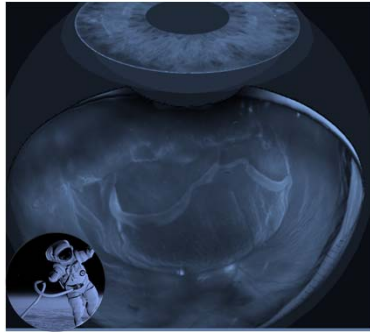


A Journey to the Peripheral Retina:

Diagnosis and Management of Peripheral Retinal Disease A Clinically Relevant Review

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Disclosures

- Mohammad Rafieetary, OD, FAAO
 - Charles Retina Institute
- Alcon/Novartis
- Genentech
- Heidelberg Engineering
- Notal Vision
- Optos
- Regeneron
- RegenXbio

Purpose of physical examination, Diagnostic testing and imaging

- Screening and inspection for Specific or common (endemic or epidemiological) or even rare conditions
 - Myopia, Amblyopia, Glaucoma,
- Discovering cause or etiology in a symptomatic patient
 - Example: Loss of sight, Flashes, Floaters
- Examining for complications of certain systemic disease or Medication/Treatment
 - Example: Diabetes
- Evaluating coincidental findings
 - Example: Asymptomatic with OHS, Lattice, various lesions and scars

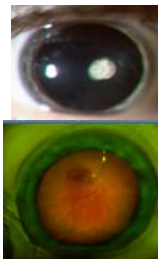
Peripheral Retinal Abnormalities

(Primary or Secondary Conditions)

- Peripheral Lesions
 - Meridional Folds, Pars Plana Cysts, Ora Serrata Pearls
- Degenerative Disorders
 - Paving Stone, Lattice, Acquired Retinoschisis
- Vitreous and Vitreoretinal Interface Caused
 - Degenerative vitreopathies, Tufts, Holes, Tears,
- Retinal Vascular
 - Coats, PEHCR, Sickle and Diabetic, Vascular Tumors
- Inflammatory, Infectious Disease
 - Pars Planitis, ARN, CMV
- Pigmented Lesions
 - CHRPE, Choroidal Nevus and Melanoma, pigmented CRS
- Trauma

Dilation

- For proper evaluation of the crystalline lens and beyond
- Maybe able to get by in young patient
 - Slit lamp lenses (90D)
 - 28 D lens
 - Or Imaging
- Medical-Legal and Standard of Care Concerns
- Limiting Factors
 - Technique and Skill in Detection (What am I looking at?)
 - Recognition of the findings and proper assess (What is this what do I do with it?)
 - Patient flow, and patient complaints of inconvenience (How do I convince the PT they need it?)

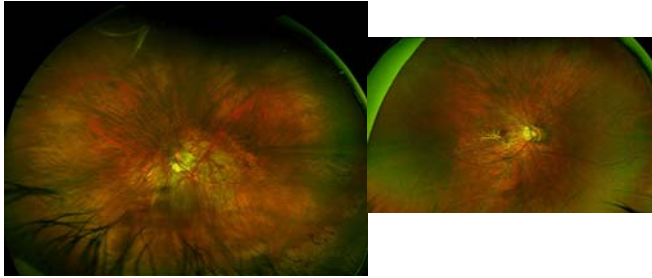


Dilation *Risks and Benefits*

- At risk population
 - Age
 - Systemic conditions such as Diabetes
 - Family history
 - Trauma
 - Symptoms
 - Clinical/Examination Findings (High Myopia)



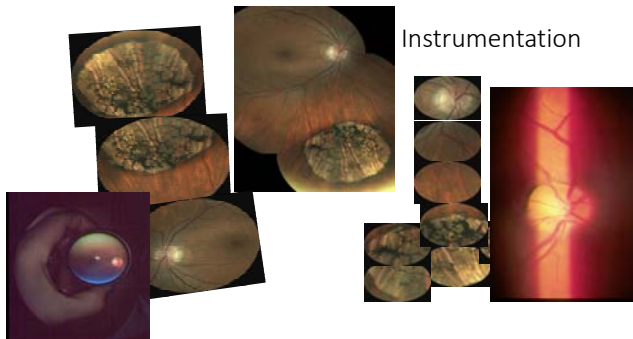
Degenerative Myopia with and without PRD



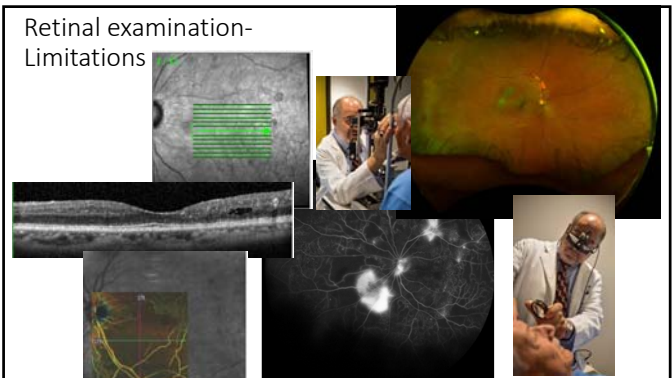
Instruments



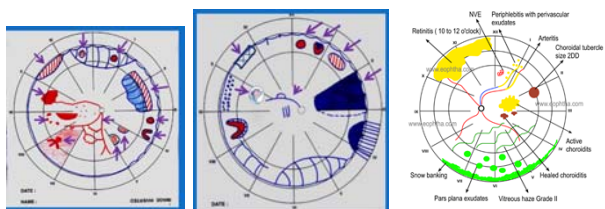
Instrumentation



Retinal examination- Limitations

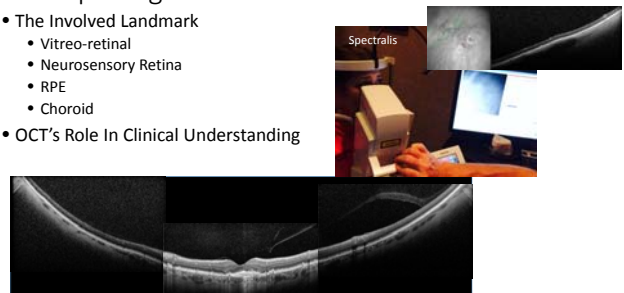


Peripheral Retinal Examination

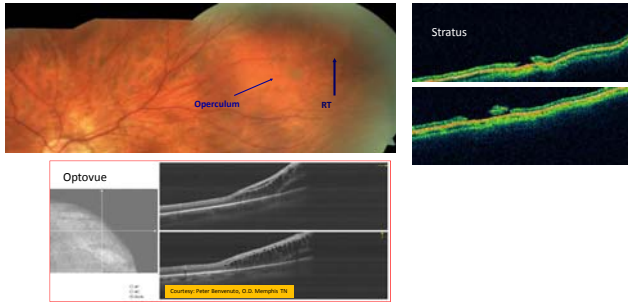


Morphological Differences In Clinical Course

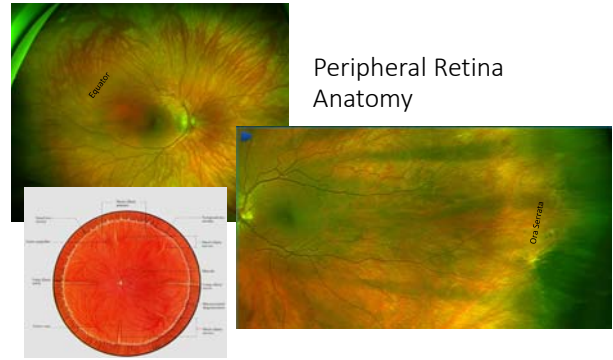
- The Involved Landmark
 - Vitreo-retinal
 - Neurosensory Retina
 - RPE
 - Choroid
- OCT's Role In Clinical Understanding



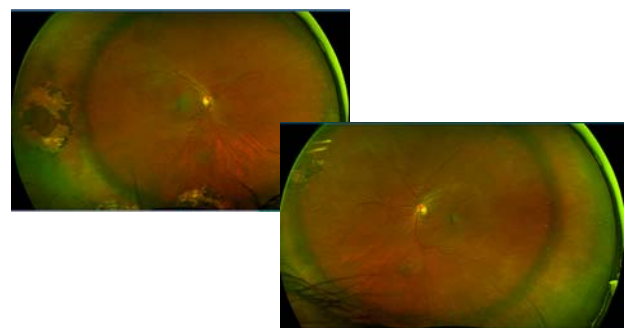
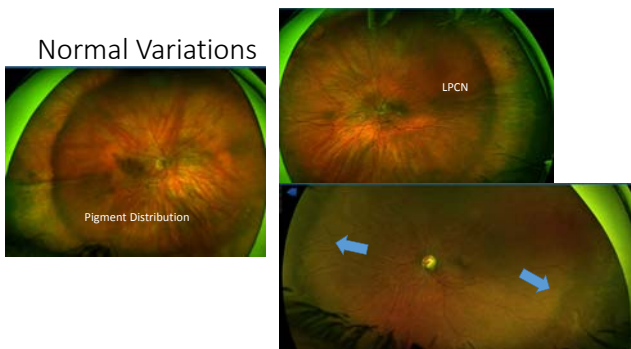
Peripheral Retina



Peripheral Retina Anatomy



Normal Variations



Peripheral Lesions-Pars Plana Cysts

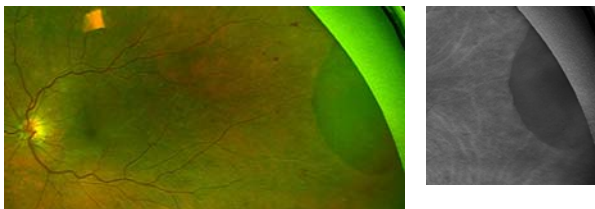
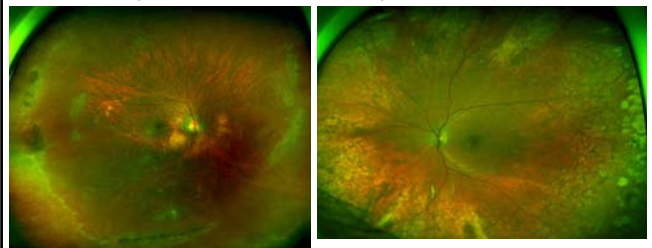
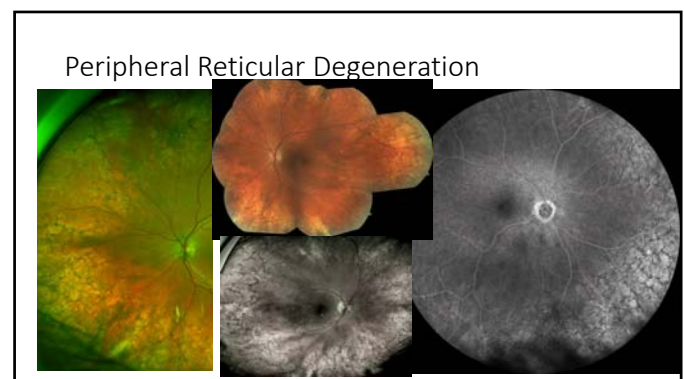
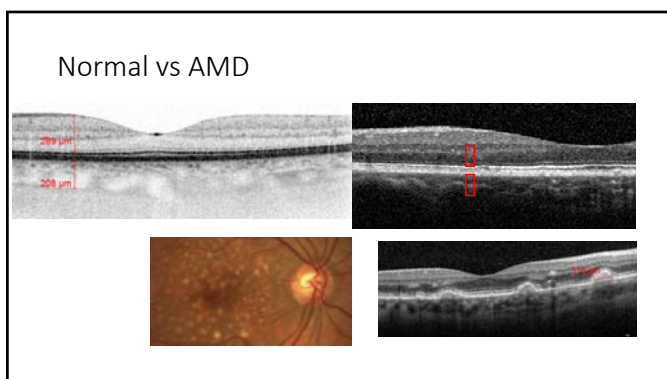
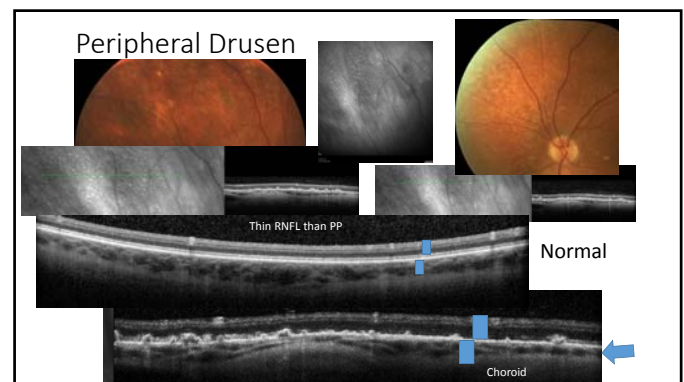
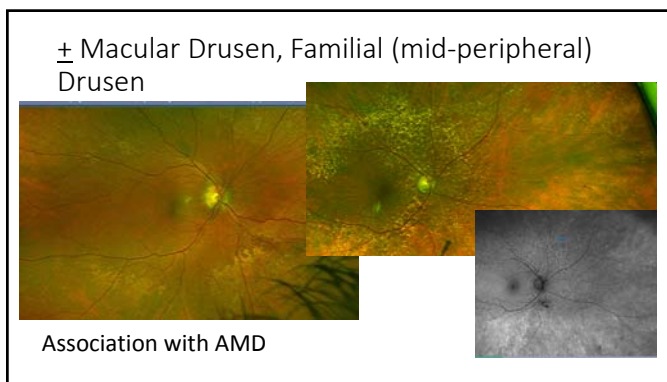
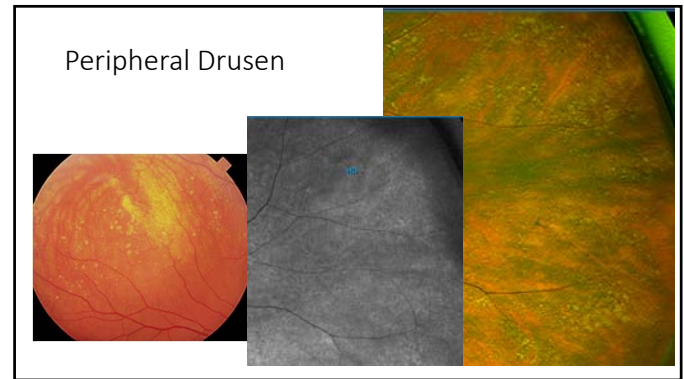
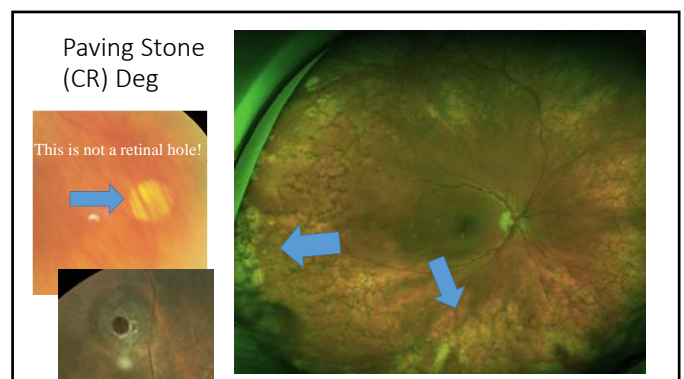
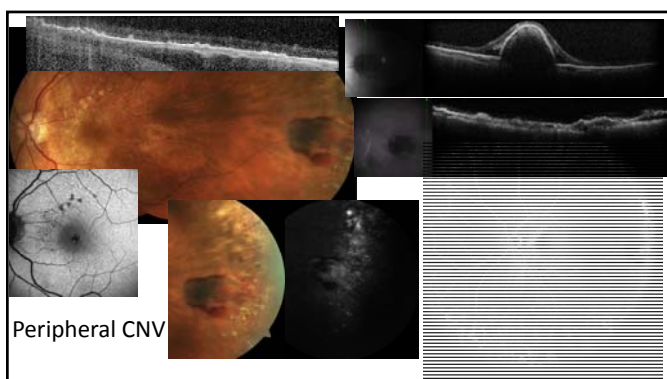
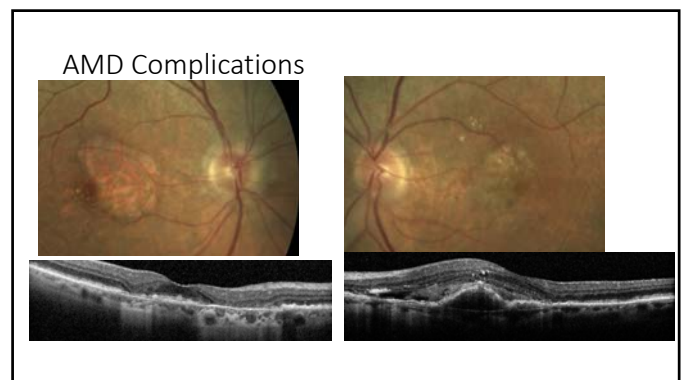
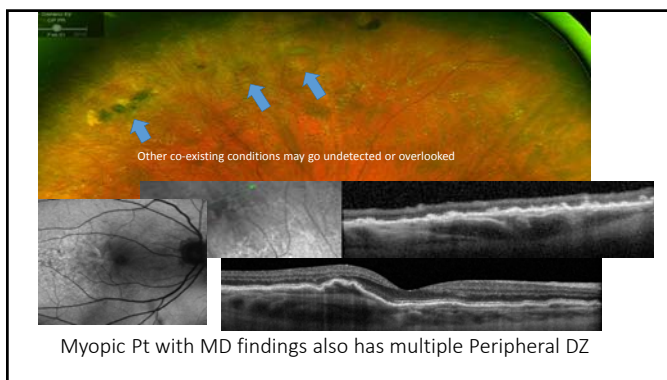
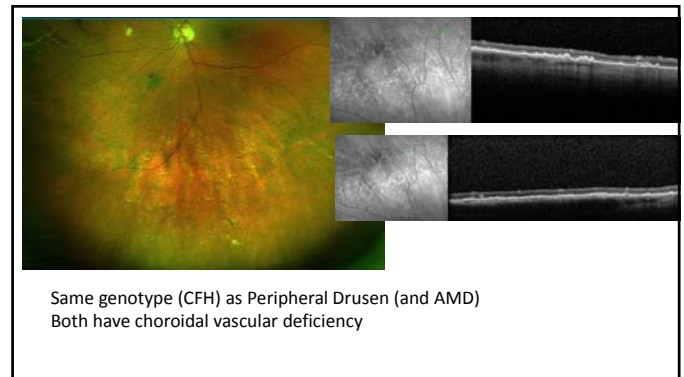
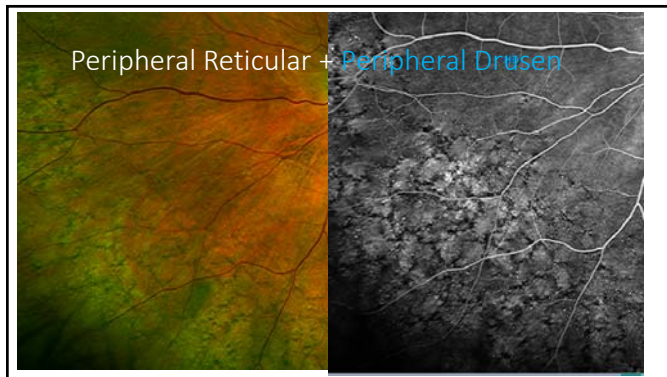
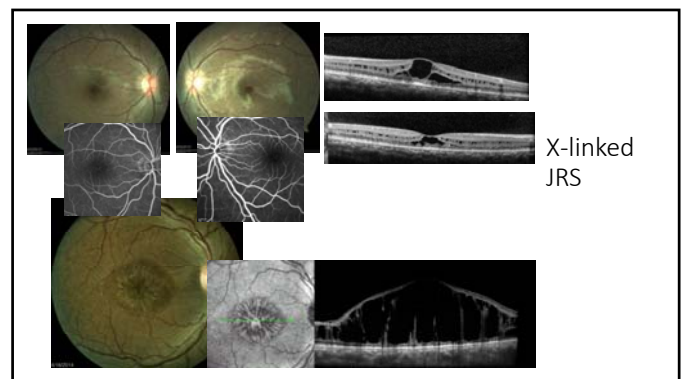
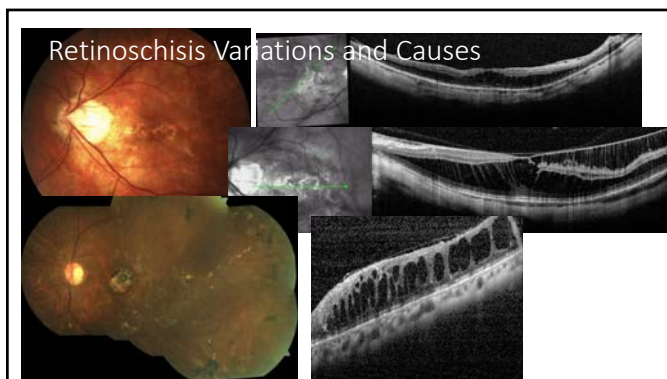
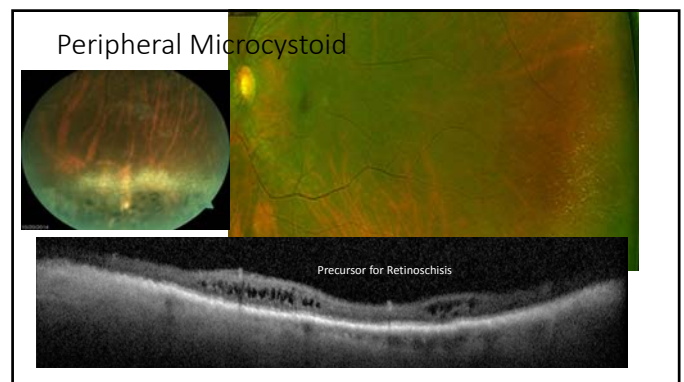
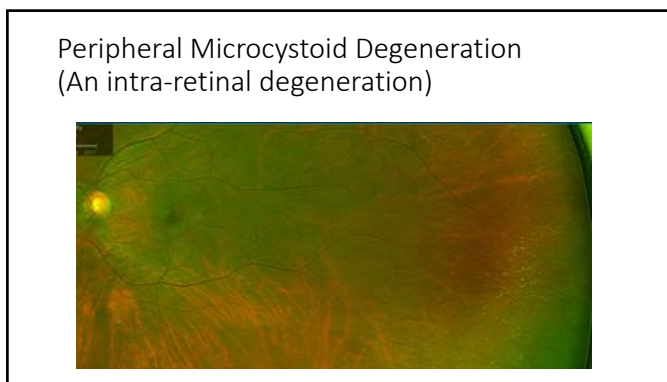
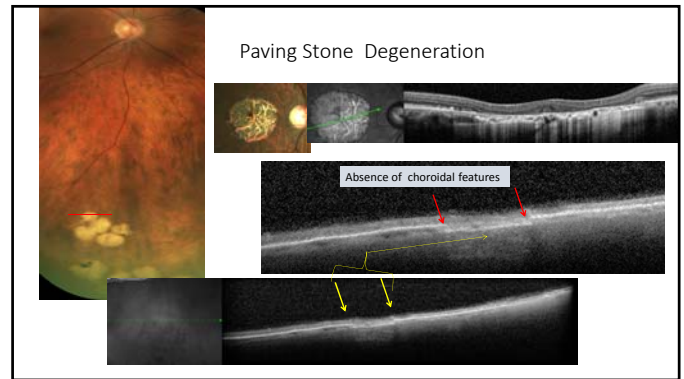
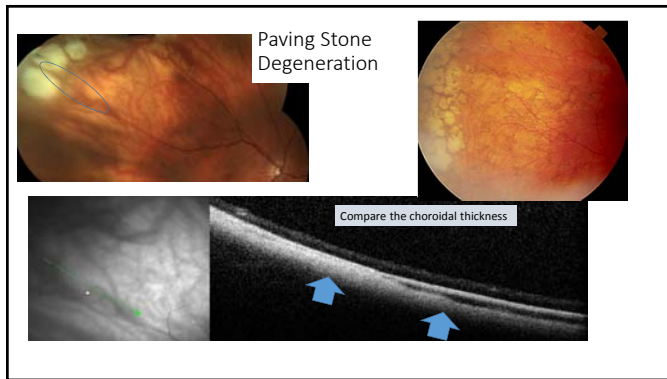
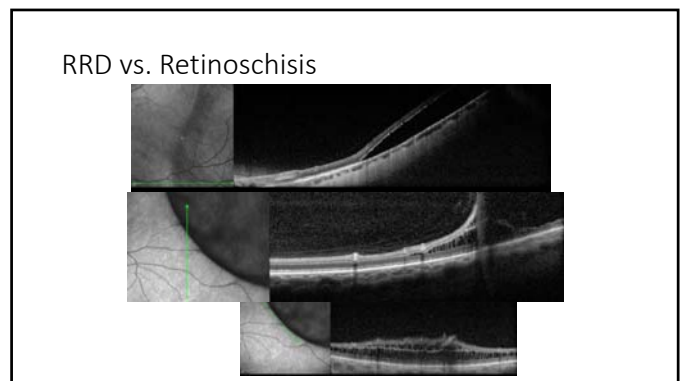
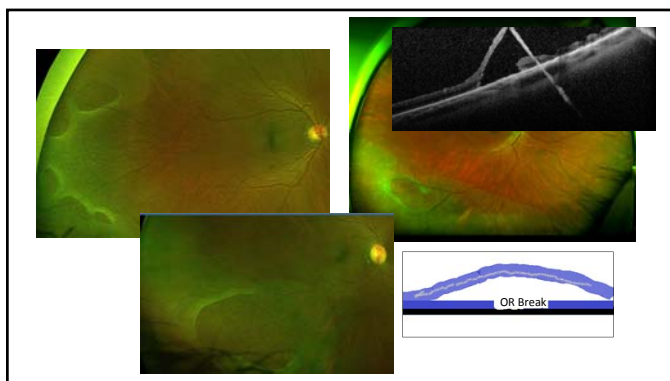
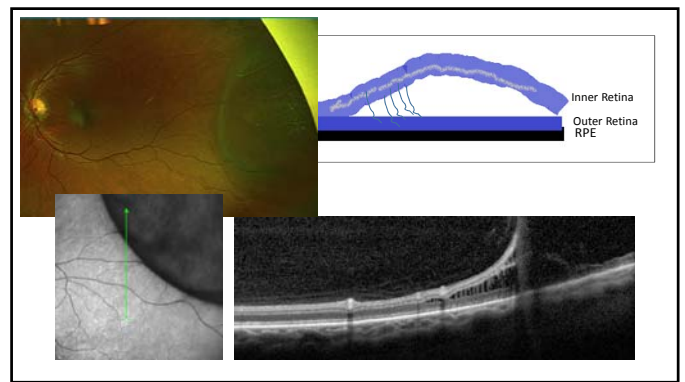
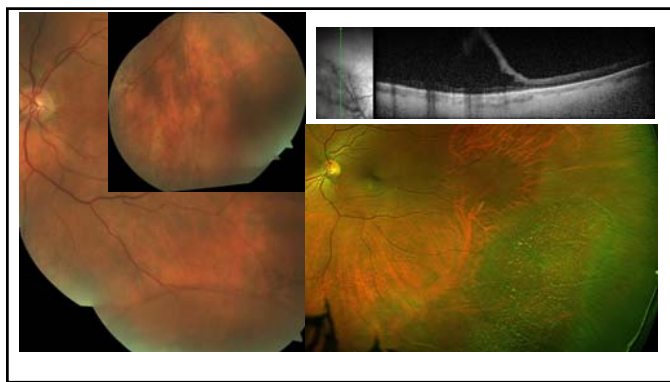
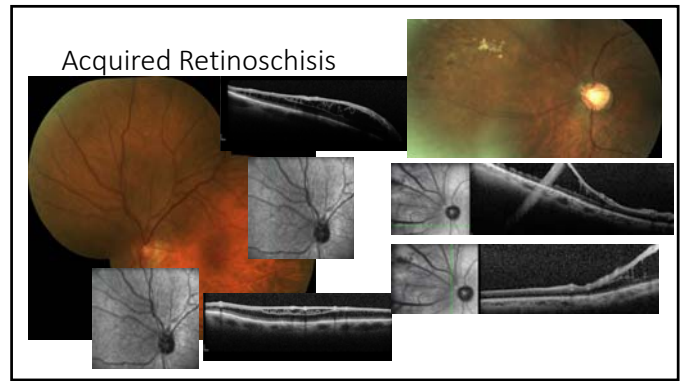
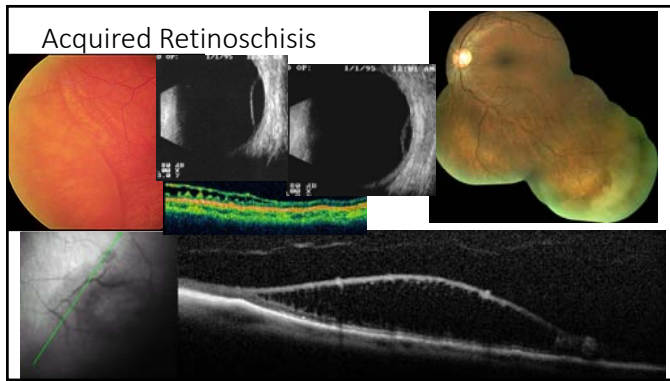
Peripheral Retinal Degeneration
Consequential vs. Inconsequential

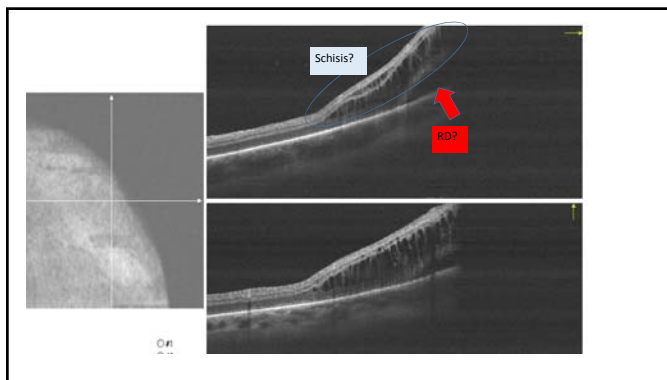
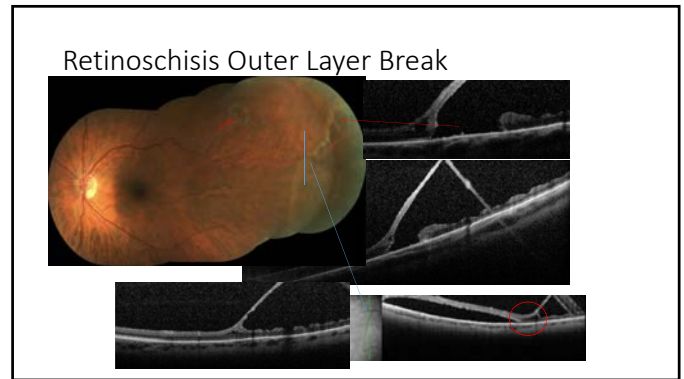
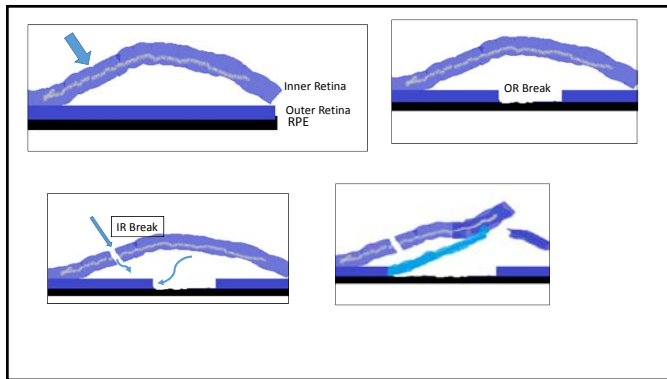
Figure 8.26: Two circular diagrams illustrating the degradation of various organic materials by termites. The left diagram shows the degradation of 10 materials: Hay, Microcrystalline cellulose, Sawdust, Perennating, Rice straw, Rice, Soybean, and three unlabeled sections. The right diagram shows the degradation of 10 materials: Unseasoned woodchips, Seasoned woodchips, Litter, Soil, Food waste, Rotting wood, Rubberwood, White rotted plywood, Paper and cardboard, and Diffuse dimensional spruce.





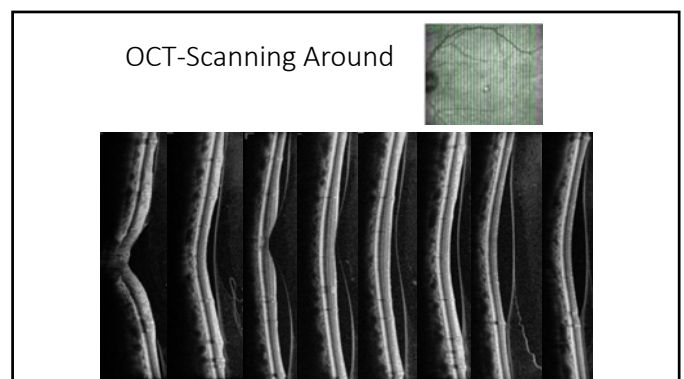
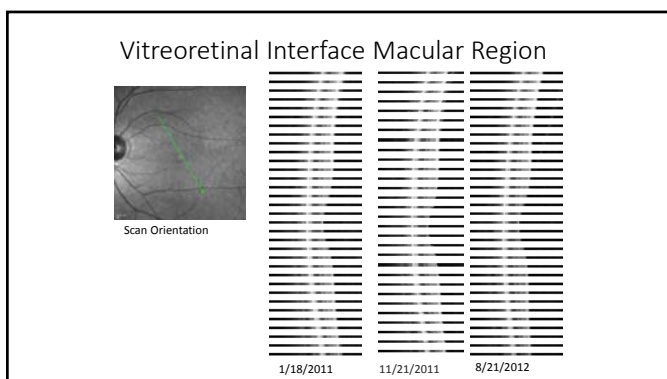


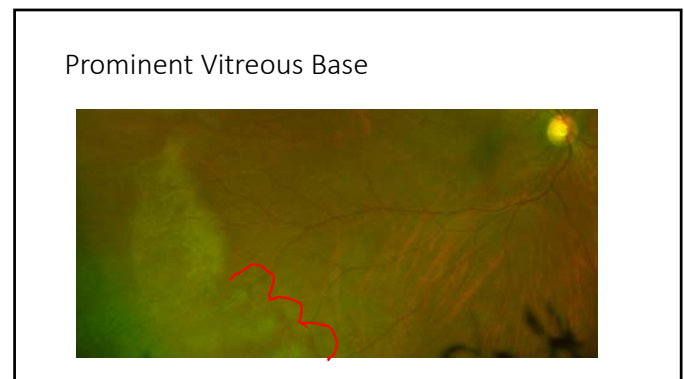
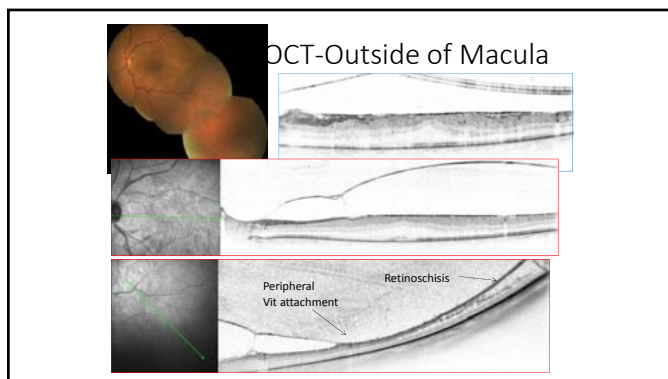
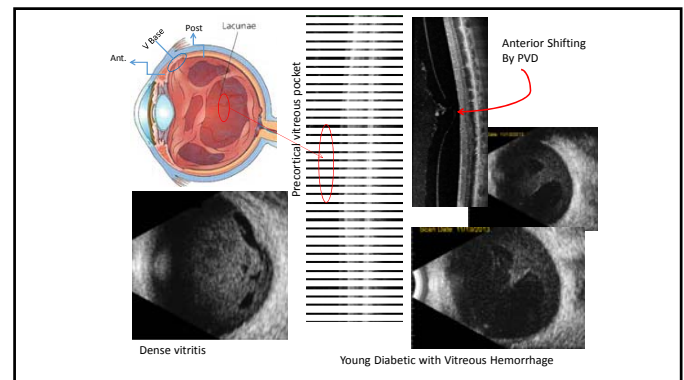
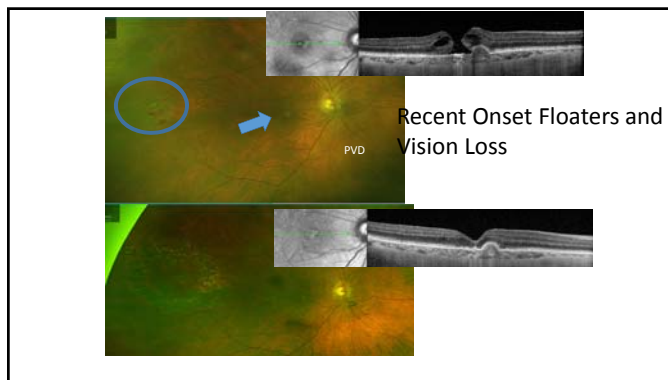
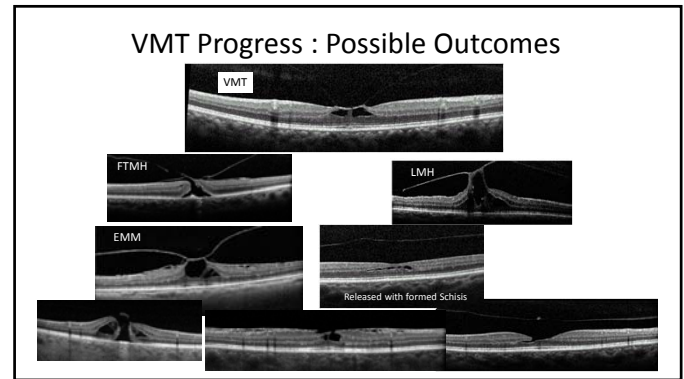
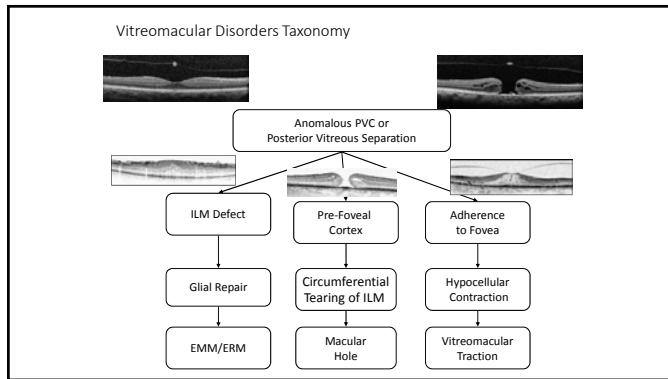




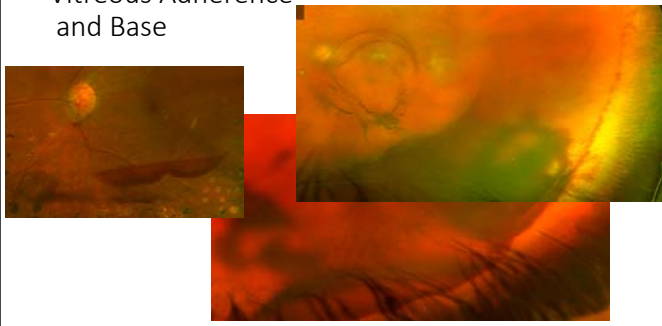
Role of Vitreous

- Architectural/Anatomic Implications
- Effect of Aging
- Congenital Anomalies
- Degenerative Vitreopathies





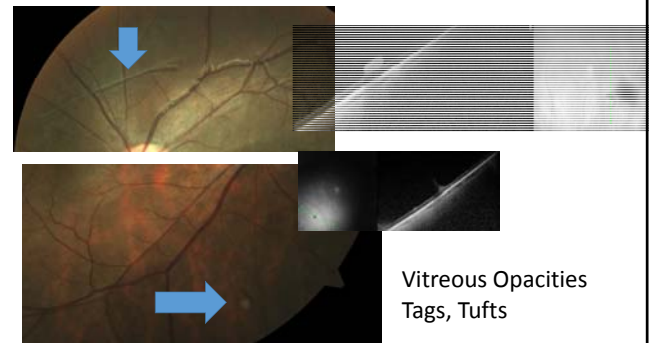
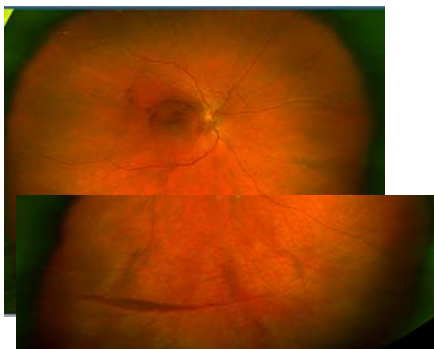
Vitreous Adherence and Base



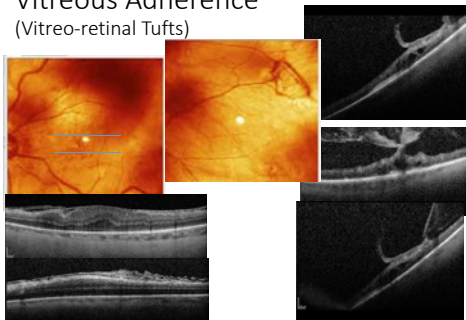
Vitreous Skirt



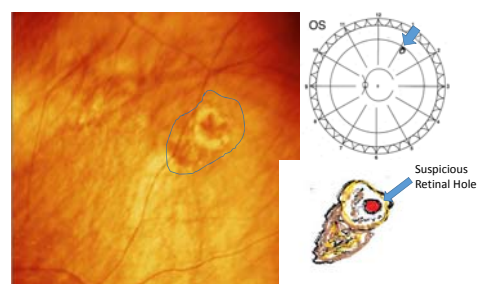
PVD+VH

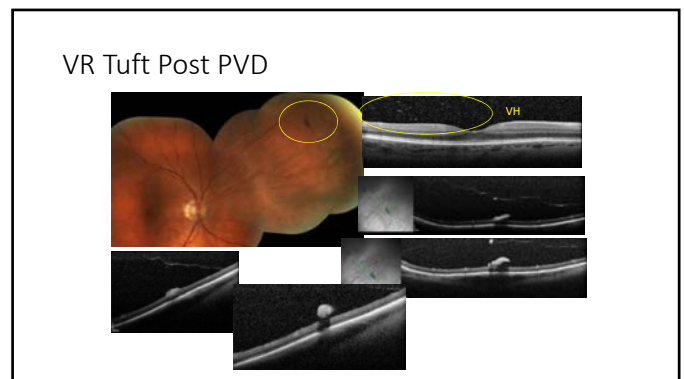
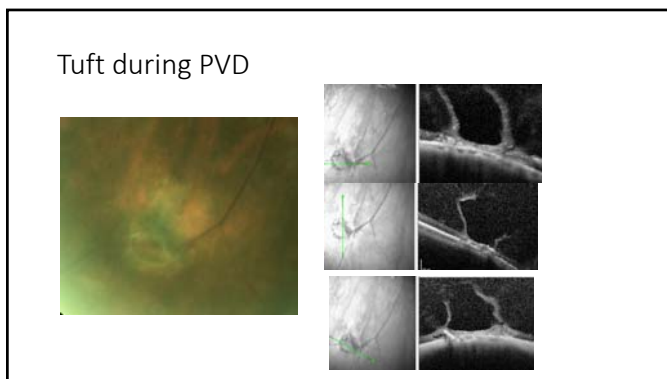
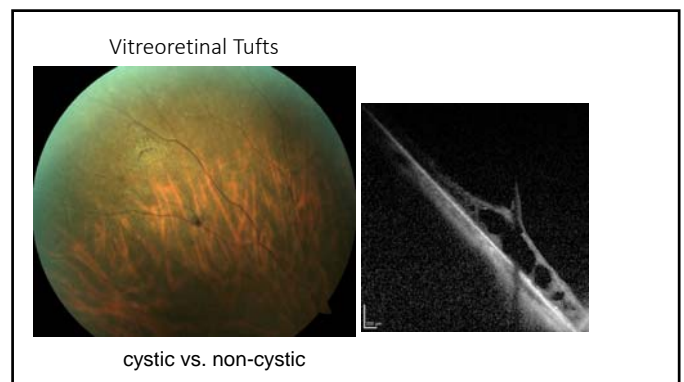
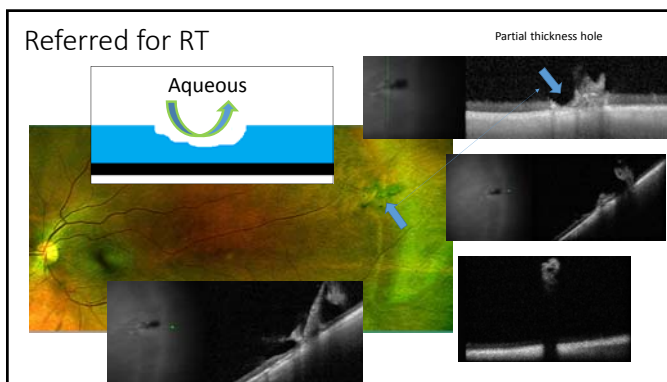
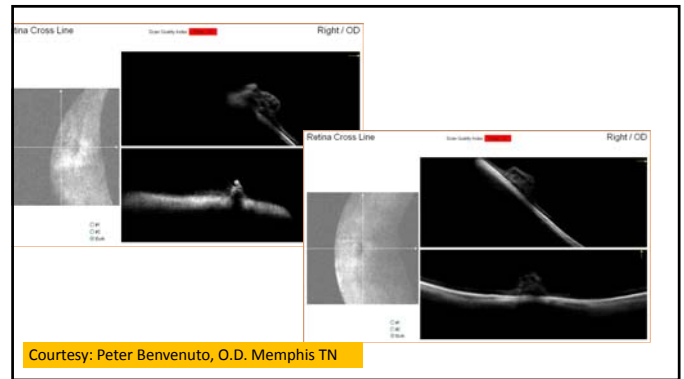
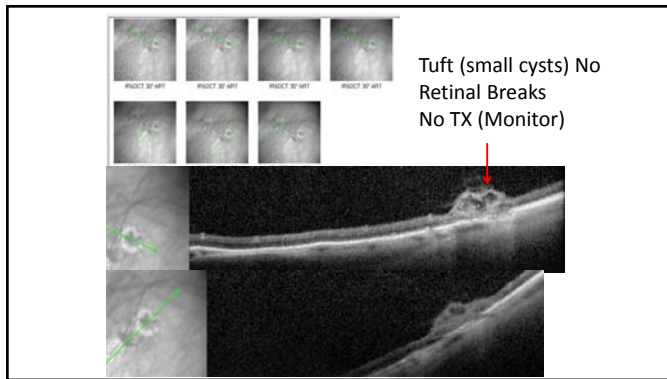


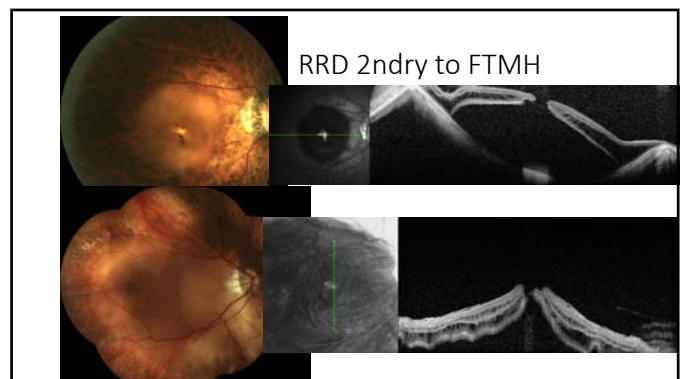
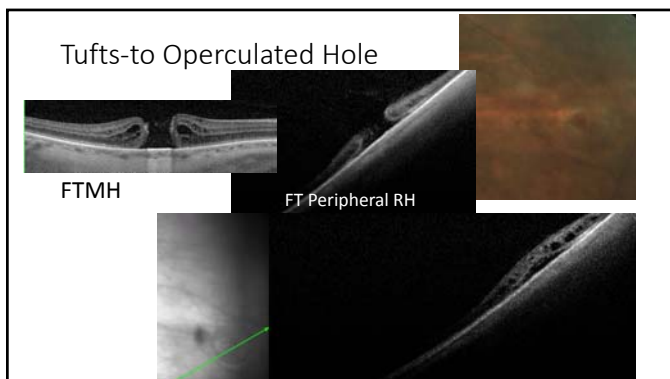
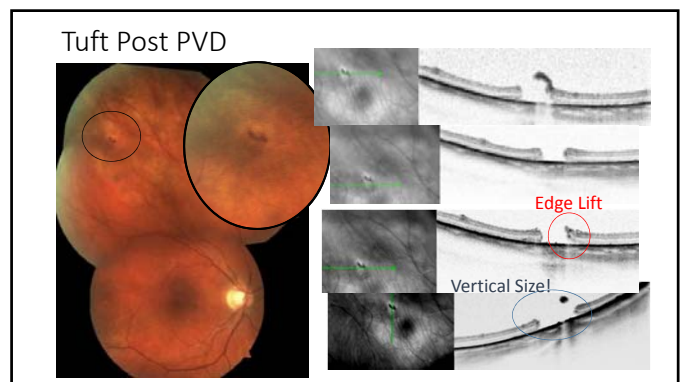
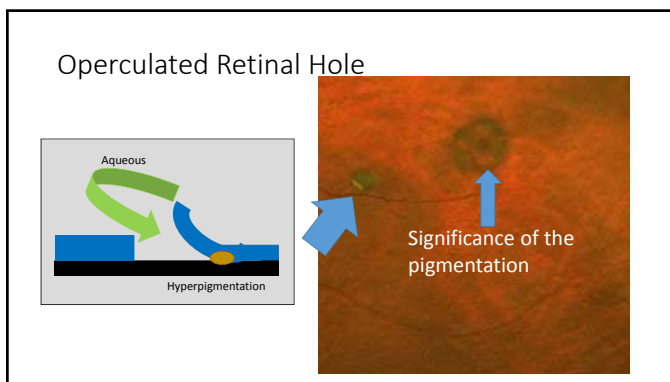
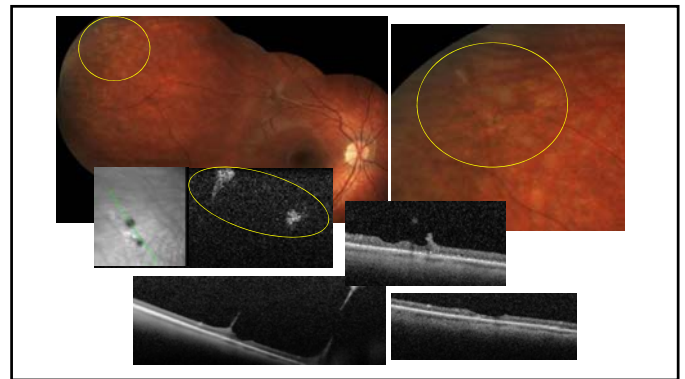
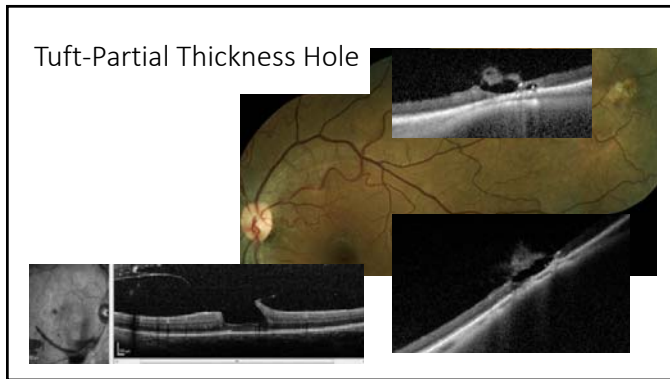
Vitreous Adherence (Vitreoretinal Tufts)



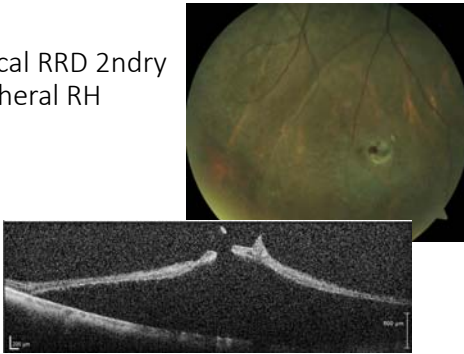
Recent Onset "Flashes" OS



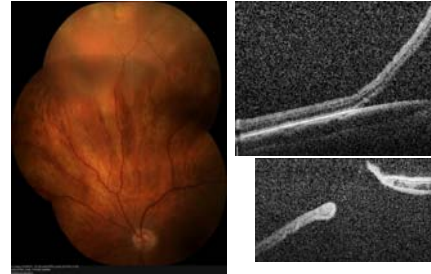




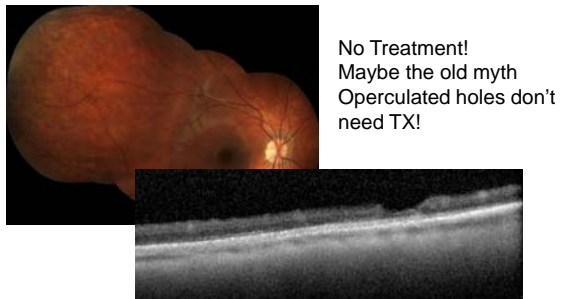
Subclinical RRD 2ndry to Peripheral RH



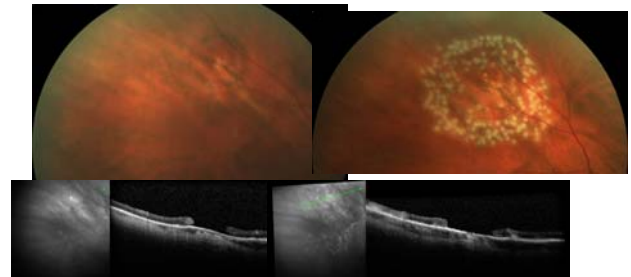
Peripheral Break Leading to RD



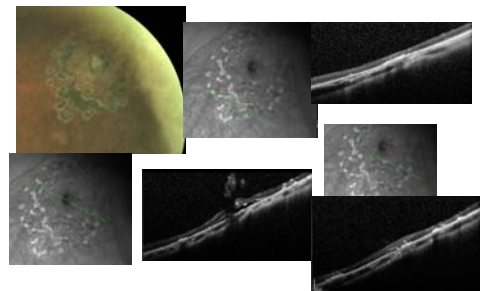
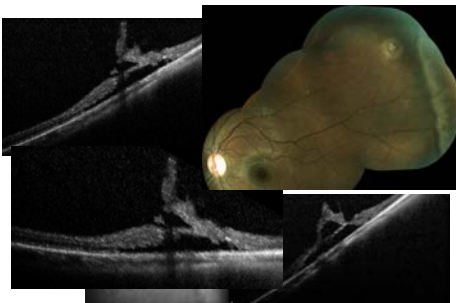
Partial Thickness Operculated Holes



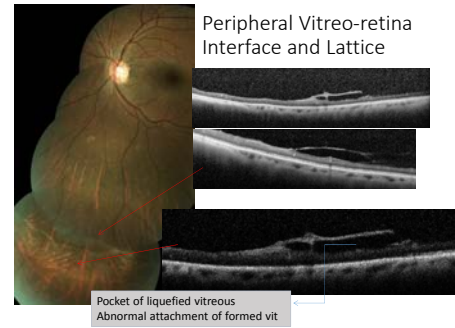
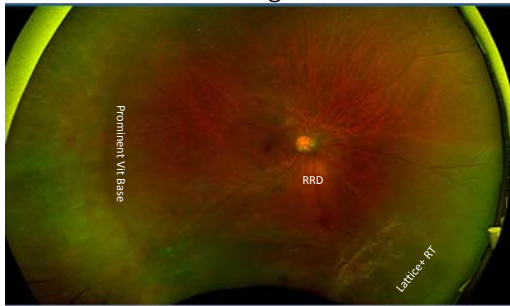
Prophylactic Laser



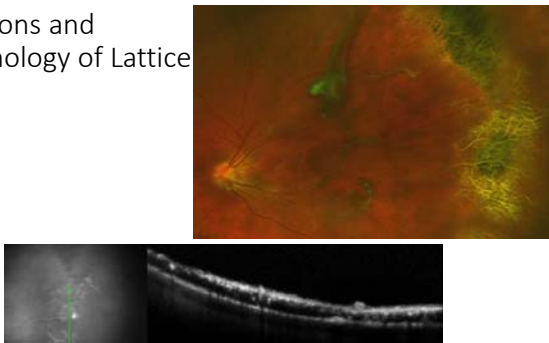
Cystic Tuft (Traction, Fluid, Break) TX



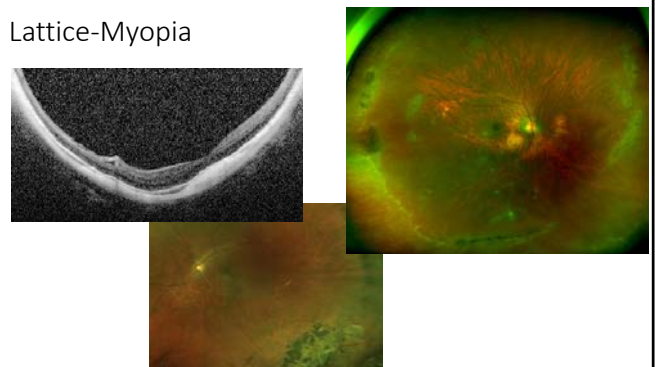
Lattice a Retino-vitreous Degeneration



Variations and Morphology of Lattice



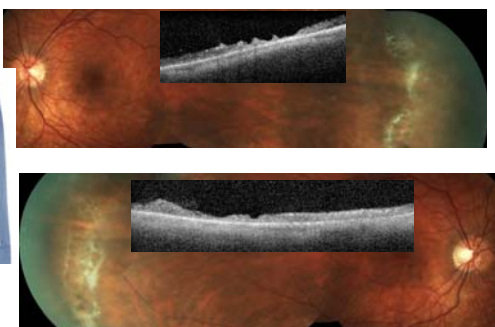
Lattice-Myopia



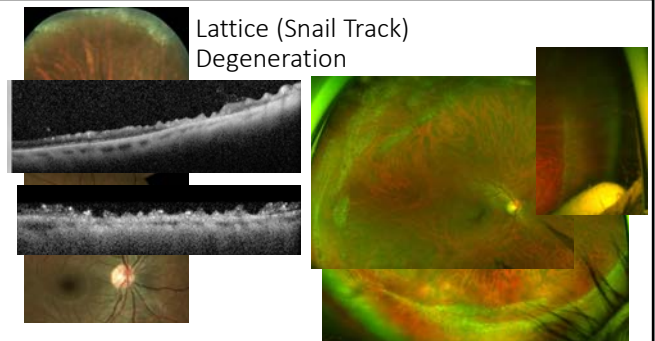
Lattice

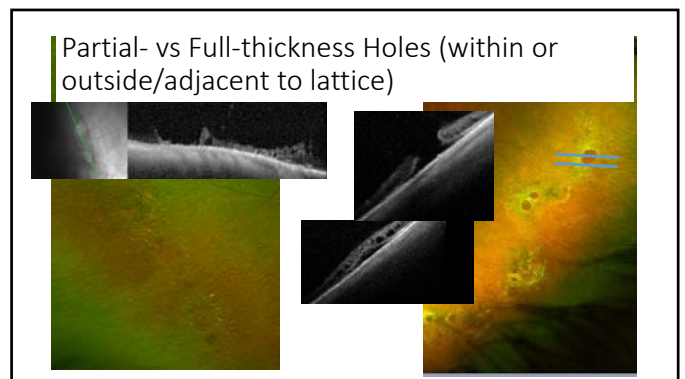
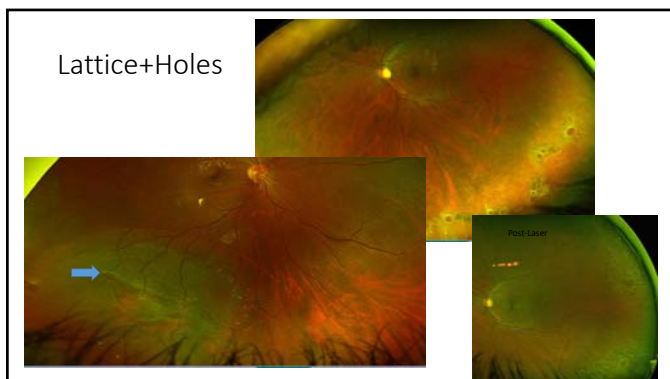
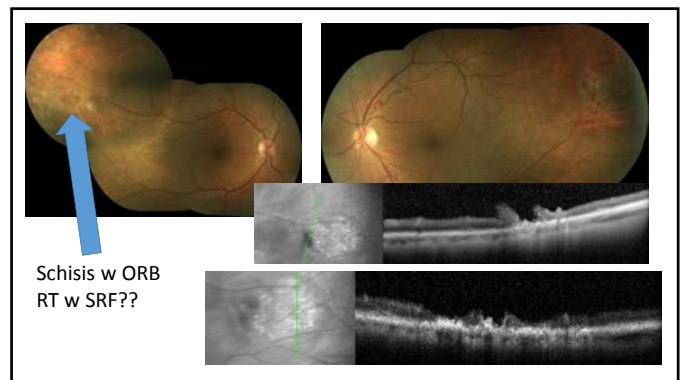
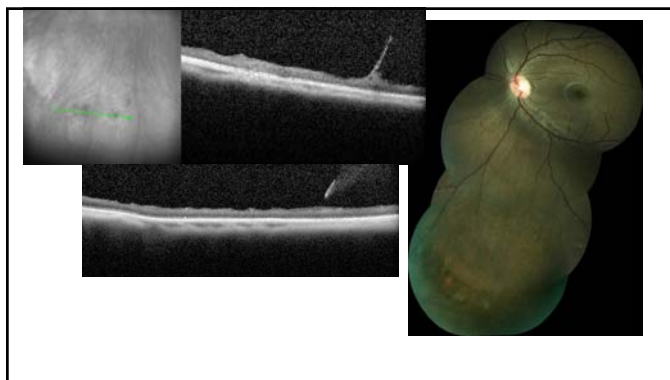
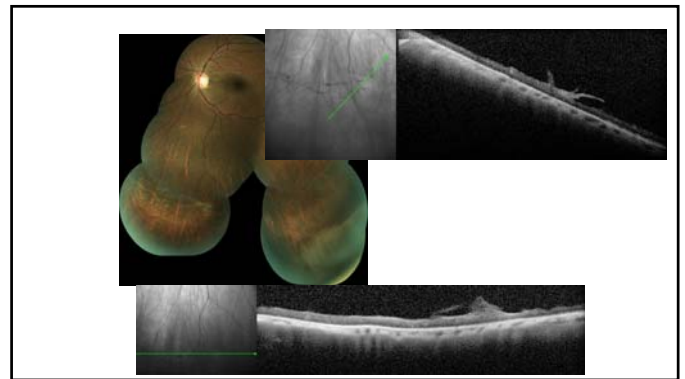
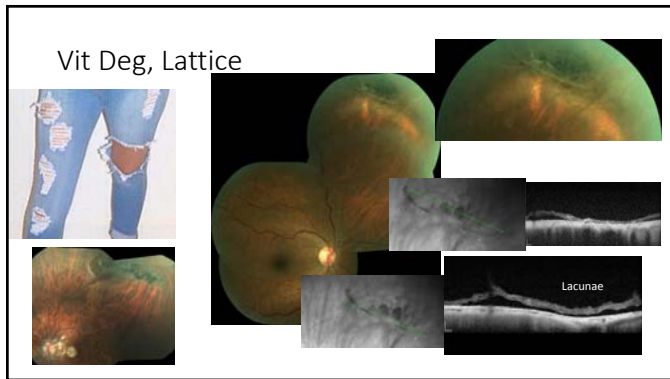


Retinal Permeability Drives TX Plan

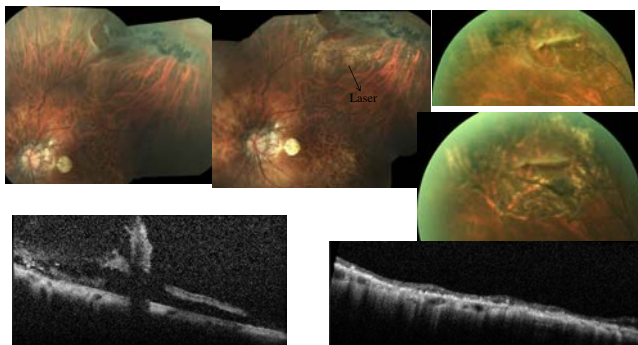
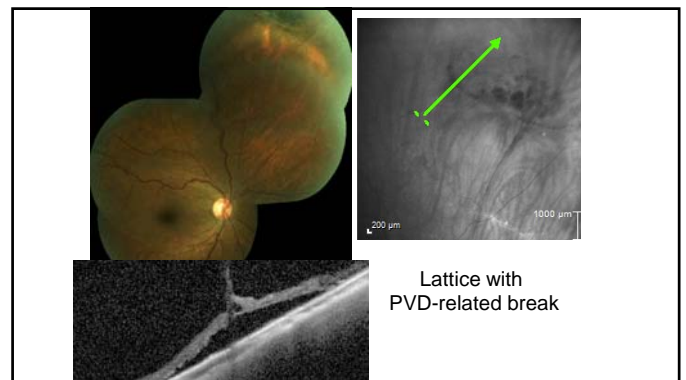
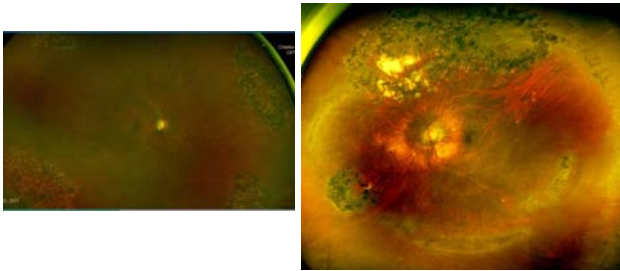
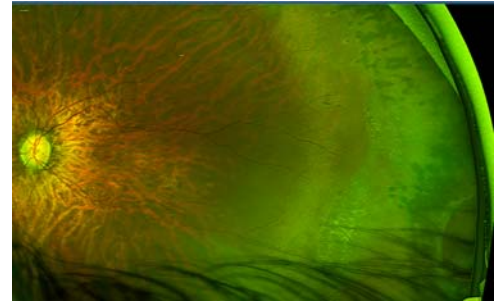
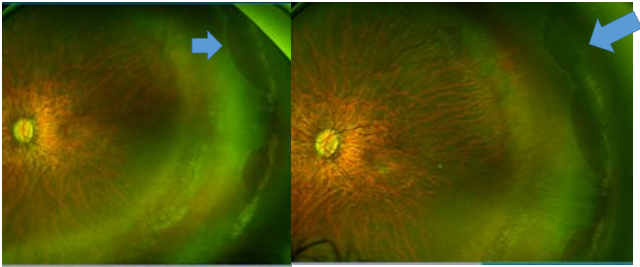


Lattice (Snail Track) Degeneration



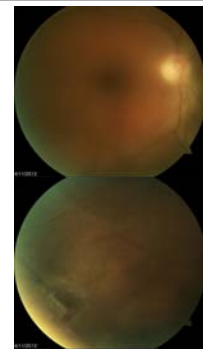
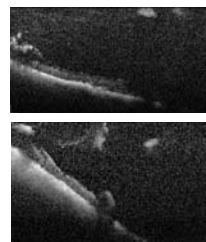


13 Y/O high myopia Bilateral Radial Lattice

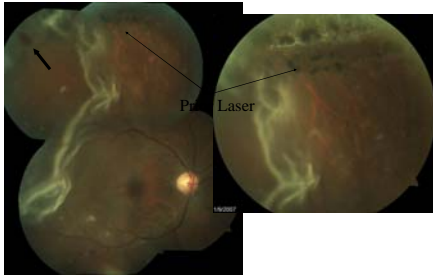


PVD

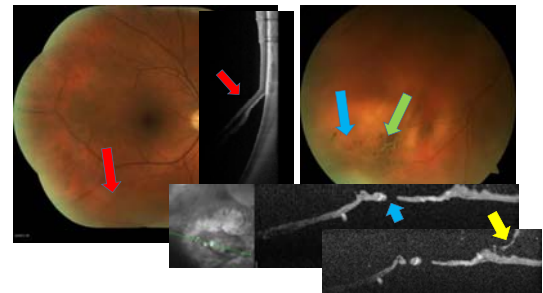
- Complications
- VH--- RT



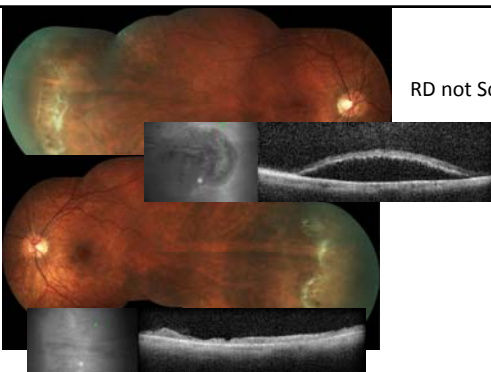
Lattice-RD Post Laser then PVD and RRD



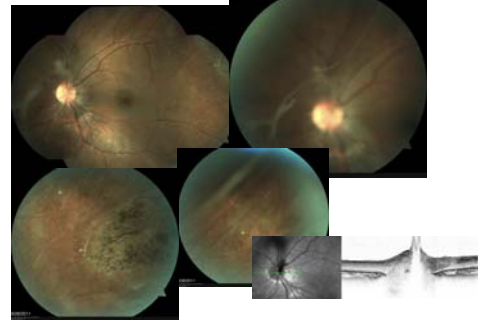
Lattice RRD with PVD



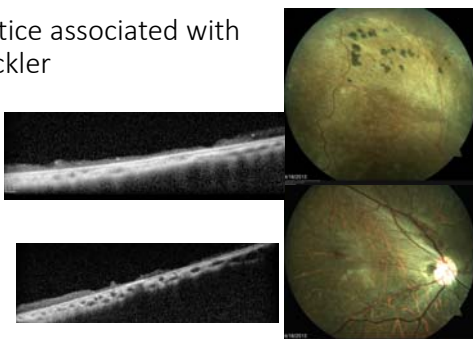
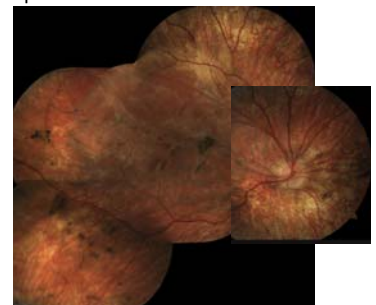
RD not Schisis



Degenerative Vitreopathies-Stickler Syndrome



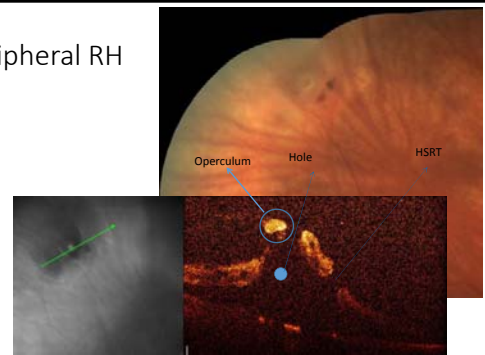
Lattice associated with Stickler

Degenerative Vitreopathies
FEVR (Mutation of FZD4 Gene)

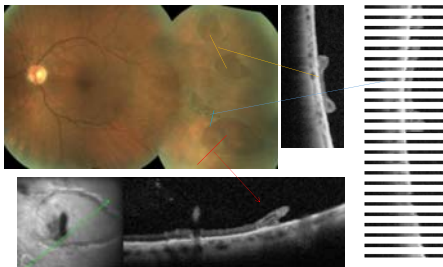
Retinal Breaks (Holes, Tears)

- With and Without Symptoms
- With and Without PVD
- With and Without RRD

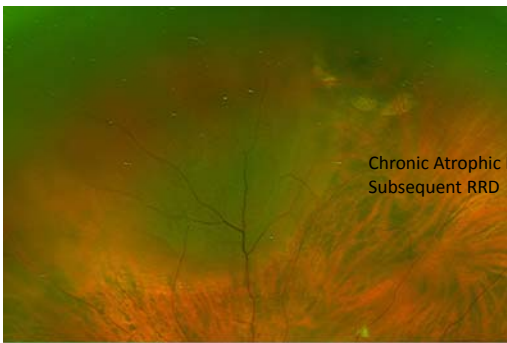
Peripheral RH



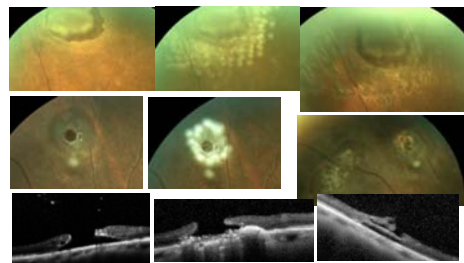
Peripheral Retina

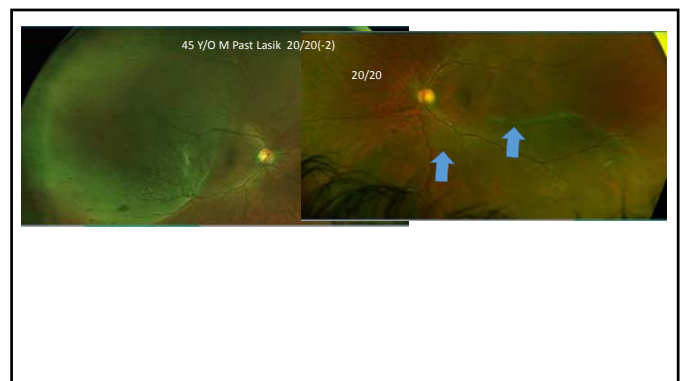
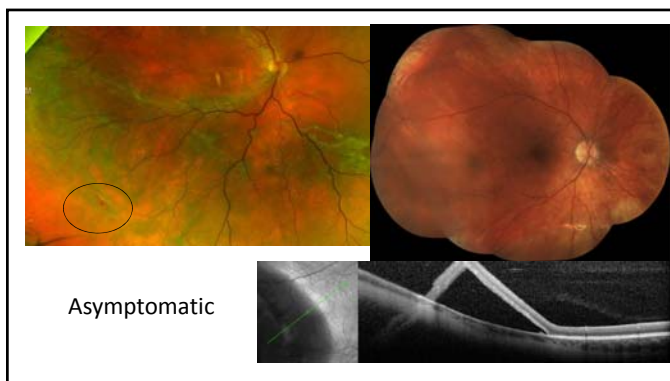
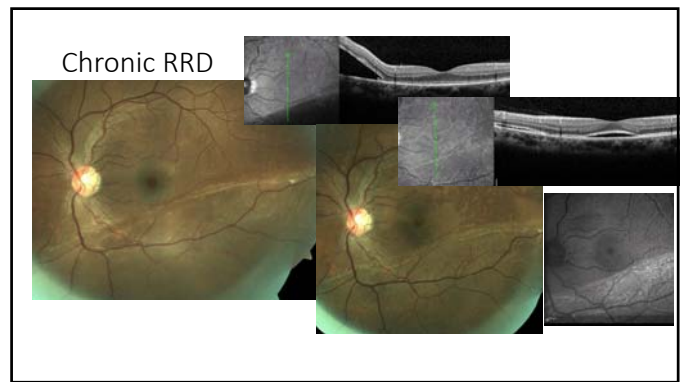
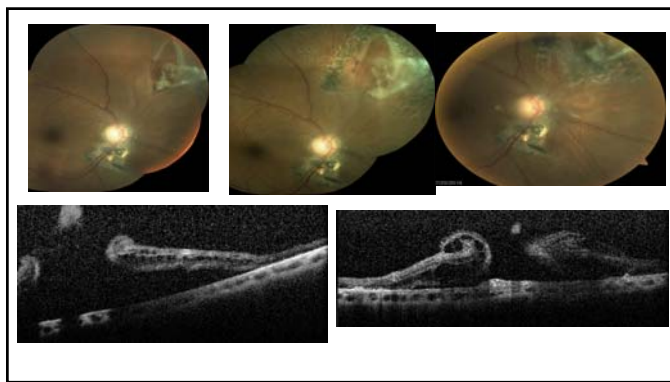
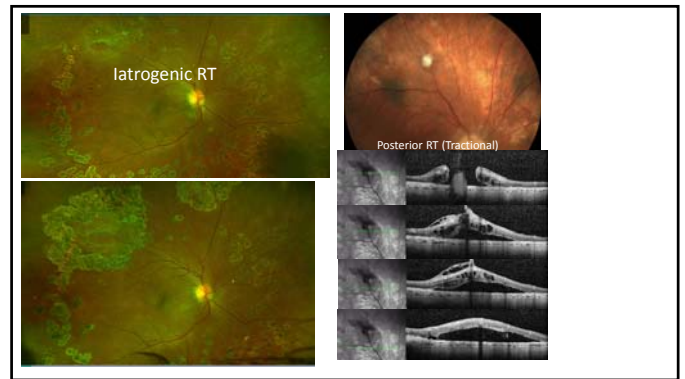
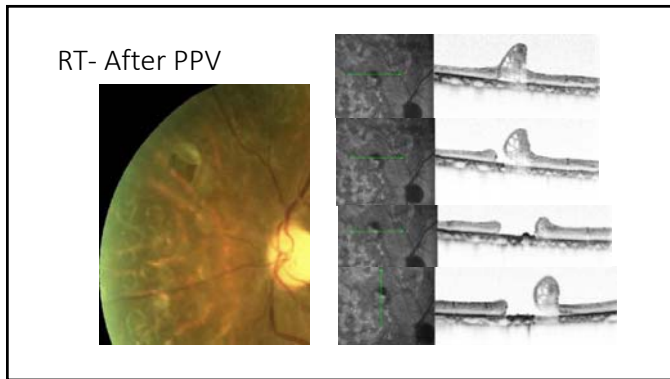


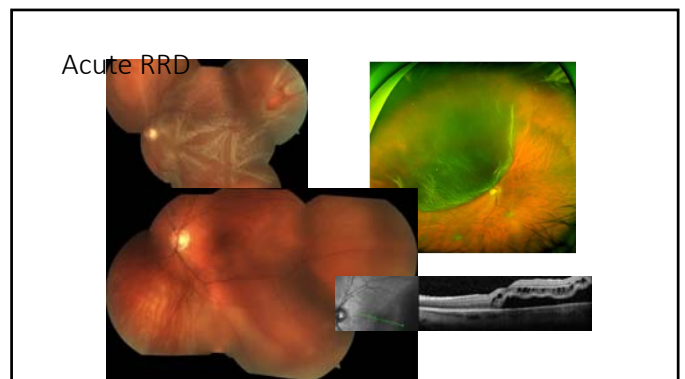
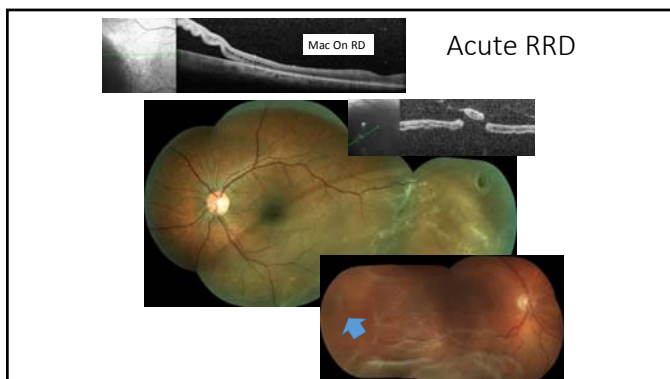
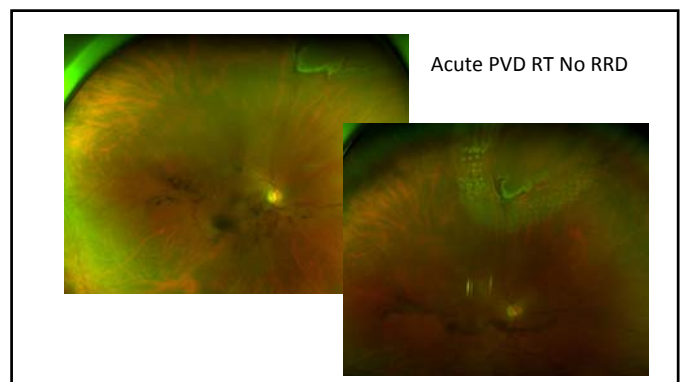
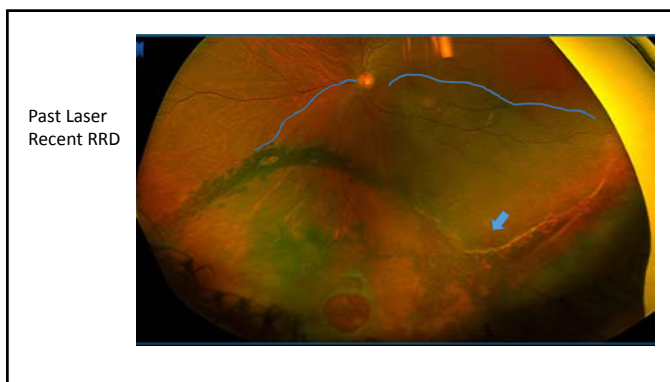
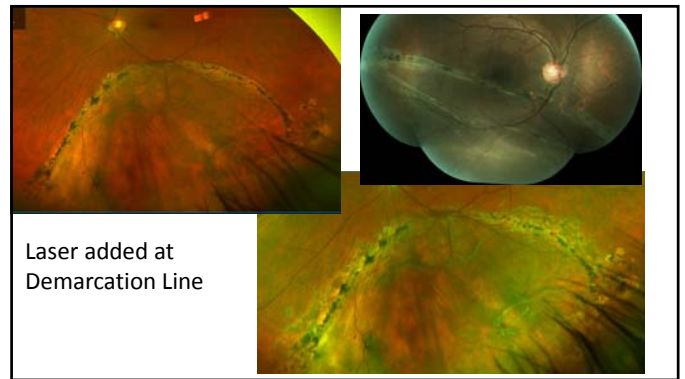
Chronic Atrophic Hole
Subsequent RRD

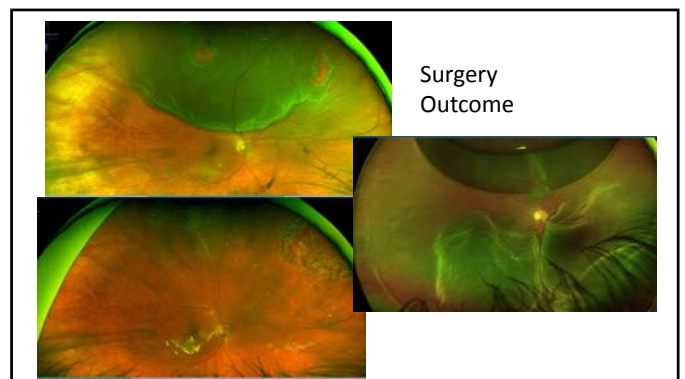
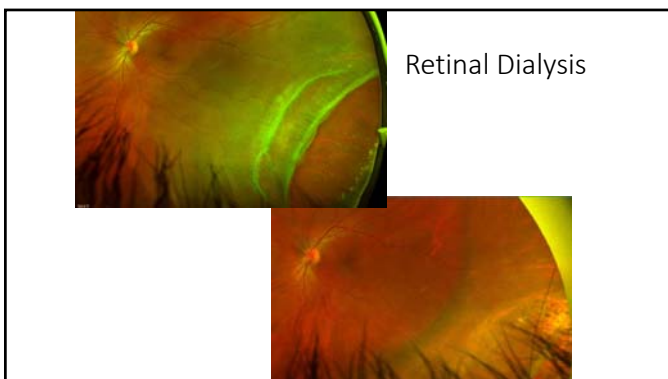
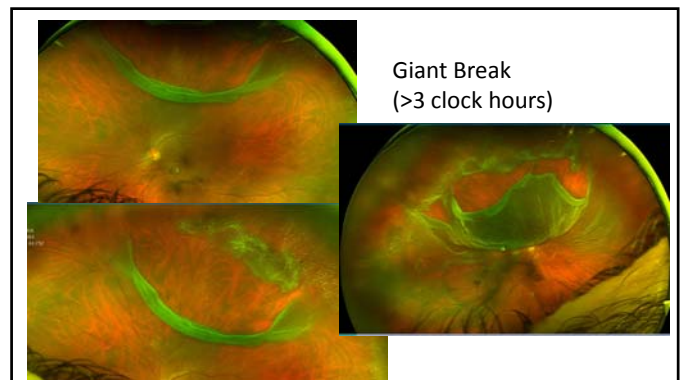
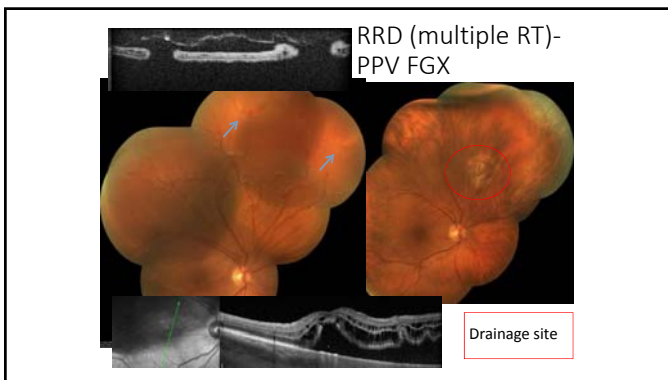
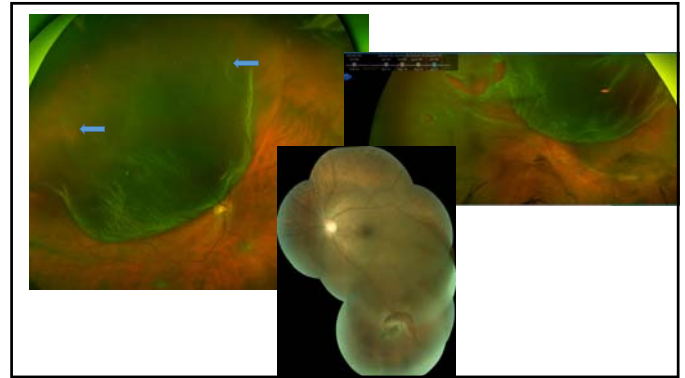
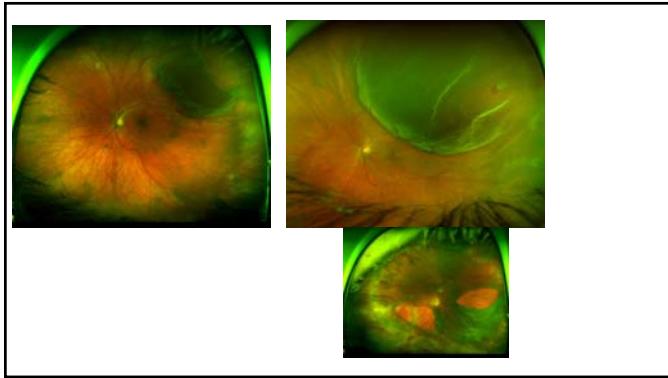


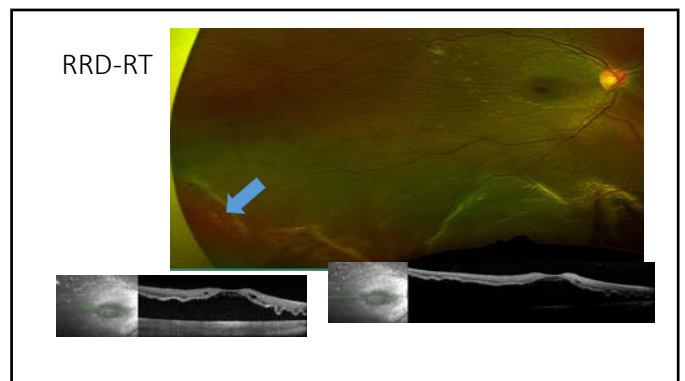
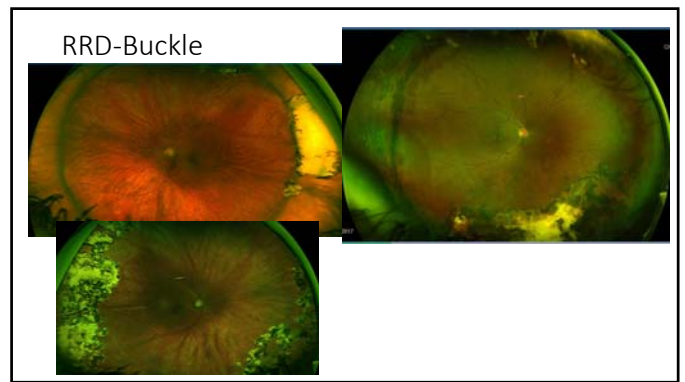
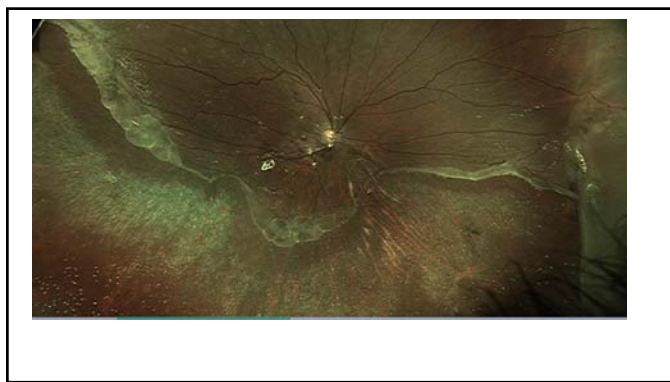
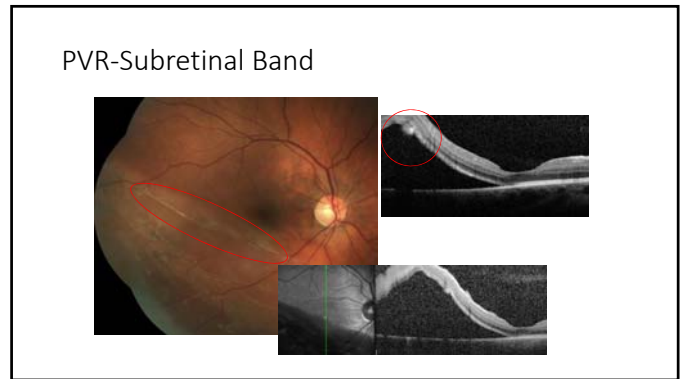
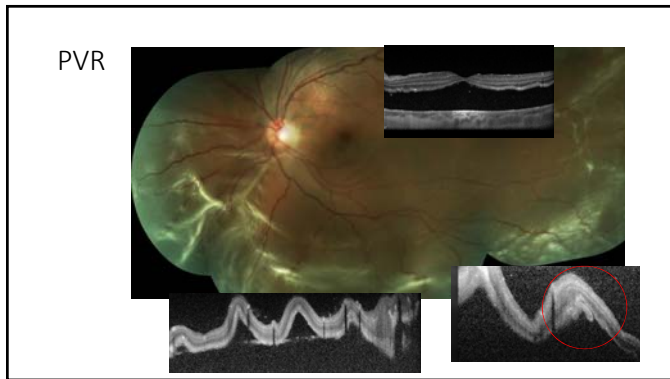
RRD Management

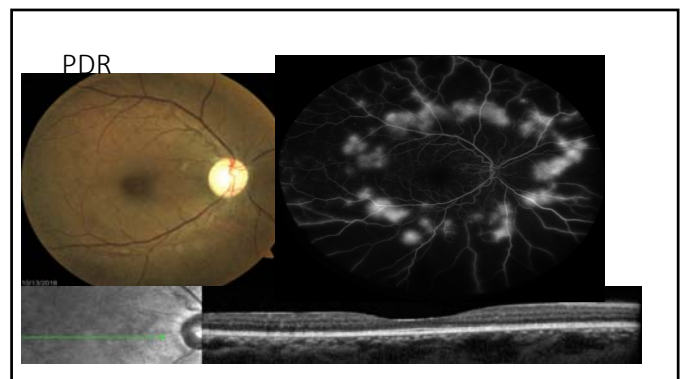
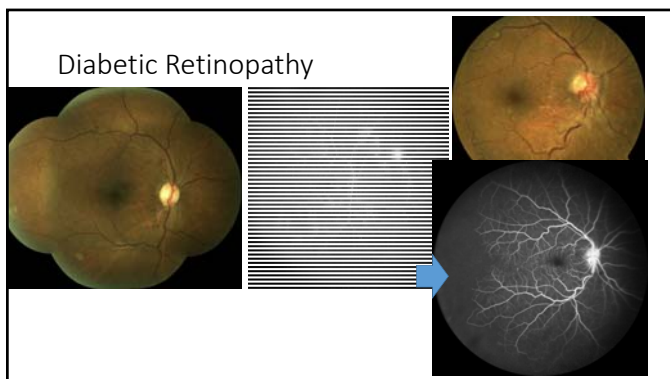
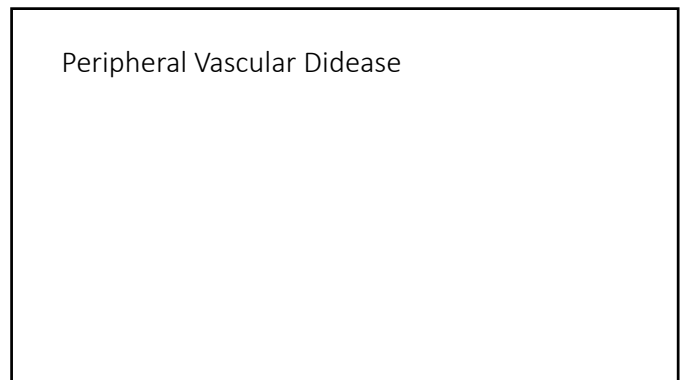
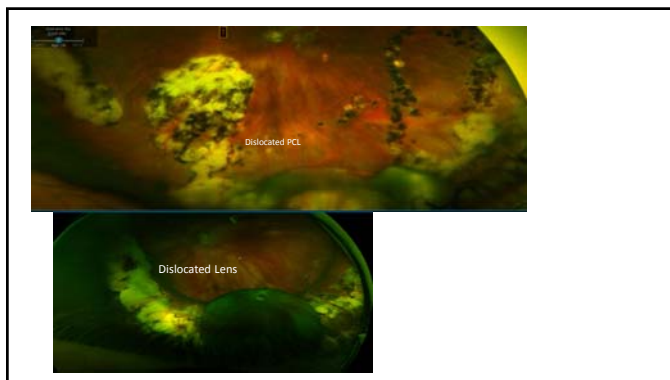
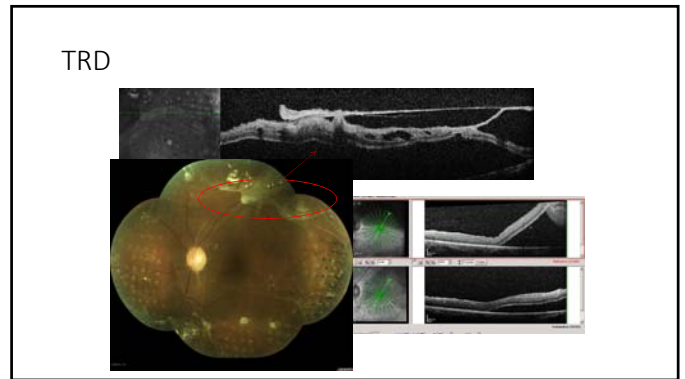
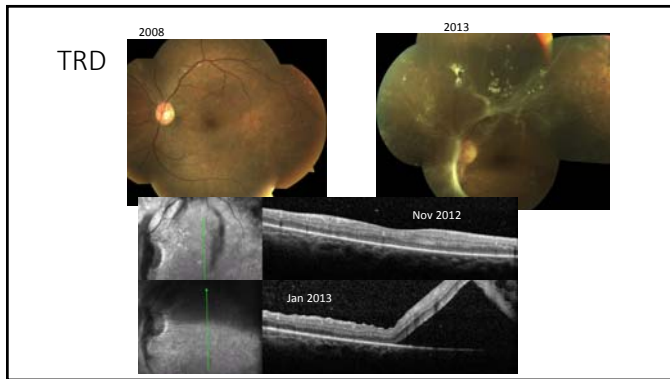


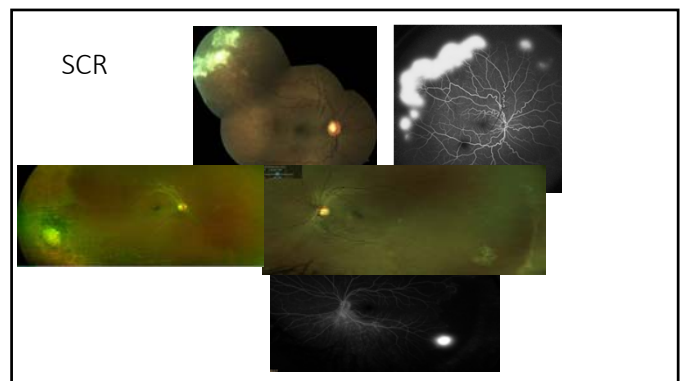
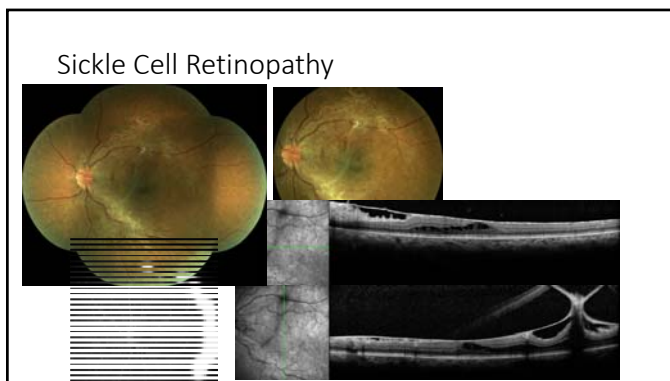
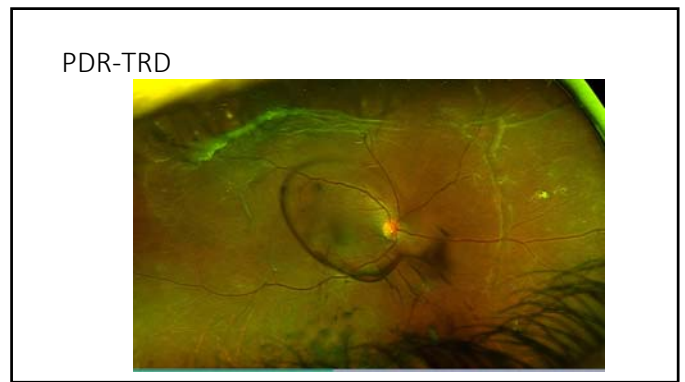
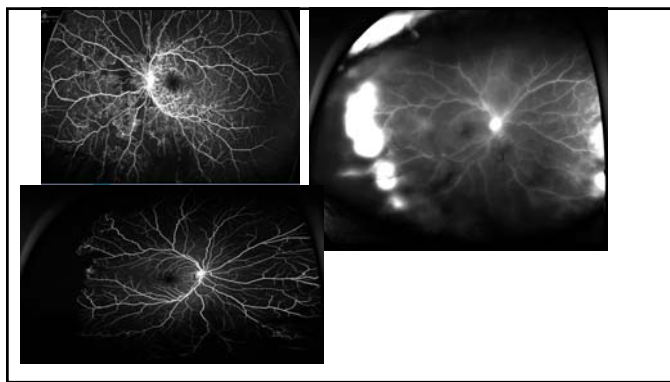
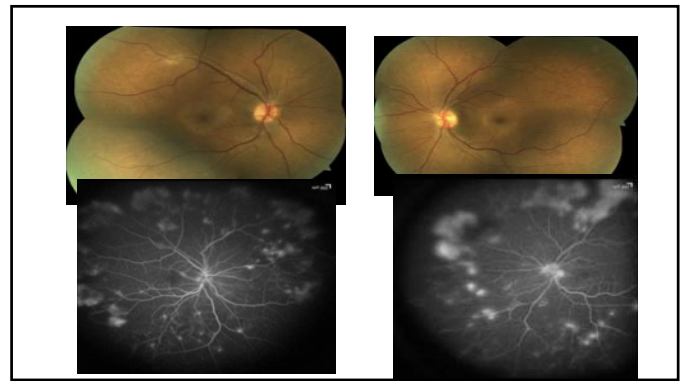
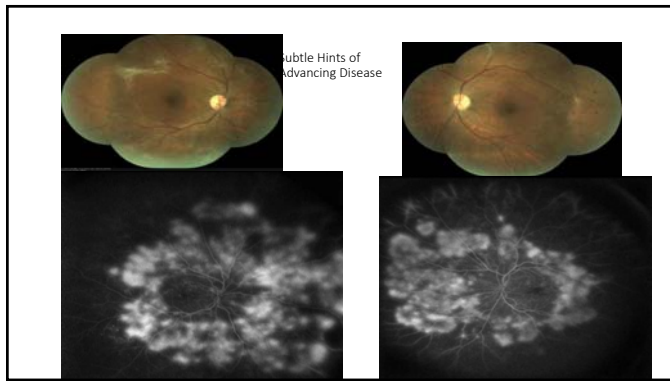




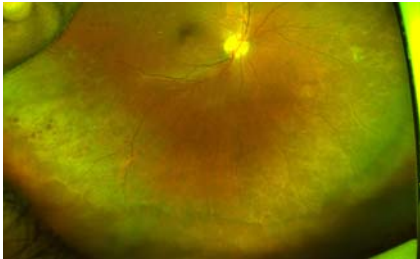




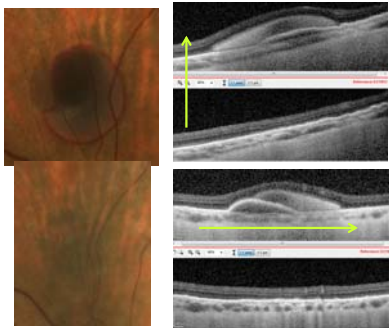
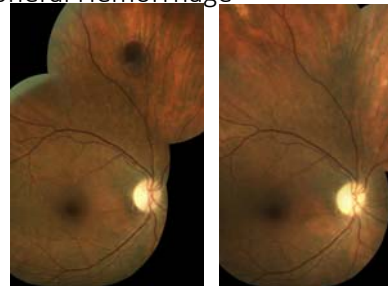




Peripheral Retinal Hemorrhages

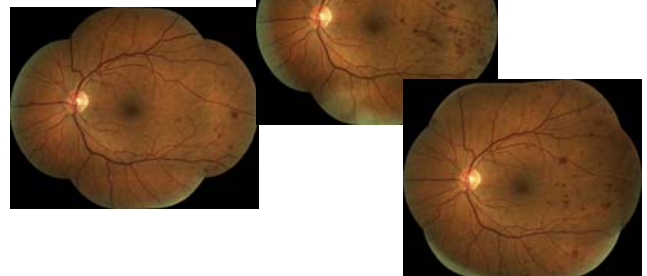


Peripheral Hemorrhage

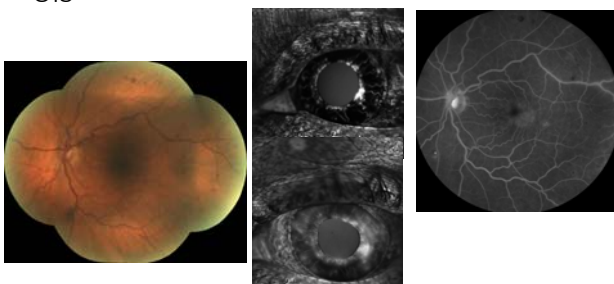


Ocular Ischemic Syndrome

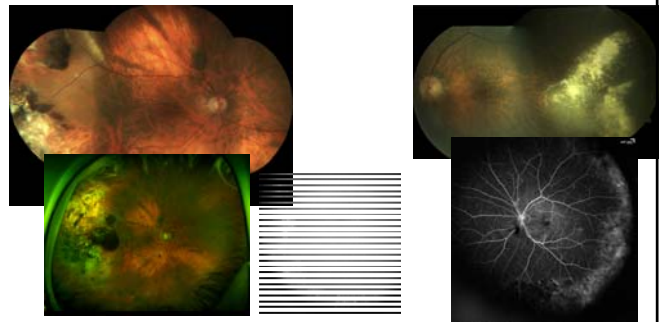
S/p Endarterectomy



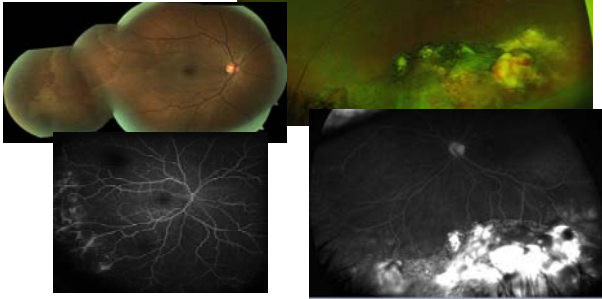
OIS



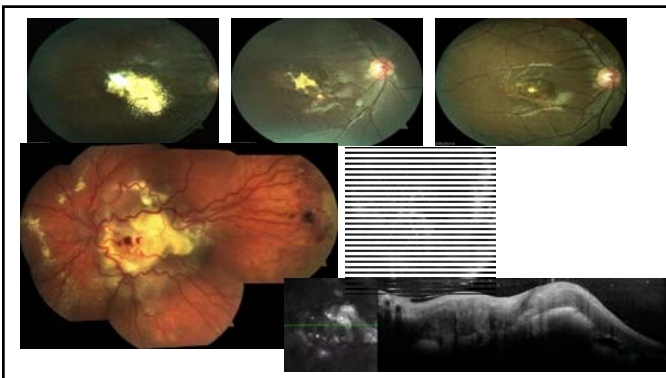
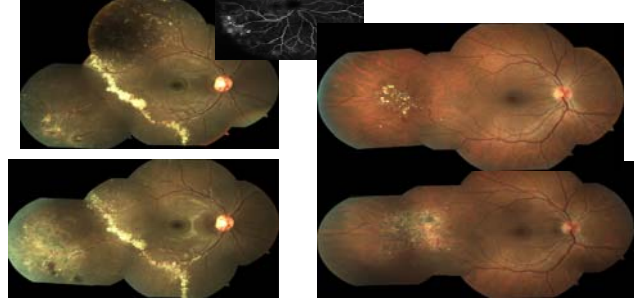
Peripheral Exudative Hemorrhagic Chorioretinopathy



Telangiectasia



Coat's Disease



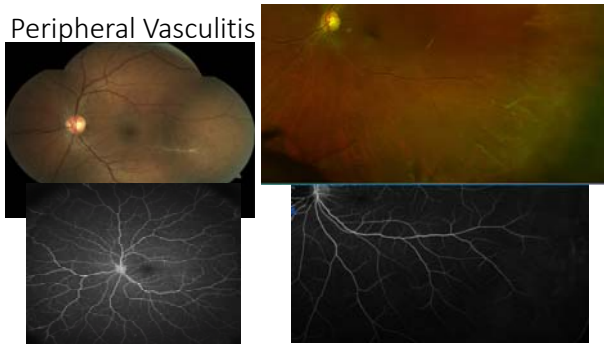
Vascular Tumors



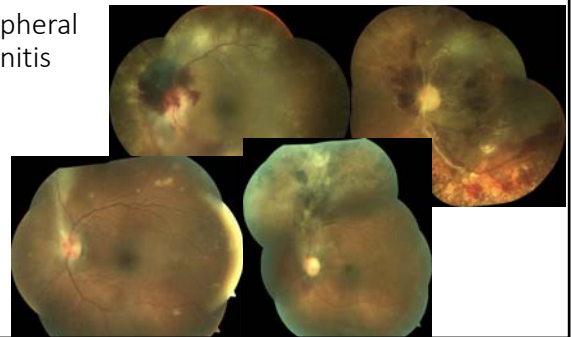
Peripheral Retina in Inflammatory and Infectious Disease



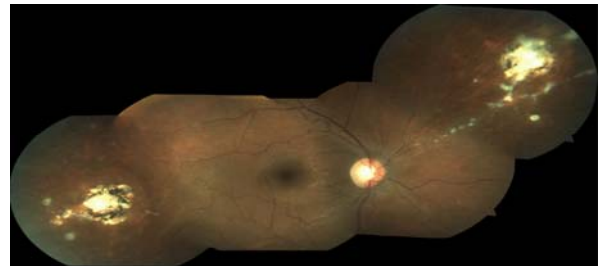
Peripheral Vasculitis



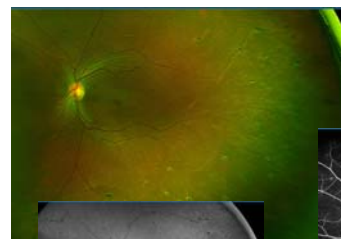
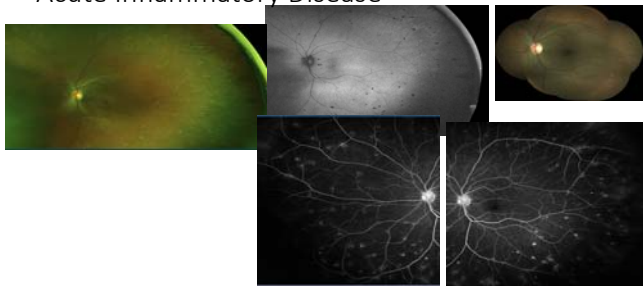
Peripheral Retinitis



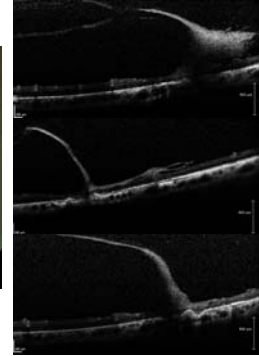
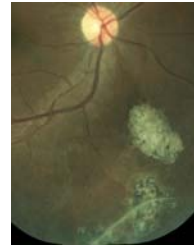
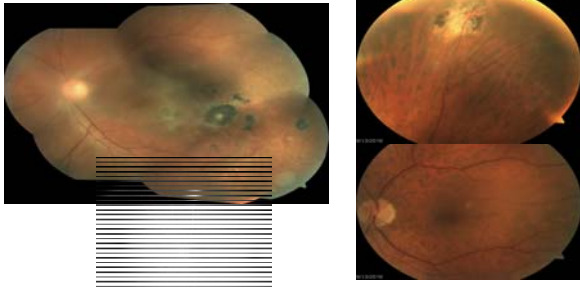
Infiltrates and Vasculitis



Acute Inflammatory Disease



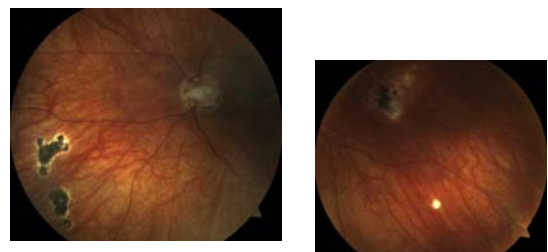
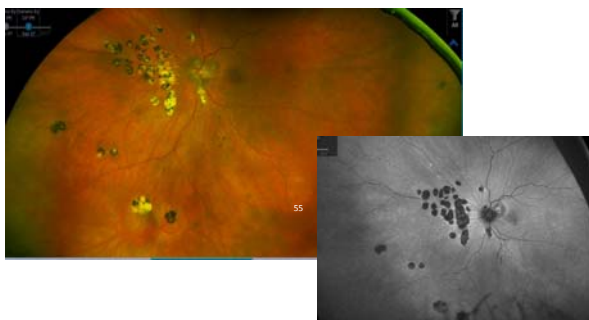
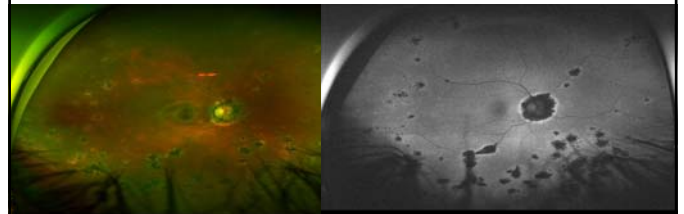
Toxoplasmosis



Histoplasmosis and DDX

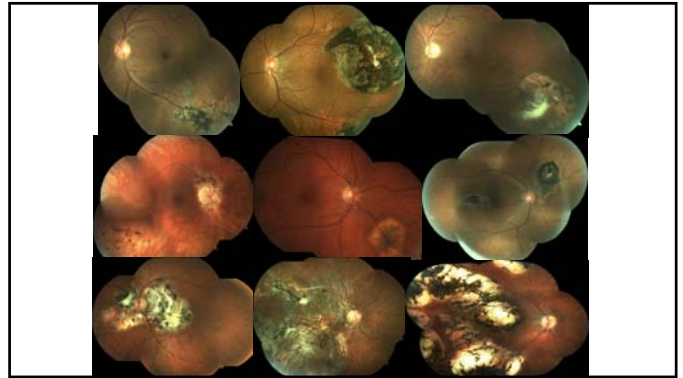


Chorioretinal or Retinochoroidal Scars DDX of Causes

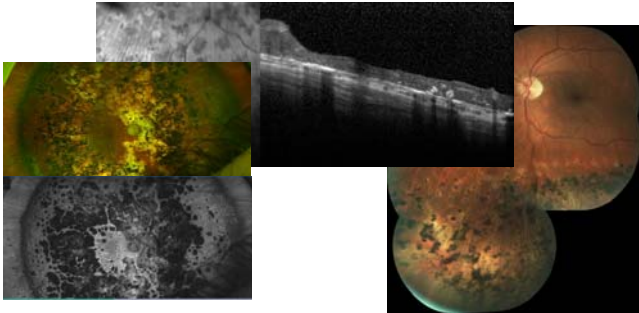


OHS, MCP, Toxoplasmosis, West Nile

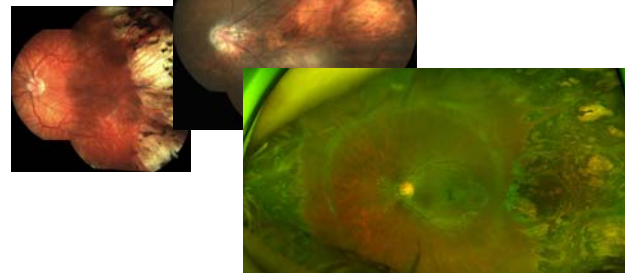
Peripheral Pigmented Lesions



Iatrogenic



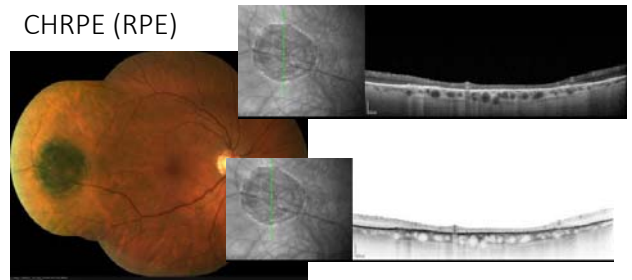
ROP



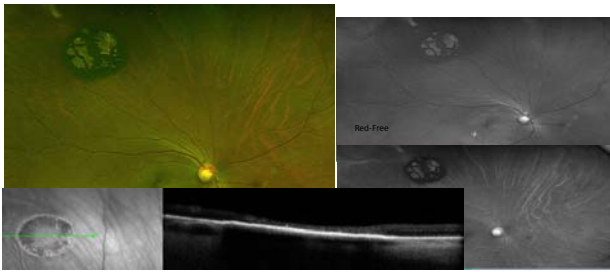
Associated with genetic conditions



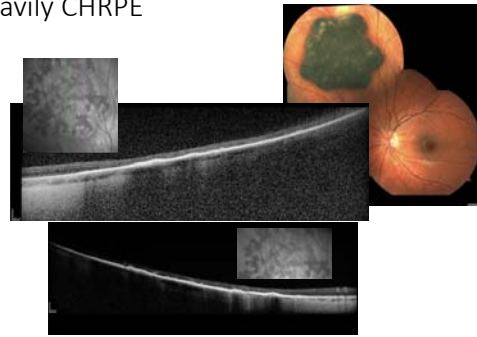
CHRPE (RPE)



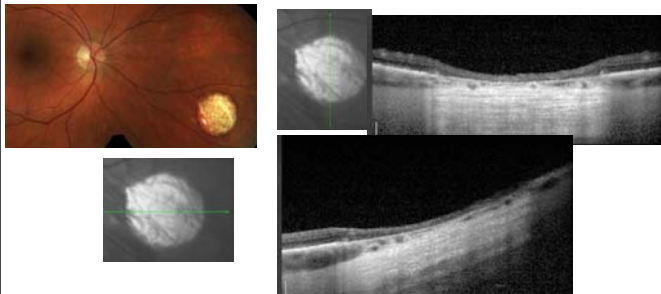
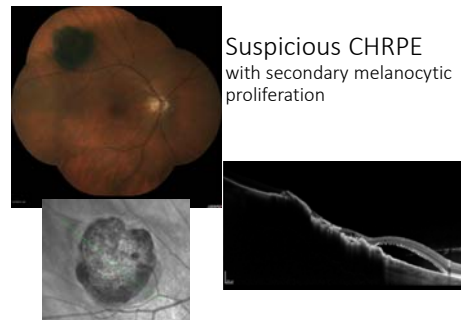
CHRPE with Lacunae



Heavily CHRPE



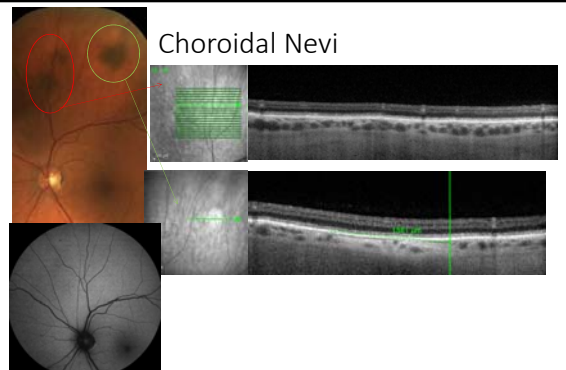
Non-pigmented CHRPE

Suspicious CHRPE
with secondary melanocytic
proliferation

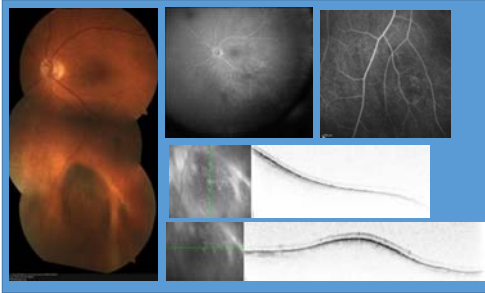
Other RPE Hypertrophic Lesions



Choroidal Nevi



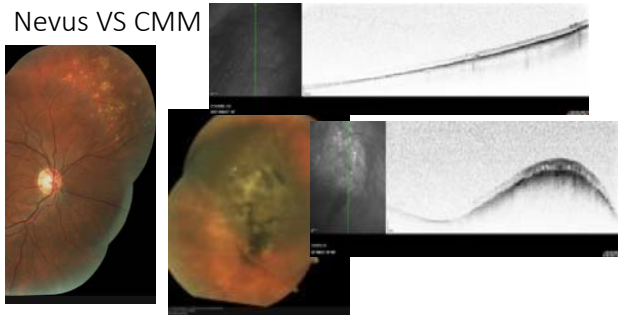
Elevated Nevus



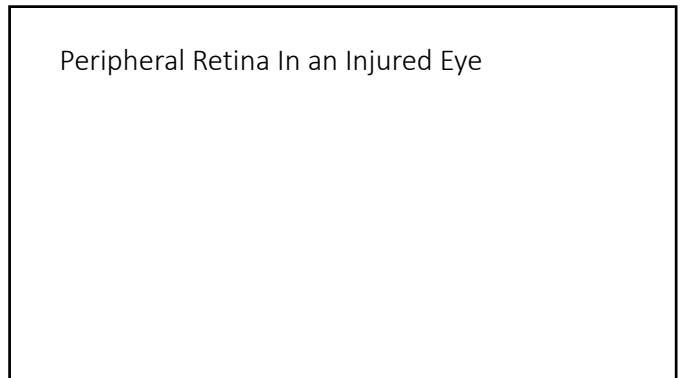
Choroidal Melanoma



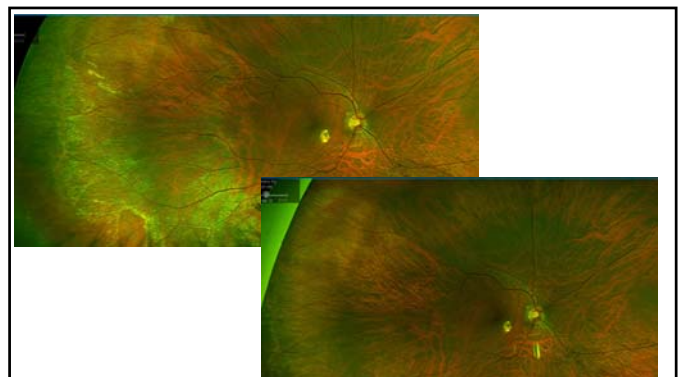
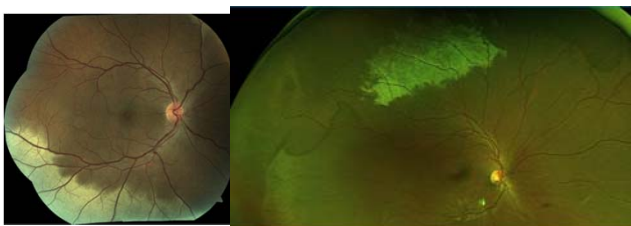
Nevus VS CMM

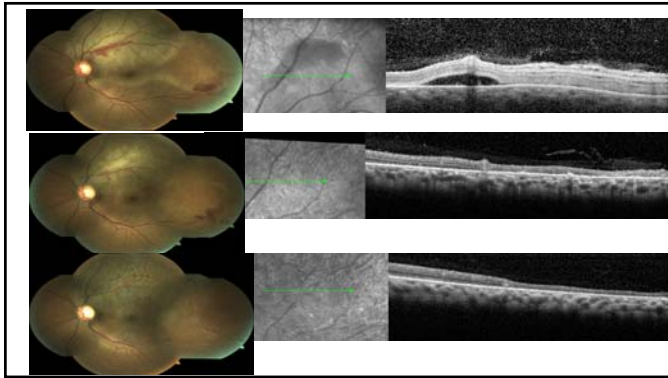


Peripheral Retina In an Injured Eye



Comotio Retinae





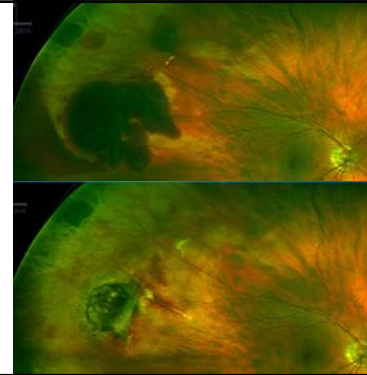
Comotio (sclopetaria)



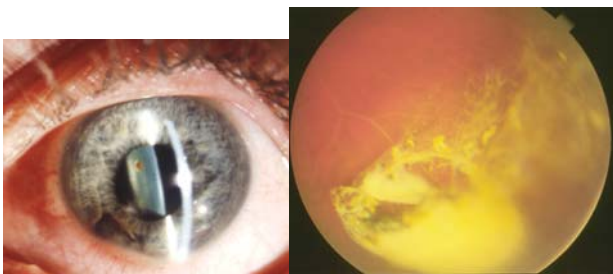
Hemorrhages



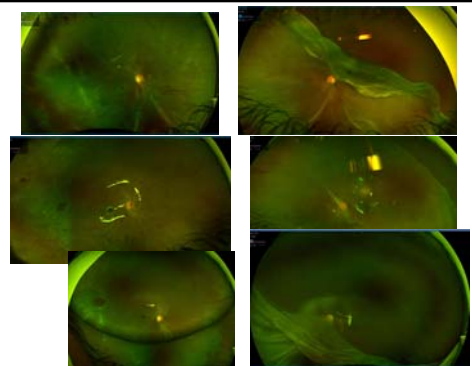
Hemorrhage and Choroidal Rupture



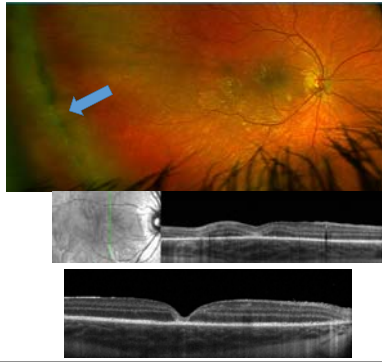
Searching for IOFB



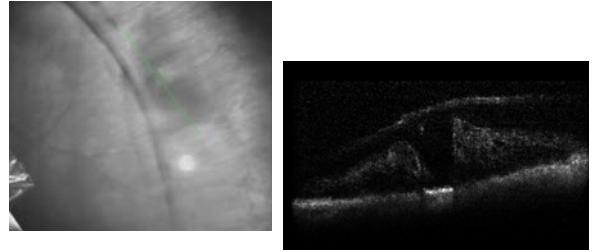
RTs, Dialysis, RD, MH



Avulsed
Vitreous Base



Avulsed Vitreous Base and RT



Conclusion

- Importance of examination of peripheral retina for variety of conditions
- Thank you