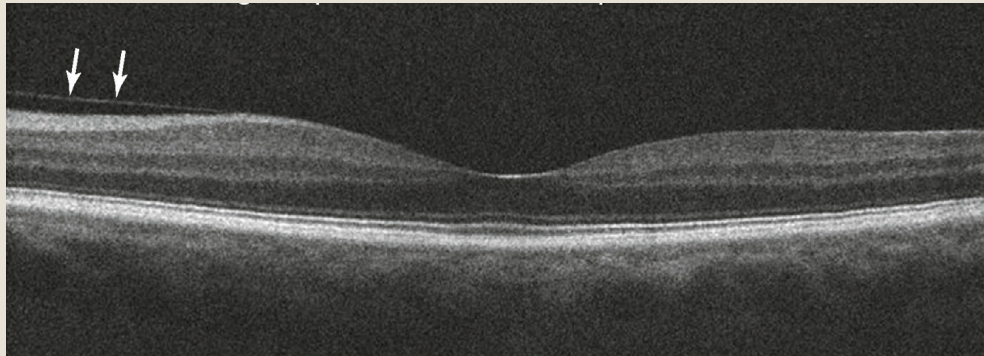


Aging of the Vitreous: Two Processes

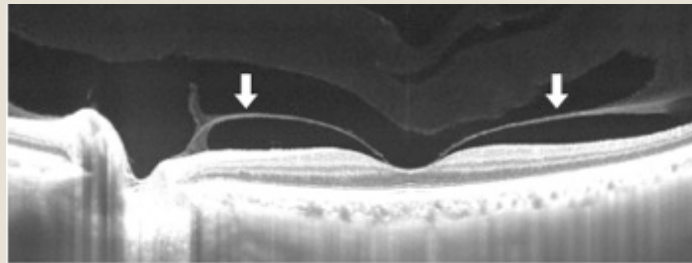
Syneresis (Contraction of the Vitreous Gel)



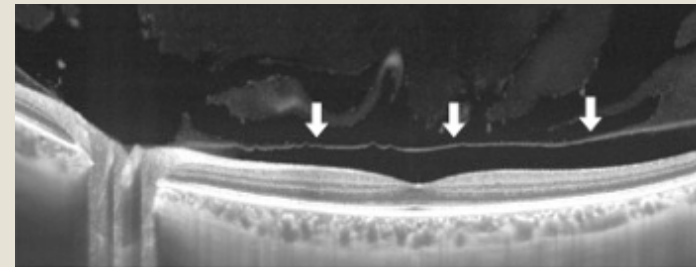
Stages of PVD



Stage 1: Single quadrant of perifoveal detachment

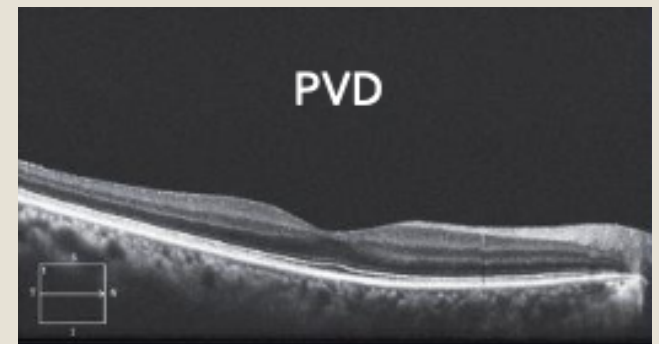
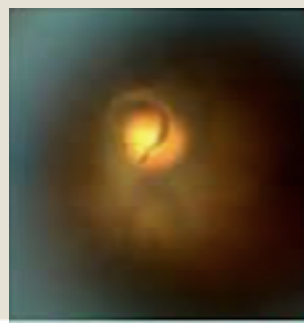
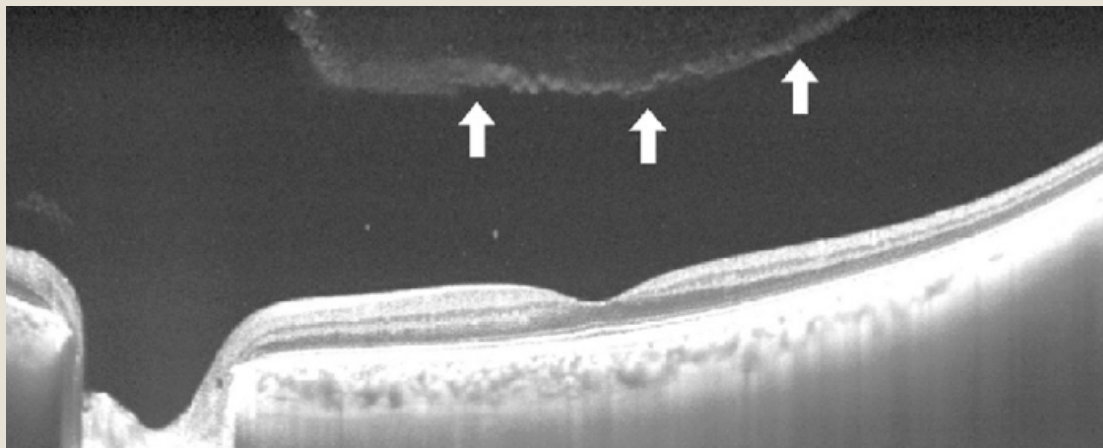


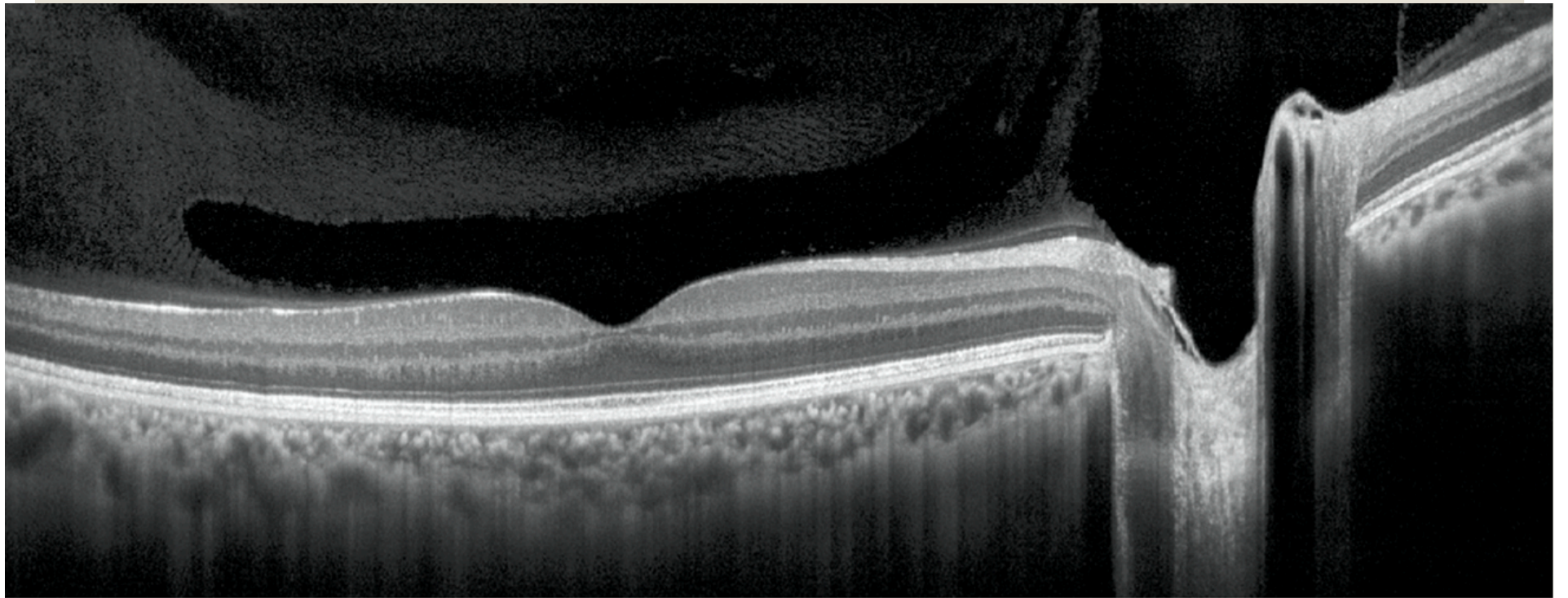
Stage 2: 360 degrees perifoveal detachment

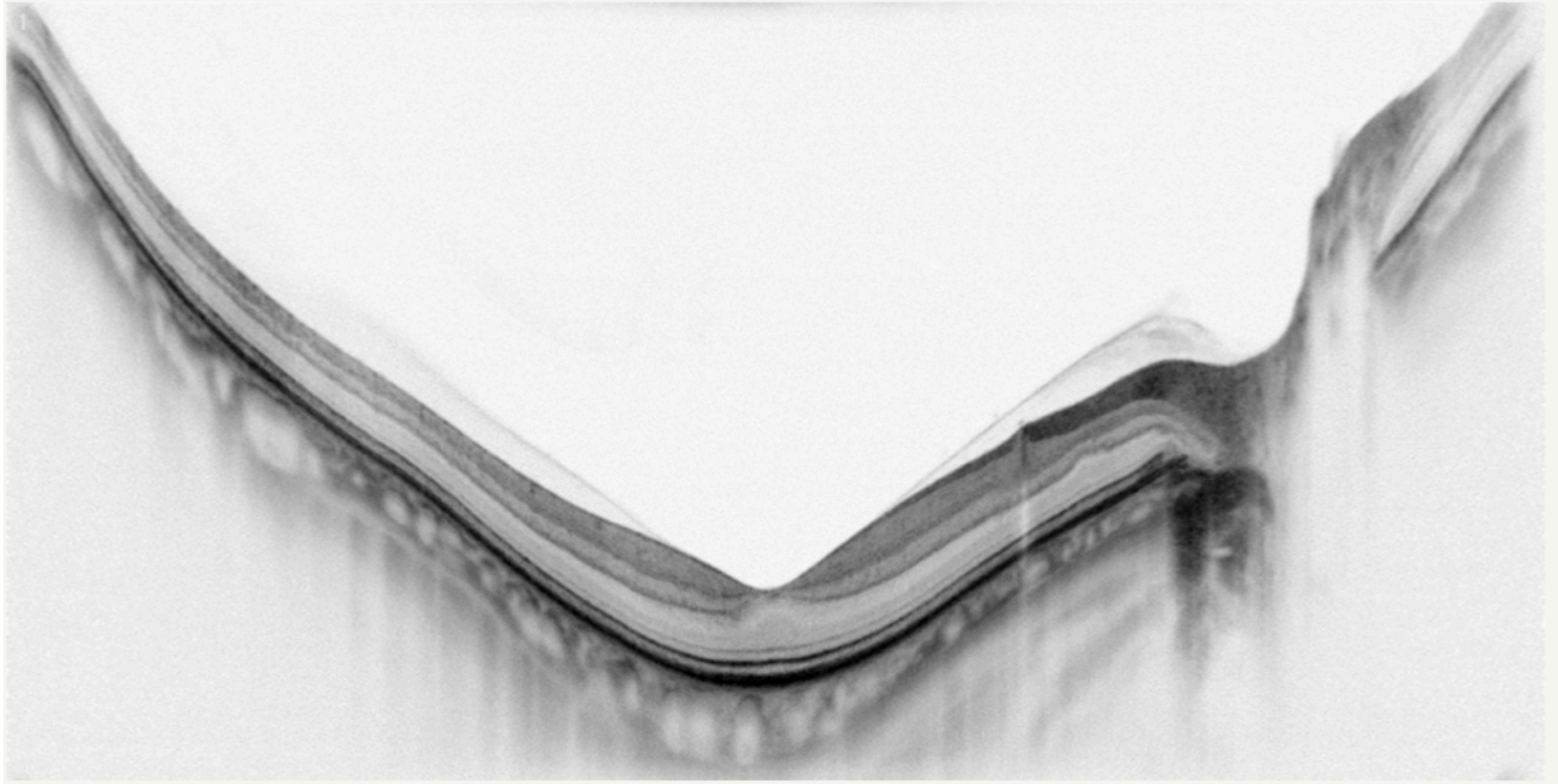


Stage 3: Vitreofoveal separation with adhesion at ONH

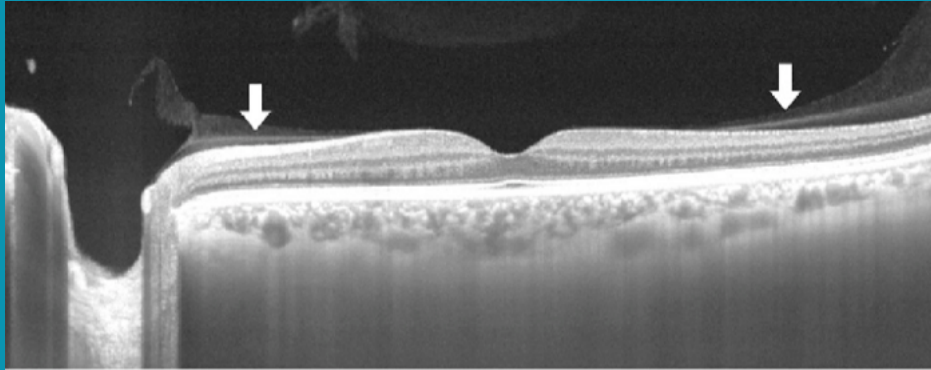
Complete Posterior Vitreous Detachment







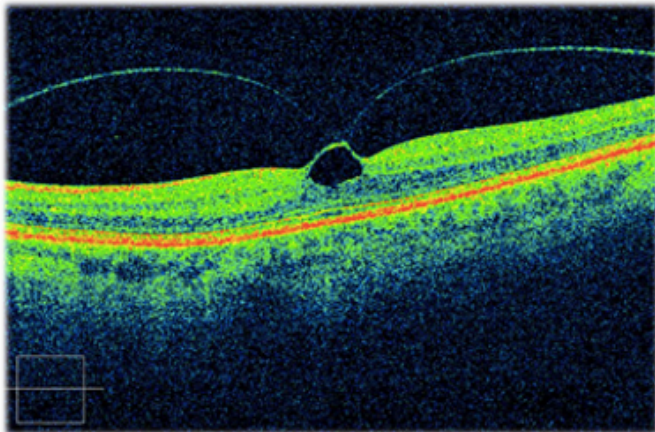
Vitreous behavior in a high myope



Vitreomacular Adhesion:
Paramacular PVD:

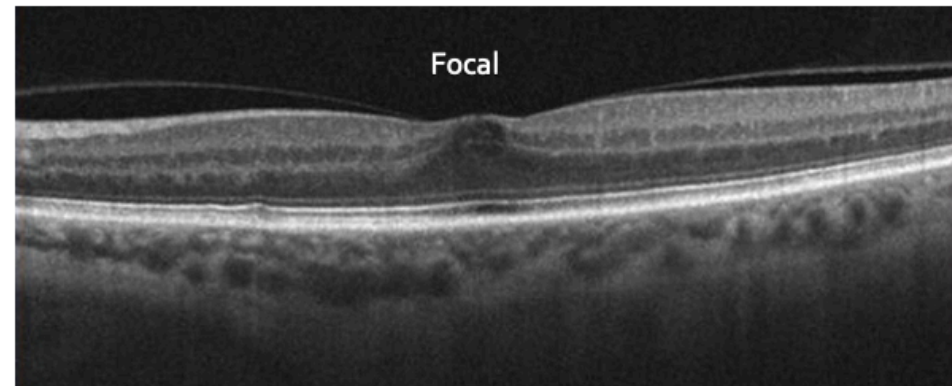
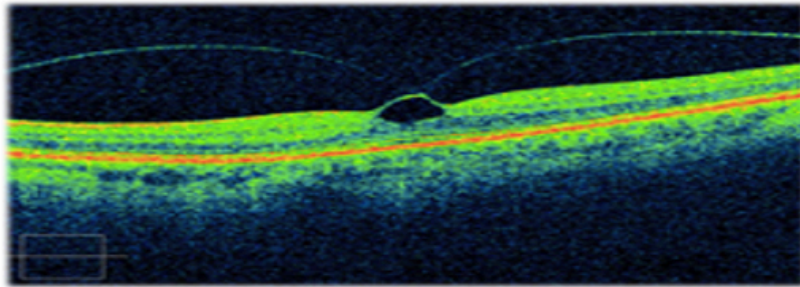
How do we
classify
Vitreomacular
Adhesion?

Vitreomacular Traction

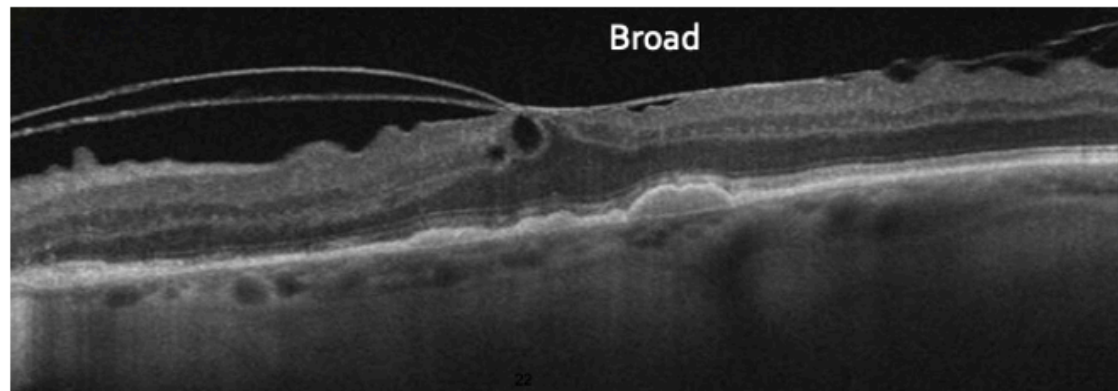
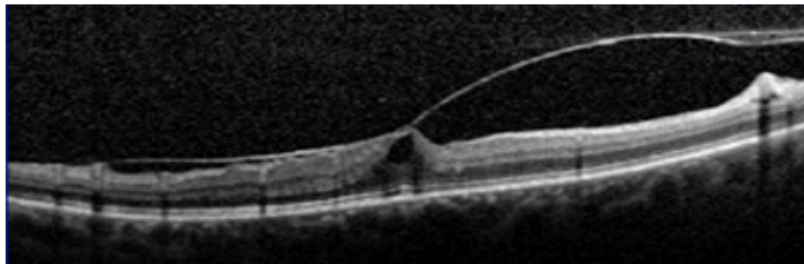


Attachment of the vitreous cortex to the macula within a 3 mm radius of the fovea resulting in distortion of the foveal surface

Focal VMT: <1500 μm

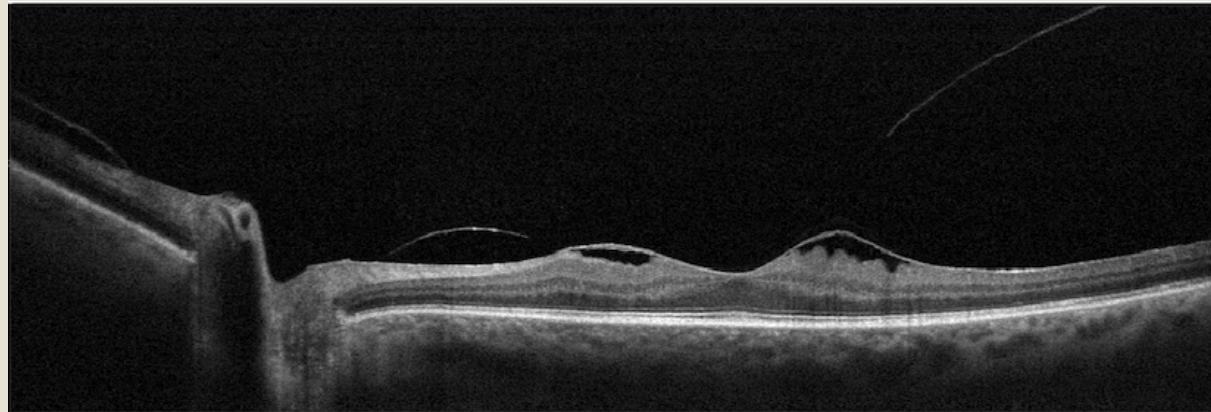


Broad VMT: >1500 μm

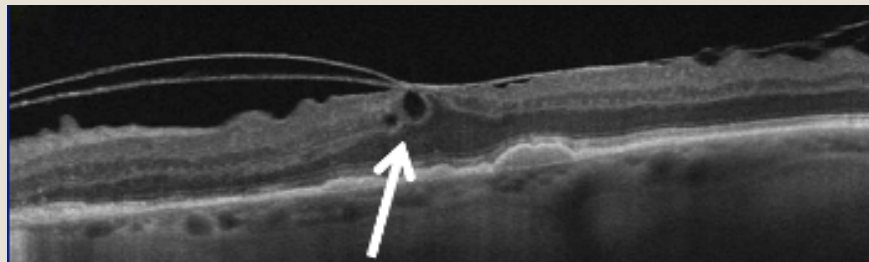


Isolated versus Concurrent

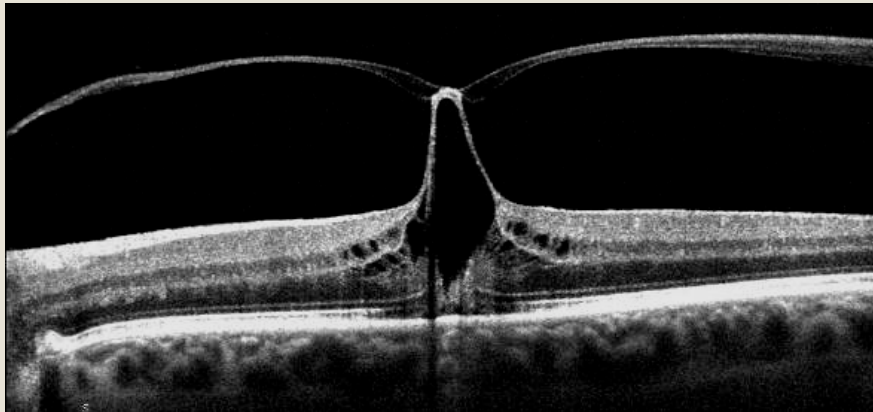
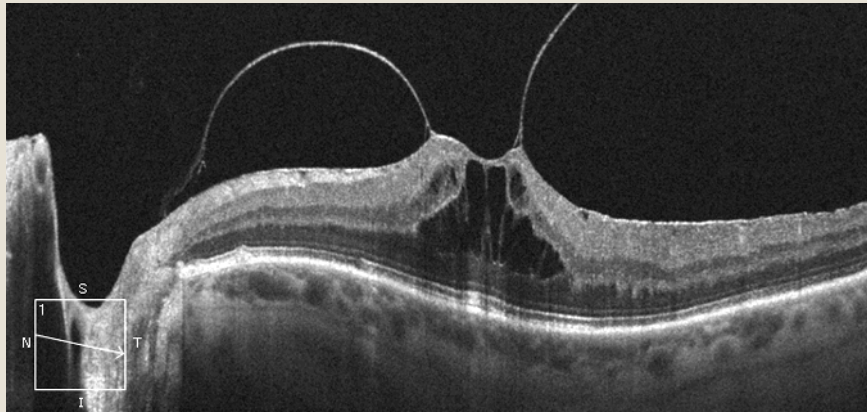
Isolated



Concurrent



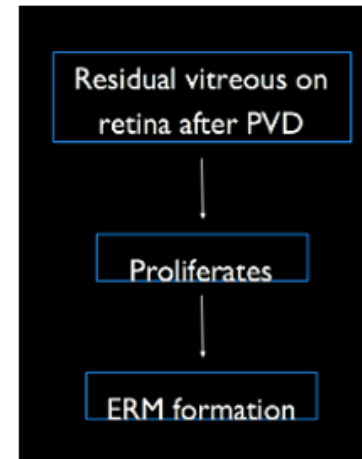
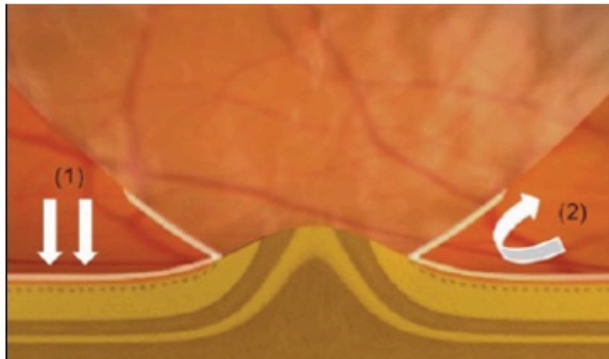
Which eye has the better visual prognosis?



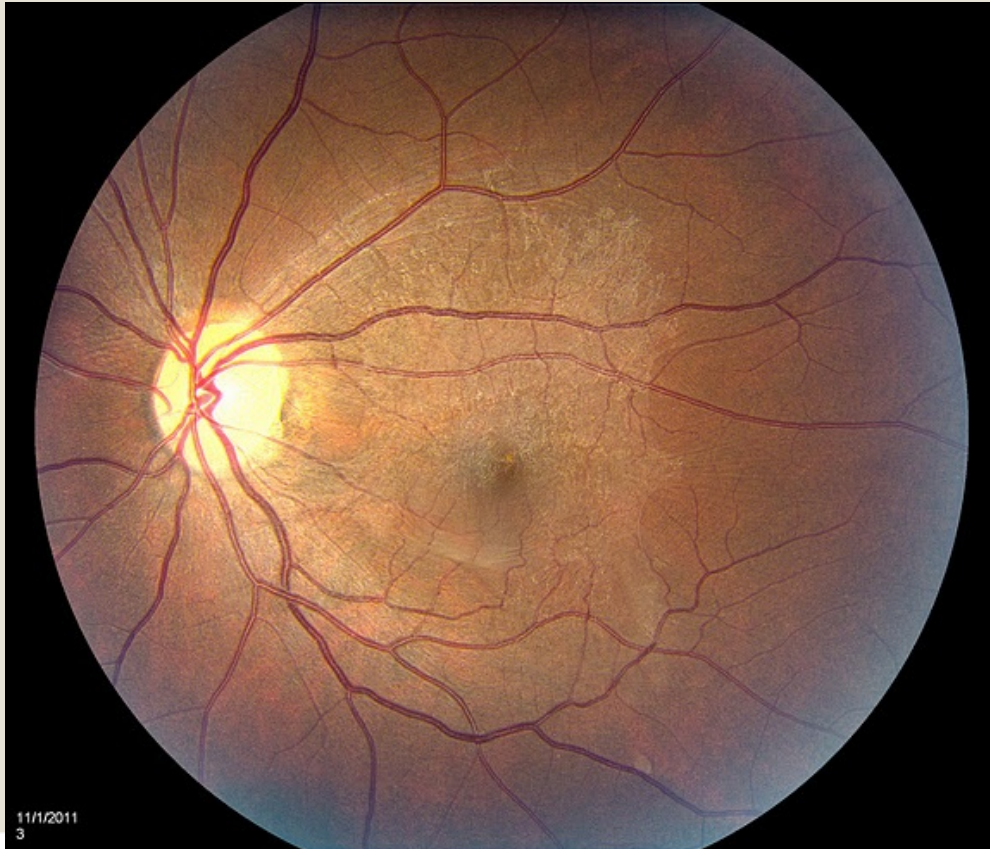
- ❖ Focal or Broad??
- ❖ Isolated or Concurrent?
- ❖ Integrity of PIL?

With PVD progression, residual vitreous tissue is left on inner retinal surface...

Residual vitreous proliferates to form ERM



Epiretinal membrane: Grade 1

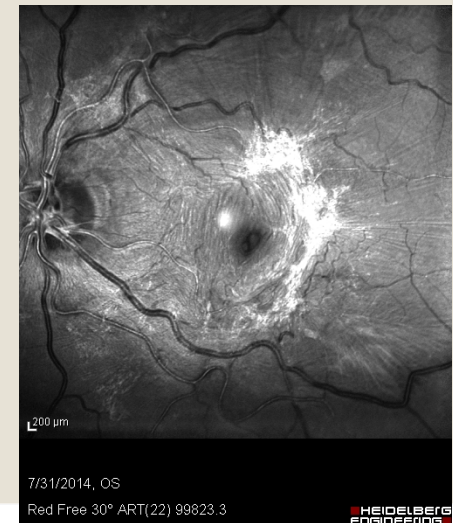


A cellophane-like sheen is observed over the macular area, causing very *mild wrinkling* of the inner retinal surface, with *little or no modification of retinal vessel trajectory*. These membranes are rarely symptomatic.

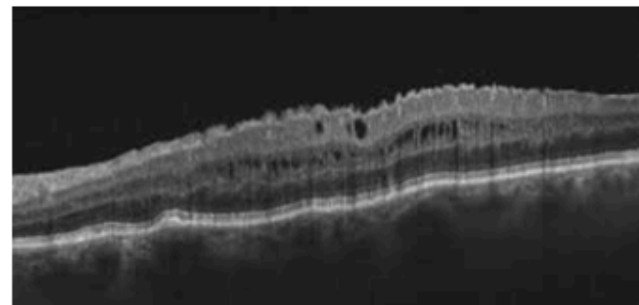
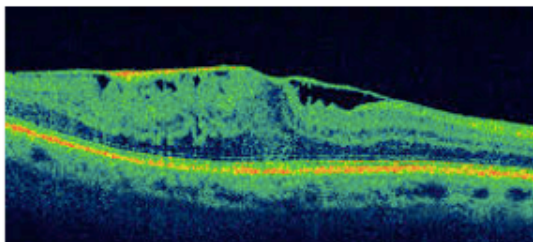
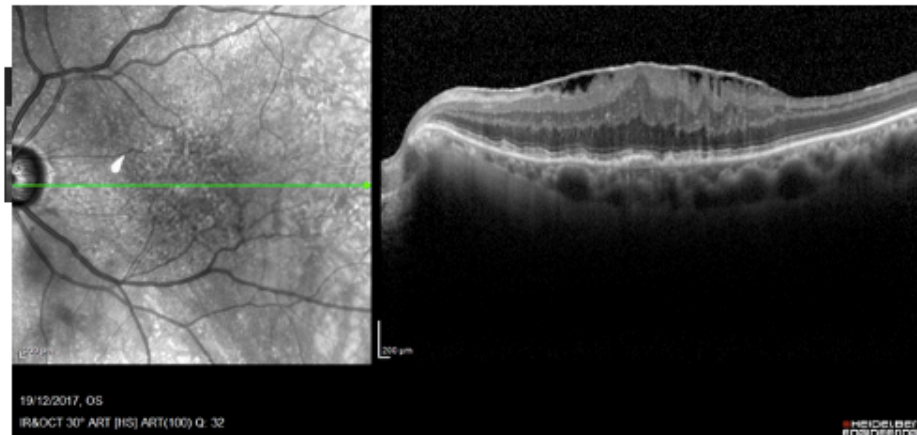
Epi-retinal membrane: Grade 2

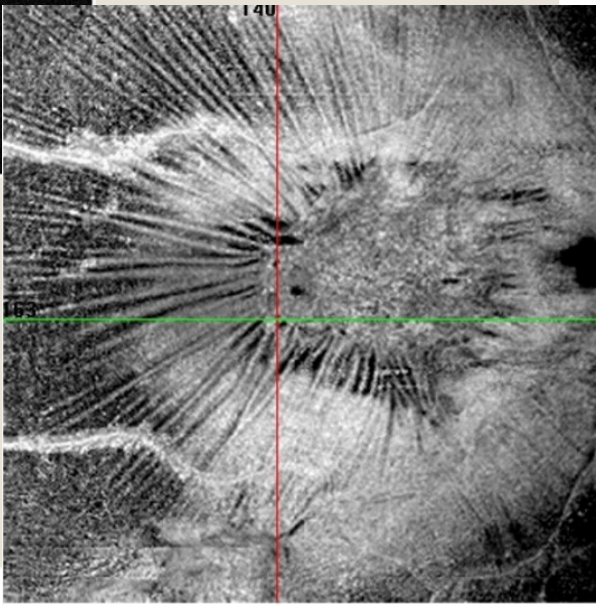
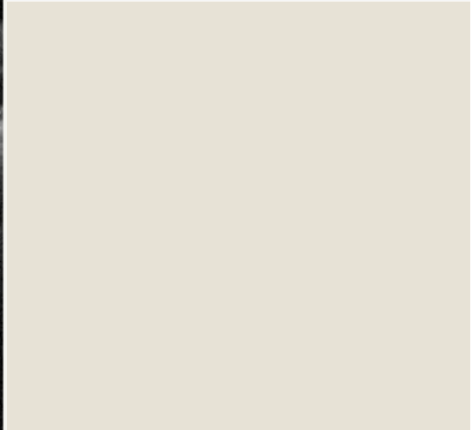
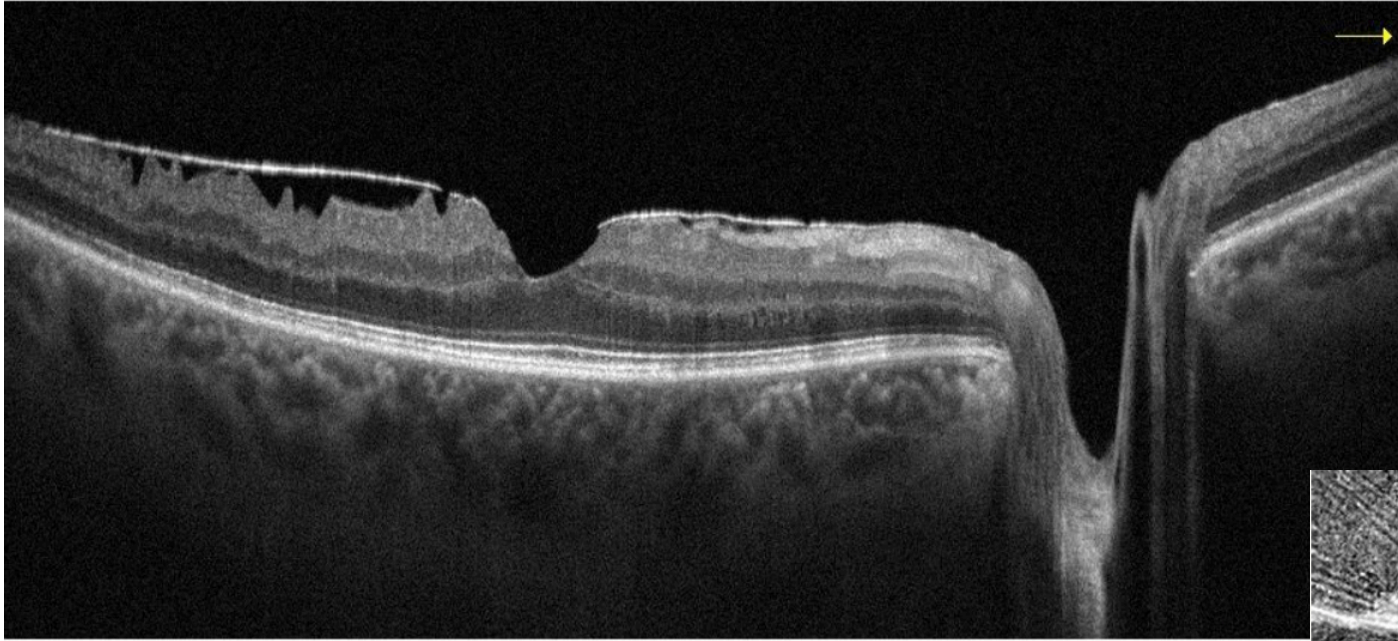


Fibrous tissue is observed over the macular area, causing significant wrinkling of the retinal surface and modification of the retinal vessel trajectory.

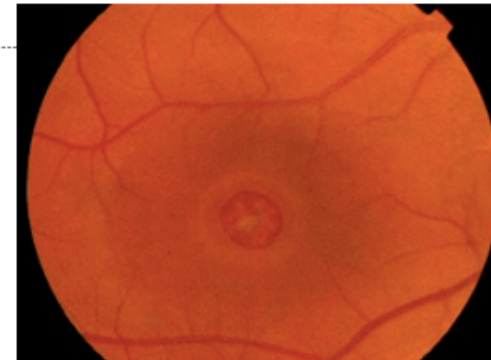
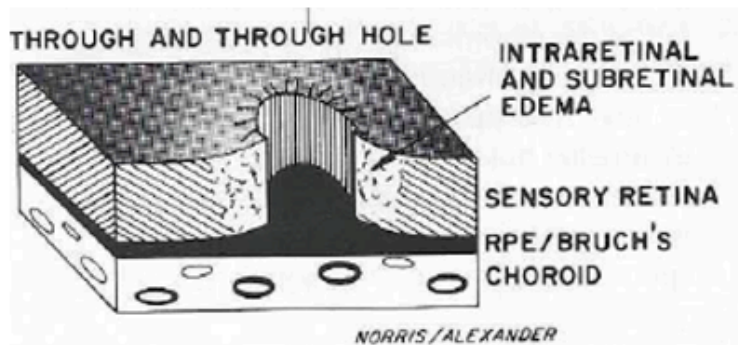


Epiretinal Membrane: OCT

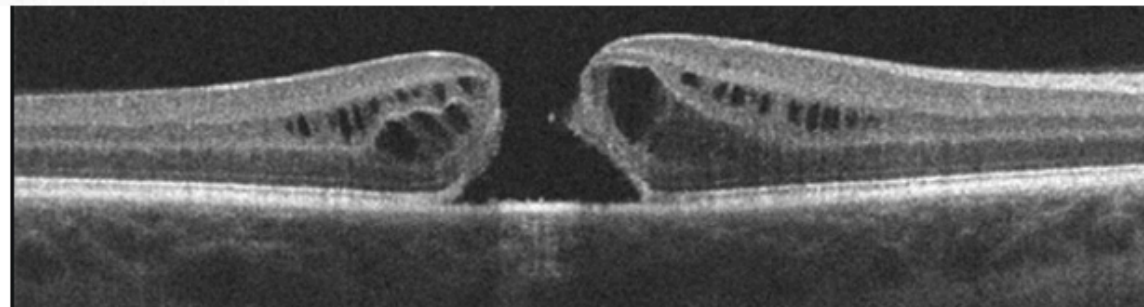




Full Thickness Macular Hole



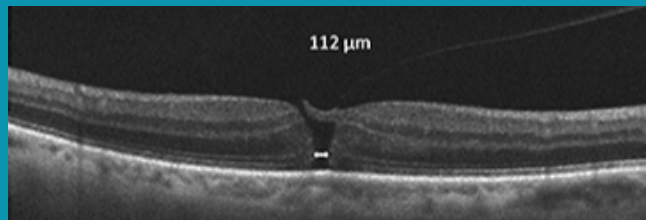
Defect spans entire width of neurosensory retina



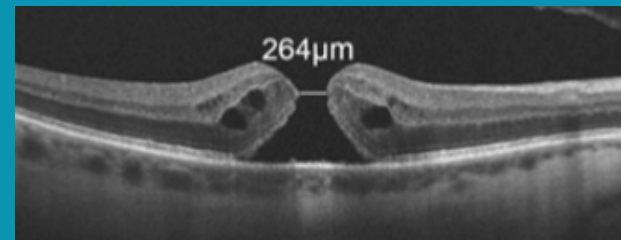
Small: Full thickness defect; ≤ 250 μm

Medium: Full thickness defect; >250 μm and ≤ 400 μm

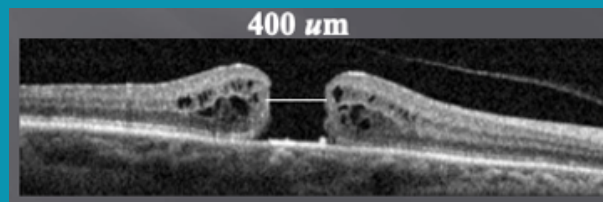
Large: Full thickness defect; >400 μm



Small

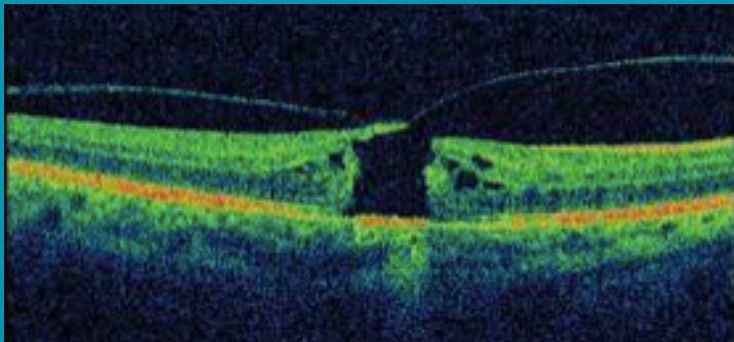


Medium

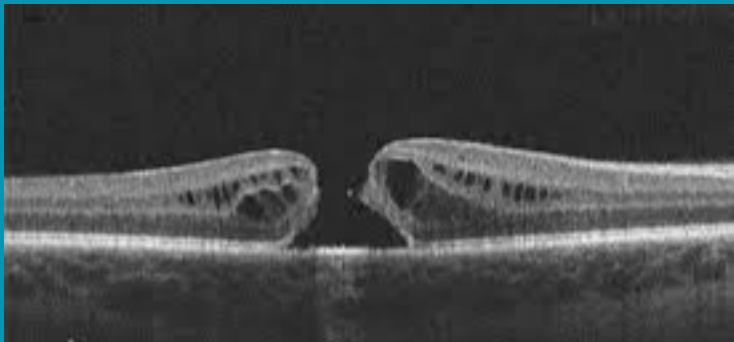


Large

Is there VMT?? Primary versus Secondary



Primary



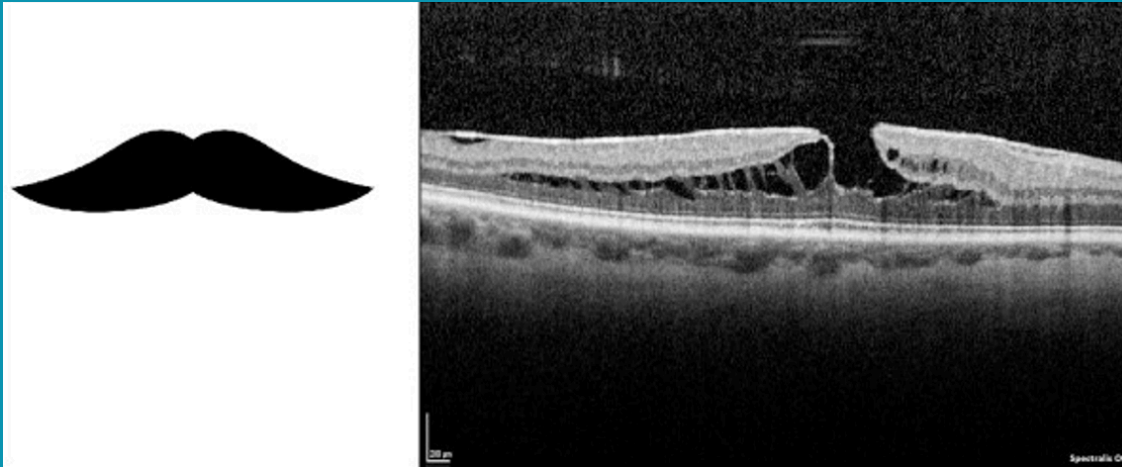
Secondary

Partial Thickness Macular Hole: Lamellar

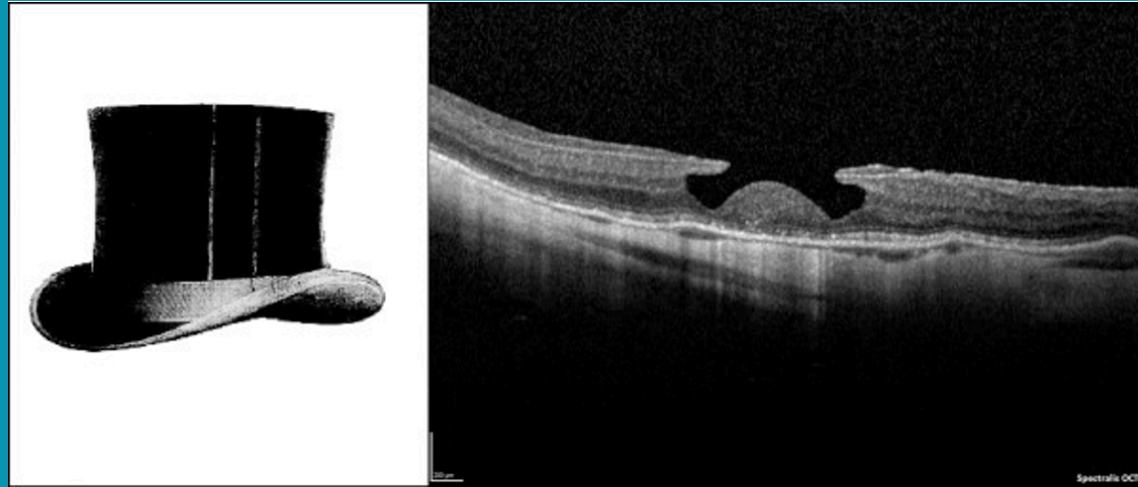
Tractional:

Epiretinal membrane

Foveal schisis



Partial Thickness Macular Hole: Lamellar



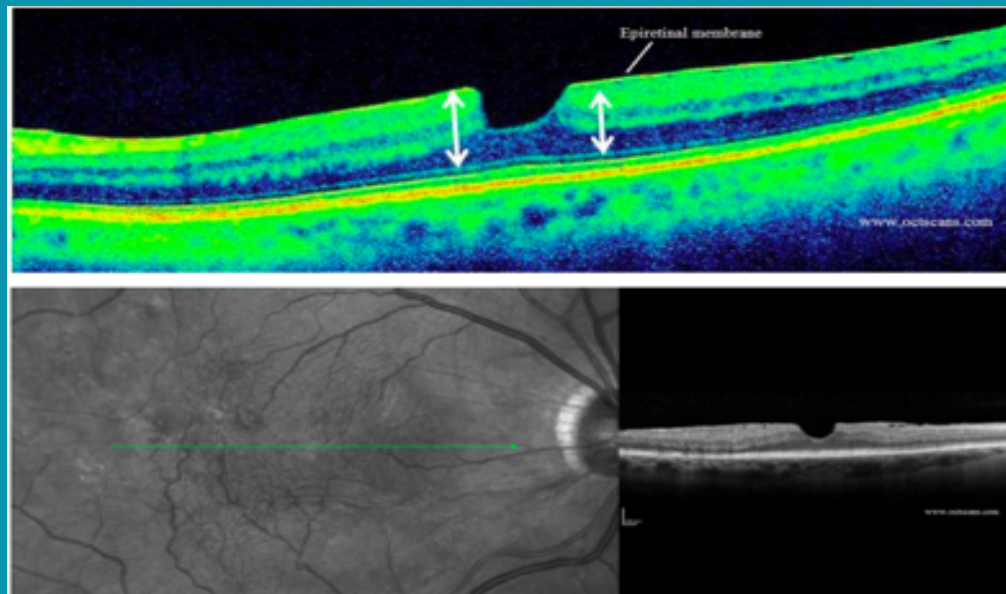
Degenerative:

Epiretinal proliferation

Round edges

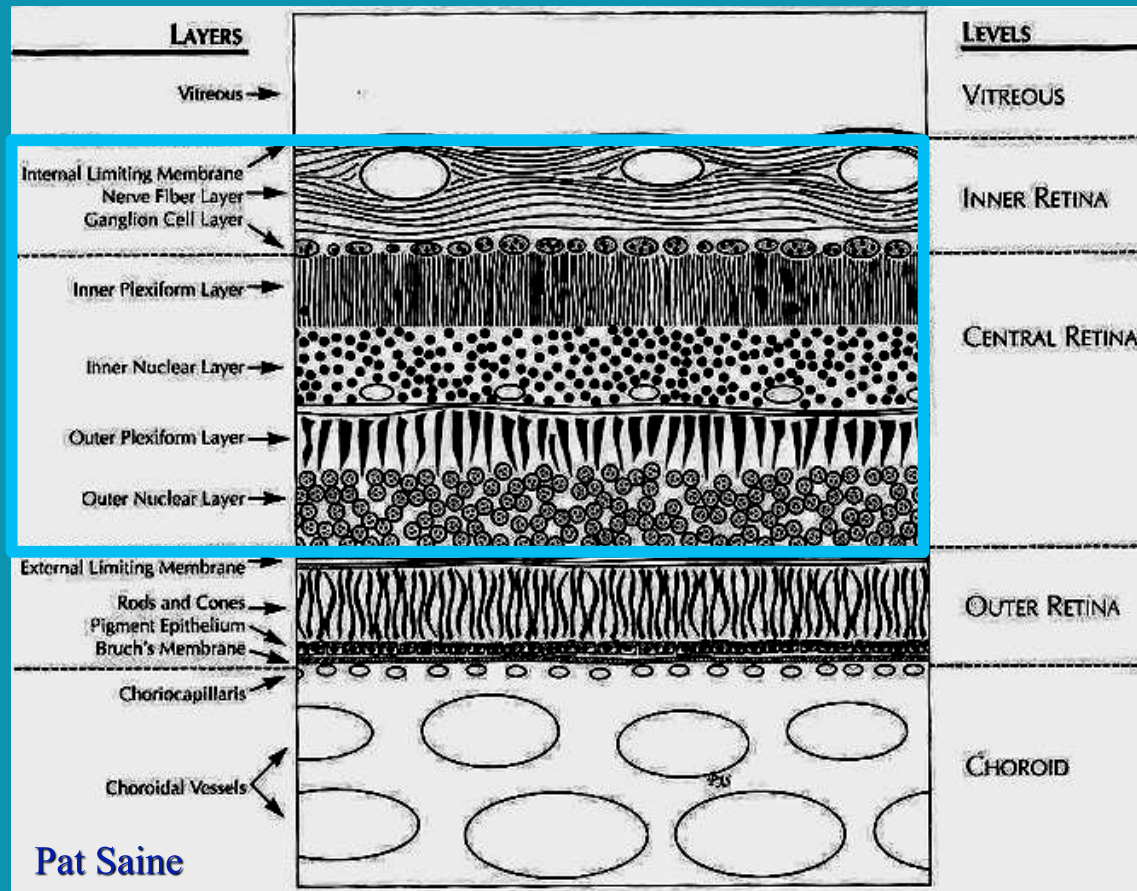
Incomplete break

Partial Thickness Macular Hole: Pseudohole





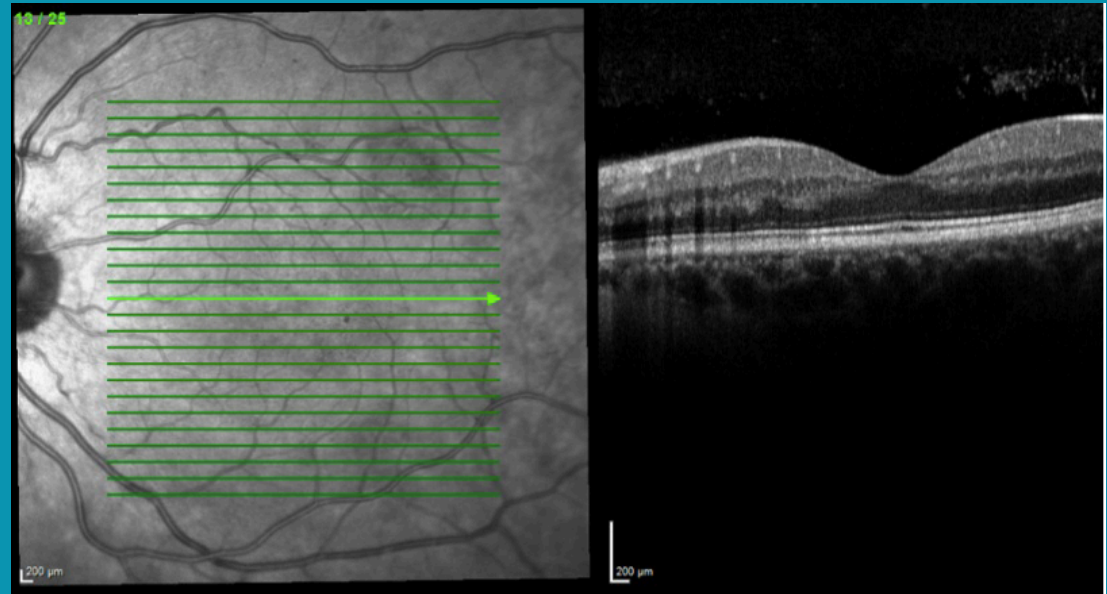
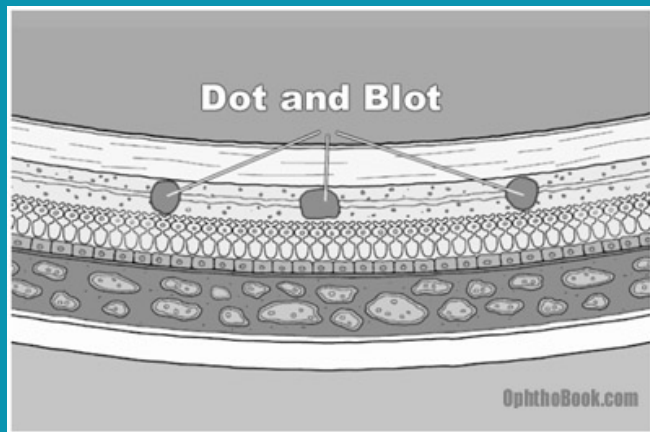
INNER RETINAL DISEASE



Diabetic Retinopathy: Non-Proliferative

Hemorrhage: HYPER-reflective

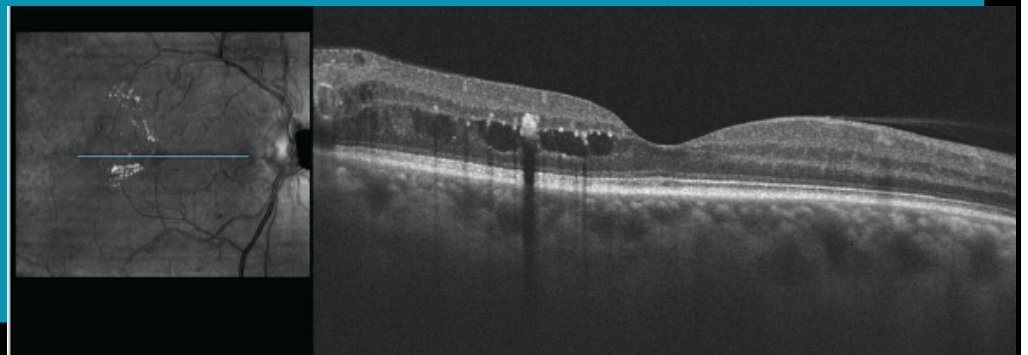
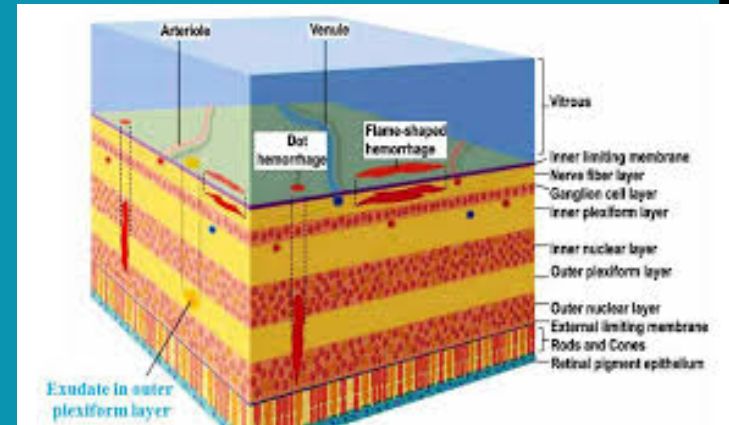
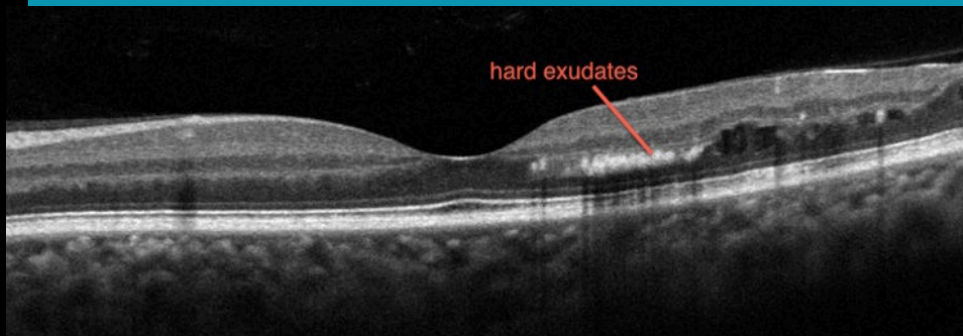
** Check the layer ** *

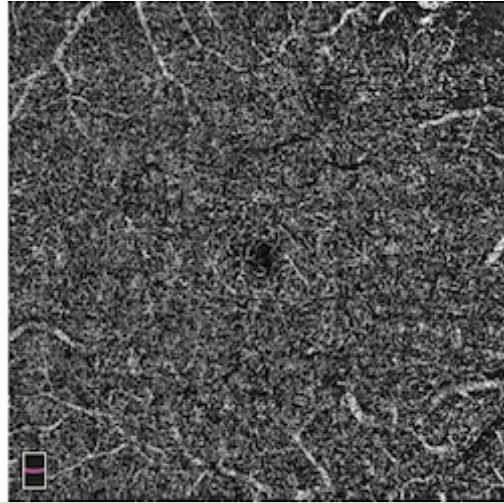
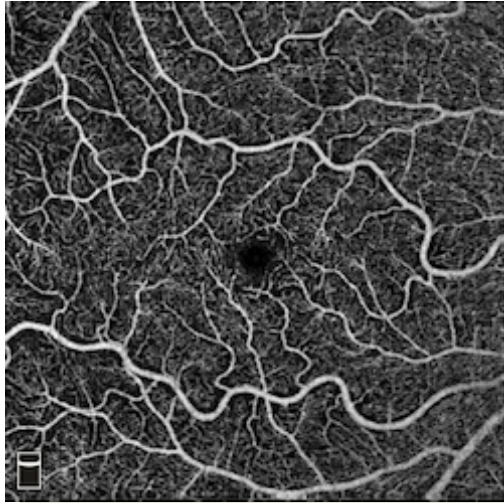


Diabetic Retinopathy: Non-Proliferative

Exudate: HYPER-reflective

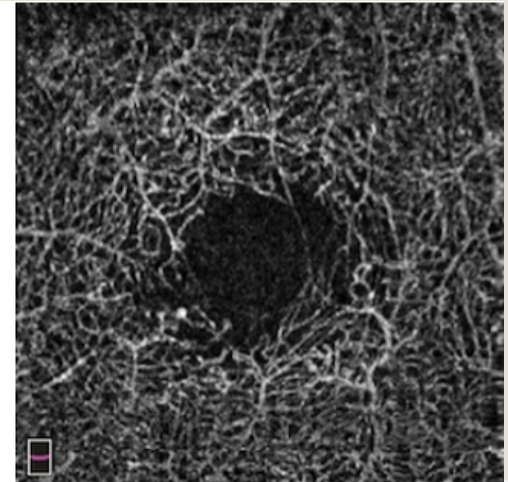
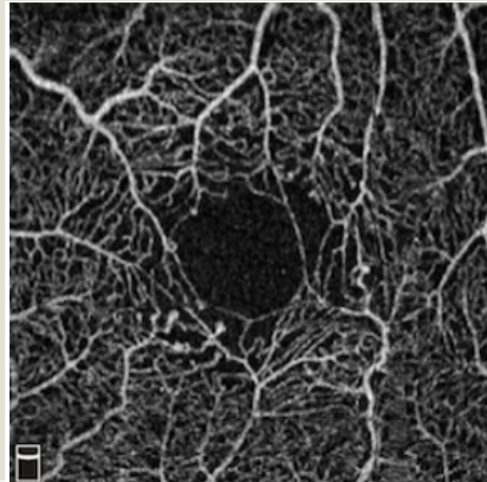
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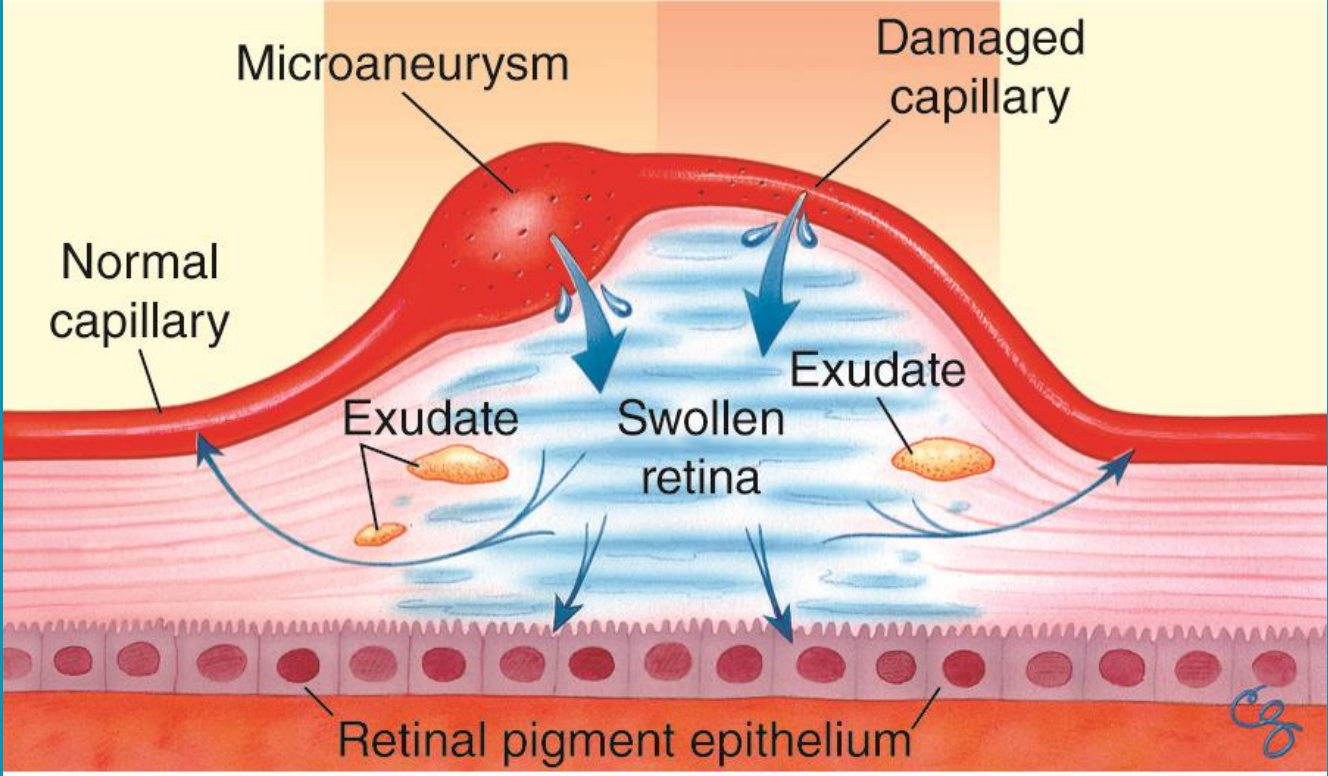


Normal: SCP/DCP

What about OCTA in NPDR?

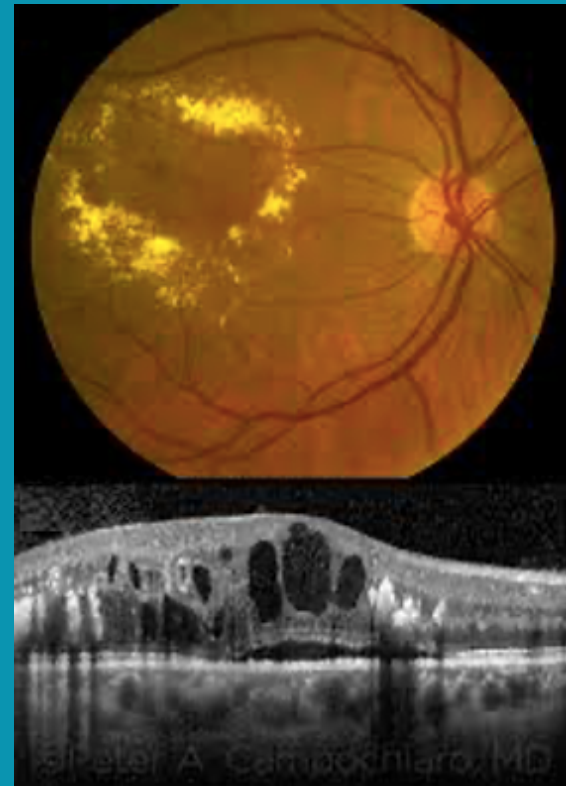
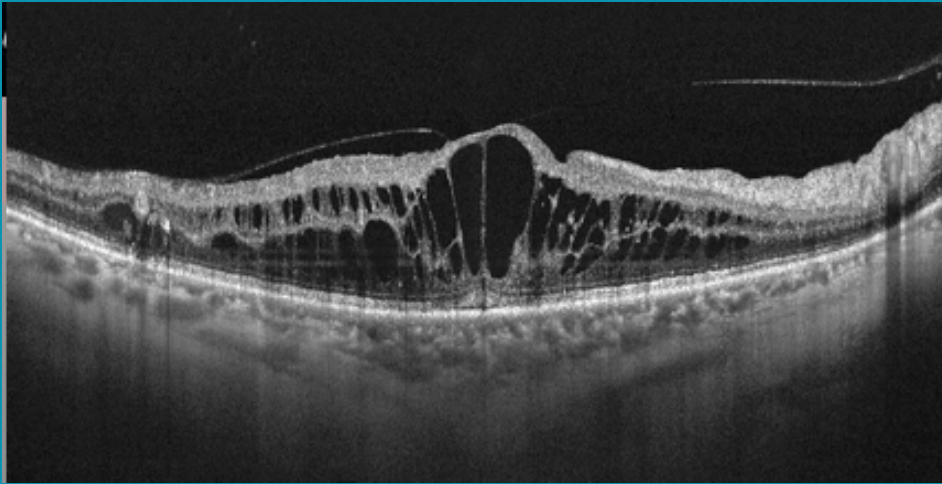


Diabetic Retinopathy: Macular Edema

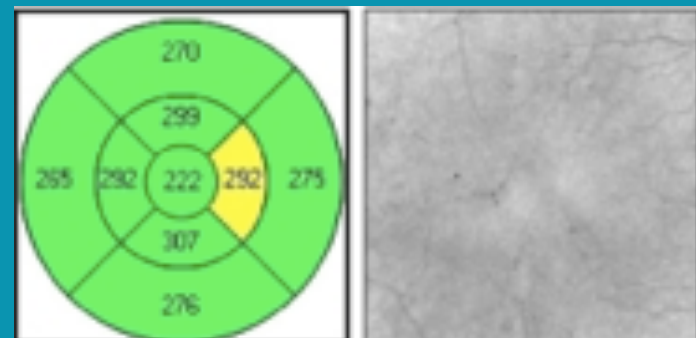
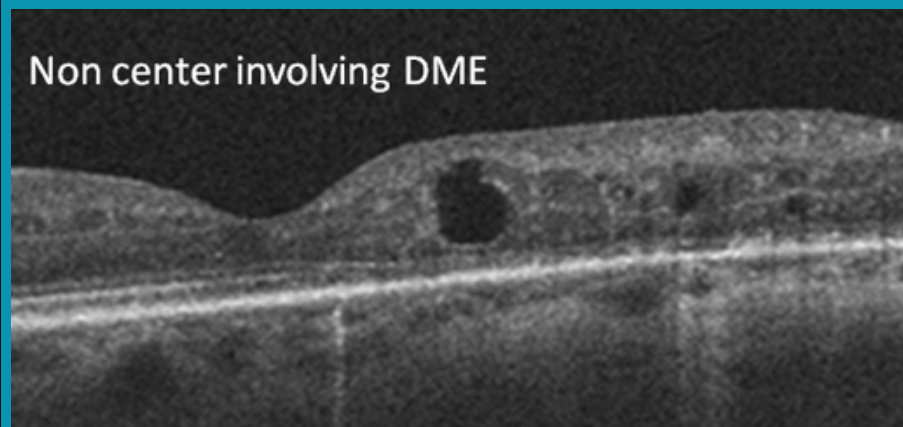
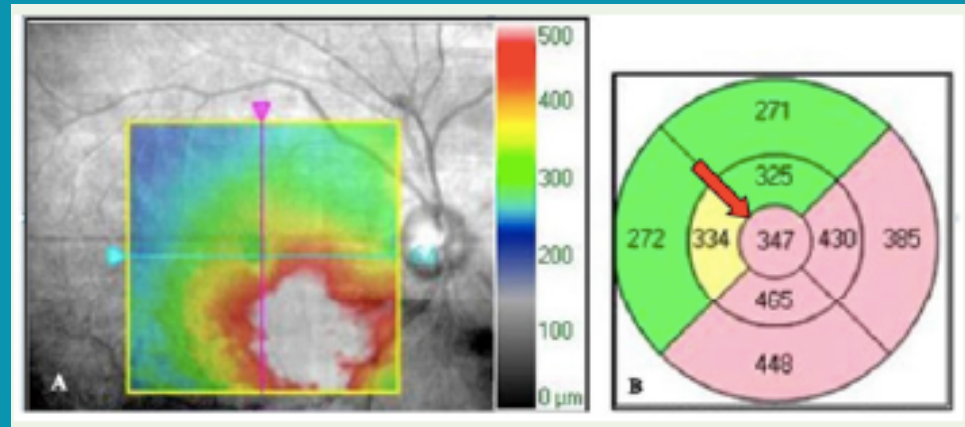
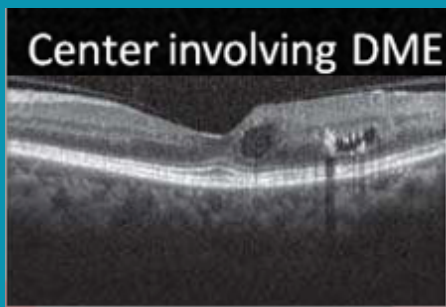


Diabetic Retinopathy: Macular Edema

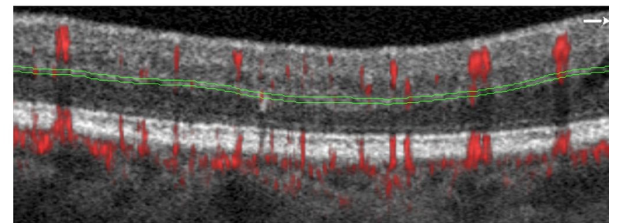
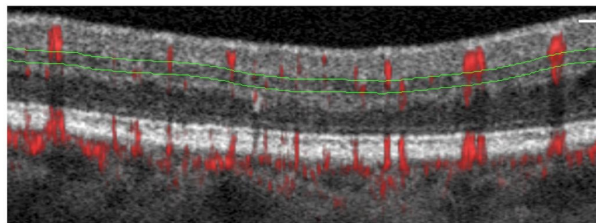
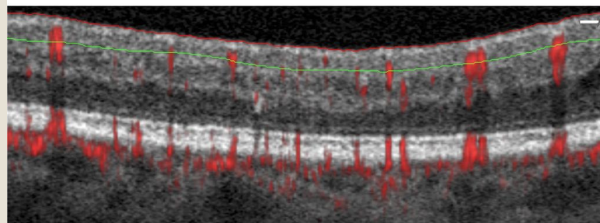
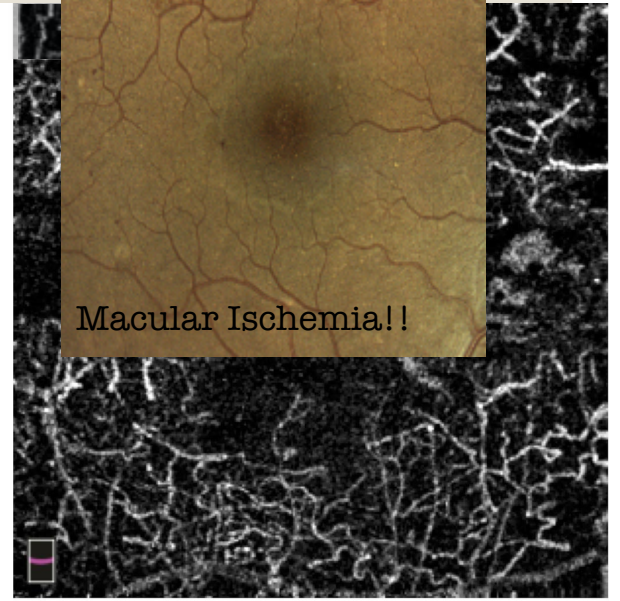
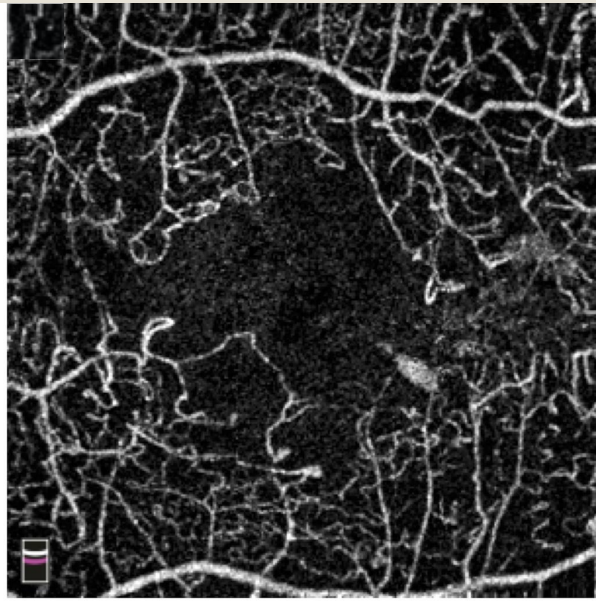
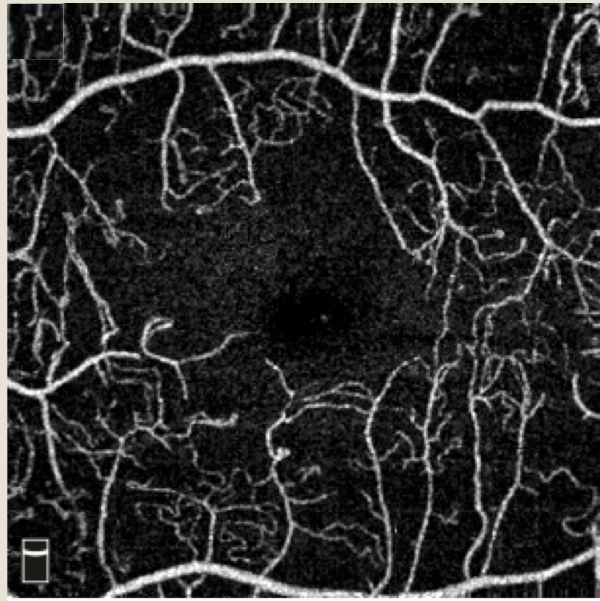
HYPO-Reflective: Serous Fluid



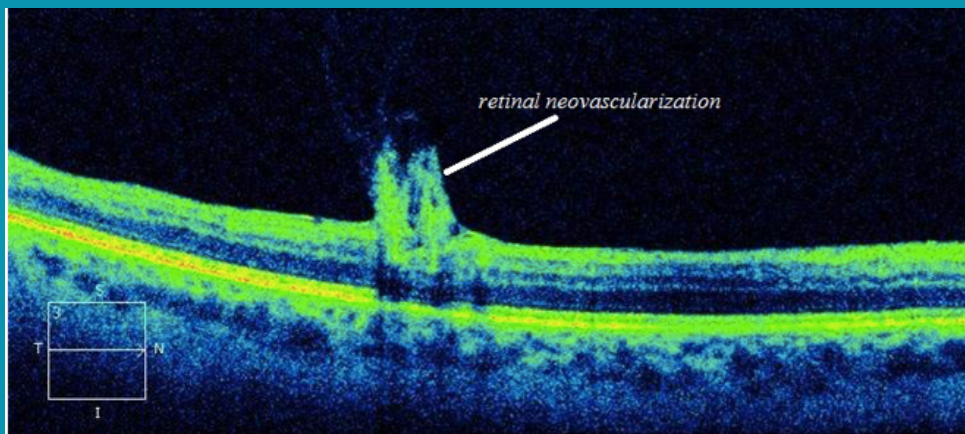
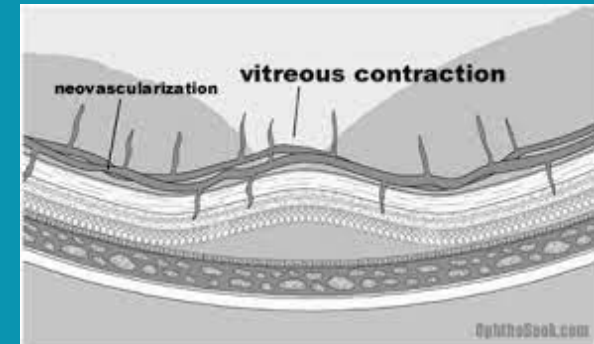
Macular Edema: CI versus NCI



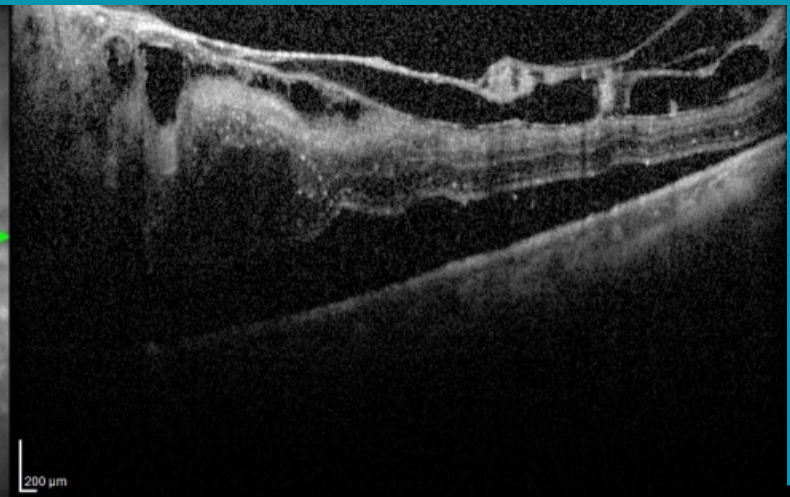
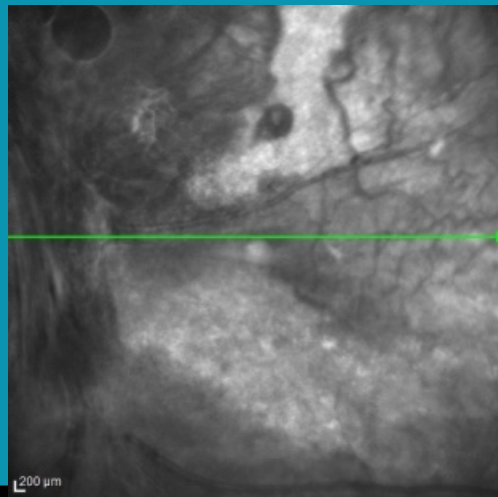
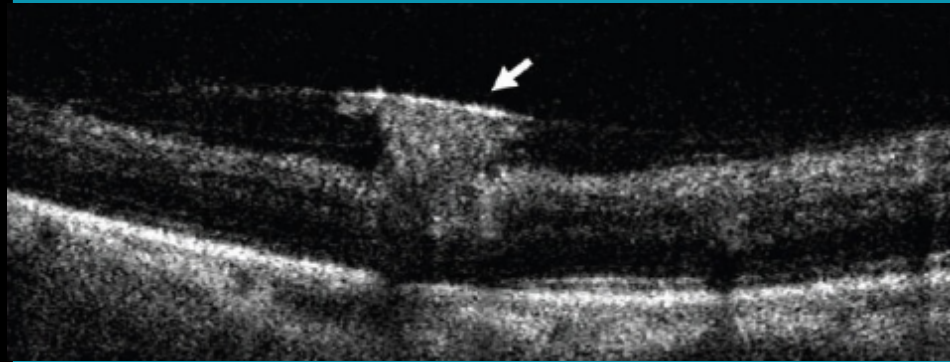
Ancillary Testing: OCTA



Diabetic Retinopathy: Proliferative



Diabetic Retinopathy: Proliferative

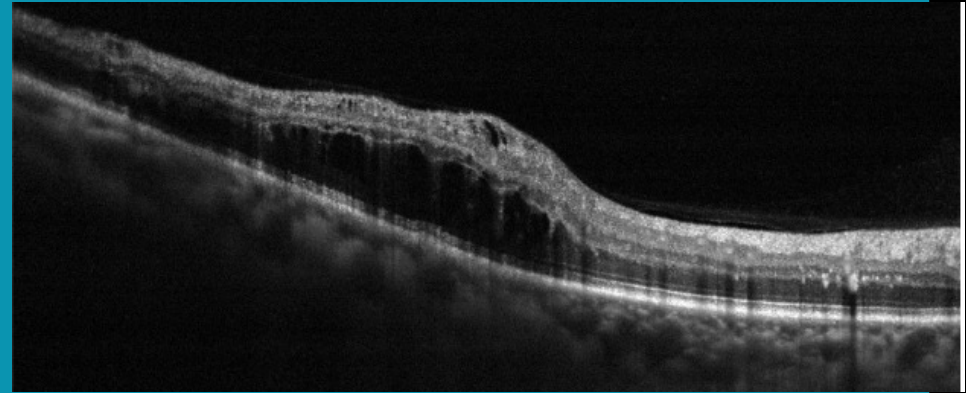
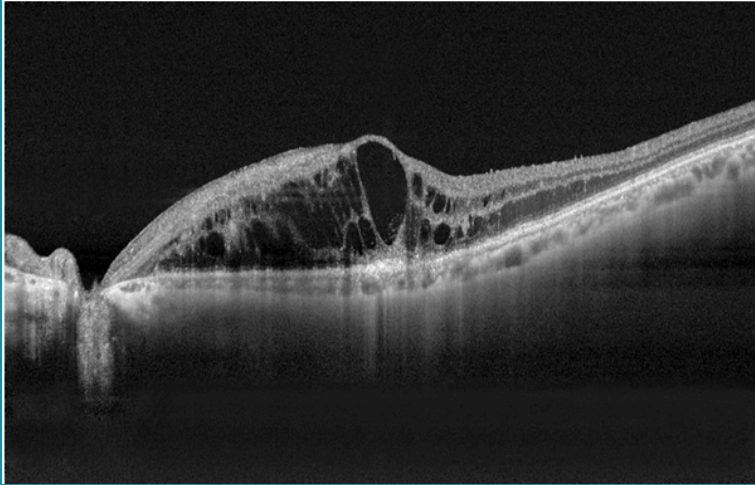


<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4220398/figure/fig1>

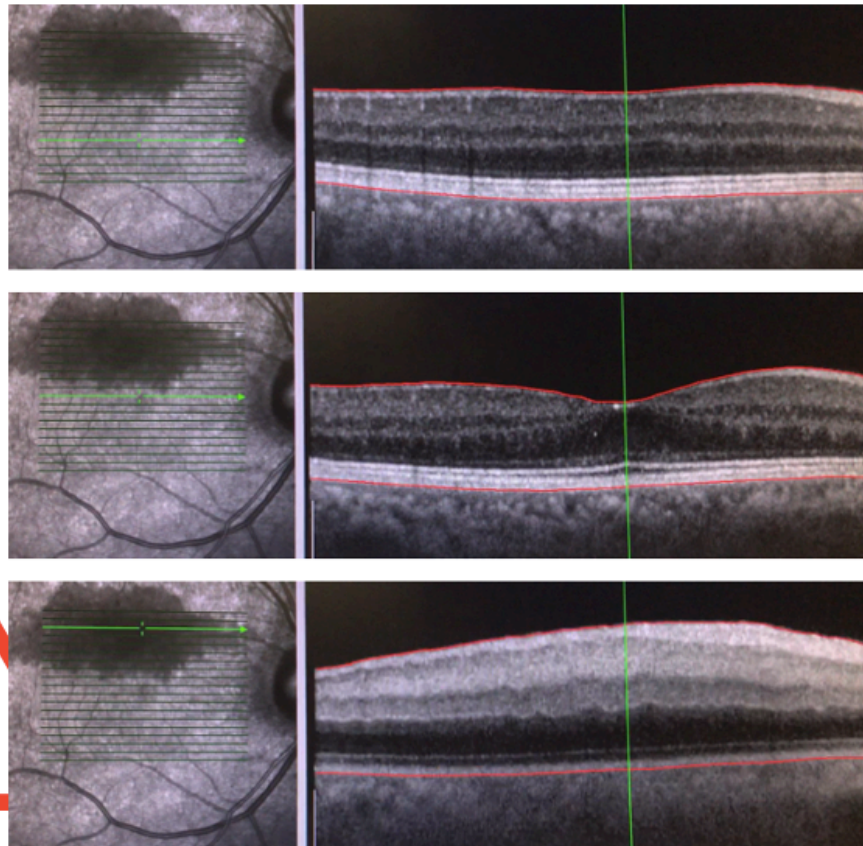
https://openi.nlm.nih.gov/details/id/PMC4220398_OJID-7126-g006&qer=y&busis=&h=x&req=4&simCollection=PMC4603217_Jou-2013-0033-g003

https://www.topcon-medical.it/files/local_IT/OCT_Skron/Itlon_brochure_topcon_it.pdf

Vein Occlusion

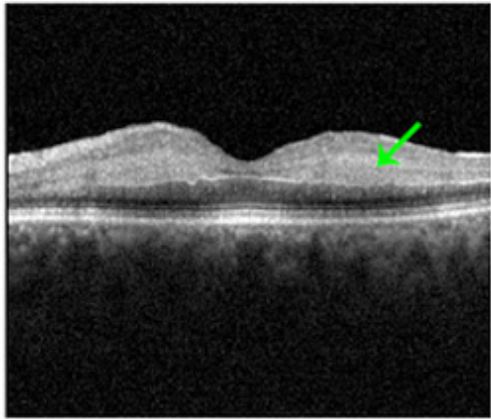
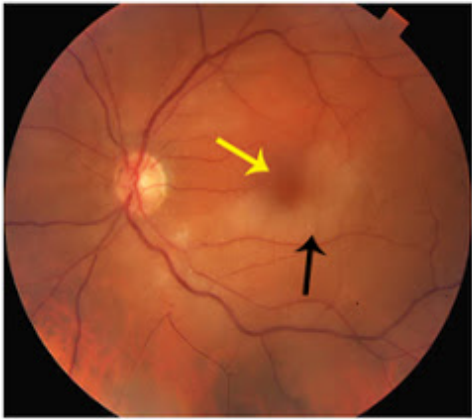


Artery Occlusion: Acute

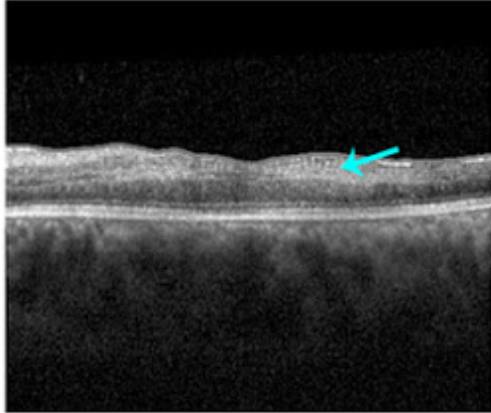
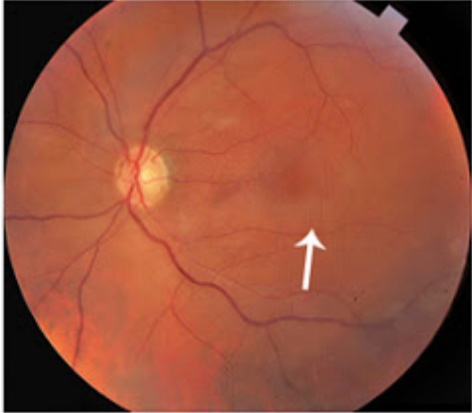


Artery Occlusion:
Chronic

2-24-2017



3-24-2017



<http://www.retinareference.com/disease/715ad78f2b76973f/images/890d99c95b/>



MACULAR TELANGIECTASIA

What is Macular Telangiectasia 2?

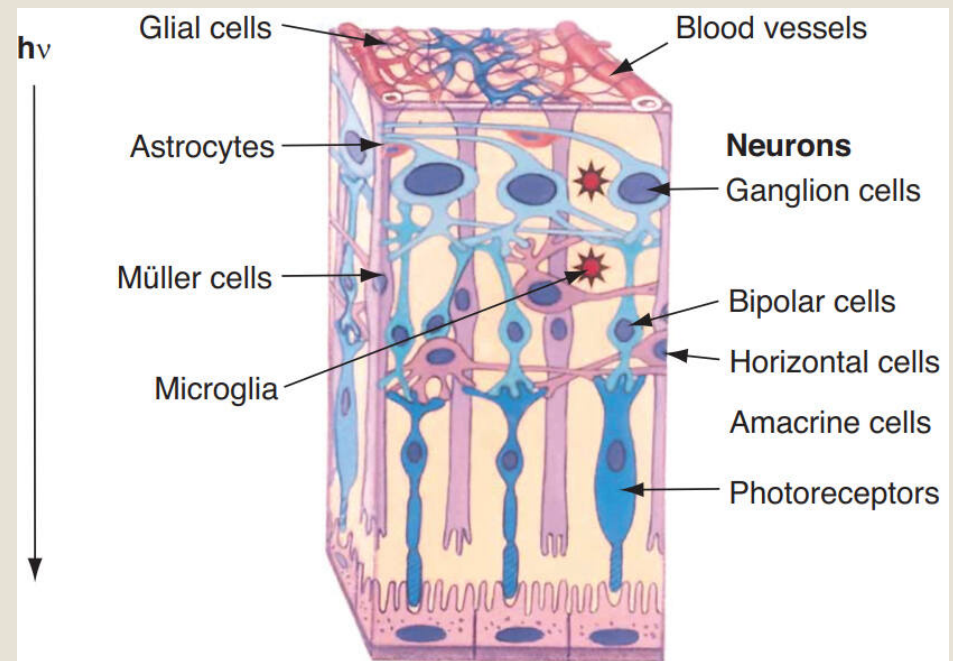
Proposed hypothesis: Neuro-degenerative disorder

1

Originates from abnormality in the Müller Cells

2

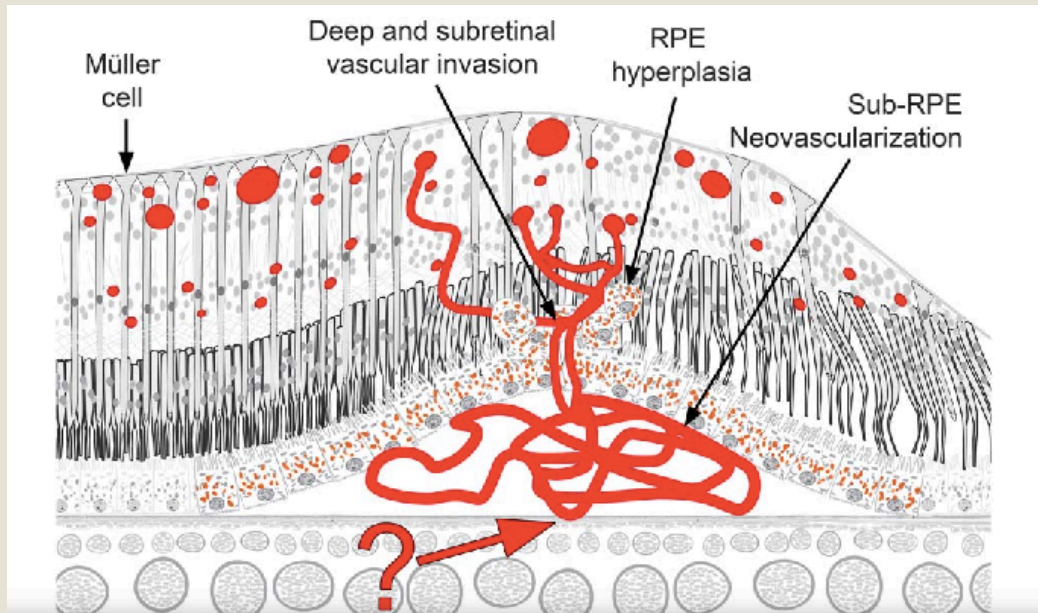
Integrity of retinal vasculature affected



The major **role** of the **Müller cells** is to maintain the structural and functional stability of **retinal cells**

What is Macular Telangiectasia 2?

Proposed hypothesis: Neurodegenerative disorder



3

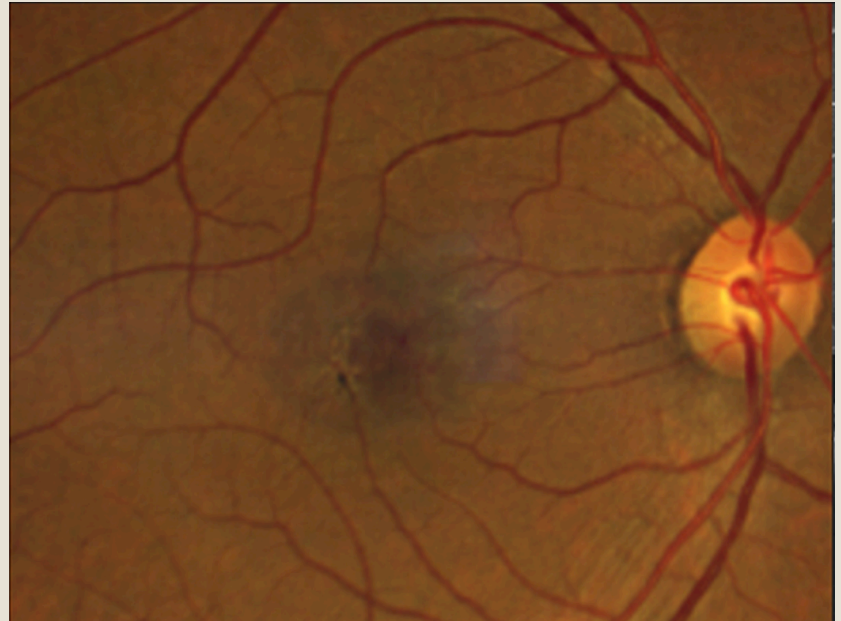
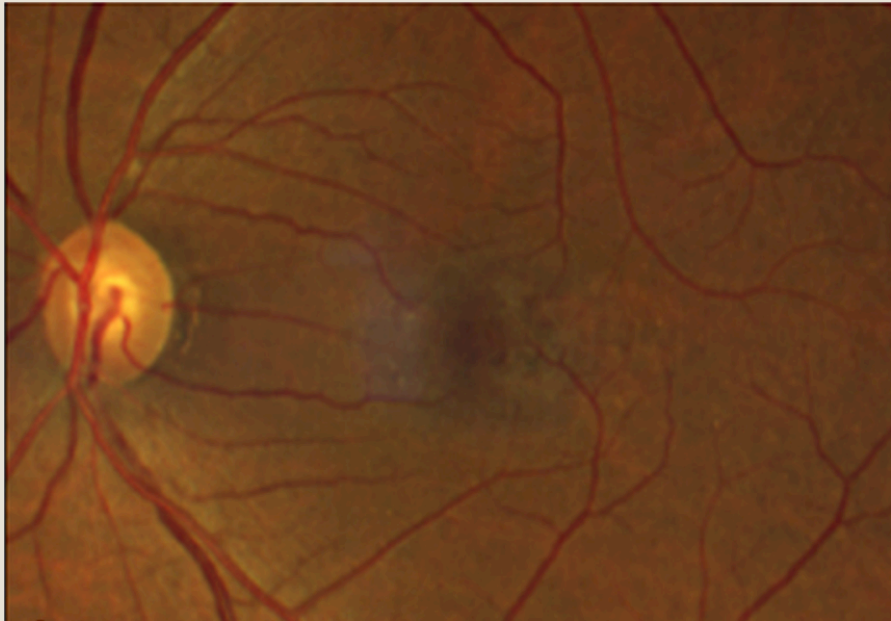
Müller cell depletion:
telangiectasia and
vessel dilation

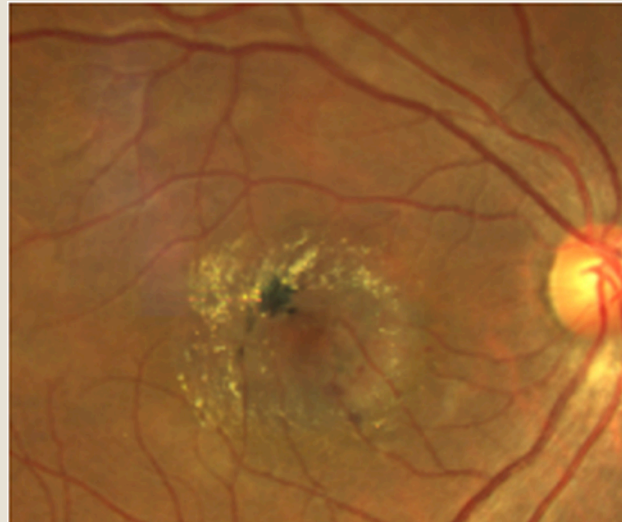
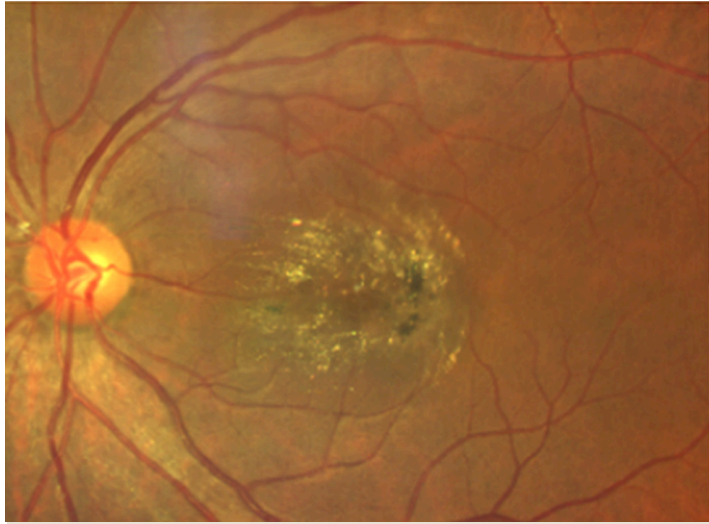
4

Photoreceptor death

5

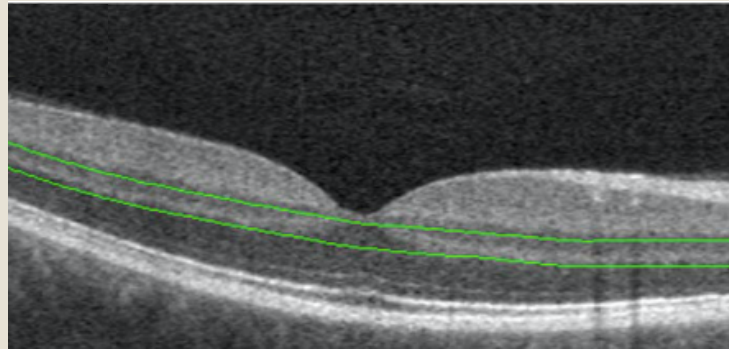
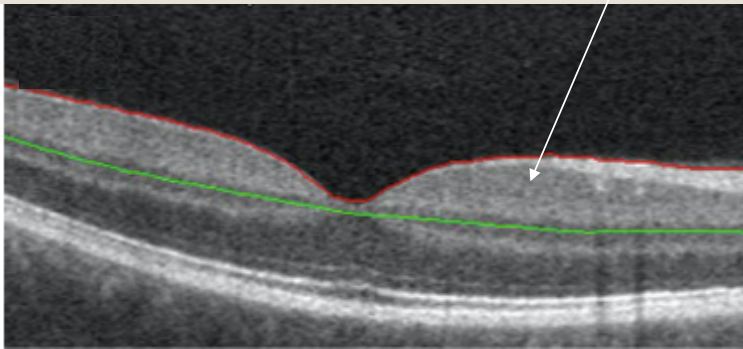
Weakening of blood
retinal barrier

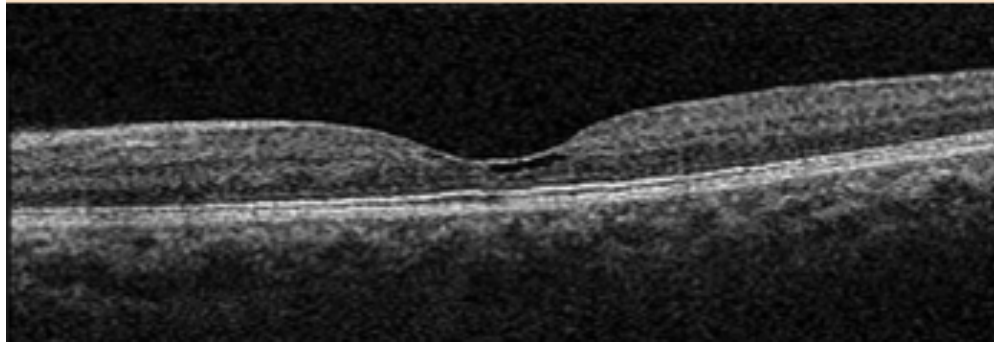




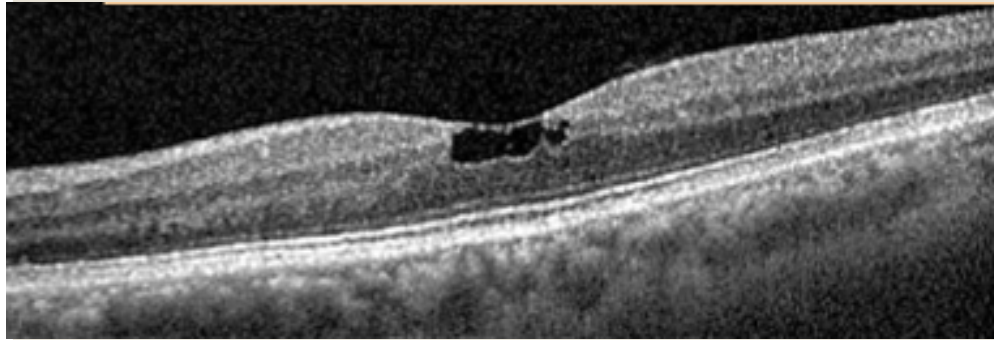
OCT: Normal

Muller Cells

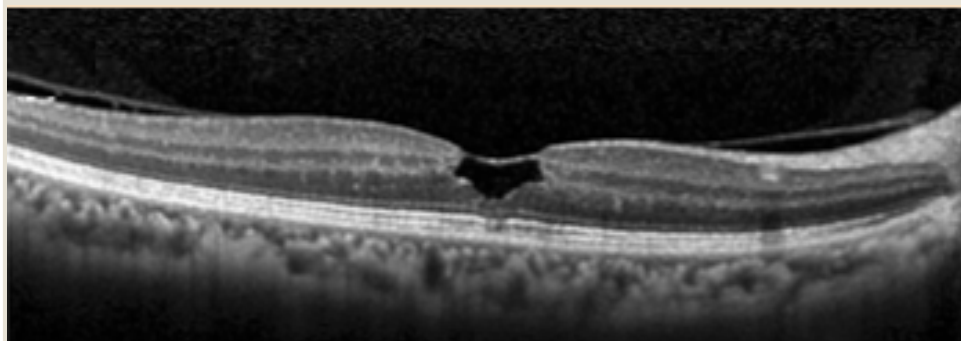




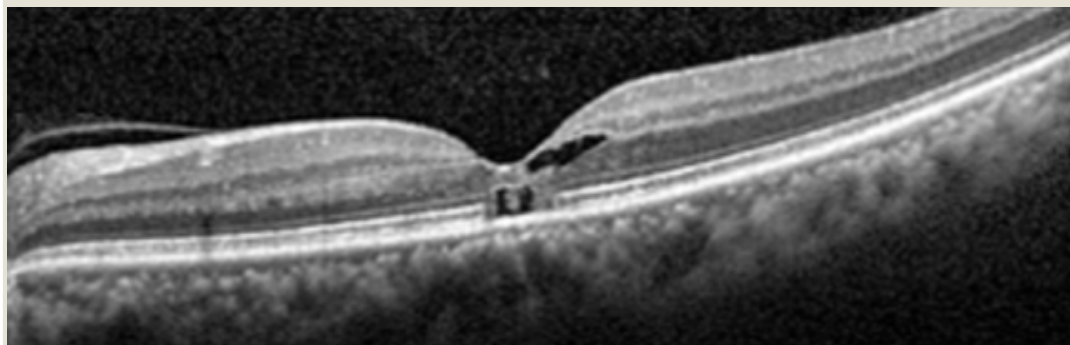
Hypo-reflective cavities in inner retina



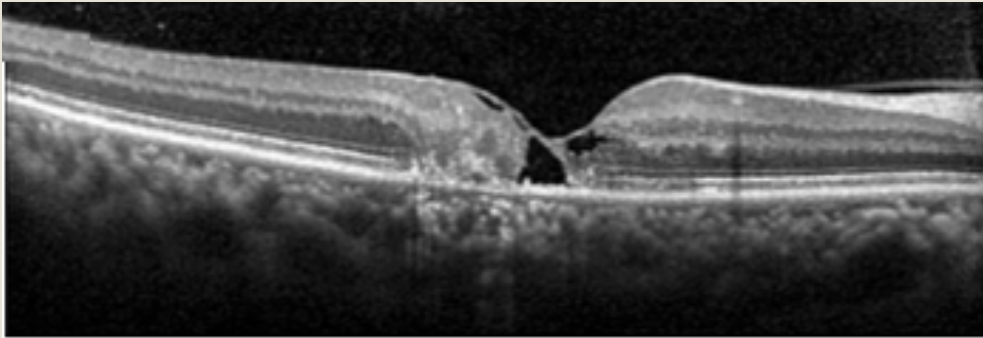
“ILM DRAPE”



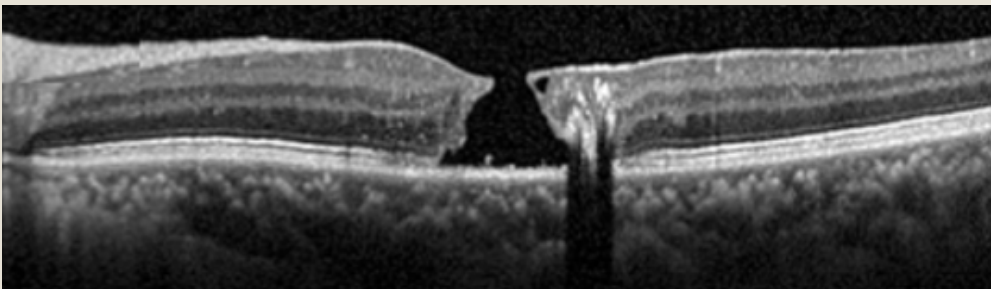
ENLARGEMENT OF
ILM DRAPE



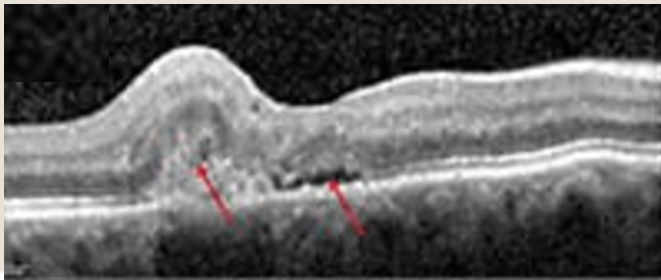
INVOLVEMENT OF
OUTER RETINA; IS/OS



CAVITY SPANS TO OUTER RETINA



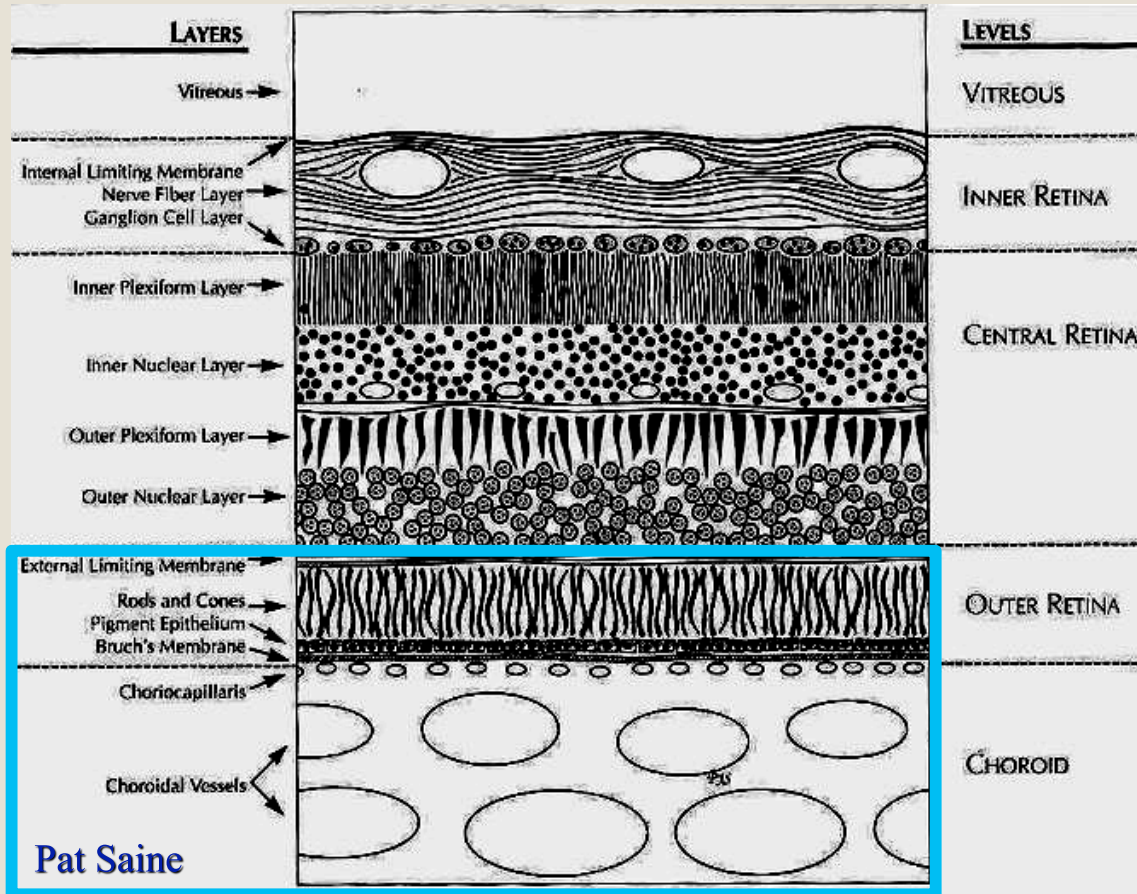
MACULAR HOLE FORMATION

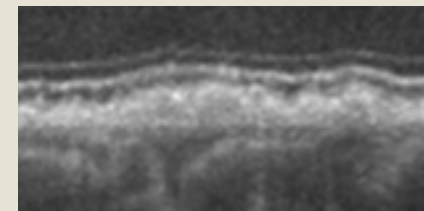
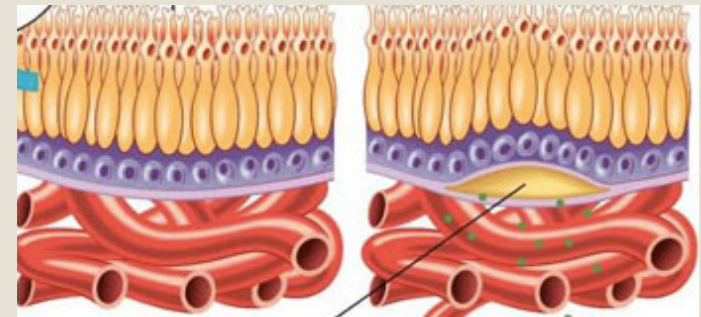
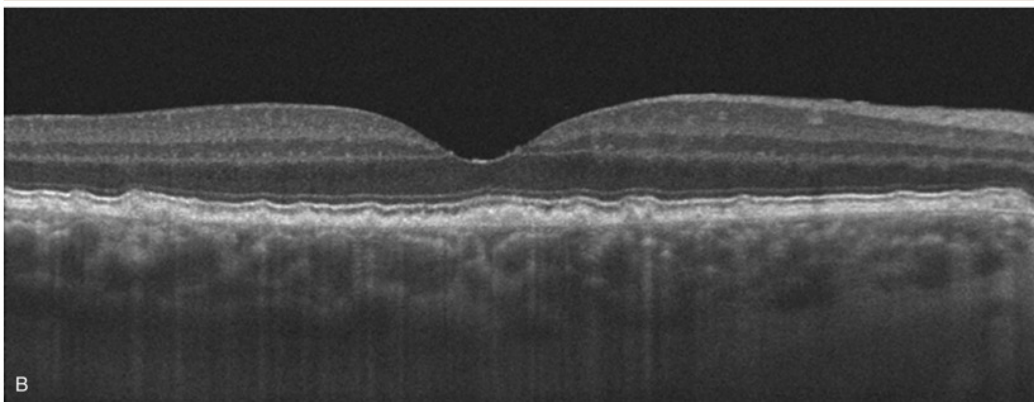
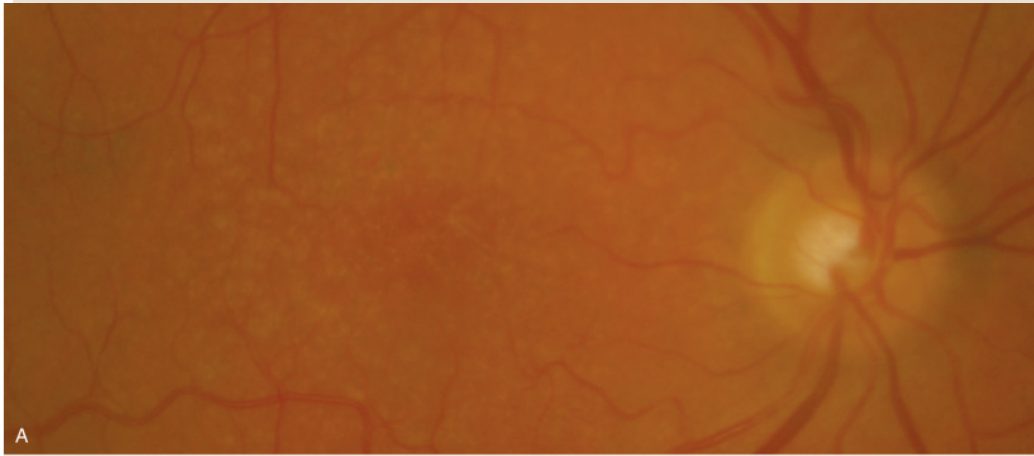


SUBRETINAL
NEOVASCULARIZATION

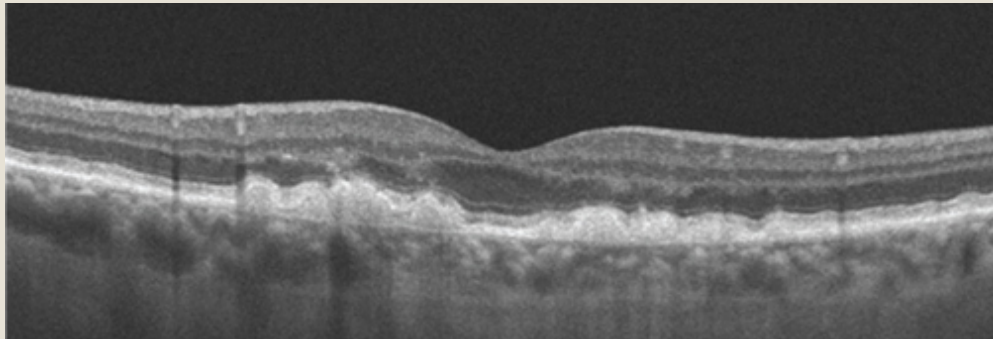
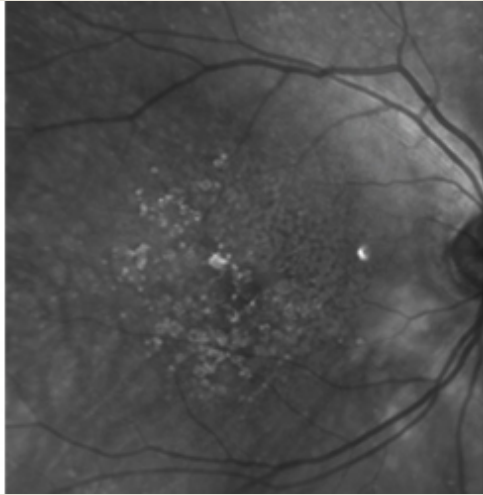
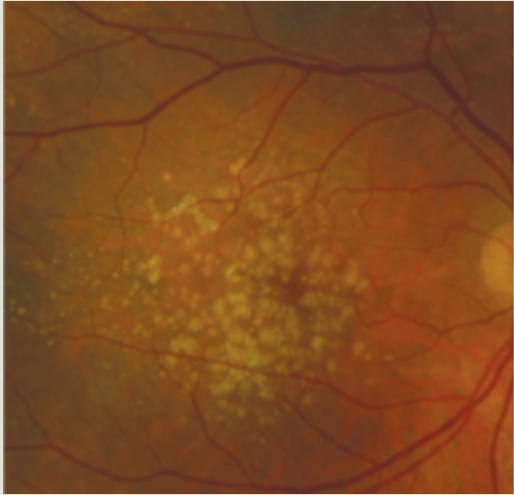


OUTER RETINAL DISEASE

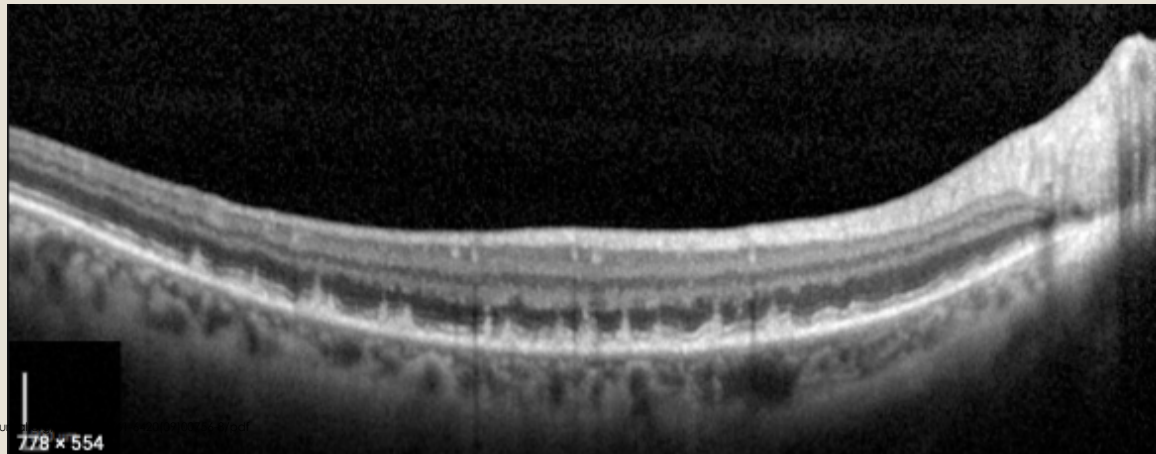
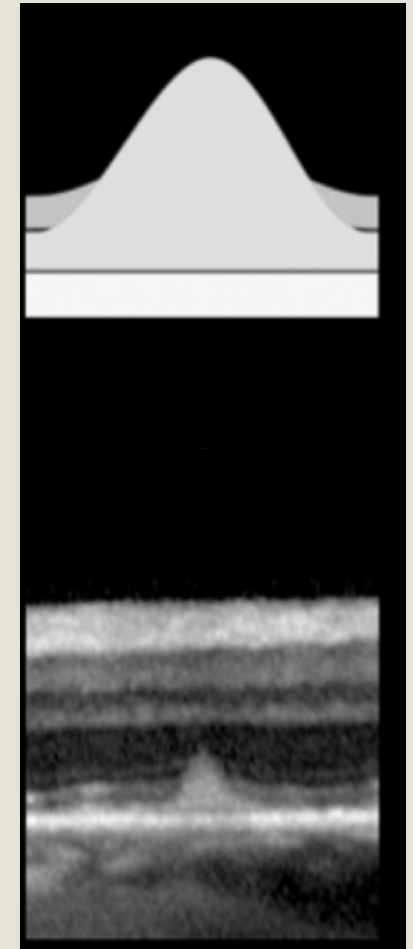
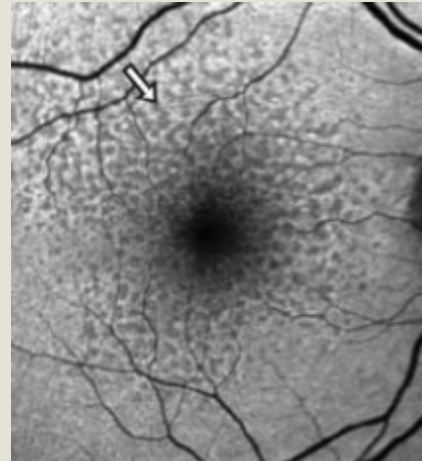




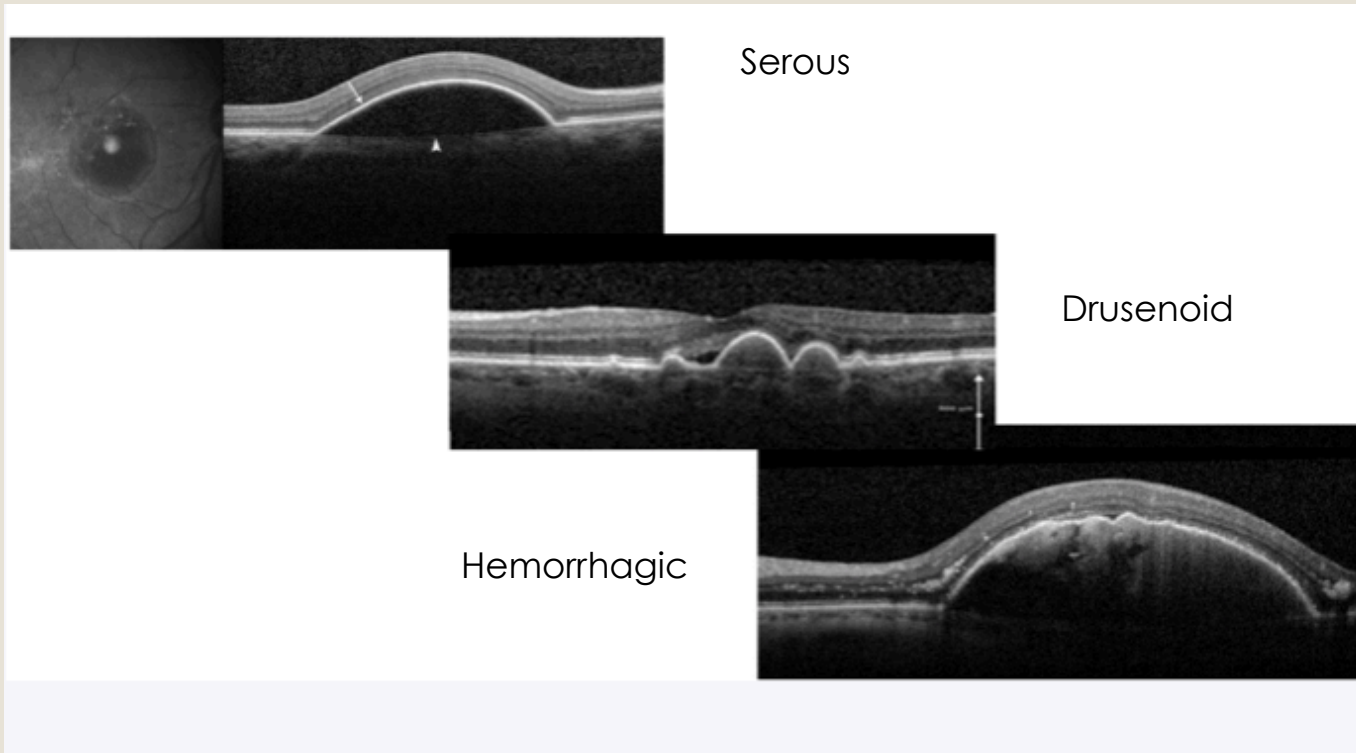
Drusen



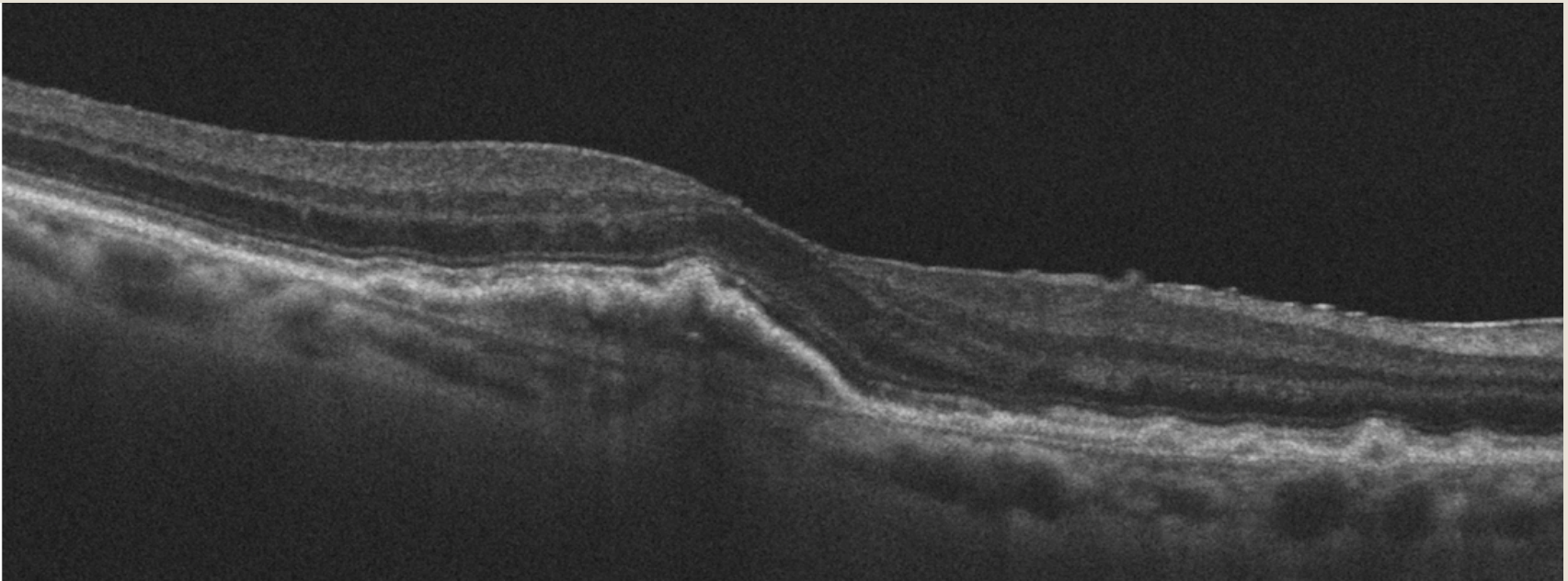
Reticular Pseudodrusen



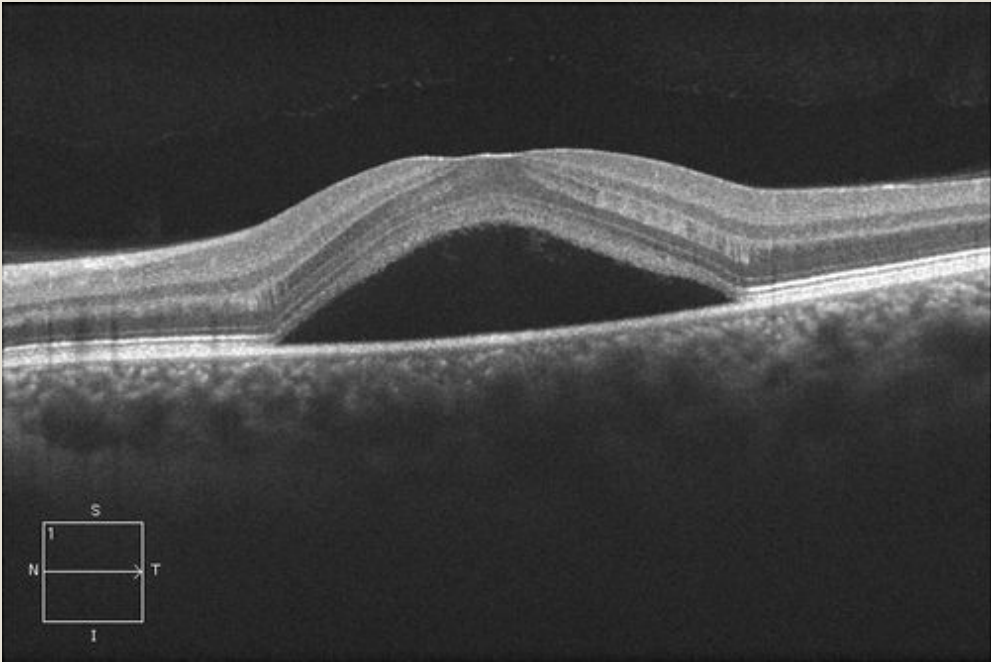
Pigment Epithelial Detachments



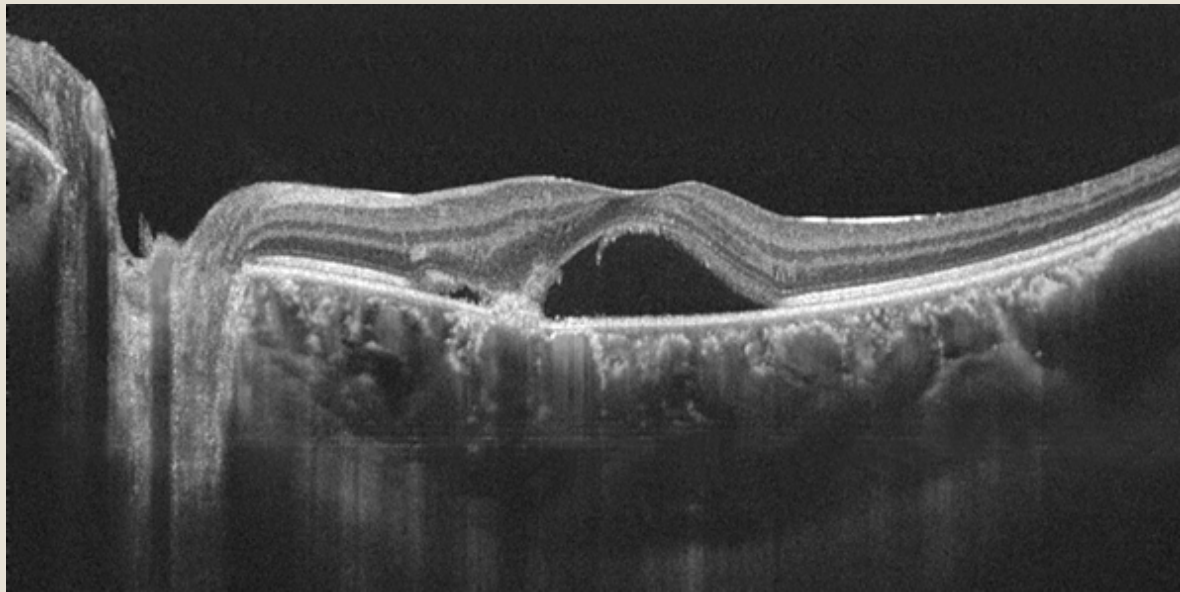
Pigment Epithelial Detachments: What Kind?



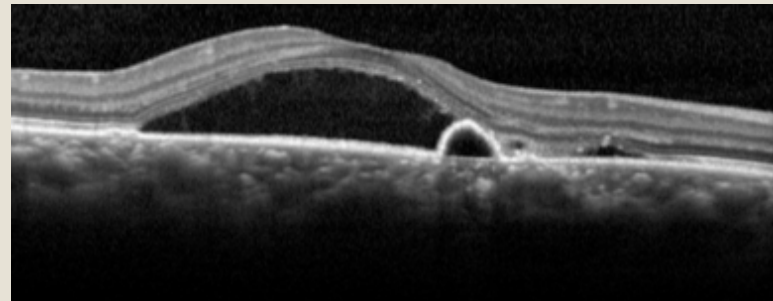
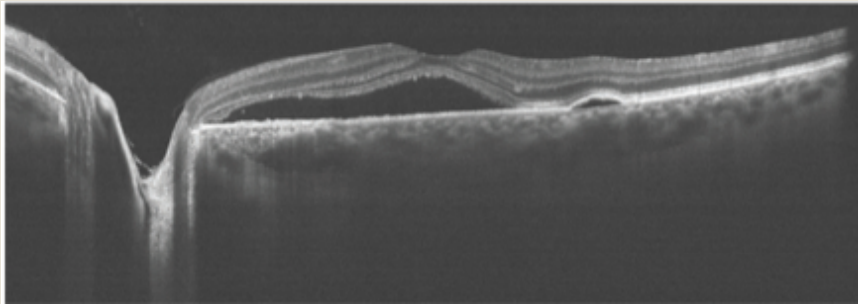
Central Serous Chorioretinopathy



Central Serous Chorioretinopathy: Chronic

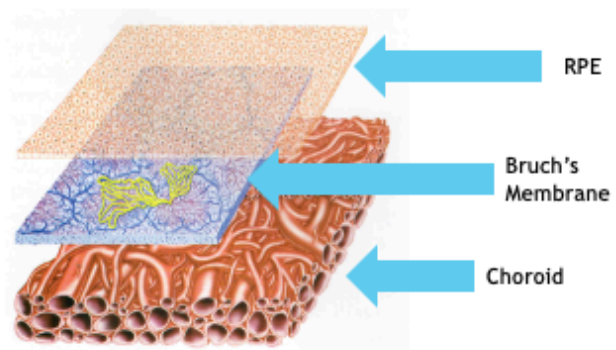


Central Serous Chorioretinopathy and PED

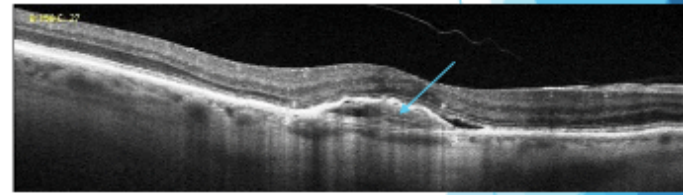


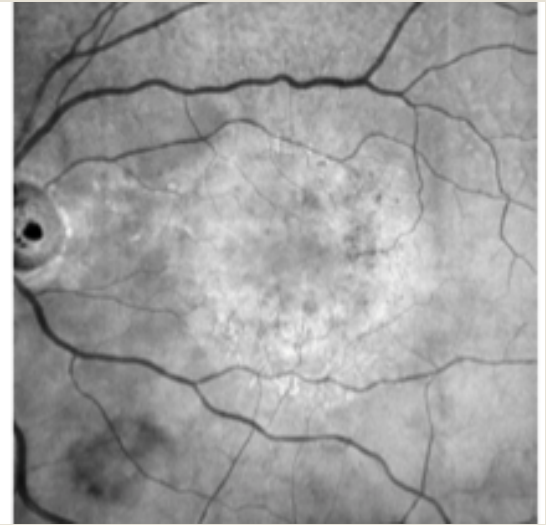
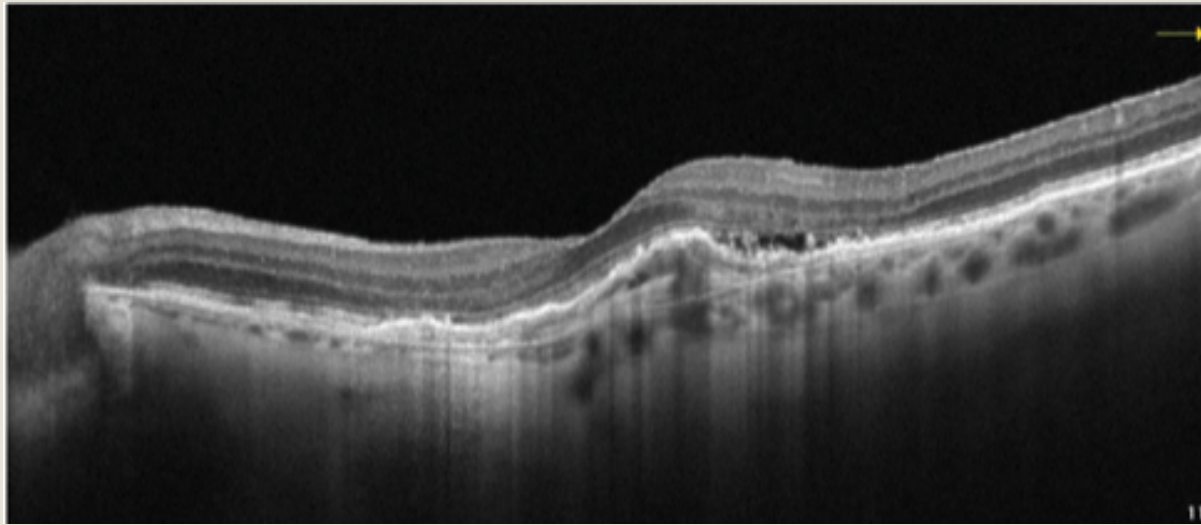
Age Related Macular Degeneration

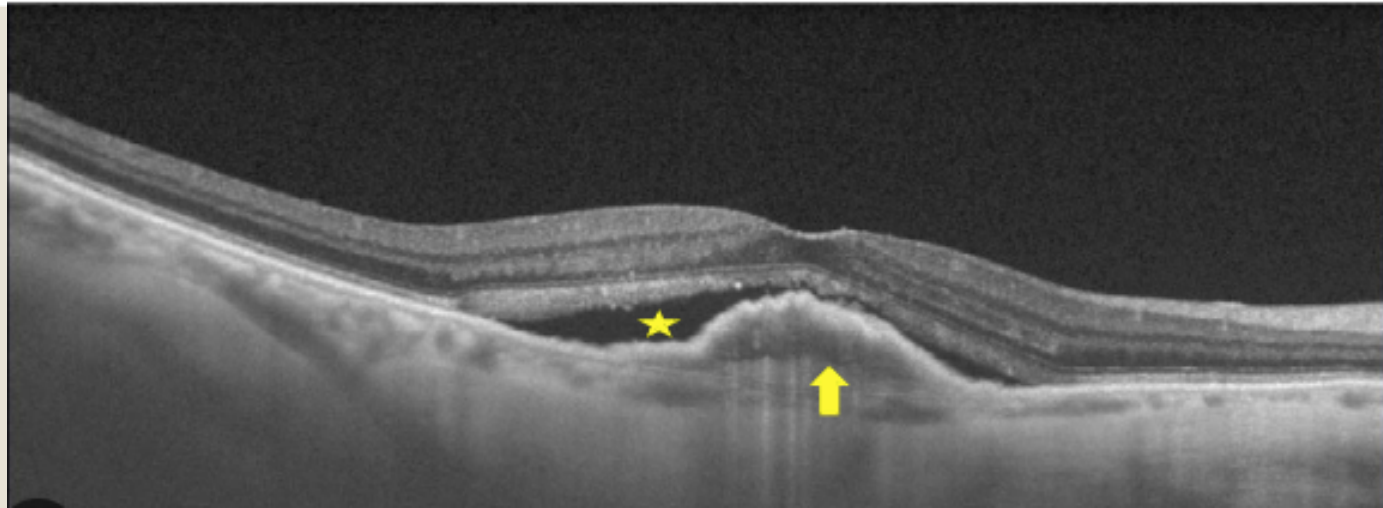
Type 1 "Occult" CNV



- ▶ New vessels develop in the choroid
- ▶ New vessels located **BELOW RPE** and **ABOVE** Bruch's membrane



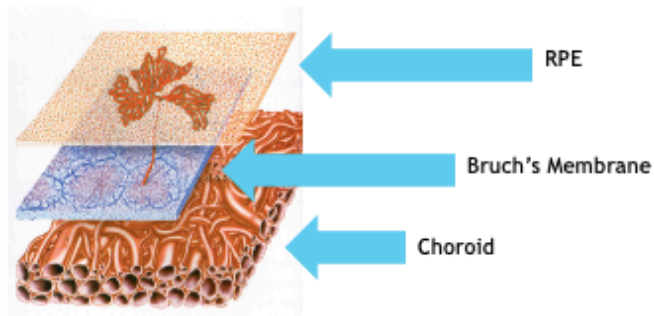




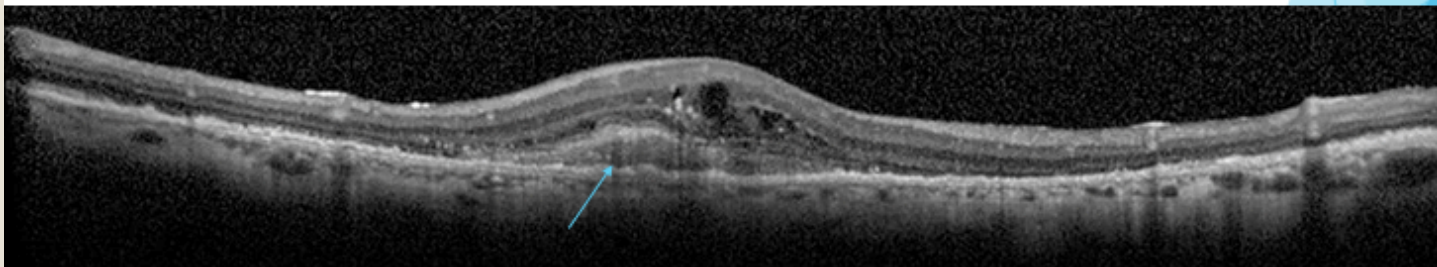
Occult:
Under the RPE

Age Related Macular Degeneration

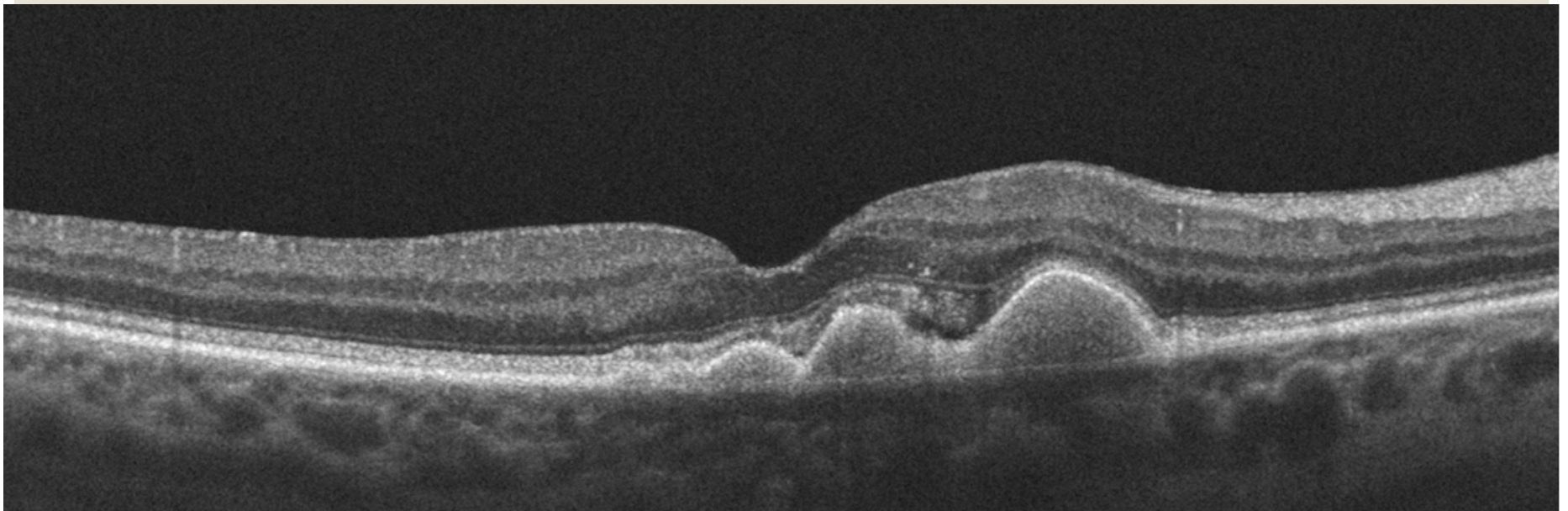
Type 2 "Classic" CNV



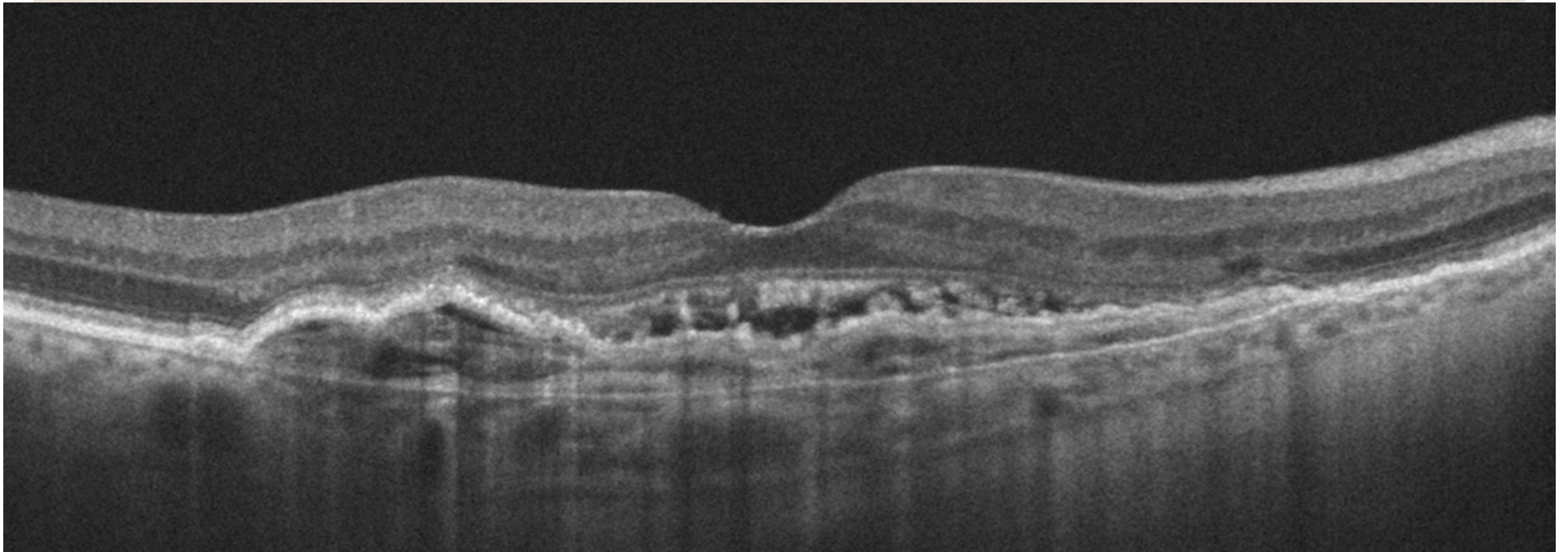
- ▶ New vessels develop in choroid
- ▶ New vessels located **ABOVE** the RPE and ABOVE Bruch's membrane

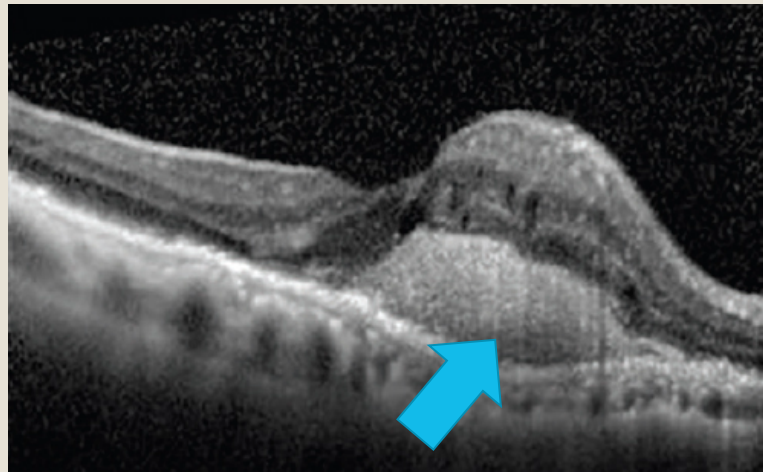


Age Related Macular Degeneration



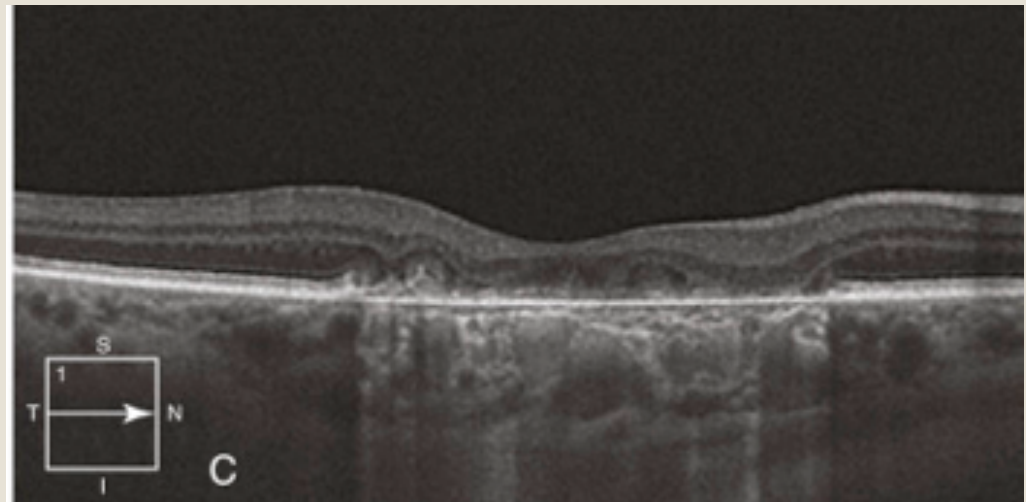
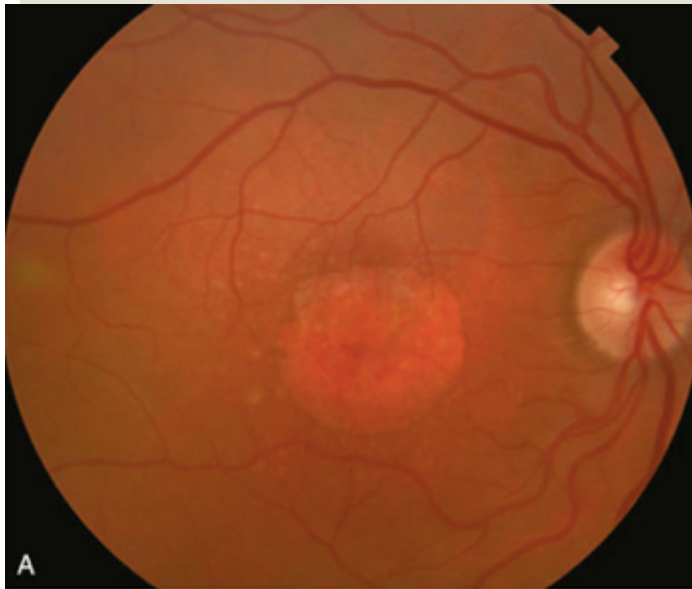
Age Related Macular Degeneration

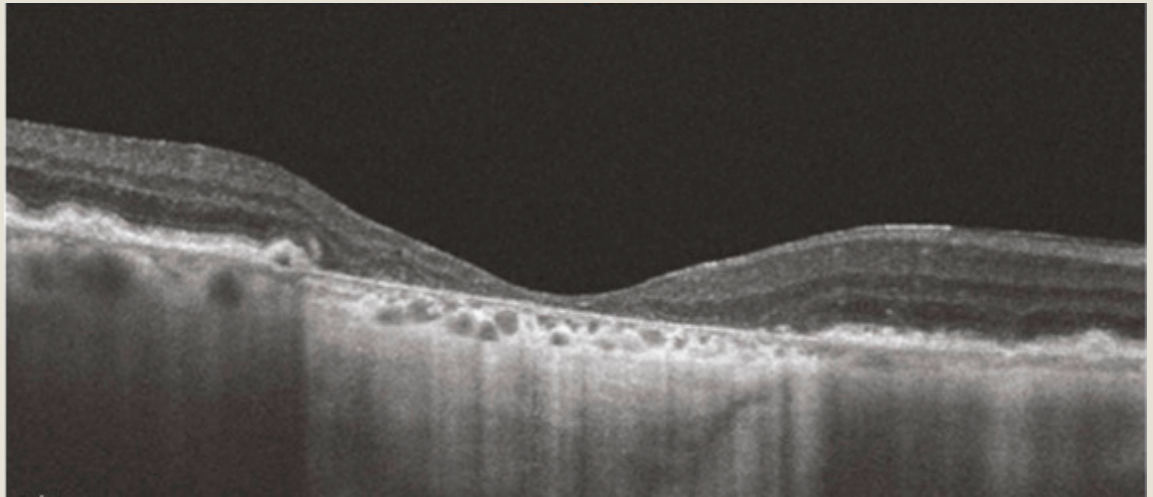
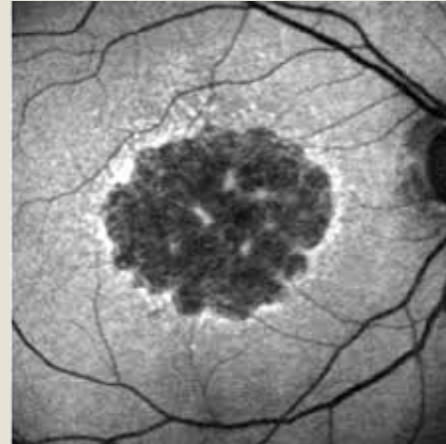
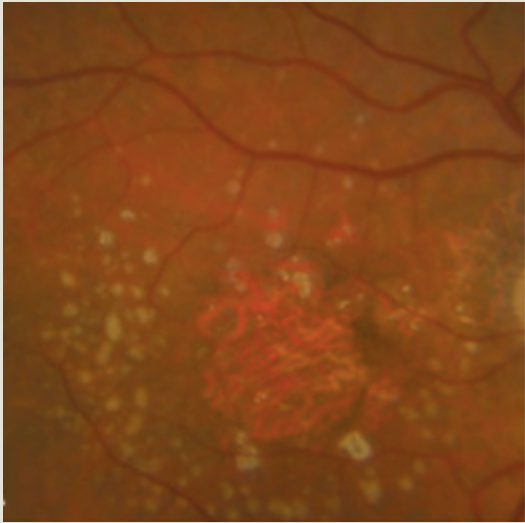




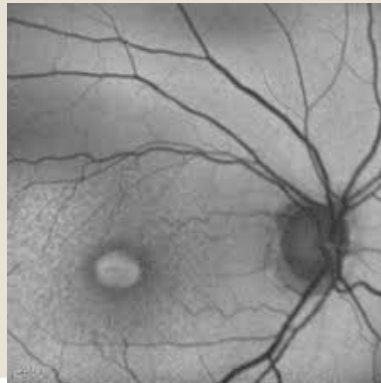
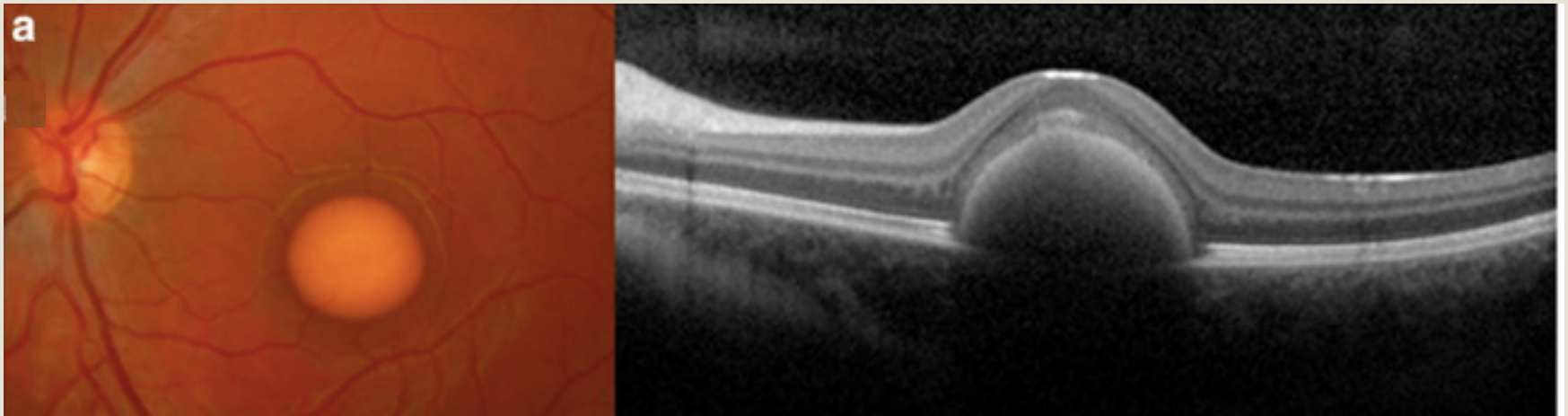
Classic:
Above the RPE

Geographic Atrophy





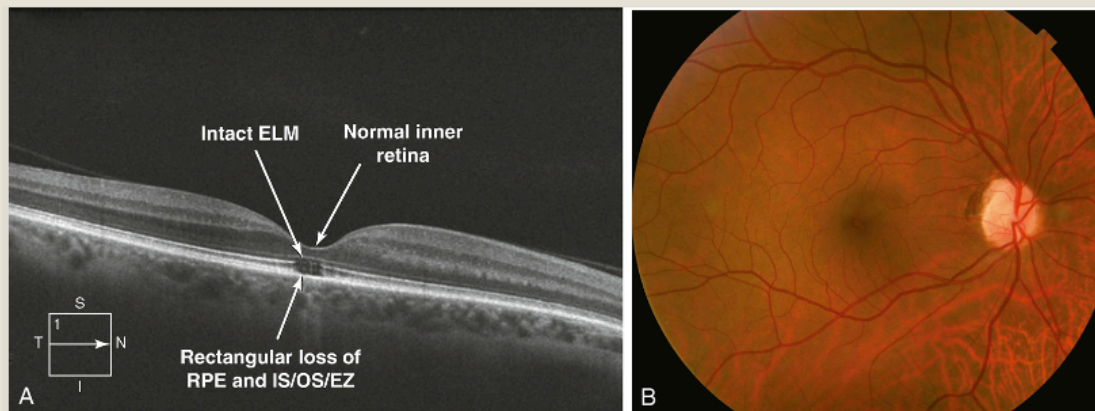
Vitelliform Dystrophy



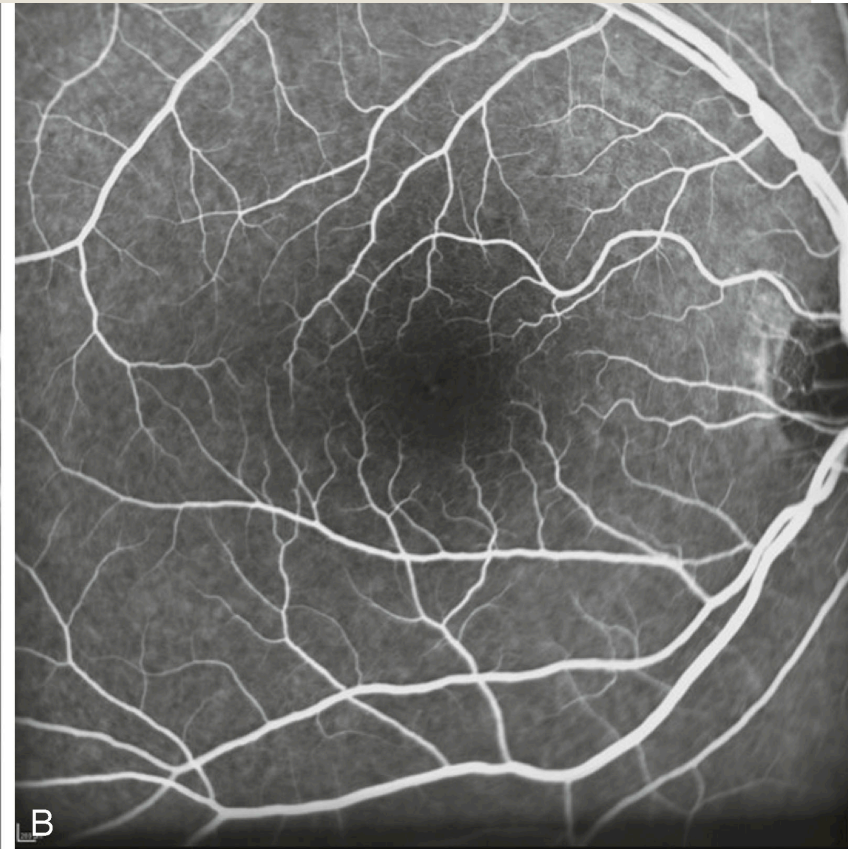
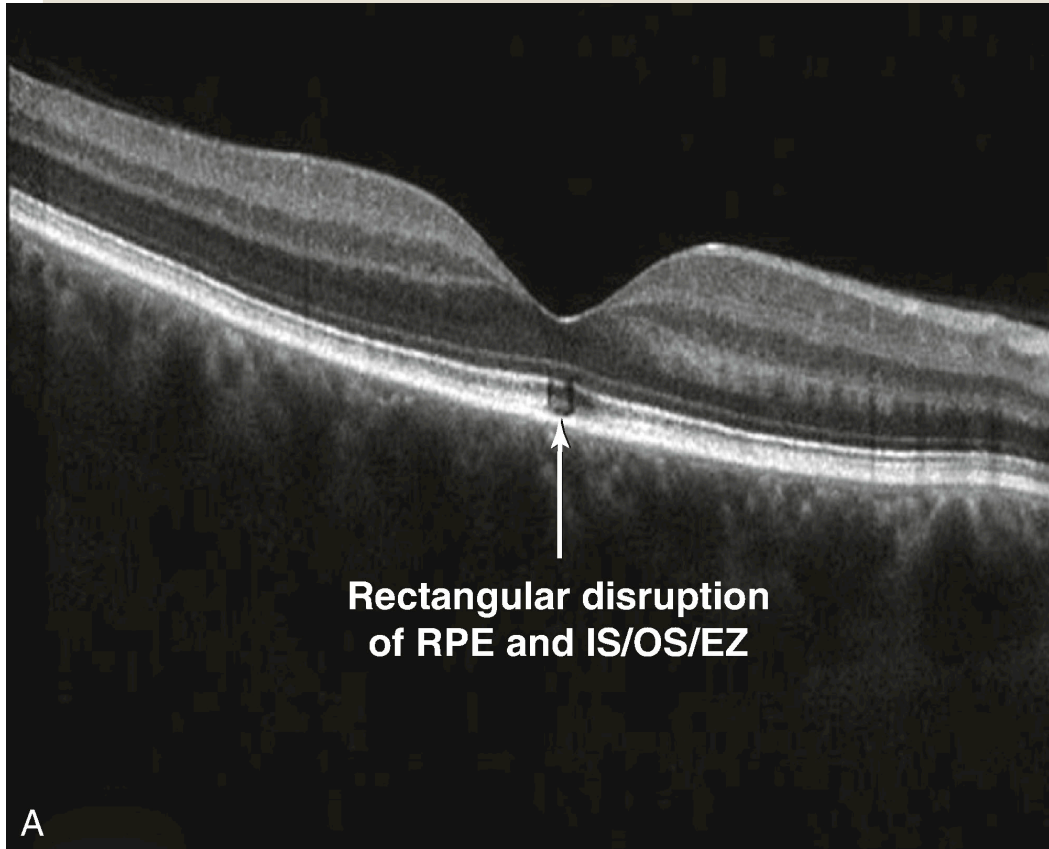
Solar/Laser Maculopathy

Accidental or purposeful prolonged exposure to intense light sources such as the sun (as may happen in psychiatric disease or during a solar eclipse), a welding arc, or an operating microscope can result in photochemical injury to the macula

- The inner retina is normal.
- Focal disruption or loss of the retinal pigment epithelial (RPE) and inner segment/outer segment/ellipsoid zone (IS/IO/EZ), with sharply demarcated borders of normal retina on the edge



Solar/Laser Maculopathy

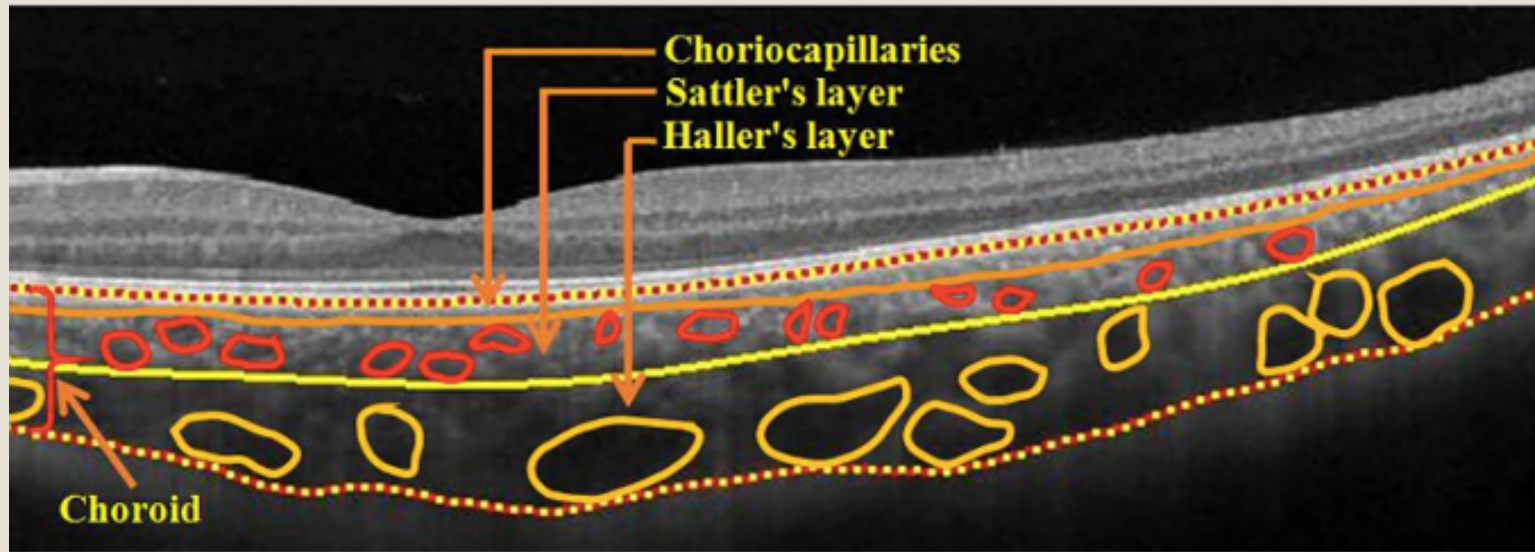




OUTER RETINAL DISEASE

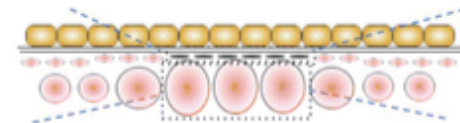
Pachychoroid Clinical Spectrum

Pachychoroid Spectrum refers to a group of clinical entities that have a common characteristic: a pachychoroid (thick choroid)



Pachychoroid

- Inner choroidal attenuation



Dilated large choroidal vessels

Features of the Choroid

- ❖ Choroidal thickness varies with age, ethnicity and axial length
- ❖ Normal subfoveal choroidal thickness 250-350 μm
- ❖ Pachychoroid: Choroidal thickness **>390 μm** ;
 - ❖ Extrafoveal thickness exceeding subfoveal by 50 μm

Chorioretinal Disease affects choroidal thickness!

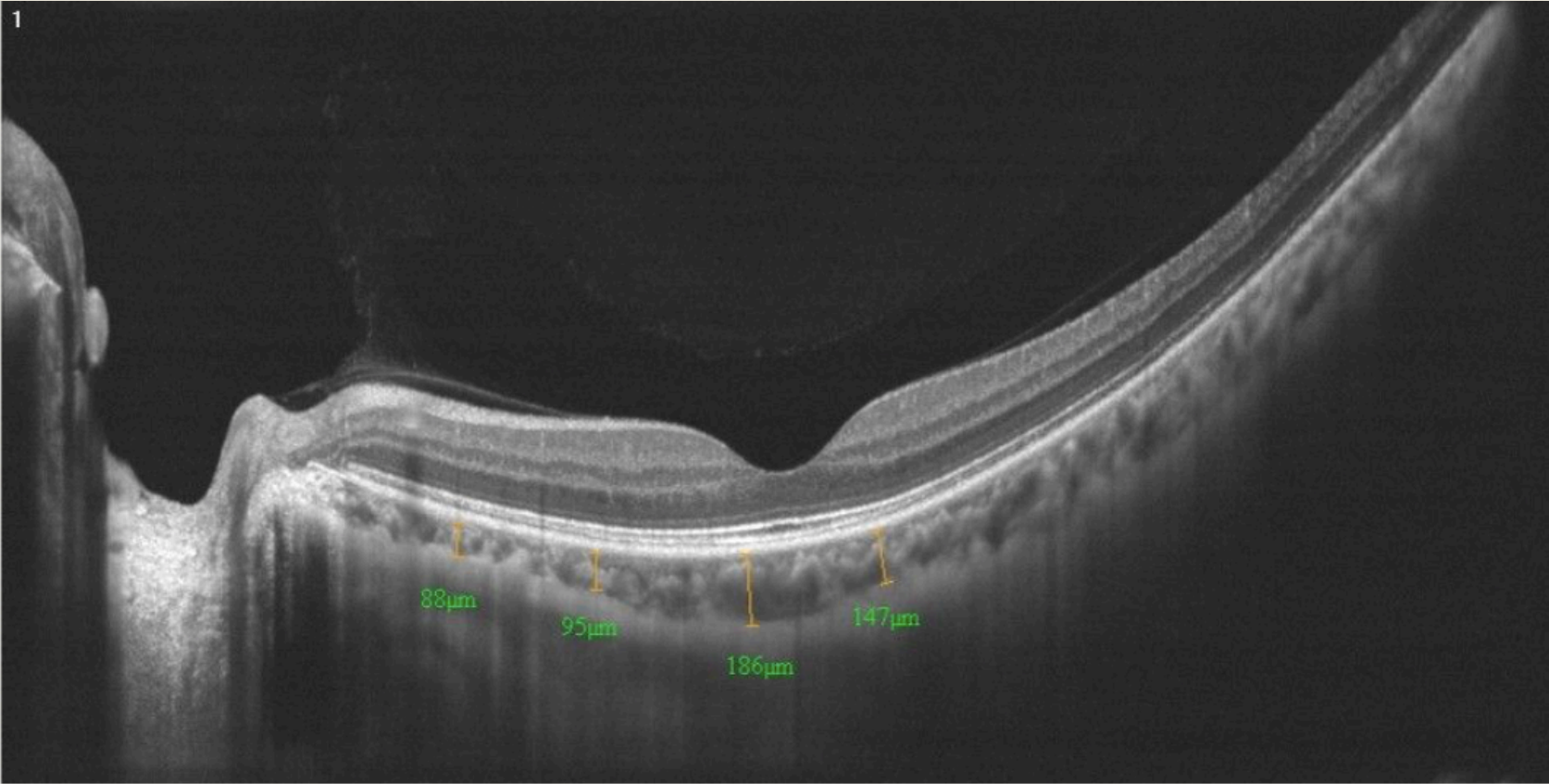
Thicker

- ❖ Central Serous Chorioretinopathy
- ❖ Polypoidal Choroidal Vasculopathy

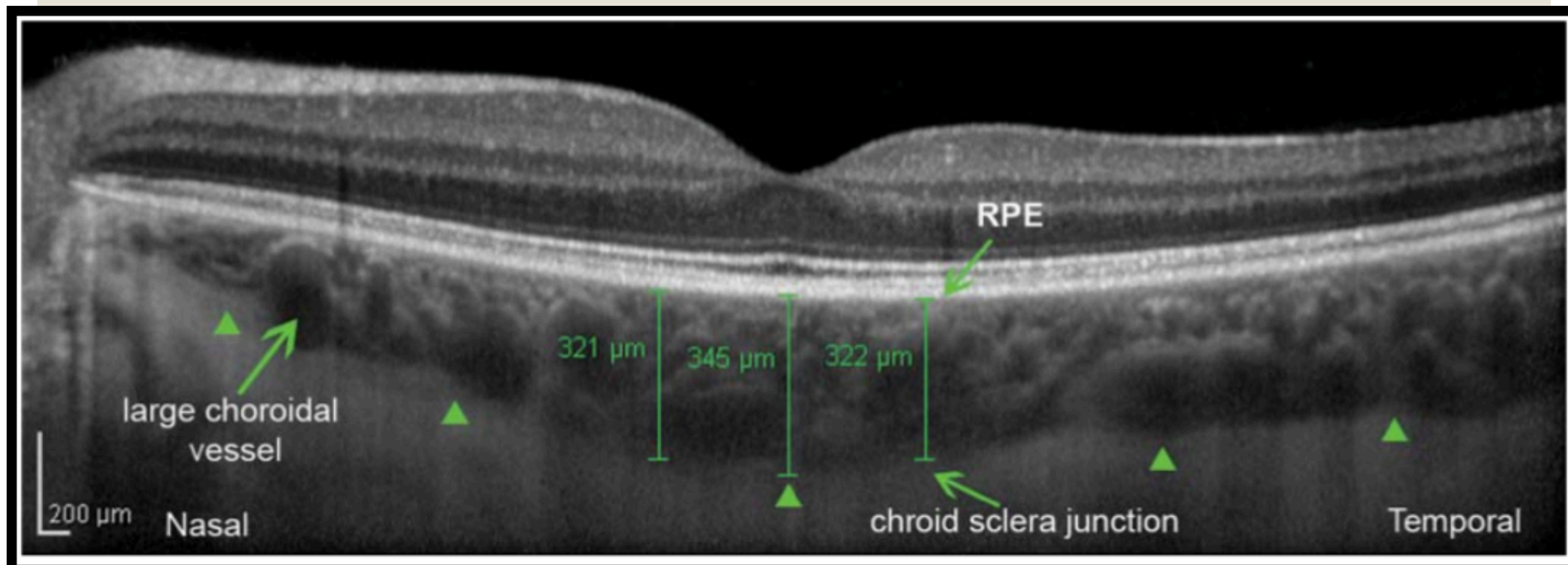
Thinner

- ❖ Age Related Macular Degeneration
- ❖ Proliferative DR/ DME
- ❖ Retinitis Pigmentosa
- ❖ Glaucoma

Choroid: In Detail



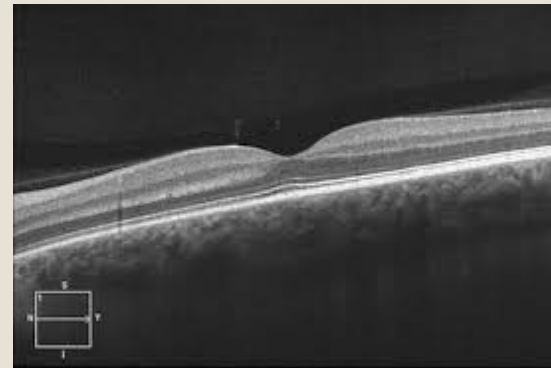
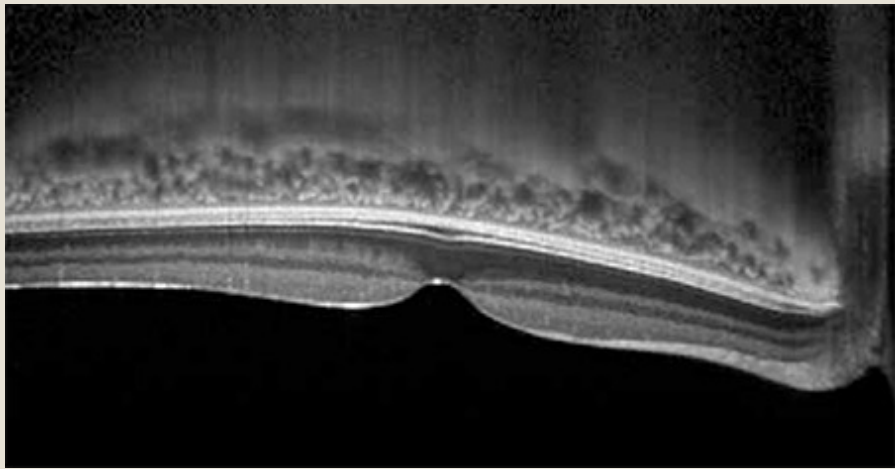
Choroid: In Detail (Pachychoroid)

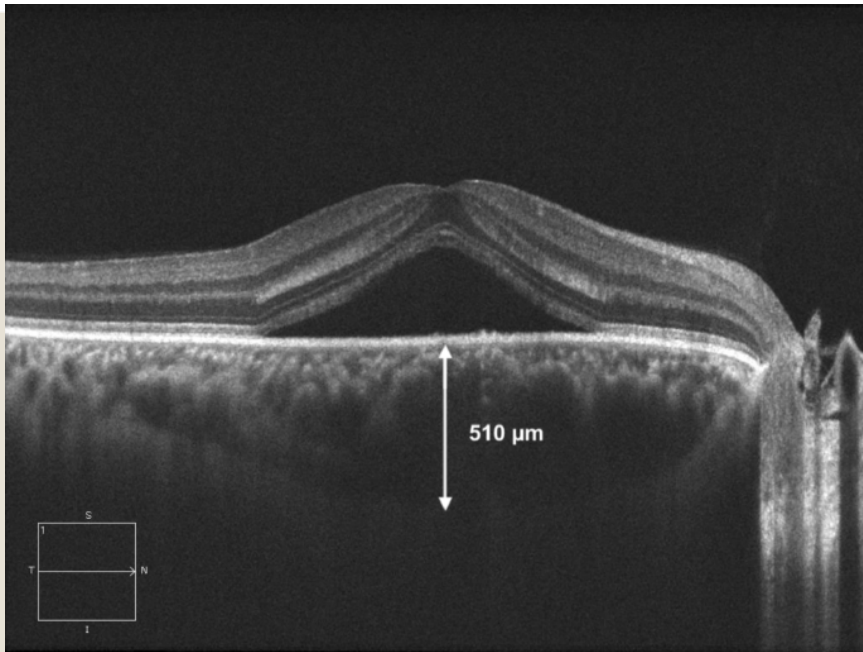


Enhanced Depth Imaging

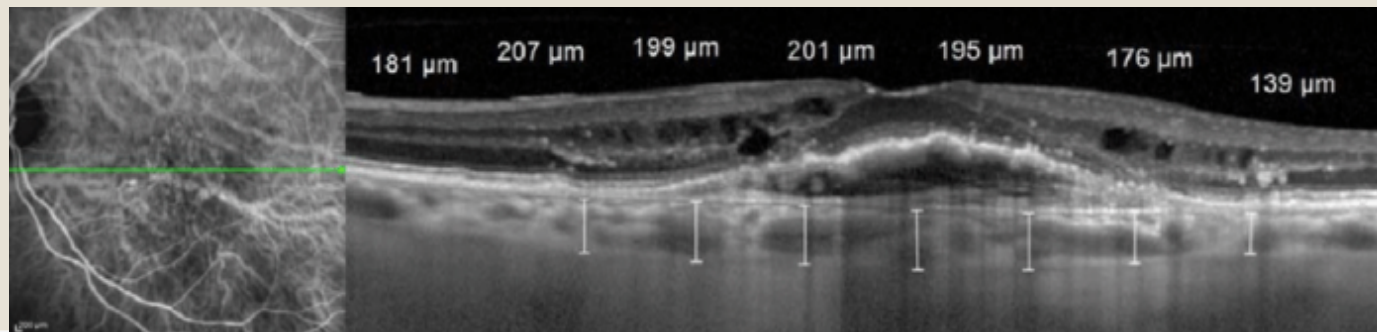
Place OCT closer to patient's eye; improves image resolution

Inverting the image provides enhanced visualization of the RPE, Bruch's membrane, choroid and sclera (extra 500-800 um penetration)



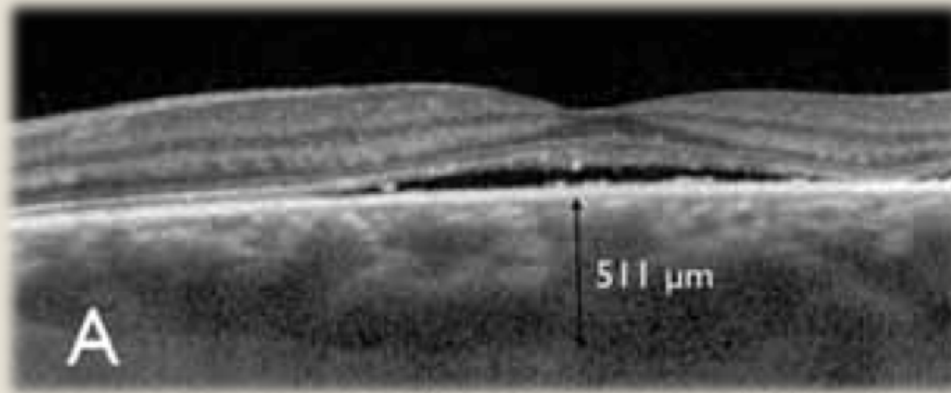


CSR: Thick



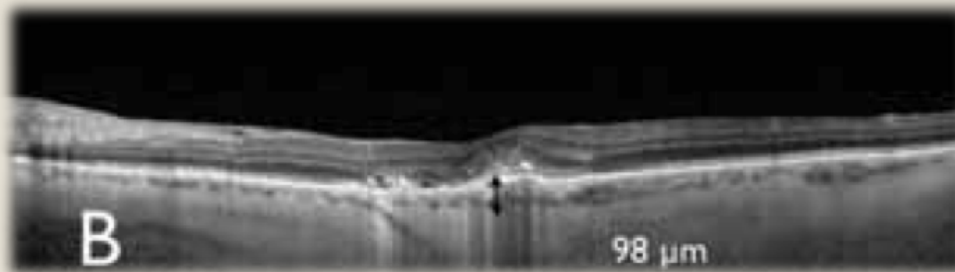
AMD: Thin

CSR vs AMD



65 yo

Active CSR



66 yo

Exudative AMD

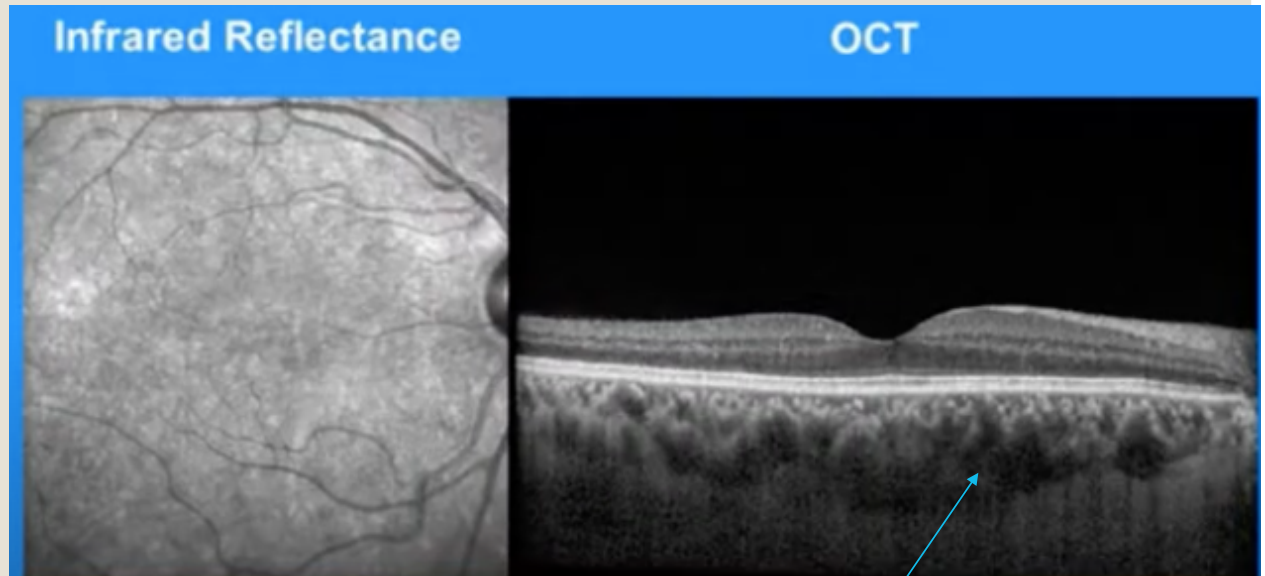
Pachychoroid Clinical Spectrum

- ❖ Uncomplicated Pachychoroid
- ❖ Central serous chorioretinopathy (CSC)
- ❖ Pachychoroid neovascularopathy
- ❖ Polypoidal choroidal vasculopathy
- ❖ Focal Choroidal Excavation

Pachychoroid Clinical Spectrum

❖ *Uncomplicated Pachychoroid*

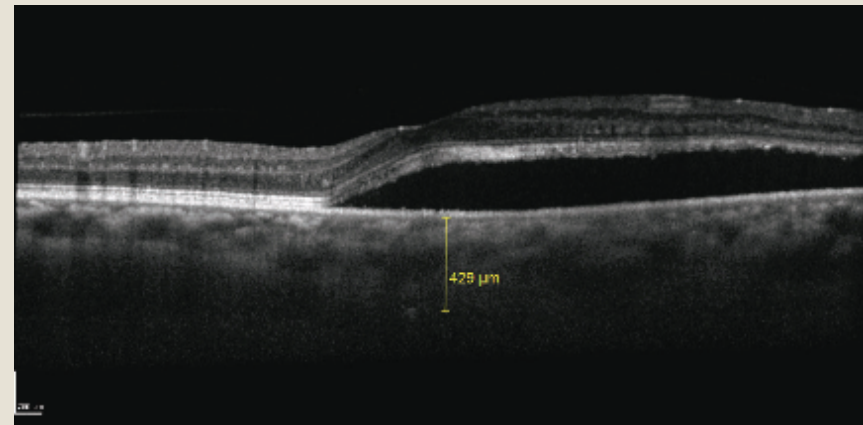
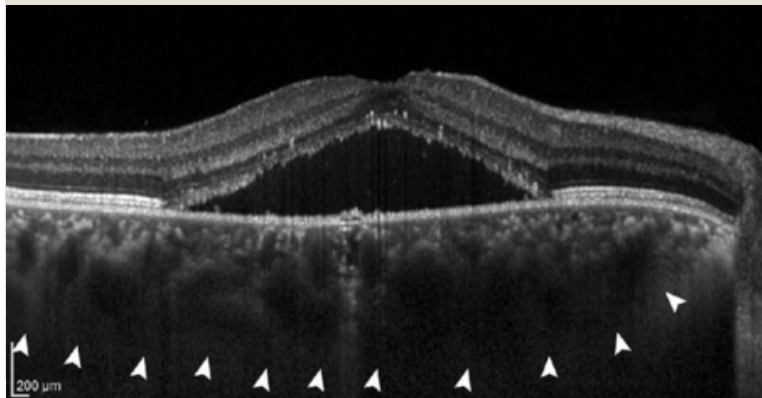
- No RPE alterations
- No subretinal fluid



Thick choroid, dilated Haller's layer vessels

Pachychoroid Clinical Spectrum

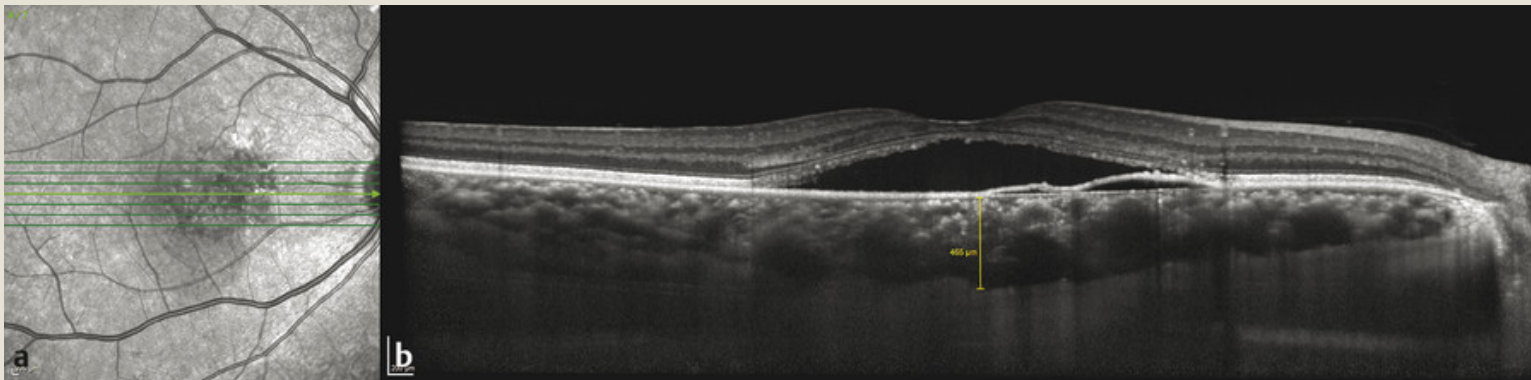
❖ *Central Serous Chorioretinopathy*



Pachychoroid Clinical Spectrum

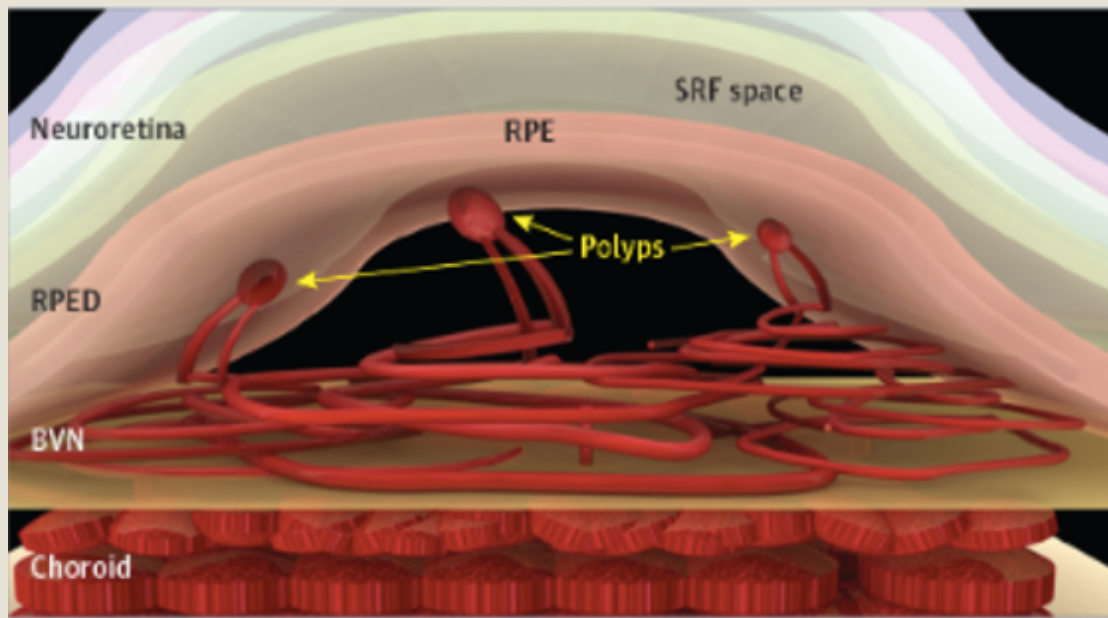
❖ *Pachychoroid Neovascularopathy*

- Type 1 CNV with thick choroid!



Pachychoroid Clinical Spectrum

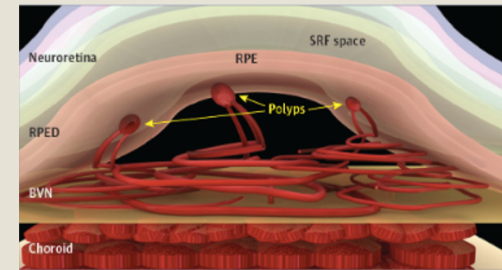
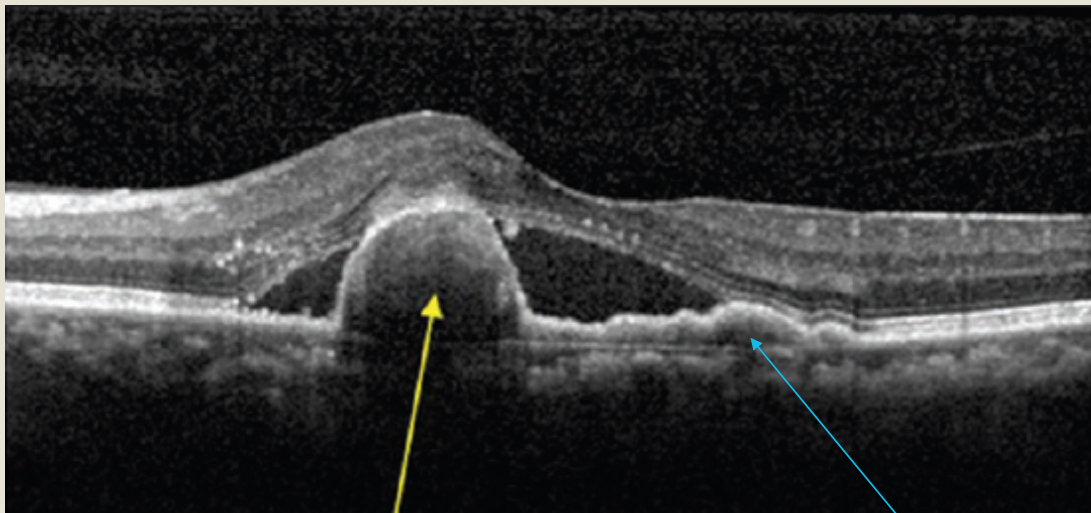
❖ *Polypoidal Choroidal Vasculopathy*



Serosanguinous RPE detachments

↓
Serous Fluid

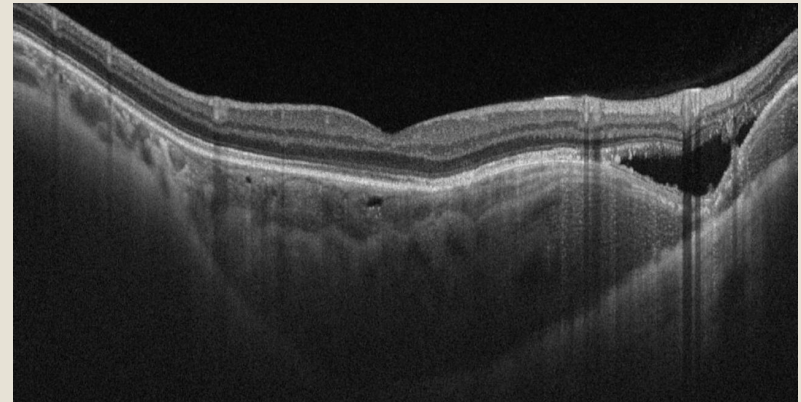
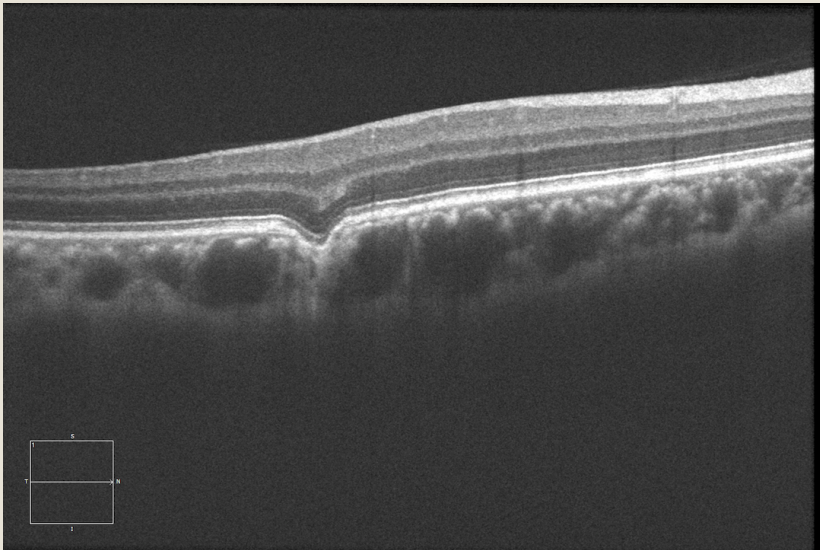
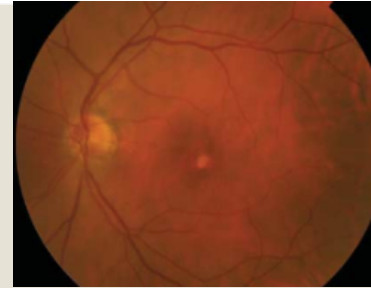
↓
Blood



Double layer sign: Suggestive of CNVM

Pachychoroid Clinical Spectrum

❖ *Focal Choroidal Excavation*

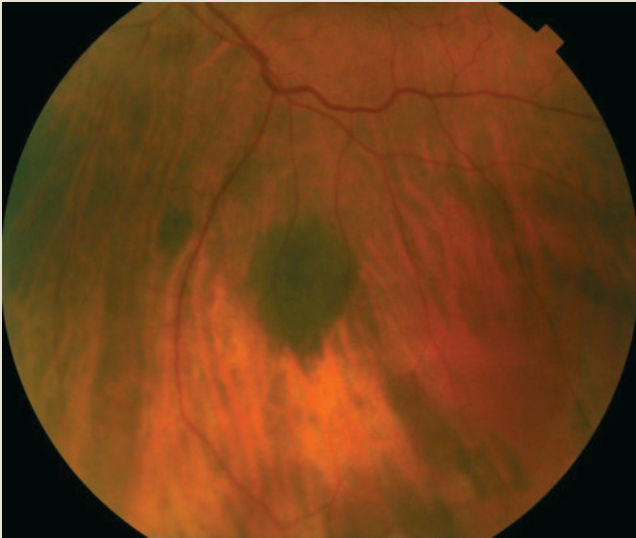


- Conforming (photoreceptor tips are in direct contact with RPE)
- Non-conforming (photoreceptor tips are detached from RPE)

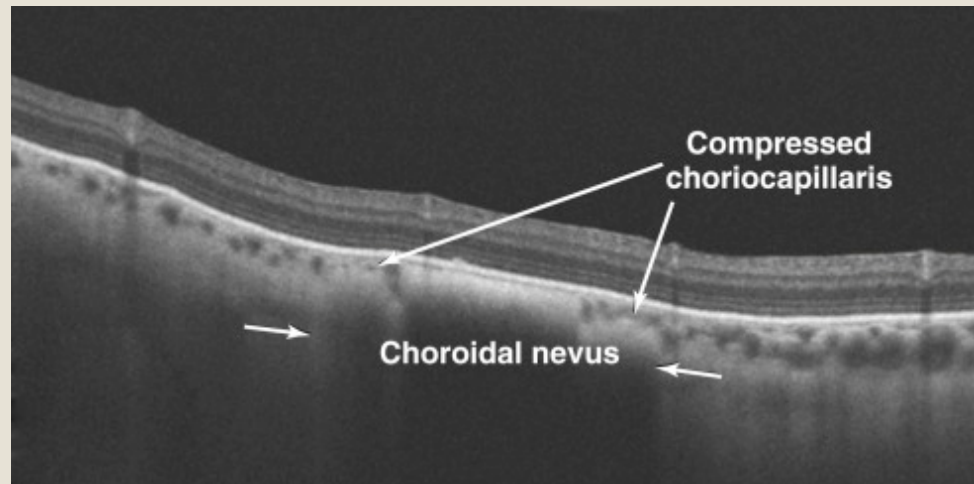


MELANOCYTTIC LESIONS

Choroidal Nevus

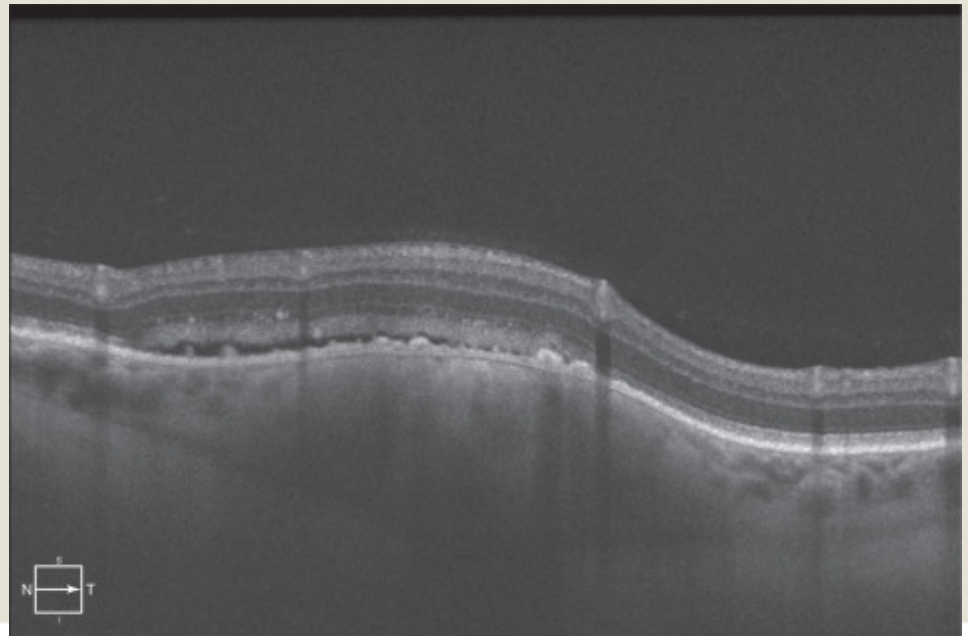
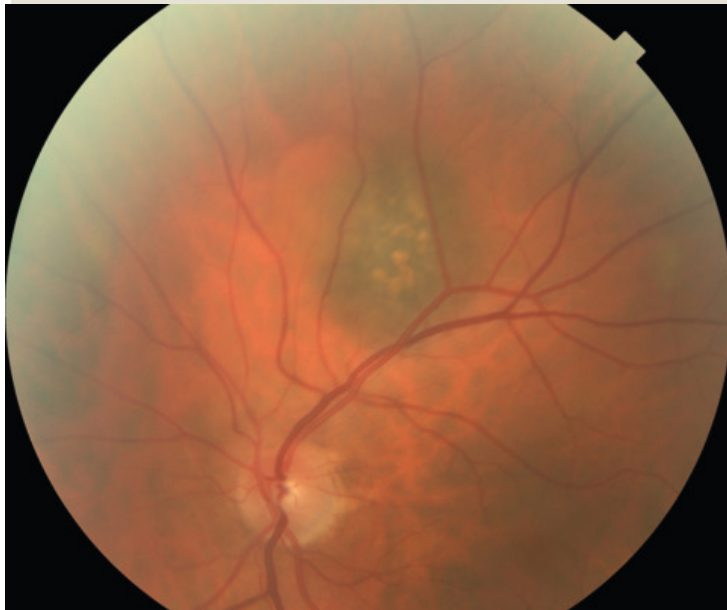


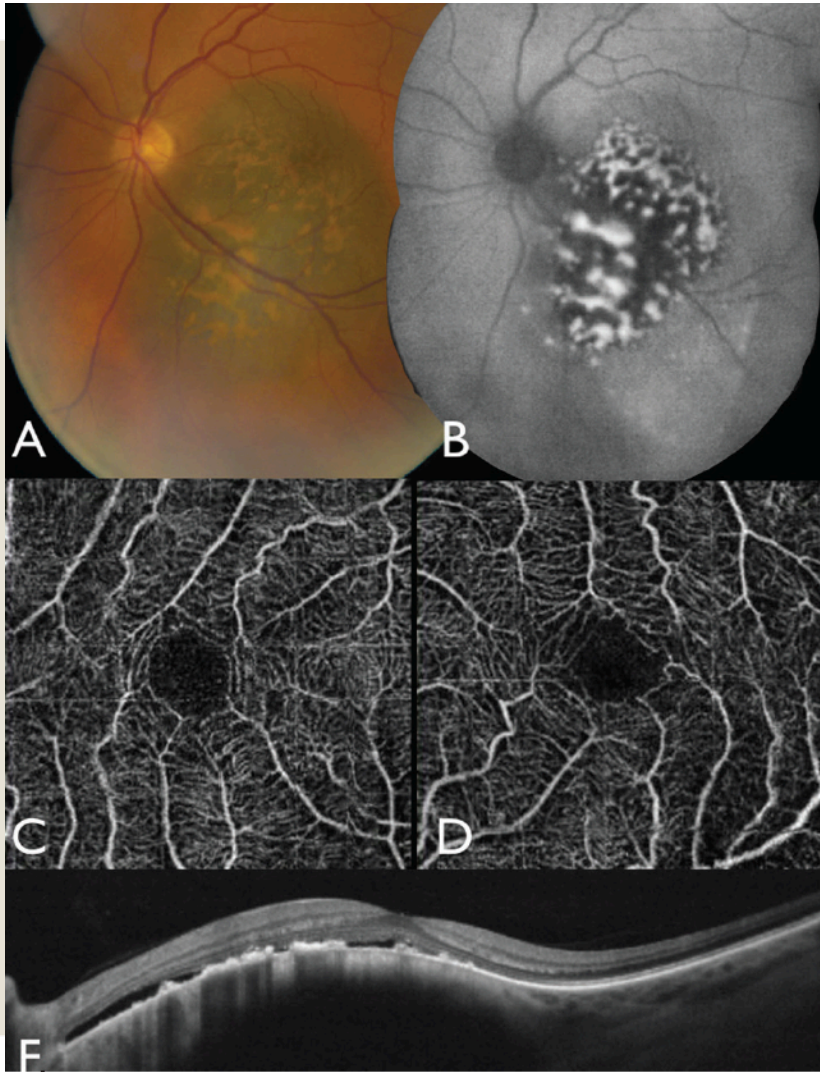
- Flat to minimal thickening is seen.
- Well-defined blocking of signal occurs in the outer choroid.
- Overlying choriocapillaris is compressed
- Overlying retina may have cystic changes or localized subretinal fluid.



Choroidal Melanoma

- Elevated choroidal mass with extensive blocking of signal
- Obscuration of the normal choroidal vascular pattern in the area of the tumor
- Overlying subretinal fluid is present with shaggy photoreceptor

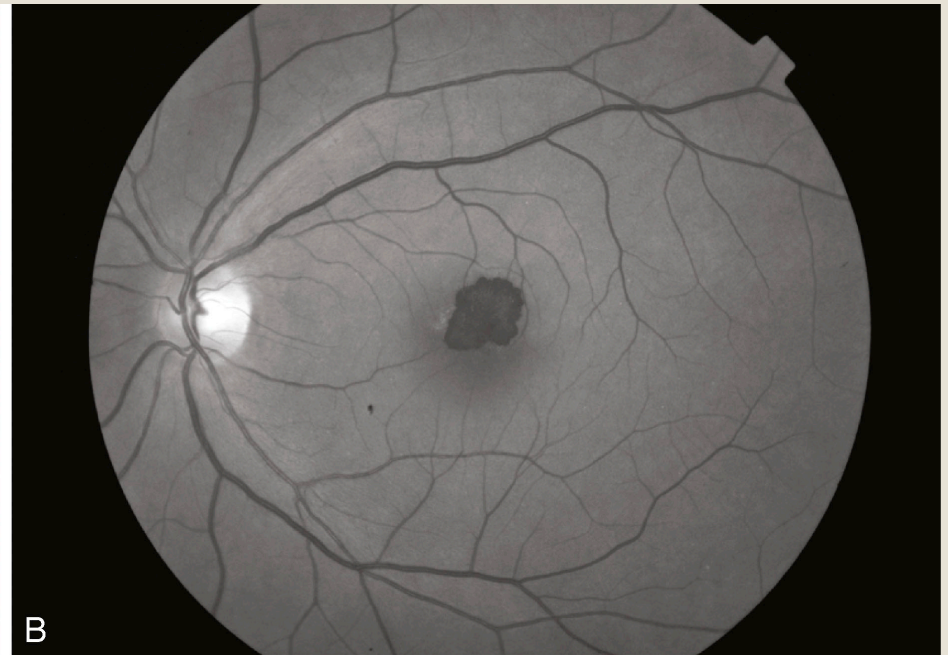
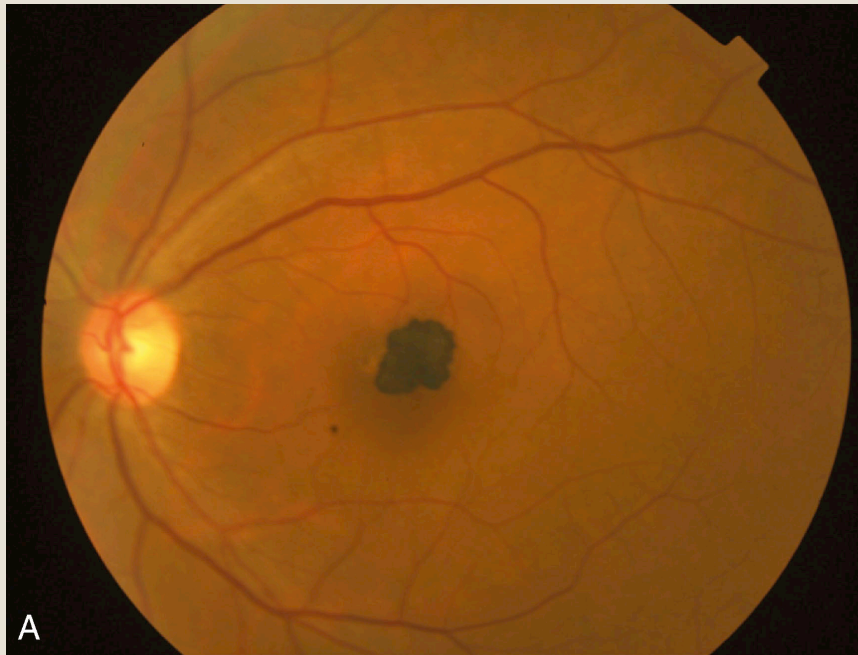




Multimodal imaging of choroidal melanoma

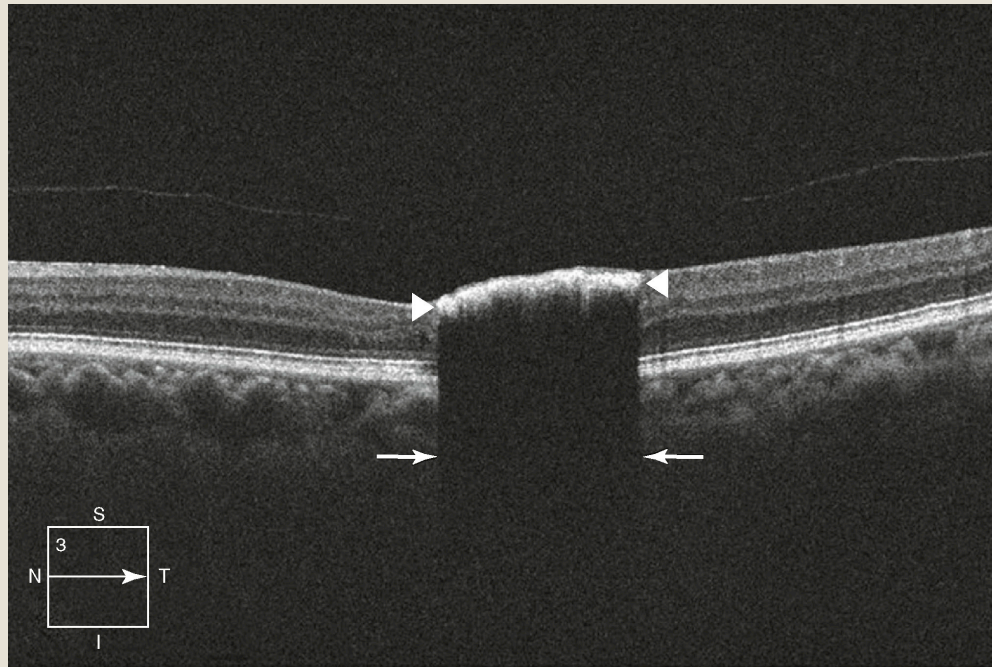
Simple Hamartoma of the RPE

• Congenital simple hamartoma of the retinal pigment epithelium (RPE) is an uncommon, benign tumor of the RPE that appears as a jet-black, well-demarcated, round lesion on the foveal surface



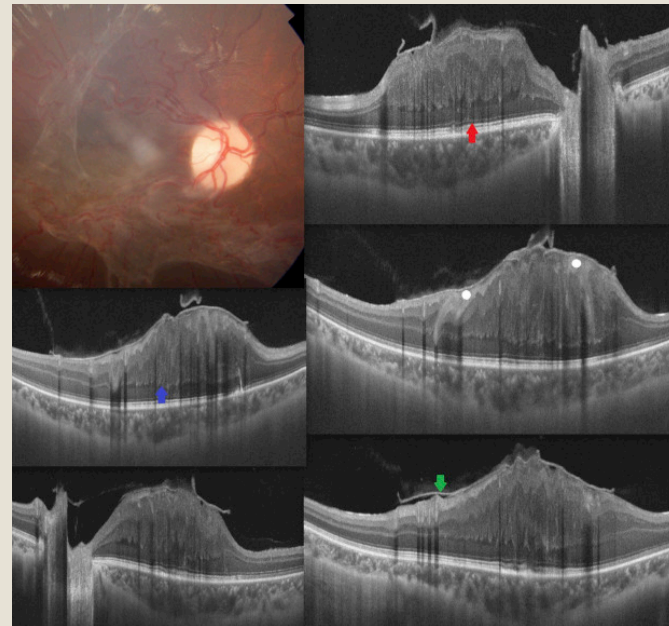
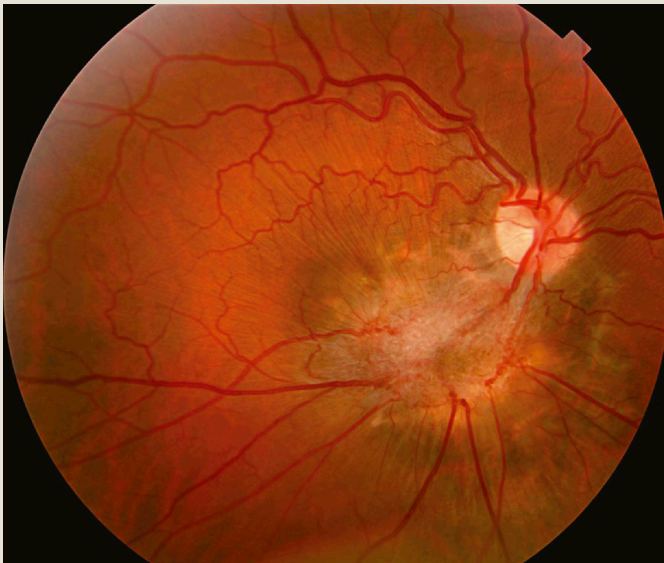
Simple Hamartoma of the RPE

- Congenital simple hamartoma of the retinal pigment epithelium (RPE) is an uncommon, benign tumor of the RPE that appears as a jet-black, well-demarcated, round lesion on the foveal surface



Combined Hamartoma of the Retina and RPE

- ❖ Combined hamartoma of the retina and retinal pigment epithelium (RPE) is a rare, benign hamartomatous growth.
- ❖ The usual clinical appearance is a peripapillary, pigmented, focal disorganization of the retina, with overlying fibrosis.



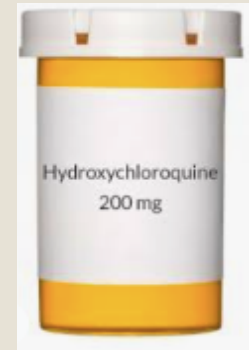
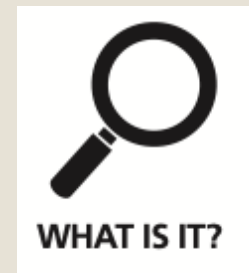


PLAQUENIL TOXICITY

What is Hydroxychloroquine (Plaquenil)?

- ❖ Disease-modifying anti-rheumatic drug (DMARD)
- ❖ Originally anti-malarial

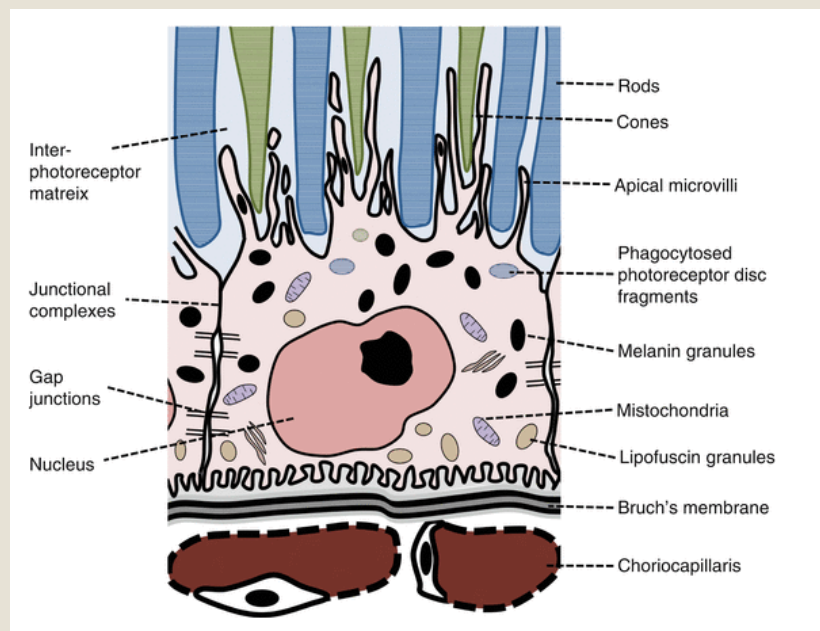
- ❖ Used to treat rheumatoid arthritis, lupus, and other inflammatory and dermatologic conditions



What is Hydroxychloroquine (Plaquenil)?

- ❖ Metabolite of chloroquine
- ❖ Longer half life
 - ❖ Less drug needed for efficacy

- ❖ Binds to melanin in RPE
 - ❖ Results in Bulls-Eye Maculopathy



Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision)

AMERICAN ACADEMY™
OF OPHTHALMOLOGY

❖ **Dose:**

- ❖ Maximum daily HCQ use of ≤ 5.0 mg/kg real weight

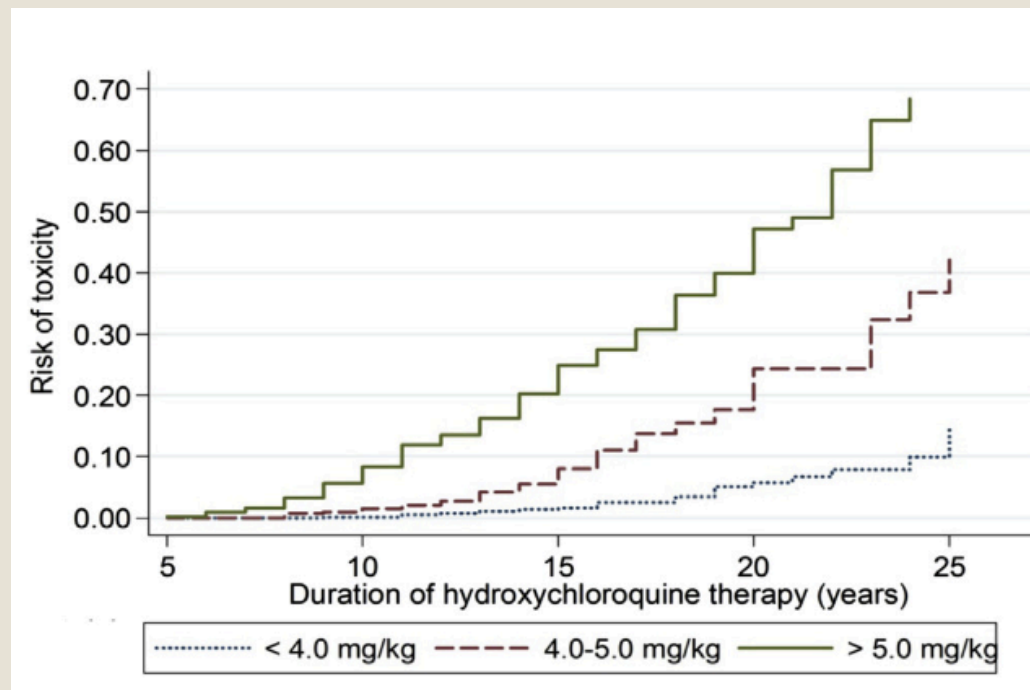
❖ **Duration:**

- ❖ At recommended dosage, risk of toxicity up to 5 years is under 1% and up to 10 years is under 2%... **BUT 20% AFTER 20 YEARS!!!**

High dose and long duration of use are most significant risk factors

Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision)

AMERICAN ACADEMY™
OF OPHTHALMOLOGY



Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision)

AMERICAN ACADEMY™
OF OPHTHALMOLOGY

❖ *Major Risk Factors:*

- ❖ Concomitant renal disease
 - ❖ Subnormal glomerular filtration rate
- ❖ Concomitant Drugs
 - ❖ Tamoxifen Use

*Retinopathy
is not
reversible!!*

Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision)

AMERICAN ACADEMY™
OF OPHTHALMOLOGY

Screening Schedule

❖ Baseline Screening

- ❖ Fundus examination within first year of use
- ❖ Add VFs and OCT if maculopathy is present

❖ Annual Screening

- ❖ Begin after 5 years of use
- ❖ Sooner in the presence of major risk factors

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

65-year-old Caucasian Female

- ❖ Complaints of “central darkening”
OU
 - ❖ Progressive worsening
- ❖ History of rheumatoid arthritis (20+ years)

- ❖ BCVA:
 - ❖ OD 20/40; OS 20/40-

Medications:

- Methotrexate
- **Plaquenil: 400 mg x 20 years**

Risk of Plaquenil Maculopathy

Step 1: Evaluate the dosage:

❖ ***Dose:***

- ❖ Maximum daily HCQ use of ≤ 5.0 mg/kg real weight

150 lb. converts to 68 kg

400mg/68 kg = 5.88 mg/kg

Risk of Plaquenil Maculopathy

Step 2: Evaluate the duration:

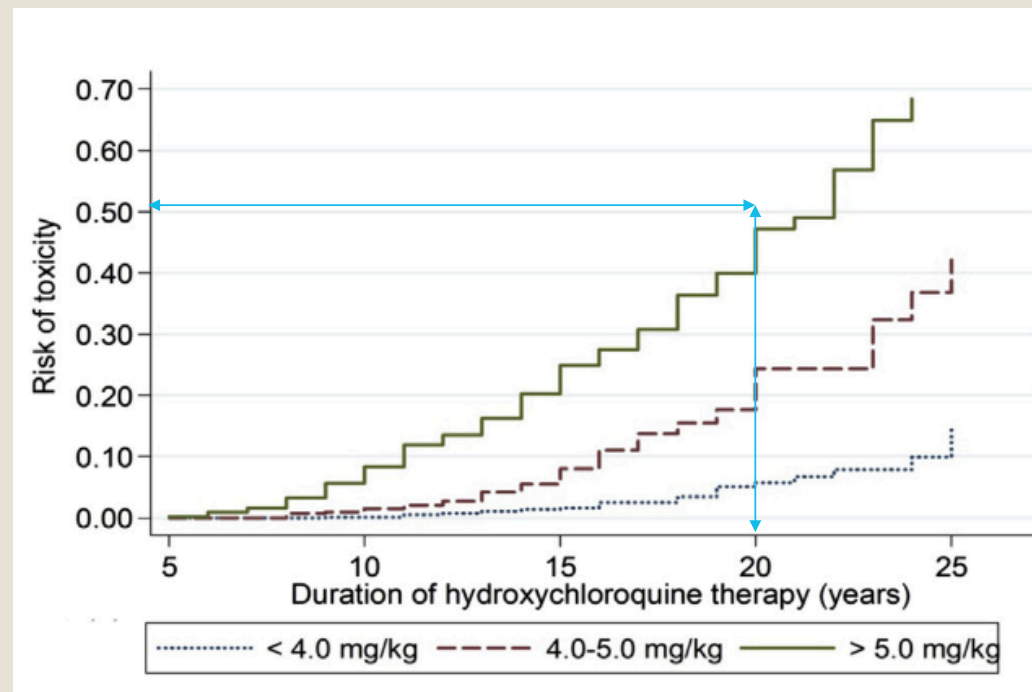
❖ ***Duration:***

- ❖ At recommended dosage, risk of toxicity up to 5 years is under 1% and up to 10 years is under 2%... **BUT 20% AFTER 20 YEARS!!!**

20 years of use and dosage higher than recommended

Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision)

AMERICAN ACADEMY™
OF OPHTHALMOLOGY



Risk of Plaquenil Maculopathy

Step 3: Assess other major risk factors:

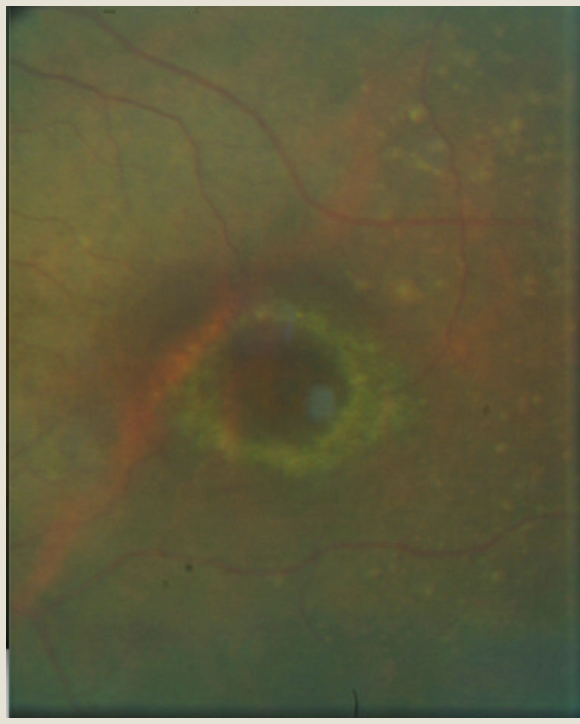
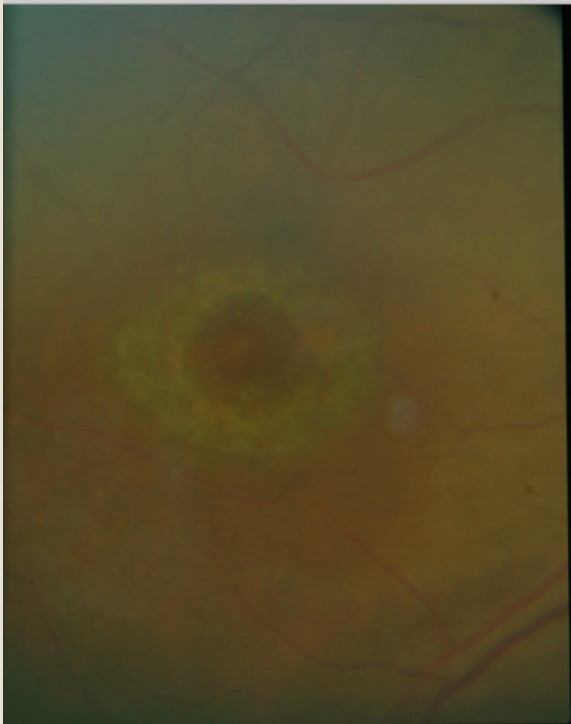
❖ ***Major Risk Factors:***

- ❖ Concomitant renal disease
 - ❖ Subnormal glomerular filtration rate

- ❖ Concomitant Drugs
 - ❖ Tamoxifen Use

This patient does not have any other major risk factors

Dilated Fundus Examination



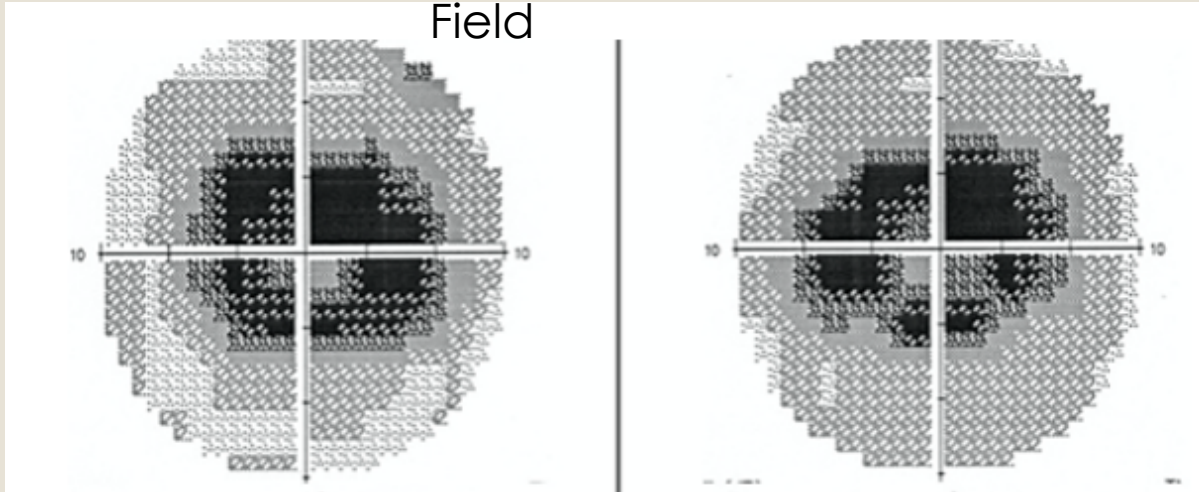
Ring of parafoveal
RPE depigmentation
sparing fovea



**“Bull’s Eye
Maculopathy”**

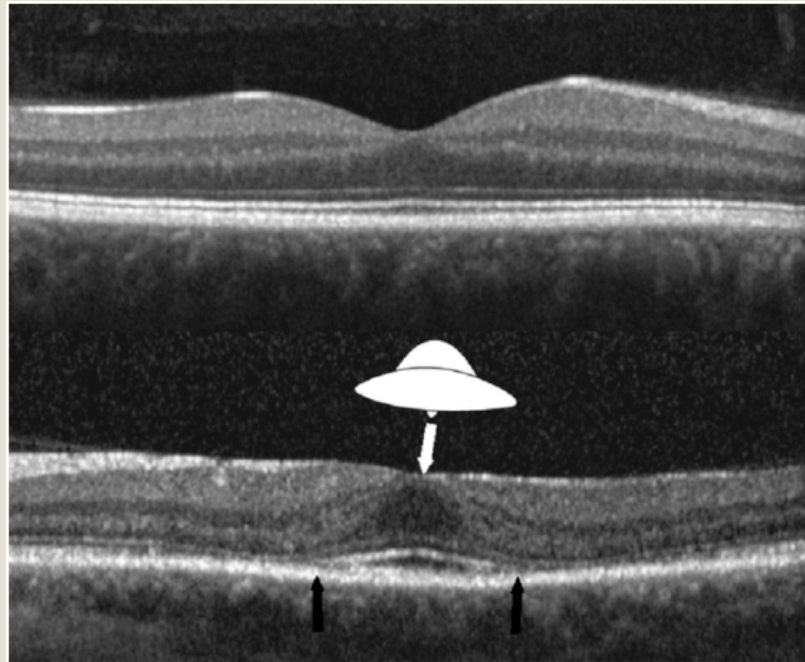
Ancillary Testing

10-2 Humphrey Visual
Field



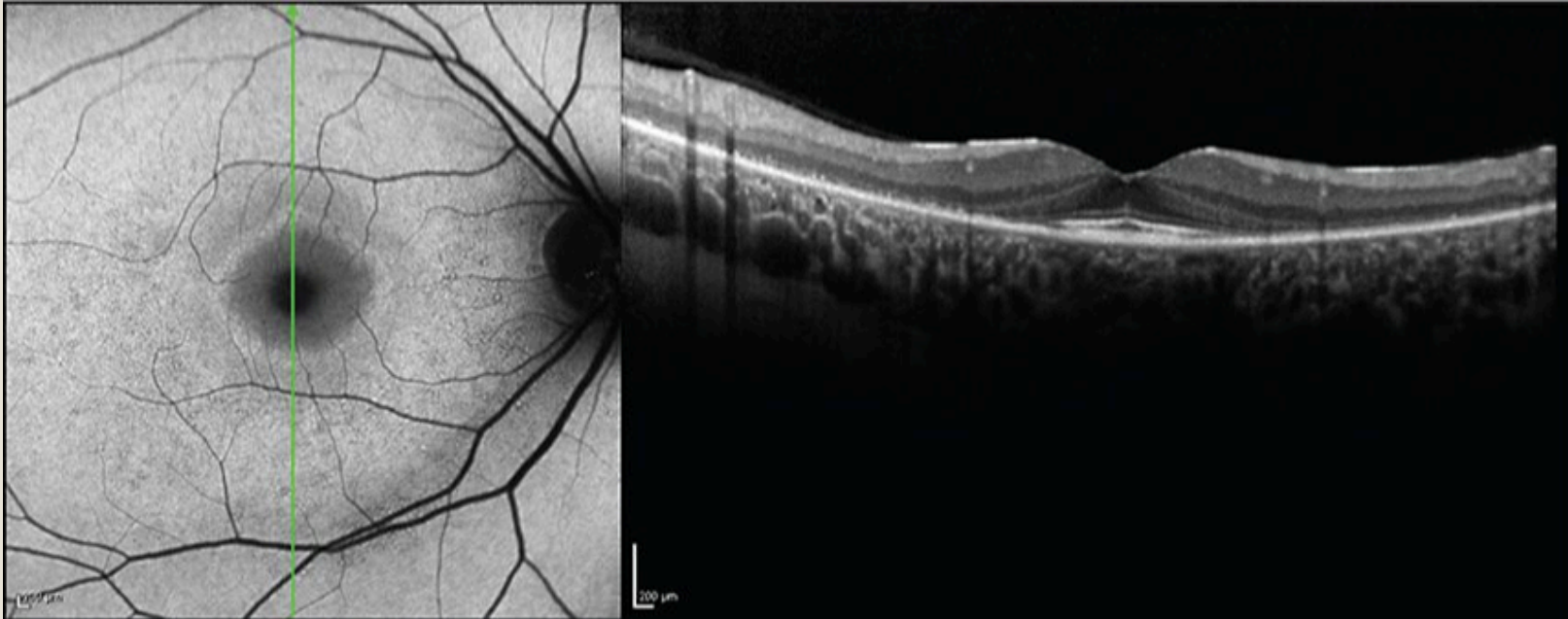
*Dense ring
scotoma
bilaterally*

Ancillary Testing: Optical Coherence Tomography



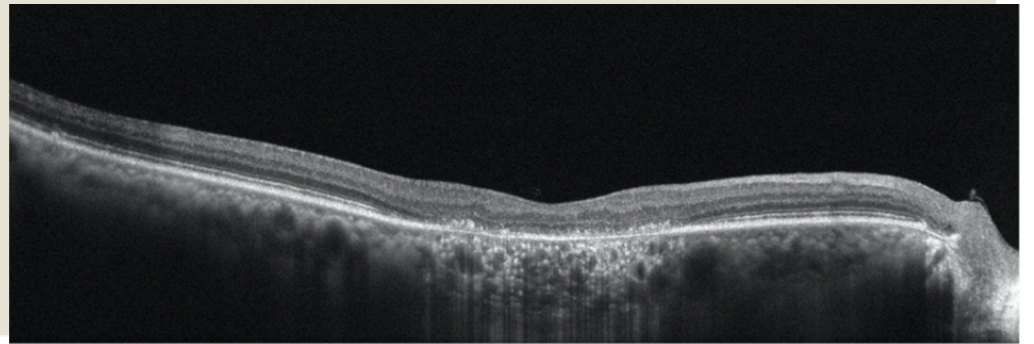
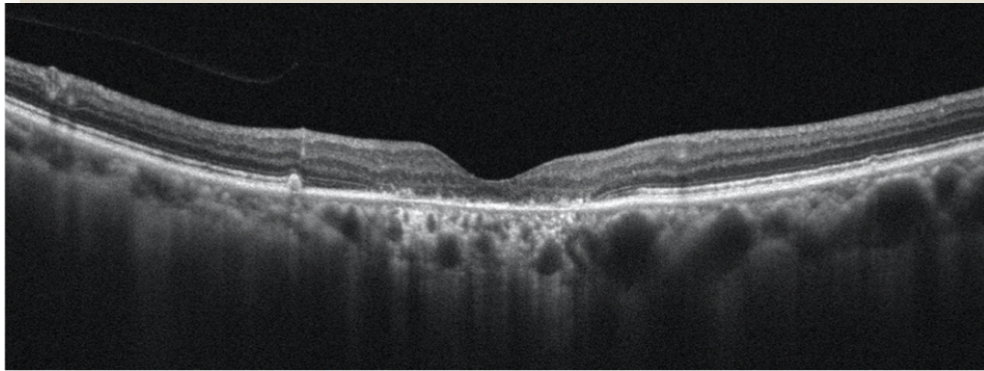
https://www.researchgate.net/figure/Top-Normal-Spectralis-spectral-domain-optical-coherence-tomography-SD-OCT-image-with_fig3_49602243

Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision)



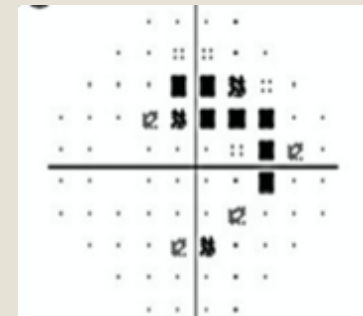
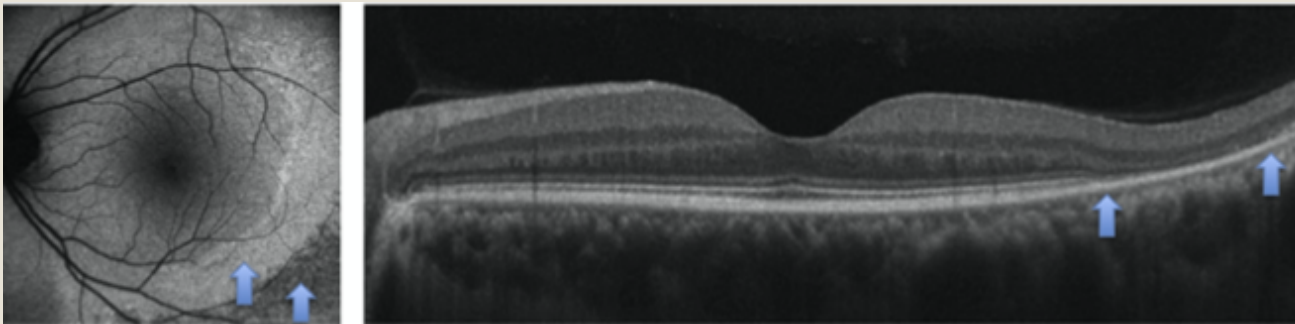
01/11/2013, OD
BAF&OCT 30° ART [HS] ART(73) Q. 39

*Ancillary Testing:
This patient*



Toxicity Variation: Asians

Classic "bulls-eye" pattern of toxicity is infrequent in Asian patients; initial damage is seen in a more peripheral extramacular distribution near the arcades.



Clinical Pearl

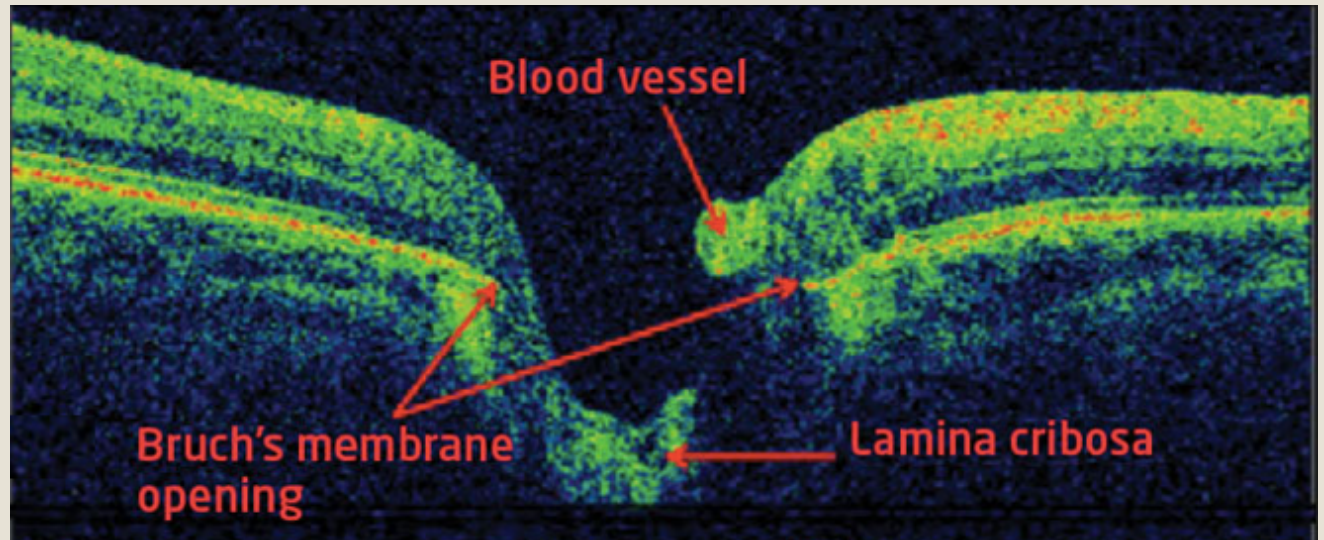
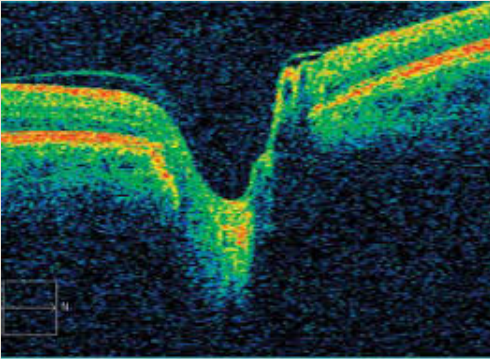
Maculopathy is NOT reversible and damage may progress even after drug cessation. Once "bull's eye" is seen... we are too late!!!

However, when retinopathy is identified early, there is only mild and limited progression after discontinuing the medication.

SCREENING ENABLES EARLY DETECTION!!



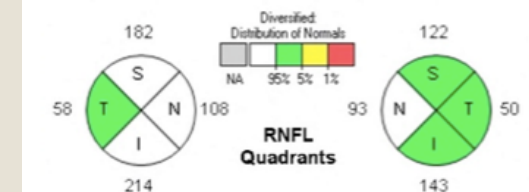
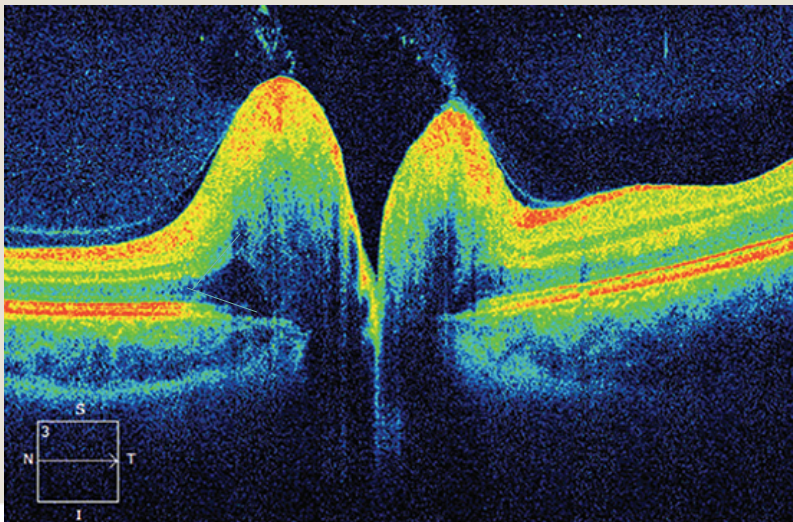
OPTIC NERVE OCT



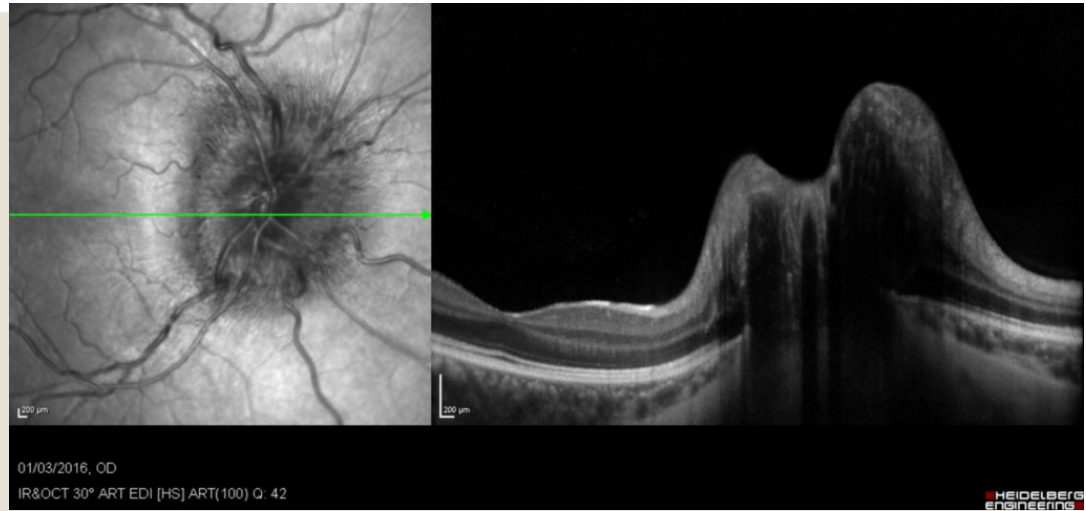
Papilledema

Important features of disc edema on OCT:

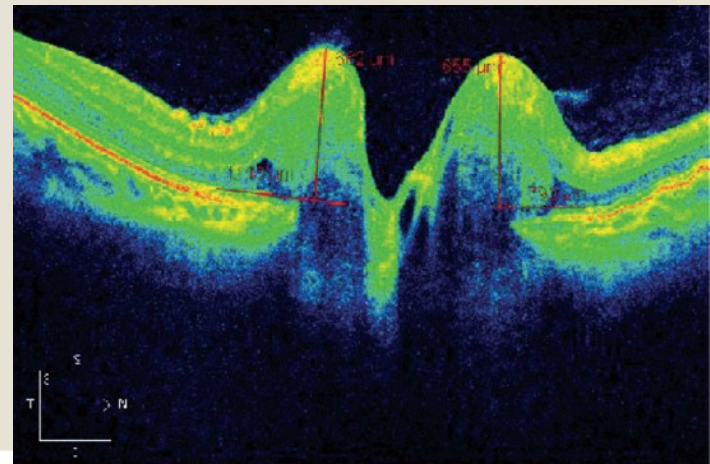
- Smooth contour of elevation
- Nasal RNFL >86 μm
- Thick hypo-reflective space adjacent to disc “lazy V” (Especially nasal)



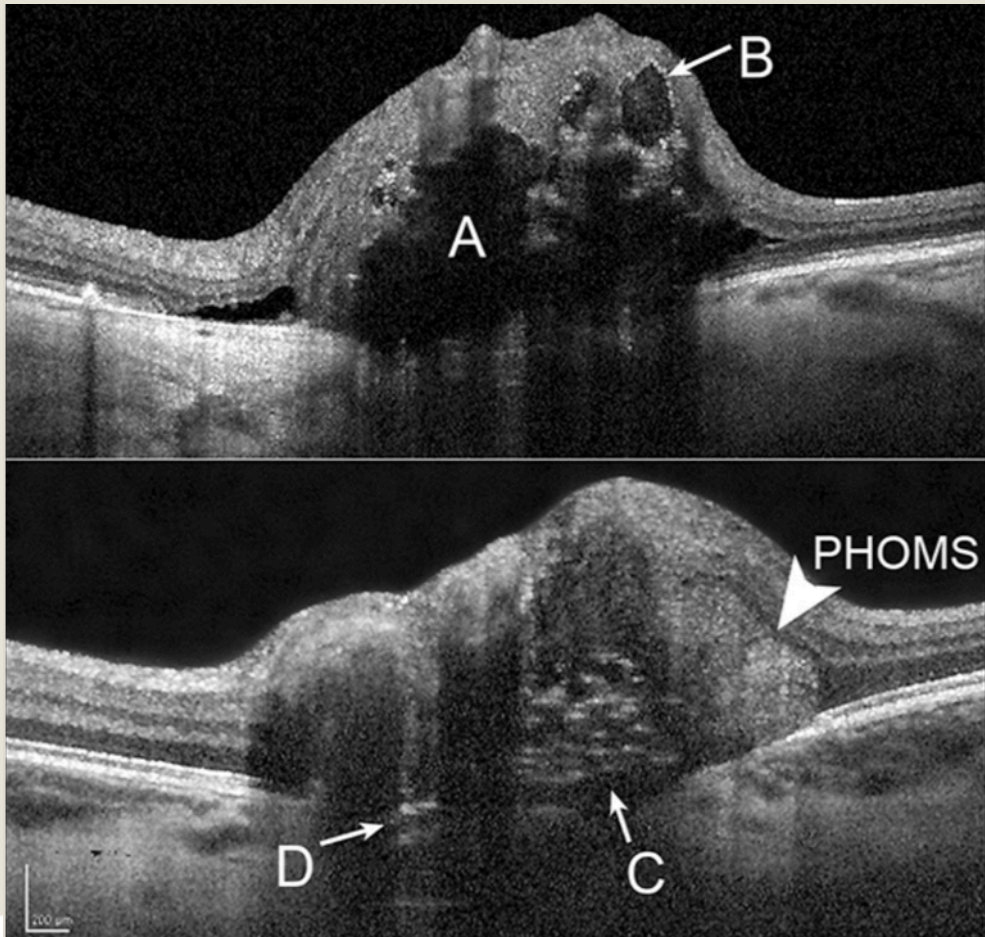
Papilledema



- Increased ICP will push the globe anteriorly
- With EDI, can see an anteriorly displaced Bruch's membrane



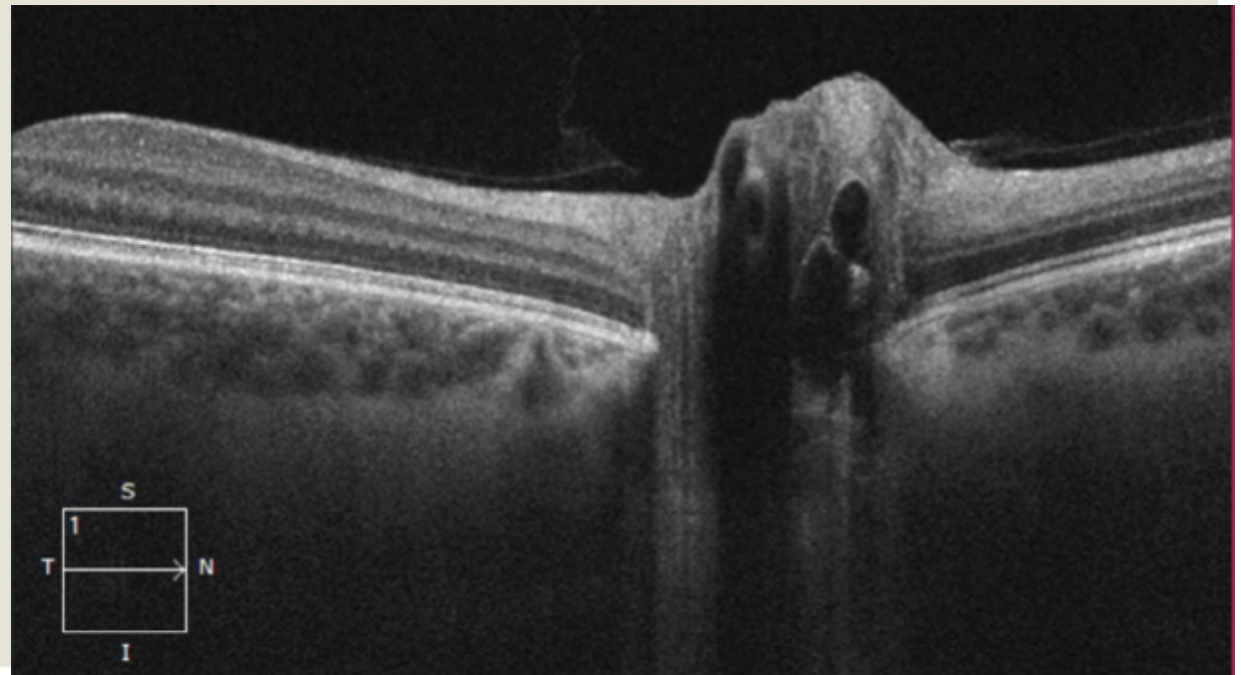
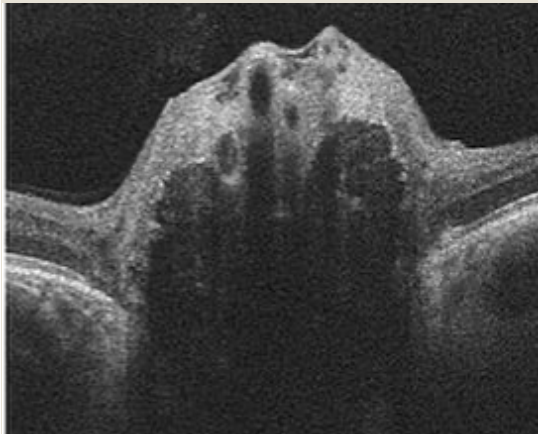
ONH Drusen



- A: Signal Poor Core
- B. Hyperreflective Cap
- C. Multiple small hyperreflective aggregates within a signal poor core
- D. PHOMS (peripapillary hyperreflective ovoid mass: NOT drusen)

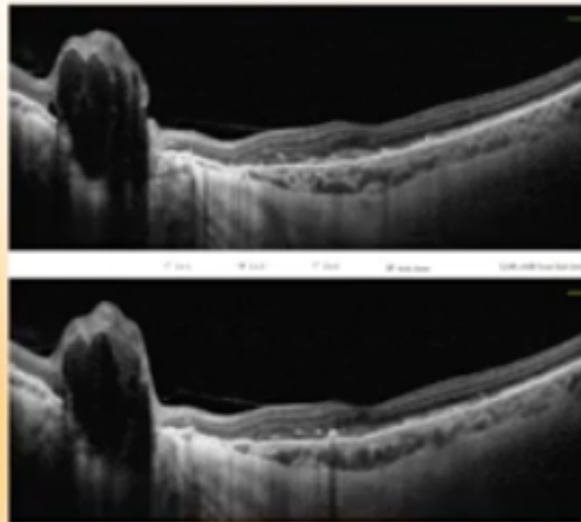
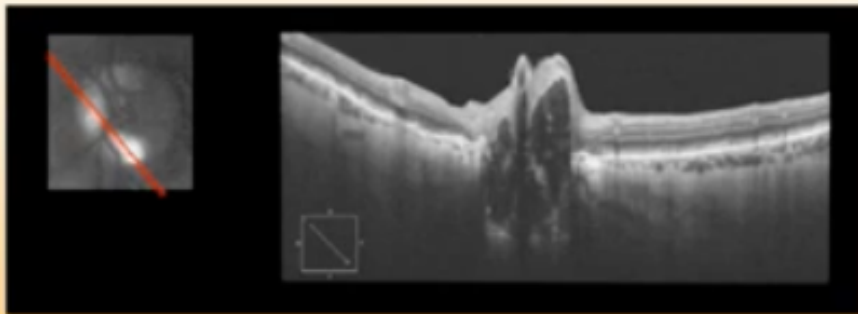
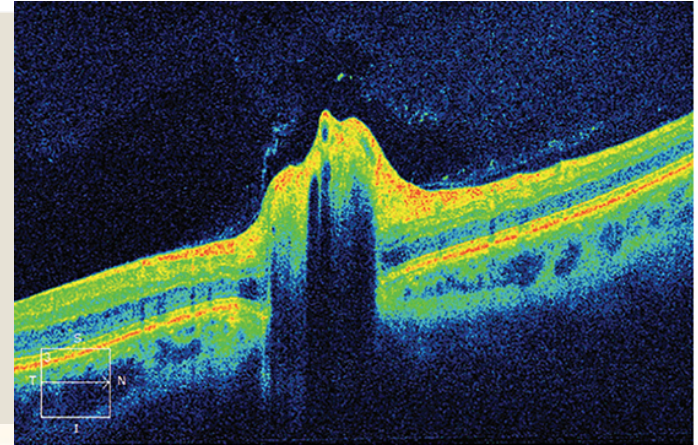
ONH Drusen

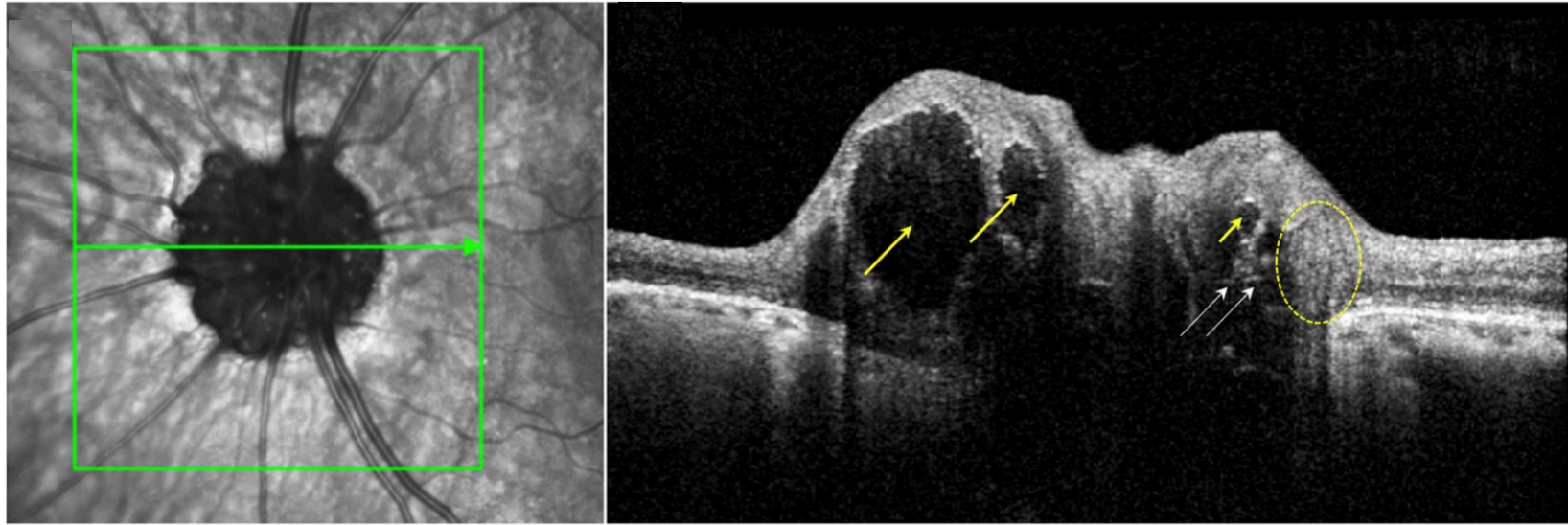
Irregular, bumpy contour
Hypo-reflective centers
Hyper-reflective margins



ONH Drusen

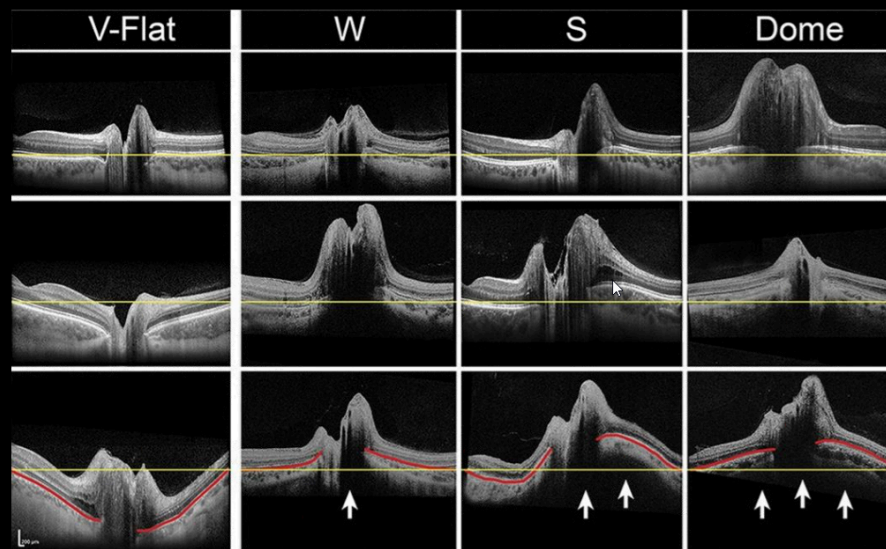
Reflectance of Hyaline and Shadowing beneath:
Not seen in cases of papilledema





Yellow arrows: Drusen with a hyporeflective core and hyperreflective margin
White arrows: Conglomerates of hyperreflective thin lines may represent early drusen
Yellow circles: PHOMS

Peripapillary Shape Patterns/Deformations



NORMALS
Pseudopapilledema
& ODD

INTRACRANIAL HYPERTENSION AND PAPILLEDEMA
Optic Nerve Sheath Meningiomas. Rarely AION and Papillitis

Journal of Neuro-Ophthalmology 41(1):77-92, March 2021. Optical Coherence Tomography Neuro-Toolbox for the Diagnosis and Management of Papilledema, Optic Disc Edema, and Pseudopapilledema

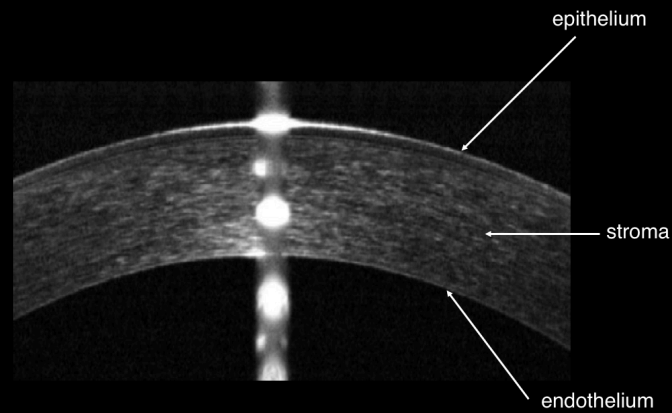


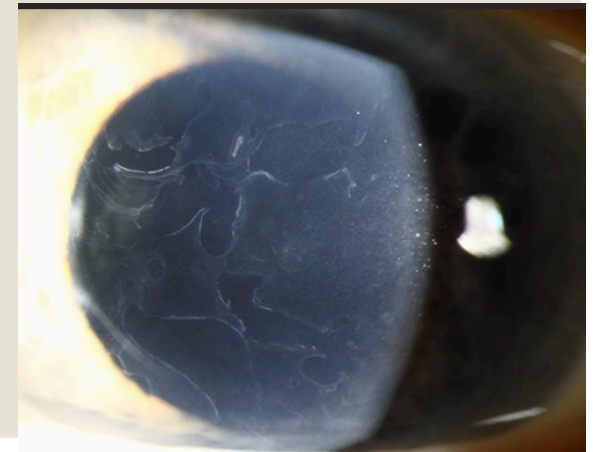
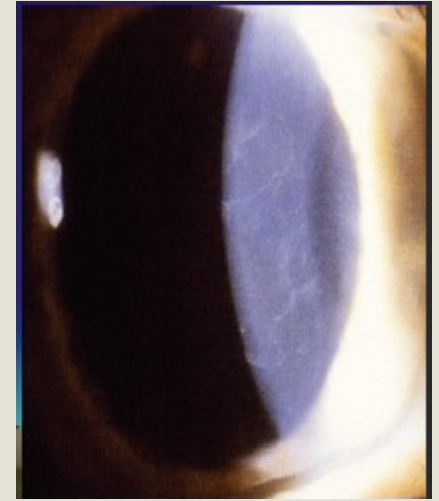
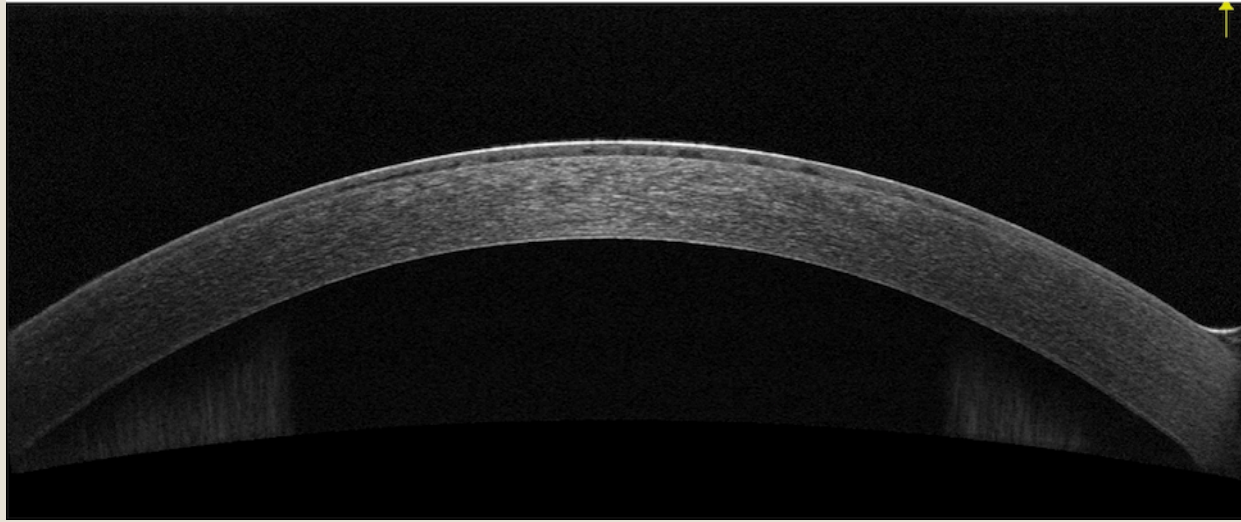
ANATOMY OF A CORNEAL OCT SCAN

Normal Scan

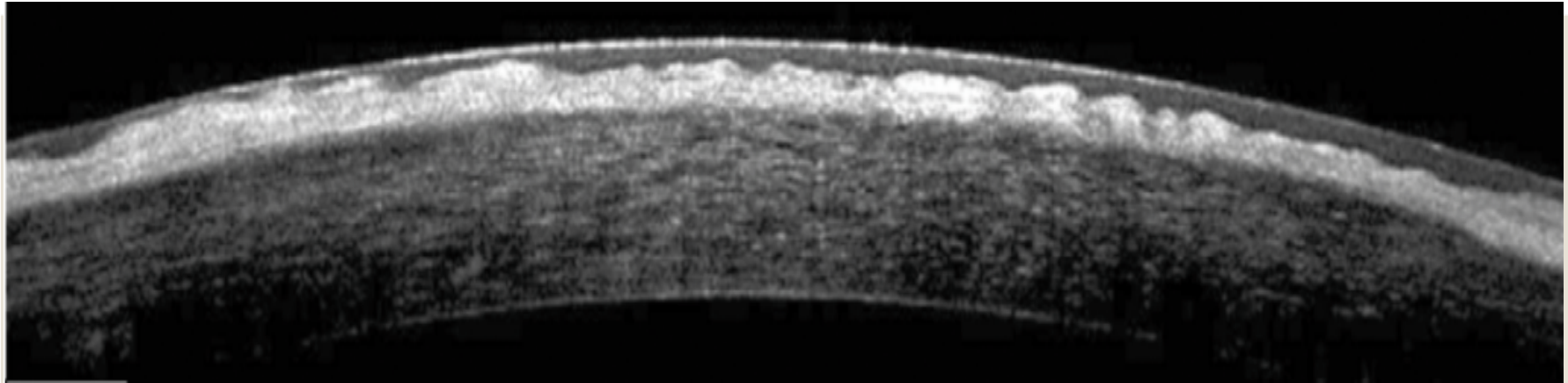
Normal Cornea

OCT of normal cornea





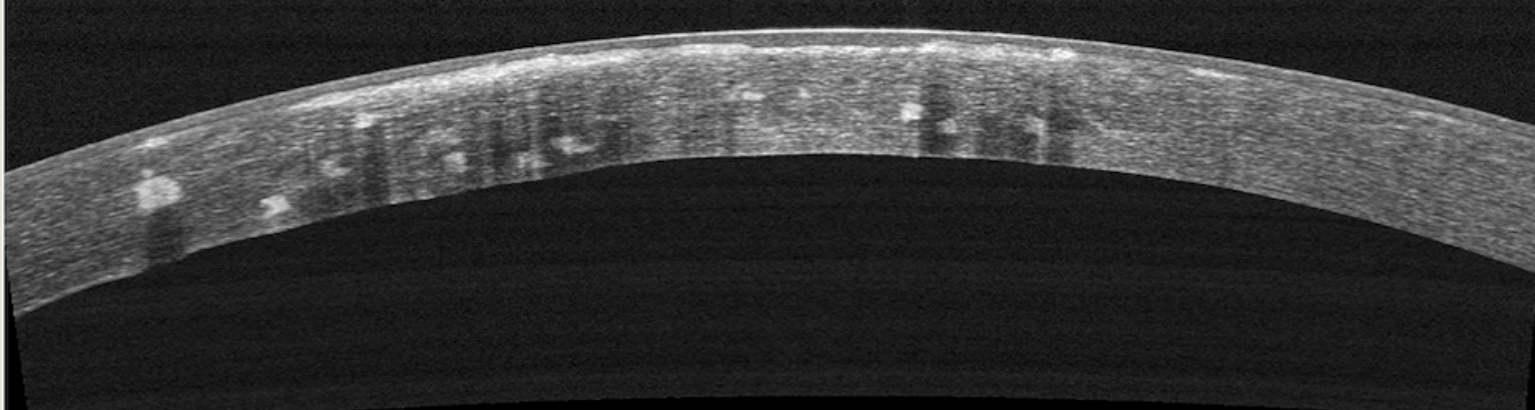
*Epithelial/Sub-Epithelial
Dystrophies
Map Dot Fingerprint*



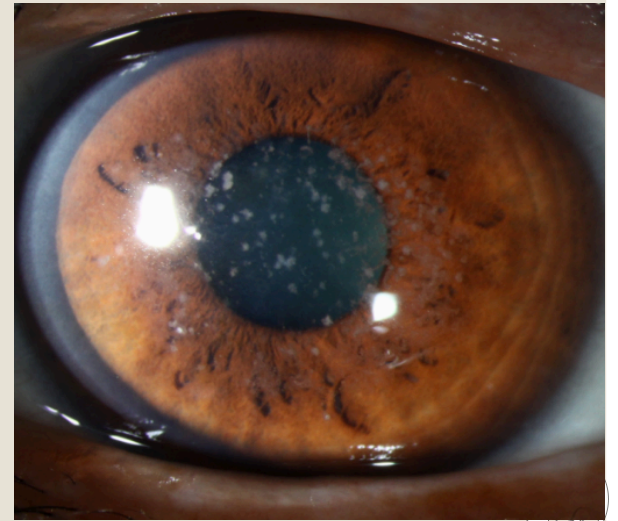
*Epithelial/Sub-Epithelial
Dystrophies*

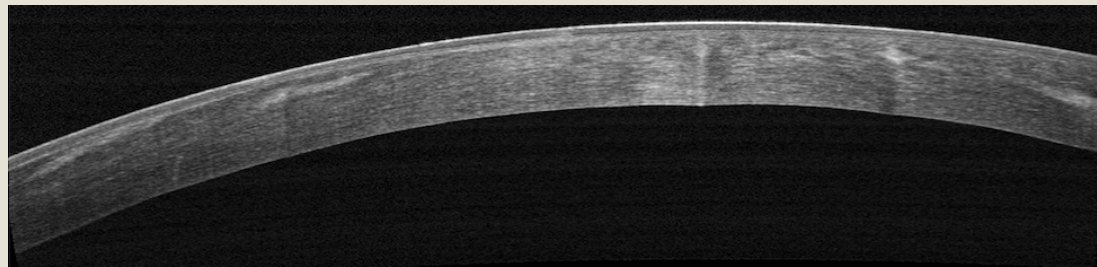
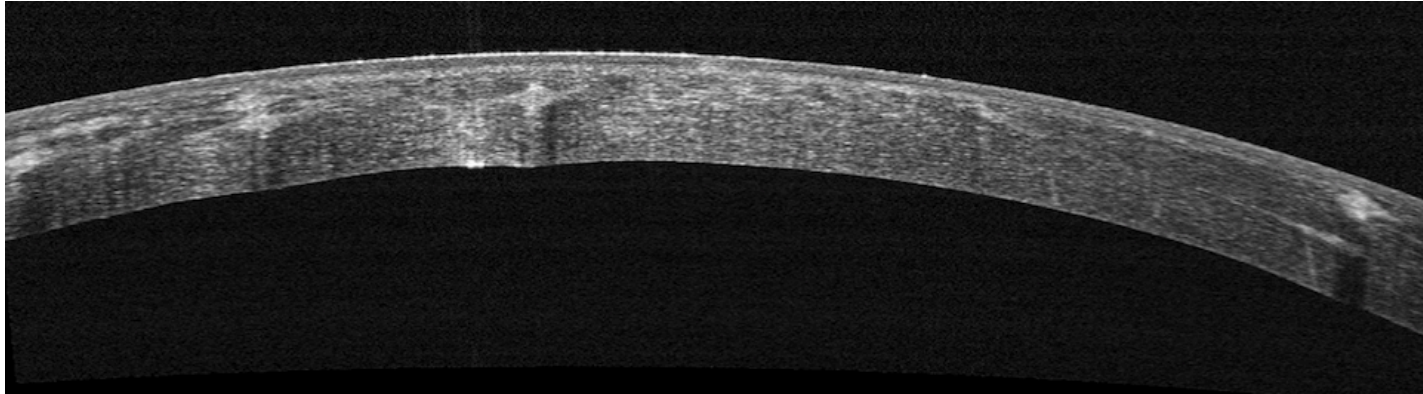
Reis Buckler



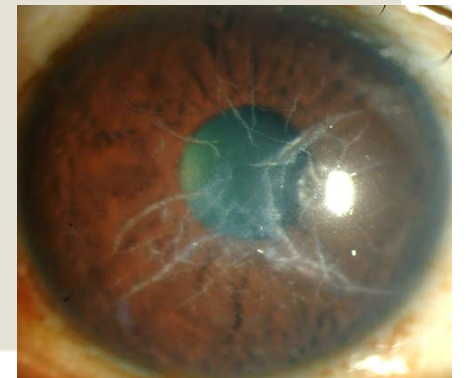
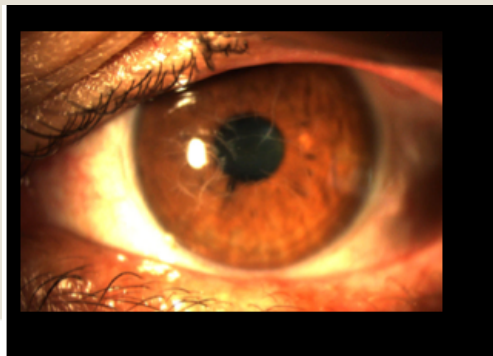


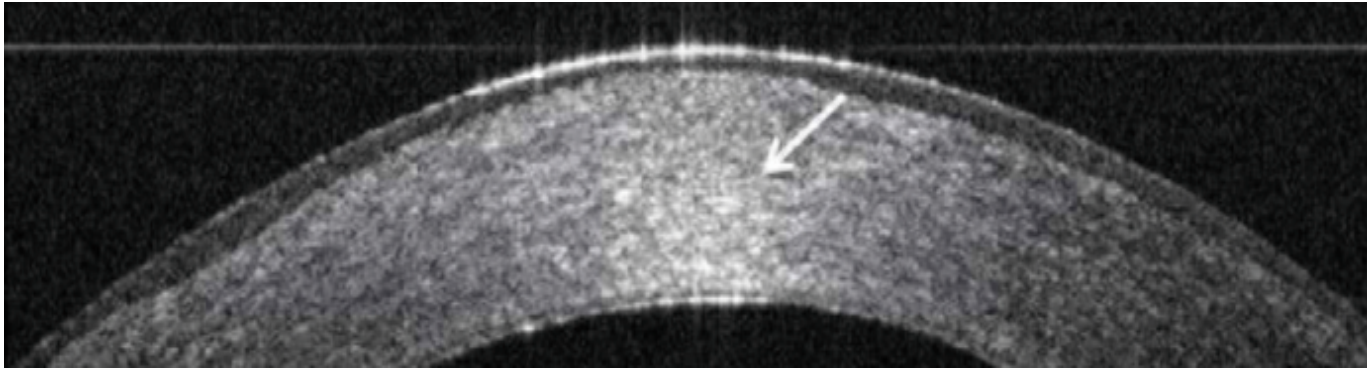
Stromal Dystrophies
Granular





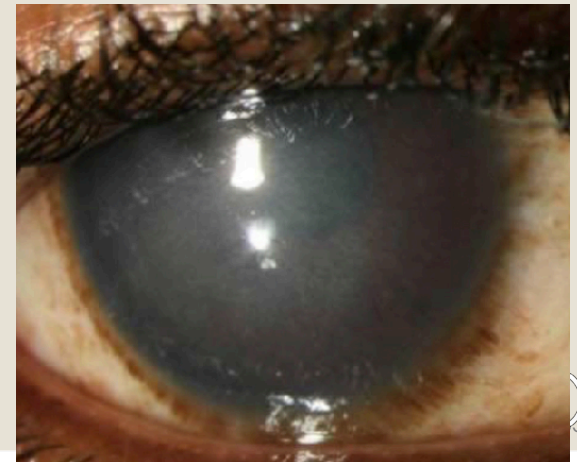
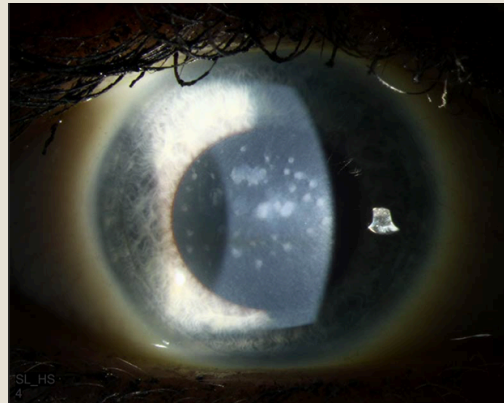
*Stromal
Dystrophies
Lattice*

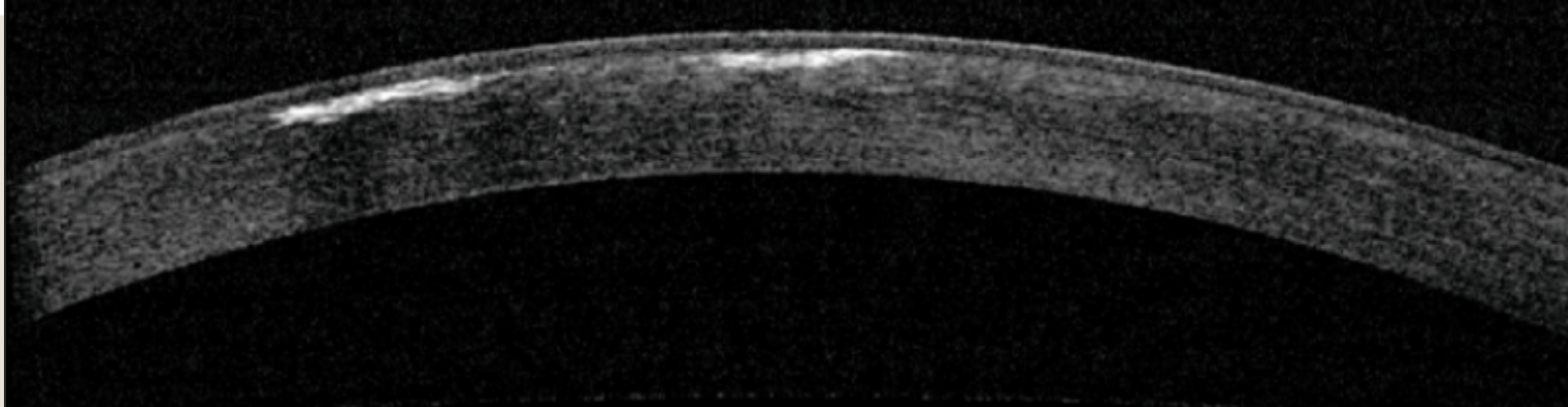




Stromal Dystrophies

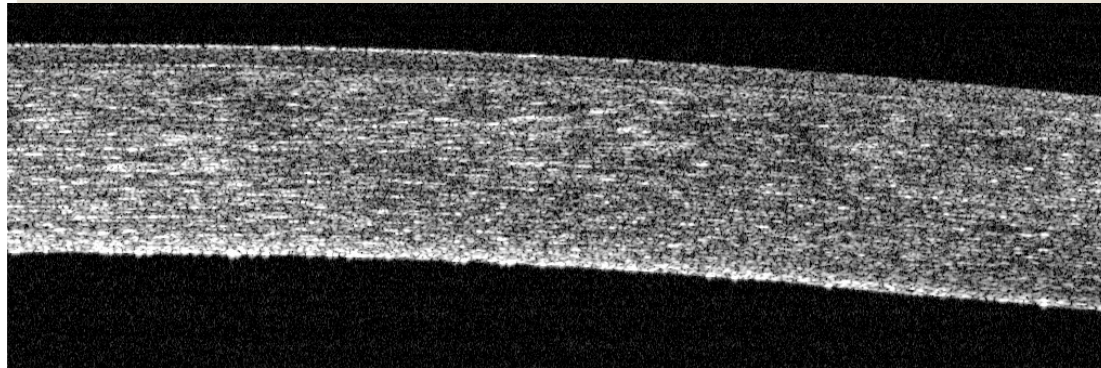
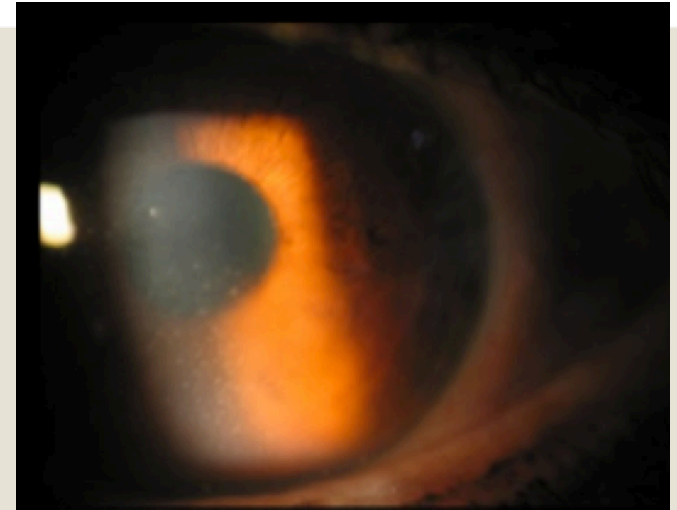
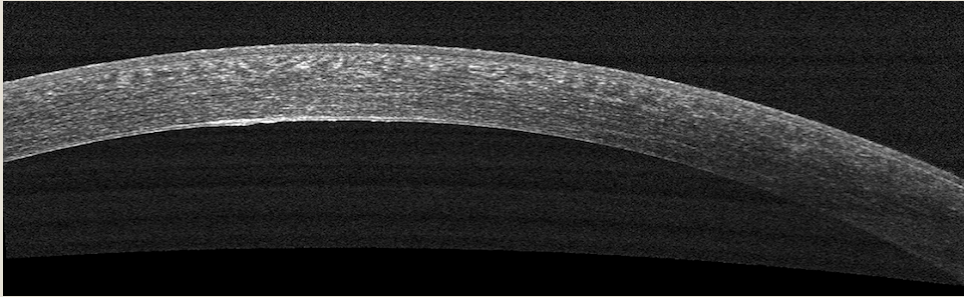
Macular



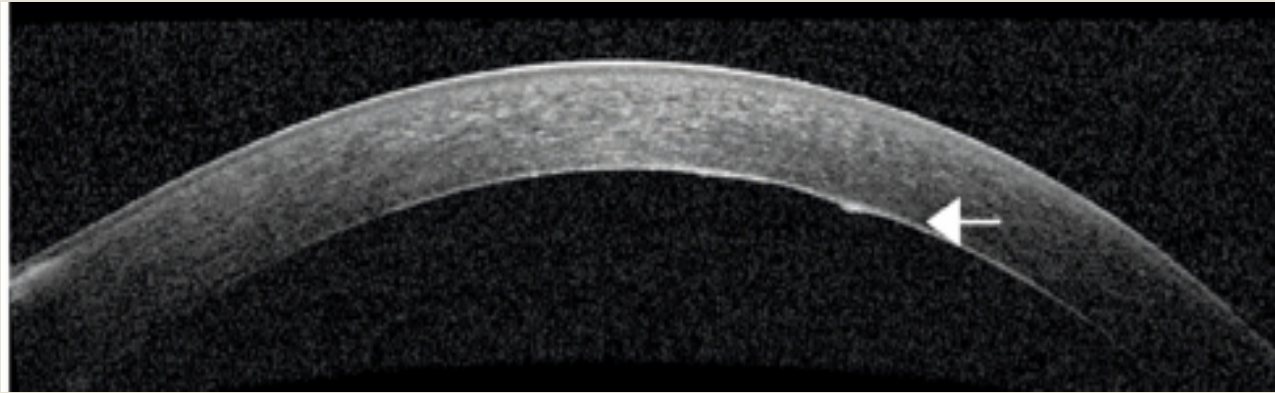


*Stromal
Dystrophies
Schnyder Crystalline*



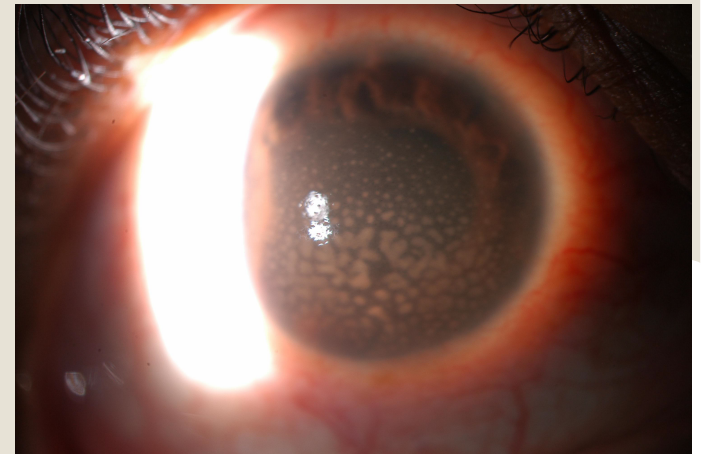
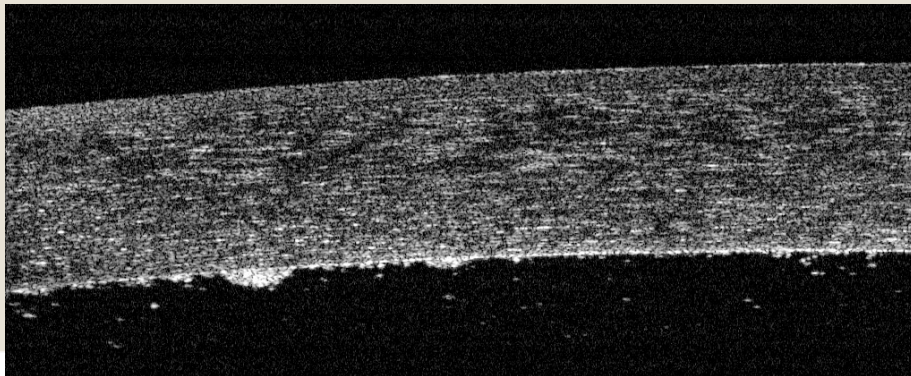
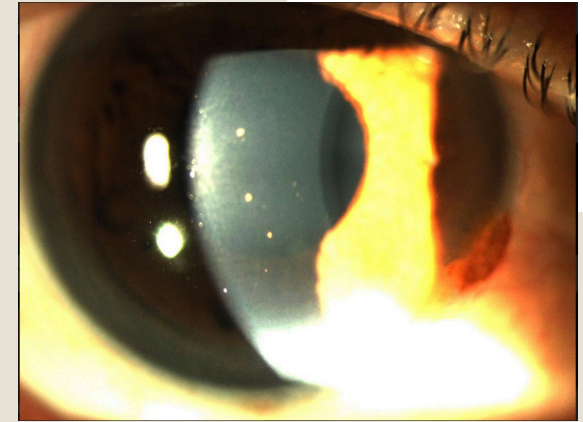
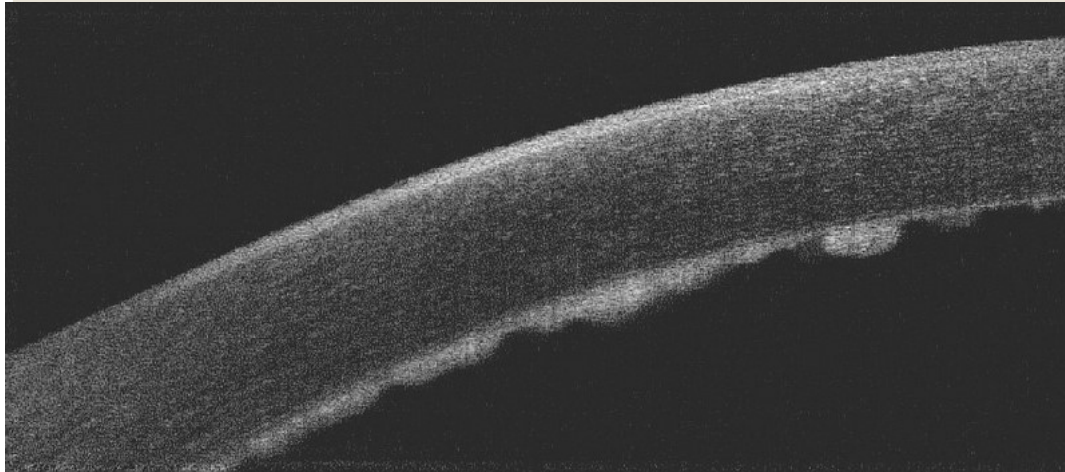


Endothelial Dystrophies
Fuch's Endothelial

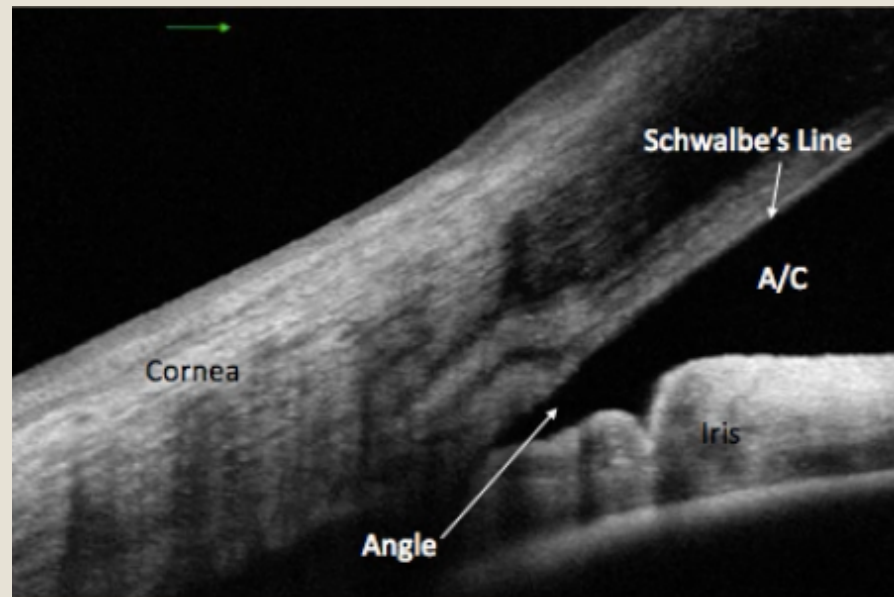


Endothelial Dystrophies
Posterior Polymorphous

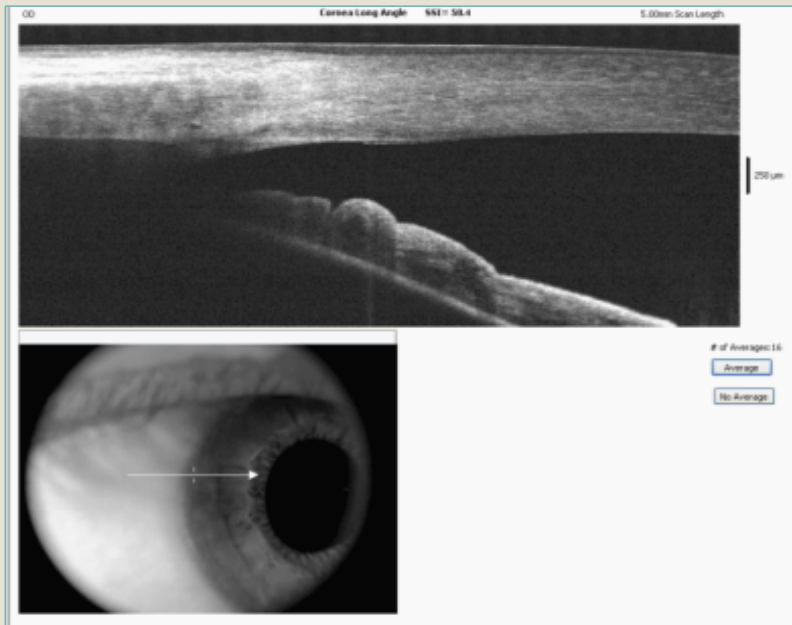
Keratic Precipitates



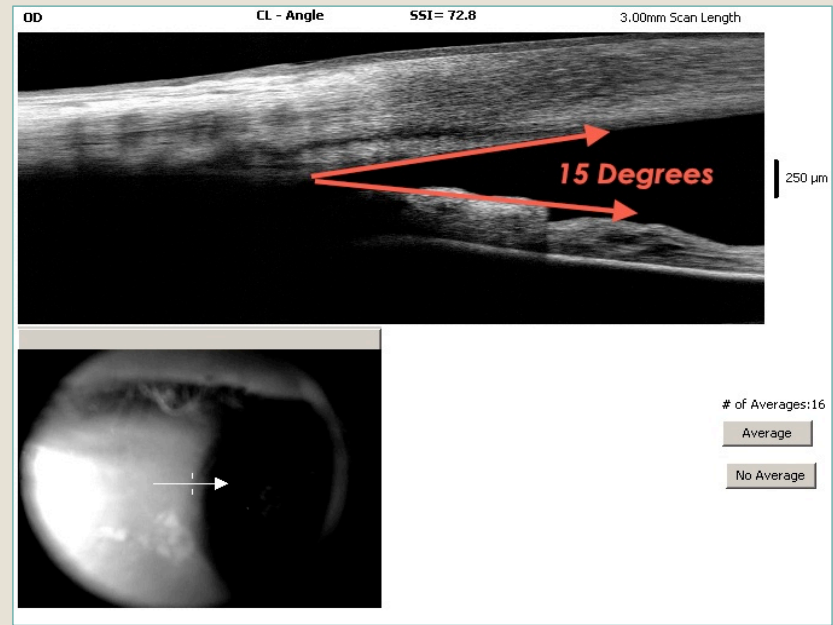
Angle Measurement



Angle Measurement



Normal



Narrow

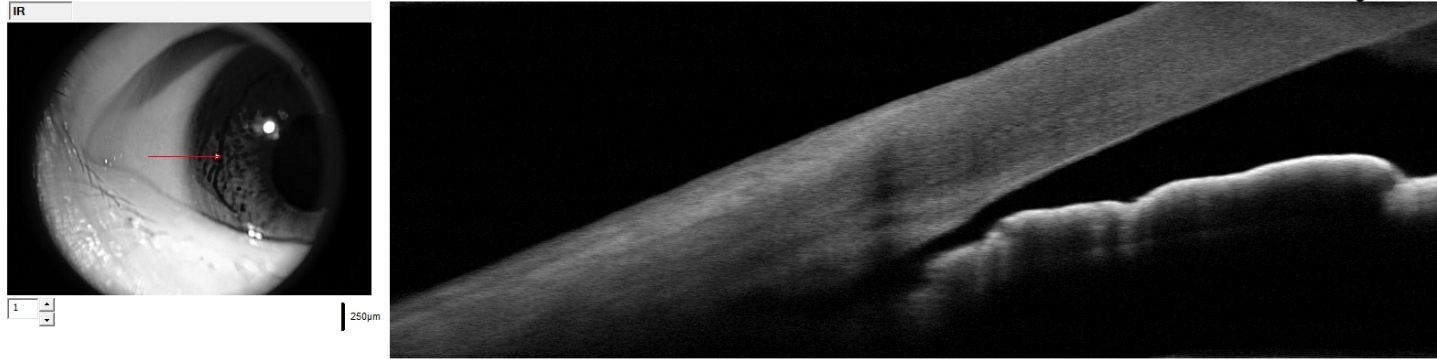
How narrow is the angle???

Light

Dark

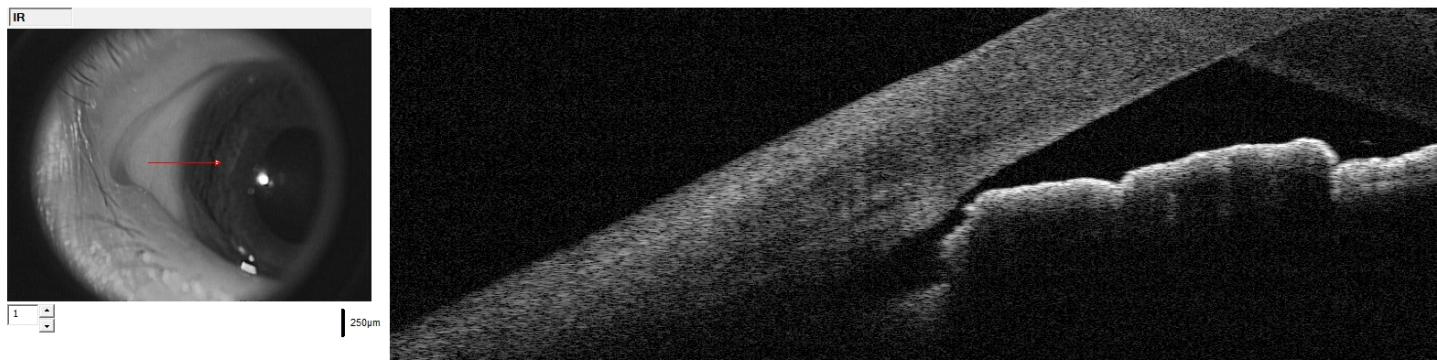
Cornea Angle Comparison Report

Scan 01/09/2019 11:39:30 Signal Strength Index 49 3.00 Scan Size (mm) Right / OD



IR 1 250µm

Scan 01/09/2019 11:41:26 Signal Strength Index 53 3.00 Scan Size (mm) Right / OD



IR 1 250µm

Print OU Report

OPTOVUE

Thank you!!!

rjulie@nova.edu