Clinical Conundrums — Tales From The Exam Room

Eric E. Schmidt, OD, FAAO

Omni Eye Specialists

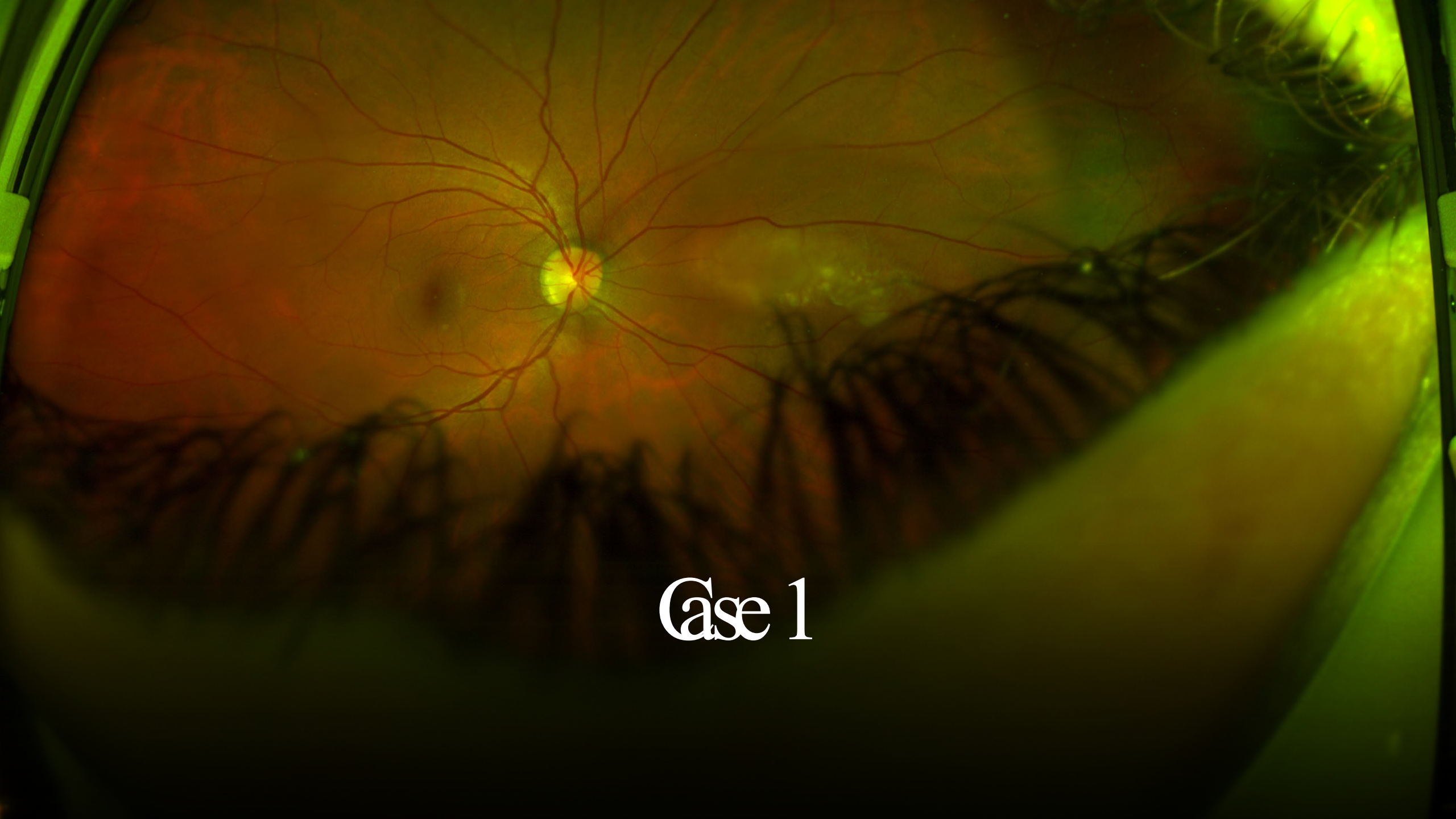
Wilmington, NC

Disclosures for Dr Schmidt

- Dr Schmidt is a consultant or advisor for the following:
  - Tarsus
  - Allergan
  - B&L
  - Carl Zeiss
  - Topcon
  - Azura
  - Glaukos
  - Sun Pharmaceuticals
  - Thea Pharmaceuticals
  - Sight Science
  - Alcon
  - Apellis
  - Sychexis
  - Visus
  - Harrow Pharmaceuticals
  - Quantel
- All potential conflicts of interest have been mitigated

Case 1 - Choroidal Nevus?? Or not ????

Choroidal Nevus??


Case 1

Choroidal Nevus vs Choroidal Melanoma

- Nevus
  - Well delineated margins (78%)
  - No growth
  - Flat
  - Signs of chronicity (drusen and RPE changes)
  - OCT findings – no extension into other tissues, significant choroidal shadowing
  - No symptoms
- Melanoma
  - Imprecise margins (72%)
  - Signs of growth (sometimes rapidly)
  - Elevation
  - Signs of activity (SRF, orange pigmentation)
  - OCT findings – less choroidal shadowing, SRF)
  - Visual symptoms

OCTA differences

- García-Aramí Fuste et al – EJOVI 30:46/19
  - Key differential is thickness of tumor
  - Nevi tend to be thinner
  - MM tend to be thicker (2-3mm or greater)

  - Also Nevi are hyperreflective, very few avascular areas (17%)
  - MM are hyporeflective with multiple avascular areas (78%)

So how do we handle this in our practices??

Don't forget about proper billing and coding

- 92- vs 99-??
- New vs established
- Stable vs changing
- Ancillary testing

Case 2


RG OptomapPlus
Apr 15, 2025 2:40 PM
Image: 1
4000
4000
Laterality: R
Red: 50%
Green: 50%

Case Presentation

- 75 y/o Female
- CC: Felt like something was in her right eye x 1 week
  - Described a grey area in lower part of vision OD that was constantly there
  - Also noticed flashing lights OD
- Meds: Ambien, Vit D

- Any pertinent negatives??

Clinical Exam

- VA 20/40 OD, PH NI; 20/30 OS
- Refraction?
- Pupils???
- SLE – No AC reaction, No RAPD, MFICDU normal exam
- DFE – normal OS

- Anything else??

Differential diagnosis

- ION
  - NAION vs AION
    - How do we know?
    - Can we make that determination?
    - Why is that important?
    - Someone tell me please!!!!!!!!

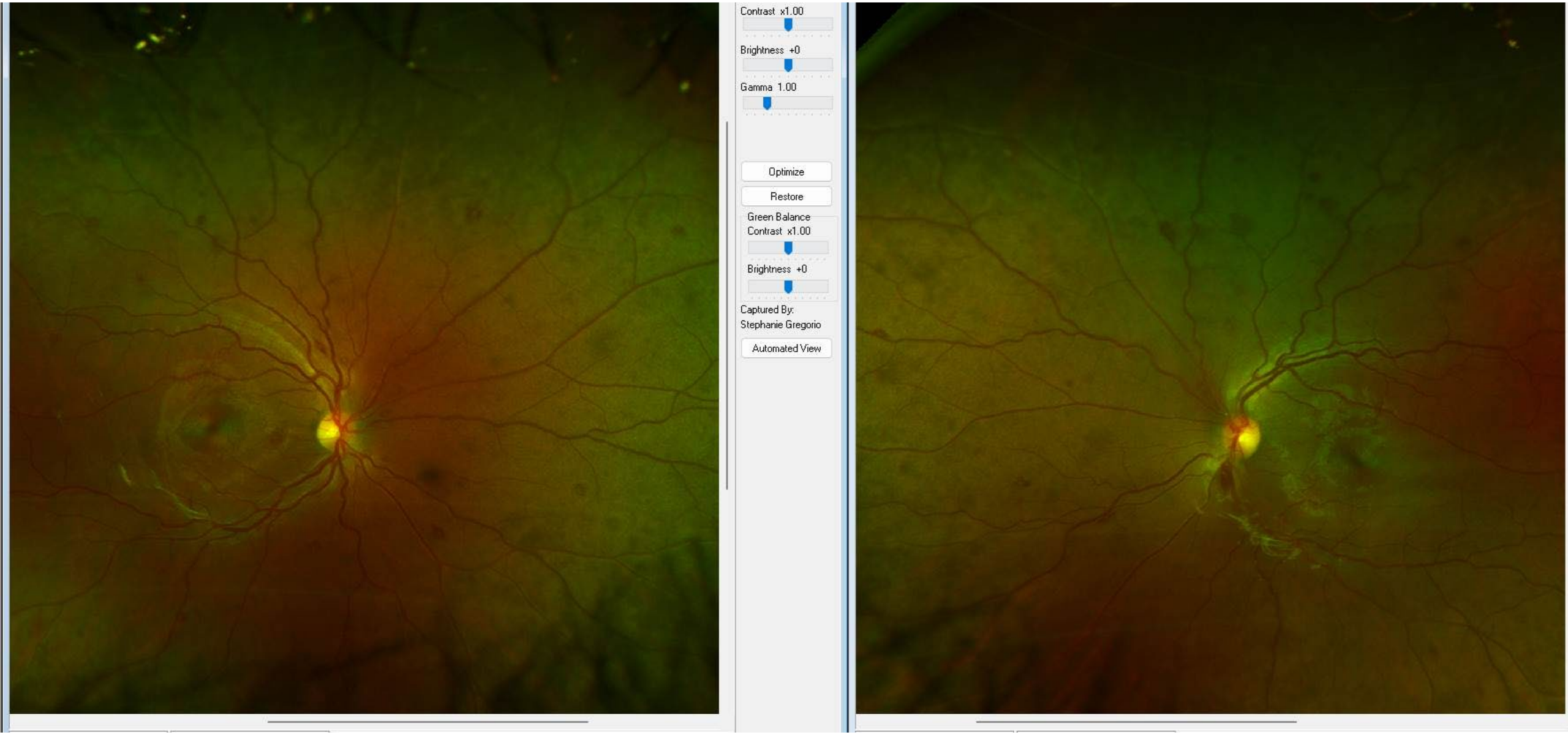
BRVO CRVO CRAO?

What was the key to your correct diagnosis?

How do you know? What should I do??

- Additional testing
- Refer or Treat??
- If ESR was elevated, does that change the referral?

Case 3


Contrast x1.00
Brightness +0
Gamma 1.00
Optimize
Restore
Green Balance
Contrast x1.00
Brightness +0
Captured By:
Stephanie Gregorio
Automated View

The Exam

- 24 y/o male
- Scheduled for "routine exam"
- No significant complaints, just a little blurrier than usual
- Remainder of exam was normal
- VA correctable to 20/20 OU

- Soooooo…

Any other testing that day?

- If so, what and why?
- How do we best manage (treat) this patient?
- Is this an emergency? Or an urgency?

What actually took place

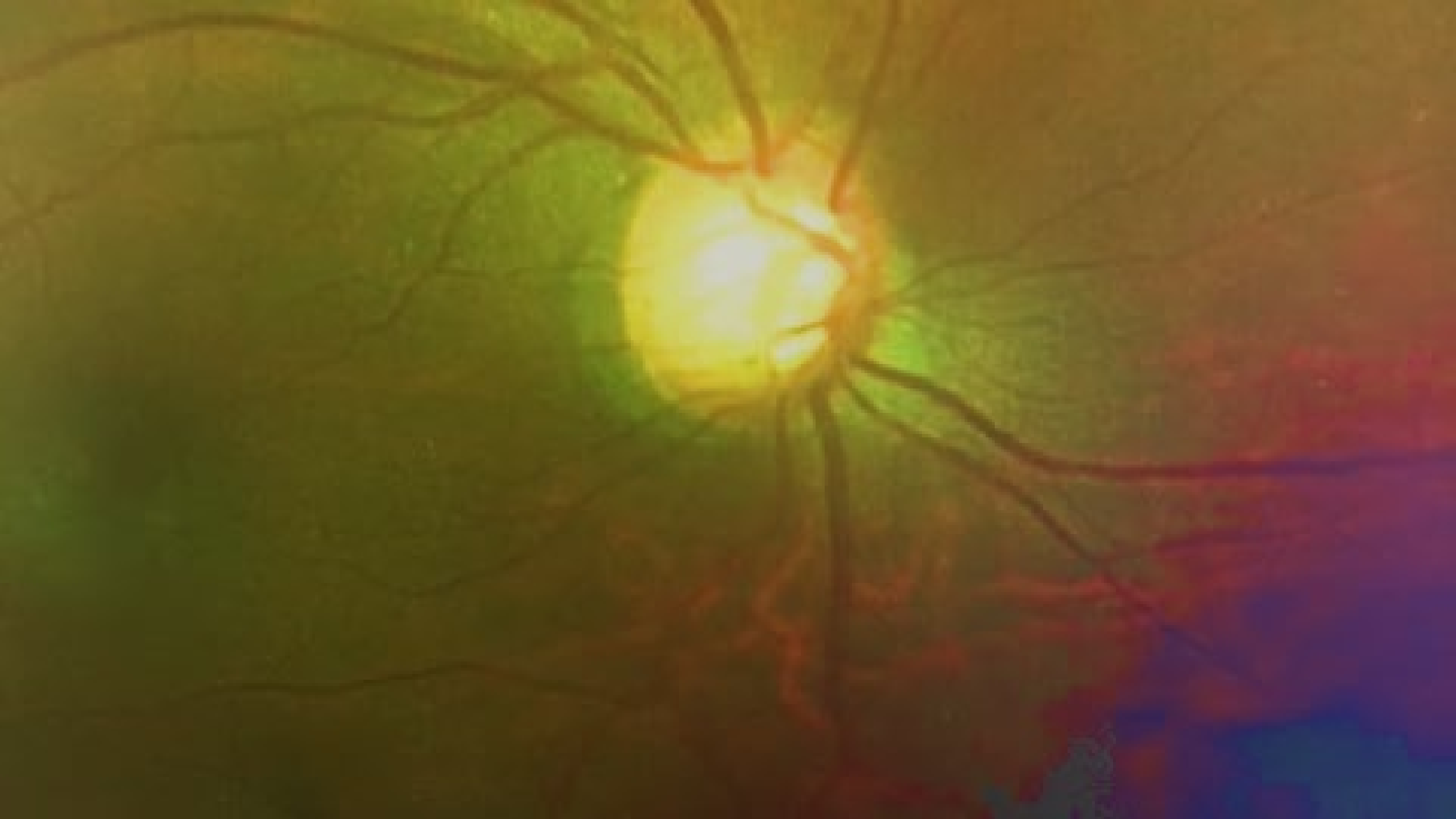
- Patient was referred to his PCP (not urgent care or ER)
- Blood work ordered - Concern for Leukemia arose
- Px was hospitalized and is now being treated for Leukemia
- Both patient and retina are getting better

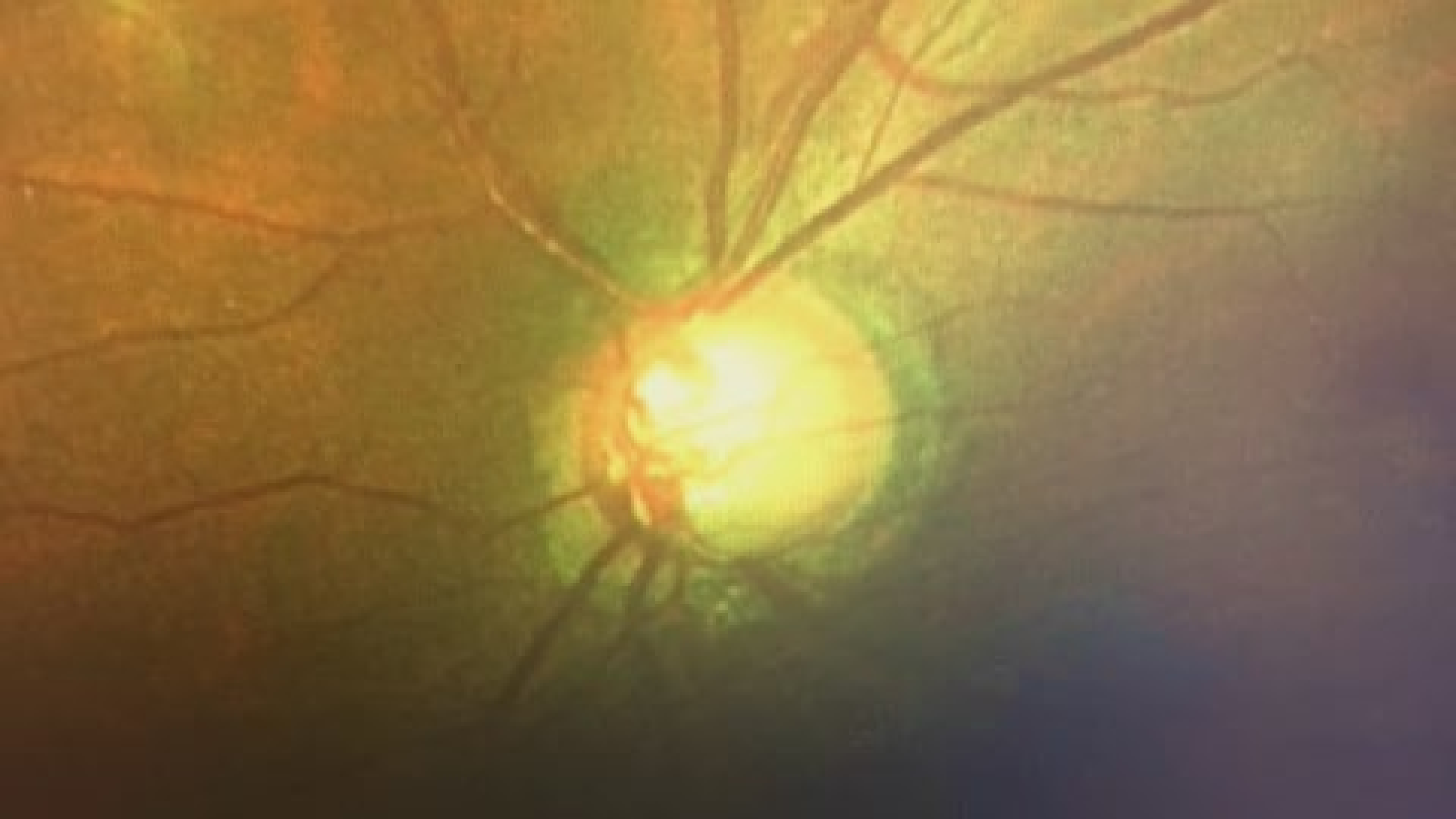
Case 4 - The case of the suspicious disk

- 46 y/o WF
- No complaints
- Post lasik x 12 yrs - stable RE
- Wears reading glasses only

Exam specifics

- VA – 20/20 OD, OS w/out Rx
- Slit lamp exam – Well appose LASIK flaps OU
- Gonio – Gr 4 360 degrees OU
- IOP – 14 mm Hg OD, 18 mm Hg OS
- Pachymetry – 456 OD, 442 OS
- Normal Fundus Exam – Except for…





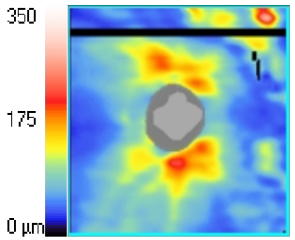
What are the biggest "pertinents" in this case?

- Optic Nerves?
- OCT?
- Pachymetry?

Gender:	Female	Serial Number:	4000-7182 4000-7182
Technician:	Operator, Cirrus	Signal Strength:	7/10 7/10

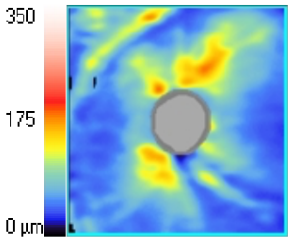
ONH and RNFL OU Analysis: Optic Disc Cube 200x200 OD ● ● OS

RNFL Thickness Map

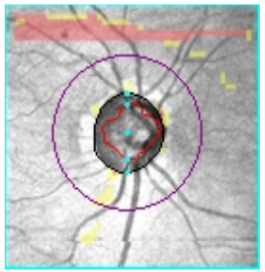


	OD	OS
Average RNFL Thickness	98 µm	87 µm
RNFL Symmetry	85%	
Rim Area	1.18 mm²	0.72 mm²
Disc Area	2.22 mm²	2.26 mm²
Average C/D Ratio	0.70	0.83
Vertical C/D Ratio	0.73	0.86
Cup Volume	0.606 mm³	0.956 mm³

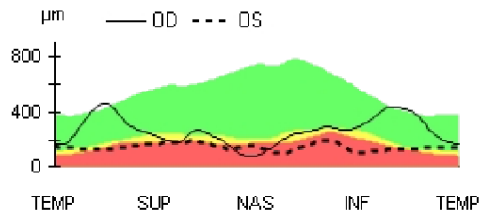
RNFL Thickness Map



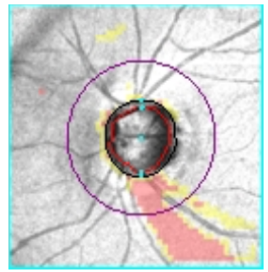
RNFL Deviation Map



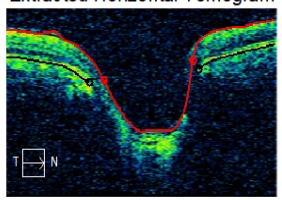
Neuro-retinal Rim Thickness



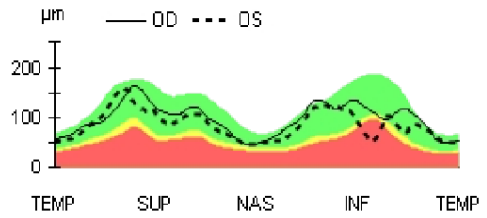
RNFL Deviation Map



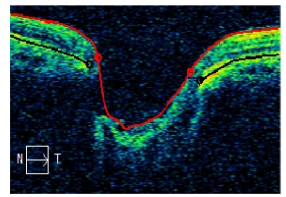
Disc Center(-0.15,0.12)mm
Extracted Horizontal Tomogram



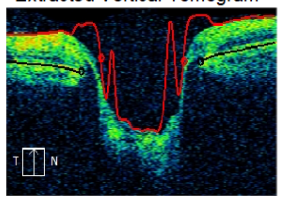
RNFL Thickness

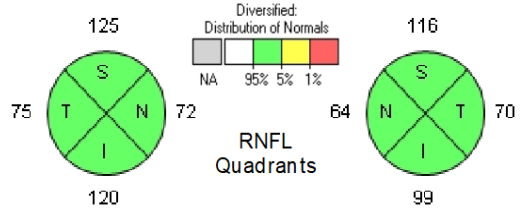


Disc Center(0.09,0.00)mm
Extracted Horizontal Tomogram

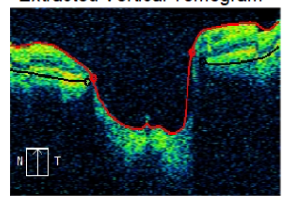


Extracted Vertical Tomogram

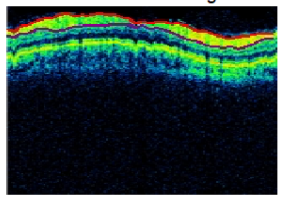


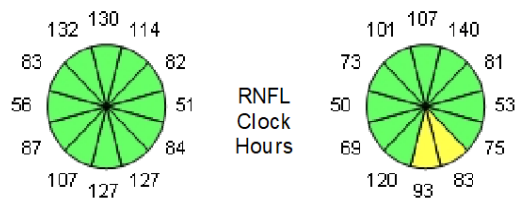


Extracted Vertical Tomogram

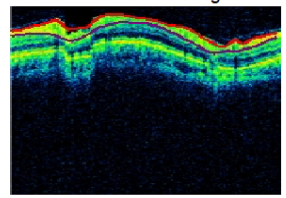


RNFL Circular Tomogram



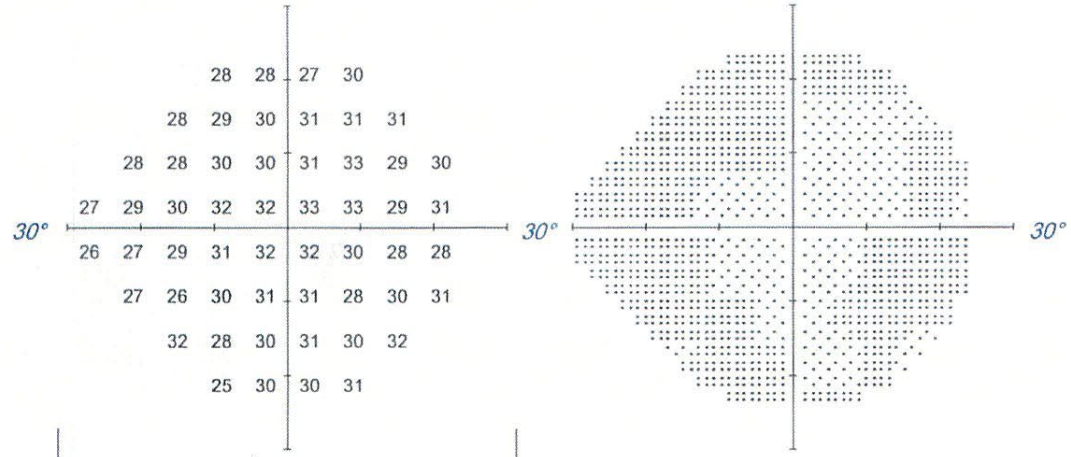


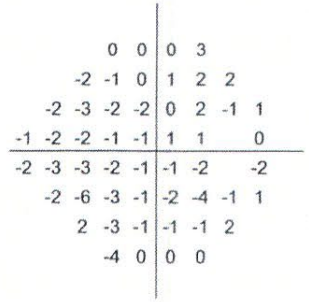
RNFL Circular Tomogram



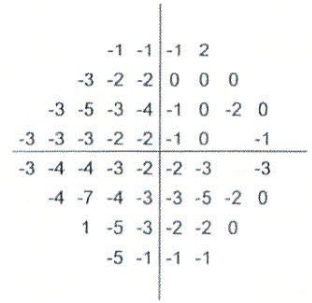
OD Single Field Analysis — Central 24-2 Threshold Test

Fixation Monitor:	Gaze Monitor	Stimulus:	III, White	Date:	Dec 12, 2022
Fixation Target:	Central	Background:	31.5 asb	Time:	4:27 PM
Fixation Losses:	0/0	Strategy:	SITA Faster	Age:	52
False POS Errors:	0%	Pupil Diameter:	5.3 mm *		
False NEG Errors:	0%	Visual Acuity:			
Test Duration:	02:07	Rx:	+1.75 DS		
Fovea:	Off				



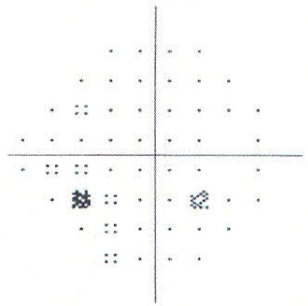


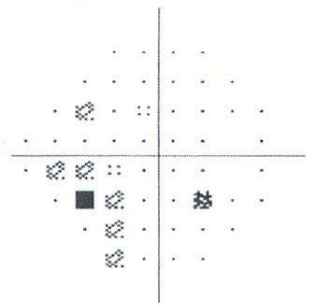
Total Deviation



Pattern Deviation

GHT:	Borderline
VFI:	98%
MD24-2:	-1.10 dB
PSD24-2:	1.79 dB P < 10%

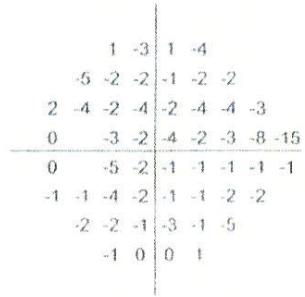




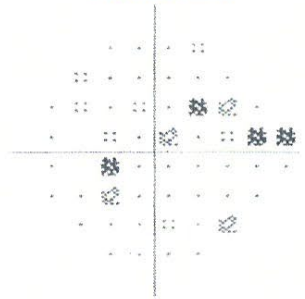
:: P < 5%
P < 2%
P < 1%
P < 0.5%

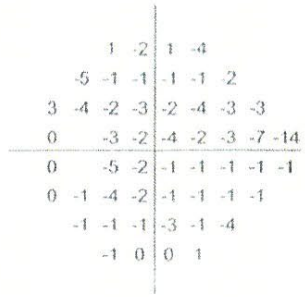
OS Single Field Analysis — Central 24-2 Threshold Test

Fixation Monitor:	Gaze Monitor	Stimulus:	III, White	Date:	Dec 12, 2022
Fixation Target:	Central	Background:	31.5 asb	Time:	4:24 PM
Fixation Losses:	0/0	Strategy:	SITA Faster	Age:	52
False POS Errors:	0%	Pupil Diameter:	4.8 mm *		
False NEG Errors:	0%	Visual Acuity:			
Test Duration:	02:03	Rx:	+1.75 DS		
Fovea:	Off				

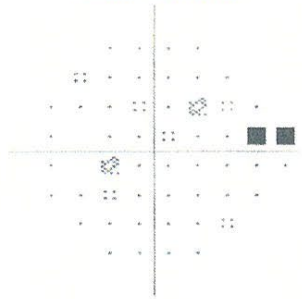


Total Deviation





Pattern Deviation



GHT:	Outside Normal Limits
VFI:	97%
MD24-2:	2.26 dB P < 5%
PSD24-2:	2.20 dB P < 5%

:: P < 5%
P < 2%
P < 1%
P < 0.5%

So What Now Dr Geniuses??

- Any Questions?
- Obviously more testing is needed
- But WHY??

- How do you know if this is glaucoma?
- How do you know it is NOT glaucoma?
- Could it just be myopic degeneration?

So Given The Evidence Before You What Do You Do?

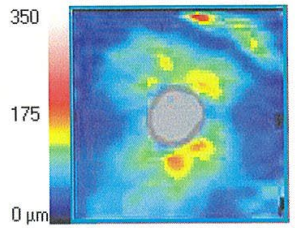
- Observe
- Additional Testing
- Treat
- If so, with what?

- This is a difficult case, am I right?

ID:	CZMI247065527	Exam Date:	03/13/2023	03/13/2023 CZM
DOB:	08/11/1970	Exam Time:	3:38 PM	3:34 PM
Gender:	Female	Serial Number:	4000-7182	4000-7182
Technician:	Operator, Cirrus	Signal Strength:	6/10	7/10

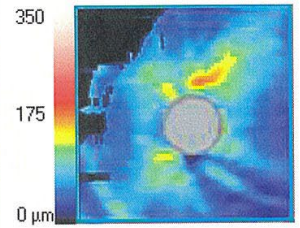
ONH and RNFL OU Analysis:Optic Disc Cube 200x200 OD OS

RNFL Thickness Map

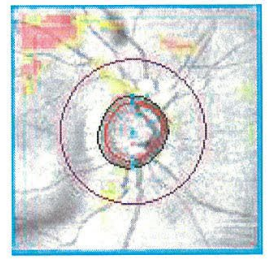


	OD	OS
Average RNFL Thickness	88 µm	80 µm
RNFL Symmetry	51%	
Rim Area	0.79 mm²	0.65 mm²
Disc Area	2.24 mm²	2.37 mm²
Average C/D Ratio	0.61	0.66
Vertical C/D Ratio	0.78	0.86
Cup Volume	0.678 mm³	1.093 mm³

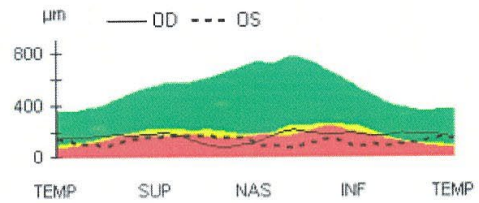
RNFL Thickness Map



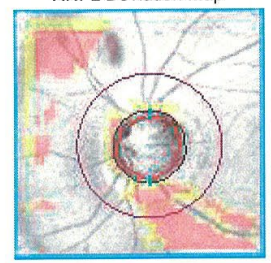
RNFL Deviation Map



Neuro-retinal Rim Thickness

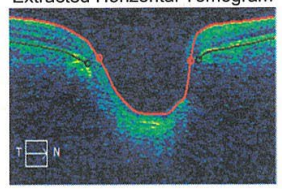


RNFL Deviation Map

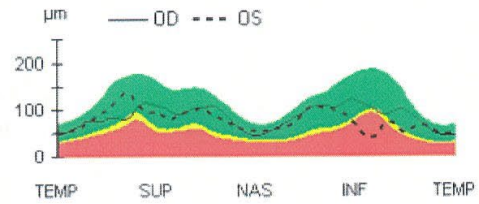


Disc Center(-0.12,-0.03)mm

Extracted Horizontal Tomogram

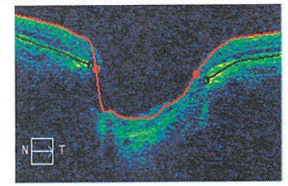


RNFL Thickness

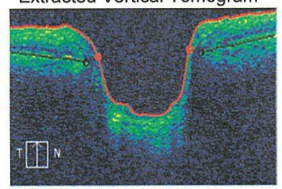


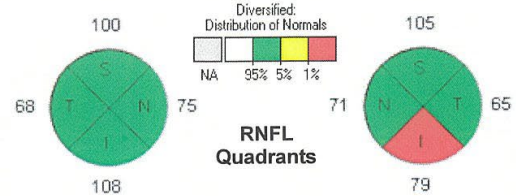
Disc Center(0.21,-0.27)mm

Extracted Horizontal Tomogram

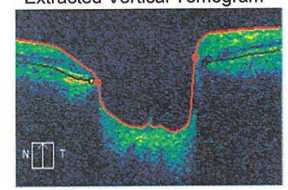


Extracted Vertical Tomogram

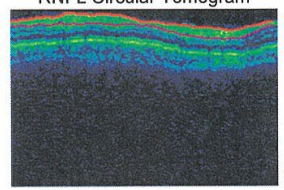




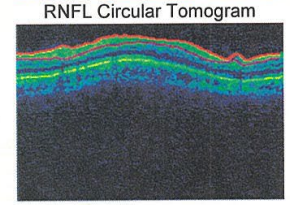
Extracted Vertical Tomogram



RNFL Circular Tomogram



RNFL Circular Tomogram

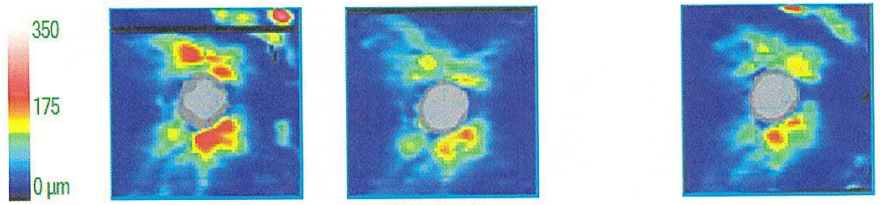


ID:	CZMI247065527	Exam Date:	08/08/2019	03/13/2023	CZM
DOB:	08/11/1970	Exam Time:	5:59 AM	3:38 PM	
Gender:	Female	Serial Number:	4000-7182	4000-7182	
Technician:	Operator, Cirrus	Signal Strength:	7/10	6/10	

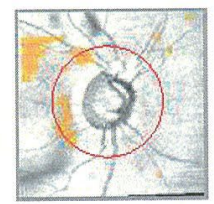
Guided Progression Analysis: (GPA™)

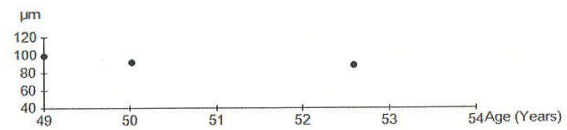
OD ● ○ OS

Baseline 1	Baseline 2	Exam 3	Exam 4
08/08/2019 5:59:13 AM	08/17/2020 12:04:18 PM	03/13/2023 3:38:20 PM	
4000-7182	4000-7182	4000-7182	
SS: 7/10	R1 SS: 7/10	R2 SS: 6/10	
Average Thickness: 98	Average Thickness: 91	Average Thickness: 88	

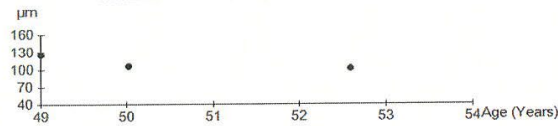


Baseline 1 Baseline 2

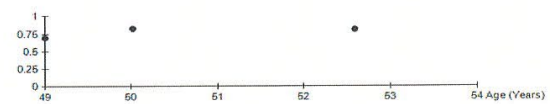




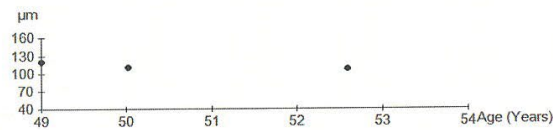
Average RNFL Thickness



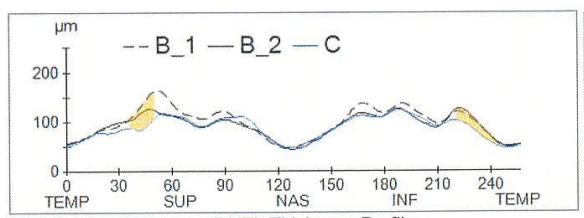
Superior RNFL Thickness



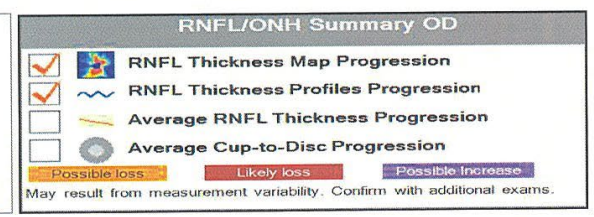
Average Cup-to-Disc Ratio



Inferior RNFL Thickness



RNFL Thickness Profiles

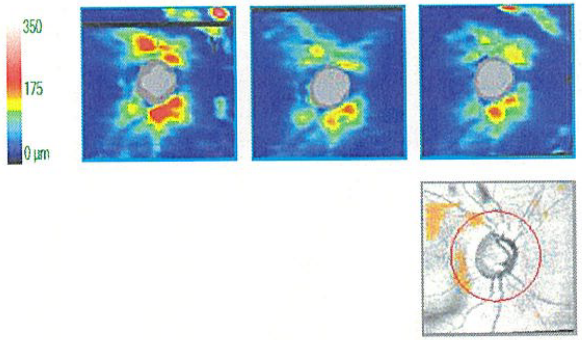


Name:	**Kern, Marilyn**		**Baseline 1**	**Current**	
ID:	CZMI247065527	Exam Date:	08/08/2019	03/13/2023	CZM
DOB:	08/11/1970	Exam Time:	5:59 AM	3:38 PM	
Gender:	Female	Serial Number:	4000-7182	4000-7182	
Technician:	Operator, Cirrus	Signal Strength:	7/10	6/10	

Guided Progression Analysis: (GPA™)

OD ● | ○ OS

Baseline1 Baseline2 Exam 3 Exam 4 Exam 5 Exam 6 Exam 7 Exam 8



RNFL and ONH Summary Parameters

		Exam Date/Time	Serial Number	Registration Method	SS	Avg RNFL Thickness (µm)	Inf Quadrant RNFL (µm)	Sup Quadrant RNFL (µm)	Rim Area (mm^2)	Average Cup-to-Disc Ratio	Vertical Cup-to-Disc Ratio	Cup Volume (mm^3)
Baseline1:	1	08/08/2019 5:59:13 AM	4000-7182		7/10	98	120	125	1.18	0.70	0.73	0.606
Baseline2:	2	08/17/2020 12:04:18 PM	4000-7182	R1	7/10	91	111	107	0.72	0.83	0.80	0.931
Current:	3	03/13/2023 3:38:20 PM	4000-7182	R2	6/10	88	108	101	0.79	0.81	0.78	0.878

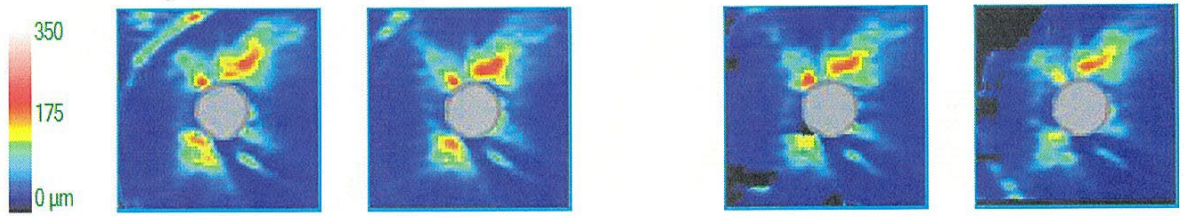
Registration Methods
R2 - Registration based on translation and rotation of OCT fundus
R1 - Registration based only on translation of disc center

ID:	CZMI247065527	Exam Date:	08/08/2019	03/13/2023	CZM
DOB:	08/11/1970	Exam Time:	6:27 AM	3:34 PM	
Gender:	Female	Serial Number:	4000-7182	4000-7182	
Technician:	Operator, Cirrus	Signal Strength:	7/10	7/10	

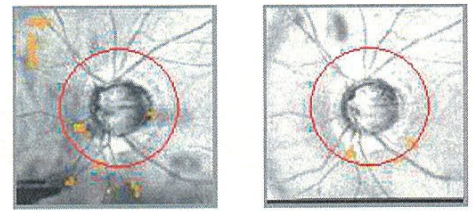
Guided Progression Analysis: (GPA™)

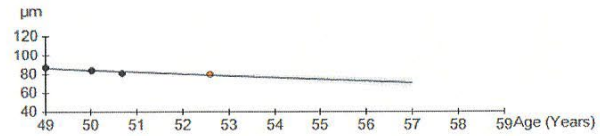
OD ○ | ● OS

Baseline 1	Baseline 2	Exam 3	Exam 4
08/08/2019 6:27:51 AM	08/17/2020 12:05:44 PM	04/12/2021 3:57:44 PM	03/13/2023 3:34:32 PM
4000-7182	4000-7182	4000-7182	4000-7182
SS: 7/10	R2 SS: 7/10	R2 SS: 6/10	R2 SS: 7/10
Average Thickness: 87	Average Thickness: 85	Average Thickness: 81	Average Thickness: 80

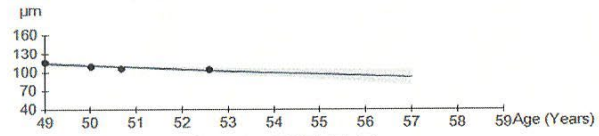


Baseline 1 Baseline 2

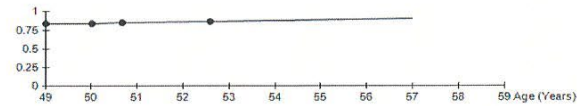




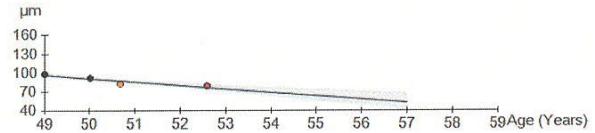
Average RNFL Thickness
Rate of change: -2.01 +/- 2.24 µm/Year



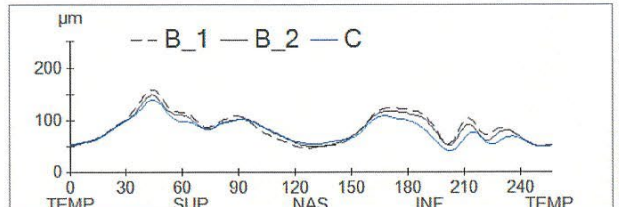
Superior RNFL Thickness
Rate of change: -2.77 +/- 4.99 µm/Year



Average Cup-to-Disc Ratio
Rate of change: 0.01 +/- 0.01 /Year



Inferior RNFL Thickness
Rate of change: -5.40 +/- 5.98 µm/Year



If You decide to treat…

- What is your Target IOP?
- How Low Do You Go? (How do you know?)
- How do you get the IOP to that Target?

Case 5- On A Friday afternoon

- 21 y/o Female
- Scheduled for a comprehensive exam
- Last exam 3 Years prior
- CC: "Fuzzy Left Eye" - fairly recent onset
- Denies HA

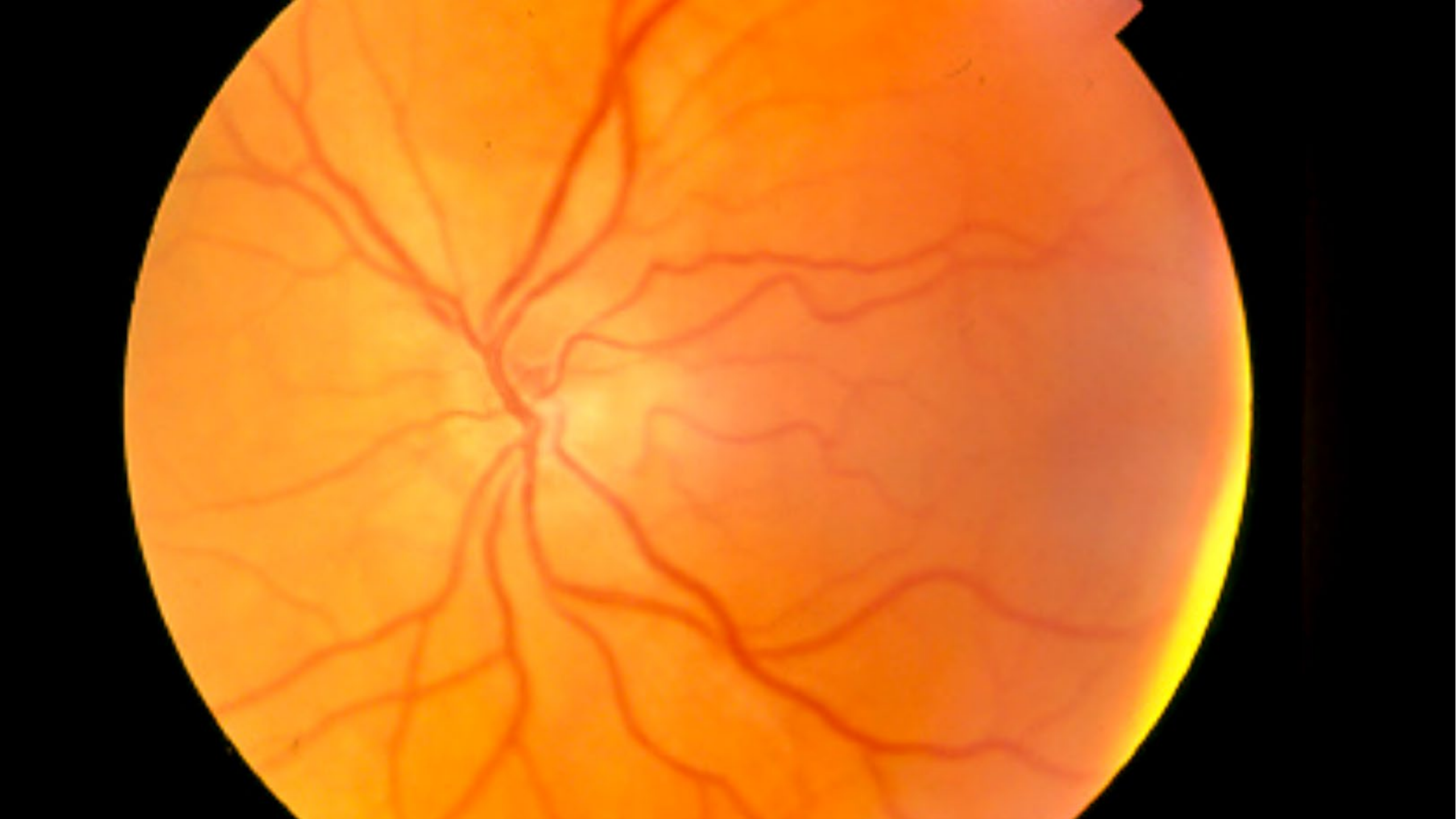
Wellness Exam Revealed:

Case 5


OCT
2576 x 1958
OD
Z: 0.34x
SD
1:1 mm
BL
5.00 mm
OCT
2576 x 1958
OS
Z: 0.34x

Clinical Exam

- Further questioning elicits:
  - Smoker
  - No meds or supplements
  - HA- "usually" and "most of time" - but very vague with her answers.
- Refraction- unchanged from 2022
- Slit lamp normal
- IOP – 13 OD, 15 OS
- Pupils?
- Anything else pertinent?



SO WHAT NOW?
WHAT IS YOUR NEXT STEP?

Differential Diagnosis?

What Is It Most Likely To Be?

NAME: Beacham, Sonya
ID:

LEFT
DOB: 03-13-1971 [48]

TEST DURATION: 5:01
FIXATION TARGET: Central

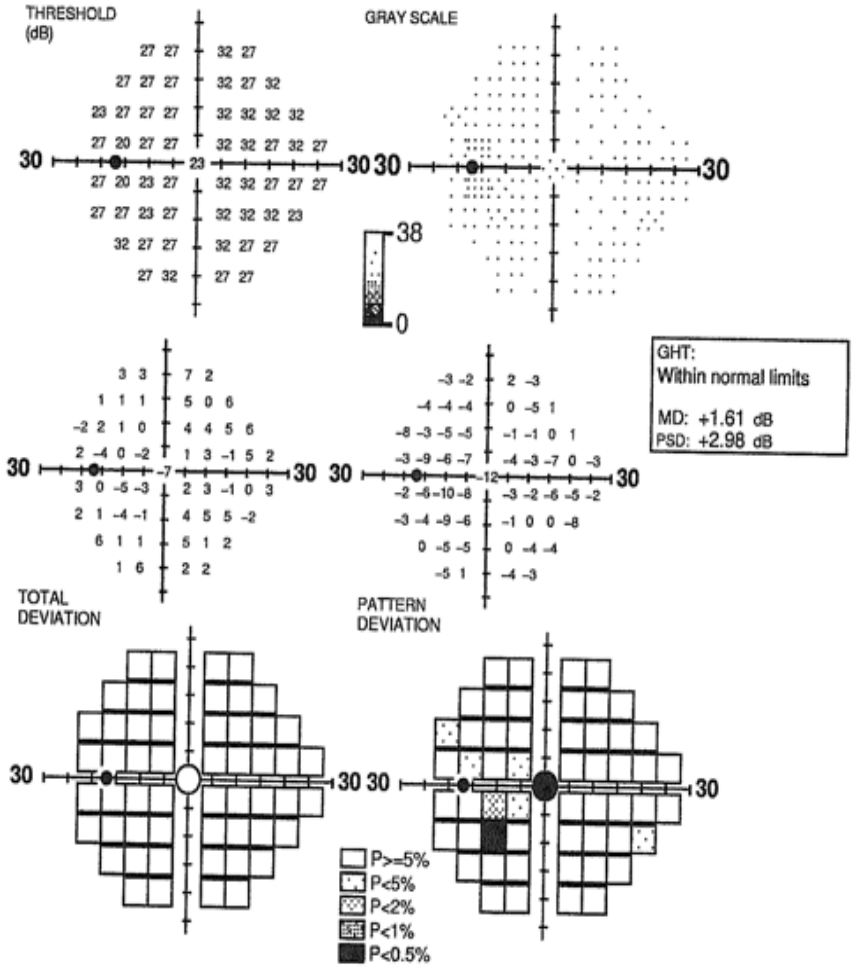
24-2 FDT Threshold

DATE: 08-30-2019 2:23 PM

FIXATION ERRS: 0/10 (0 %)
FALSE POS ERRS: 0/10 (0 %)
FALSE NEG ERRS: 0/6 (0 %)

TEST SPEED: NORMAL

PUPIL DIAMETER:
VISUAL ACUITY:
RX:



GHT:
Within normal limits

MD: +1.61 dB
PSD: +2.98 dB

NOTES:

SW: M02.03.01[0]
S07.02.01[0]
P07.02.01[0]
TID: 2516.20060310183 (2)

Humphrey Matrix *with*
Welch Allyn Frequency Doubling Technology

NAME: Beacham, Sonya
ID:

RIGHT
DOB: 03-13-1971 [48]

TEST DURATION: 5:21
FIXATION TARGET: Central

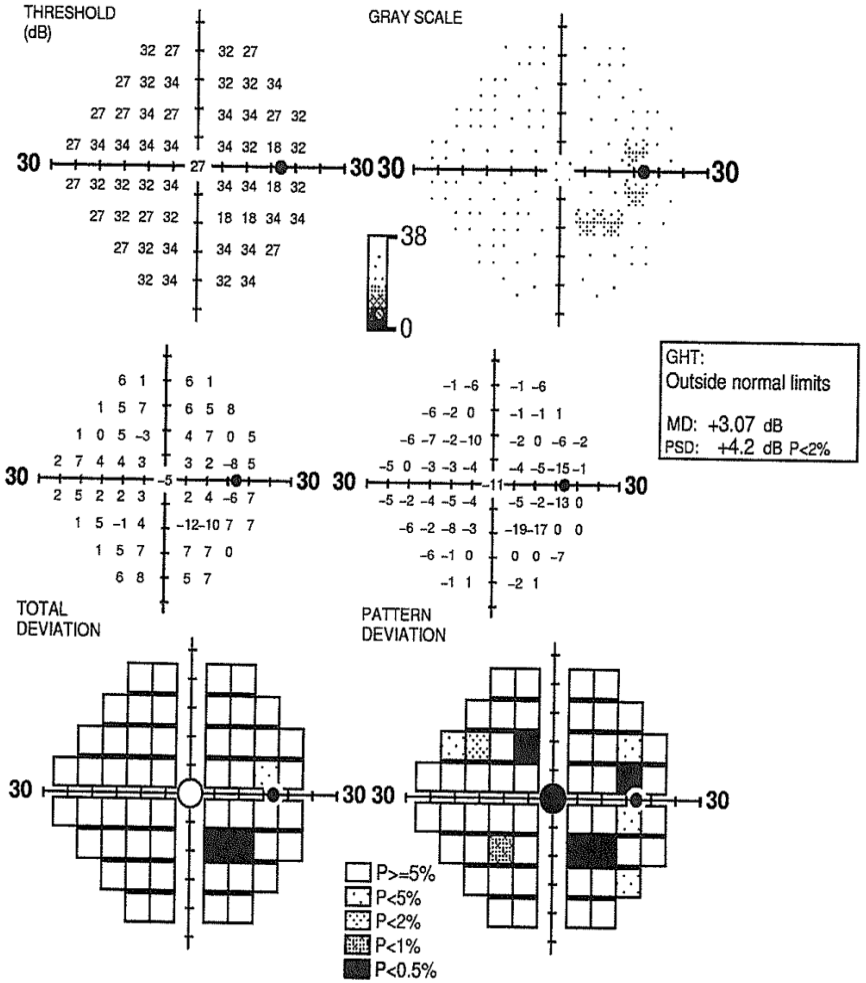
24-2 FDT Threshold

DATE: 08-30-2019 2:23 PM

FIXATION ERRS: 2/10 (20 %)
FALSE POS ERRS: 0/10 (0 %)
FALSE NEG ERRS: 0/6 (0 %)

TEST SPEED: NORMAL

PUPIL DIAMETER:
VISUAL ACUITY:
RX:



GHT:
Outside normal limits

MD: +3.07 dB
PSD: +4.2 dB P<2%

NOTES:

SW: M02.03.01[0]
S07.02.01[0]
P07.02.01[0]
TID: 2516.20060310183 (1)

Humphrey Matrix *with*
Welch Allyn Frequency Doubling Technology

WHY IS A VISUAL FIELD SO IMPORTANT?

NOW WHAT???

What is our clinical protocol?

LISTEN UP!!

- Bilateral disc edema should be considered papilledema until proven otherwise
  - Get CT scan, if normal LP

PAPILLEDEMA

- Bilateral Optic Disk swelling due to increased intracranial pressure
  - Intracranial masses
  - Meningitis
  - Pseudotumor cerebri

SO WHAT HAPPENED?

How does this story end???

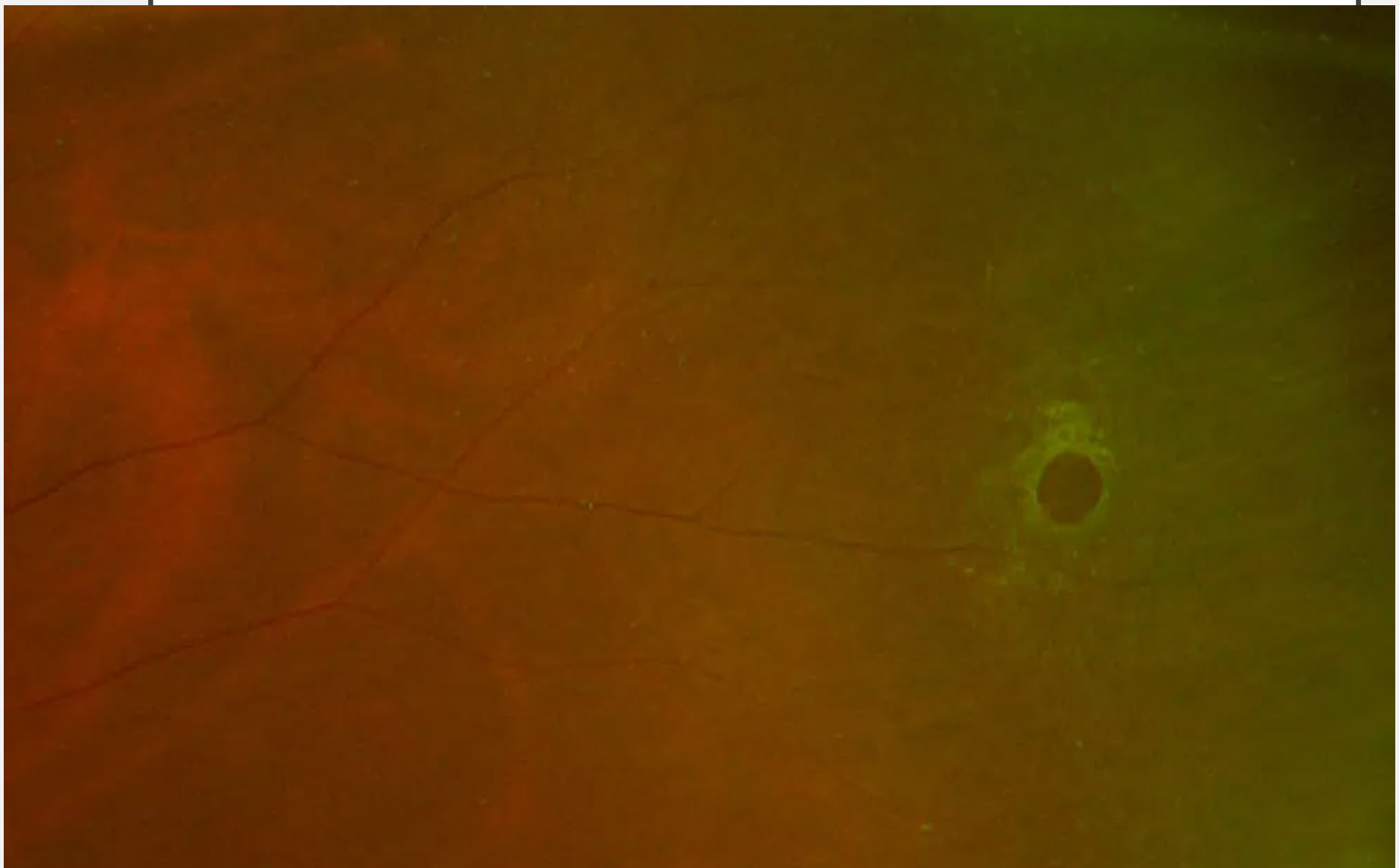
IDIOPATHIC INTRACRANIAL HYPERTENSION – (BIIH, PTC)

- Papilledema plus-
  - HA, diplopia, and/or TVO
  - Increased CSF (otherwise normal)
  - Normal CT scan
  - Neurologically intact
  - "Classic" patient

- Who best manages these patients?

NEXT CASE PLEASE

CLOSE UP VIEW



AN OBVIOUS RETINAL HOLE

- Detected in the pretesting of a comprehensive examination
- How is this best handled?
  - Flip to a medical exam?
  - Continue with the full exam?
- Do all Retinal holes need prompt referral?

TIME FOR A STOOP SIT!

Another Doozy!

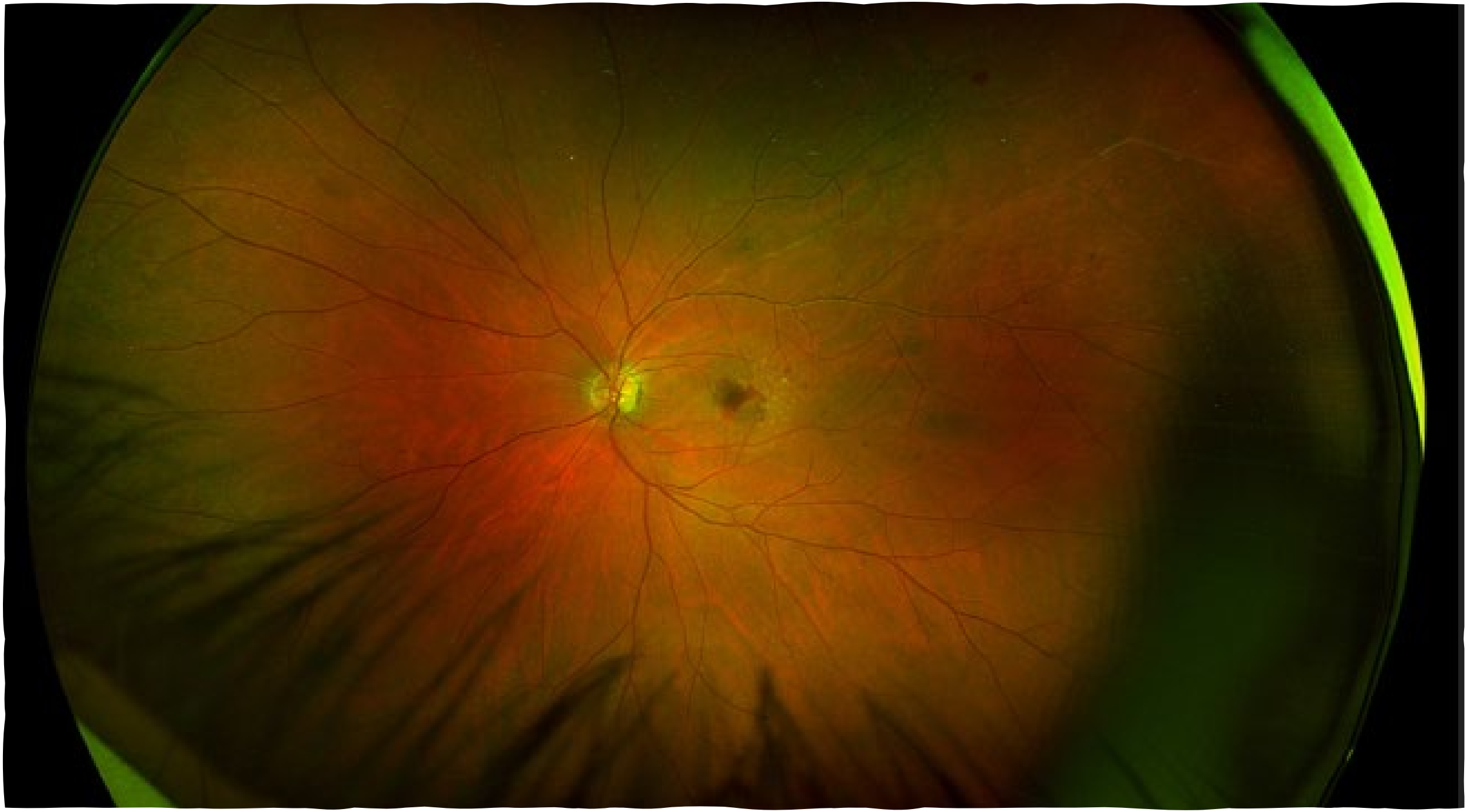
65 y/o Male

CC: Acute Vision Loss x 2 days OD

spots missing centrally OD

Oh by the way—he also mentioned that he had experienced a "loss of vision" OS 1 week ago

Last eye exam- 40 years ago!



Clinical Exam

VA OD: HM CS 20/100 ph NI

Pupils?

Px was in MVA 1 mth prior – broken vertebrae in neck

He was supposed to be on BP medication but stopped taking until he got in car accident - he now states that his BP has recently been very low

Anterior segment exam is normal except 1+ NSC OU

So what's going on here?

- Is this a bilateral condition?
- Is the same thing occurring in both eyes?
- Or are these two different condition?

- AND HOW DO WE KNOW?

- Any further testing right now?

I think you have to start with 1 eye at a time

- What do we see OD?
- What do we see OS?
- Does it all add up to a bilateral condition or 2 unique problems?
- Let's walk through our thought process here

- RIGHT EYE

- LEFT EYE

Take me out of my misery OH GREAT ONE!

- Tell us what happened?

- What did you do?

Do We Have Time For Another?

47 y/o CL wearer

Presents for Annual Exam

- Overall he is doing well, but has had to wear readers over CL for past 6 months- "I hate that!"
- VA 20/20 OD, OS
- Normal exam. No pathology identified
- RX for Vuity OU QD
- 2 weeks later- "This Vuity is the Best!"

3 weeks after that…

- CC: OD has been bothering him for the past 5 days
- No pain
- Seems like there is a smudge over his CL
- This occurred acutely and has not really changed
- Only affecting OD, stays present and consistent all day long
- "This Vcity is the Worst!"

Exam Findings

No Medications

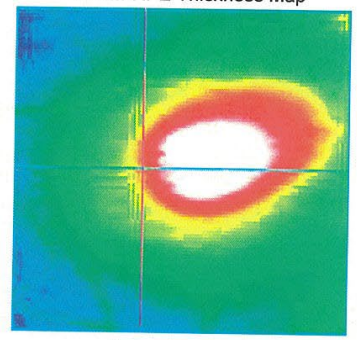
No changes in health status

- VA- OD 20/25-2 OS – 20/20
- EOM – no restriction, No tropia
- Pupils - , PERRL, (-) APD
- SLE – normal. Good CL fit, no staining. No cell/ flare
- IOP – 19 OD, 16 OS
- DFE . . (But before that)
- Differential Diagnosis??

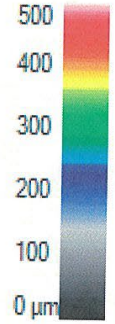
ID:	CZMI1794524315	Exam Date:	04/19/2022	04/19/2022 CZM
DOB:	09/10/1963	Exam Time:	4:06 PM	4:06 PM
Gender:	Male	Serial Number:	4000-7182	4000-7182
Technician:	Operator, Cirrus	Signal Strength:	6/10	6/10

Macula Thickness OU: Macular Cube 200x200 — OD ● ● OS

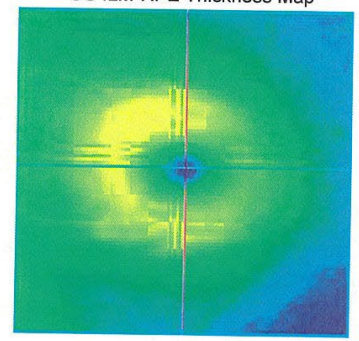
OD ILM-RPE Thickness Map



Fovea: 77, 99

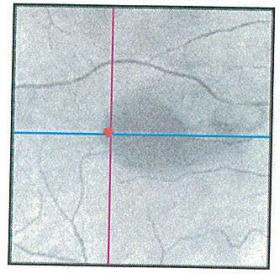


OS ILM-RPE Thickness Map

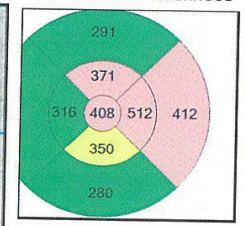


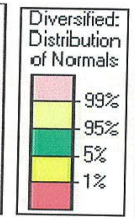
Fovea: 102, 98

OD OCT Fundus

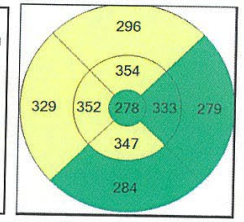


OD ILM-RPE Thickness

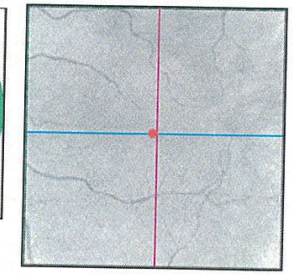




OS ILM-RPE Thickness

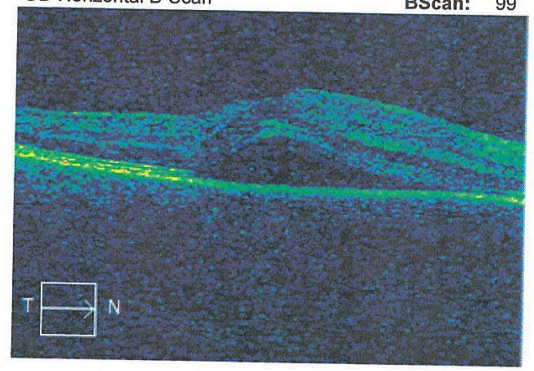


OS OCT Fundus

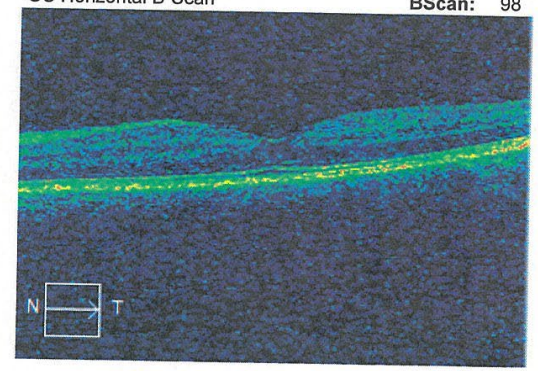


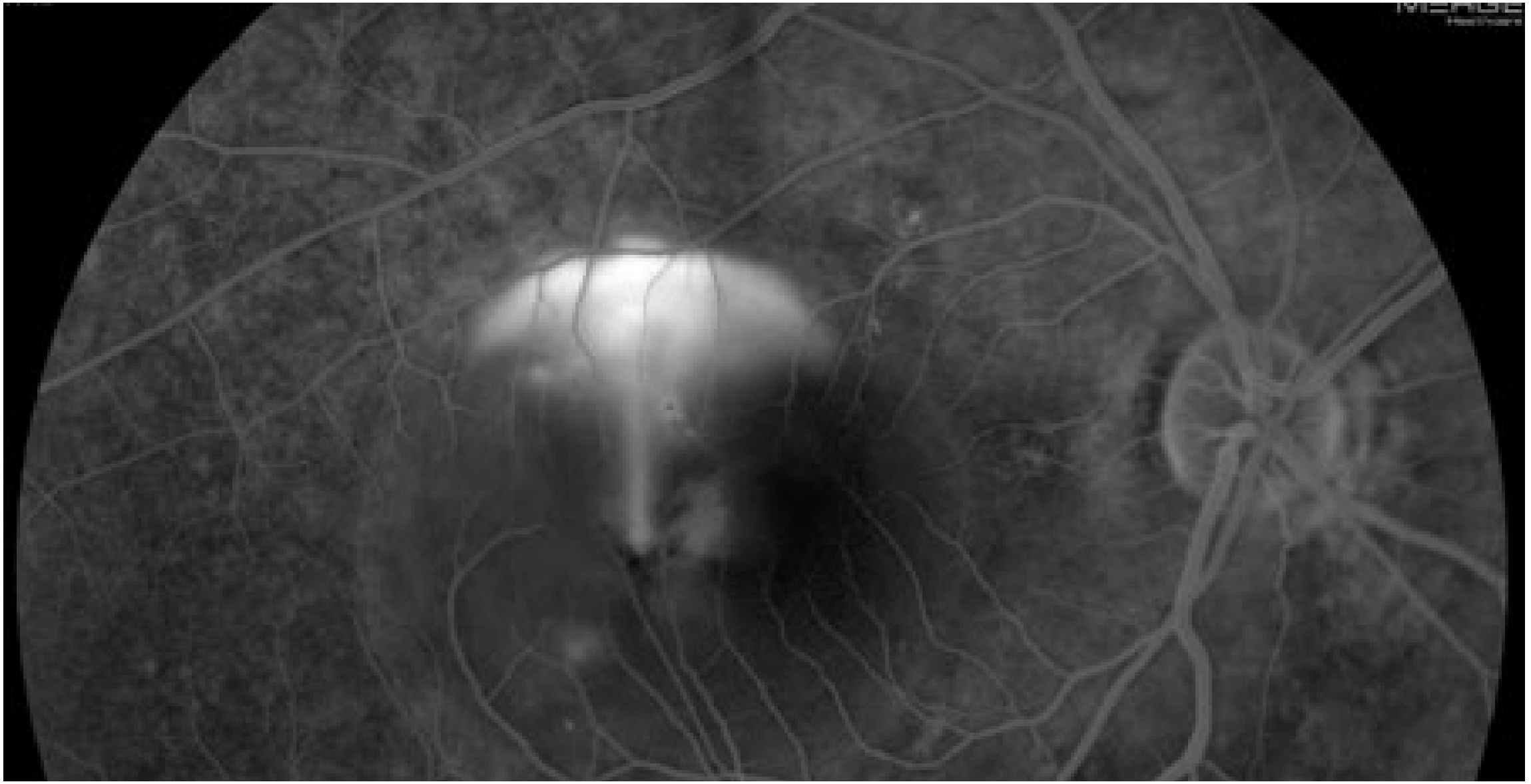
ILM - RPE	OD	OS
Thickness Central Subfield (µm)	408	278
Volume Cube (mm³)	11.8	10.8
Thickness Avg Cube (µm)	327	300

OD Horizontal B-Scan — **BScan:** 99



OS Horizontal B-Scan — **BScan:** 98





Central Serous Chorioidopathy

Clinical Characteristics

CSR

- Leaking of serous fluid from underlying choroid
- Idiopathic
- 20-50 y/o Males
- VA- 20/20- >20/80
- It is essentially a Pigment Epithelial Detachment (PED)

CSR Outcomes

- Generally self resolving (?)
- Angiographic changes can occur
- How should we treat?
  - NSAID
  - Close monitoring
  - Laser therapy?
  - Anti-VegF?

A Tough Inheritance

62 y/o BF, (+) fam hx- treated for POAG for 6 years

VA 20/20 OD, 20/20 OS

Pachs – OD 490, OS 495

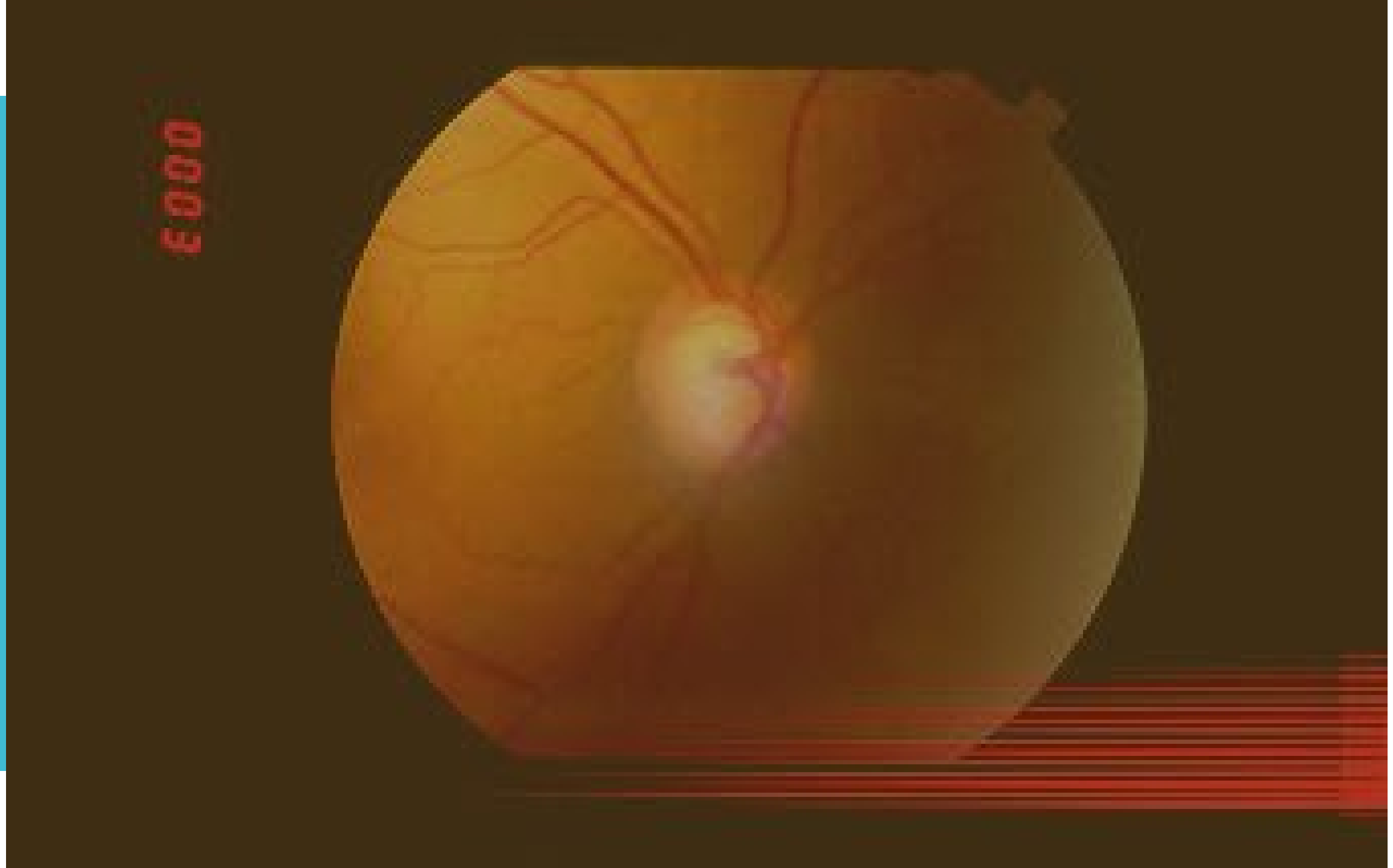
No systemic meds

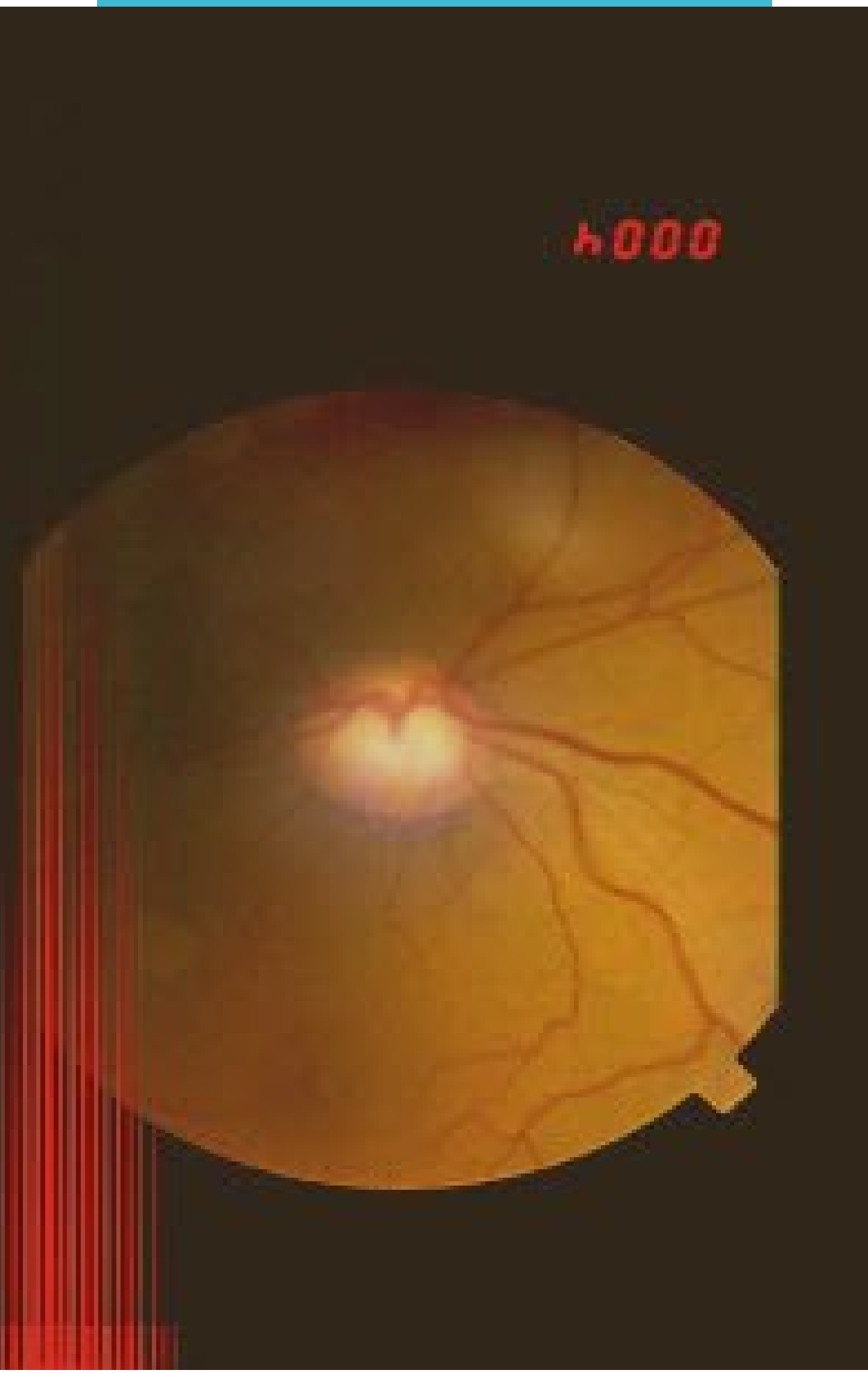
IOP maintained around 18 OU on Lumigan QHS, AlphaganP OU TID, T1/2 OU BID

Initial IOP 28 OD, 29OS

Condition was stable but px developed hypersensitivity (After patient was switched to Brimonidine 0.15%)

IOP 22 OU on Lumigan only





ID: 100105

CENTRAL 24-2 THRESHOLD TEST

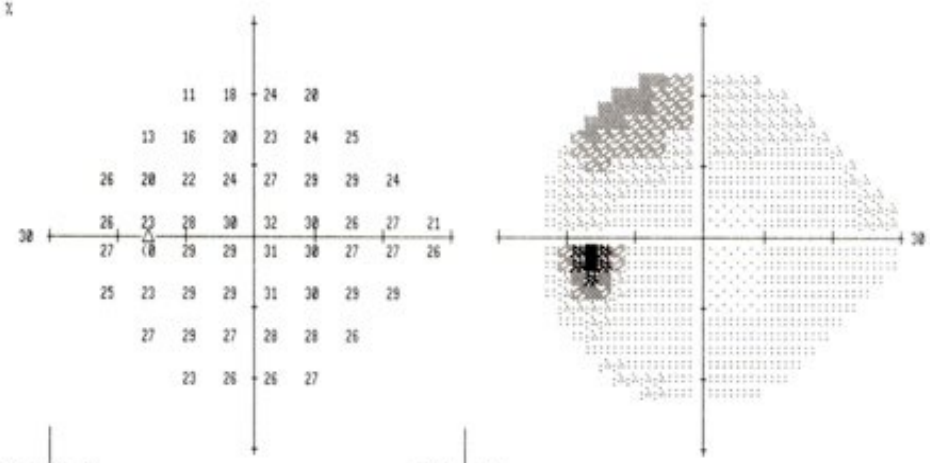
FIXATION MONITOR: GAZE/BLIND SPOT
FIXATION TARGET: CENTRAL
FIXATION LOSSES: 1/15
FALSE POS ERRORS: 2 %
FALSE NEG ERRORS: 1 %
TEST DURATION: 05:37

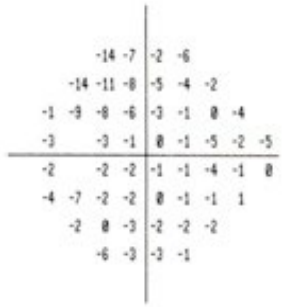
STIMULUS: III, WHITE
BACKGROUND: 31.5 ASB
STRATEGY: SITA-STANDARD

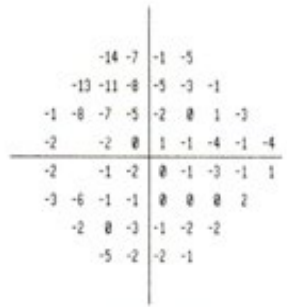
PUPIL DIAMETER:
VISUAL ACUITY:
RX: +4.75 OS DC X

DATE: 11-08-2016
TIME: 9:07 AM
AGE: 75

FOVEA: OFF





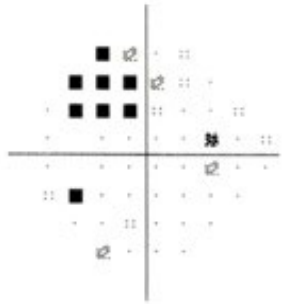


GHT
OUTSIDE NORMAL LIMITS

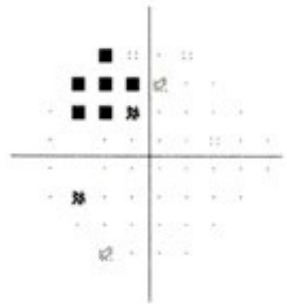
VFI 95%

MD -2.85 DB P (2%
PSD 3.00 DB P (2%

TOTAL DEVIATION



PATTERN DEVIATION



:: (5%
⚠ (2%
▓ (1%
■ (0.5%

BLADEN EYE CENTER
ERIC SCHMIDT, O.D. /M. SUTTON SCHILAWSKI
409 E. BROAD ST
ELIZABETHTOWN NC 28337
910.862.4268

ID: 100105

CENTRAL 24-2 THRESHOLD TEST

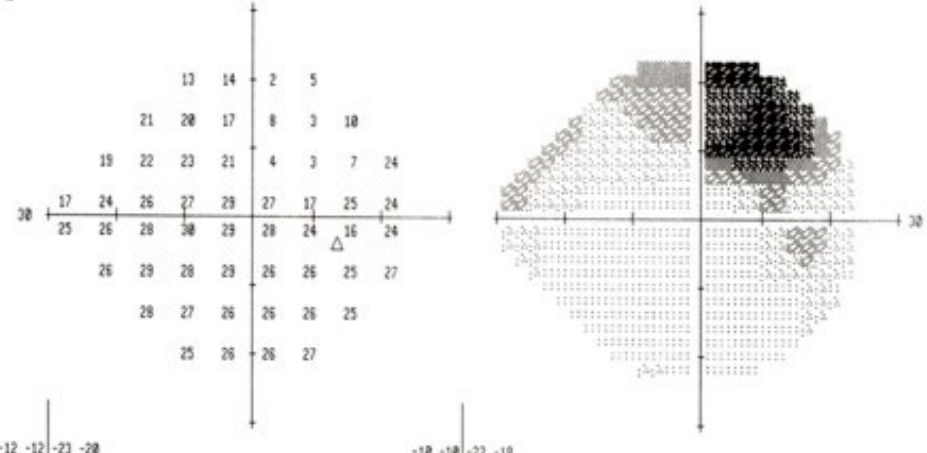
FIXATION MONITOR: GAZE/BLIND SPOT
FIXATION TARGET: CENTRAL
FIXATION LOSSES: 4/16 XX
FALSE POS ERRORS: 1 %
FALSE NEG ERRORS: 4 %
TEST DURATION: 07:23

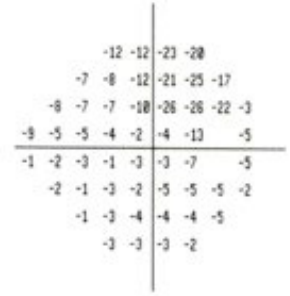
STIMULUS: III, WHITE
BACKGROUND: 31.5 ASB
STRATEGY: SITA-STANDARD

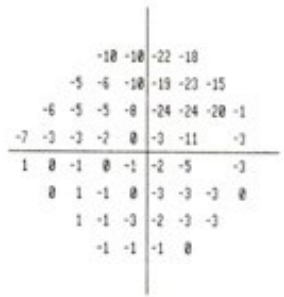
PUPIL DIAMETER:
VISUAL ACUITY:
RX: +4.00 OS DC X

DATE: 11-08-2016
TIME: 8:54 AM
AGE: 75

FOVEA: OFF







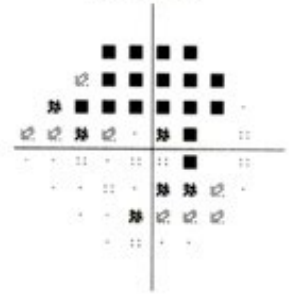
+++ LOW TEST RELIABILITY +++

GHT
OUTSIDE NORMAL LIMITS

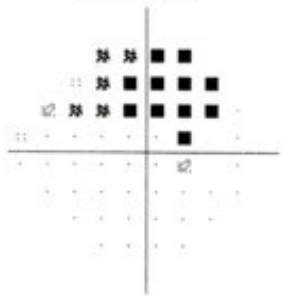
VFI 84%

MD -6.69 DB P (0.5%
PSD 7.12 DB P (0.5%

TOTAL DEVIATION

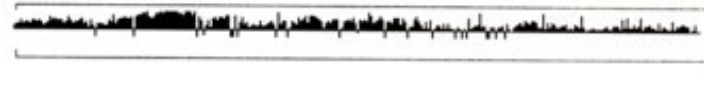


PATTERN DEVIATION



:: (5%
⚠ (2%
▓ (1%
■ (0.5%

BLADEN EYE CENTER
ERIC SCHMIDT, O.D. /M. SUTTON SCHILAWSKI
409 E. BROAD ST
ELIZABETHTOWN NC 28337
910.862.4268



Physician: Schmidt, Eric E
Operator:
Disease: POAG

Gender: Female
ID:

DOB(age): 03/02/1941 (78)
Ethnicity: African Descendant
Algorithm Ver: A3, 2, 1, 8

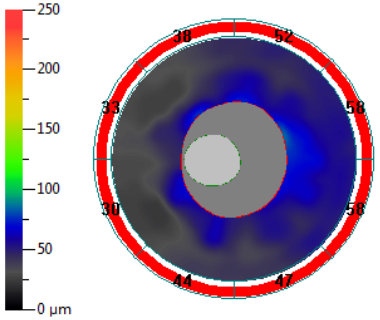
Right / OD — Nerve Fiber ONH/GCC OU Report — Left / OS

Exam Date:2015-12-08 09:49:33

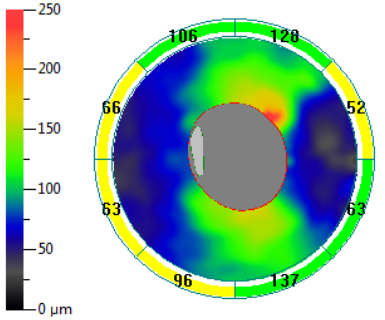
Good 64 — Scan Quality Index — Good 60

Exam Date:2015-12-08 09:52:58

Optic Nerve Head Map

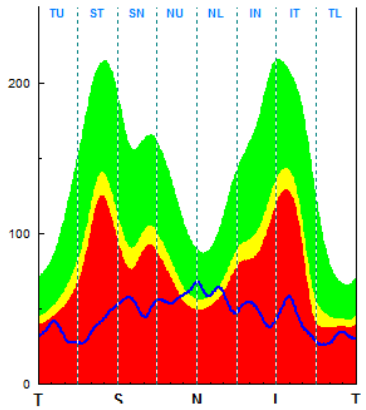


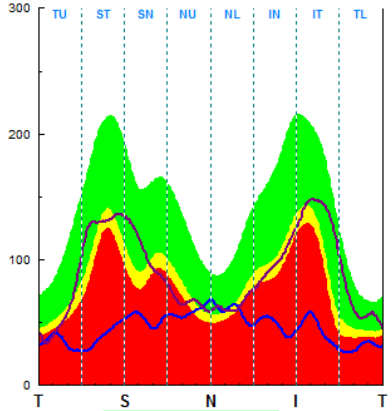
Optic Nerve Head Map

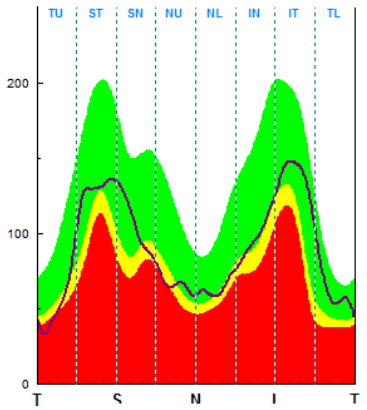


RNFL Analysis (µm)	OD	OS	Inter Eye Diff
Avg RNFL Thick...	45	89	-44
Avg Superior R...	45	88	-43
Avg Inferior RNFL	45	90	-45
Intra Eye Diff (S...	0	-2	N/A

ONH Analysis	OD	OS	Inter Eye Diff
Area C/D	0.24	0.06	0.18
V. C/D	0.46	0.50	-0.04
H. C/D	0.53	0.12	0.41
Rim Area (mm^2)	2.97	3.15	-0.18
Disc Area (mm^2)	3.90	3.36	0.54
Cup Vol (mm^3)	0.012	0.000	0.012

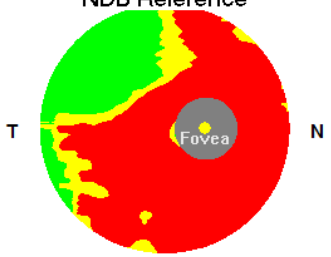






Within Normal
Borderline
Outside Normal

NDB Reference



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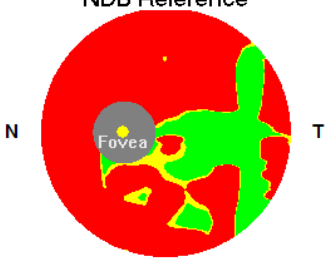


GCC Avg Thickness (µm)	OD	OS	Inter Eye Diff
Total	69	52	17
Superior	72	44	28
Inferior	65	61	4
Intra Eye Difference (...	7	-17	N/A
FLV (%)	6.651	33.2...	-26.596
GLV (%)	25.6...	44.9...	-19.291

Exam Date:2015-12-08 09:47:18

Good 76 — Scan Quality Index — Good 81

Exam Date:2015-12-08 09:52:07

Report Date: Tuesday 09/24/2019 13:58:40
Software Version: 3.2.1.8

Comment:

Signature:

optovue

What is the target IOP?

~18

~15

~12

How Do You Know??

What would you recommend?

1. Switch to Rocklatan
2. SLT OU 180
3. Add Azopt OU BID
4. add Timoptic ½ OU BID
5. Surgical Procedure
6. d/c Lumigan, try Travatan Z OU QHS
7. Cosopt OU BID
8. Combigan OU BID

SLT OU IOP
19 OD, 20 OS

What would you do now?

How Do You Know if the IOP needs to be lower?

What are the risk factors for progression?

- Age
- IOP at diagnosis
- Neuroretinal rim tissue
- Disk hemes
- Corneal hysteresis

Is she progressing?

Operator:
Disease: POAG

Gender: Female
ID:

Ethnicity: African Descendant
Algorithm Ver: A3, 2, 1, 8

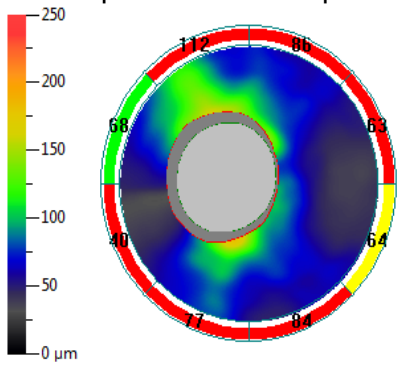
Right / OD — Nerve Fiber ONH/GCC OU Report — Left / OS

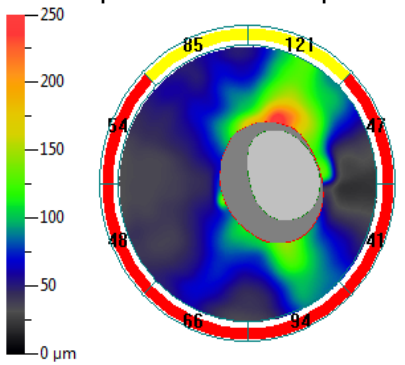
Exam Date:2019-01-30 08:19:20

Good 51 Scan Quality Index Good 54

Exam Date:2019-01-30 08:20:53

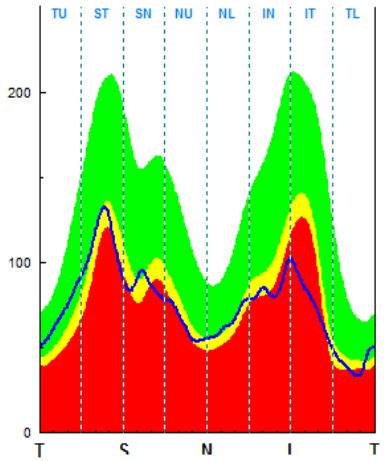
Optic Nerve Head Map

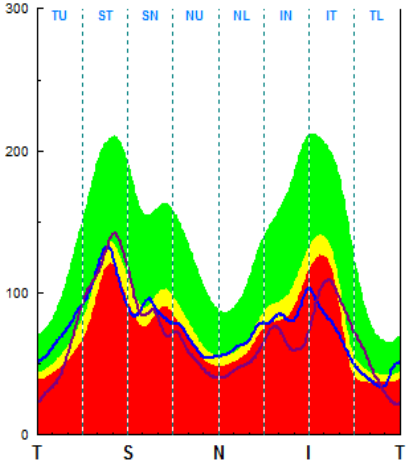


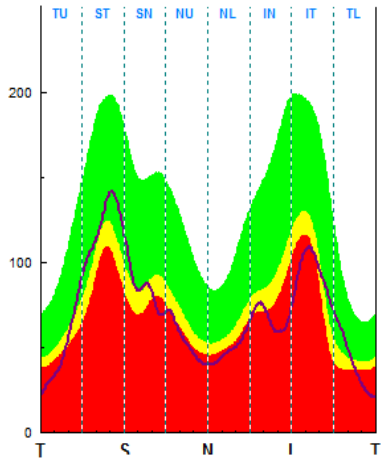


RNFL Analysis (µm)	OD	OS	Inter Eye Diff
Avg RNFL Thick...	74	70	4
Avg Superior R...	82	77	5
Avg Inferior RNFL	66	62	4
Intra Eye Diff (S...	16	15	N/A

ONH Analysis	OD	OS	Inter Eye Diff
Area C/D	0.74	0.53	0.21
V. C/D	0.89	0.76	0.13
H. C/D	0.90	0.70	0.20
Rim Area (mm^2)	1.03	1.56	-0.53
Disc Area (mm^2)	3.94	3.31	0.63
Cup Vol (mm^3)	1.348	0.229	1.119

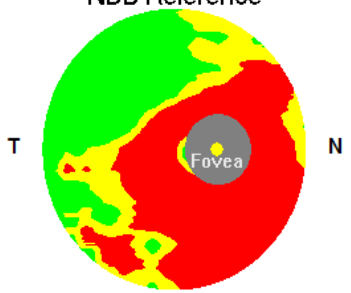


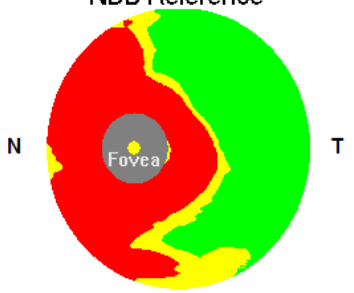




Within Normal
Borderline
Outside Normal

NDB Reference





GCC Avg Thickness (µm)	OD	OS	Inter Eye Diff
Total	74	75	-1
Superior	78	77	1
Inferior	70	73	-3
Intra Eye Difference (...	8	4	N/A
FLV (%)	6.150	11.2...	-5.115
GLV (%)	19.9...	18.6...	1.281

Exam Date:2019-01-30 08:18:19

Good 65 Scan Quality Index Good 76

Exam Date:2019-01-30 08:20:01

Physician: Schmidt, Eric E
Operator:
Disease: POAG

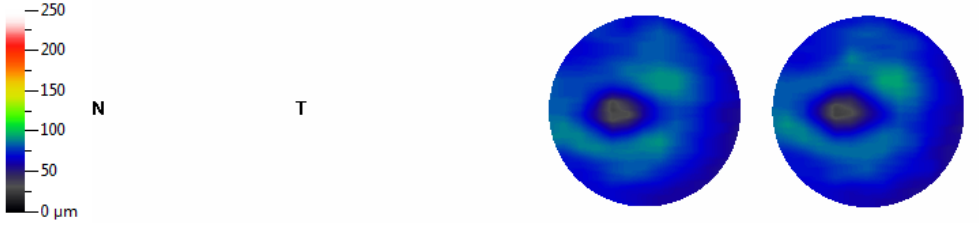
Gender: Female
ID:

DOB(age): 03/02/1941 (78)
Ethnicity: African Descendant
Algorithm Ver: A3, 2, 1, 8

Nerve Fiber ONH/GCC Change Analysis

Left / OS

GCC Thickness Map



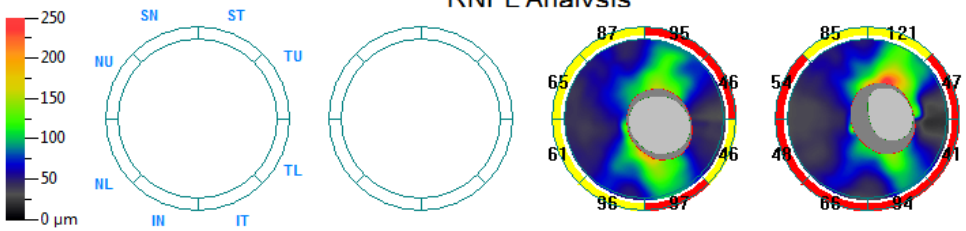
Within Normal
Borderline
Outside Normal

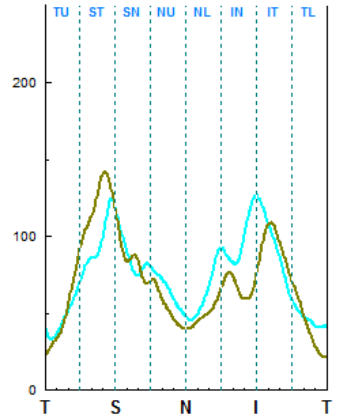
06/26/13
12/04/13
03/28/17
01/30/19

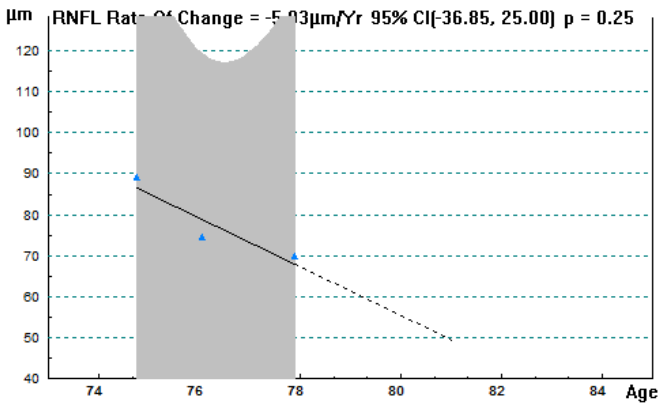
Comparison to NDB

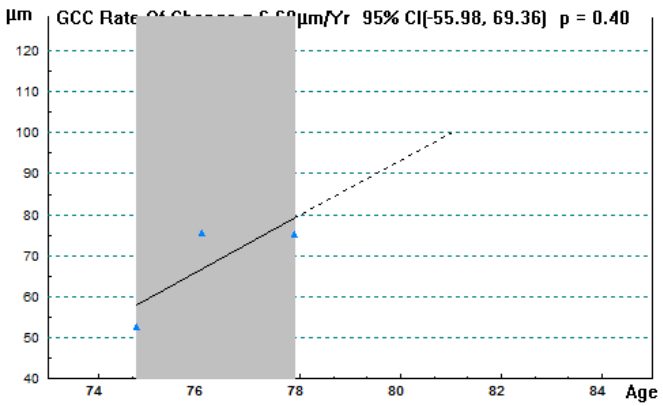
GCC Avg Thic...	06/...	01/...
Total	N/A	75
Superior	N/A	77
Inferior	N/A	73
FLV (%)	N/A	11.2...
GLV (%)	N/A	18.6...
RNFL Paramet...	**06/...**	**01/...**
Average_R...	N/A	70
Sup_RNFL	N/A	77
Inf_RNFL	N/A	62
H. C/D	N/A	0.70
V. C/D	N/A	0.76
Rim Area	N/A	1.56

RNFL Analysis









Operator:
Disease: POAG

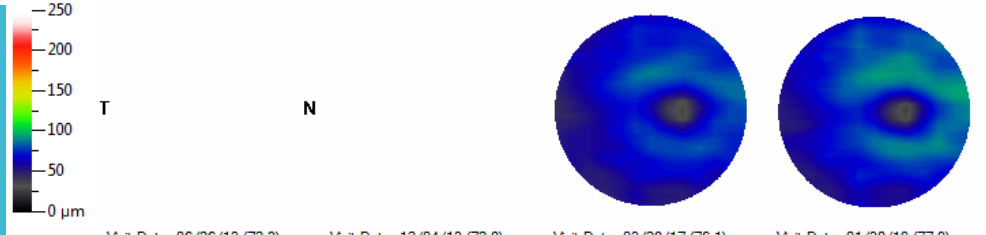
Gender: Female
ID:

Ethnicity: African Descendant
Algorithm Ver: A3, 2, 1, 8

Nerve Fiber ONH/GCC Change Analysis

Right / OD

GCC Thickness Map



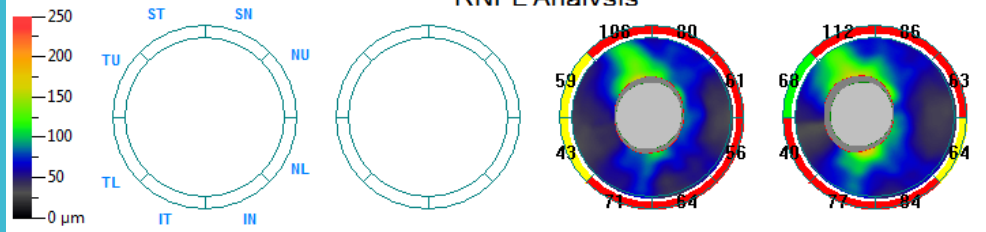
Within Normal
Borderline
Outside Normal

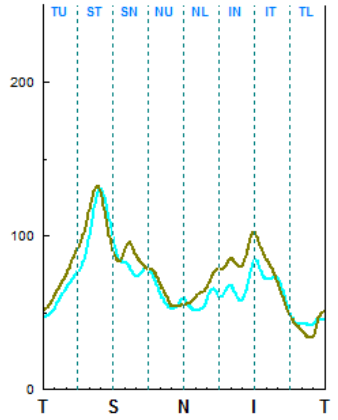
06/26/13
12/04/13
03/28/17
01/30/19

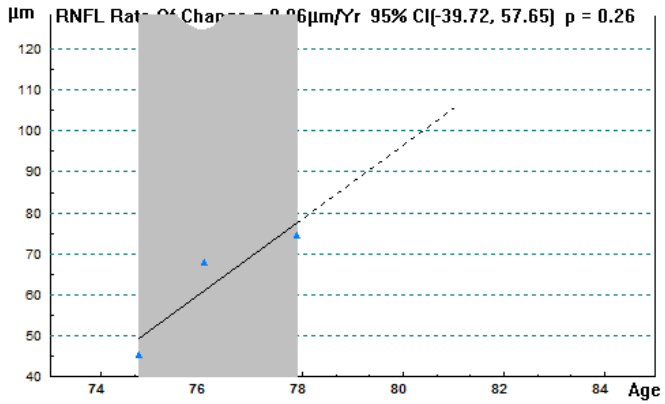
Comparison to NDB

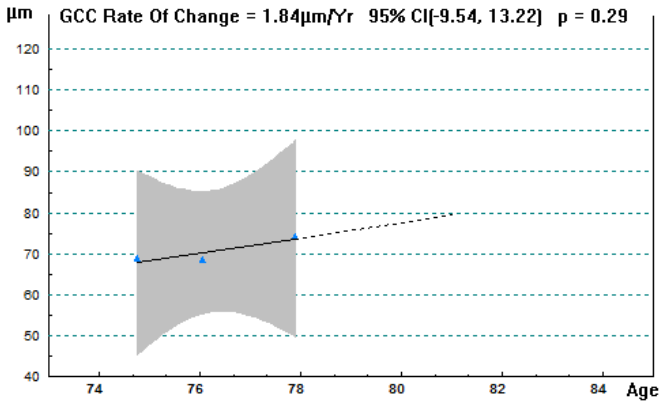
GCC Avg Thic...	06/...	01/...
Total	N/A	74
Superior	N/A	78
Inferior	N/A	70
FLV (%)	N/A	5.150
GLV (%)	N/A	19.9...
RNFL Paramet...	**06/...**	**01/...**
Average_R...	N/A	74
Sup_RNFL	N/A	82
Inf_RNFL	N/A	66
H. C/D	N/A	0.90
V. C/D	N/A	0.89
Rim Area	N/A	1.03

RNFL Analysis









Report Date: Tuesday 09/24/2019 14:00:45

Software Version: 3.2.1.8

Comment:

NAME: MCALLISTER MATTIE DOB: 03-02-1941
ID: 100105

CENTRAL 24-2 THRESHOLD TEST

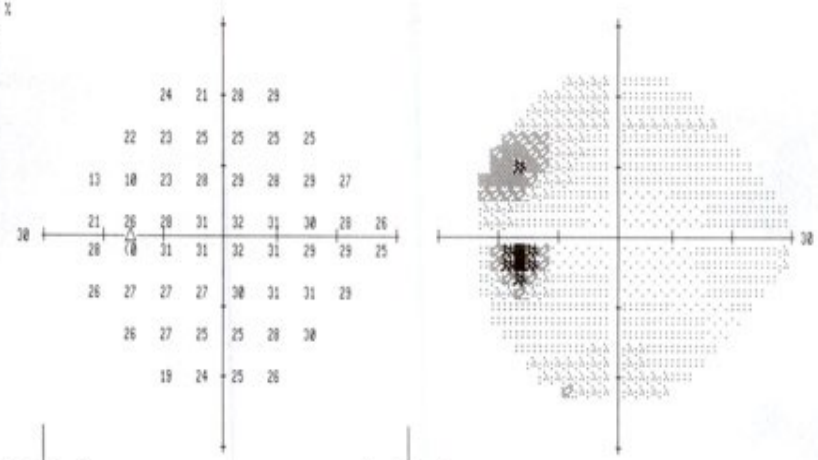
FIXATION MONITOR: BLIND SPOT
FIXATION TARGET: CENTRAL
FIXATION LOSSES: 0/10
FALSE POS ERRORS: 0 %
FALSE NEG ERRORS: 0 %
TEST DURATION: 03:32

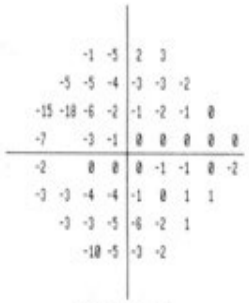
FOVEA: OFF

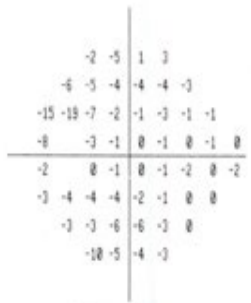
STIMULUS: III, WHITE
BACKGROUND: 31.5 ASB
STRATEGY: SITA-FAST

PUPIL DIAMETER:
VISUAL ACUITY:
RX: +4.00 DS DC X

DATE: 04-02-2019
TIME: 9:27 AM
AGE: 78





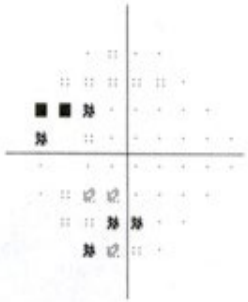


GHT
OUTSIDE NORMAL LIMITS

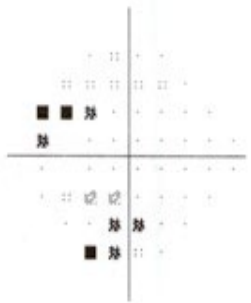
VFI 94%

MD -2.38 DB P < 5%
PSD 3.71 DB P < 0.5%

TOTAL DEVIATION



PATTERN DEVIATION



:: < 5%
∅ < 2%
✻ < 1%
■ < 0.5%

BLADEN EYE CENTER
ERIC SCHMIDT, O.D. /M. SUTTON SCHILAWSKI
409 E. BROAD ST
ELIZABETHTOWN NC 28337
910.862.4268

NAME: MCALLISTER MATTIE DOB: 03-02-1941
ID: 100105

CENTRAL 24-2 THRESHOLD TEST

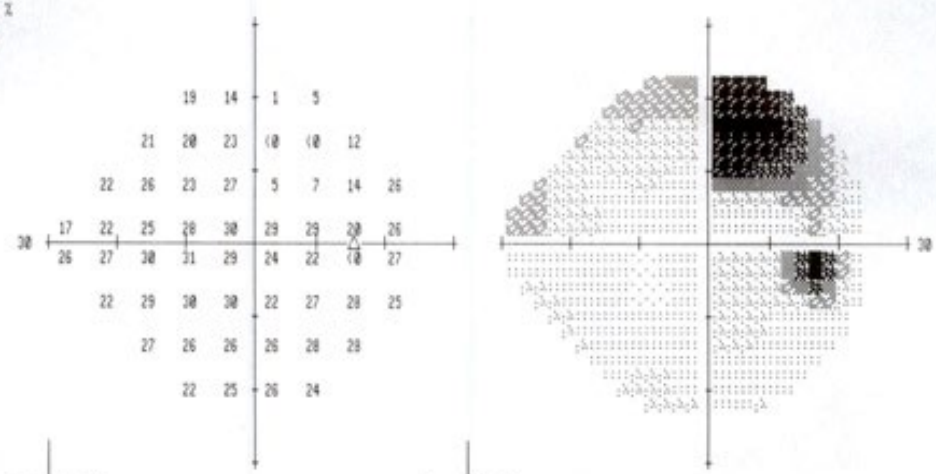
FIXATION MONITOR: GAZE/BLIND SPOT
FIXATION TARGET: CENTRAL
FIXATION LOSSES: 4/12 XX
FALSE POS ERRORS: 0 %
FALSE NEG ERRORS: 2 %
TEST DURATION: 04:01

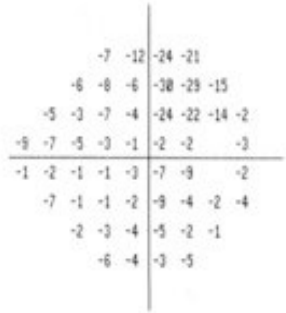
FOVEA: OFF

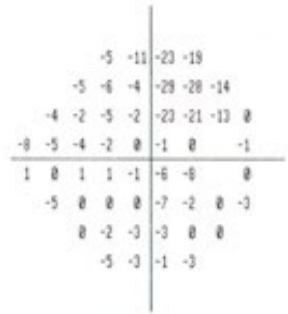
STIMULUS: III, WHITE
BACKGROUND: 31.5 ASB
STRATEGY: SITA-FAST

PUPIL DIAMETER:
VISUAL ACUITY:
RX: +3.75 DS DC X

DATE: 04-02-2019
TIME: 9:21 AM
AGE: 78







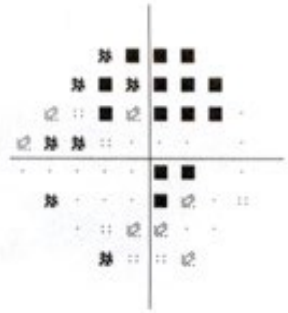
*** LOW TEST RELIABILITY ***

GHT
OUTSIDE NORMAL LIMITS

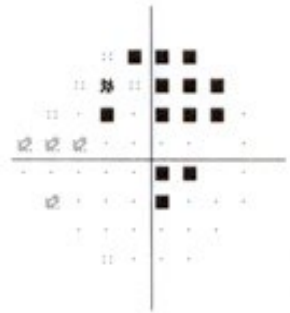
VFI 83%

MD -6.29 DB P < 0.5%
PSD 7.33 DB P < 0.5%

TOTAL DEVIATION



PATTERN DEVIATION



:: < 5%
∅ < 2%
✻ < 1%
■ < 0.5%

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409 E. BROAD ST
ELIZABETHTOWN NC 28337
910.862.4268

Estimating the Lead Time Gained by Optical Coherence Tomography in Detecting Glaucoma before Development of Visual Field Defects

Tammy M. Kuang, MD,[1,2,3] Chunwei Zhang, MD,[1,4] Linda M. Zangwill, PhD,[1] Robert N. Weinreb, MD,[1] Felipe A. Medeiros, MD, PhD[1]

At 95% specificity, up to **35% of eyes had abnormal average RNFL thickness** 4 years before development of visual field loss and **19% of eyes had abnormal results 8 years before field loss**.

Conclusions: Assessment of RNFL thickness with OCT was able to detect glaucomatous damage before the appearance of VF defects on SAP. In many subjects, significantly large lead times were seen when applying OCT as an ancillary diagnostic tool.

When Progression Is Detected, How Do We Know…

- How Low the IOP Should be…
- Which agent(s) should we use…
- When Surgery is Indicated…
- The Rate Of Their Progression…

4 Major questions surrounding progression

- 1. Why Do Patients Progress?
- 2. How Do We Best Detect Progression?
- 3. How Can We Improve Compliance?
- 4. Once Progression Occurs, What Is Our Best Strategy?

Rate Of Progression

- RGC loss in normals ~0.5% /yr
- RGC loss in Glaucoma – 3.5% / yr
- RGC loss in treated G – 1.5%/yr

Rate of Progression for Various Glaucomas

- NTG- 56% progression at 6 yrs
- POAG -74% progression rate (6 yrs)
- PXG – 93 % - progression rate at 6 yrs
- Pxs older than 68 progressed much faster compared to younger pxs

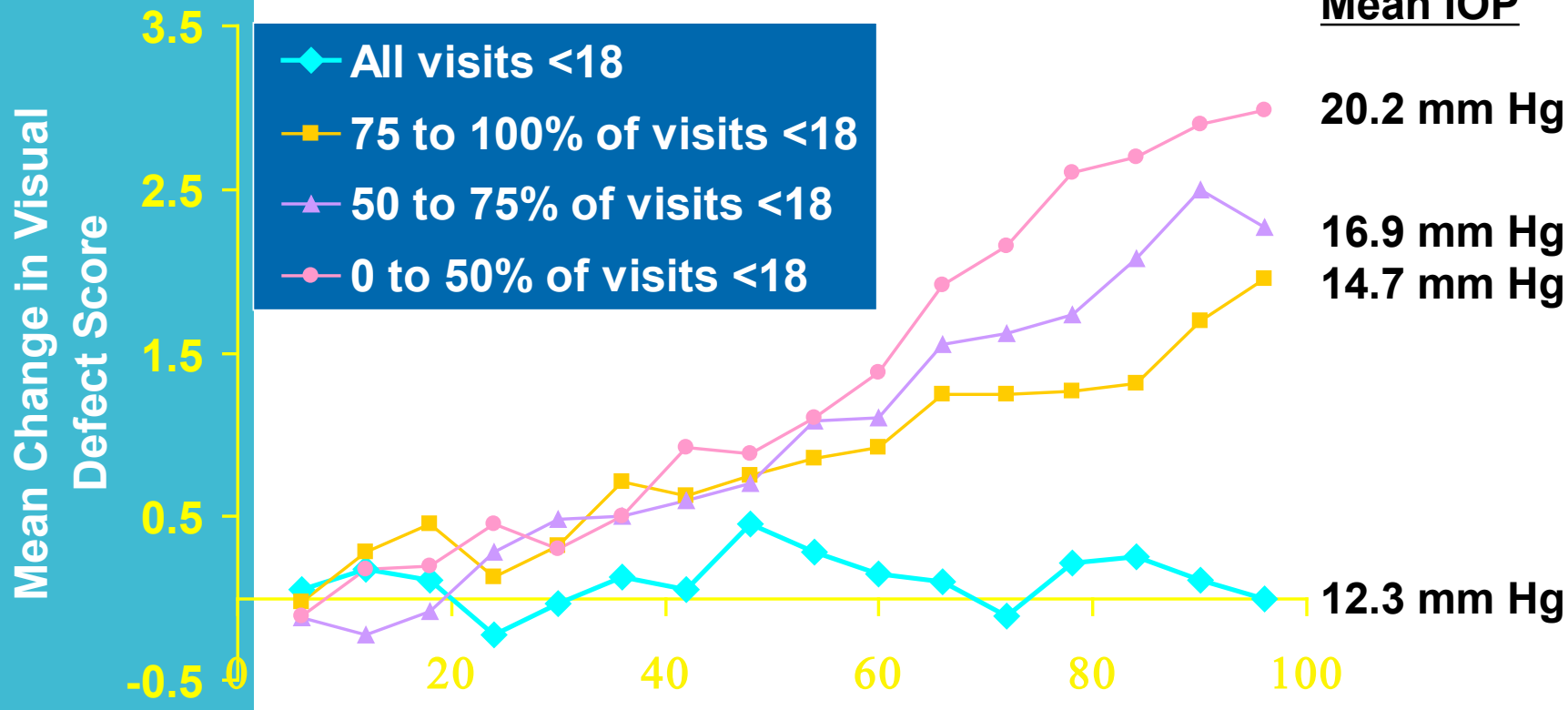
How Low should We Go?

- AAO Preferred Practice Guidelines
  - "Lowering the pretreatment IOP by 25% or more has been shown to slow progression of POAG"
  - Based upon age of px, time of occurrence and other risk factors
    - Prum et al, Ophthalmology. 2016

AGIS Results

- Diurnal Curve Is Real Important
  - Avg IOP of 15mm with a curve btwn 13mm – 17mm progresses less than if curve is btwn 11mm – 19mm
- The peak IOP is important
- Which tx best affect the diurnal curve?
- Also remember risk/benefit ratio

Consiste



AGIS 7, AJO, 2000

Progression according to CIGTS

- Seen in 56.7% in 6 years
  - Biggest risk factors
    - Inadequate IOP control
    - Disk hemorrhage
- Proving once again that if you diagnose a px with POAG REALLY treat them!

- For pxs who showed progression of glaucoma despite IOP at acceptable range
  - 3% showed a peak IOP >21mm
  - 35% showed a range of IOP >5mm
    - Collaer, Caprioli, et.al, J Glaucoma 2005;14(3): 196-200
- Underscores the importance of serial tonometry *even in well controlled pxs*