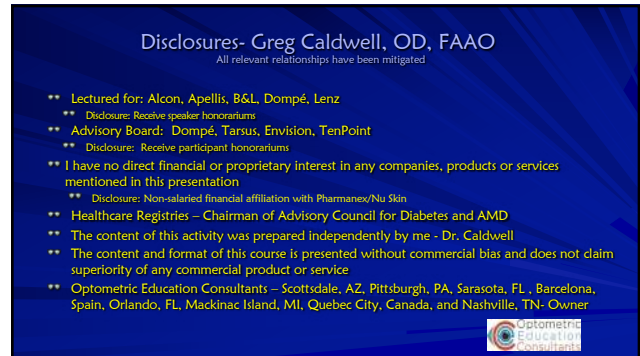
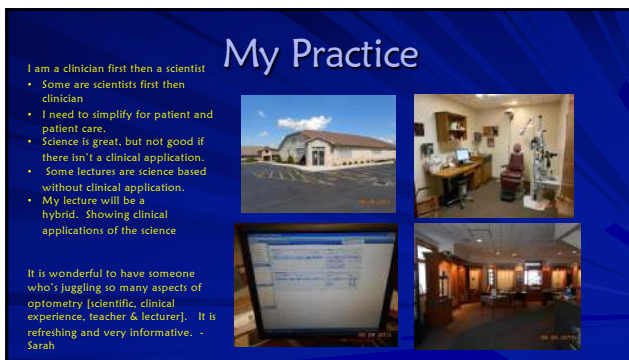




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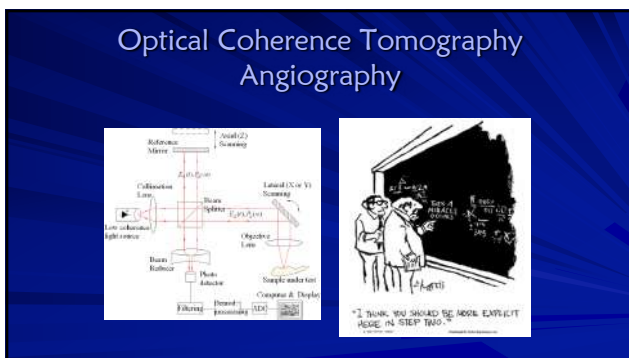
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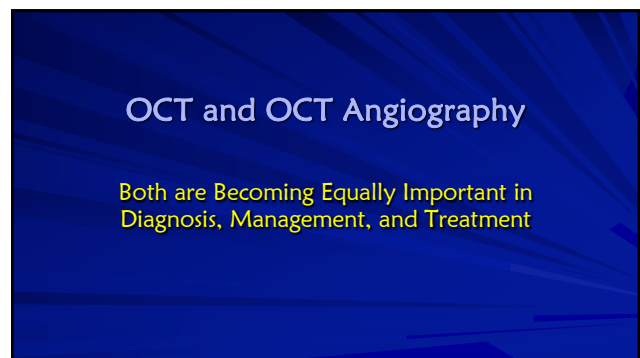
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6



7

Optical Coherence Tomography

- ✓ OCT is an optical signal acquisition and processing method
- ✓ Time domain OCT
 - * 15-16 microns of resolution
 - * Stratus (Zeiss)
- ✓ Spectral domain (SD-OCT) or Fourier domain OCT
 - * Spatially encoded frequency domain OCT (SEFD-OCT)
 - * 5-6 microns of resolution
 - Able to see photoreceptor morphology (inner/outer segments)
 - * 50 times faster than time domain
- ✓ Swept source OCT
 - * Time encoded frequency domain OCT
 - * 1 micron of resolution
- ✓ Future of OCT: intraoperative imaging, blood flow and oxygenation measurements

8

OCT Angiography: the Next Chapter in Posterior Imaging

- ✓ Images retinal microvasculature without dye injection
- ✓ Displays structure and function from a single imaging system



9

CPT Code for OCT Angiography

Scanning Computerized Ophthalmic Imaging

For 2025, CMS revalued the existing OCT codes 92132, 92133, and 92134 to introduce a new Category 1 code for OCTA, CPT Code 92137, expanding the code family. CMS finalized the RUC-recommended work values for these codes as proposed. Values will not be subject to a multi-year phase-in!

CPT Code	2024 Total Payment ¹	2025 Total Payment ²	Percent Decrease
92132 OCT, anterior segment	\$51.29	\$28.79	-43.9%
92133 OCT, optic nerve	\$36.20	\$29.76	-17.8%
92134 OCT, posterior segment	\$40.28	\$31.37	-22.1%
92137 OCT Angiography, retina	NCHE	\$36.94	NEW

10

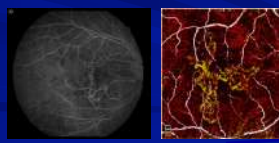
OCT Retinal Angiography

- A. Requires an injection of dye
- B. Does not require dye or an injection

11

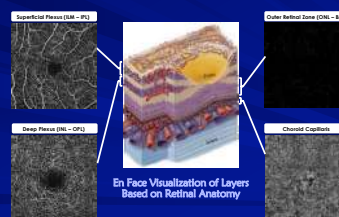
OCT Angiography A New Approach to Protecting Vision

- ▶ Non-invasive visualization of individual layers of retinal vasculature
- ▶ Pathology not obscured by fluorescein staining or pooling
- ▶ Image acquisition requires less time than a dye-based procedure
- ▶ Reduced patient burden allows more frequent imaging to better follow disease progression and treatment response

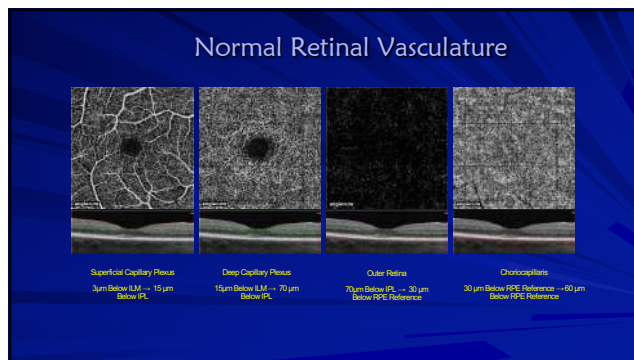


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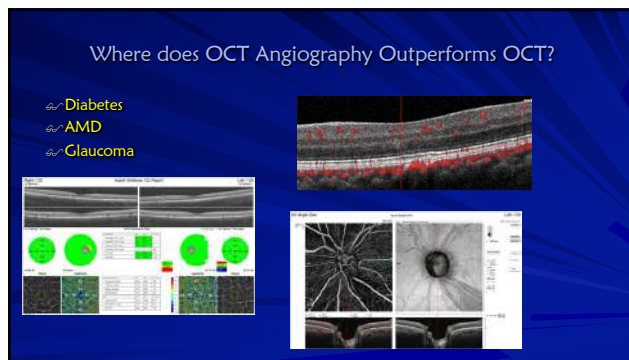
Enface OCT-A Slabs Based on Retinal Anatomy



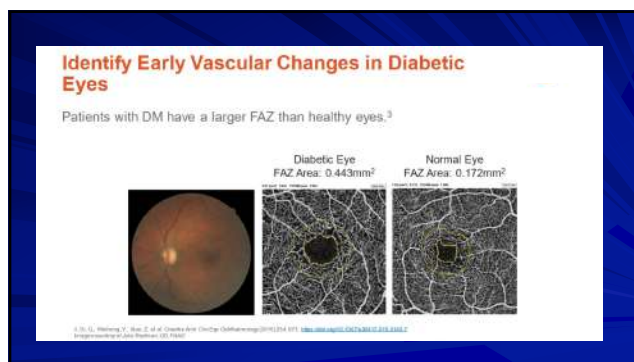
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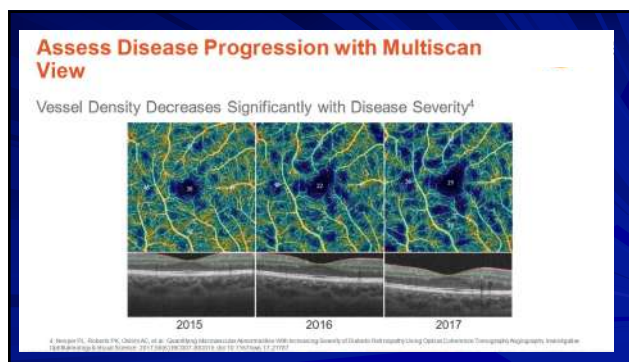
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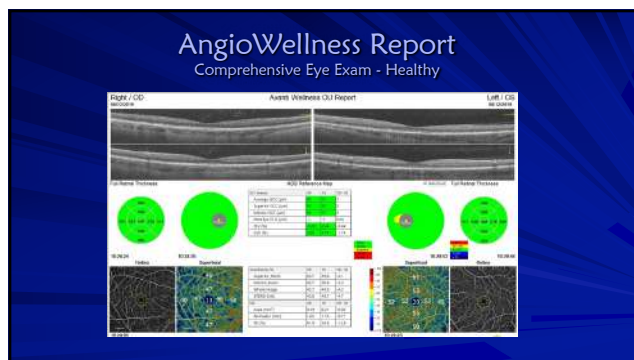
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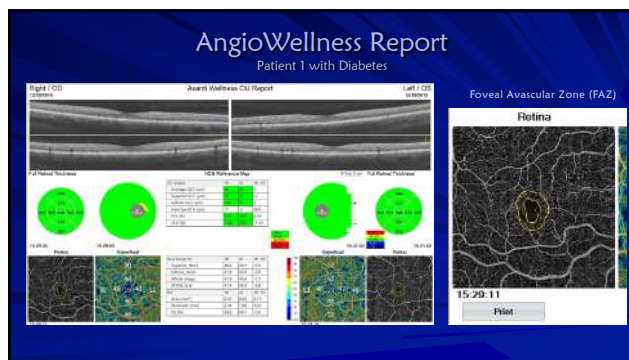
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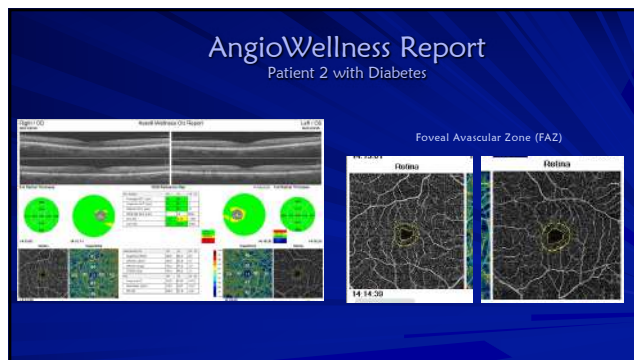
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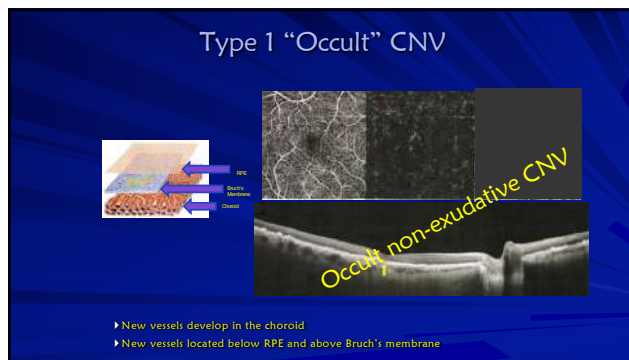
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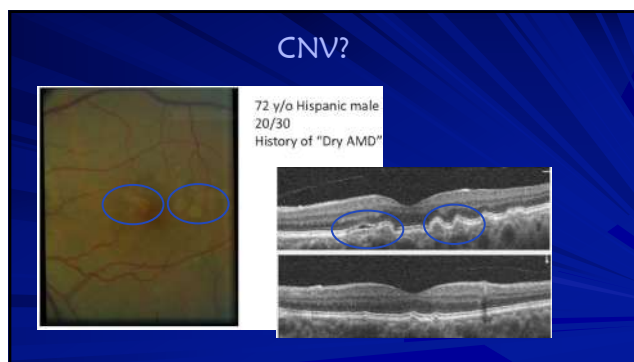
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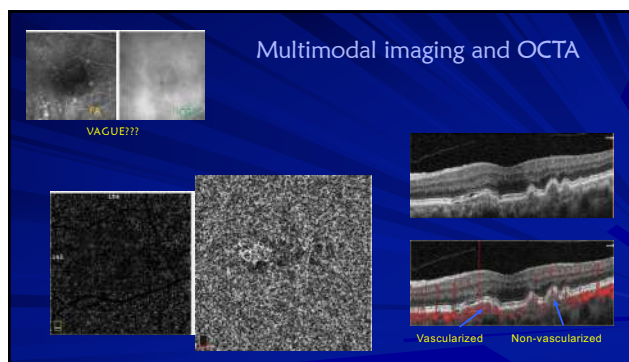
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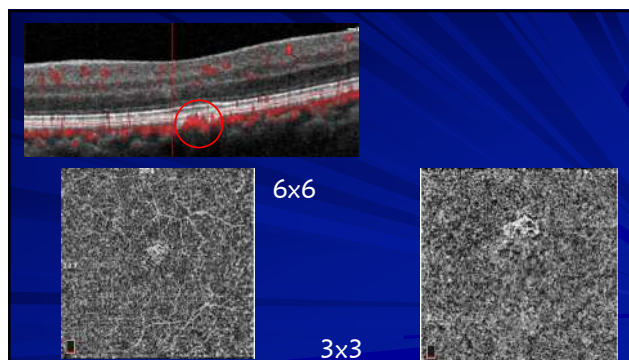
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24



25

Not All Cameras Are Created Equal

Optos



Eidon - iCare



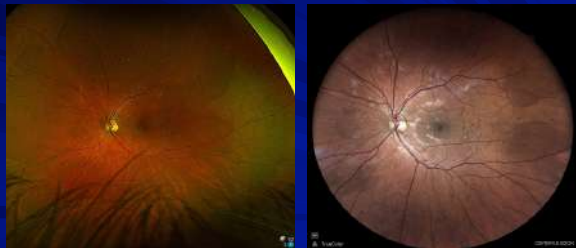
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Grade This Diabetic Retinopathy



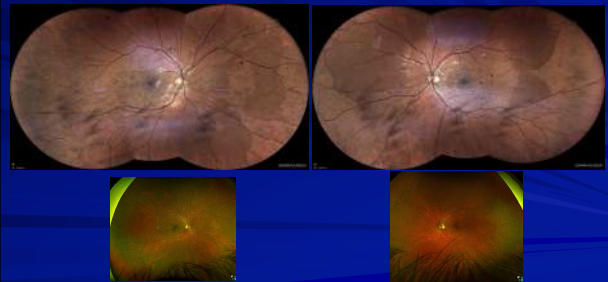
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Grade This Diabetic Retinopathy



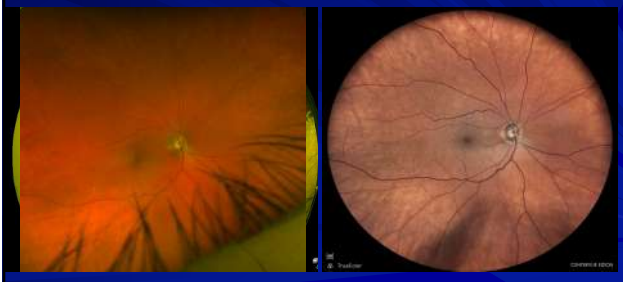
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Eidon Camera - iCare



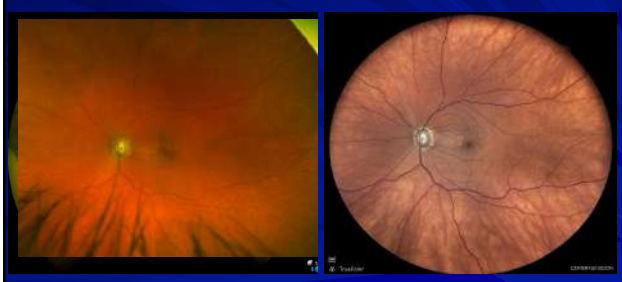
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Assess the NRR and NFL (Px KS)



30

Assess the NRR and NFL (Px KS)



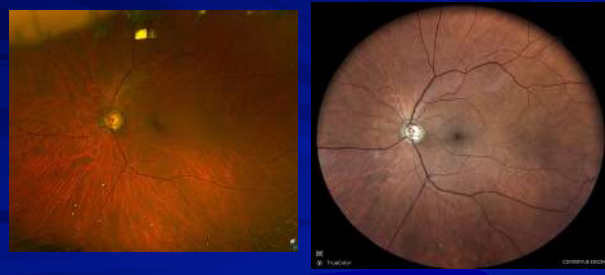
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Assess the NRR and NFL (Px DC)



32

Assess the NRR and NFL (Px DC)



33

ERM



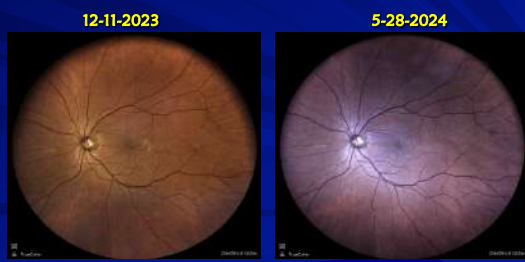
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Flicker Comparison

Eidon Camera – iCare
Flicker comparison, widefield TrueColor, and autofluorescence

35

Glaucoma - Do you see it?

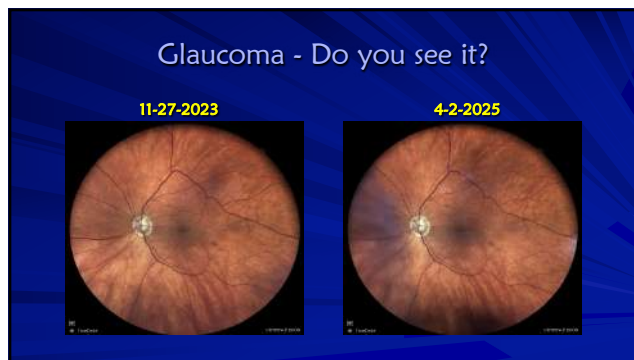


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Glaucoma - Do you see it?



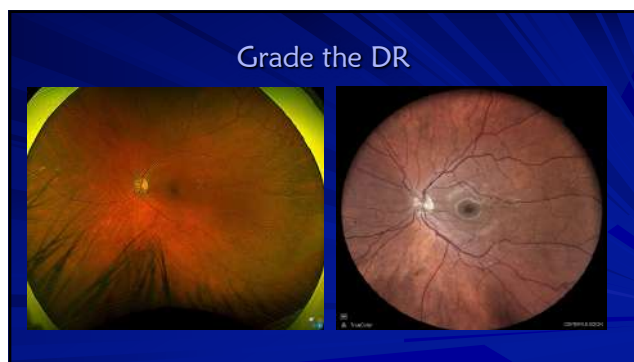
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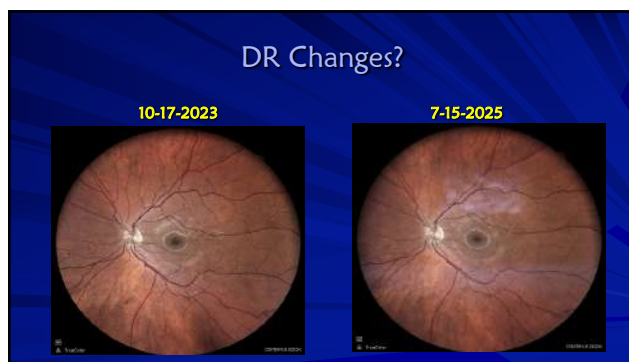
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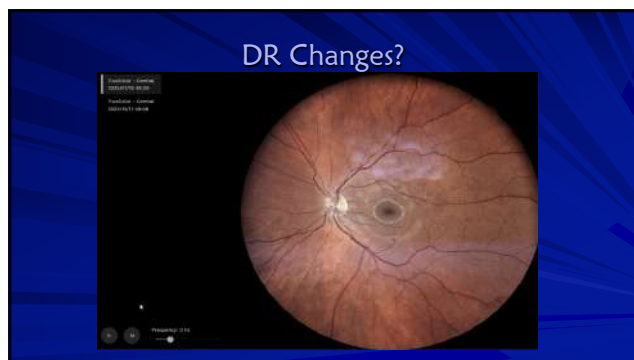
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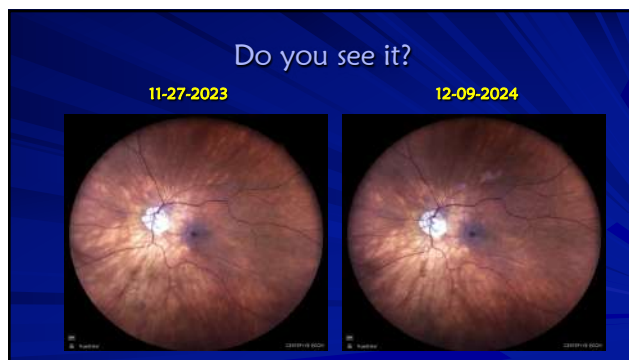
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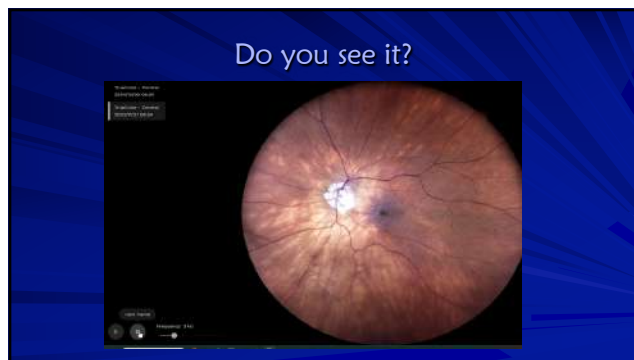
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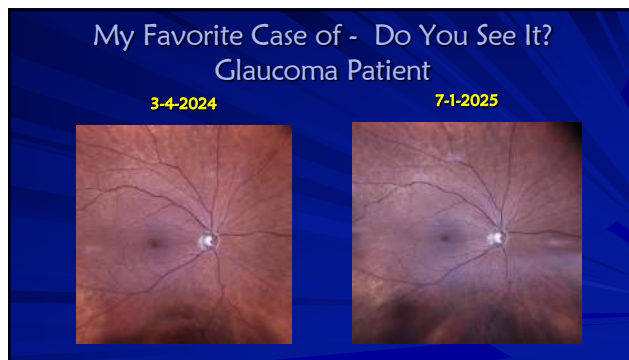
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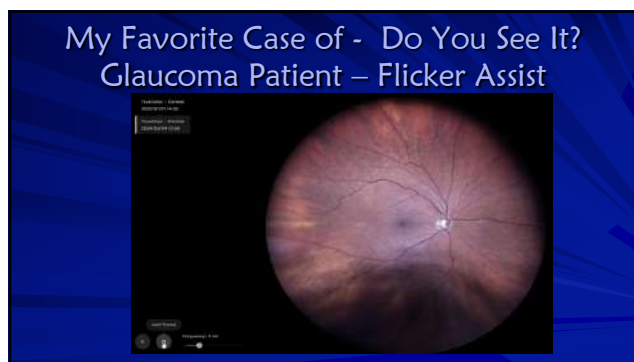
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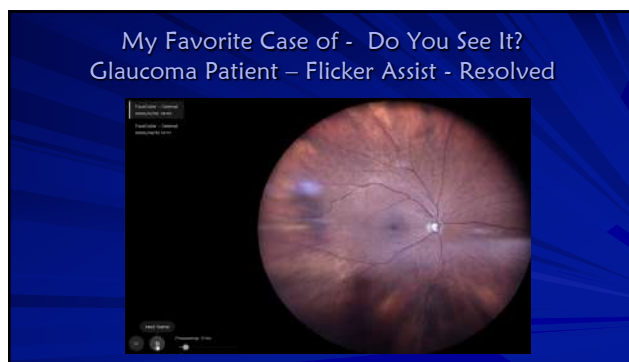
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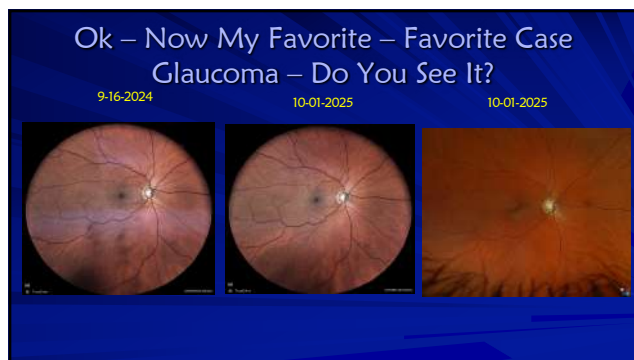
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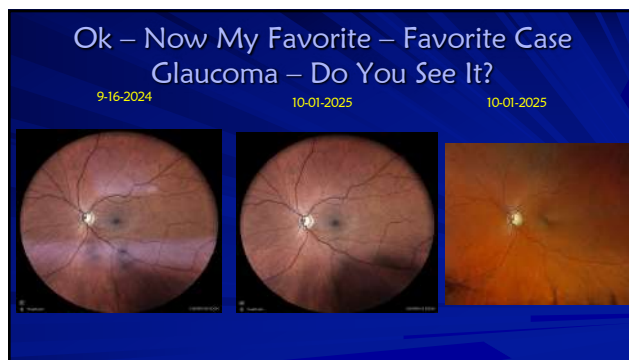
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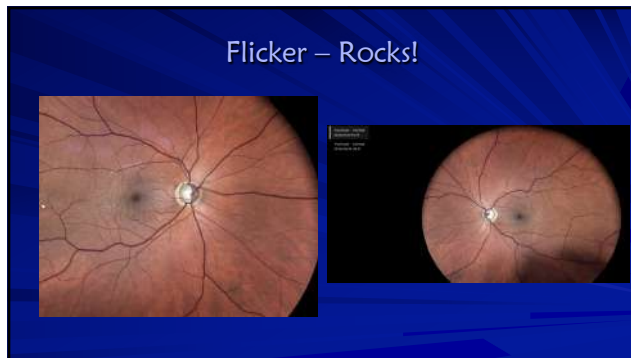
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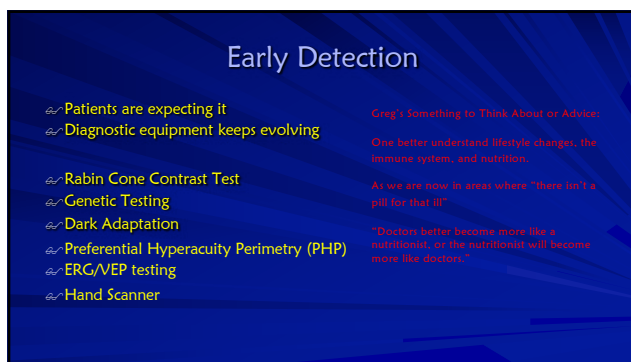
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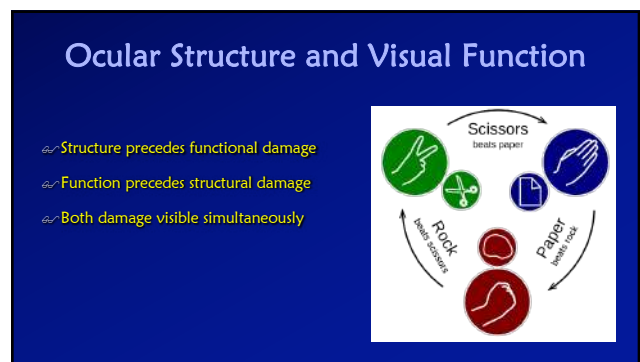
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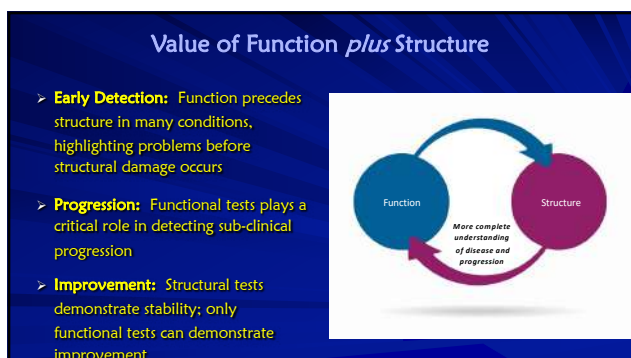
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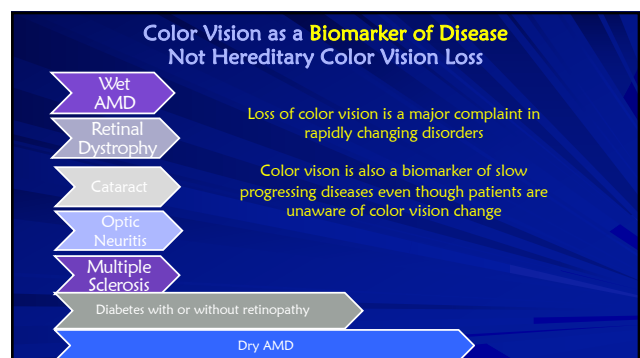
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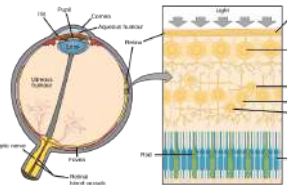


54



55

Importance of Color Vision in Disease Management



- Color vision begins at the photoreceptor level ... and is dependent on each layer of the visual pathway
- Damage to any part of the macula or visual pathway affects cone function: color vision & visual acuity
- Change in color vision can be detected early in disease and is a natural predictor of impending visual acuity loss
- Functional changes often proceed structural changes and can demonstrate improvement

56

Rabin CCT Color Profile: Acquired Conditions

AMD

- Often begins with Red and/or Green degradation
- Moderate/advanced cases affect all cone types
- Begins with mild degradation, progresses to severe

Pre/ Diabetes

- Blue cones typically more affected than other cone types
- Moderate/advanced cases affect all cone types
- Begins with mild degradation, progresses to severe

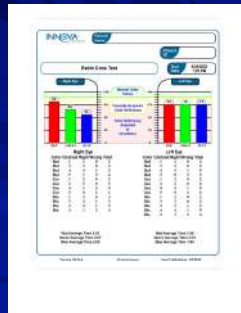
Neurological/ Glaucoma

- Often affects all 3 cone types
- More severe degradation than retinal cases for similar disease stage

Disclaimer: No two cases are alike. These are guidelines only & should never be used alone to determine a diagnosis

57

Glaucoma Patient Rabin Color Vision Cataract OD > OS



58

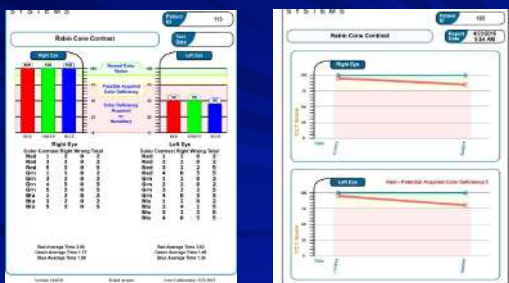
Rabin Cone Contrast Test

- Sensitive color contrasts testing
 - ★ There is difference between traditional color vision tests
- Rabin Cone Contrast Test can be used for early detection:
 - ★ Age related macular degeneration
 - ★ Diabetic retinopathy
 - ★ Glaucoma
 - ★ Retinal disease



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Cone Contrast Test Results



60

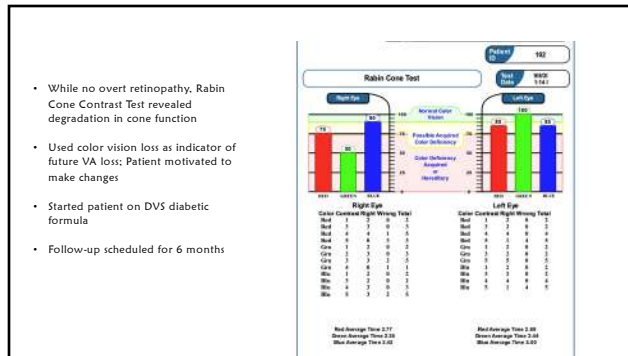
Rabin Cone Contrast Test

- Based in science
 - ★ Co-developed between Innova Systems and US Air Force
- Combines Cone Isolation technology and Contrast Sensitivity
- Color vision technology sensitive enough to detect subtle changes from disease
- Threshold test, similar to visual field
 - ★ But just faster...
 - ★ CPT 92283-\$52 national average

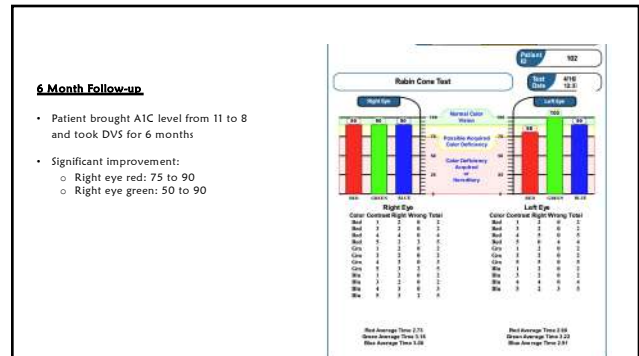


61





68



69

Rabin Cone Contrast Test

- ~ Completes the comprehensive exam
- ~ Early detection
- ~ Progression
- ~ Can see improvements with your treatments
- ~ Nutritional therapies indeed play a role in management of AMD, diabetes, and glaucoma

70

FAA Policy Change Affects Optometry

Rabin Cone Contrast Test 1 of 3 required color vision tests for FAA Pilots

- Optometrists can administer FAA color vision tests
- Most Aviation Medical Examiner's do NOT have the Rabin Cone Contrast Test
- Most FAA color vision exams using the Rabin CCT can be billed to insurance

What you need to know

- Pilots must pass 1 of the required color vision tests effective Jan 1st, 2025
- All new pilots- Class 1, 2, and 3
- Pilots seeking to upgrade their Class status
- Pilots with a medical condition, or taking a medication, know to affect color vision must be PERIODICALLY tested. Pilot should refer to their Letter of Authorization.
- The Rabin Cone Contrast Test can be taken if a pilot fails any OTHER approved test



71

Preferential Hyperacuity Perimetry (PHP)

Monitoring Dry AMD to Wet AMD

72

Notal Vision - ForeseeHome® product overview

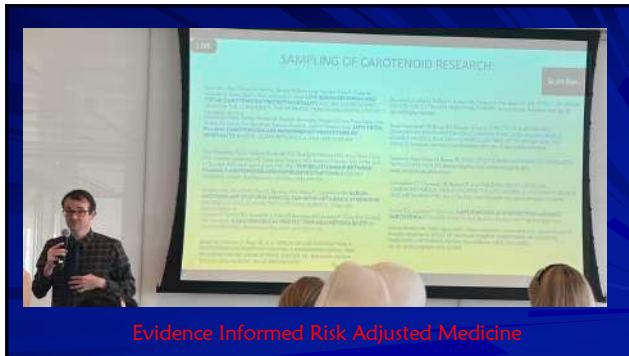


- Uses Preferential Hyperacuity Perimetry (PHP)
- 6,000+ actively testing patients
- Proven efficacy with level 1 evidence
- 600+ active prescribers

Minom Data on File

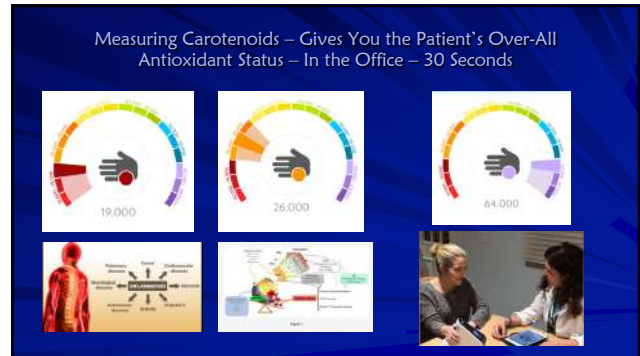
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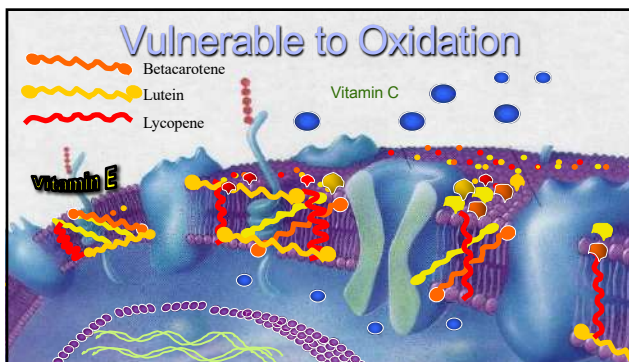


Evidence Informed Risk Adjusted Medicine

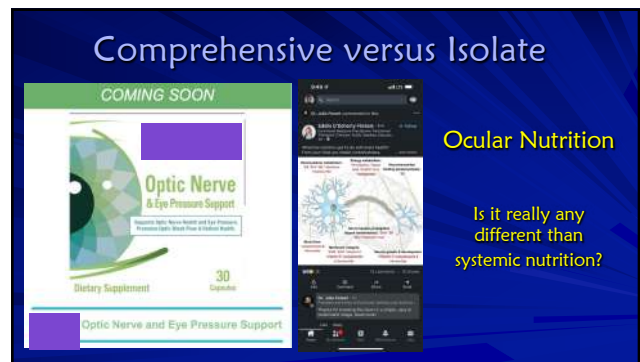
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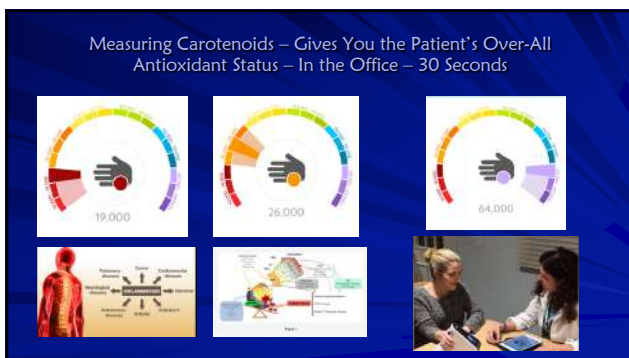
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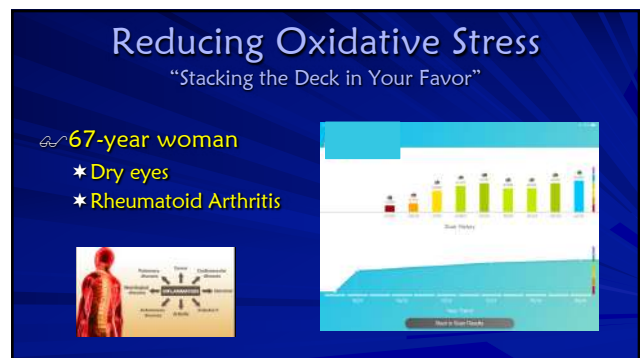
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91

Corneal Hysteresis Ocular Response Analyzer G3

~ Evidence - Key findings from over 800 peer-reviewed publications
~ Impact of corneal biomechanics on IOP



92

Key Concepts Elasticity, Viscosity, & Damping



The Spring is not the problem here. It's the **Bad Shock Absorber (damper)** that cannot dissipate the energy and delivers a harsh ride

93

Hysteresis What it is – What it is NOT

Hysteresis characterizes the response to application and removal of force in materials that **dissipate a portion of applied energy**.

- Not a new concept (term defined in 1896)
- 13,000+ medical publications on hysteresis in a variety of fields¹

Corneal Hysteresis (CH)
Reflects cornea's ability to absorb and dissipate energy

- An indication of "damping" capacity of the ocular tissue
- NOT** an indication of "stiffness" or "rigidity"



"The eye is under a constant assault"
Hysteresis tells us "How good of a shock absorber" the eye is.

David Luce PhD 1955-2017
Pioneered Corneal Hysteresis

94

Ocular Response Analyzer G3 Measurement Values, Range, and Interpretation

- Average Normal CH is 10.5 mmHg
- Standard dev 1.5 mmHg
- Fairly stable diurnally and with age

Corneal Compensated IOP (IOPcc):
Closer to the "true pressure"

Corneal Hysteresis: Normal average 10.5
Typical Range is 8-14 (low = risk)

IOPg: "Goldmann equivalent" reference

Waveform Scores: signal reliability (0-10)



95

Ocular Response Analyzer G3 Measurement Values, Range, and Interpretation



96

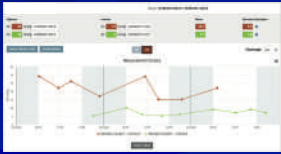
iCare Tonometer and iCare Home



97

iCare Home

- ~ Allow at home IOP monitoring
 - * Non-office hour IOP monitoring
- ~ Monitors diurnal IOP variations
 - * Catch spikes
- ~ More than one IOP in a day
- ~ Patient can not see the IOP

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Question

Which method of IOP measure should only be used for glaucoma diagnosis, treatment, and management?

Many methods are acceptable

99

Pharmacologic and Drop-Free Therapeutics

Novel Drug Delivery and Treatment of Chronic Disease

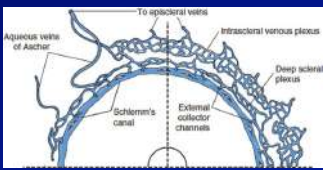
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Inflow versus Outflow

What is glaucoma?

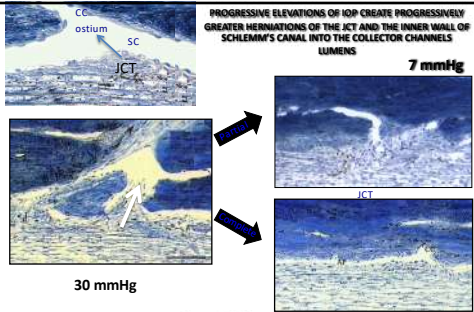
101

Aqueous Outflow Route?



Rekds, T.F., Chen, M., Gong, H. (2022). Aqueous Humor and the Dynamics of Its Flow: Mechanisms and Routes of Aqueous Humor Drainage. In: Albert, D.M., Miller, J.M., Aze, D.T., Young, L.H. (eds) *Albert and Jakobiec: Principles and Practice of Ophthalmology*. Springer, Cham. https://doi.org/10.1007/978-3-300-40634-7_163

102



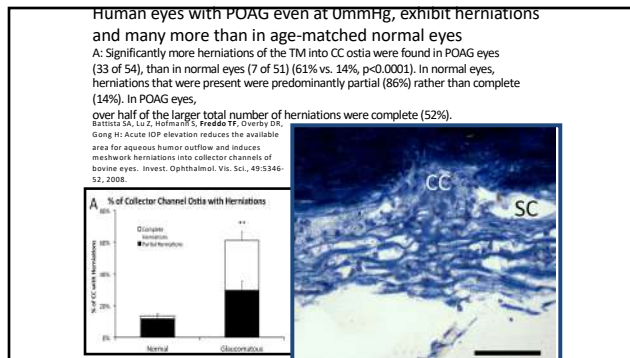
PROGRESSIVE ELEVATIONS OF IOP CREATE PROGRESSIVELY GREATER HERNIATIONS OF THE JCT AND THE INNER WALL OF SCHLEMM'S CANAL INTO THE COLLECTOR CHANNELS LUMENS

7 mmHg

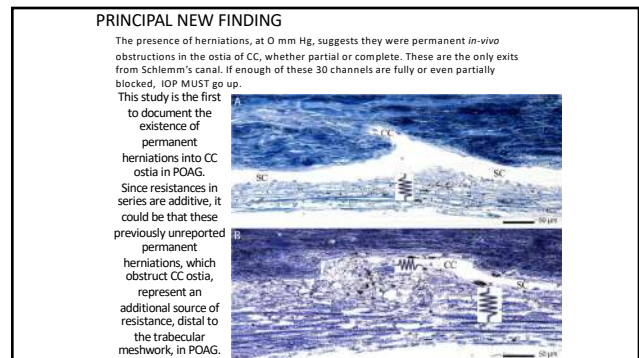
30 mmHg

The pressure-induced herniations observed at 30 mmHg were either partially or completely reversible after the IOP was decreased to 7 mmHg in enucleated bovine eyes. So, in normal eyes, these herniations slide in and out with regular rise and fall of IOP.

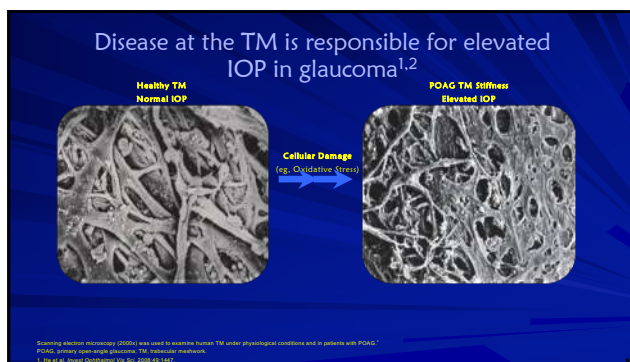
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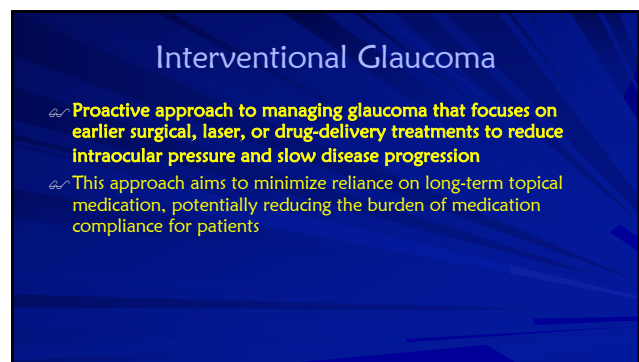
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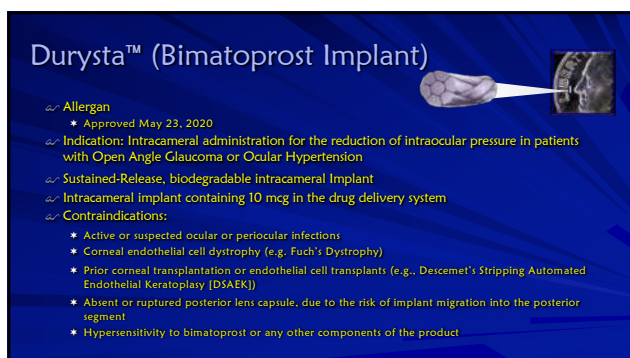
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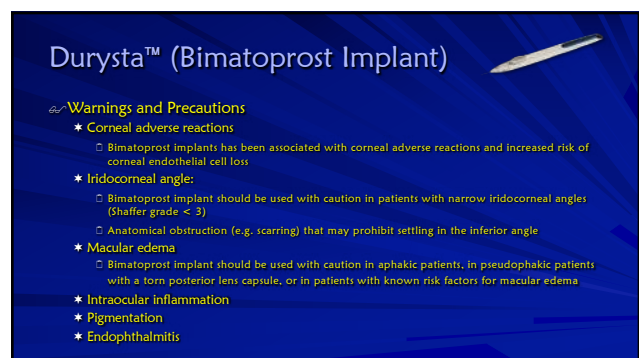
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Durysta™ (Bimatoprost Implant)

~ Dosage and Administration

- ★ Bimatoprost implant is an ophthalmic drug delivery system for a single intracameral administration of a biodegradable implant
- ★ Should not be readministered to an eye that received a prior bimatoprost implant
 - On label

~ Efficacy

- ★ Demonstrated in two Phase 3 studies
- ★ IOP reduction of approximately 5 - 8 mmHg
- ★ In patients with a mean baseline IOP of 24.5 mmHg

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iDose® TR (travoprost intracameral implant) 75 mcg

~ Glaukos

- ~ Indicated for the reduction of intraocular pressure (IOP) in patients with open-angle glaucoma (OAG) or ocular hypertension (OHT)
- ~ First of its kind, long duration, anchored intracameral procedural pharmaceutical therapy
- ~ Delivers continuous prostaglandin analog therapy directly into the anterior chamber to help with long-term IOP control with proven safety and patient tolerability
- ~ Biocompatible intracameral implant preloaded in a sterile, single-dose inserter
- ~ Anchored into scleral tissue to keep implant fixed and stable
- ~ In 2 pivotal trials, iDoseTR achieved endpoint to timolol at 3 months (inferiority)
- ~ 12 months 81% of iDoseTR patients were completely free of topical medications

111

iDose® TR (travoprost intracameral implant) 75 mcg

~ Most commonly reported ocular adverse reactions - 2% to 6%

- ★ Increases in intraocular pressure
- ★ Irritis
- ★ Dry eye
- ★ Visual field defects
- ★ Eye pain
- ★ Ocular hyperemia
- ~ No clinically significant endothelial cell loss
- ~ No periorbital fat atrophy
- ~ No serious corneal adverse events
- ~ No DSAEK
- ~ No DMEK

112

iDose® TR (travoprost intracameral implant) 75 mcg



113

iDose® TR (travoprost intracameral implant) 75 mcg



114

Lacrifill – Canalicular Plug Filler



- ~ Closure of Lacrimal Puncta using Lacrifill
- ~ Biodegradable tear duct filler for DED
 - ★ Fills the canaliculus with a soft-gel filler that gradually biodegrades over several months
 - ★ Increases tear volume and residence time on the ocular surface
 - ★ Provides sustained relief without permanent occlusion or foreign body sensation
- ~ FDA-cleared injectable alternative to traditional punctal plugs
- ~ Rapid symptom relief in evaporative and aqueous-deficient dry eye
- ~ Prefilled syringe containing sterile hyaluronic acid gel
- ~ Long-lasting (6 months), repeatable
- ~ Eliminates risk of loss, dislodgement, infection, irritation, rubbing
- ~ Removal – Irrigate

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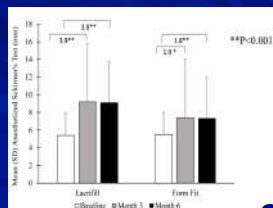
Lacrifill - Improved Schirmer and OSDI

At 3 months

- 63% increase in anesthetized Schirmer
- 56% improvement in OSDI

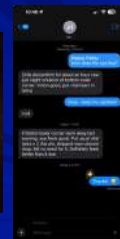
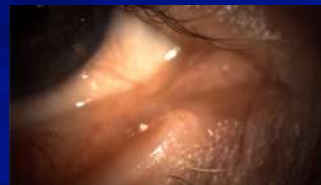
At 6 months

- 67% increase in anesthetized Schirmer
- 51% improvement in OSDI



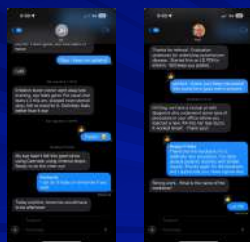
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Lacrifill - Easy Procedure



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Lacrifill - Feedback



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FAQ



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Questions and Thank You!

Latest Advances in Eye Care Technology

Innovations In Early Detection and Management!

Greg Caldwell, OD, FAAO

Optometric Education Consultants
Southwestern Optometric Society
September 22, 2026



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