

**YAG: Beyond the Posterior Capsule**

Patel and Findley  
KOA Spring 2021

1

**ALWAYS FOLLOW THE SCIENCE**

2

**Disclaimer**

3

**Disclaimer**

- We do not necessarily think you need to be doing all the procedures discussed in this presentation
- "Professional driver on a closed course"

4

## YAG: PCO

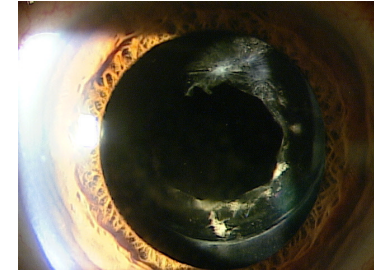
- Nd: YAG
- Standard procedure for treatment of PCO
- Typical 3-4 mm opening in central PC on visual axis
- Success rate > 95%
- Complications



5

## YAG: PCO

- Procedure:
- Start with 2-3 millijoules, increase slowly after see 1-2 mm opening
- J.P. 45605
- 68 takes, 1 mJ, 68 total energy



6

## YAG: Anterior Vitreous Strands

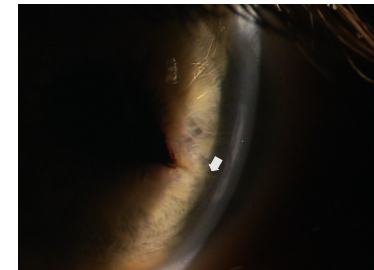
- Vitreous strands in AC
- Sign of capsular or zonular compromise
- Distortion of pupil
- Possible glare from exposed IOL edge, iris cosmesis
- MAY lead to chronic inflammation, corneal edema, CME, glaucoma
- Vitreous Wick - extends through incision to ocular surface, increased risk endophthalmitis



7

## YAG: Anterior Vitreolysis

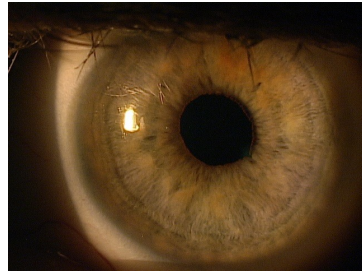
- Vitreous to the wound/ peaked pupil
- Focus YAG on strand and peaked pupil margin - easier to visualize
- Treat to release traction
- Not necessary to clear entire strand



8

## YAG: Anterior Vitreolysis

- Post YAG
  - Strand broken
  - Traction relieved
  - Pupil is round
- B.H. (104055)
  - 5 shots, 1.3 mJ

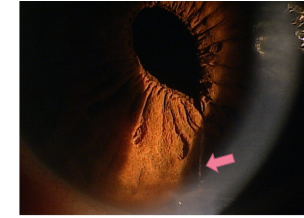
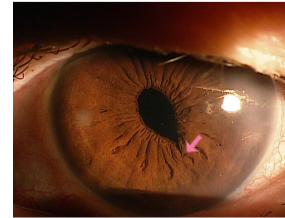


9

## YAG: Anterior Vitreolysis

L.B. 90504

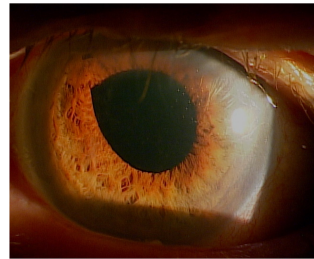
13 shots, 1.7 mJ, 27 total



10

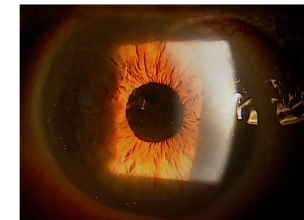
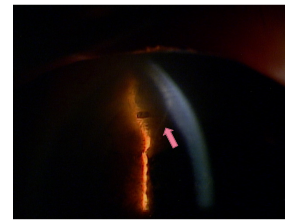
## YAG: Anterior Vitreolysis

- D.G. 93 yom (50228)
- Floppy iris syndrome (IFIS)
- Slightly peaked pupil
- YAG: 51 shots, 1.0 mJ, 51 total energy
- Pupil round after strand broken



11

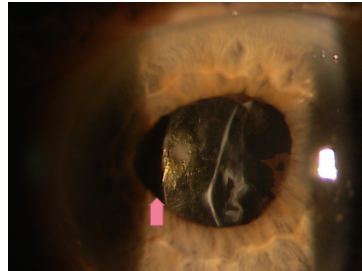
## YAG: Anterior Vitreolysis



12

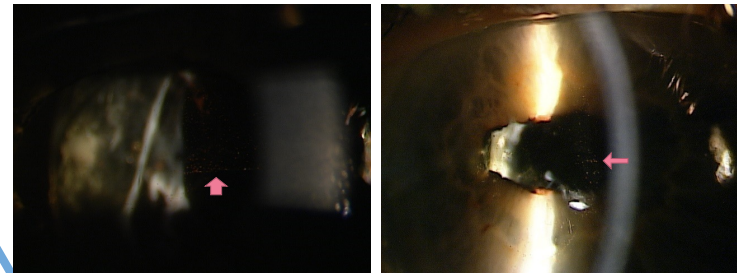
### YAG: Anterior Vitreolysis

- Vitreous strands
- Not knuckle of Vitreous in AC
- Not Endothelial touch



13

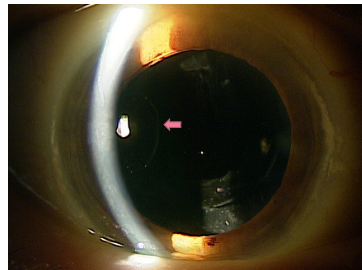
### YAG: Anterior Vitreolysis- not this



14

### YAG; Anterior Vitreolysis – nor this

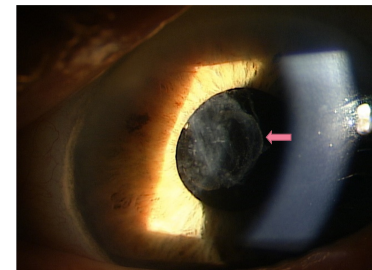
- Knuckle of vitreous in AC



15

### YAG: Anterior Vitreolysis – not even this

- Vit in AC

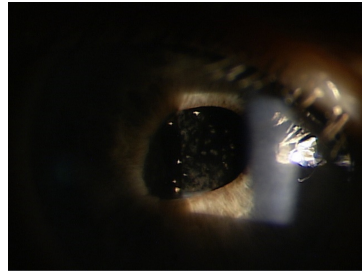


16



### YAG: Case in Point M.B. 96336

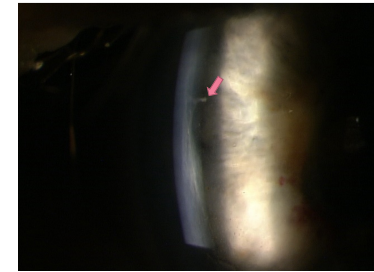
- 78 yof
- Med Hx: DM, +smoker
- -1.50 -2.75 x 131 20/200
- Peaked pupil
- Posterior synechiae
- IOL precipitates
- Laser pits on IOL



17

### YAG: Case in Point 96336

- Vitreous strand to wound
- YAG
- Abraham capsulotomy lens
- 54 shots
- 2.1 mJ
- Total energy 113
- Pred forte



18

### YAG: Case in Point 96336

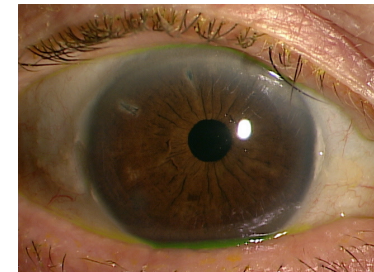
- Post YAG
- PPT gone
- Vitreous strand broken
- Heme on iris
- Posterior synechiae



19

### YAG: Iridoplasty (Argon laser)

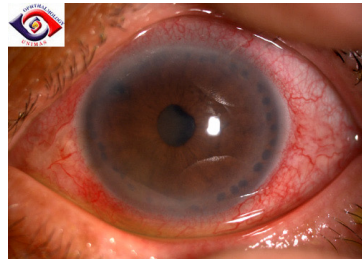
- Stromal burns in peripheral iris contract iris and pull away from angle
- Persistent appositional angle closure after LPI
- Plateau iris
- Nanophthalmos
- Lens-related angle closure
- ACG when shallow AC precludes LPI



20

## YAG: Iridoplasty (Argon laser)

- Long duration, large spot size, low power
- 0.5 sec, 200-500 mic size, 200-500 mW
- Anisocoria, iris pigment changes, corneal endothelial damage, AC rxn
- Post-op: elevated IOP, uveitis
- Topical steroids



21

## YAG: Laser Peripheral Iridotomy

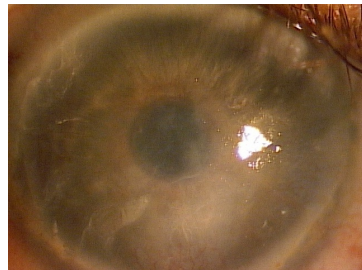
- Historical Tx for Narrow angle or Angle Closure Glaucoma
- Gonioscopy shows occluded or occludable angle
- Young, presbyopic patient with accommodation
- If needed don't put off - patients can get lost to follow up and have ACG.



22

## YAG: Laser Peripheral Iridotomy

- Consider symptoms
- Eg. Headaches and blurred vision at matinee in the afternoon, headaches in dim light
- Contraindications:
  - Flat AC
  - NVG
  - Iridocorneal endotheliopathy (ICE)



23

## YAG: Laser Peripheral Iridotomy

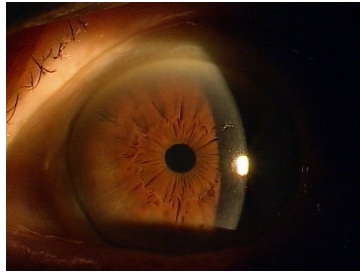
- Procedure:
  - 2 stages - Argon to cauterize iris tissue followed by YAG to open (requires combo YAG/Argon or 2 lasers)
  - Nice, round iridotomy, will remain patent, no heme
  - YAG only - irregular opening and bleeds, usually oriented with stress lines of iris (radial), tends to close with iris constriction



24

## YAG: Laser Peripheral Iridotomy

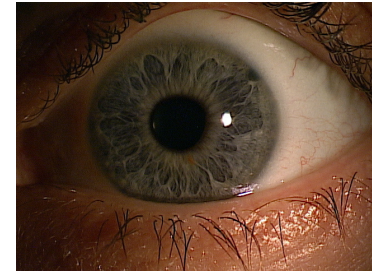
- YAG only advantages
- Fewer pulses and less energy
- Iris color not an issue
- Less chance for closure than Argon only (?)



25

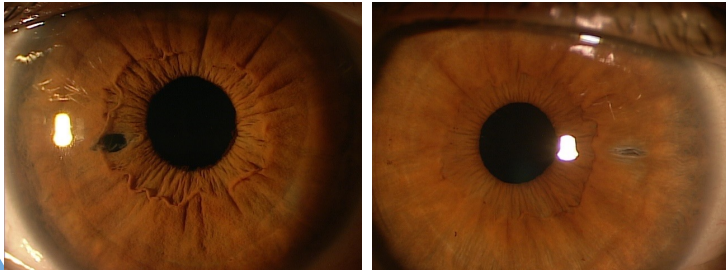
## YAG: Laser Peripheral Iridotomy

- Procedure:
- May look for iris crypts
- Superior temporal iris under lid (+/-) vs 3 or 9
- Tear prism upper lid may deflect light through iridotomy under lid and cause linear dysphotopsia (light streak)
- Temporal
- 500 micron opening



26

## Not This



27

## Not This

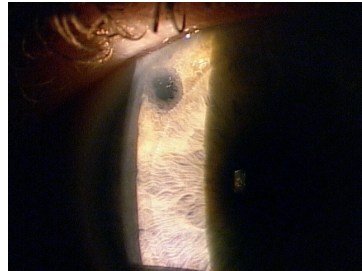
- LPI too peripheral



28

## YAG: Laser Peripheral Iridotomy

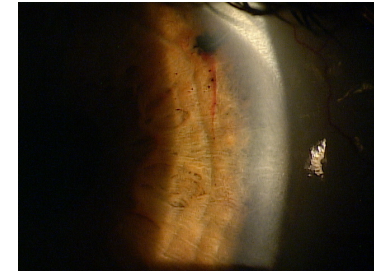
- Argon settings
  - 0.1 sec, 50 mic, 900 mW
- YAG setting
  - 2-5 mJ



29

## YAG: Laser Peripheral Iridotomy

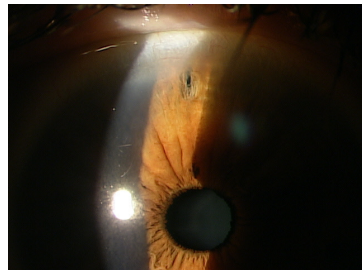
- Intra-op
- Bleeding - pressure with condensing lens tamponades vessel until coagulates



30

## YAG: Laser Peripheral Iridotomy

- Post-op:
  - IOP spike - we pretreat with Diamox 500mg x 1 po
  - Check IOP 30 minutes post-op
  - Inflammation - topical steroids
    - qid x 1 week, bid x 1 week, qd x 1 week
  - Closure of LPI
  - Dilated stress test - 1-3 months post LPI with gonio to ensure visualization of angle post-dilation



31

## YAG: Laser Peripheral Iridotomy

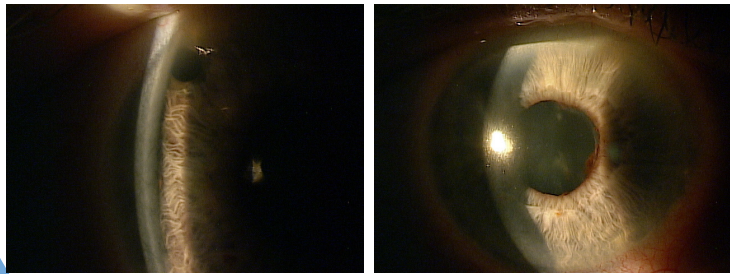
- Note:
  - We sometimes see these patients return several years later for cataract surgery with posterior synechiae from the LPI.
  - Especially high hyperopes with smaller eyes and greater risk for angle closure
  - Recommend overdoing rather than under treating with steroid to avoid this.



32

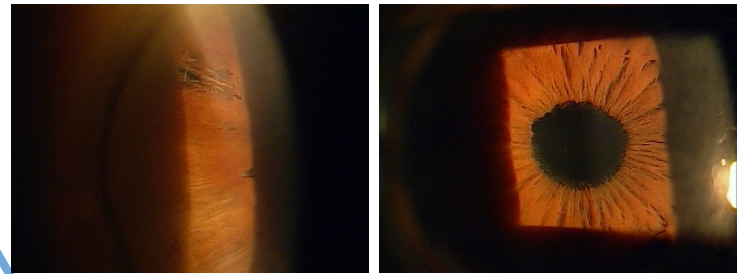


LPI: Case in Point 16 yrs post LPI



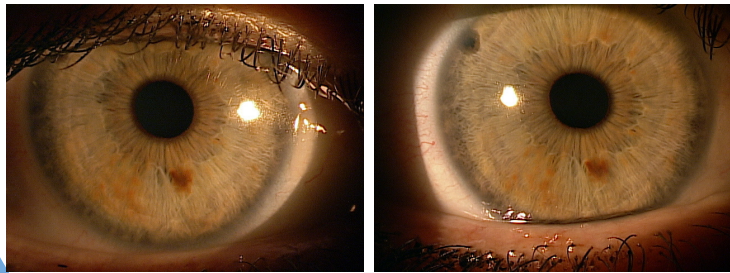
33

LPI: Case in Point #2. 2 years post LPI



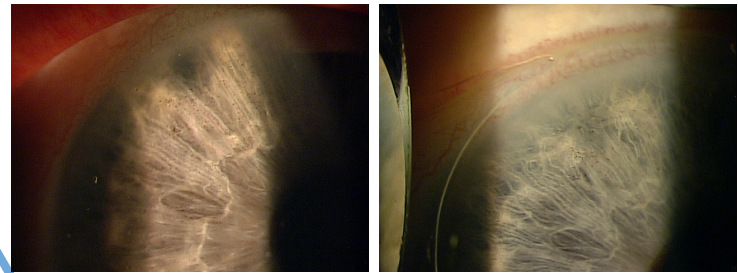
34

YAG: LPI Dysphotopsia LM 81902



35

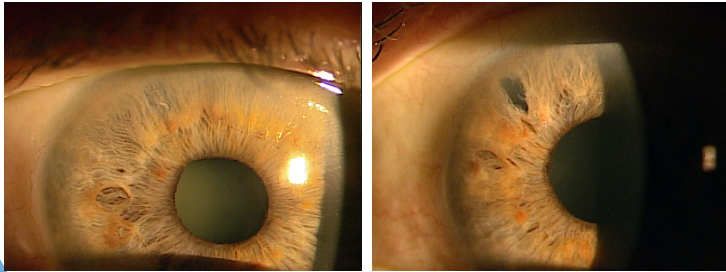
YAG: LPI Non Patent in 3 months G.G. (45622)



36



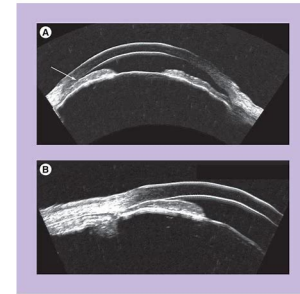
### YAG: LPI Non Patent



37

### YAG: Malignant Glaucoma

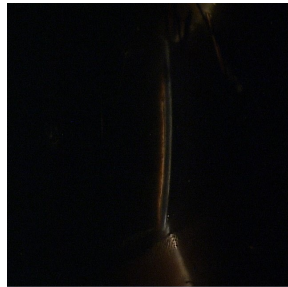
- Anterior displacement of lens-iris diaphragm & anterior hyaloid face, posterior misdirection of aqueous
- Shallow peripheral AND central AC
- Tx meds → atropine paralyze sphincter, increase zonular tension, lens flattens and moves posterior deepening AC
- YAG to disrupt posterior capsule and anterior hyaloid face



38

### YAG: Malignant Glaucoma

- L.F. 73 yof (92546)
- Post-op RCS OS 10/1/18
- UnCVA 20/20 AC - d/q
- RCS OD 10/22/18
- Day 1 post-op OD fine but decreased vision OS
- VA 20/200 AC - s/q
- Rx Atropine bid, Durezol qid



39

### YAG: Inflammatory Membranes

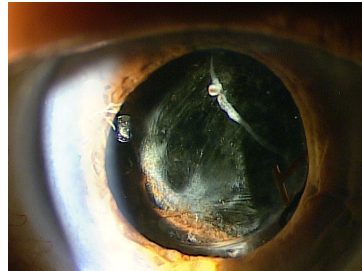
- M.W. (20193)
- Hx of iritis
- Iris capture by IOL
- Resolved with dilation
- Note inflammatory membrane



40

### YAG: Inflammatory Membranes

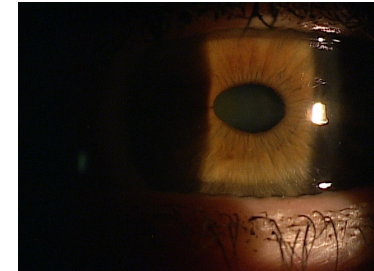
- Returns 3 years later
- IOL in posterior chamber
- Membrane remains plus PCO
- YAG - 1mJ, 49 shots



41

### YAG: Inflammatory Membranes

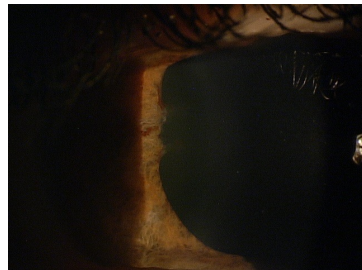
- K.I. (96863) 68 yof
- Hx of MSPPV for vitreous opacity
- Posterior synechiae noted pre-cataract surgery
- Peaked pupil



42

### YAG: Inflammatory Membranes

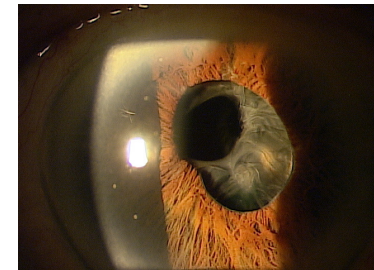
- YAG: 37 shots, 3.2 mJ, 188 total energy



43

### YAG: Inflammatory Membranes

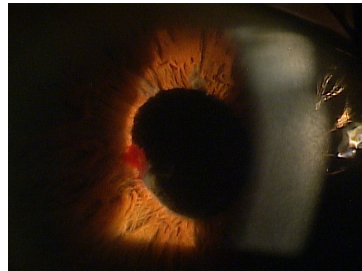
- A.H. (57289)
- 83 YOF
- Posterior synechiae @ 8:00
- PEX
- Anterior capsular phimosis
- No apparent pseudophacodonesis



44

### YAG: Inflammatory Membranes

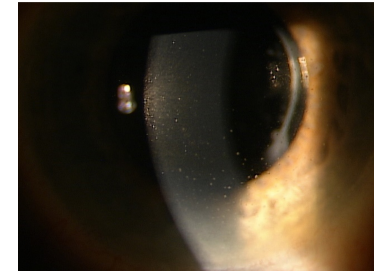
- 163 takes
- 1-2 mJ
- 240mJ Total energy
- Heme at site of YAG lysis



45

### YAG: Anterior IOL Precipitates

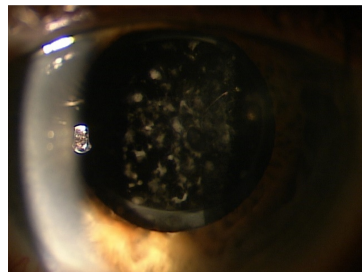
- J.H. (98322)
- 68 yom
- Hx of iritis OS (Fuch's)
- RCS OS then OD (11/19)



46

### YAG: Anterior IOL Precipitates

- Returns 2/20 for YAG eval
- Decreased VA OS x 2 months
- No ocular meds
- VA - 20/25, BAT 20/400
- SLE - KP, PPT on anterior IOL
- Vitreous debris
- Mx - Durezol qid
- Follow up O.D. 1 week



47

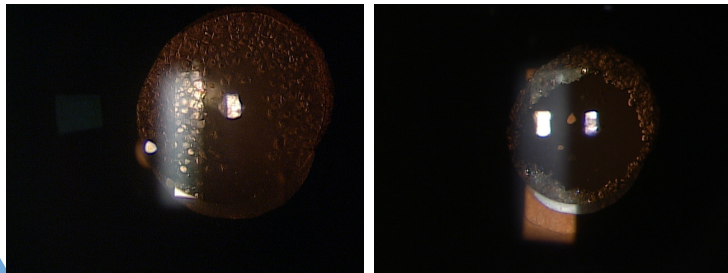
### YAG: Anterior IOL Precipitates

- Inflammatory precipitates on anterior IOL surface
- Low power - 0.1 to 0.2 mJ
- (regular YAG 1.5 to 2.0 mJ)
- Focus on anterior IOL surface then BACK OFF ANTERIOR to it
- Pop off precipitates ( you can see them pop off)
- Topical steroid post-op



48

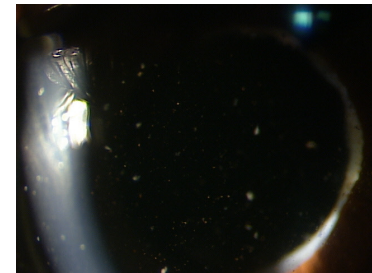
### YAG: Anterior IOL Precipitates



49

### YAG: Anterior IOL Precipitates

• YAG: 62 takes, 1.9 mJ



50

### YAG: Anterior IOL Precipitates

**PPT returned**

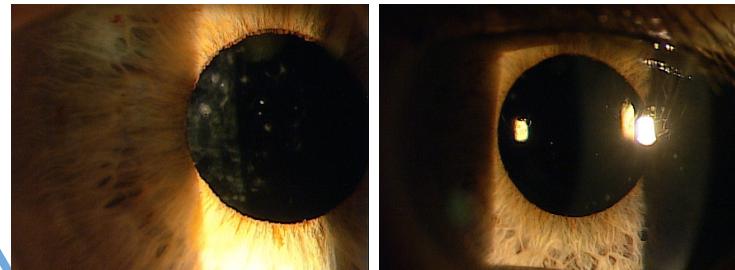


**After Durezol x 2 weeks**



51

### YAG: Anterior IOL Precipitates A.L. (36310)

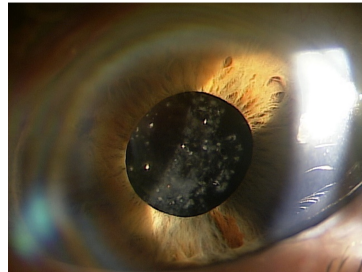


52



### YAG: Case in Point

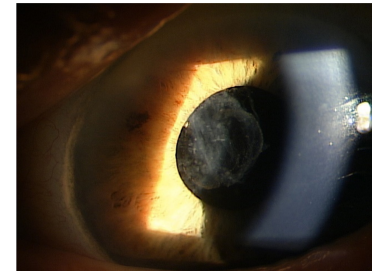
- O.C. 94 yof (29723)
- S/P CE and YAG 2007
- VA 20/60
- Precipitates on anterior IOL surface
- Laser pits from previous YAG
- Open posterior capsule
- Vitreous in AC



53

### YAG: Case in Point

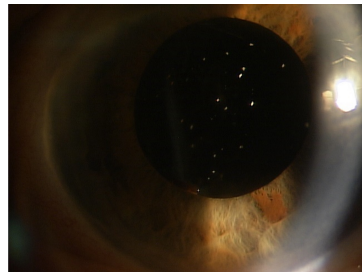
- Knuckle of vitreous in AC
- Don't treat
- IOL PPT
- 97 shots
- 2.0 mJ
- Durezol bid



54

### YAG: Case in Point

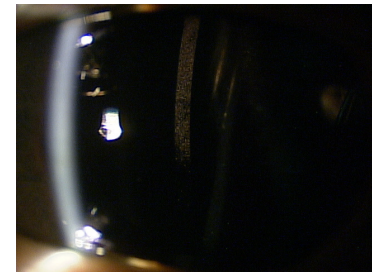
- Post YAG
- BVA 20/25



55

### YAG: Anterior IOL Deposits

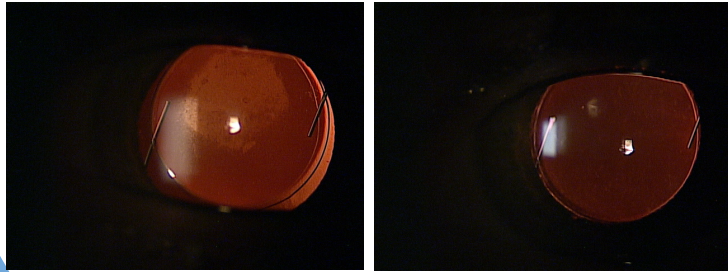
- J.R. (56716)
- Other deposits on anterior surface of IOL
- Same procedure as treating PPTs
- YAG: 53 takes, 0.5 mJ, total energy 27



56



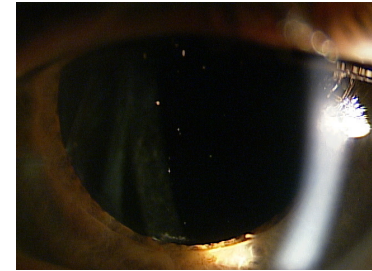
### YAG: Anterior Capsule Deposits (retro)



57

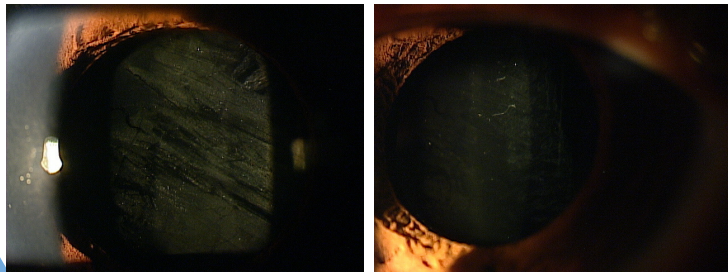
### YAG: Anterior IOL Deposits

- J.R.
- Post YAG
- Subjectively improved vision
- Note: When she returned several years later with PCO did not understand why needed YAG again, "You said you only need laser once."



58

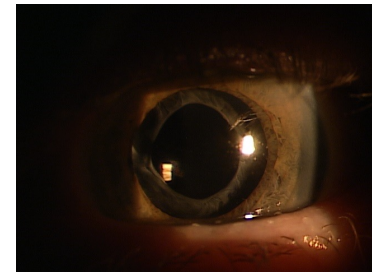
### YAG: Anterior Capsule Deposits – try Durezol



59

### YAG: Anterior Capsular Phimosia

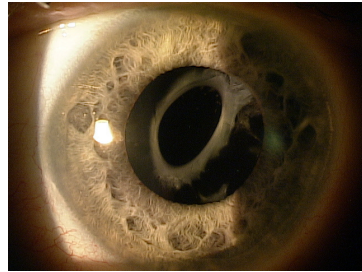
- Post-op contraction of the anterior capsule opening due to circumferential fibrosis
- Clouding of anterior capsular lip
- Can reduce occurrence by polishing anterior capsule



60

## YAG: Anterior Capsular Phimosi

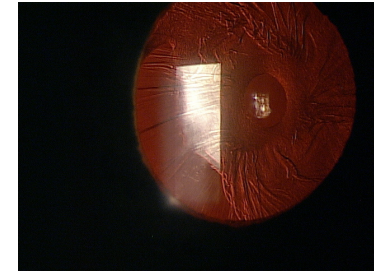
- Can cause:
- Stress on zonules → break → late pseudophacodonesis
- Possible subluxation of IOL
- Decentration of IOL within the capsular bag
- Symptoms may include glare at night and be worse than PCO, cloudy, hazy vision



61

## YAG: Anterior Capsular Phimosi

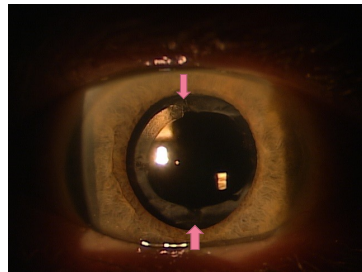
- More frequently seen with:
- Smaller capsulorhexis openings
- Pseudoexfoliation
- Abnormal or asymmetric zonular support → trauma, Marfan's



62

## YAG: Anterior Capsular Phimosi

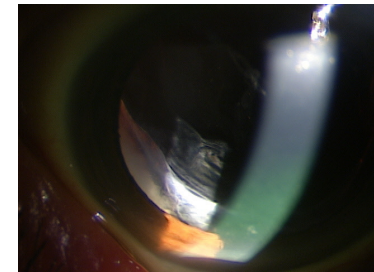
- Treatment:
- Several radial YAG incisions (3,6,9,12)
- Decrease annular contraction
- Decrease stress in zonules
- Increase anterior capsular opening



63

## YAG: Anterior Capsular Phimosi

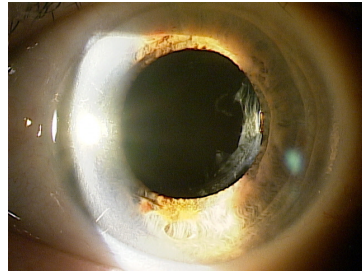
- May require more energy than PCO
- Focus just anterior to IOL surface (too deep can pit lens, but peripheral lens so less bothersome)
- Treat just past edge of IOL



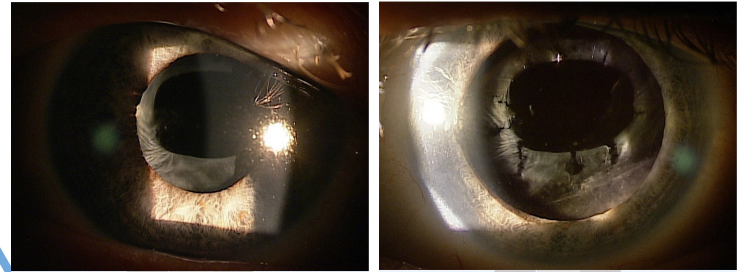
64

### YAG: Anterior Capsular Phimosi

- Do NOT do relaxing incisions on a patient with Crystalens
- Capsular bag is under a lot of tension and radial incision can break out to peripheral capsule and may go all the way around to PC → destabilizes IOL
- DO on silicone plate haptic IOLs when doing PCO if phimosi present → IOL into vitreous



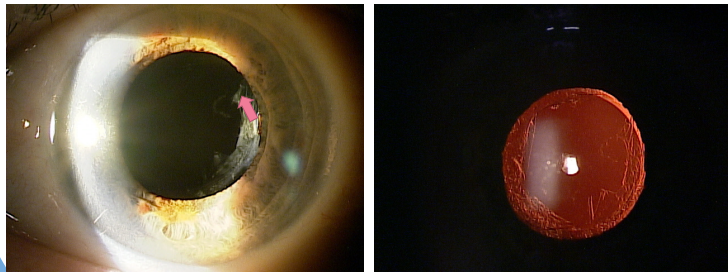
### YAG: Anterior Capsular Phimosi



65

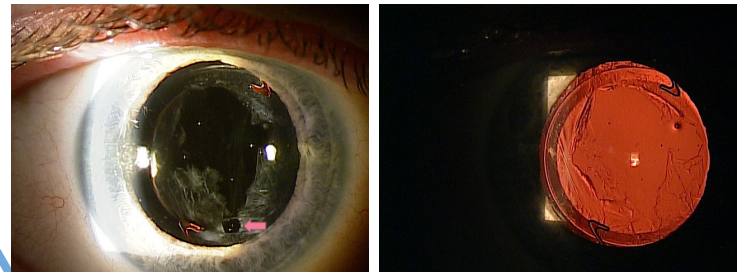
66

### YAG: "Run Out"



67

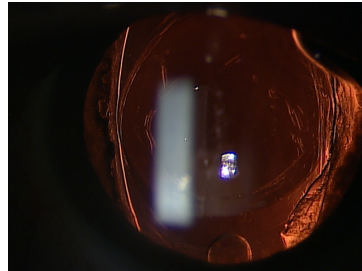
### YAG: "Run Out"



68

## YAG: Anterior Capsular Phimosis

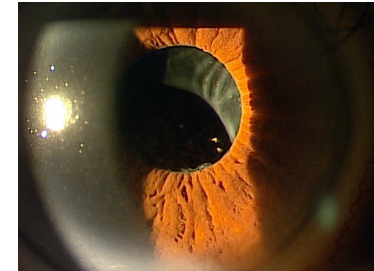
- Plate haptic IOL
- Keep PC opening small
- Radial incisions on anterior capsule



69

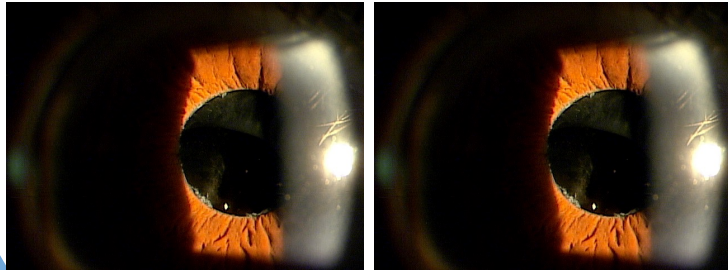
## YAG: Anterior Capsular Phimosis

- P.H. (14654)
- PEX
- Anterior capsular phimosis in the visual axis
- Pseudophacodonesis
- DANGER!!!



70

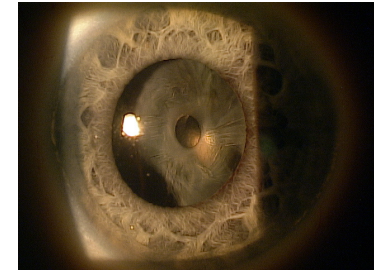
## YAG: Anterior Capsular Phimosis



71

## YAG: Case in Point

- M.W. 70 yo f (81504)
- YAG eval
- Decreased vision OS > OD
- BVA 20/40 OD; 20/125 OS
- SLE - anterior capsular phimosis OS > OD

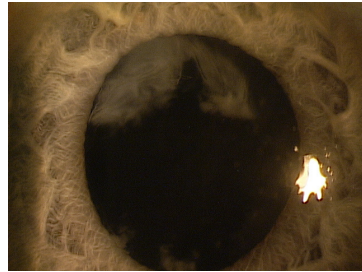


72



### YAG: Case in Point

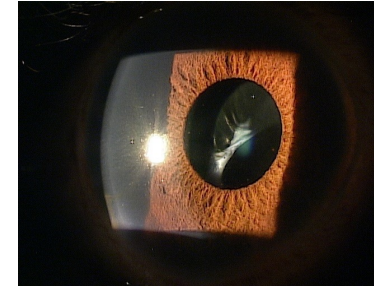
- YAG: 219 shots, 2.7 mJ, 690
- BVA 20/30



73

### YAG: Case in Point

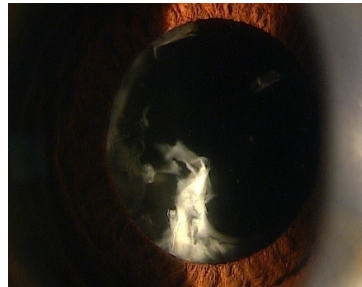
- C.P. 62 yof (94633)
- Cataracts OU
- Std CE OU 3/19
- Returned 3/21 YAG eval
- VA 20/40, BAT 20/400
- Faint stellate KP OD
- Anterior capsular phimosis in visual axis



74

### YAG: Case in Point

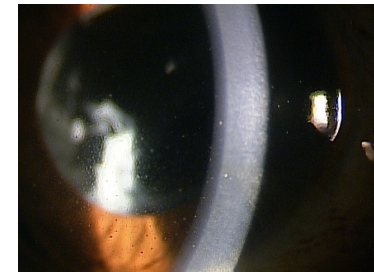
- YAG:
- 122 takes
- 3.6 mJ
- 439 total energy



75

### YAG: Case in Point

- Stellate KP
- Topical steroid qid
- RTC 1 week

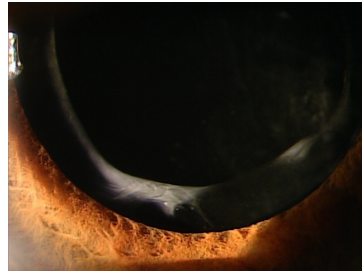


76



### YAG: Positive Dysphotopsia

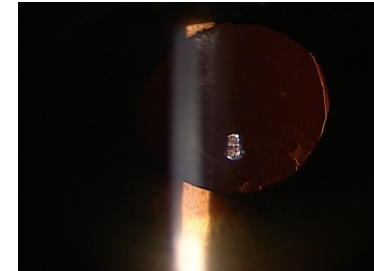
- J.W. 57 yom (101132)
- CC: "Circular hoops of light" in OD, "awful and never go away", "getting worse"
- SCVA 20/20+2
- SLE - beautifully centered in the bag PCIOL with anterior capsular phimosis inferior



77

### YAG: Positive Dysphotopsia

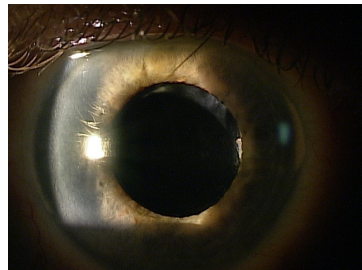
- YAG anterior capsular lip
- 33 shots, 2.4 mJ, 79 total energy
- Alphagan tid (control pupil)
- Patient reports with YAG and Alphagan symptoms much improved



78

### YAG: Negative Dysphotopsia

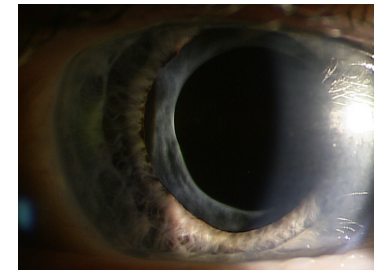
- F.T. 67 yom (99453)
- Decreased vision and bothersome glare from bright lights. Also, "shadow" inferior temporal visual field OD.
- BVA 20/20, BAT 20/40
- HVF and retina clear
- Anterior capsular overhang



79

### YAG: Negative Dysphotopsia

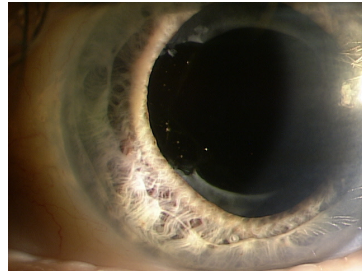
- D.T. 78 yom (82943)
- Complains of an arc shadow in temporal vision.
- SLE - overlap of anterior capsule on IOL



80

### YAG: Negative Dysphotopsia

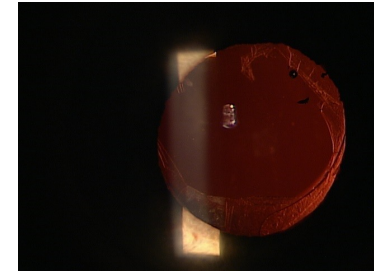
- YAG: 28 takes, 2.0 mJ, 56 total energy
- F/U 3 months - "Better but still present." Monitor.
- F/U 6 months - "Improving but not gone."



81

### YAG: Negative Dysphotopsia

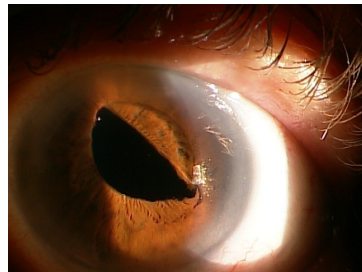
- YAG
- 49 shots, 3.2 mJ, 157 total energy
- F/U 3 months
- CC: "String or circle" in center of vision. Told he had capsular remnants (none seen)
- Vitreous debris → sent for retina/vitreous consult



82

### YAG: IOL Repositioning

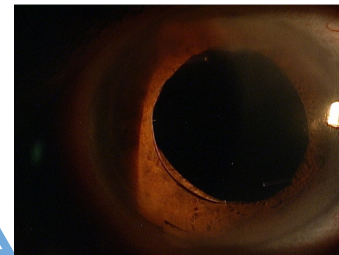
- Dislocated IOL, Iris capture, Angled IOL
- Sometimes you can "push" the IOL back into position simply by implosion
- BIG shot - 10 mJ
- Focus on IOL then back off into AC (more than you think initially) and pop once
- Target peripheral very near edge of iris
- **VERY CAREFUL** - high energy, can cause iris bleed and if hit IOL it WILL pit



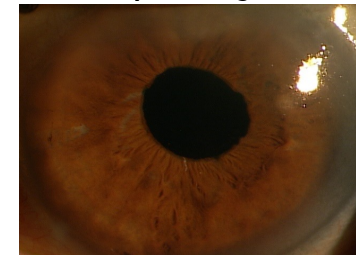
83

### YAG: Dilation "This close..."

Post dilation



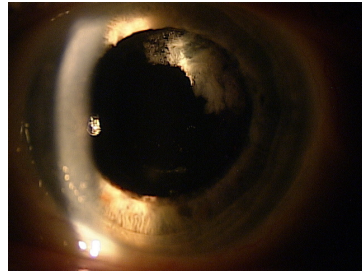
Post YAG repositioning



84

### YAG: Retained Lens Material

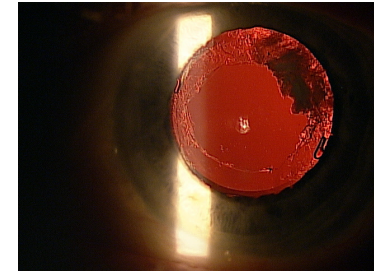
- W.C. (27781)
- 86 takes
- 1 mJ
- 86 total energy



85

### YAG: Retained Lens Material

- W.C. (27781)



86

### YAG: Retained Lens Material

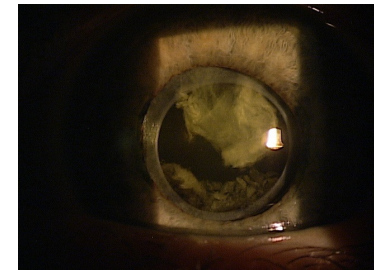
- S.D. (31345)
- 68 takes
- 1 mJ
- 68 total energy



87

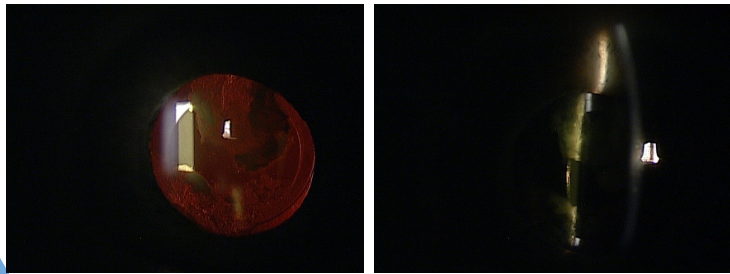
### YAG: Case in Point

- A.L. 34 yof (99475)
- Hx: PDR s/p PRP, CE
- CC: Decreased vision
- BVA - 20/80
- SLE - PCIOL in capsular bag
- Retained cortical material
- Posterior capsular distention
- 140 shots, 2.7 mJ, 415 total energy



88

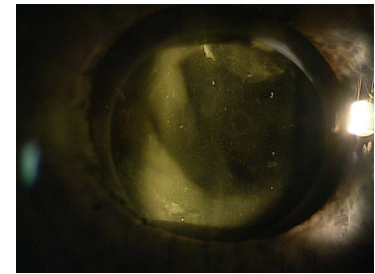
YAG: Case in Point



89

YAG: Case in Point

- F/U 4 days
- "Vision is different but not improved, still looking through a milky haze."
- BVA 20/50
- TA - 24 mmHg
- Refer to retina for possible vitrectomy



90

YAG: Case in Point

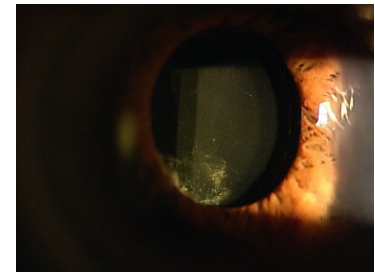
- C.I. 77 wof (105309)
- S/P CE OU x 11 years
- Decreased vision
- BVA 20/100
- SLE - PCO with retained cortical material
- YAG - 30 shots, 3.6 mJ, 108 total energy



91

YAG: Case in Point

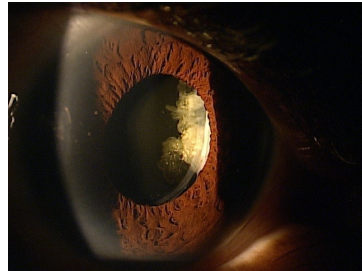
- F/U 4/16/21



92

## YAG: Case in Point

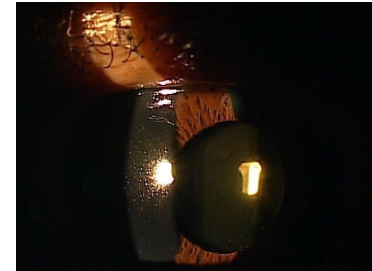
- H.W. 69 yom (100502)
- Hx of RD (2015), ERM OD
- S/P Lasik (2006 monovision), cataract surgery (2007) by another surgeon
- PCO, anterior vitreous debris
- Feb 2020 YAG OS - 73 shots, 2.8 mJ, total energy 204
- 3 day po IOP spike → treated
- 4/27/20 - "Large floater", large amount cortical material in vitreous, Durezol and Combigan
- 5/26/20 - resolved cortical material some debris, elevated IOP. Stop Durezol add latanoprost, Diamox, increase Combigan → glaucoma consult



93

## YAG: Case in Point

- 5/28/20 - IOP normal. Taper Diamox
- 9/10/20 - IOP 11. Large cortical fragment inferior, localized RD with retinal tear → laser
- 10/7/21 - increased floaters. RD broken through laser
- 10/14/21 - PPV, SBP, C3F8. Durezol, Cosopt, latanoprost, Diamox 500 bid, face down or side



94

## YAG: Case in Point

- 10/20/20 - Retina flat
- 12/4/20 - CME → Durezol qid and Nevanac bid, Cosopt, latanoprost 12/18/20
- 12/18/20 - CME resolved; Taper Durezol to bid, Nevanac bid, same glauc meds
- 3/3/21 - Off Durezol, C.D. 0.6, TA 10. Taper off Cosopt and latanoprost



95

## YAG: Dense PCO

- Can look like cortical material stuck on PC
- Increase millijoules
- Start with small opening, can increase size later if needed (non-dilated?) → keeps total energy millijoules less since smaller
- If supplemental required → might hit cortical material/cells which may cause inflammation
- Propionobacter release?

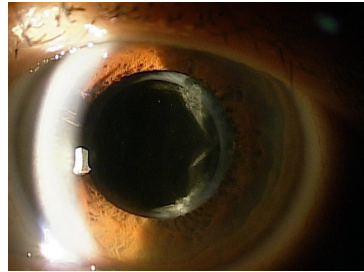


96



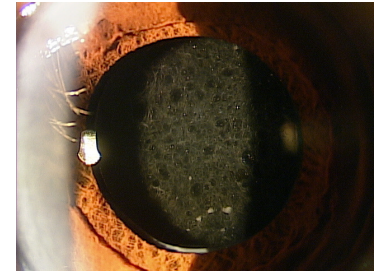
**YAG: Dense PCO**

- D.C. 77 yo (62043)
- Decreased vision OS
- BVA 20/125
- SLE - dense PCO
- YAG - 47 shots, 2.8 mJ, 132 total energy
- BVA 20/30



**YAG: Dense PCO**

- K.R. 61 yo (82420)
- BVA 20/100
- SLE as seen

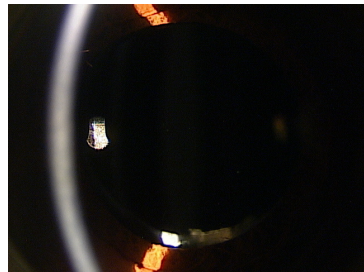


97

98

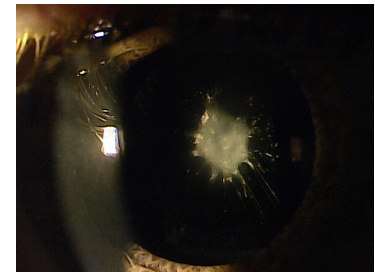
**YAG: Dense PCO**

- 98 shots
- 1.7 mJ
- 261 total energy



**YAG: Dense PCO**

- L.C. (59206)
- S/P multiple RD repair
- 104 takes
- 10 mJ
- 1040 Total energy

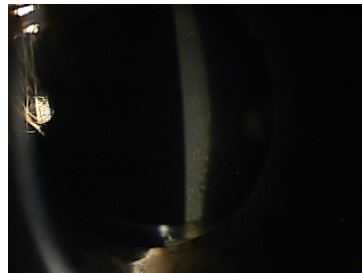


99

100

### YAG: Posterior Capsular Distention

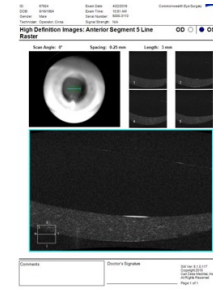
- Intracapsular accumulation of liquified material posterior to IOL (between posterior IOL surface and PC)
- Early post-op likely due to residual viscoelastic → possible myopic shift and anterior displacement of iris diaphragm and shallow chamber
- Late fluid is milky



101

### YAG: Posterior Capsular Distention

- May be easier to YAG PC b/c capsule is taut and space
- Peripheral anterior capsulotomy or PC
- LF prefers circular pattern YAG
- Note: few days post YAG light sensitivity, corneal edema, mild AC rxn. Possible endophthalmitis (?) or possible IOP spike.



102

### YAG: Posterior Capsular Distention

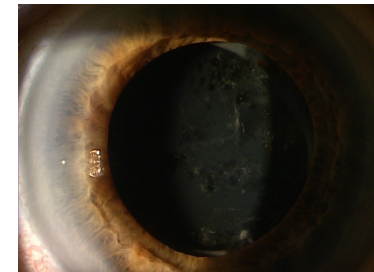
- R.B. 66 yom (67924)
- BVA 20/30, BAT < 20/400
- SLE - PCO and posterior capsule distention
- Post-YAG as seen here



103

### YAG: Case in Point

- M.R. 82 yof (103421)
- S/P CE OU 2011 (9 years)
- Decreased vision x 6 months
- BVA 20/30, BAT 20/400
- SLE - PCO with posterior capsular distention
- 99 shots, 3.8 mJ, 363 total energy
- F/U UnCVA 20/20



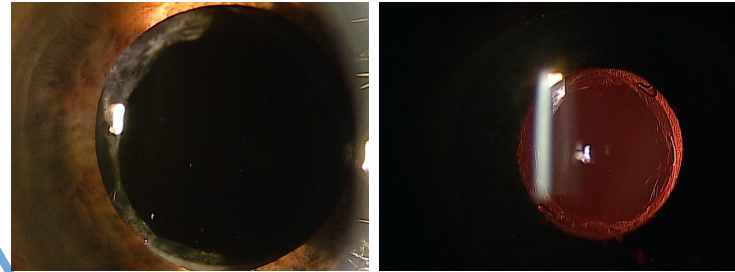
104

### YAG: Case in Point



105

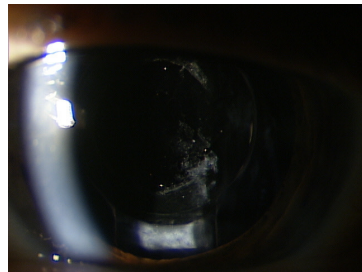
### YAG: Case in Point



106

### YAG: Capsular Remnants

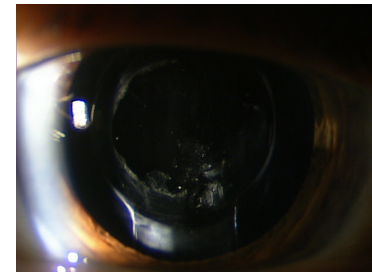
- Transient capsular debris remaining after YAG PCO
- May be seen as floaters
- May settle over time
- If persistent and bothersome may consider YAG to eliminate
- DDx: RD, vitreous opacities



107

### YAG: Posterior Capsular Remnants

- L.M. 73 yof (65770)
- Crystalens
- MRx Plano OU 20/20 distance and 20/20 → 25 near
- OD SCVA 20/70
- MRx -1.25 -0.50 x 105 20/20
- Takes 68, 2.0 mJ OD
- CC: Cloudiness in nasal corner of vision improves with blink
- Plano 20/30+2, 20/20, J2
- YAG remnants: 32 takes, 2.0mJ



108

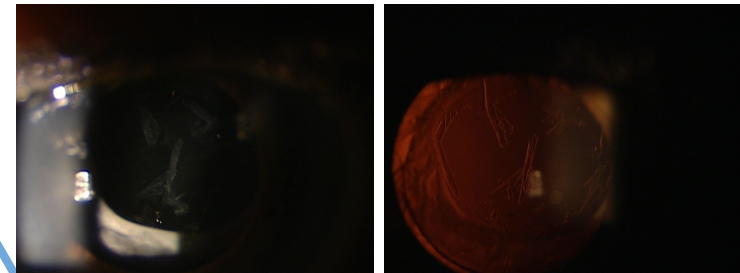
### YAG: Case in Point, Capsular Remnants

- R.H. 57 yof (101044)
- YAG eval
- PCO
- YAG: 37 takes, 3.7 mJ, 133 total energy
- Returns 6 weeks "Vision getting worse"
- SLE as shown
- YAG: 63 takes, 3.6 mJ, 227



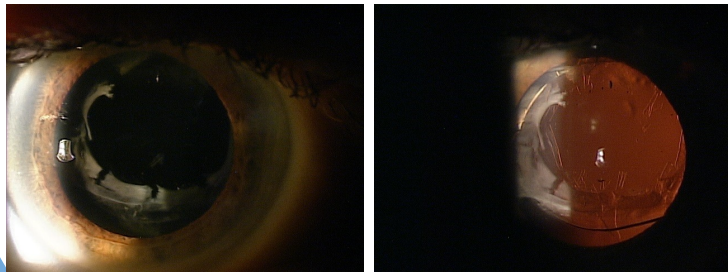
109

### YAG: Case in Point, Capsular Remnants



110

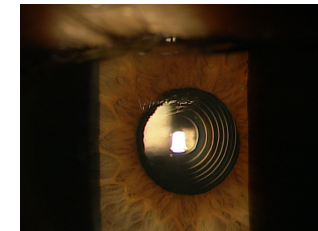
### YAG: Case in Point, Capsular Remnants



111

### YAG: Posterior Vitreolysis → Vitreous Floaters

- C.M. 65 yo complains of decreased vision OS after Catalys phaco with AK incisions and Tecnis multifocal IOL.
- S/P Catalys Phaco with multifocal IOL and LASIK OD.
- SCVA
- OD - 20/30, 20/25, J3
- OS - 20/20, 20/16, J2

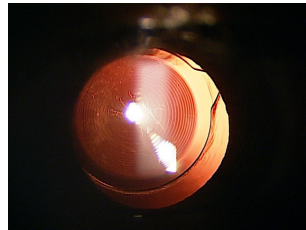


112



## Vitreous Floaters

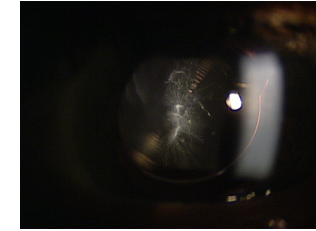
- Slit lamp exam:
- Cornea clear with AK incisions
- PC centered in bag mild PC



113

## Vitreous Floaters

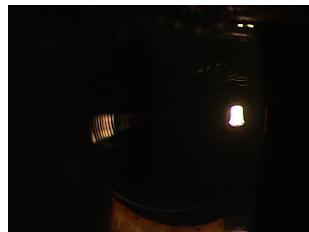
- Slit lamp exam:
- Trace PCO
- Anterior vitreous debris
- Tx: YAG posterior vitreolysis vs MSPPV



114

## Vitreous Floaters

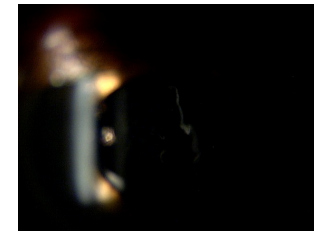
- Follow up 10/16
- S/P MSPPV OU
- CC: Vision was so much better after MSPPV OS that he had same done for floaters OD. Now good vision OU.
- SCVA:
- OD: 20/20, 20,20, J3
- OS: 20/20, 20/20 ,J1



115

## Vitreotomy For Floaters J.Sebag

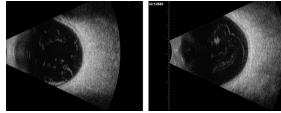
- Persistent symptomatic floaters
- Contrast sensitivity
- 25 gauge needle
- Remove only floaters
- No induced PVD
- Leave 3-4 mm vitreous retro lens



116

## Vitreous Floaters

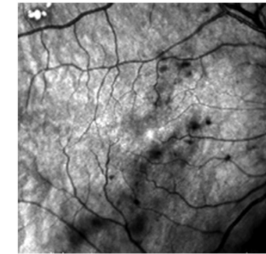
- Evaluation of floaters
- Hx/Symptoms -
  - Nature
  - Duration
  - Effect on vision
- EXAM -
  - Vision - Snellen, contrast
  - Slit lamp and Indirect
  - Ultrasound, OCT



117

## Vitreous Floaters

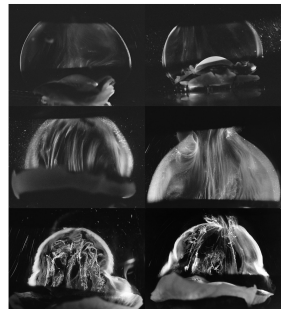
- Rule out
  - Dry eye
  - Subtle corneal disease
- Treatment
  - YAG - Eller
  - Chemical
  - Vitrectomy
  - Small gauge, sutureless
  - Permanent removal



118

## Vitreous Floaters

- Safety Profile
- Studies suggest RD 0-11%
- Local Retinal practice reports 1-2% late RD
- Also 1 vitreous hemorrhage
- CATARACT progression



119

## YAG Vitreolysis for Floaters

- Ellex Ultra Q
- Co-axial, ultra low energy
- Vaporizes vitreous strands and opacities
- Safe, moderately effective
- For patients unwilling or unable to undergo MSPPV



120

## YAG Vitreolysis for Floaters

**Safety of Floaterlaser or YAG vitreolysis, the learning curve of 500 eyes**

Complicaties van eerste 150 ogen (1) vergeleken met volgende 350 ogen(2):

Group 1	Group 2
direct complicaties 2,6%	direct complicaties 0%
2x retina hit	0x retina hit
1x traumatic cataract	0x traumatic cataract
late adverse events:	late adverse events:
1x retinal detachment (0,66%)	2x retinal detachment (0,57%)
1x elevated IOP (0,66%)	0x elevated IOP (1,14%)

Conclusie: YAG vitreolysis heeft laag risico indien uitgevoerd door een ervaren oogarts. Er is een lange leercurve. Dit pleit ervoor dat floaterlaser als subspecialisme door een beperkt aantal ervaren oogartsen moet worden uitgevoerd.

Diepkukrijging staat los van ervaring.

Floaterlaser  
www.floaterlaser.nl

121

## YAG Vitreolysis for Floaters



122

## YAG: Posterior Hyaloidotomy

- YAG Laser in the Management of Premacular Subhyaloid Hemorrhage (Deepak Khada, et.al.)
- Submacular heme 3DD
- 86% success
- Posterior hyaloid face
- 5mJ then increase by 1 until blood drains into vitreous
- Limit 8 shots



123

## YAG: Cyclodestruction of Ciliary Body

- Decreases aqueous secretion
- High rate of hypotony and phthisis bulbi
- Indications - eyes with poor visual function and not candidates for incisional surg
- Contraindications - eyes with good vision



124

## YAG: DONE!!!

- CES is always here to help
- Thanks for listening

