

Video Vignettes: *Life in the Retina Room*

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Surgery Update 2009

09/10/09

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Vitreous Surgery

- A day in the life of a Vitreo-Retinal Surgeon
- Video presentation – common cases
- Brief discussion – of what and why we do what we do

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Introduction

- Vitreous Surgery was first introduced in the 1970's – as a way to deal with:
 - Non Clearing Vitreous Hemorrhage – e.g. Diabetic Retinopathy or Vitreous Occlusive Disease
 - Re-co Retinal Detachments – only after multiple failed attempts with external buckling techniques
 - Trauma
- We used to be called Retinal Detachment Surgeons (scleral buckles)
- Today our surgical specialty is primarily Vitreous Surgery ☺

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Vitrectomy

- Local anesthetic / Out-patient
- 3 ports: light pipe, infusion, instrumentation – cutter, scissors and forceps



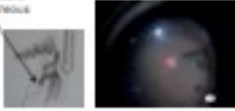
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Primary Retinal Detachment

- Vitrectomy has the advantage of:

- Manage RDs with media opacity
- Allows for us to avoid "tying in" a highly detached tear which is thought to predict the eye to PVR, as RPE cells are dispersed into the vitreous
- Instead we can leave a flattened tear



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Primary Retinal Detachment

- Vitrectomy has the advantage over primary scleral buckle:

- Manage RDs with large and posterior break
- Avoid flu and thru exudal drainage of subretinal fluid
- Avoid incarceration of the retina and subretinal hemorrhage



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Primary Retinal Detachment

- Primary Vitrectomy advantages:

- Avoid the primary myopic shift in the pseudophake if we can avoid a scleral buckle
- Manage RDs in eyes with small or tight orbits
- Get control of eyes with highly detached RDs



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Primary Retinal Detachment

- Primary RD in pseudophake
- Primary anterior break



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Primary Retinal Detachment

- RD with large primary retinal tear



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Primary Retinal Detachment

- Giant Retinal Tear
 - Large Anterior Break
 - Usually can not do primary scleral buckle if there is much fluid or a rolled edge
 - Complicated because the retina will slip posteriorly during fluid-gas exchange



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Primary Retinal Detachment

- Giant Retinal Tear
 - We used to have to operate on our backs with the patient prone (on their tummy)

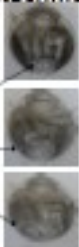


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Primary Retinal Detachment

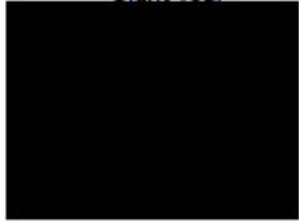
- Giant Retinal Tear
 - It was a huge breakthrough when heavy liquids became available
 - DFO is 2x heavier than water



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Primary Retinal Detachment – Giant Tear



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Long Standing Primary RD

- PVR = proliferative vitreoretinopathy or scar tissue = enemy of retinal reattachment surgery



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Long Standing Primary RD with severe PVR



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Cataract Surgery Complications

- Let me switch gears to another common indication for Vitreous Surgery:
 - Retained lens material
 - This is how we like to see these eyes: a nicely closed wound



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Cataract Surgery Complications

- On the other hand-I
 - Retained lens material, but the wound not closed
 - Hint – close the wound



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Cataract Surgery Complications

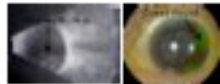
- Retained lens material is not an emergency, but why not give us a call – at the time of primary surgical complication
 - We are (in room 1) almost always available
 - Patient is already NPO
 - No time for secondary glaucoma to develop
 - Lens material not embedded in the anterior inferior vitreous base, but free floating in the posterior pole
 - Psychological advantage for the patient of getting all the surgery done in one day

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Cataract Surgery Complications

- Steps – Pause & Think
 - Get the vitreous out of the wound
 - Preserve capsule for IOL
 - No deep diving into vitreous cavity
 - Close the wound
 - Give us a call
 - We can:
 - Get the lens material out no matter where it is



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IOL Complications and RD

- Sometimes you can really make us sweat
 - Increased incidence of RD following Cat IOL complications
 - Please try to avoid silicone IOLs when the cataract surgery complicated!
 - Seem – loss of view
 - Dislocate
 - Protrude into AC
 - Silicone oil binds to silicone IOLs



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Topics of Discussion

- Last 2 decades
- Led to the new era of MACULAR SURGERY
- Better understanding of tissue relationships with improved diagnostic – e.g. OCT
- Improved surgical instrumentation



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Macular Surgery

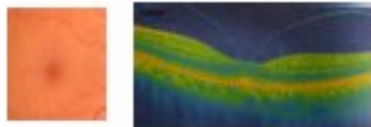


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Macular Surgery

- Macular hole – incidence 3.3/1000 in those > 55 yrs
- Some pts present with subtle visual loss or distortion - as seen in this pt with an early stage macular hole

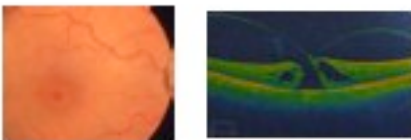


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Macular Surgery

- Most eyes with a stage 2 or larger macular hole experience progressive visual loss if not treated

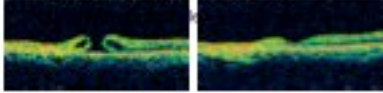


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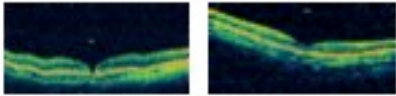
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Macular Surgery

- Macular hole
- Always some exceptions to the rule



Small idiopathic -spontaneous closure



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Macular Hole Surgery - Technique

- Peel cortical vitreous
 - Usually no PVD
- Peel internal limiting membrane
 - ILM
- Gas-fluid exchange
- Face down for 1 week



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Macular Hole Surgery

- Peel cortical vitreous
 - Usually no PVD

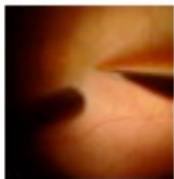


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Macular Hole Surgery

- Peel internal limiting membrane
 - Nick the ILM with bent MVR blade

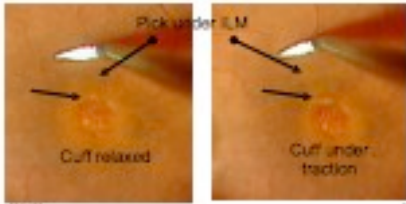


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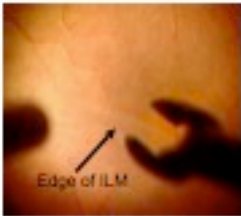
Macular Hole Surgery

- Use pick to elevate & peel the ILM



Macular Hole Surgery

- Finish peel with forceps



Macular Hole Surgery

- Macular Hole Surgery



Macular Hole Surgery

- Kenalog assisted ILM Peeling



Macular Hole Surgery

- ICG assisted ILM Peeling



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Vitreo-Macular Traction

- Usually anterior posterior traction

- Focal macular attachment

- Broad macular attachment

- Peripapillary traction



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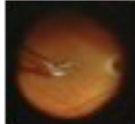
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Vitreo-Macular Traction

- Surgical goal

- Relieve Vitreo-Retinal traction by peeling the vitreous cortex
 - Scissors often required at points of firm adhesion

- There are usually also ERMs membranes to peel in these cases



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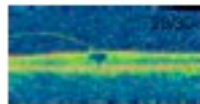
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Vitreo-Macular Traction

- Natural History

- Often progresses – but % not really known

- May spontaneously resolve

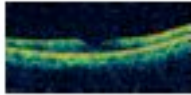
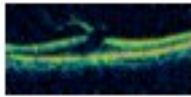


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Vitreo-Macular Traction

- Natural History
 - Often progresses – but % not really known
 - May spontaneously resolve with good vision

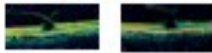


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Vitreo-Macular Traction

- Natural History
 - Often progresses – but % not really known
 - May spontaneously resolve – others with poor vision

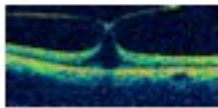


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Vitreo-Macular Traction

- Focal Macular attachment – consider vitrectomy surgery
 - If documented progressive visual loss
 - Or if the vision is < 20/40



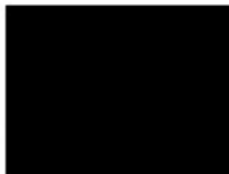
ETD, and is the mother of a friend with poor eyesight. - (1/1)

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Vitreo-Macular Traction

- Focal Macular attachment – consider surgery
 - If documented progressive visual loss
 - Or if the vision is < 20/40

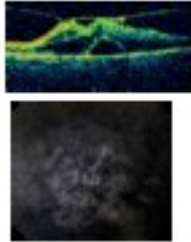


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Vitreo-Macular Traction

- VMT with broad attachment
 - Very adherent cortical face
 - FA shows diffuse cysts
 - Usually associated ERM



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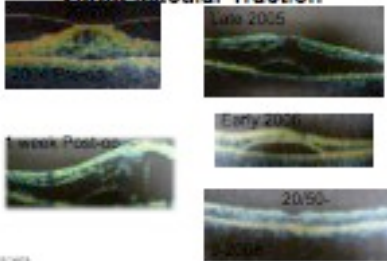
Vitreo-Macular Traction with Broad Attachment



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Vitreo-Macular Traction



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Subretinal Surgery

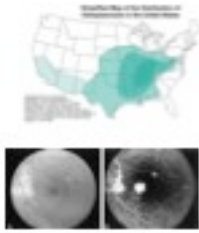
- Primary indication: we don't do much
- CNV associated with:
 - ?? PCHS ? ? Idiopathic VA < 20/100
 - ?? Myopia ?? Angiod streaks
 - ??? AMD

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Subretinal Surgery

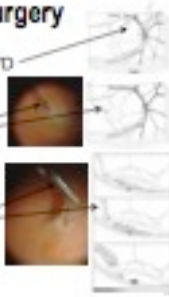
- PCHS (presumed ocular histoplasmosis syndrome)
 - Endemic fungus – results in a subclinical & benign clinical course in the healthy hosts
 - PP, macular and peripheral scar
 - At times macular CNV



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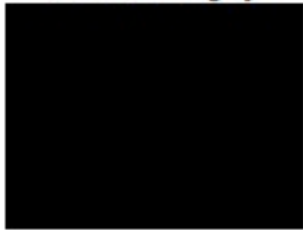
Subretinal Surgery

- Remove vitreous / create PVD
- Loosen the CNV with a subretinal pick
- Grasp and remove the CNV with subretinal forceps



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Subretinal Surgery



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Intra Ocular Foreign Body



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Thank You