



THE WILLIAM J. LAHNERS MEMORIAL SERIES

CE SARASOTA 2023



LEVERAGING THE LATEST AND GREATEST TECHNOLOGIES IN REFRACTIVE AND LENS-BASED SURGERY

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Financial Disclosures

- Key Opinion Leader (KOL) and Primary Investigator (PI) for J&J
- LensarKOL
- PI forRxSight

When implanting a presbyopia correcting IOL...

1

**Select the Right
Patients**

2

**Set the Right
Expectations**

3

**Minimize Post-Op
Refractive Error**

The Goal: Provide the highest quality and range of vision



THE HOW



- Provide the best contrast sensitivity
- Provide the greatest range of vision
- Provide the least amount of image degradation or dysphotopsias





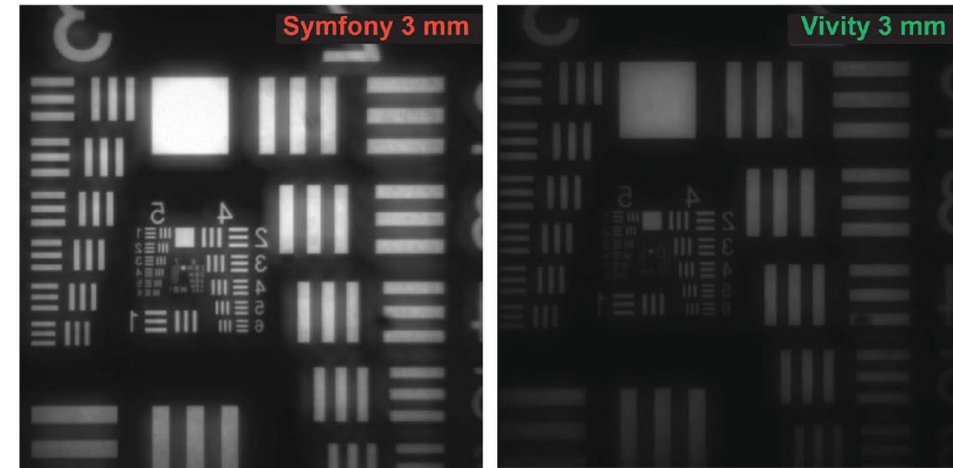
What is contrast sensitivity?

Contrast sensitivity is **the ability to distinguish between an object and the background behind it.**¹

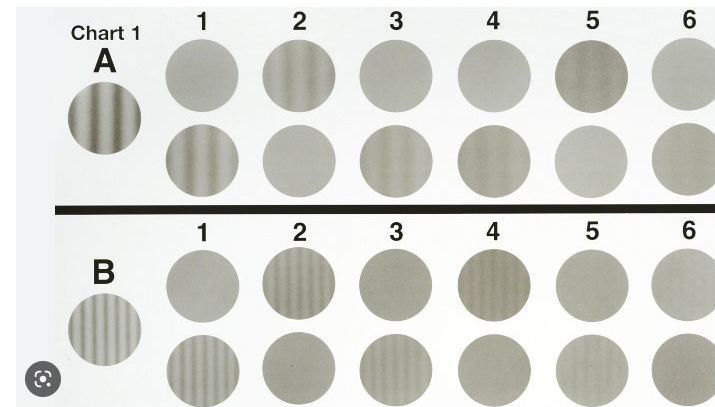
It's an essential part of visual function and is needed for everyday activities.¹

Contrast sensitivity often declines earlier in life than visual acuity.¹

Patients may have reduced contrast sensitivity and poor quality of vision while their visual acuity remains normal²



USAF target testing³



Vision Contrast Test System (VCTS)

1. REF2023CT4012

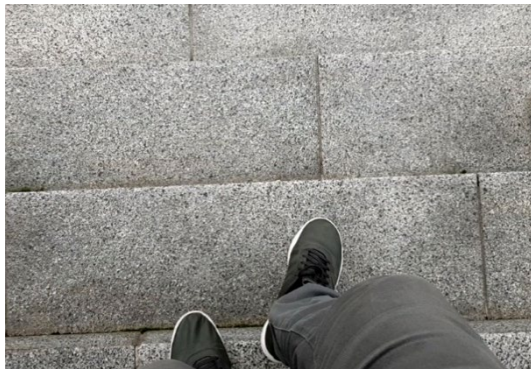
2. REF2023CT4013

3. Rüdiger Schmid, MD, Holger Luedtke, PhD, and Andreas F. Borkenstein, MD. Enhanced Depth-of-Focus Intraocular Lenses: Latest Wavefront-shaped Optics versus Diffractive Optics



Poor contrast can...

Increase the risk of slips and falls¹



Reduce the ability to drive at night²



Leading to less activity³



Impacting physical and mental health³

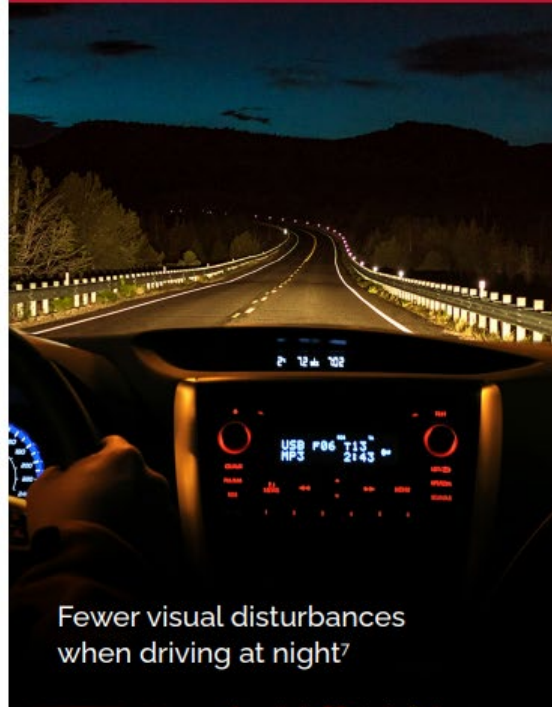


1. REF2022OTH4679, Lord, SL. Visual risk factors for falls in older people. Age and Ageing, 2006. 35-S2: ii42-ii4
2. Brabyn J. A., Schneck M. E., Lott L. A., Haegerström-Portnoy G. (2005). Night driving self-restriction: vision function and gender differences. Optom. Vis. Sci. 82: 755-764. 10.1097/01.opx.0000174723.64798.2b
3. Kuspinar A, Verschoor CP, et al. Modifiable factors related to life-space mobility in community-dwelling older adults: results from the Canadian longitudinal study on aging. BMC Geriatrics, 20:35; 2020.

InteliLight™ is a triad
of technologies to
deliver best contrast*
and low light
performance across
presbyopia correcting
IOLs**7-10

Violet-Light Filter

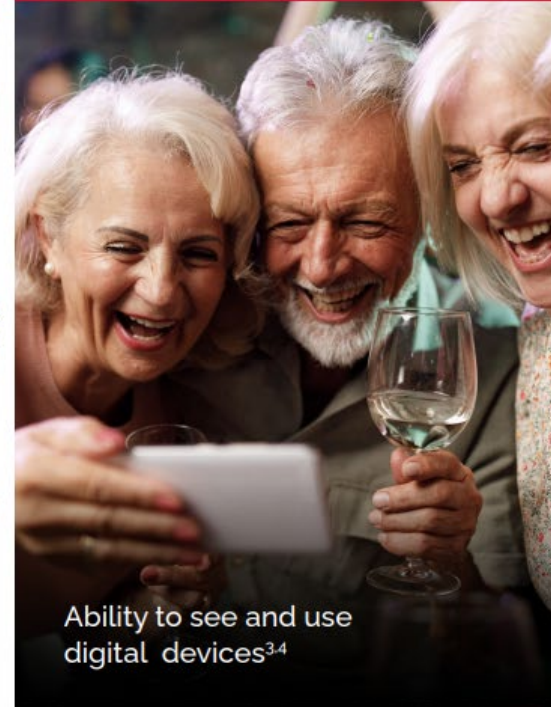
Designed to mitigate halo, glare,
and starburst^{1,2}



Fewer visual disturbances
when driving at night⁷

Echelette Design

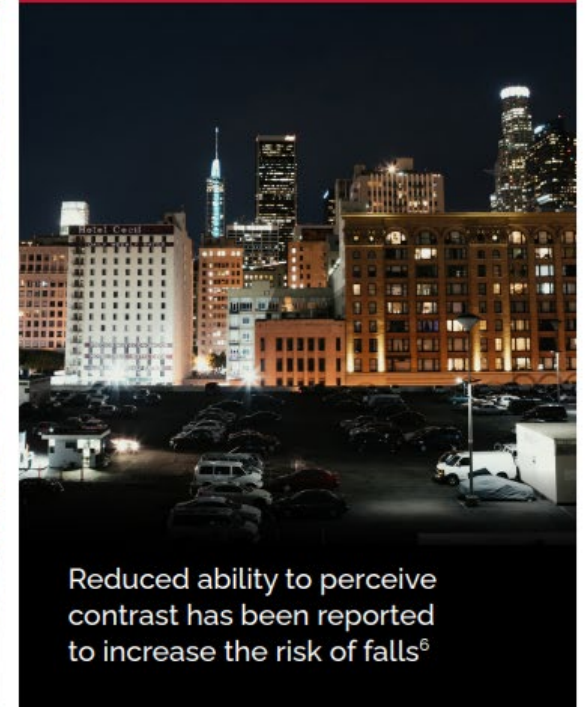
Helps reduce light scatter
and halo intensity^{3,4}



Ability to see and use
digital devices^{3,4}

Achromatic Technology

Corrects chromatic aberration for
better contrast day and night^{5,6}



Reduced ability to perceive
contrast has been reported
to increase the risk of falls⁶

*• TECNIS Symfony™ OptiBlue™ IOL vs. AcrySof ReSTOR +2.5 D IOL and AcrySof IQ Vivity IOL. TECNIS Synergy™ IOL vs. PanOptix IOL.

**• Considers IOLs that account for approximately 80% of the category value: AcrySof IQ Vivity IOL. and vs. PanOptix IOL.

•The third-party trademarks used herein are the trademarks of their respective owners

•1.Effect of blocking violet light in EDOF IOLs. JNJ ArvoAbstractMay 2020/Optical and visual performance of violet blocking IOL SC2019CT4025. 2. ARVO 2020_Effect of blocking violet light in extended depth of focus IOL: SC2019CT4056. 3. Mainster MA. Blue-blocking Intraocular Lenses: Myth or Reality? Am J Ophthalmol. 2009;1:8-10. REF2014CT0140 Blocks shortest wavelengths (p.1). 4. ARVO 2019_Optical and Visual performance of violet blocking IOL: SC2019CT4025.Fewer visual disturbances when driving at night7 5. REF2017CT0015.6. Szanton SL, Walker RK, Roberts L, Thorpe RJ, Jr., Wolff J et al. 2015. Older adults' favorite activities are resoundingly active: findings from the NHATS study. Geriatr Nurs 36 (2): 131-135 7. DOF2020CT4011: DOF Effect of blocking violet light on light scatter in TECNIS Symfony™ IOLs (v1.0). 8. DOF2020OTH4010 Johnson & Johnson Vision, Inc. Santa Ana, Calif. 9. DOF2015CT0020 Johnson & Johnson Vision, Inc. Santa Ana, Calif. 10. DOF2019OTH4002 – Weeber H. MTF of the TECNIS Synergy™ OptiBlue®, and other lens models. 27 Mar 2020.

Violet light filter designed to mitigate halo, glare and starburst^{1,2}

Violet-light filter blocks the shortest wavelengths of light that produce the most light scatter^{2,4}

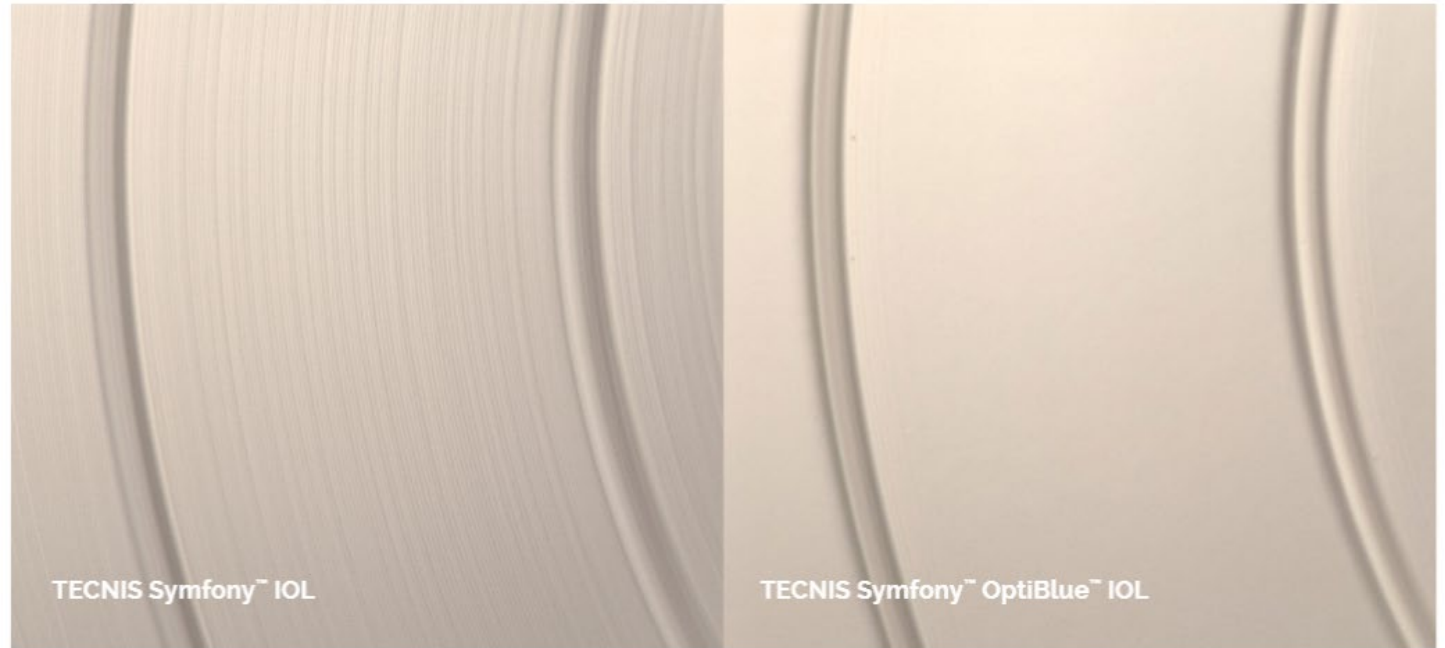


19%
improvement in
straylight performance
(based on AUC analysis of
the straylight parameter)⁵

9-13%
enhanced contrast under
challenging lighting conditions,
such as night driving⁵

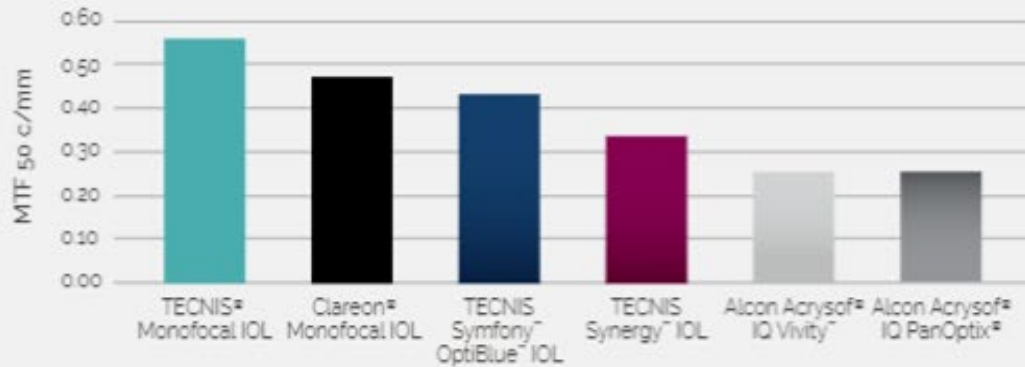
•1. Effect of blocking violet light in EDOF IOLs. JNJ ArvoAbstractMay 2020/Optical and visual performance of violet blocking IOL SC2019CT4025. 2 ARVO 2020_Effect of blocking violet light in extended depth of focus IOL: SC2019CT4056 3Mainster MA. Blue-blocking Intraocular Lenses: Myth or Reality? Am J Ophthalmol. 2009;1:8-10. REF2014CT0140 Blocks shortest wavelengths (p.1). 4ARVO 2019_Optical and Visual performance of violet blocking IOL: SC2019CT4025. 5. DOF2020CT4011: DOF Effect of blocking violet light on light scatter in Tecnis Symphony™ IOLs (v1.0).

Echelette
Design with
high-
resolution
lathing to help
reduce light
scatter and
halo
intensity^{*1,2}



- *Compared to lenses without this lathing process.
- Effect of blocking violet light in EDOF IOLs. JNJ ArvoAbstractMay 2020/Optical and visual performance of violet blocking IOL SC2019CT4025.
- 2. ARVO 2020_Effect of blocking violet light in extended depth of focus IOL: SC2019CT4056

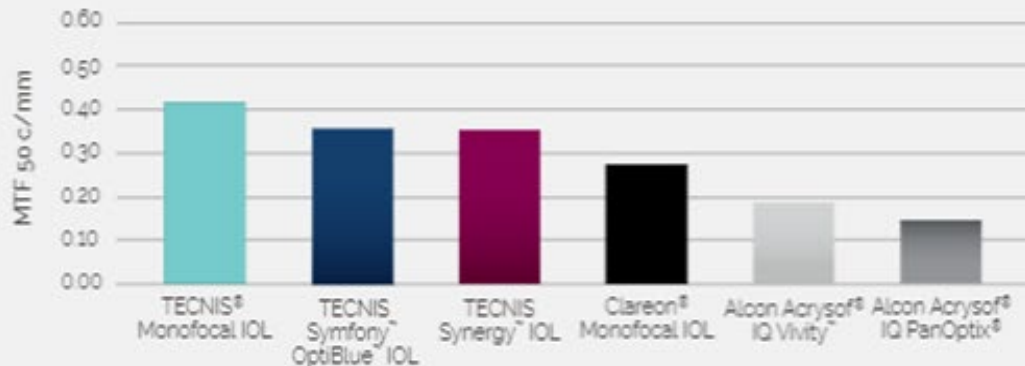
Achromatic Technology corrects chromatic aberration for better contrast day and night¹⁻⁶



TECNIS[®] Symphony[™] OptiBlue[™] IOL

1.7x

better image contrast in low light, than Acrysof[®] IQ Vivity^{™7}



TECNIS[®] Synergy[™] IOL

2x

better image contrast in low light vs. Acrysof[®] IQ PanOptix^{®-8}

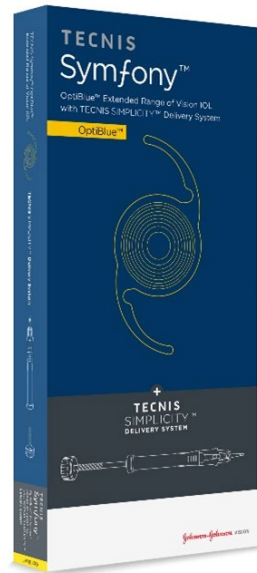
¹Based on bench testing 1. DOF2015CT0020 Johnson & Johnson Vision, Inc. Santa Ana, CA. 2. REF2017CT0015. 3. Data on file. DOF2018CT4007. Johnson & Johnson Vision, Inc. Santa Ana, CA. 4. DOF2015CT0023 – Weeber H. Chromatic aberration of the TECNIS[®] Symphony[™] IOL. Jul. 9, 2015. DOF2016CT0029 – Weeber H. Chromatic aberration of the TECNIS[®] Symphony[™] IOL. Oct. 5, 2016. 6. DOF2014CT0003 – Weeber H. Chromatic aberration of the TECNIS[®] Symphony[™] IOL. Aug. 11, 2014. 7. Data on file. DOF2020OTH4010 Johnson & Johnson Vision, Inc. Santa Ana, CA. 8. Data on File, Johnson & Johnson Surgical Vision, Inc. DOF2019OTH4002 - Weeber H. MTF of the TECNIS[®] Symphony[™] OptiBlue[™] IOL, and other lens models. 27 Mar 2019. 9. Norrby S, Piers P, Campbell C, van der Mooren M. "Model eyes for evaluation of intraocular lenses." Appl Opt. 2007 Sep 10;46(26):6595-605.

All IOLs were measured in a similar manner using the Average Cornea Eye (ACE) model, white light, a 3mm and a 5 mm aperture, best-focussed for a 3mm pupil and at 50 c/mm. The ACE model is designed to simulate the spherical and chromatic aberration of an average natural human cornea⁹.



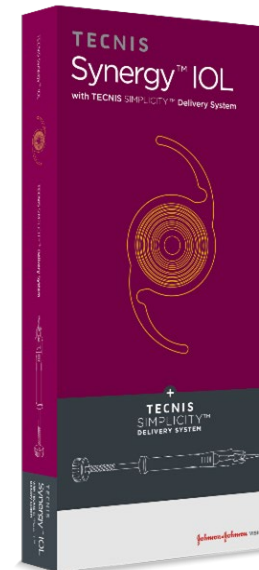
InteliLight™ Portfolio: two complementary lens technologies to address every patient's needs

Best contrast* and low light performance across the PC IOL category2,3,5**



ALL-PURPOSE EDOF

- For patients prioritizing functional vision at every distance^{1,2}
- High tolerance with minimized dysphotopsias^{§1,2}



HIGH PERFORMANCE HYBRID

- For patients prioritizing spectacle independence^{†10}
- Widest range[‡] of continuous vision^{***} with best near^{‡7}

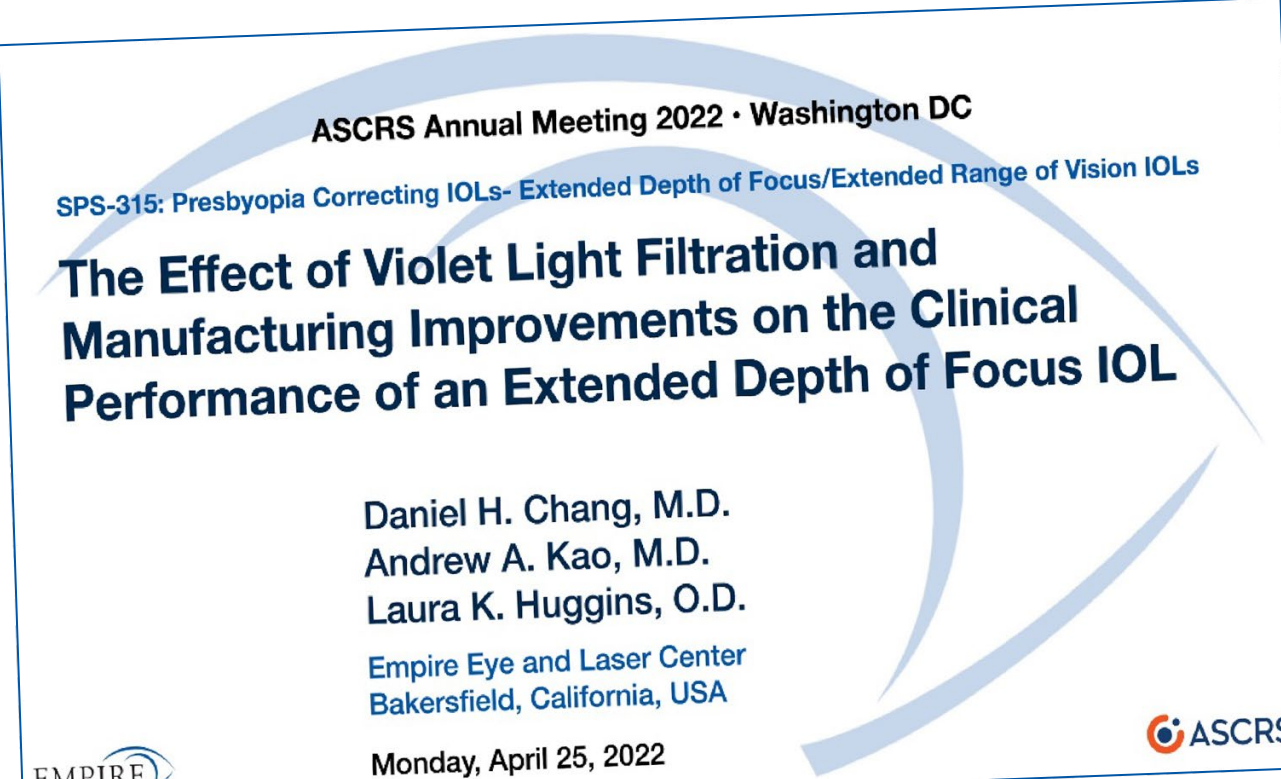
Built on the proven TECNIS® platform

*TECNIS Symphony™ OptiBlue™ IOL vs. AcrySof ReSTOR +2.5 D IOL and AcrySof IQ Vivify. TECNIS Synergy™ IOL vs. PanOptix IOL. **Considers IOLs that account for approximately 80% of the category value: AcrySof IQ Vivify IOL. and vs. PanOptix IOL. The third-party trademarks used herein are the trademarks of their respective owners *** Continuous 20/32 or better § vs TECNIS Symphony™ IOL †Based on interim data collected at 6 months post operative, 92% of subjects did not wear glasses. ‡ vs. Acrysof IQ PanOptix IOL, TECNIS Symphony™ IOL, TECNIS® Multifocal IOL. Based on comparison of DFU defocus curves and a head-to-head clinical study vs. PanOptix. 1. Data on file. DOF2020OTH4010 Johnson & Johnson Vision, Inc. Santa Ana, Calif. 2. Data on file. DOF2020OTH4011 Johnson & Johnson Vision, Inc. Santa Ana, Calif. Data on file. 3. DOF2015CT0020 Johnson & Johnson Vision, Inc. Santa Ana, Calif. 4. DOF2019OTH4002 – Weeber H. MTF of the TECNIS Synergy™ OptiBlue®, and other lens models. 27 Mar 2020. 5. DFU, TECNIS SYMPHONY™ OPTIBLUE® IOL Z311558, RevA. 7. TECNIS Synergy™ IOL with TECNIS Simplicity® Delivery System DFU, Z311421E 10. DOF2020CT4015 - Forte 1: A Comparative Clinical Evaluation of a New TECNIS® Presbyopia-Correcting Intraocular Lens Against a PanOptix® Intraocular Lens- SPECTACLE WEAR AND SATISFACTION RESULTS.



InteliLight[®] results seen in clinical performance

- Up to **45% reduction** in dysphotopsias complaints¹
- Up to **72% reduction** in post-operative counseling needed in regard to dysphotopsias¹
- No significant differences in VA and MRx, in spite more p-LVC eyes¹



ASCRS Annual Meeting 2022 • Washington DC



SPS-315: Presbyopia Correcting IOLs- Extended Depth of Focus/Extended Range of Vision IOLs

The Effect of Violet Light Filtration and Manufacturing Improvements on the Clinical Performance of an Extended Depth of Focus IOL

Daniel H. Chang, M.D.
Andrew A. Kao, M.D.
Laura K. Huggins, O.D.

Empire Eye and Laser Center
Bakersfield, California, USA

Monday, April 25, 2022

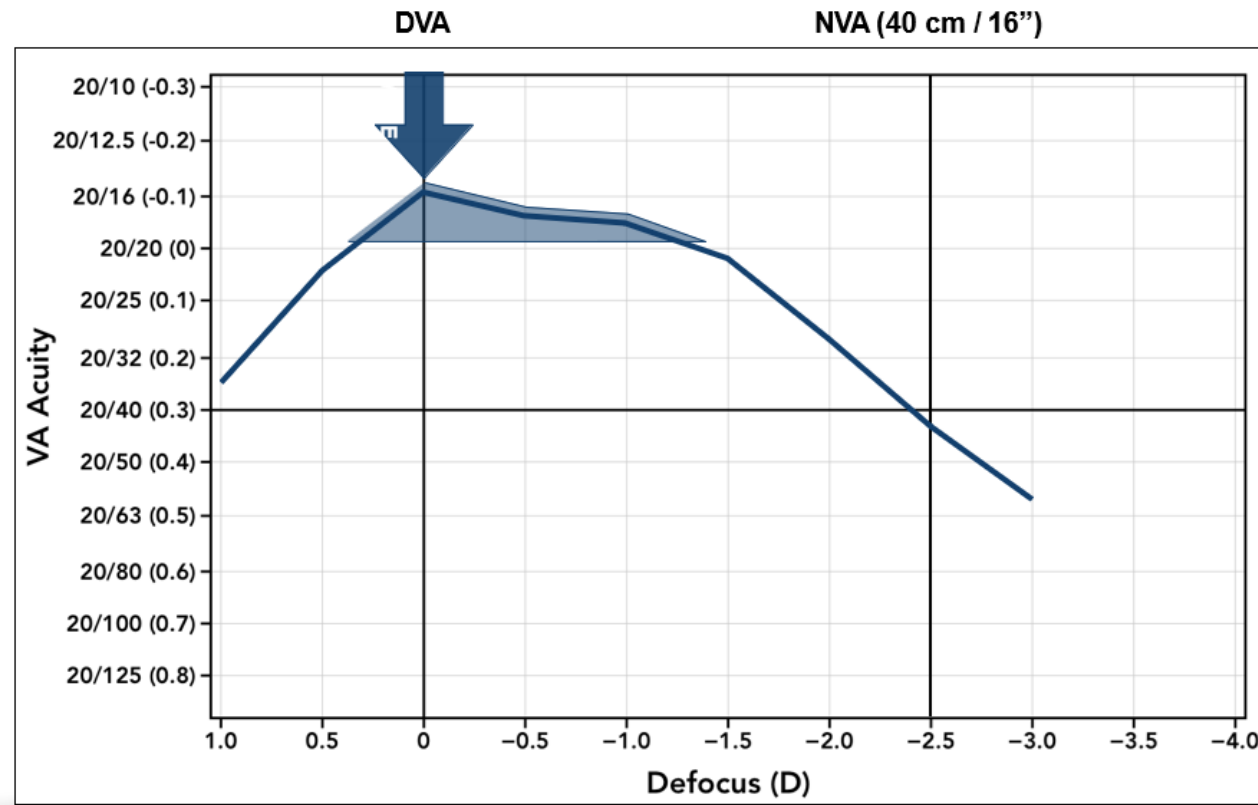
 

TECNIS Symphony™ OptiBlue™ - All-purpose EDOF IOL



Target refractive landing plano to first minus spherical equivalent

Aiming Emmetropia

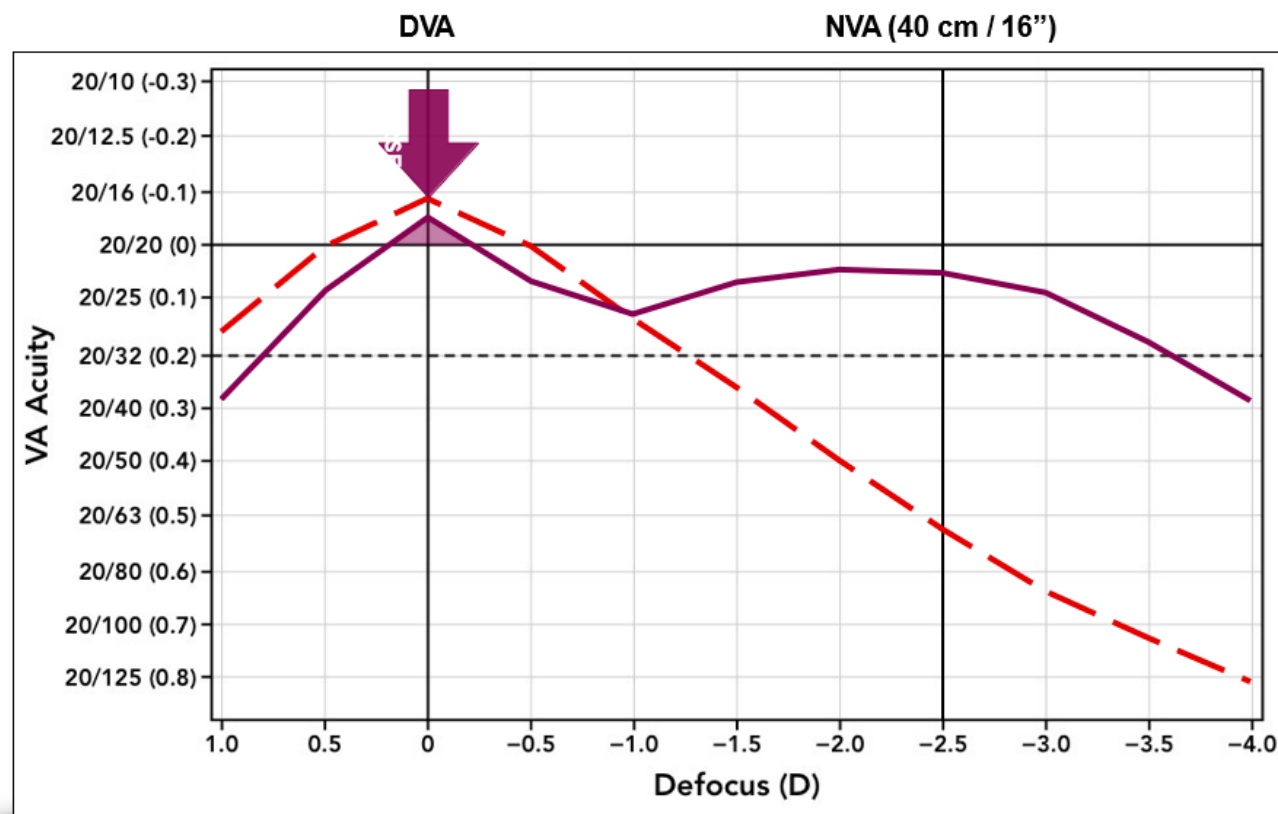


MRSE: plano
UDVA: 20/16
UNVA: 20/40

TECNIS Synergy™ - High-performance Hybrid EDOF/Multifocal IOL

Target refractive landing plano to first plus spherical equivalent

Aiming Emmetropia



MRSE: plano
UDVA:
20/20+
UNVA:

ZFR00V

ZCB0
0

Studies at CFS



Synergy – Synergy Study

Retrospective IIT (N= 52)

We were the 1st US site
to implant the Synergy

Pending publication



Symfony – Synergy Study

Prospective IIT (N= 40)

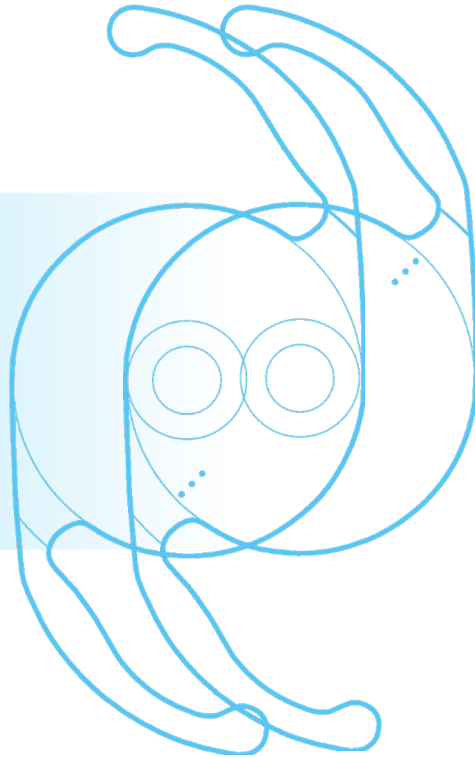
One of the leaders of this
“tailored” approach

Recruitment for study completed

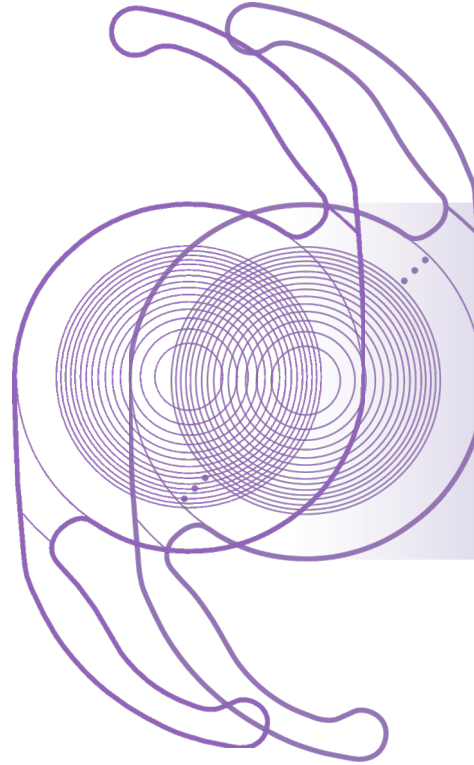
THE CLAREON[®] COLLECTION INCLUDES PCIOLS DEDICATED TO SHARP, CRISP VISION

2,3

Vivity[®] and
Vivity[®] Toric



PanOptix[®] and
PanOptix[®] Toric



Alcon

The Clareon® Collection



EXCEPTIONAL CLARITY THAT
LASTS WITH CLAREON®*

EXPAND VISUAL
POSSIBILITIES WITH
VIVITY^o

SEE THINGS DIFFERENTLY
WITH PANOPTIX®

Hydrophobic acrylic Biomaterial
for a truly pristine IOL^{2,3}

Delivers a propriety precision
edge designed to help reduce
PCO and glare^{2,4}

Designed for exceptional axial
and refractive stability^{5,6}

Aspheric IOL design for
increased depth of focus

Monofocal-quality distance with
excellent intermediate and
functional near vision^{19†}

Non-diffractive X-WAVE^o
Technology that stretches and
shifts light without splitting it²⁰

20/20 near, intermediate,
and distance vision is
now possible^{16*†}

Proprietary Enlighten®
Optical Technology

99.2% of patients would
have had the same lens
implanted again^{16‡}

* Defined as Modified Miyata grade 0, <25mv/mm² over 3 years (n=138), and over 9 years (n=20), respectively.

† Results from a prospective, randomized, parallel group, subject and assessor-masked, multisite trial of 107 subjects bilaterally implanted with the AcrySof® IQ Vivity^o Extended Vision IOL and 113 with the AcrySof® IQ IOL with 6 months follow-up.

† Snellen VA was converted from logMAR VA. A Snellen notation of 20/20 -2 or better indicates a logMAR VA of 0.04 or better, which means 3 or more of the 5 Early Treatment Diabetic Retinopathy Study chart letters in the line were identified correctly.

‡ Response to the following question on IOLSAT questionnaire (Version 1.0, December 20, 2018) at 6 months post-op: "Given your vision today, if you had to do it all over, would you have the same lenses implanted again?"

CENTER FOR SIGHT

 A US EYE COMPANY

INTRODUCING THE LIGHT ADJUSTABLE LENS ("LAL")



The World's First **Adjustable** Intraocular Lens

Delivers outstanding
clinical outcomes for
cataract patients

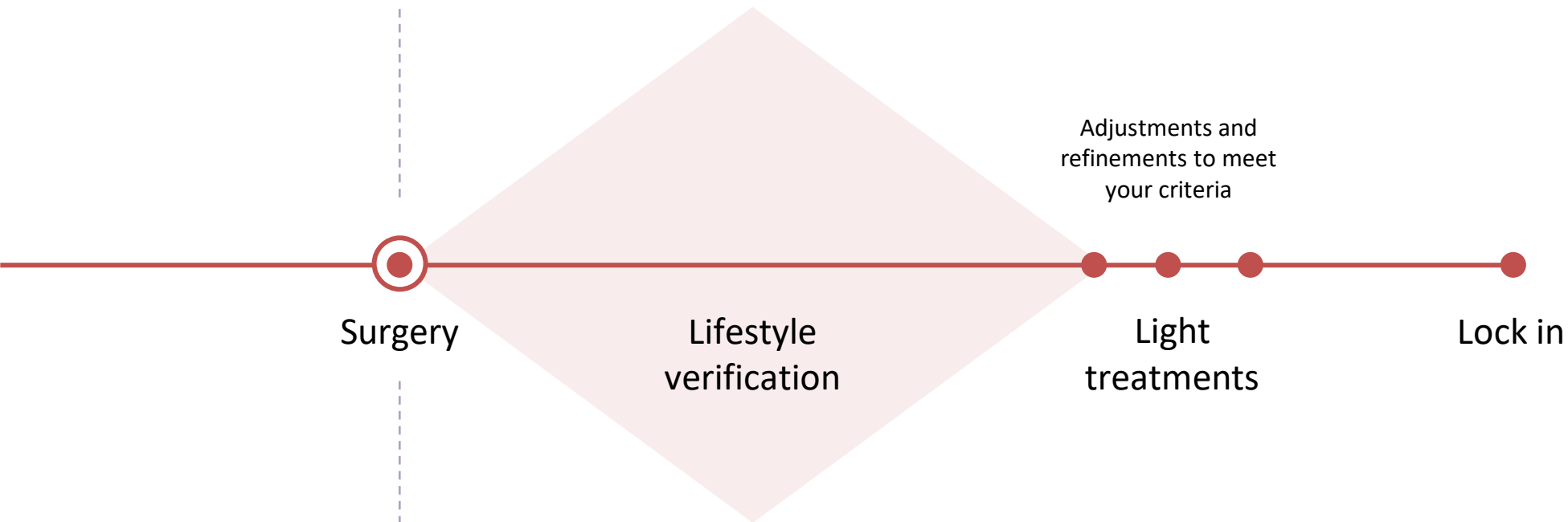
Utilizes built-in
ActivShield UV protection
to reduce the concern of
patient compliance



Premium customized
blended vision with
glare/halo profile of
monofocal lens

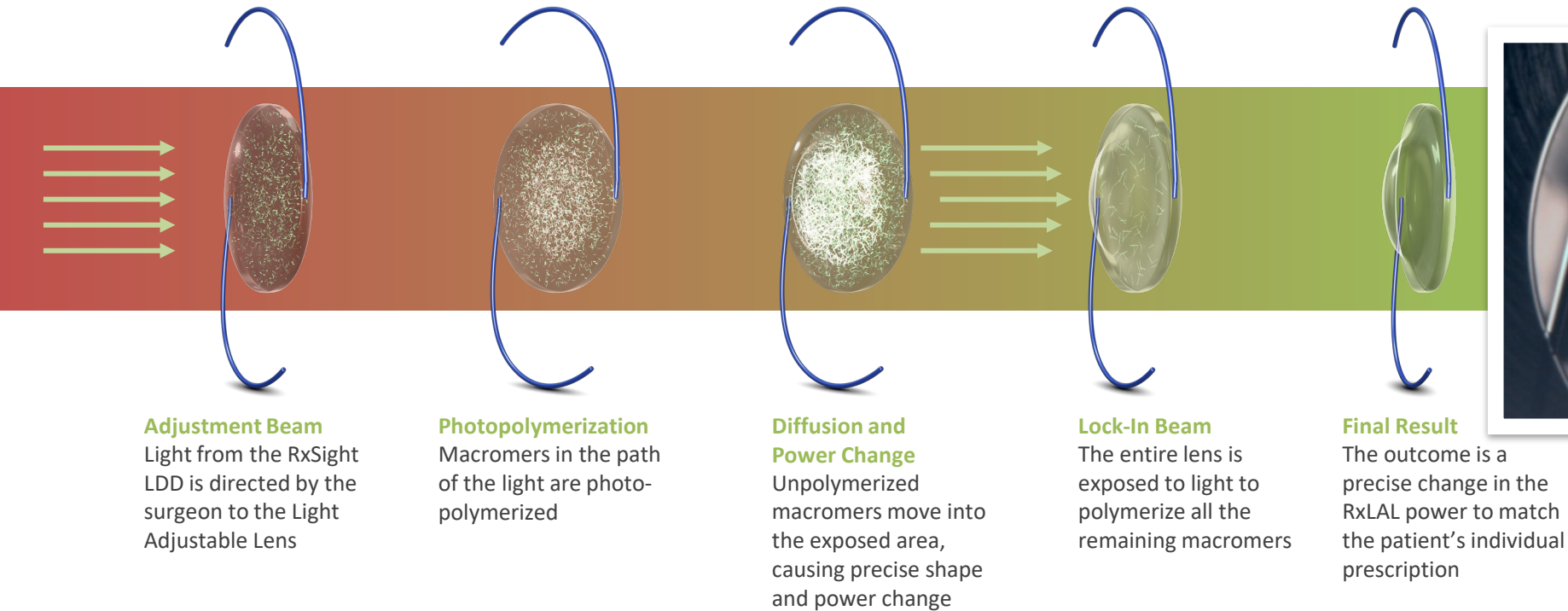
ABETTER WAY TO DELIVER PREMIUM CATARACT SURGERY

Post-Operative Adjustment, LASIK-Level Precision





Light Treatment After LAL Implantation



Light treatments are painless, non-invasive, and take approximately 90 seconds

Initial Light Treatment

At least 17 days after
surgery

Secondary Light Treatment

At least 3 days after initial light
treatment

Additional Light Treatments

If required. At least 3 days
after each prior light
treatment

Every patient can be upgraded to LAL



Patients who want the best quality of vision



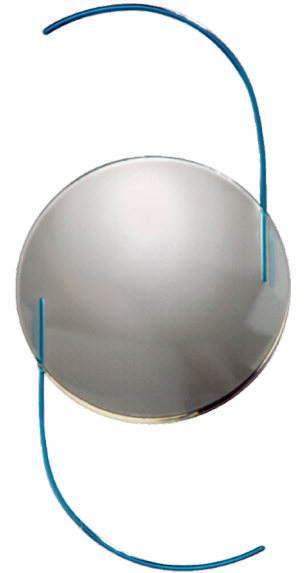
Toric patients become "Custom Toric"



Patients who want vision at all distances



Post-LASIK/PRK/RK patients





OTHER CONSIDERATIONS FOR LAL

- TYPE A PERSONALITIES
- IDEAL FOR PREVIOUS MYOPIA PATIENTS
- RETINA, GLAUCOMA, OPTIC NERVE, OR OTHER CORNEAL PATHOLOGIES WHO WANT THE BEST POSSIBLE VISION



PRIYA M. MATHEWS, M.D., MPH
Director of Cornea and Ocular Surface Disease
Cataract, LASIK & Corneal Surgeon

Financial Disclosures

- SUN Pharmaceuticals
- Johnson & Johnson Vision
- Alcon
- Dompé
- W.L. Gore Inc.
- Oculus Biologics



Case 1

- 72 year old male with no significant ocular history presenting with cataracts
 - Currently wearing reading glasses only
- Goals:
 - Perfect vision for distance
 - Perfect vision for computer
 - Perfect vision for near
- Mr. R—what was your profession?
 - “Electrical engineer” → Red flag

Case 1

- Options for this Patient
 - Basic: glasses for all focal points
 - Custom: clear distance vision, wear reading glasses
 - Advanced: not a great candidate for MFIOL
 - LAL: ability to make post-operative adjustments, minimal impact on contrast sensitivity, no glare/haloes



Case 1 – LAL

- Sequential surgery Nov 2022
 - Seen by comanaging OD on POD1 and POW2
 - POW 3 appt with surgeon
 - PCO OU → YAG performed
 - Weekly LDD adjustments for 4 weeks
 - Final lock-in treatment mid Dec 2022
 - Final result
 - OD (nondominant eye): 20/40 distance, J1 near
 - OS (dominant eye): 20/15 distance, J10 near
-

Case 2



- 66 year old female with history of LASIK presenting with cataracts
- Currently wearing glasses for distance and near: “My LASIK wore off”
- Goals:
 - Excellent distance vision
 - OK with wearing cheaters if she has to

Case 2



- Options for this patient:
 - Basic: glasses for everything
 - Custom: we will try to get you as best as possible for distance, but there is a chance you may need an enhancement
 - If you need an enhancement, have to wait at least 2 months after surgery
 - +/- YAG before LASIK enhancement
 - Advanced: only to look good without significant irregular astigmatism or HOAs
 - LAL: ability to treat the residual refractive error afterwards (which is more likely in post-LASIK)

Case 2

Right eye

PROCEDURE DETAILS

Procedure Subtype: Standard Phaco
Special Needs: None

SURGERY DAY

Date of surgery: 11/10/2022
Surgical Facility: Laser and Surgical Ser... LLC
Surgeon: Priya Mathews
Anesthesia: Topical

ASSOCIATED DIAGNOSES

Combined cataract, both eyes (H25813)

CONCERNS

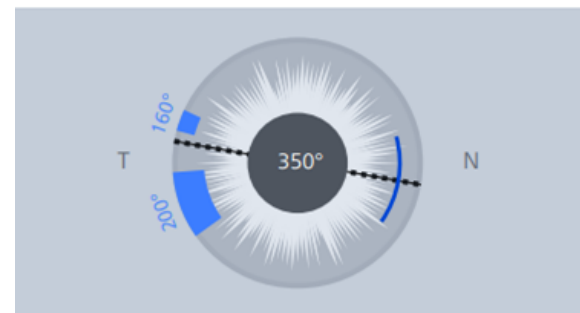
Diabetes: No
Keratoconus: No
Prior Refractive Surgery: LASIK or PRK - myopic
Medication concerns: None
Allergy concerns: Latex Allergy- No
Other concerns: None

COMMENT

N/A

OL Model:
OL Power:

RxSight LAL
+23.00 D



ARCULATE INCISIONS

#1: None
#2: 050° @ 350° (438 μm / 80% depth)

PRE-OP DATA

Pre-op refraction: +1.50 - 1.25 x 097° (20/20)
Anterior keratometry (IOLMaster 700): 0.43 @ 171°
Net astigmatism (D): 0.74 @ 170°
Average anterior corneal power: 42.50 D
Axial length: 23.91 mm
IOL power estimation formula used: Barrett True-K (no Rx)
Toric formula used: Barrett True-K Toric (no Rx)

TARGET

Target range: Intermediate
Target refraction: -1.00 D

PREDICTED OUTCOME

Predicted SE: -0.93 D
Predicted final refraction: -0.86 - 0.14 x 080°

Left eye

PROCEDURE DETAILS

Procedure Subtype: Standard Phaco
Special Needs: None

SURGERY DAY

Date of surgery: 11/03/2022
Surgical Facility: Laser and Surgical Ser... LLC
Surgeon: Priya Mathews
Anesthesia: Topical

ASSOCIATED DIAGNOSES

Established Combined Forms of Age-Related Cataract OS. (H25813)

CONCERNS

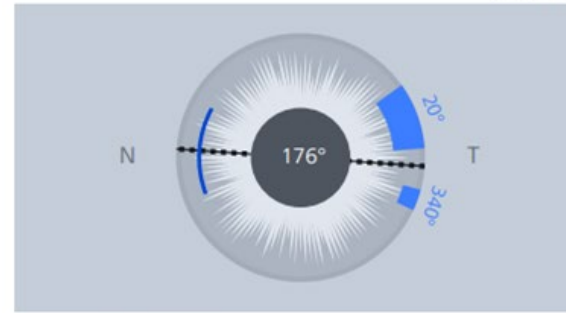
Diabetes: No
Keratoconus: No
Prior Refractive Surgery: LASIK or PRK - myopic
Medication concerns: None
Allergy concerns: Latex Allergy- No
Other concerns: None

COMMENT

N/A

IOL Model:
IOL Power:

RxSight LAL
+23.00 D



ARCULATE INCISIONS

#1: 050° @ 176° (444 μm / 80% depth)
#2: None

PRE-OP DATA

Pre-op refraction: +2.25 - 1.75 x 088° (20/20)
Anterior keratometry (IOLMaster 700): 1.39 @ 177°
Net astigmatism (D): 1.64 @ 176°
Average anterior corneal power: 41.30 D
Axial length: 24.03 mm
IOL power estimation formula used: Barrett True-K (no Rx)
Toric formula used: Barrett True-K Toric (no Rx)

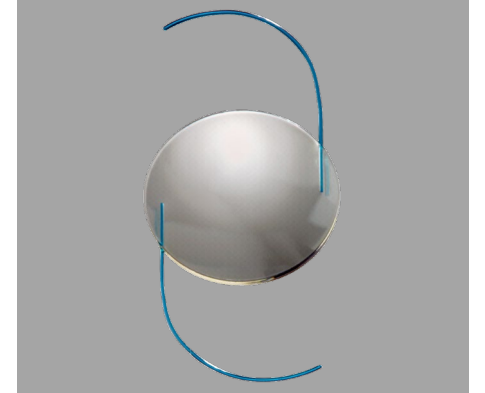
TARGET

Target range: Distance
Target refraction: 0.00 D

PREDICTED OUTCOME

Predicted SE: -0.09 D
Predicted final refraction: +0.33 - 0.84 x 086°

Case 2



- Cataract surgery OU (1 day apart)
- First LDD adjustment 3 weeks later
 - Total of 5 LDD adjustments (3 treatments, 2 lockins)
- Final result:
 - OD (dominant): 20/15 distance, J8 near
 - OS (nondominant): 20/50 distance, J1+ near
- Patient was thrilled with the results



Case 3



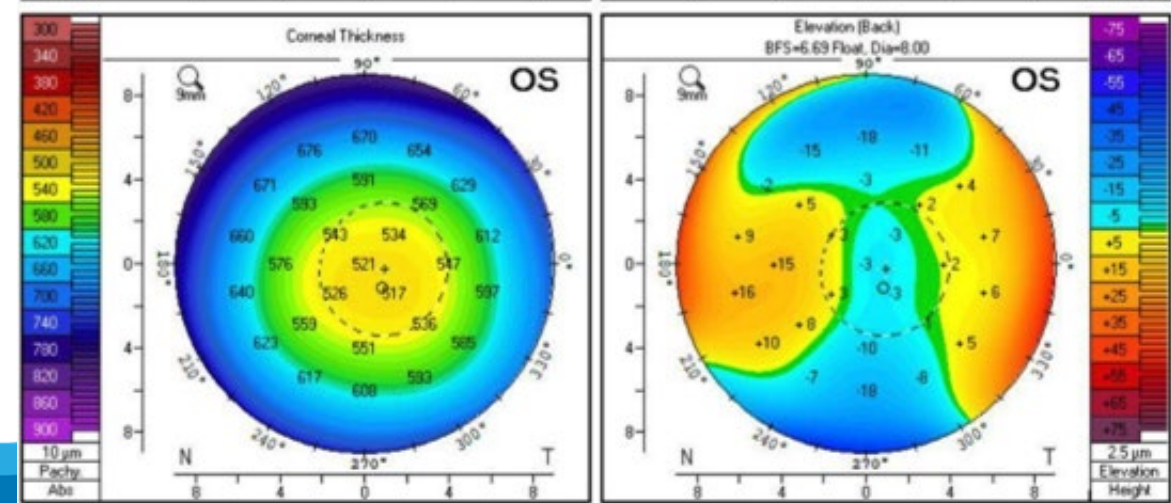
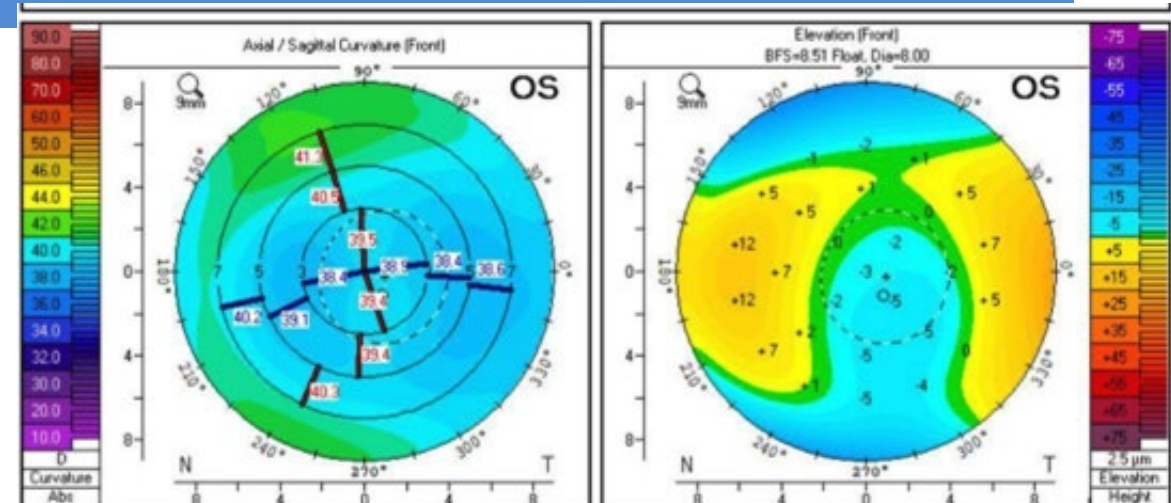
OD

OS

MRx -0.75 -0.50 x 180 → 20/25 -1.25 sph → 20/25

BAT 20/50 20/50

- 52 year old female presenting for cataract surgery
 - “I had LASIK and loved it. But it wore off, and I’m having a lot of trouble seeing now, especially at nighttime.
 - Now I want the same perfect vision both distance and near!”
- POH:PRK OU x 2



Case 3

- Patient desires spectacle independence
- Most important activities to the patient:
 - Driving, biking, computer, cellphone
 - Not too much reading
- Surgical plan?
 - 1. Try monovision with CL
 - 2. If monovision trial is unsuccessful, plan for MFIOL OU
 - Dominant eye –Symfony Optiblu
 - Nondominant eye –Symfony vs Synergy depending on postop near vision OD



Case 3 - IOL Selection – Barrett True K

YE

BARRETT TRUE K FORMULA - FOR PRIOR MYOPIC OR HYPEROPIC LASIK/PRK/RK + KC

Patient Data: Universal Formula Formula Grade K INDEX 1.3375 K INDEX 1.332

Surgeon: MATHEWS Date: 18/06/2022 Patient: [REDACTED]

Right Eye (OD): TRUE K 38.79 Myopic Lask -5.02 D Left Eye (OS): TRUE K 38.38 Myopic Lask -5.22 D

Axial length: 25.35 Keratometry: K1: 39.09 K2: 38.70 ACD: 3.32 Axial length: 25.48 Keratometry: K1: 38.67 K2: 39.35 ACD: 3.32

Recommended IOL: 22.25 (Biconvex) for Target Refraction: 0 Recommended IOL: 22.42 (Biconvex) for Target Refraction: 0

Lens Factor: 2.29 A Constant: 119.3 WTW: 12.7 Lens Thickness: 4.02 Lens Factor: 2.28 A Constant: 119.3 WTW: 12.7 Lens Thickness: 4.09

Personal Constant			Predicted PCA			Predicted PCA		
IOL Power	Optic	Refraction	IOL Power	Optic	Refraction	IOL Power	Optic	Refraction
24	Biconvex	-1.28	24	Biconvex	-1.16			
23.5	Biconvex	-0.91	23.5	Biconvex	-0.79			
23	Biconvex	-0.54	23	Biconvex	-0.42			
22.5	Biconvex	-0.18	22.5	Biconvex	-0.06 ✓			
22	Biconvex	0.18	22	Biconvex	0.3			
21.5	Biconvex	0.53	21.5	Biconvex	0.65			
21	Biconvex	0.88	21	Biconvex	1			

0.75 @ 0.79
0.49 @ 0.83
0.80 @ 0.84

5/13 10LM Barrett TK True K 22.0 → -0.04
Barrett True K 22.0 → +0.16

6/17 10LM Barrett TK True K 22.0 → -0.09
Barrett True K 22.0 → +0.19

5/13 10LM Barrett True K 22.5 → -0.18
Barrett True K TK 22.0 → -0.21
21.5 → +0.14

6/17 10LM Barrett True K 22.5 → -0.06
Barrett True K TK 22.0 → +0.29
22.0 → -0.05

Synergy
Synergy
22.0 or
22.5

Case 3

Outcome:

- OD: 20/15 distance, J8 near
- OS: 20/20 distance, J1 near
- OU: 20/15 distance, J1 near

Pearls for Success

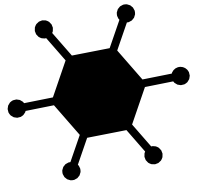
- 'Mix and match' works best for a vast majority of patients who want both excellent distance and near vision
- Symphony Optiblue in the dominant eye
 - Better lens to use when 'the stakes are high'
- Synergy in the nondominant eye
 - Best reading vision possible
 - Synergy in one eye is sufficient for most people





Case 4


- 65 year old female with history of HZV OS presenting for cataract surgery OU
- Slit lamp examination:
 - Stromal scar OS in the mid periphery, but all else normal
- Wants to be as glasses free as possible




OCULUS - PENTACAM 4 Maps Refractive

1.25x15

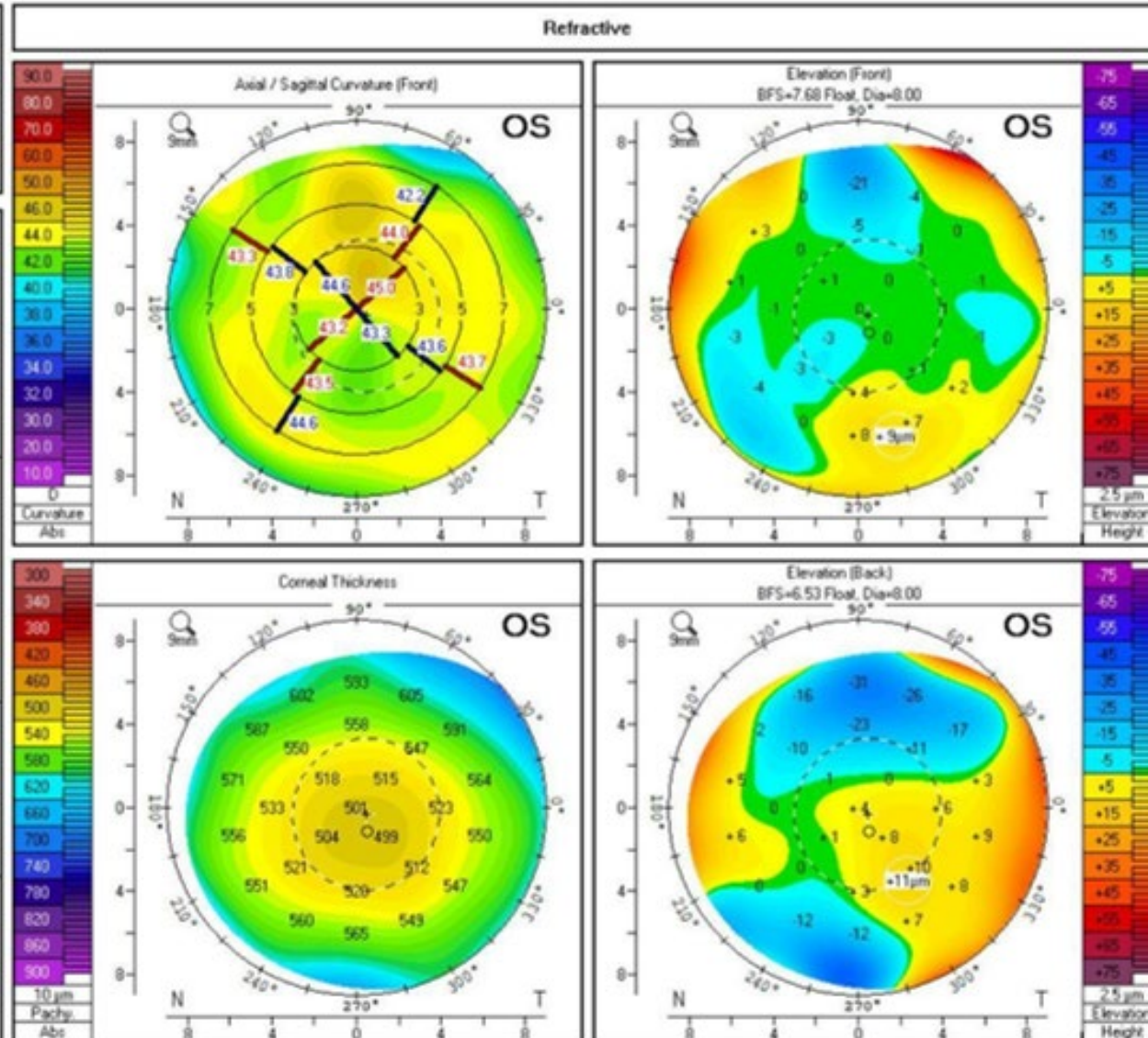
Last Name: XXXXXXXXXX
 First Name: XXXXXXXXXX
 ID: XXXXXXXXXX
 Date of Birth: XXXXXXXXXX
 Exam Date: XXXXXXXXXX
 Exam Info: XXXXXXXXXX

Cornea Front

 Rt: 7.68 mm K1: 43.9 D
 Ri: 7.59 mm K2: 44.5 D
 Rm: 7.64 mm Km: 44.2 D
 QS: ☒ OK Axis: 57.1° Astig: 0.5 D
 Q-val: 0.47 Rper: 7.94 mm Rmin: 7.22 mm

Cornea Back

 Rt: 6.50 mm K1: 4.1 D
 Ri: 6.24 mm K2: 6.4 D
 Rm: 6.37 mm Km: 6.3 D
 QS: ☒ OK Axis: 76.5° Astig: 0.3 D
 Q-val: 0.52 Rper: 6.73 mm Rmin: 6.02 mm


Pupil Center: + 499 μm x(mm): +0.23 y(mm): -0.17
 Pachy Vertex N.: - 501 μm 0.00 0.00
 Thinnest Locat.: O 498 μm +0.25 -0.56
 K Max (Front): - 45.8 D +0.25 +0.87

Cornea Volume: 54.3 mm³ HWTW: 11.9 mm
 Chamber Volume: 118 mm³ Angle: 22.4°
 A. C. Depth (Int.): 2.49 mm Pupil Dia: 3.55 mm
 Enter IOP: IOP(corr): Lens Th:





Case 4

- 
- Options for this patient:
 - Basic: glasses for everything
 - Custom: we will try to get you as best as possible for distance
 - No guarantee of perfection in the left eye
 - LASIK enhancement is a relative contraindication in patients with history of HSV
 - Advanced: better candidate for EDOF >> Trifocal/MFIOL
 - HSV is a relative contraindication for LAL





AcrySof® IQ Vivity™ | Extended Vision IOL
Toric Extended Vision IOL

Right eye

PROCEDURE DETAILS

Procedure Subtype: Standard Phaco
Special Needs: None

ASSOCIATED DIAGNOSES

Combined cataract, both eyes (H25813)

CONCERNS

Diabetes: No
Keratoconus: No
Prior Refractive Surgery: No
Medication concerns: None
Allergy concerns: Iodine Allergy- No, Latex Allergy- No
Other concerns: None



IOL Model:
IOL Power:

Clareon Vivity CCWETO
+23.50 D

PRE-OP DATA

Pre-op refraction: +0.25 - 0.50 x 090° (20/20)
Anterior keratometry (IOLMaster 700): 0.58 @ 006°
Net astigmatism (D): 0.90 @ 000°
Average anterior corneal power: 43.03 D
Axial length: 23.13 mm
IOL power estimation formula used: Barrett Universal II
Toric formula used: Barrett Toric

TARGET

Target range: Distance
Target refraction: 0.00 D

PREDICTED OUTCOME

Predicted SE: -0.15 D
Predicted final refraction: -0.06 - 0.19 x 090°

ARCUATE INCISIONS

#1: 050° @ 000° (397 µm / 80% depth)
#2: None

Left eye

PROCEDURE DETAILS

Procedure Subtype: Standard Phaco
Special Needs: None

SURGERY DAY

Date of surgery: 01/12/2023
Surgical Facility: Laser and Surgical Ser... LLC
Surgeon: Priya Mathews
Anesthesia: Topical

ASSOCIATED DIAGNOSES

Combined cataract, both eyes (H25813)
Combined cataract, left eye (H25812)

CONCERNS

Diabetes: No
Keratoconus: No
Prior Refractive Surgery: No
Medication concerns: None
Allergy concerns: Iodine Allergy- No, Latex Allergy- No
Other concerns: None

COMMENT

N/A

IOL Model:
IOL Power:

Clareon Vivity CCWETO
+23.50 D

PRE-OP DATA

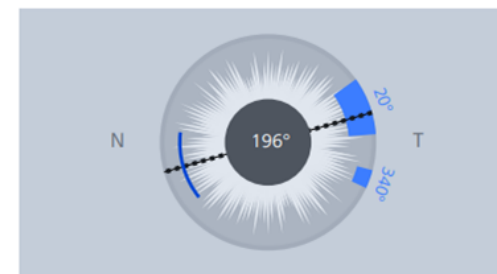
Pre-op refraction: +1.75 - 0.75 x 100° (20/40)
Anterior keratometry (IOLMaster 700): 0.43 @ 041°
Net astigmatism (D): 0.49 @ 016°
Average anterior corneal power: 43.55 D
Axial length: 23.12 mm
IOL power estimation formula used: Barrett Universal II
Toric formula used: Barrett Toric

TARGET

Target range: Intermediate
Target refraction: -0.50 D

PREDICTED OUTCOME

Predicted SE: -0.51 D
Predicted final refraction: -0.51 sphere



ARCUATE INCISIONS

#1: 045° @ 196° (403 µm / 80% depth)
#2: None



Case 4

- **Final outcome:**
 - OD: 20/20 distance, J3 near
 - OS: 20/25 distance, J2 near
- **Patient is thrilled with her outcome – has “never seen so well with the left eye!”**
- ***Note: For any patient with history of HSV, please let the surgeon know so that they can start oral antiviral prophylaxis 2-3 days prior to surgery**

Thank you!





JOAQUIN O. DE ROJAS, M.D.
Director of Refractive Surgery
Cataract, LASIK & Corneal Surgeon

FINANCIAL DISCLOSURES

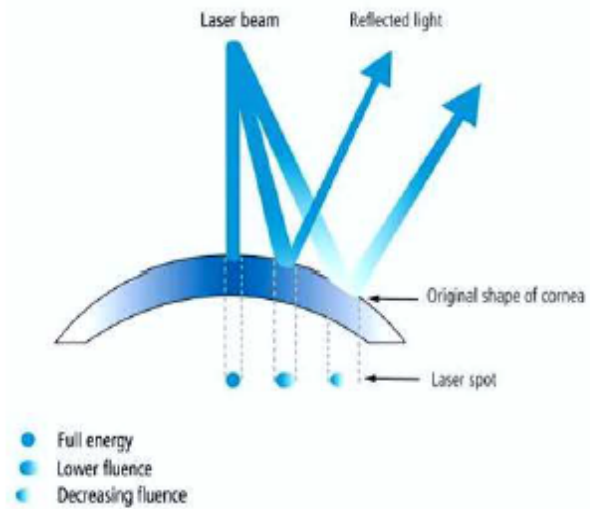
- Johnson & Johnson Vision
- Sun Pharmaceuticals
- Oculus Biologics
- Advanced Euclidean Solutions
- Carl Zeiss Meditech

All-Laser LASIK and PRK



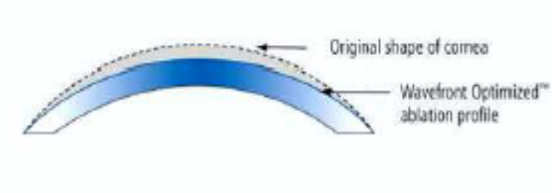
- We use the Alcon Wavelight® EX500 excimer laser to perform LASIK and PRK
 - The most advanced excimer laser available.
 - Enhanced wavefront-optimized ablations
 - State-of-the-art topography-guided ablations
 - Addresses irregular astigmatism and higher order aberrations

Spot energy of laser beam

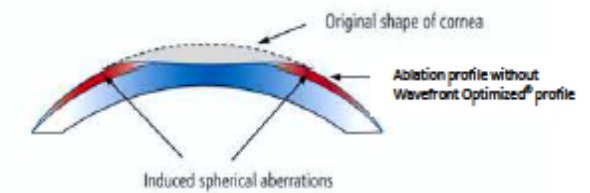


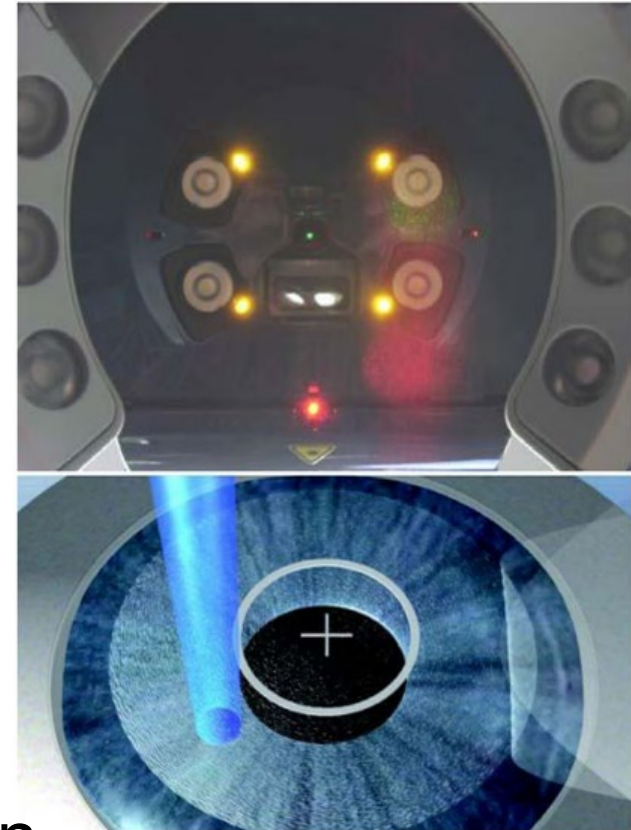
WaveLight:

Wavefront Optimized® ablation profile



Ablation profile without Wavefront Optimized® profile

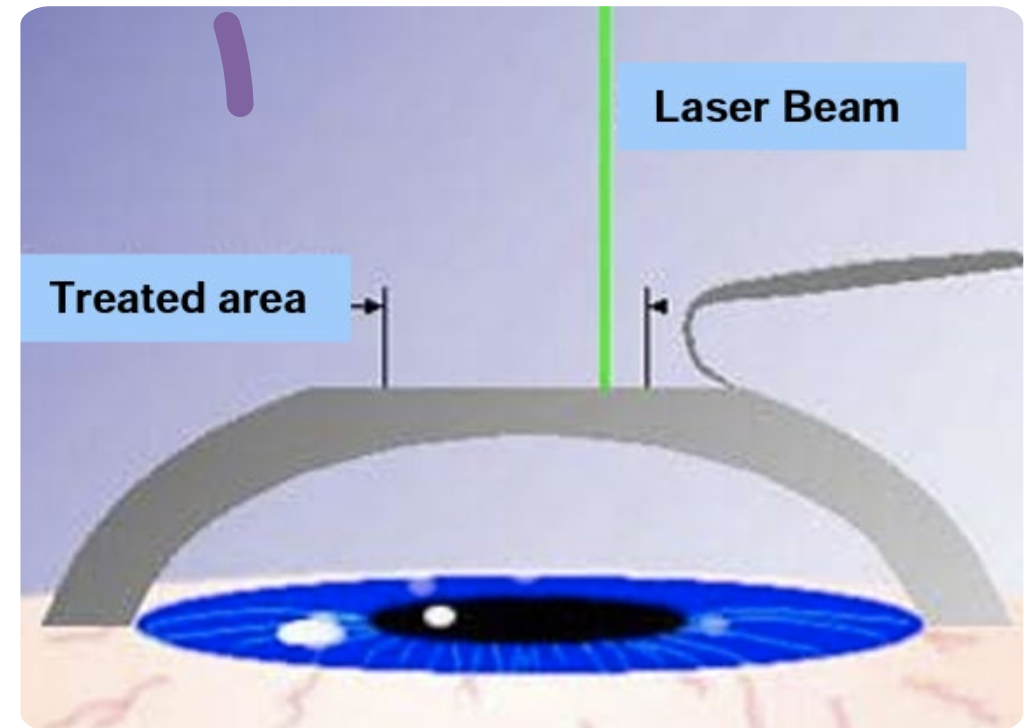




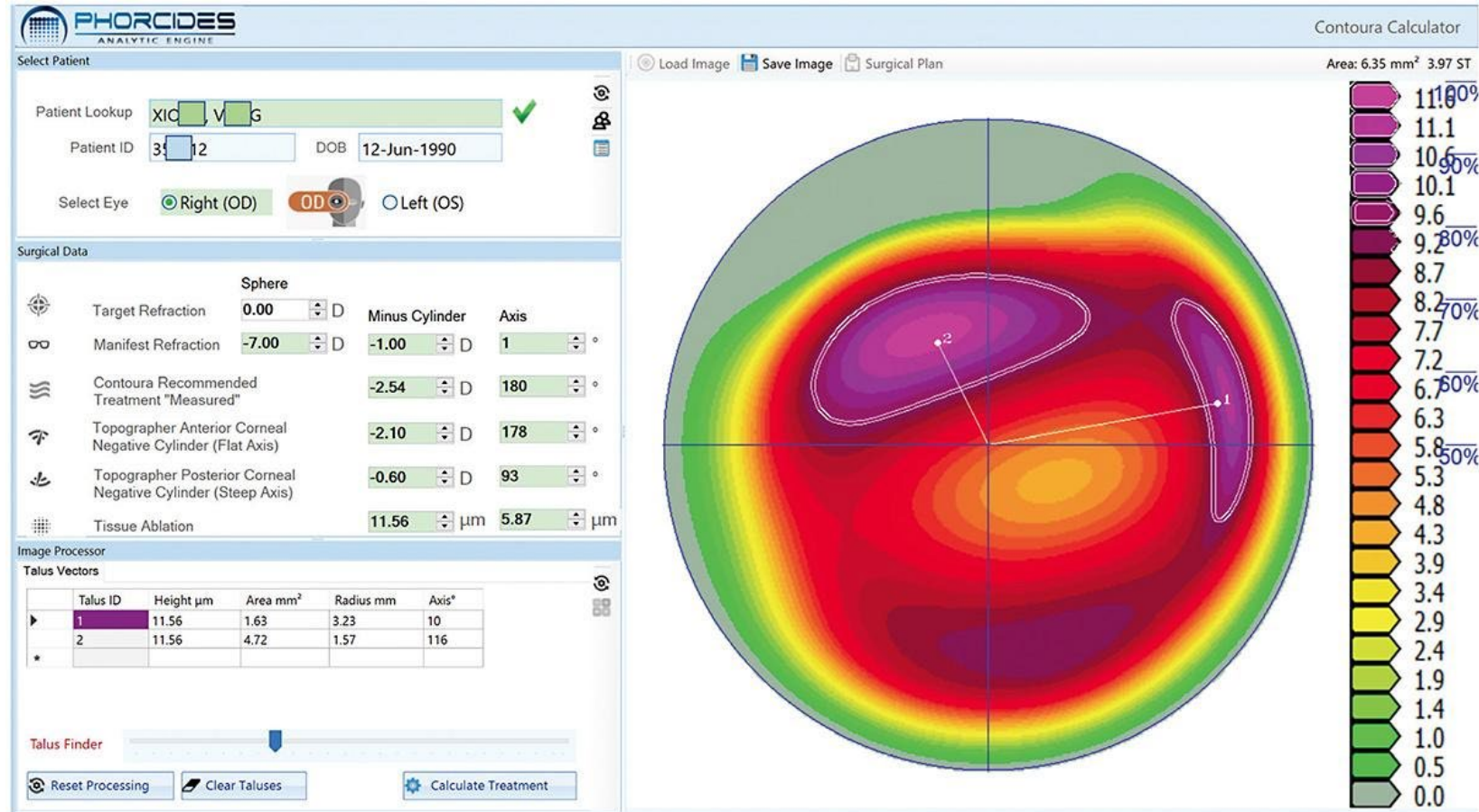
- Advanced eye tracking and iris registration
 - 1050 Hz, 2ms latency
 - Accounts for effects of cyclotorsion

Outcomes of Wavefront Optimized ablations

- 20/15 vision is common, especially in younger patients
- Lower higher order aberrations such as coma compared to older devices
- Less incidence of halos and dysphotopsias
- FDA approved for up to ± 2.00 of myopia, $+6.00$ of hyperopia, 6.00 of mixed astigmatism
- We limit LASIK treatments to corneas thicker than 500 microns that have no signs of early ectasia



TOPOGRAPHY-GUIDED ABLATIONS (THE FUTURE IS NOW!)





Topography-guided treatments and applications

- 65+% of patients end up 20/15 or better OU, with less photopsias and less HOAs
- Most useful to convert to a topography-guided treatment if there is significant irregular astigmatism
- Emerging clinical studies showing that combined/sequential CXL and topography-guided PRK may be safe and effective for patients with ectasia and keratoconus
 - And there is also another option that we will discuss...

ALASER VISION CORRECTION CASE?

40 yo F presents for LASIK eval. “I want to be glasses free!”

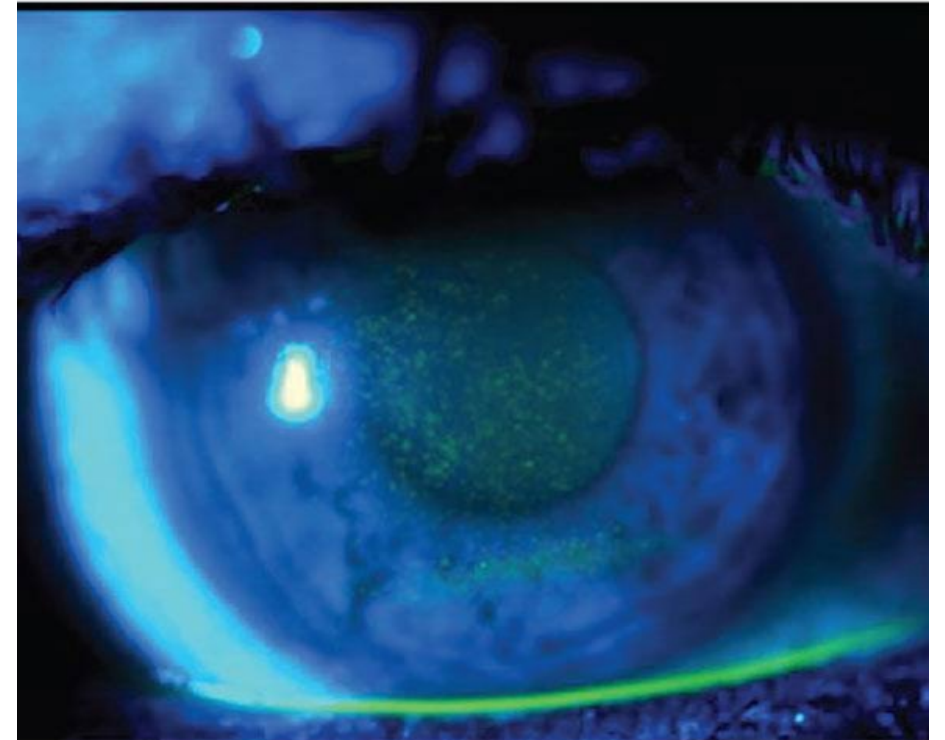
PMH/POH: soft contact lens wearer

Social Hx: Very active lifestyle: snowboarding, snowmobiling, hiking, and constant vacations!

	OD	OS
VAsc	CF at 6 feet	CF at 6 feet
MR	-6.25 -1.00 x017 → 20/20-2	-6.75 -0.50 x152 → 20/20
L/L/L	1-2+ MGD	1-2+ MGD
C/S	LG: 0 temporal / 1+ nasal	LG: 1+ temporal / 2+ nasal
Cornea	3-4+ PEE	3-4+ PEE
Lens	clear	clear
Everything else	wnl	wnl



ANA+ (1:320) →
PRK CANCELLED THE DAY BEFORE! →
RHEUMATOLOGY CONSULT →
DX OF INFLAMMATORY ARTHRITIS MADE →
MOBIC PO STARTED



PROCEED WITH LASIK OR PRK?

VS.

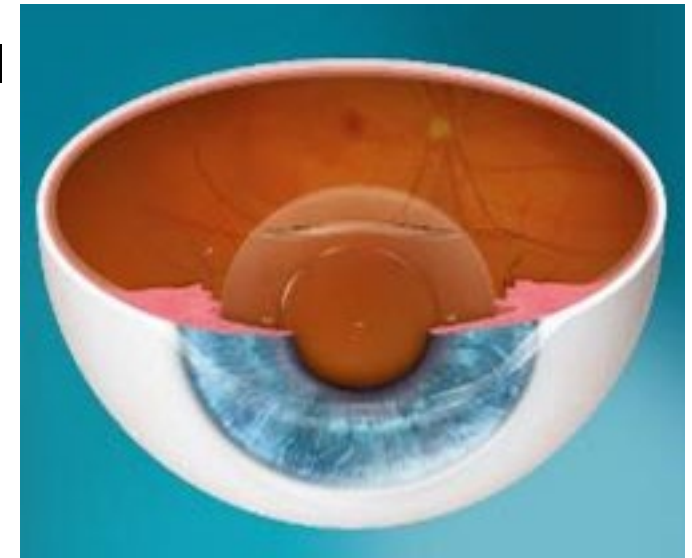
CLEAR LENS ENHANCEMENT/ LENS EXCHANGE?

VS.

SOMETHING ELSE

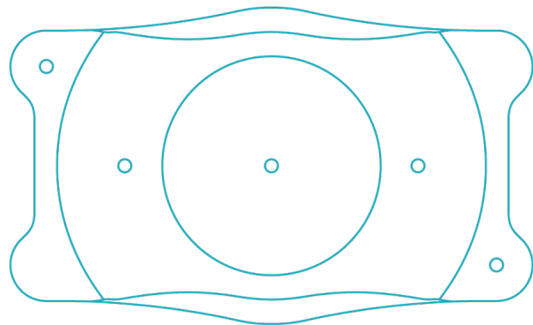
Introducing the EVO Implantable Collamer Lens

- EVO Visian ICL[®] (Implantable Collamer Lens) for Myopia and Myopic Astigmatism
- Posterior chamber phakic IOL made of STAAR's unique [®]Collamer[®] material
 - Poly-HEMA based **Collagen co-polymer**
- **2005** US FDA Approval of V4 MICL (Spherical Myopia)
- **2018** US FDA Approval of Toric ICL (Myopic Astigmatism)
- **2022** US FDA Approval of **EVO Visian ICL** family of lenses include EVO Visian ICL, EVO+ Visian ICL, EVO Visian Toric ICL, EVO+ Visian Toric ICL

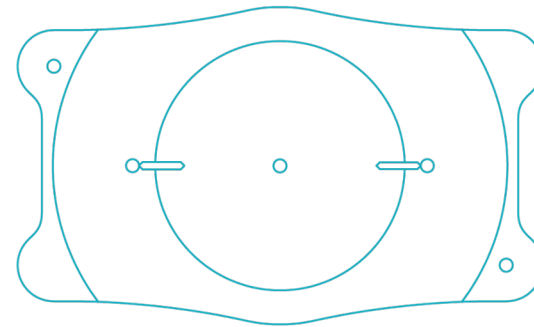


The EVO ICL Family of Lenses

- The addition of the central port to EVO facilitates the flow of aqueous humor through the lens, eliminating the need for peripheral iridotomies (PIs) prior to implantation.
- Indicated for use in adults ~~21~~¹⁵ years of age for myopia with or without astigmatism.
- STAAR® Collamer® material has a proven history of over 20 years ~~more~~^{with} **more than 1 million EVO lens implants worldwide**.



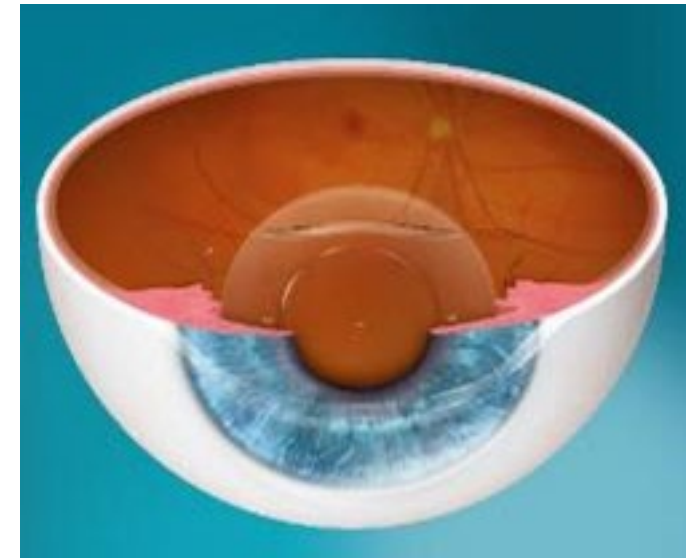
EVO



EVO Toric

The advantages of EVO Visian ICL include:

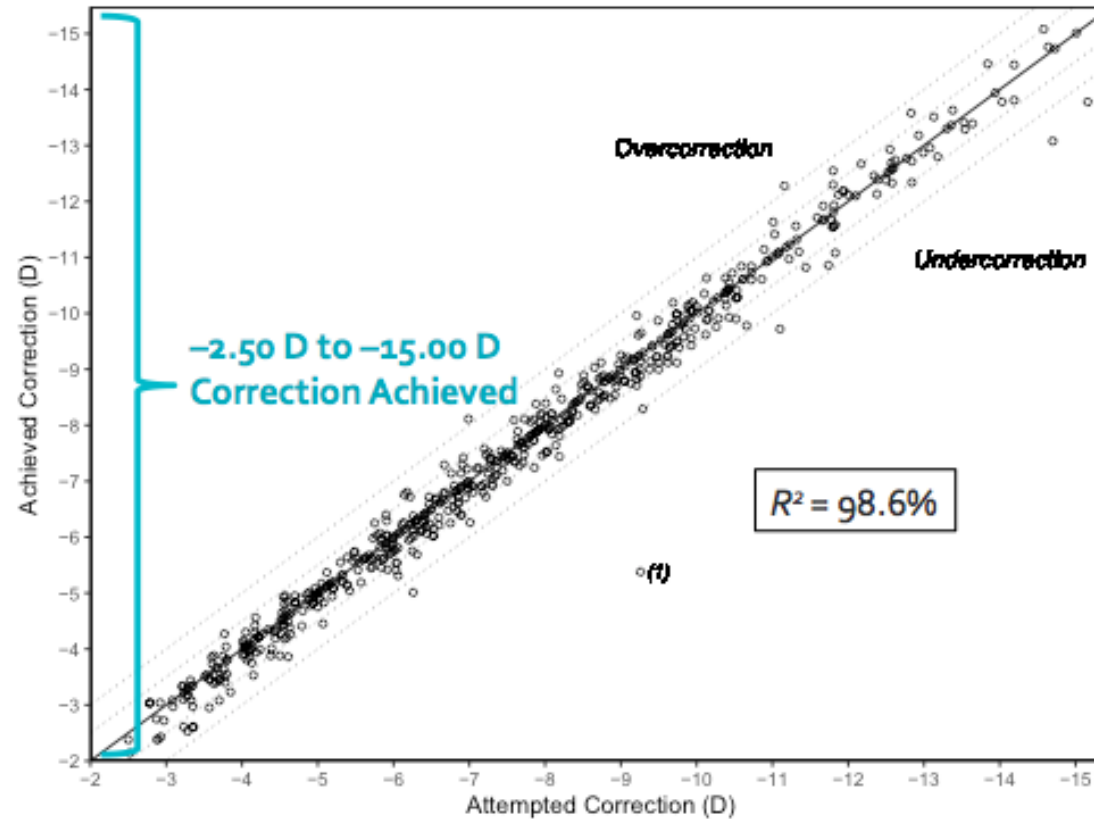
- Correction of astigmatism (up to 4 diopters)
- Correction of significant amounts of myopia (up to 15.0 D)
- Sharp, clear vision
- Excellent night vision
- Does not cause dry eye syndrome
- Quick procedure and recovery
- No removal of corneal tissue
- Easily removable by the surgeon
- Protection from UV rays



1. Igarashi A, Kamiya K, Shimizu K, Komatsu M. Visual Performance after implantable Collamer lens implantation and wavefront-guided laser in situ keratomileusis for high myopia. Am J Ophthalmol. 2009.
2. Martinez-Plaza E, Lopez-Miguel A, Lopez-De La Rosa A, et al. Effect of the EVO+ Visian Phakic Implantable Collamer Lens on Visual Performance and Quality of Vision and Life, Am J Ophthalmol 2021;226: 117–125.
3. Ganesh S, Brar S, Pawar A. Matched population comparison of visual outcomes and patient satisfaction between 3 modalities for the correction of low to moderate myopic astigmatism. Clin Ophthalmol. 2017 Jul 3;11:1253-1263.

EVO/EVO+ ICL FDA Study: Predictability and Accuracy

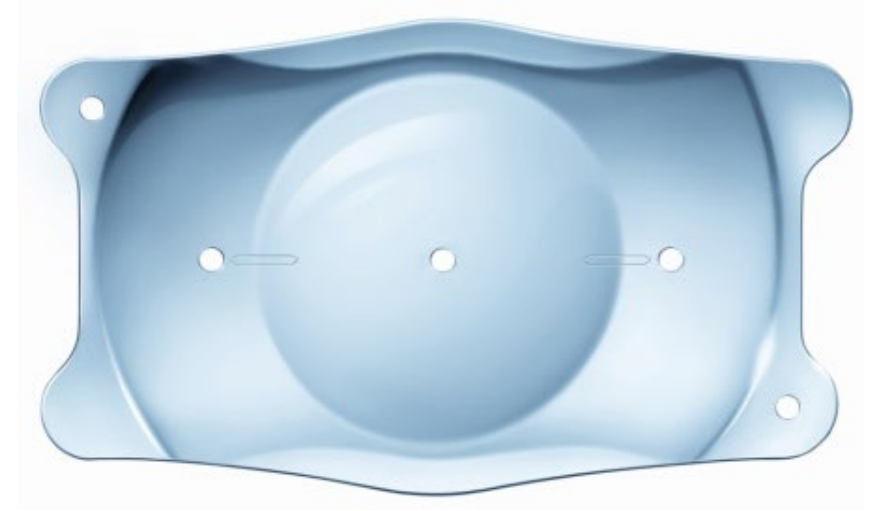
Spherical Equivalent Attempted vs Achieved Correction at Month 6 for 619 Eyes



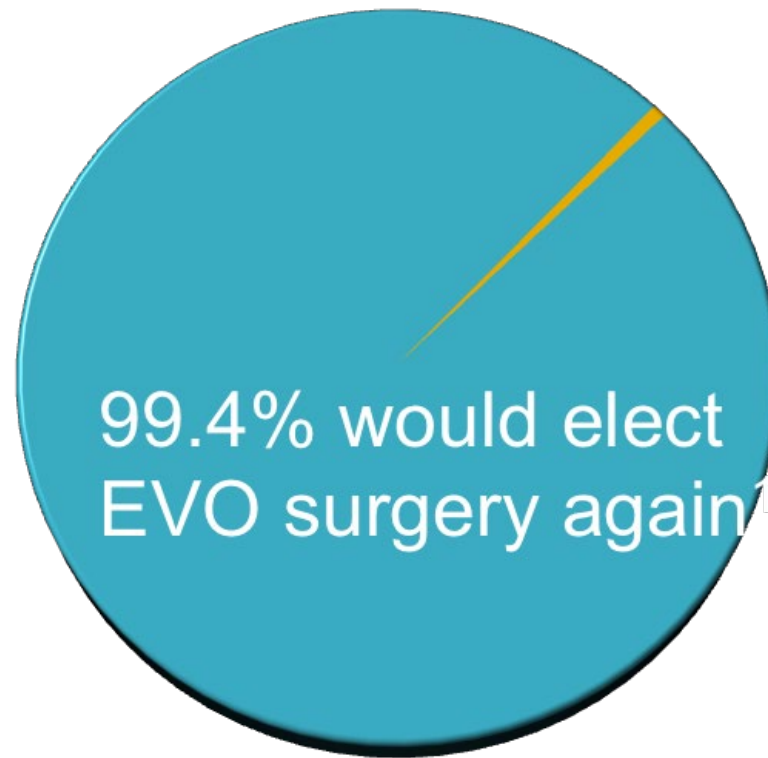
(1) One eye experienced myopic shift due to nuclear sclerosis.

EVO/EVO+ ICL FDA Study:

- Maintains physiologic aqueous flow
 - Zero pupillary block
 - Zero anterior subcapsular cataract
- Eliminates preoperative peripheral iridotomy
- The results of this clinical trial have definitively demonstrated the safety and effectiveness of EVO/EVO+ Sphere and Toric ICL lenses for the correction of myopia and myopia with astigmatism.



EVO Patient Satisfaction



1,542 patients surveyed.
Patient Survey. STAAR Surgical ICL Data Registry, 2018.

RESULTS OF EVO AT CFS: FIRST 3 PATIENTS

	PREOP BCVA		POSTOP UNCORRECTED VA	
			OD	OS
Patient 1	OD -10.00-3.75 x 173 = 20/25 OS -10.25-3.25 x 170 = 20/25	→	20/15	20/15
Patient 2	OD -9.00-1.25 x 075 = 20/20 OS -9.25-1.00 x 085 = 20/20	→	20/15	20/20
Patient 3	OD -10.75-1.25 x 037 = 20/20 OS -12.25 Sph = 20/25	→	20/20	20/15

BACK TO OUR INFLAMMATORY ARTHRITIS PATIENT

- **Decision:** EVO ICL OU (same day surgery for both eyes) **Target:** -0.50 OD/ plano OS (dominant)


PreOp BC VA	-6.25 -1.00 x017 → 20/20-2	-6.75 -0.50 x152 → 20/20
↓		
PostOp DAY 1 UCVA	20/30 , J1+	20/20, J1

- **Outcome:** The patient is THRILLED! Dry eye has improved!





SUMMARY

- We (at Center For Sight) are national leaders in terms early adoption, research, and expertise with most IOL and refractive surgery technologies.
 - These technologies are continuously evolving (as are we).
 - Up to this point, we have essentially adopted every novel, state-of-the-art refractive surgical technology that we think could most benefit our patients, including:
 - InteliLight IOLs (Synergy and Symphony)
 - Clareon Vivity
 - The Light Adjustable Lens
 - Topography-guided ablations and advanced WFO ablations with the EX500 LASIK laser
 - The new EVO ICL
 - We take *pride and joy* in embracing a patient-centered approach, customizing each treatment plan to address each patient's individual needs, limitations, and desires in the best way possible!
- 

THANK YOU!



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