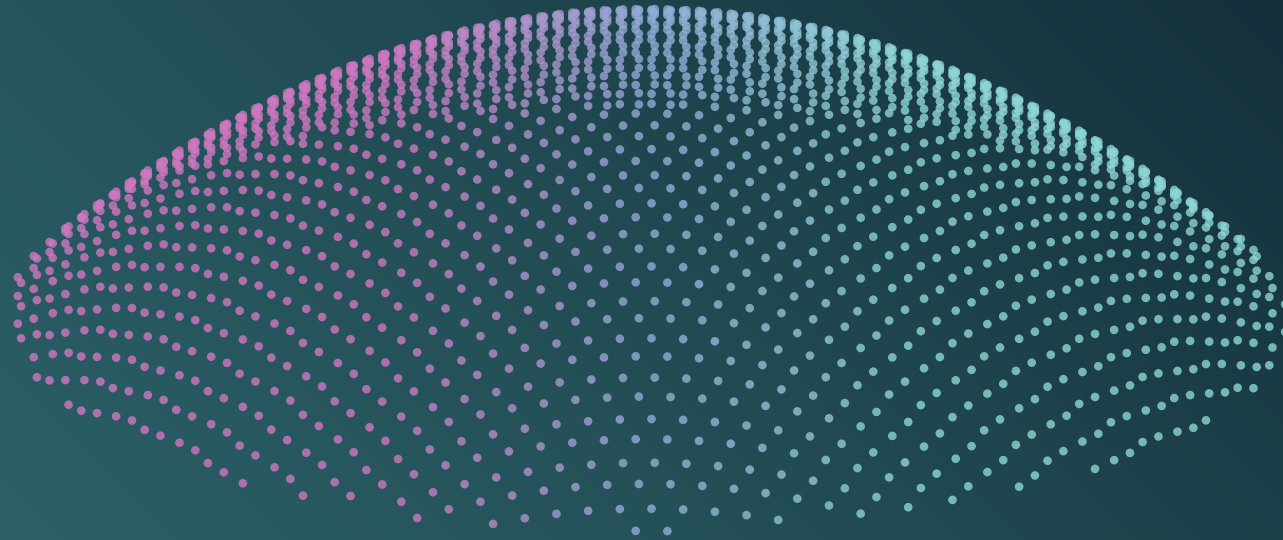


Optimize Visual Outcomes After Cataract Surgery



Gregory D. Searcy, M.D.
Erdey Searcy Eye Group
Columbus, Ohio

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

LASIK Level
Refractive Outcomes



Light
Adjustable
Lens™

Test Drive Your Vision

High quality vision
No reduction in contrast
No increase in glare or halo

Patient driven outcomes
90% achieving 20/20 & J2¹

Empowers a wide group
of patients and doctors

The World's First Adjustable Intraocular Lens

Light Adjustable Lens (LAL)

- ☀️ 3-piece silicone optic, 6.0 mm
- ☀️ +4.0 D to +30.0 D
- ☀️ Photoreactive UV absorbing material

LAL molded with free-chain silicone macromers and photo initiators



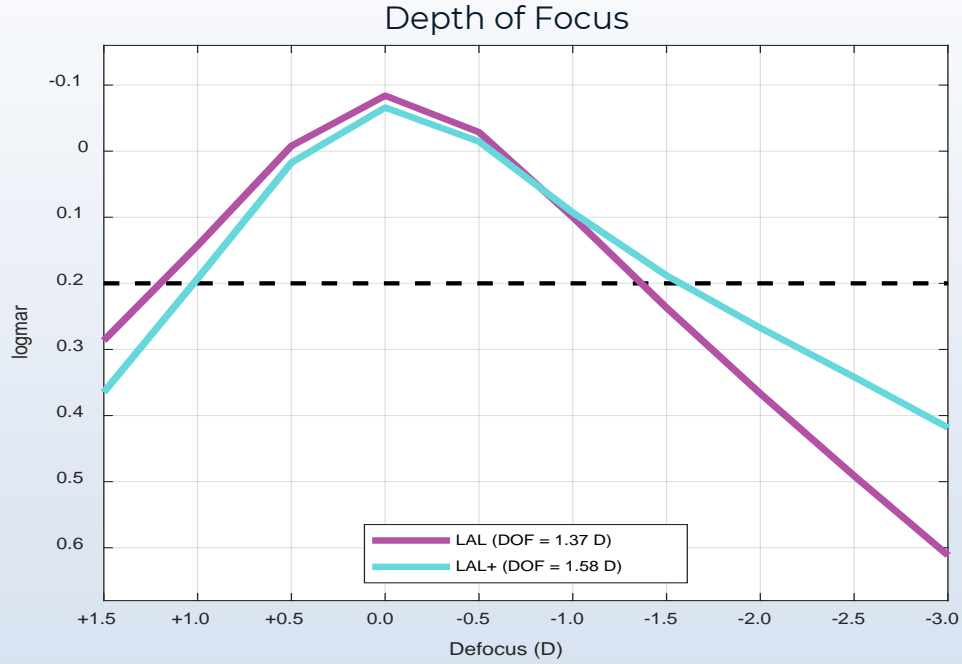
Light Delivery Device (LDD)

- ☀️ Adjusts the LAL post-operatively
- ☀️ Up to 3 adjustments in 0.25 D increments
- ☀️ Corrects up to 3.0 D of astigmatism



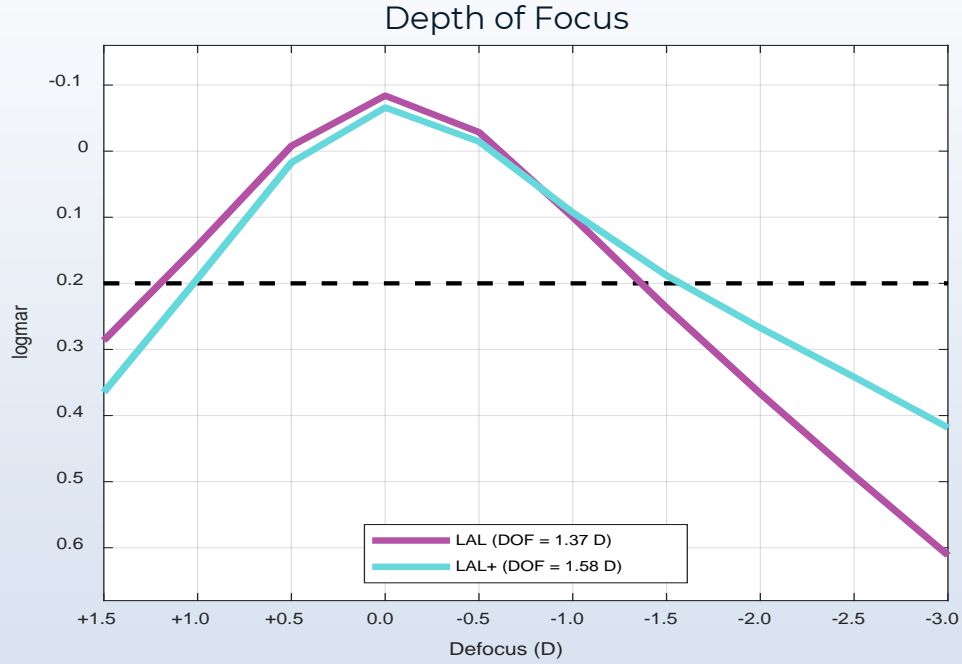
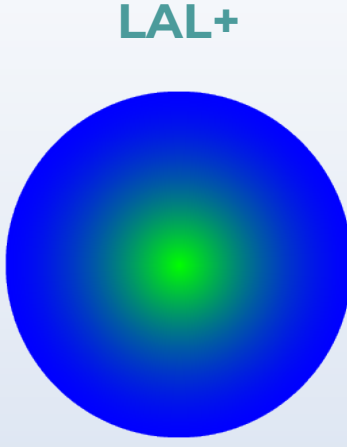
Per Treatment
2.00 D Sphere & Cylinder

Two Members of the LAL Family



Small continuous increase in central lens power is molded to the anterior surface providing patients with earlier visual benefit before light treatments

Two Members of the LAL Family



LAL 1.37 D

LAL+ 1.58 D

Depth of focus

LAL between Eyehance and Vivity

LAL+ slightly greater than Vivity

Two Members of the LAL Family



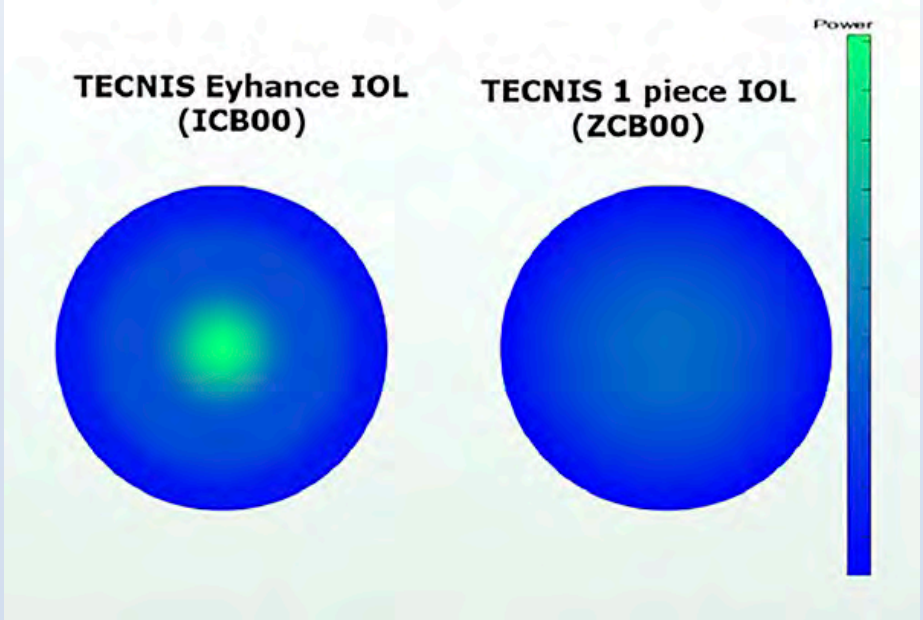
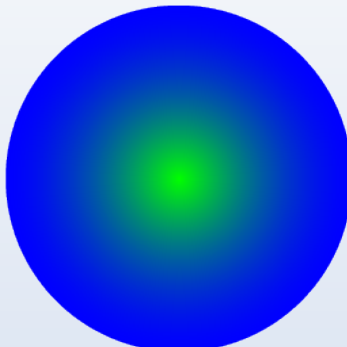
Eyehance



LAL



LAL+



Depth of focus

LAL between Eyehance and Vivity

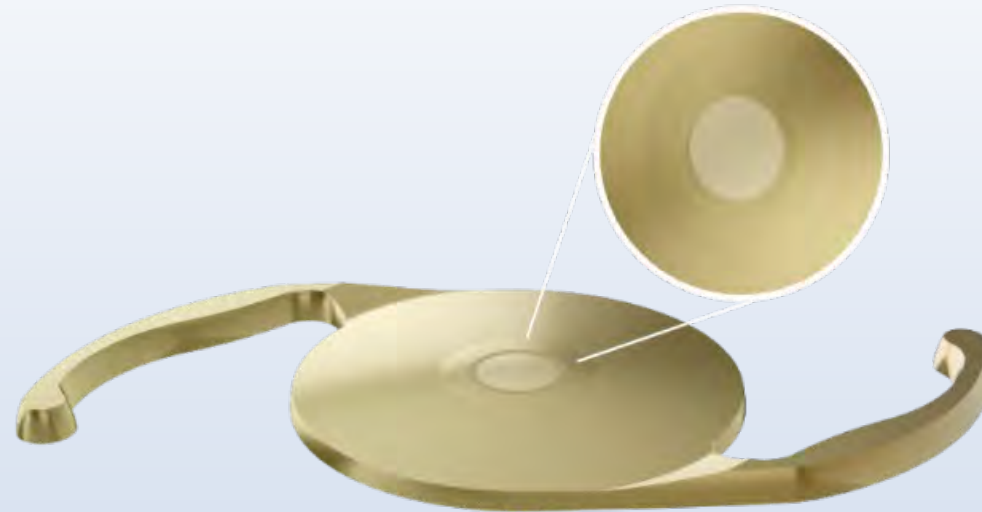
LAL+ greater than Vivity multifocal

Two Members of the LAL Family

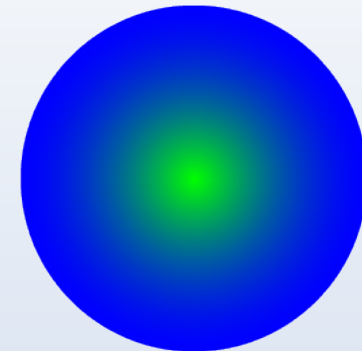


Vivity

LAL



LAL+



Depth of focus

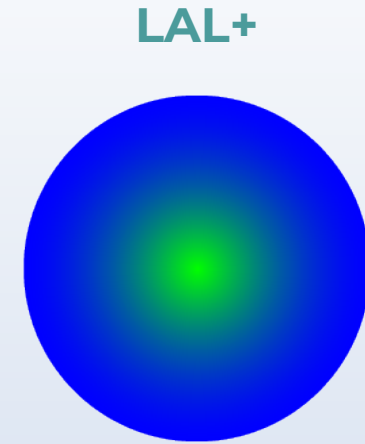
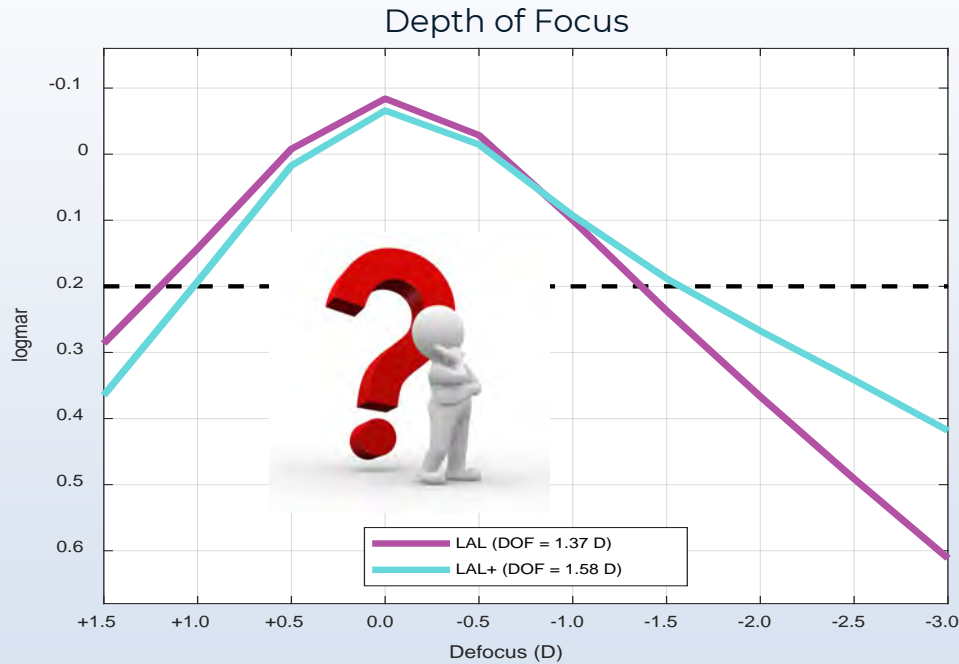
LAL between Eyehance and Vivity

LAL+ greater than Vivity multifocal

Two Members of the LAL Family



LAL



LAL+

Depth of focus

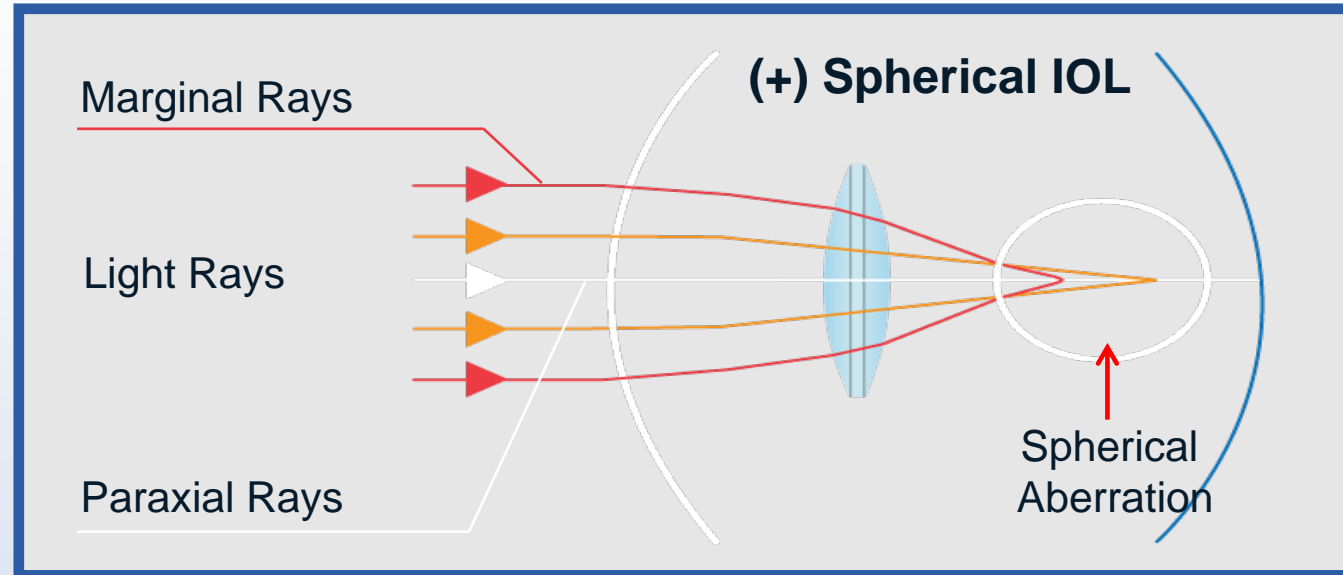
LAL between Eyehance and Vivity

LAL+ slightly greater than Vivity

LAL 1.37 D

LAL+ 1.58 D

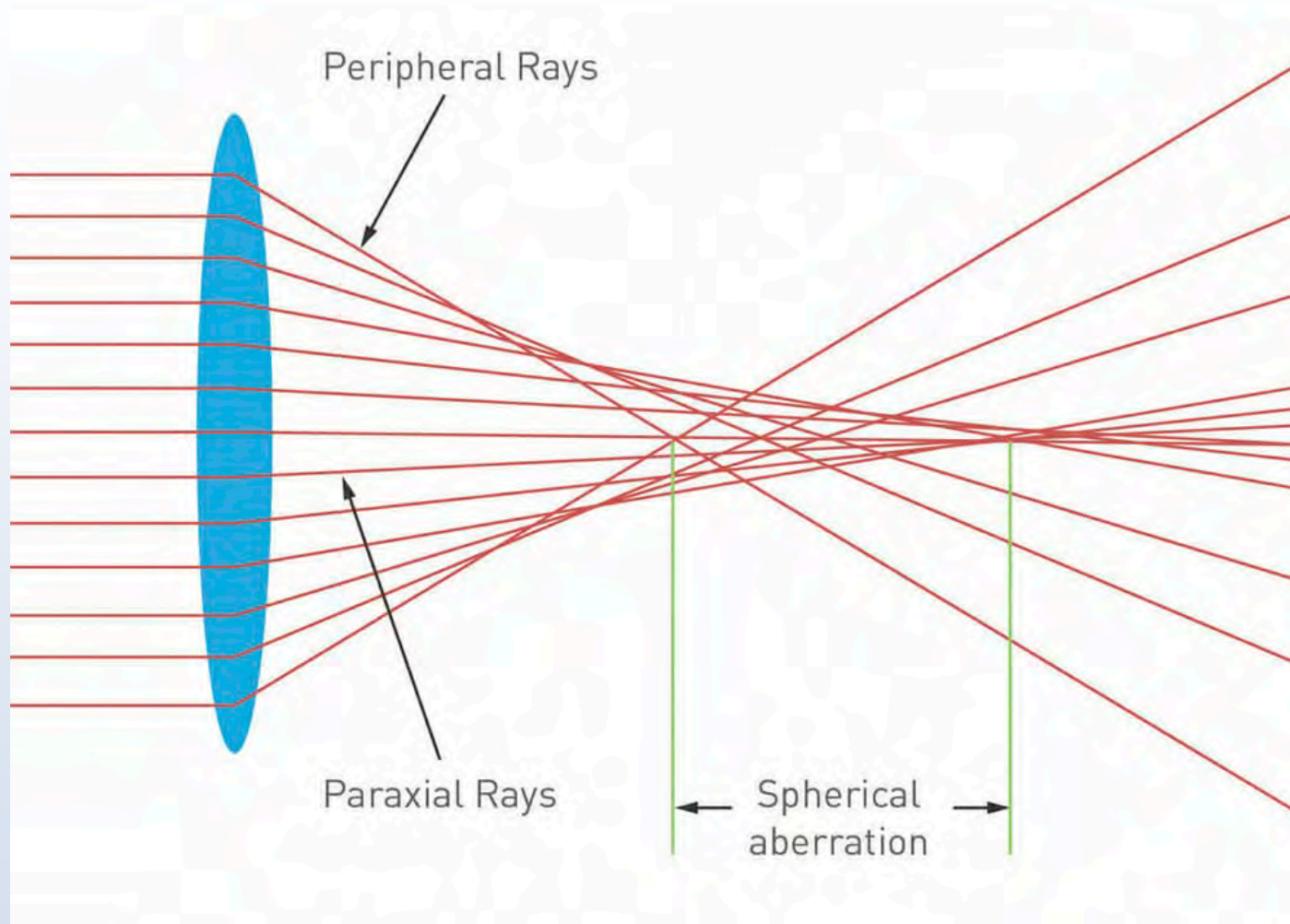
Spherical Aberration



Light rays are slightly over-refracted at the periphery of a lens system

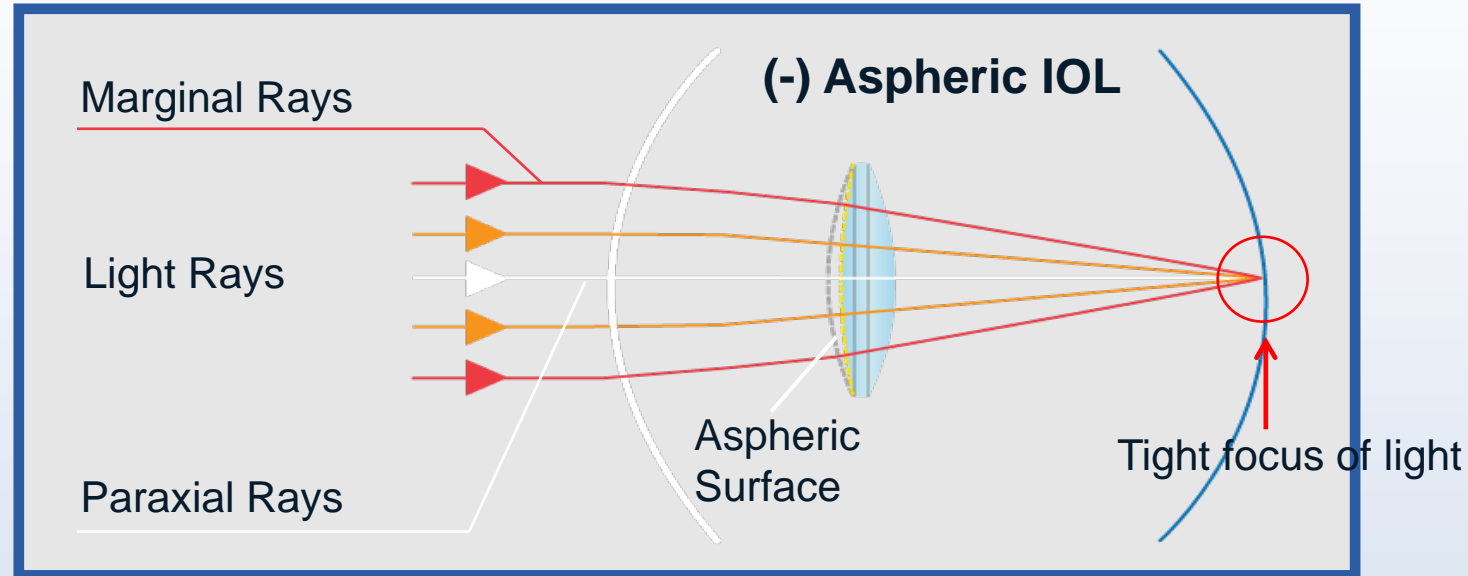
Benefit = increased depth of focus

Spherical Aberration



Benefit = increased depth of focus

Aspheric IOLs



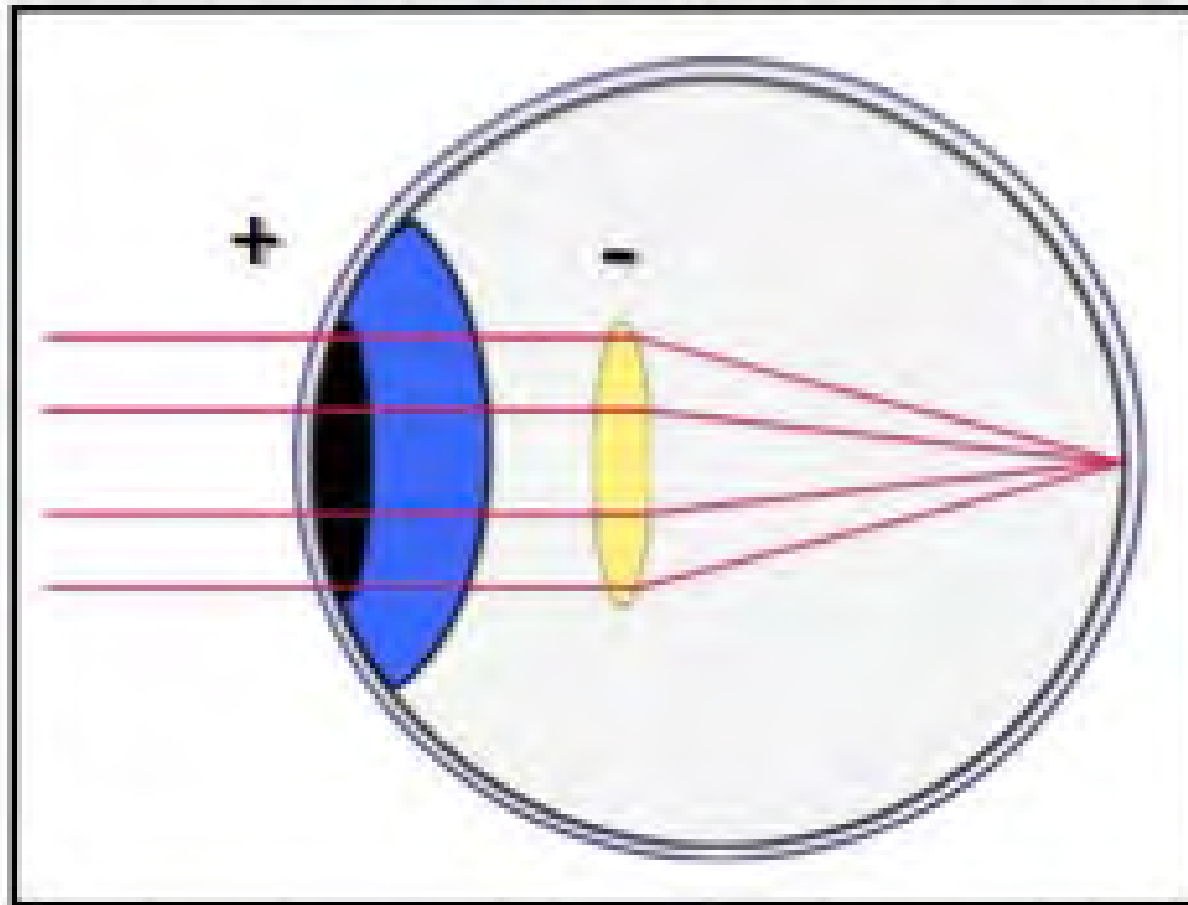
Flatter central aspheric optic = tight focus of light

Cost = decreased depth of focus

Asphericity of the Young Lens



The Young Lens



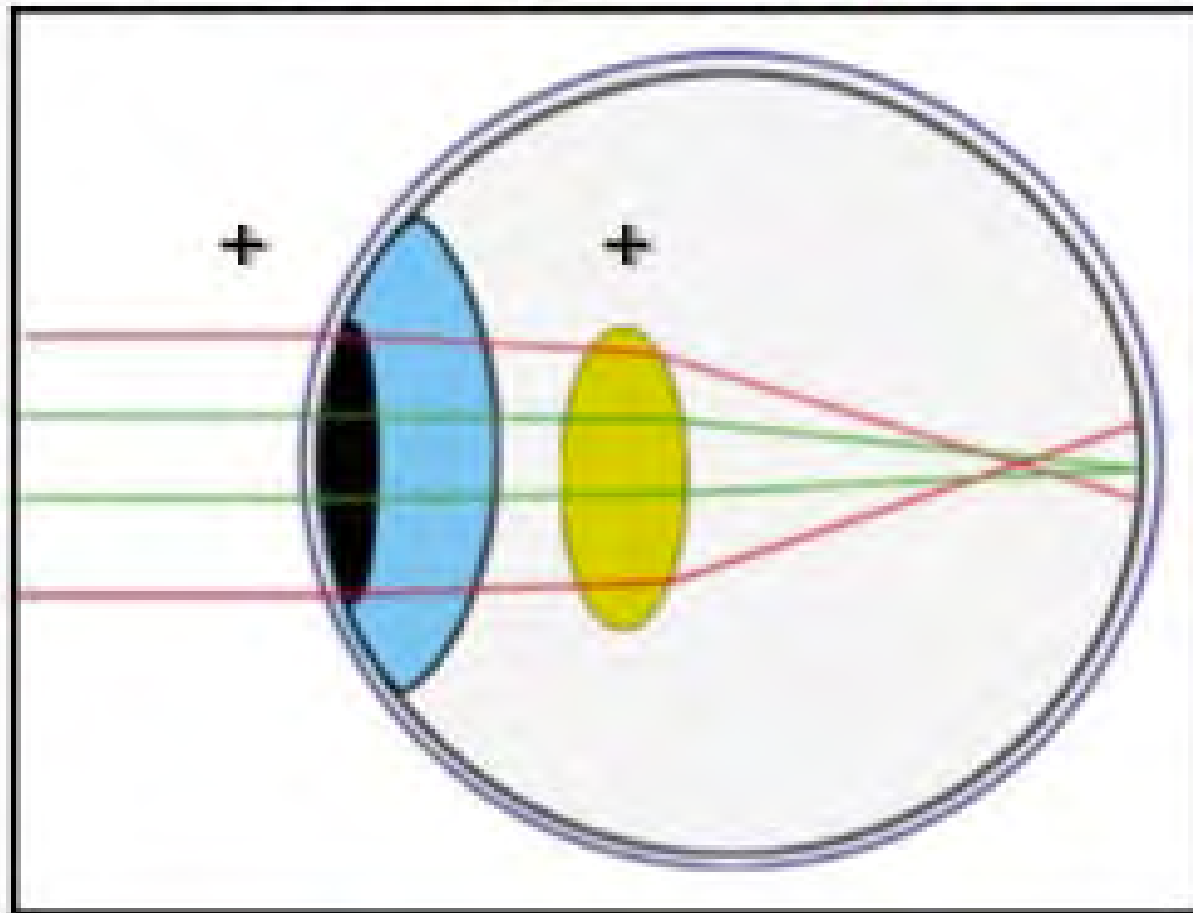
**zero net sphericity
= pinpoint focus**

accommodation



Asphericity of the Aging Lens

Aberration in the Aging Lens



**(+) net asphericity
= no pinpoint focus**

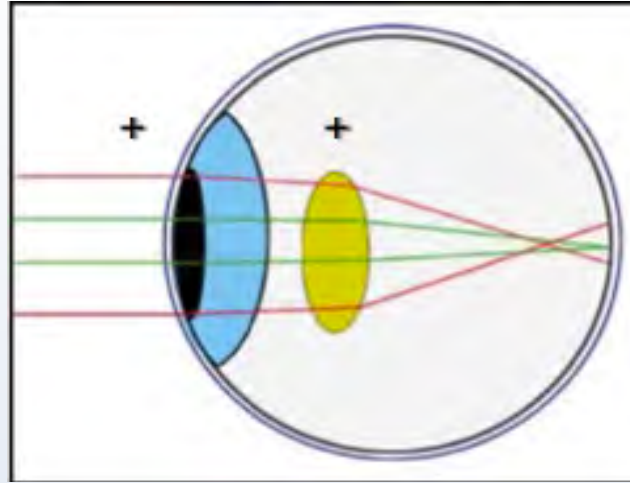
accommodation



LAL = Increased Depth of Focus

Cornea

+0.27



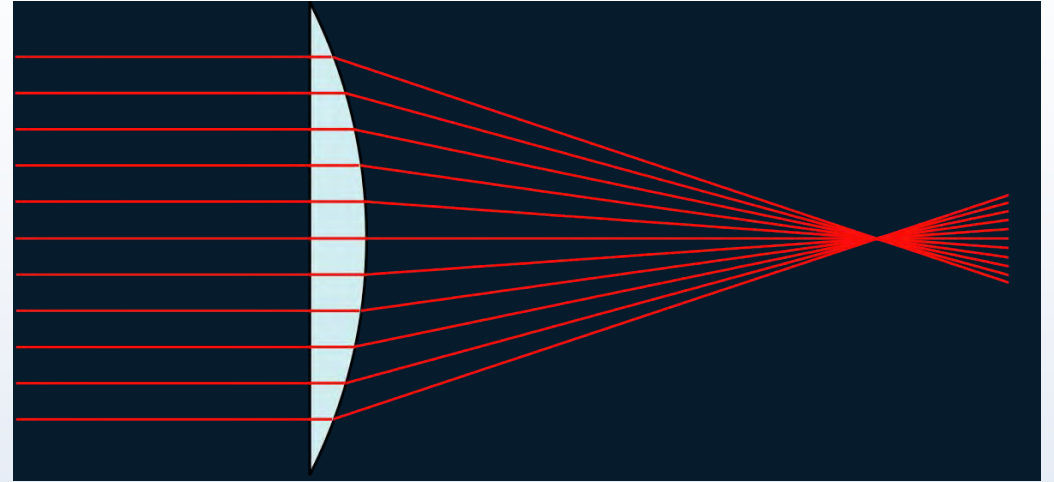
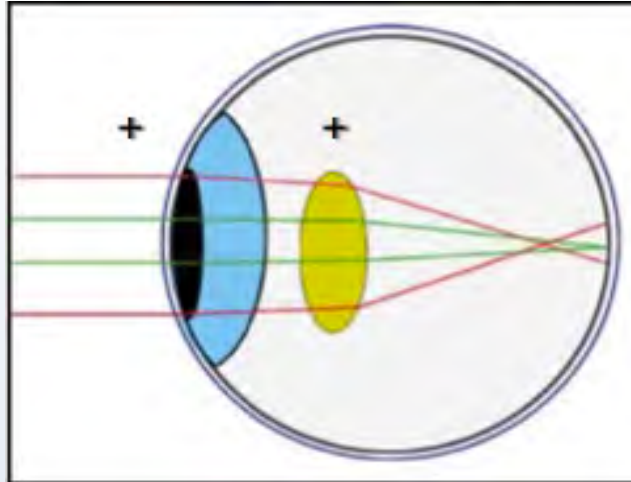
LAL = Increased Depth of Focus

Cornea

+0.27

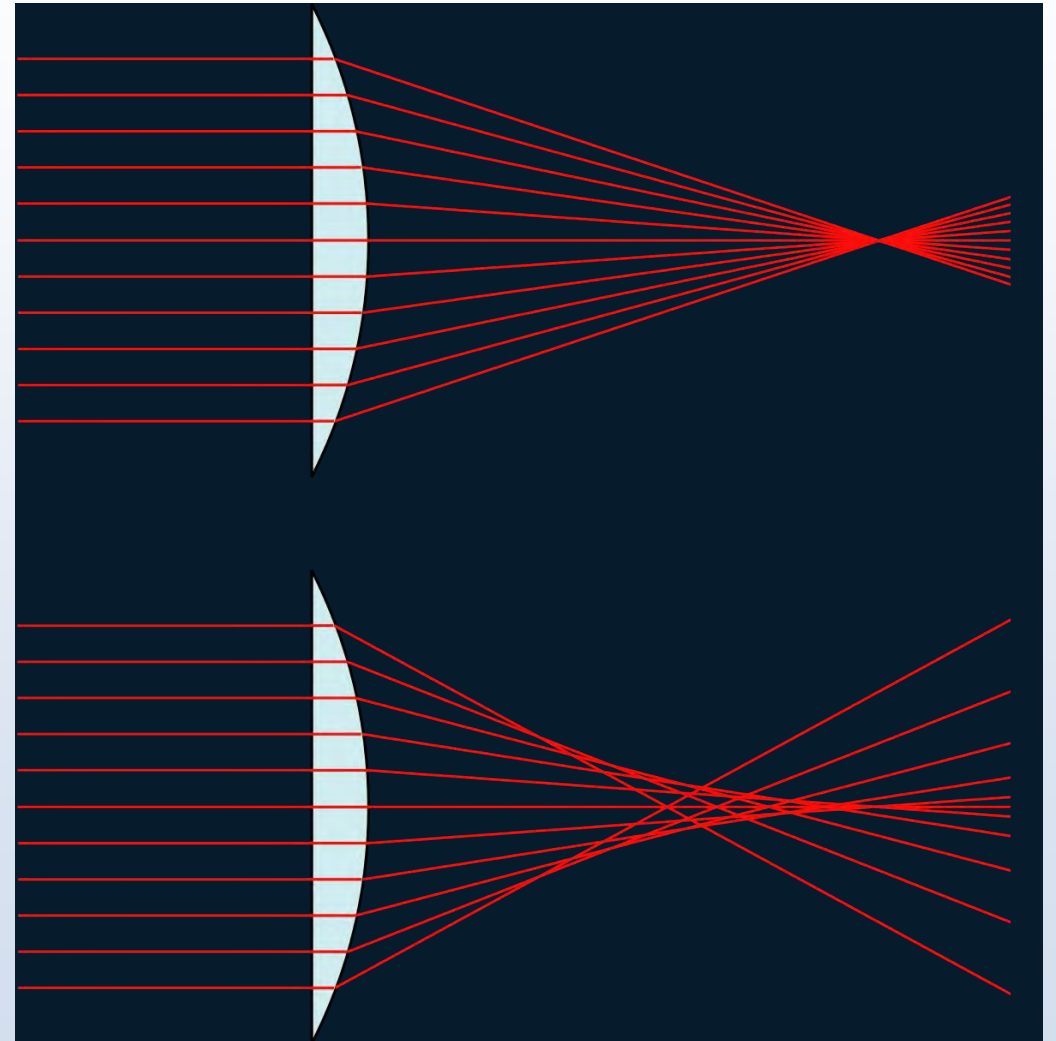
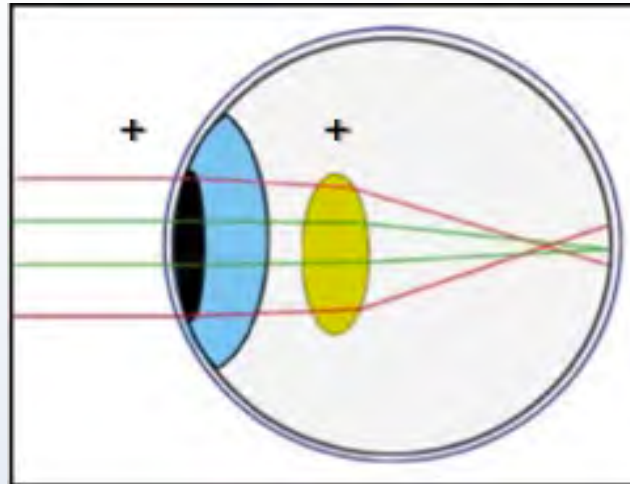
LAL

-0.38



LAL = Increased Depth of Focus

Cornea	+0.27
LAL	-0.38
LAL+	-0.50

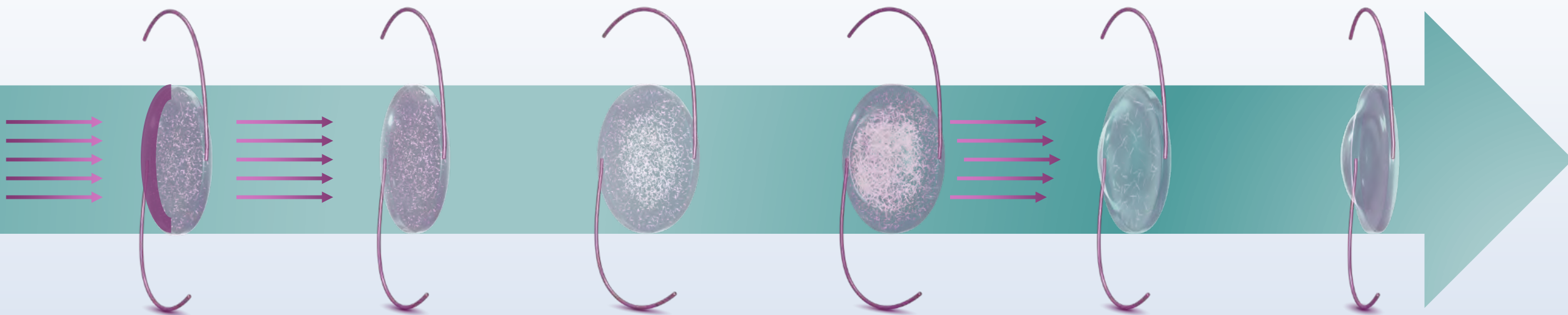


LAL **-0.75** ~ monofocal **-1.50**

**** without the loss of stereopsis ****

Digital correction of vision

Light Treatment After LAL Implantation



ActivShield

Anterior IOL has photosensitive chromophore that blocks UV light except during LDD treatment

Adjustment Beam

LDD light is directed in a pattern to LAL optic

Photopolymerization

Macromers in LDD path are photo-polymerized

Diffusion / Power Change

Unpolymerized macromers diffuse into polymerized area = precise shape/power change

Lock-In Beam

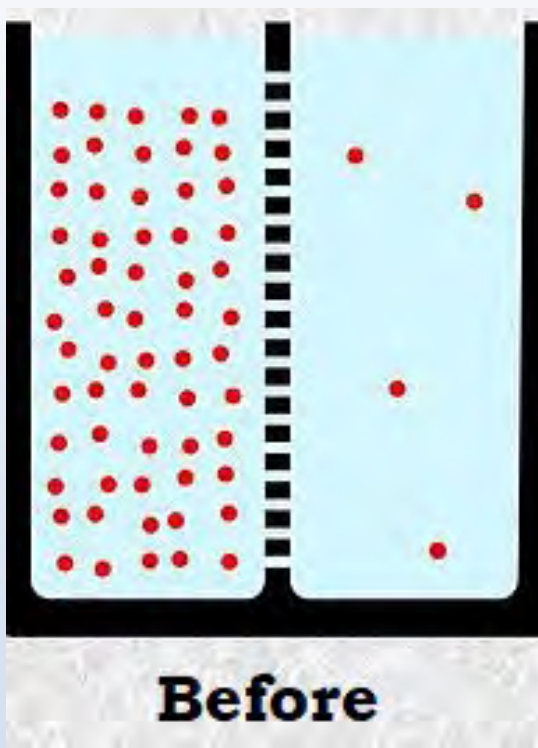
The entire lens is exposed to light to polymerize all the remaining macromers

Final Result

The outcome is a precise change in the LAL power to match the patient's individual prescription

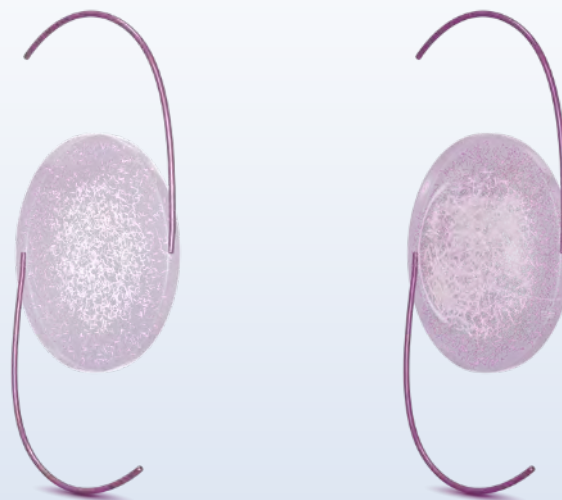
Digital correction of vision

Light Treatment After LAL Implantation



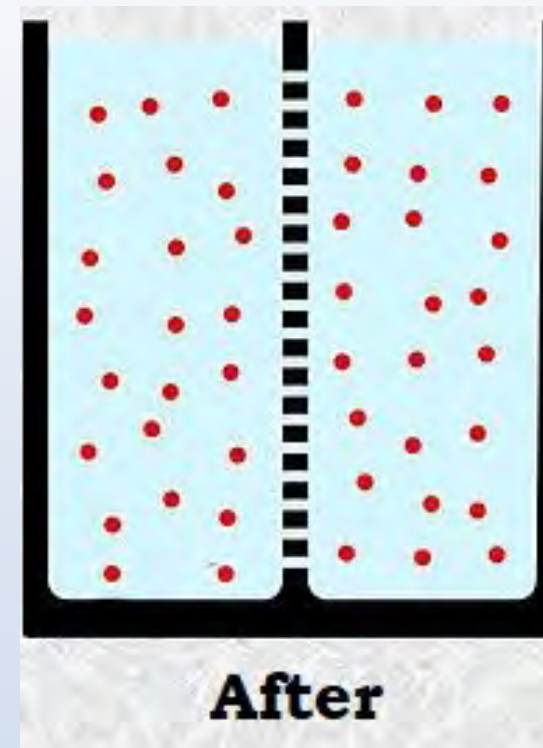
Photopolymerization

Macromers in LDD path are photo-polymerized



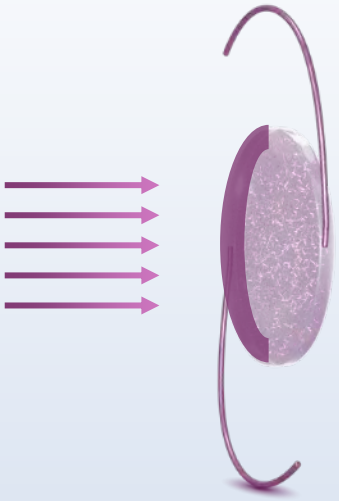
Diffusion / Power Change

Unpolymerized macromers diffuse into polymerized area = precise shape/power change



Digital correction of vision

ActivShield

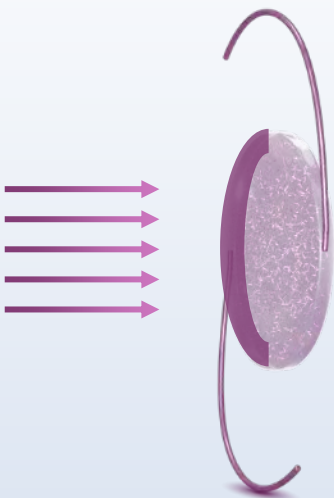


ActivShield

Anterior IOL has photosensitive chromophore that blocks UV light except during LDD treatment

Digital correction of vision

ActivShield



ActivShield

Anterior IOL has photosensitive chromophore that blocks UV light except during LDD treatment

68 year old teacher (theater hobby)

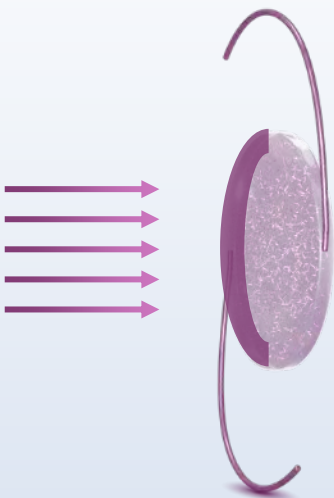
Ocular History:

Date	Side	Ocular Disease	Sx Procedure	Proc Surgeon
09/20/2023	OS	Cataract	Dropless Cataract Surgery (Light Adjustable Lens 20.5)	Searcy, Gregory
08/23/2023	OD	Opacified Capsule	YAG posterior capsulotomy	Searcy, Gregory
10/18/2017	OD	Cataract	Dropless Cataract Surgery (Symfony 21.0)	Searcy, Gregory

Noting no follow-up ... called him 03/15/2024 ... **no UV protective glasses**

Digital correction of vision

ActivShield



ActivShield

Anterior IOL has photosensitive chromophore that blocks UV light except during LDD treatment

68 year old teacher (theater hobby)

Ocular History:

Date	Side	Ocular Disease	Sx Procedure	Proc Surgeon
09/20/2023	OS	Cataract	Dropless Cataract Surgery (Light Adjustable Lens 20.5)	Searcy, Gregory
08/23/2023	OD	Opacified Capsule	YAG posterior capsulotomy	Searcy, Gregory
10/18/2017	OD	Cataract	Dropless Cataract Surgery (Symphony 21.0)	Searcy, Gregory

Noting no follow-up ... called him 03/15/2024 ... **no UV protective glasses**

03/22/2024 Not using any glasses at all

Visual acuity:

OD	Dva sc:	20/30	cc:		ph:		Int sc:	20/20	Nva sc:	J2
OS	Dva sc:	20/20	cc:		ph:		Int sc:	20/27	Nva sc:	J3
OU	Dva sc:	20/20	cc:				Int sc:	20/20	Nva sc:	J1

Manifest RX:

	SPH:	CYL:	Axis:	ADD:	Prism:	B:	Prism:	B:		SPH:	CYL:	Axis:	
OD:	-0.50	+1.00	176							OS:	Plano	+0.50	158
OD:	20/20		J1							OS:	20/20	J3	

Have to do 1 LDD before locking = LDD #1 (target plano) OS on 03/22/2024

All Fixed, Non-Adjustable Competitive IOLs Share a Common Limitation

High-stakes decisions that must be made before surgery

Patient is asked to describe priorities for post-operative vision

Doctor recommends specific IOL type



Patient's eyes undergo pre-operative measurements

Doctor selects IOL sphere and astigmatism power

IOL power predictions are never perfect due to several factors



Perform surgery

Deal with consequences

Fixed IOLs limit options for those with sub-optimal outcome



LAL = Only IOL Adjustable After Surgery

Patient drives optimization of their own vision

Streamlined patient discussions
pre-operative measurements

Office-based LDD light treatments customize
the LAL to each patient's desired refraction

Choose LAL and
approximate power

Perform
surgery

Patients test drive each
LDD light treatment

Lock-in



Patients experience their vision at home after light treatment,
return to clinic for additional adjustments or final lock-in



**LDD: painless, non-invasive,
approximately 90 seconds**



Initial Light Treatment

At least 17 days after surgery

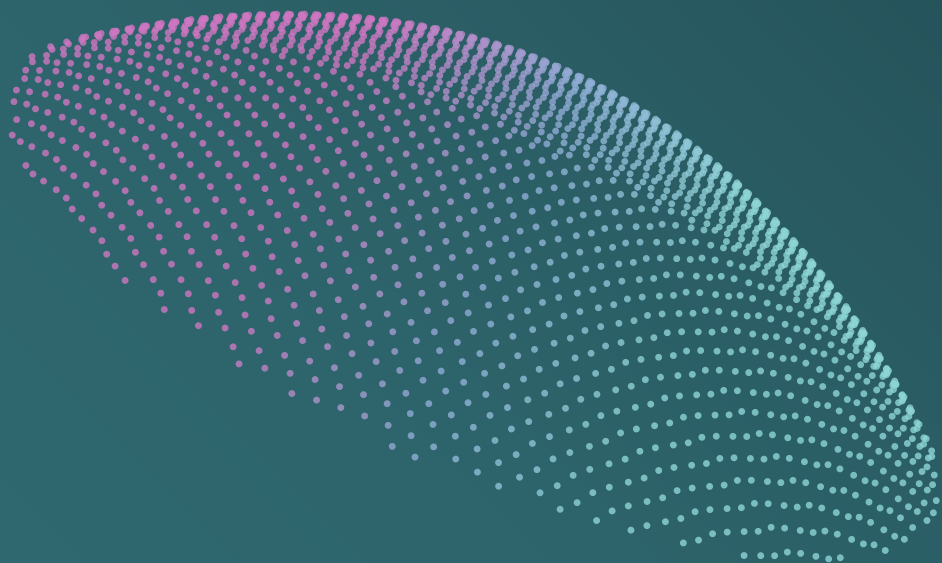
Secondary Light Treatment

At least 3 days after initial light treatment

Additional Light Treatments

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

Nearly Every Patient Can Be Upgraded to the LAL



Patients who want **high quality vision**

Patients who want **customized range of vision**

Using both eyes, ~90% able to see:

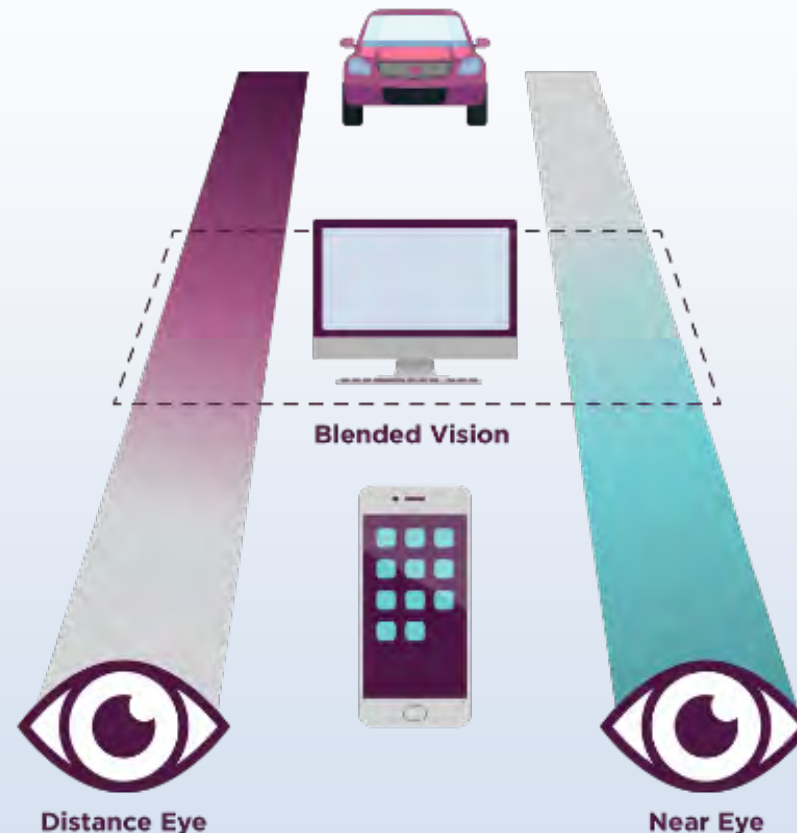
- 20/20 at distance
- Read 5-point font using both eyes

High Quality Customized Vision for Cataract Patients

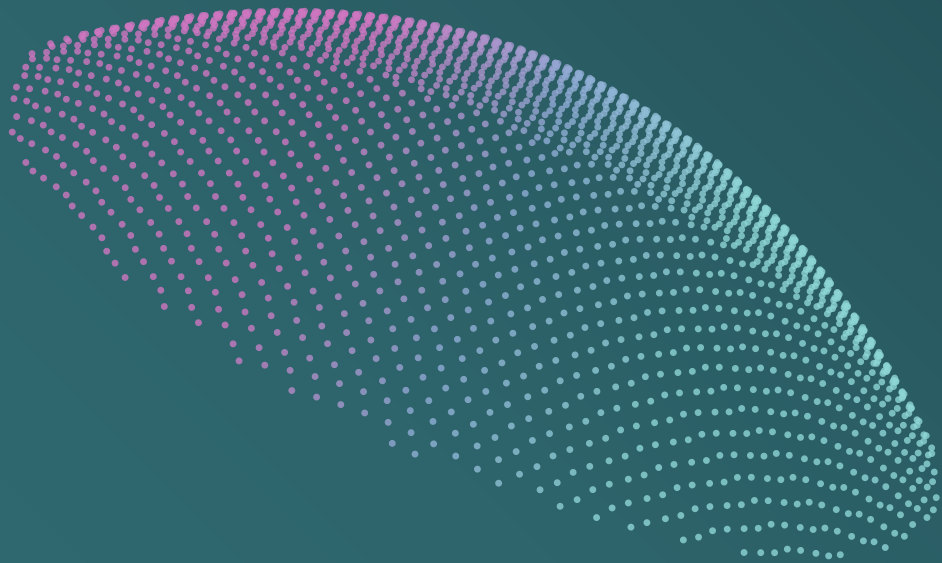
Accuracy: measure refraction post-op rather than predict pre-op

Quality: no loss of contrast or increased visual symptoms versus monofocal IOL

Customization: optimization of blended vision between two eyes in ~80% of cases



LAL Commercial Outcomes and Usage Registry



819 subjects received bilateral LAL implants
at a total of 84 clinical practices

Patients and doctors customized refractive
targets in each eye concurrently during
adjustment period

Refractive results collected approximately
1-3 months after final lock-in treatment

How Are Doctors Customizing Their Patients' Vision?

Refractive Final Target

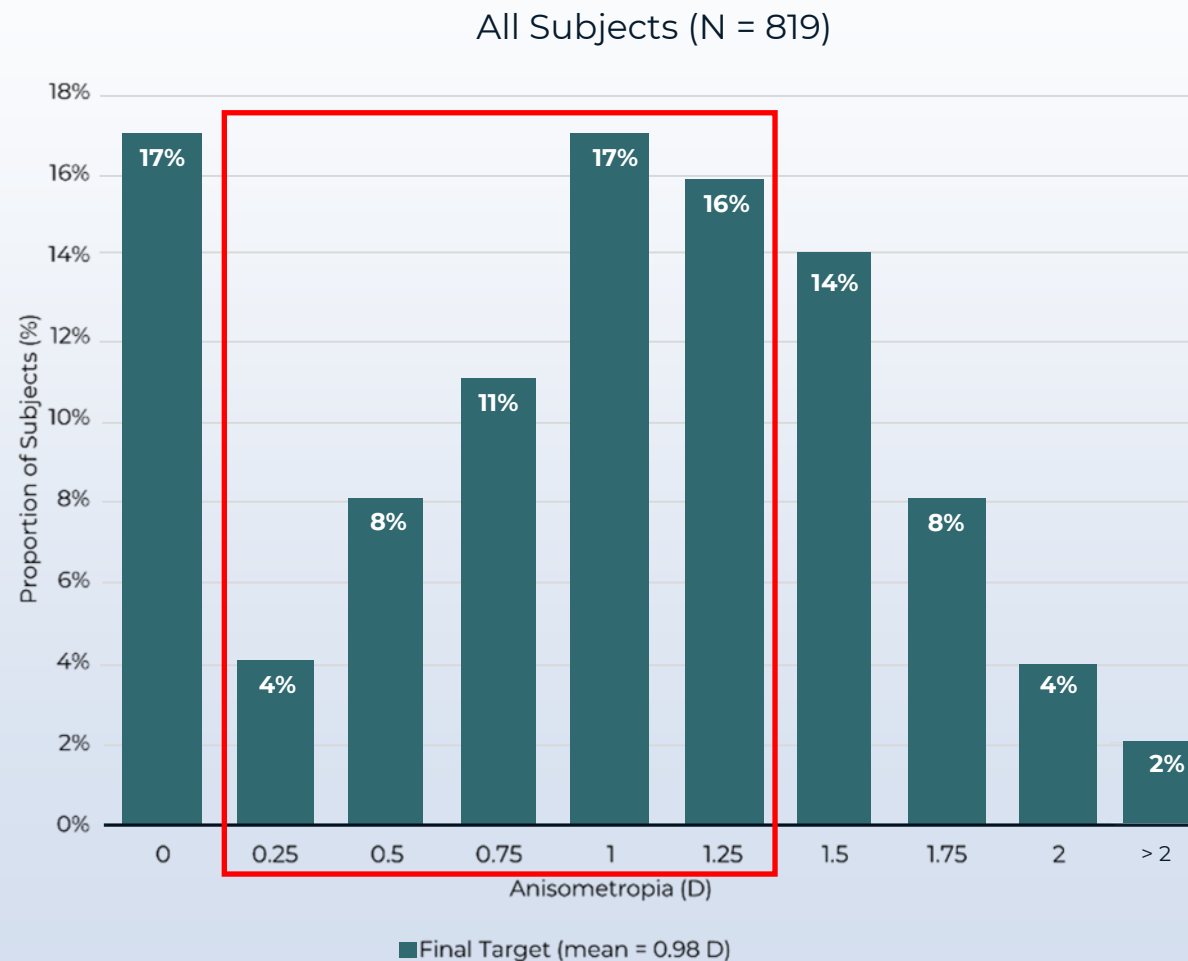
Bilateral Emmetropia 16.7%

Blended Vision 79.6%*

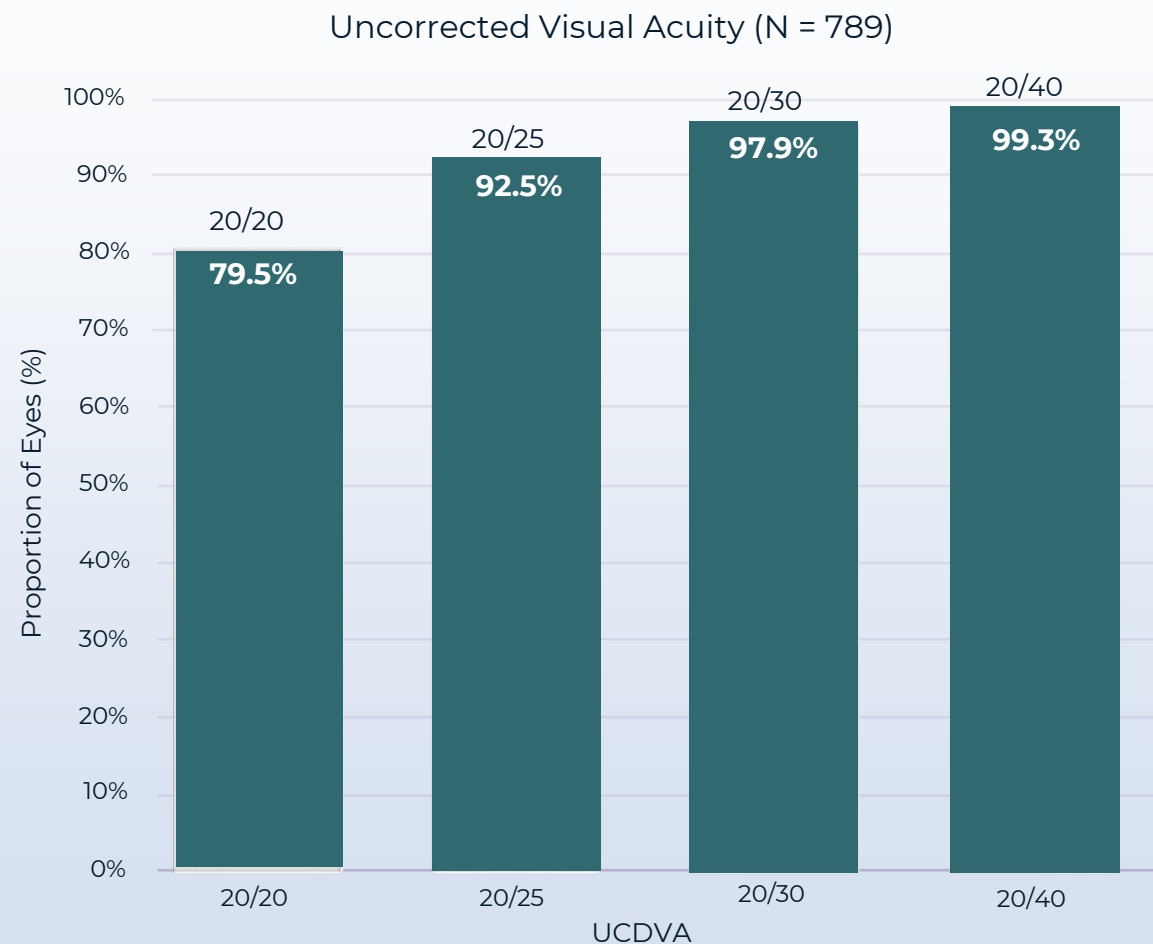
Bilateral Myopia** 3.7%

*Of those with blended vision, **65.3%** had anisometropia of 1.25 (D) or less

**Myopia is defined as -0.25 or more (D) in both eyes



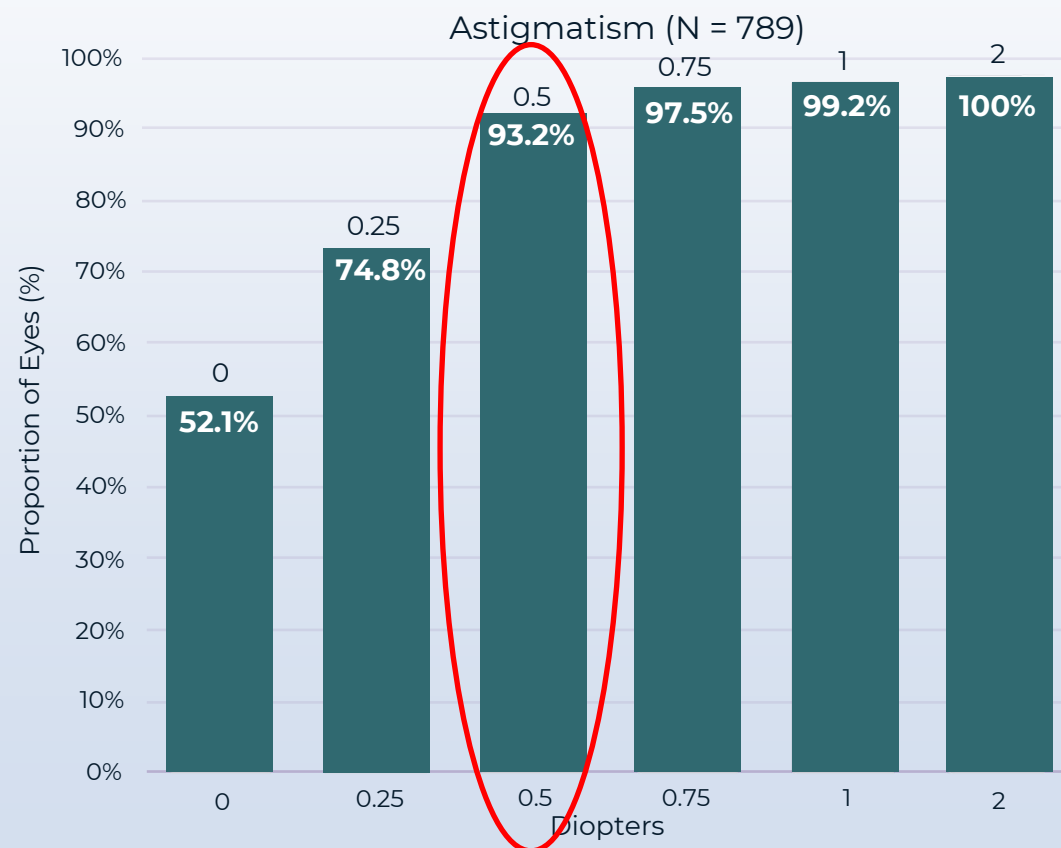
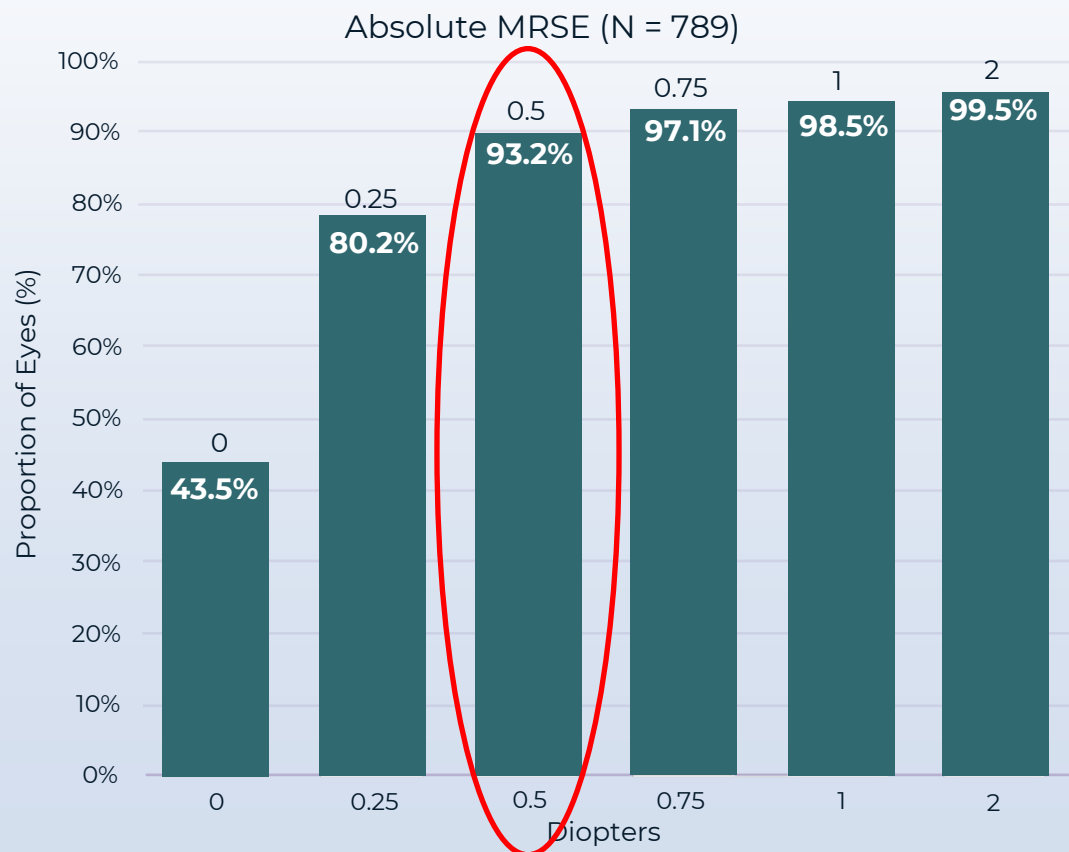
Monocular Uncorrected Acuity in “Distance” Eyes



Note: Monocular outcomes in 789 “distance eyes” (since 30 subjects selected bilateral myopia)

Refractive Results

Absolute MRSE and astigmatism were within 0.50 D of emmetropia in **93.2%** of eyes targeted for emmetropia



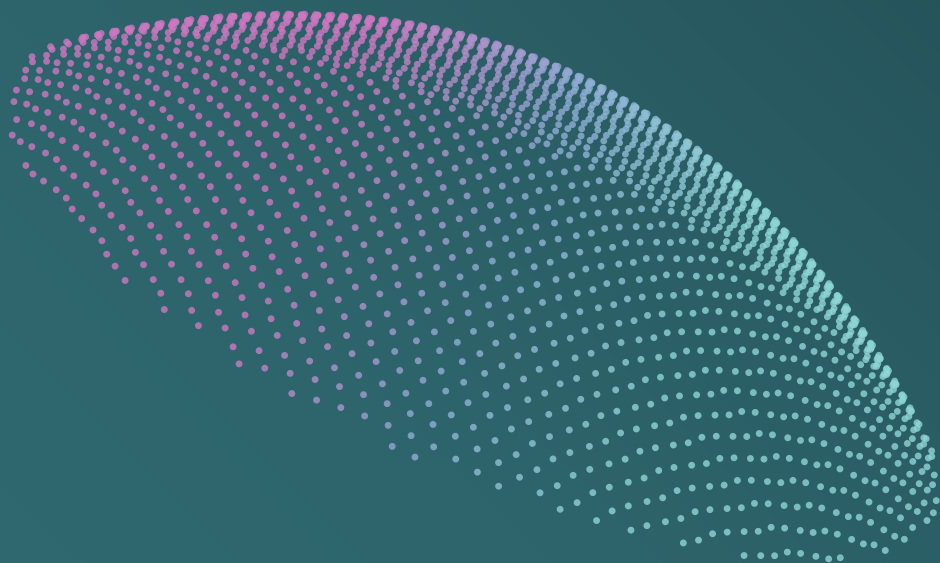
Binocular Outcomes

	Uncorrected Binocular Distance Vision		Uncorrected Near Vision			
	20/20 or better	20/25 or better	J1+ or better	J1 or better	J2 or better	J3 or better
Bilateral Emmetropia (n=137)	90%	97%	29%	55%	76%	88%
Blended Vision (n=652)	86%	97%	54%	84%	95%	99%

LAL+ Data Preview¹

After all treatments with the LDD

Binocular uncorrected visual acuity



	Binocular Uncorrected Distance Vision		Binocular Uncorrected Near Vision			
	20/20 or better	20/25 or better	J1+ or better	J1 or better	J2 or better	J3 or better
Blended Vision (n=80)	88%	99%	84%	93%	96%	98%

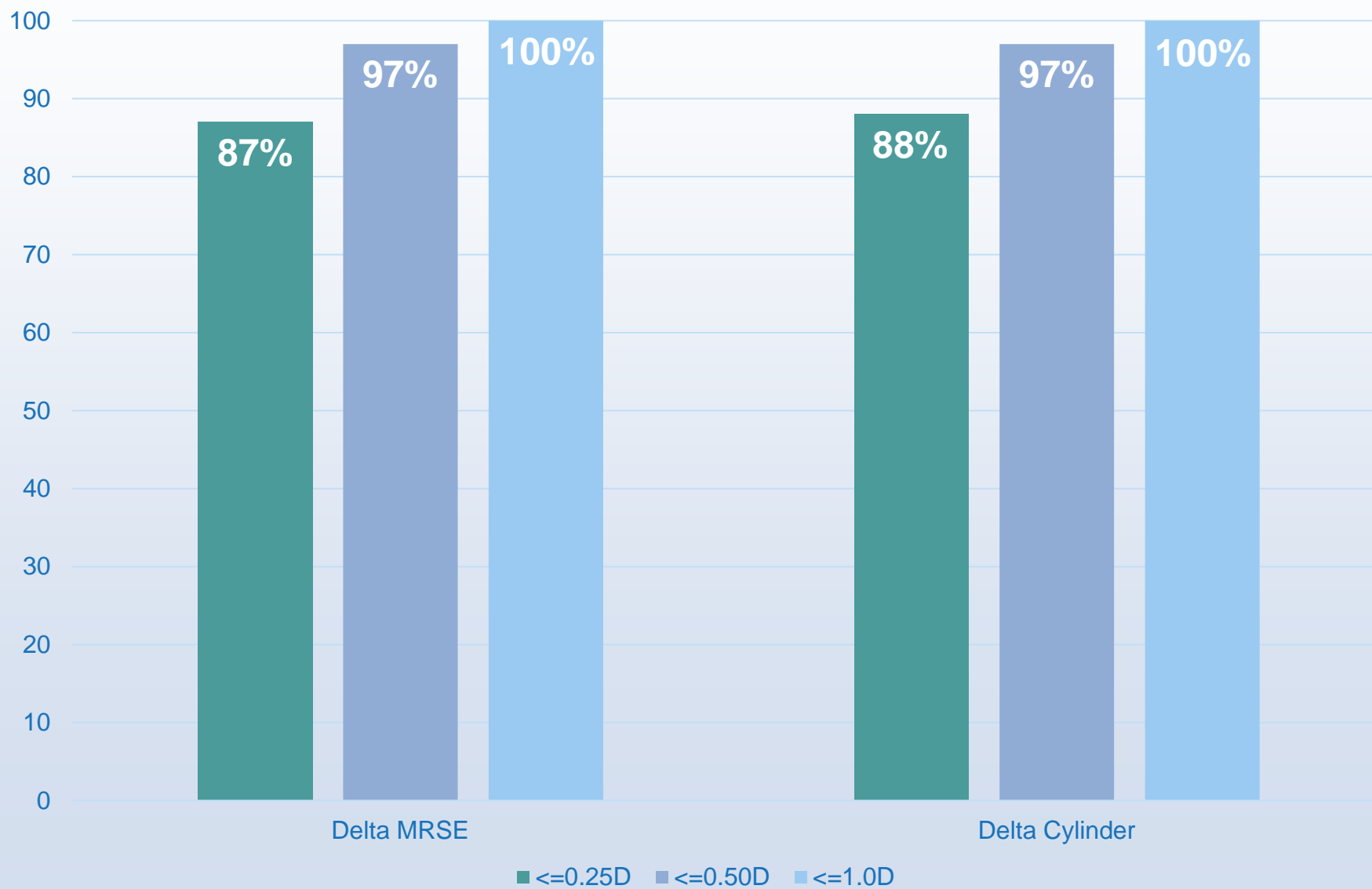
Depth of focus

LAL 1.37 D

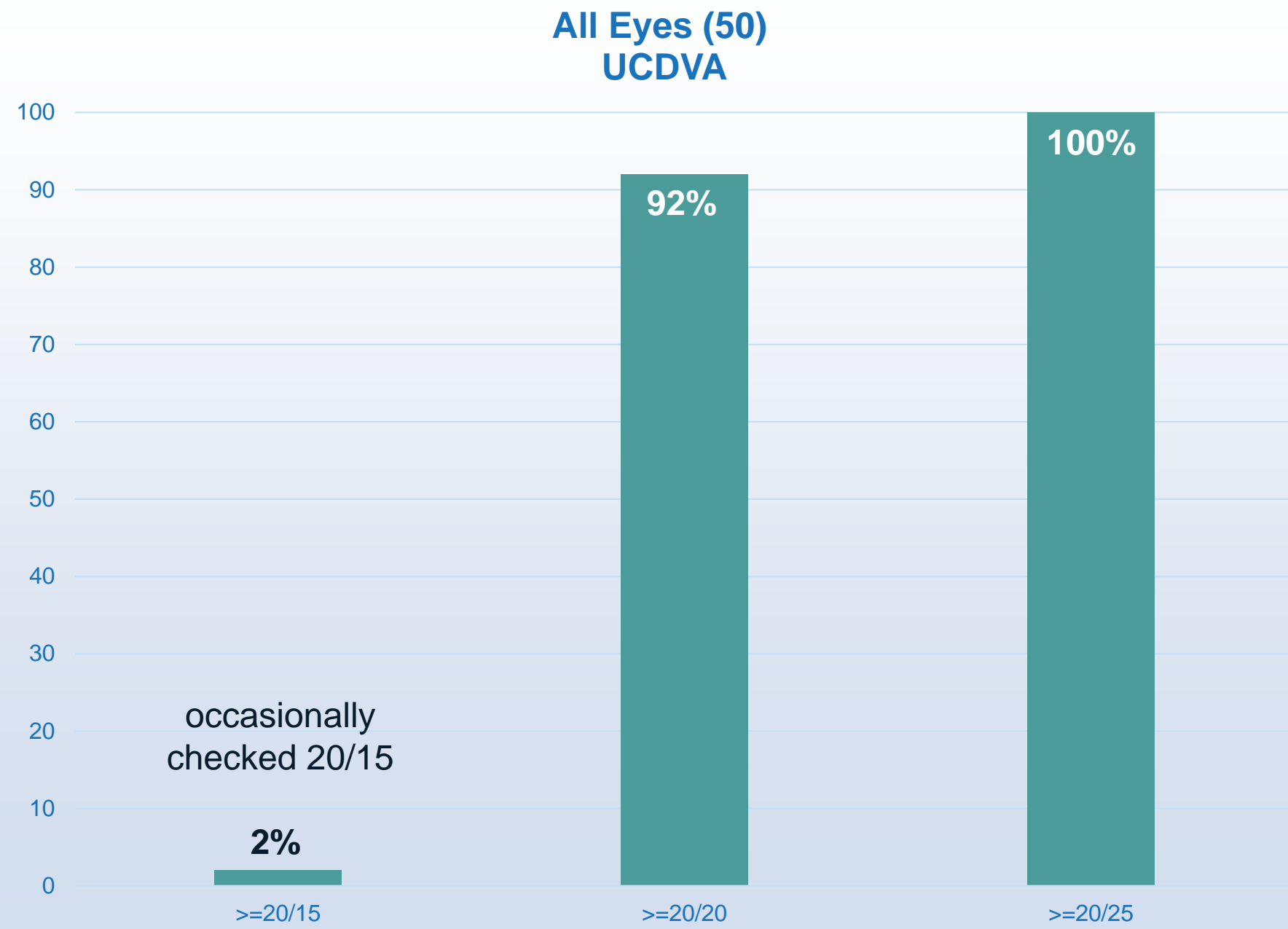
LAL+ 1.58 D

Binocular Outcomes

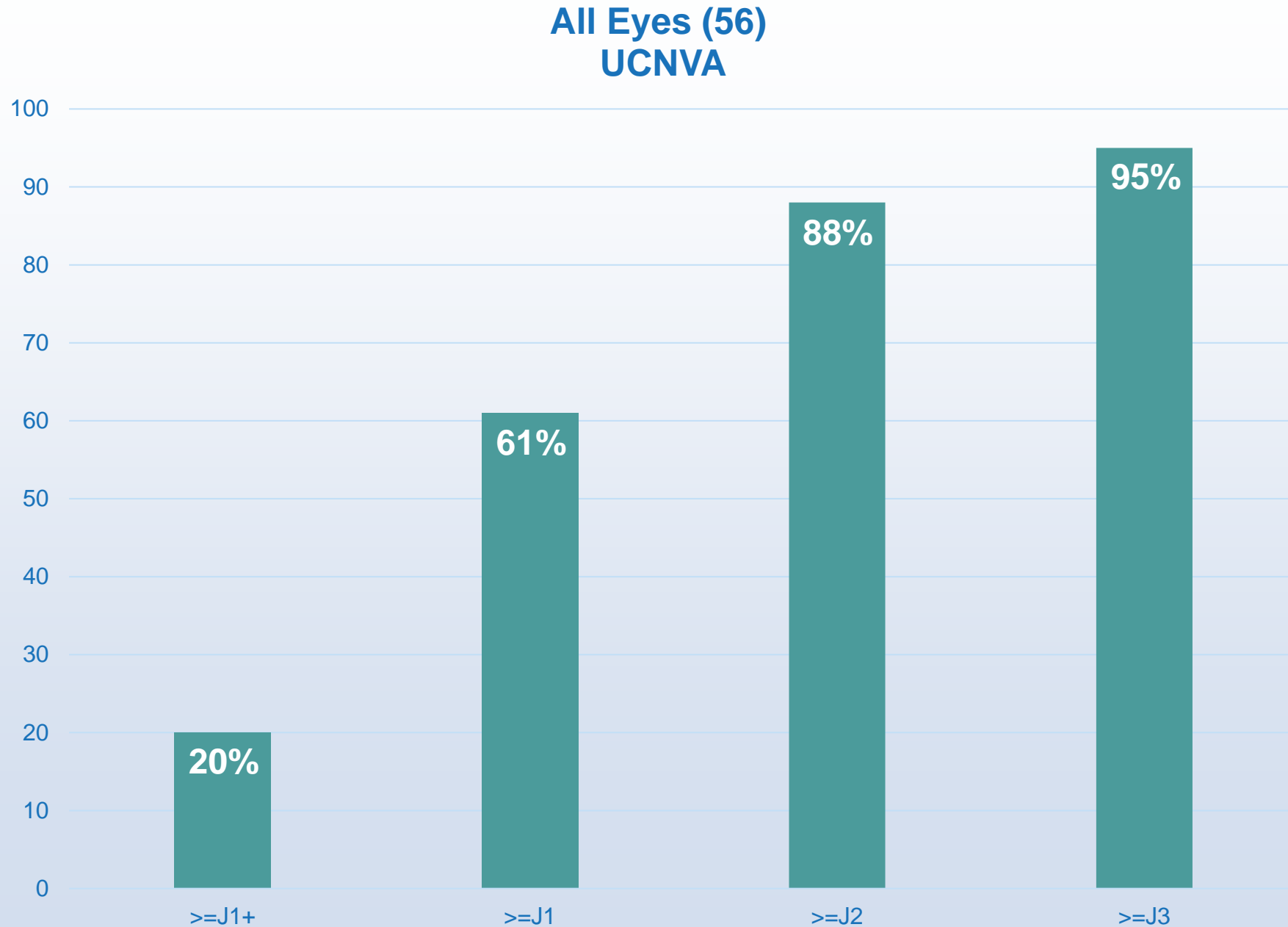
All Eyes (119)
Accuracy to Target



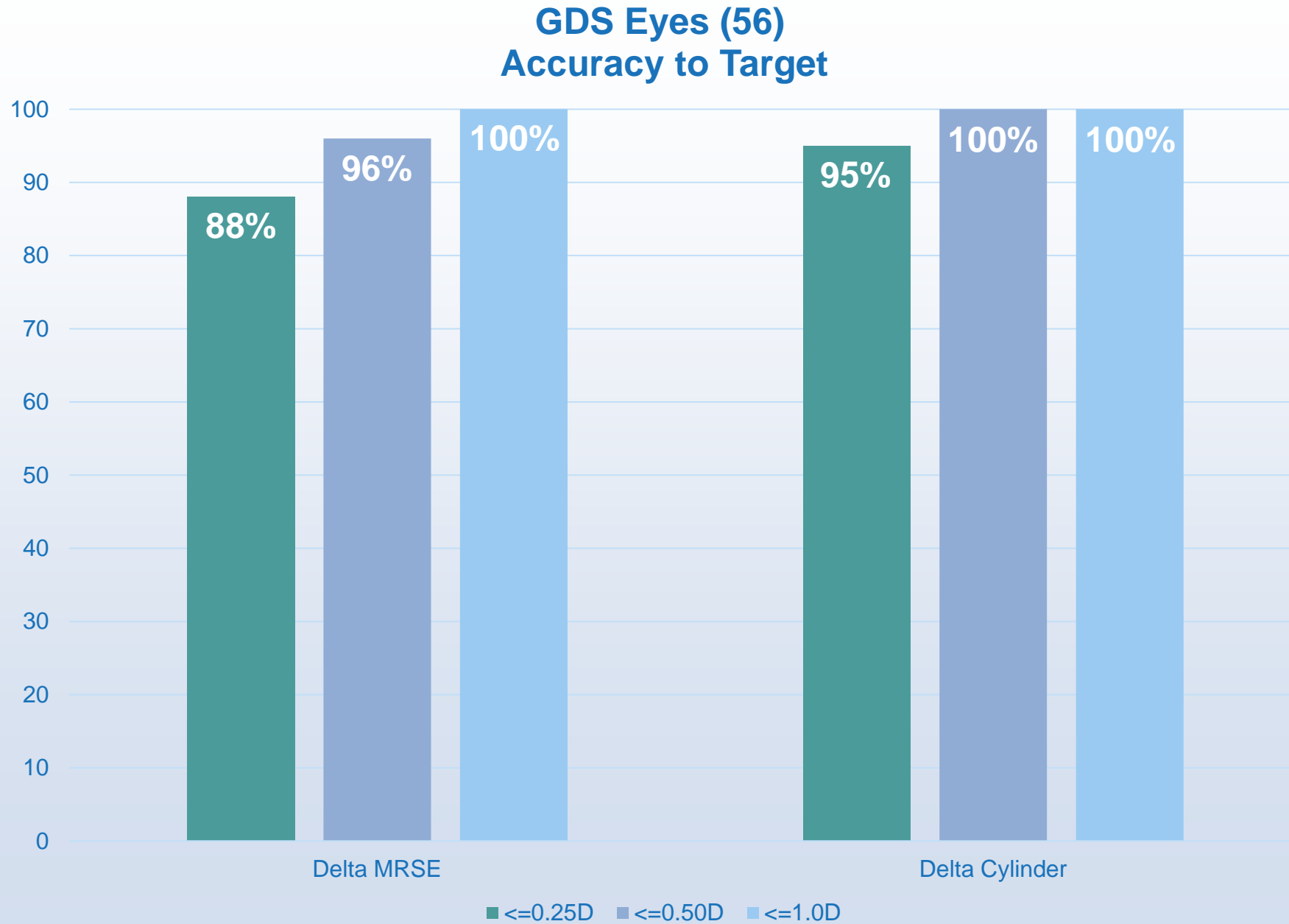
Binocular Outcomes



Binocular Outcomes

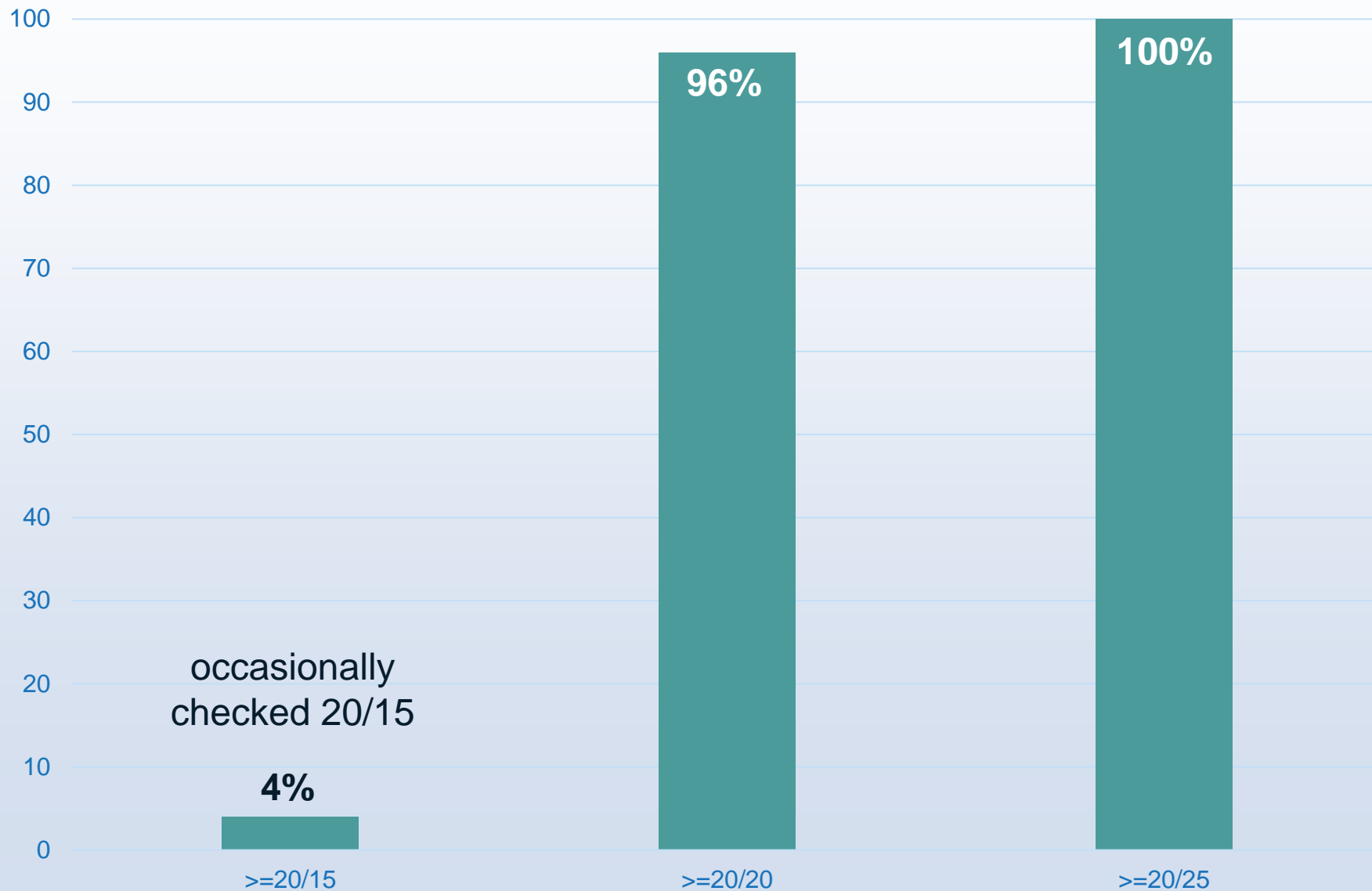


Binocular Outcomes



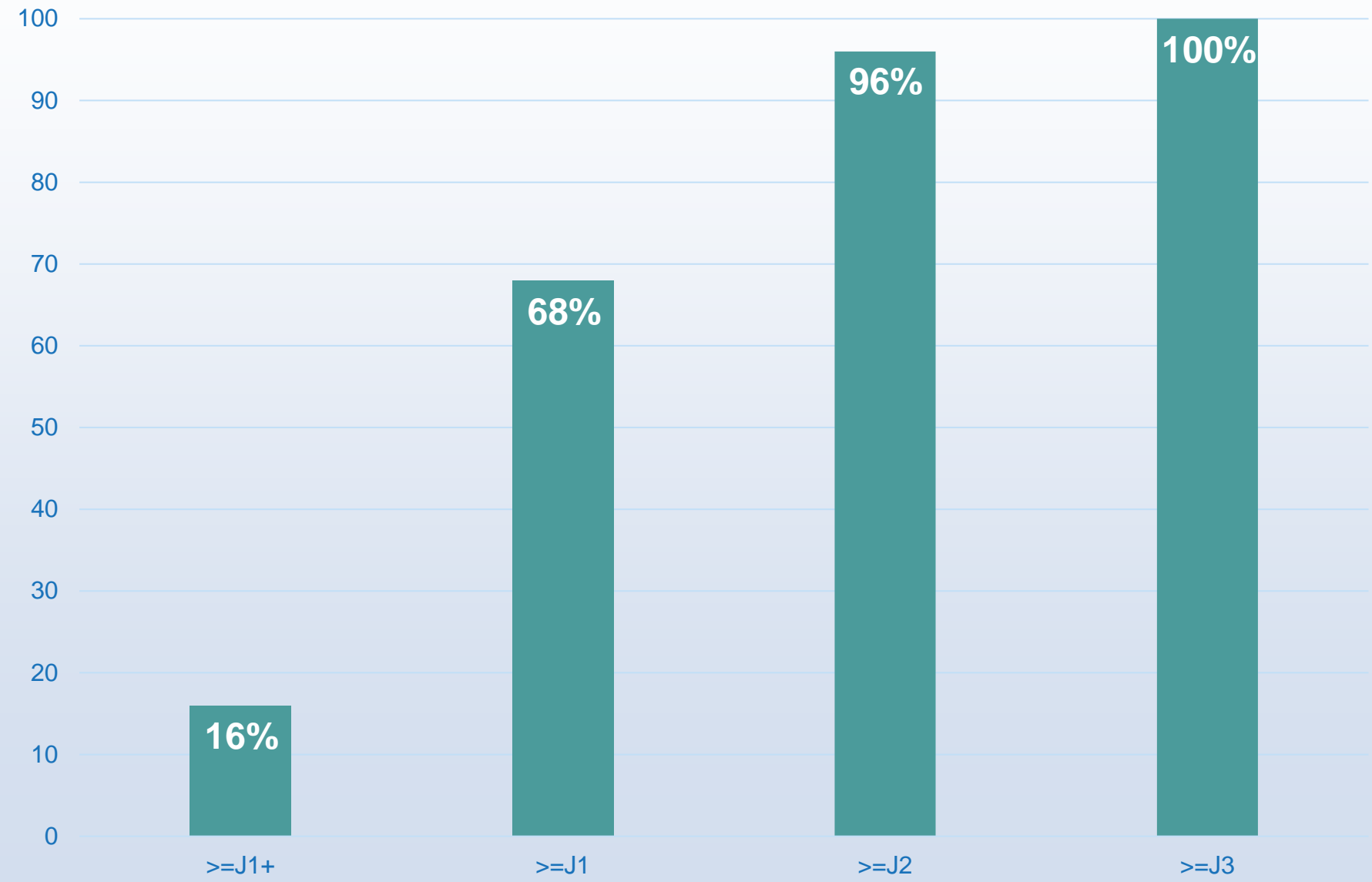
Binocular Outcomes

GDS Eyes (25)
UCDVA



Binocular Outcomes

GDS Eyes (25)
UCNVA



Binocular Outcomes

My **only** glasses Rx so far after LAL ...

Visual acuity:

OD	Dva sc:	20/20		cc:			ph:			Int sc:	20/33		Nva sc:	J5
OS	Dva sc:	20/70		cc:			ph:			Int sc:	20/20		Nva sc:	J1
OU	Dva sc:	20/20		cc:						Int sc:	20/20		Nva sc:	J1

Manifest RX:

SPH:	CYL:	Axis:	ADD:	Prism:	B:	Prism:	B:	SPH:	CYL:	Axis:
OD: Plano	Sph							OS: -1.50	Sph	
Dva:	Nva:									
OD: 20/20		J5								
Dva:	Nva:									
OS: 20/20		J5								

Pre-op

OD									OS						
Best Corrected Vision and Manifest Refraction:									Best Corrected Vision and Manifest Refraction						
Date	SPH	CYL	AXIS	ADD	D VA	N VA	PRISM	BASE ▲	Date	SPH	CYL	AXIS	ADD	D VA	N VA
11/30/2023 10:10 AM	-10.25	+0.25	85	+2.50	20/40	J5			11/30/2023 10:10 AM	-8.00	+0.50	25	+2.50	20/25	J2

No Difference Between Eyes With or Without History of Prior Refractive Surgery

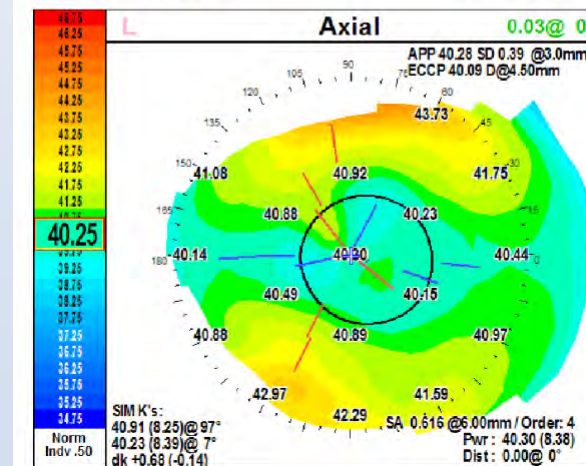
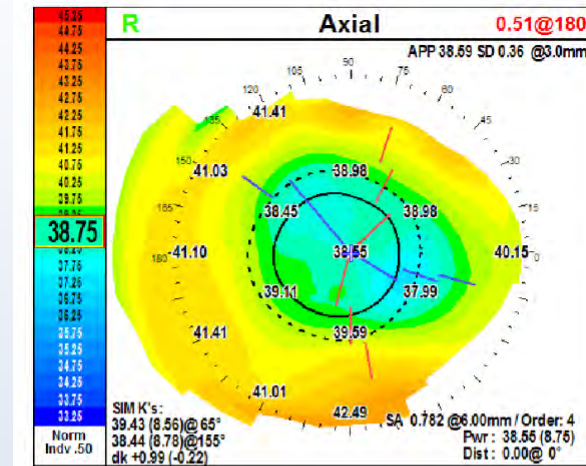
Outcome	No Prior Surgery (73%)	Prior Corneal Surgery (27%)
N	576	213
Median Monocular UCDVA	20/20	20/20
Mean Absolute MRSE	0.21 D	0.23 D
Mean Astigmatism	0.20 D	0.23 D
Median Monocular BCDVA	20/20	20/20

No Difference Between Eyes With or Without History of Prior Refractive Surgery

58 year old

Ocular History:

Date	Side	Ocular Disease	Sx Procedure	Proc Surgeon
02/07/2024	OD	Cataract	Dropless Cataract Surgery (Light Adjustable Lens 20.5) ** wait at least 3 weeks for first LDD (s/p RK) **	Searcy, Gregory
01/01/1994	OU	Refractive error	RK	Hilliard OH



No Difference Between Eyes With or Without History of Prior Refractive Surgery

58 year old

Ocular History:

Date	Side	Ocular Disease	Sx Procedure	Proc Surgeon
02/07/2024	OD	Cataract	Dropless Cataract Surgery (Light Adjustable Lens 20.5) ** wait at least 3 weeks for first LDD (s/p RK) **	Searcy, Gregory
01/01/1994	OU	Refractive error	RK	Hilliard OH

03/14/2024

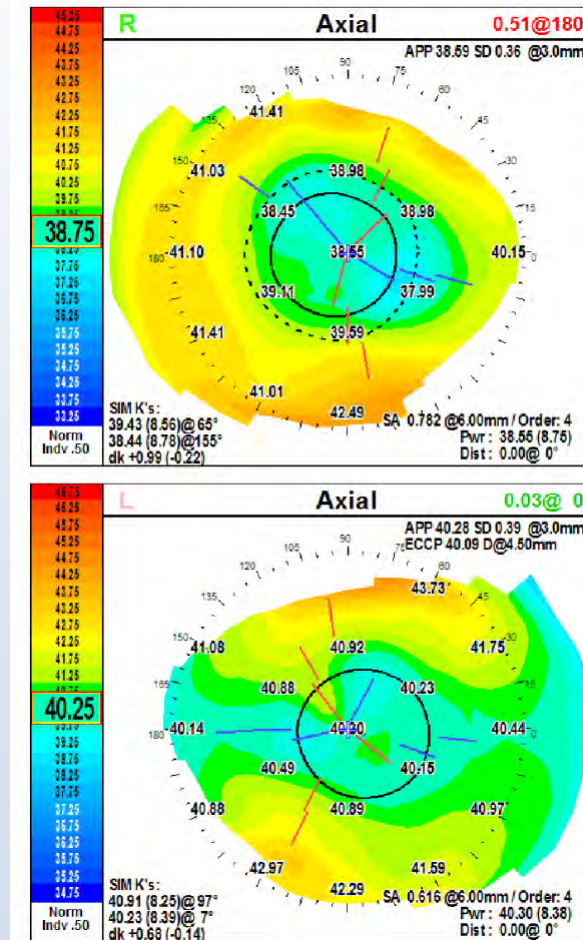
Visual acuity:

OD	Dva sc:	<input type="text" value="20/25"/>	<input type="text" value=""/>	cc:	<input type="text" value=""/>	ph:	<input type="text" value=""/>	Int sc:	<input type="text" value="20/53"/>	<input type="text" value="-"/>	Nva sc:	<input type="text" value="J16"/>
OS	Dva sc:	<input type="text" value="20/20"/>	<input type="text" value="-1"/>	cc:	<input type="text" value=""/>	ph:	<input type="text" value=""/>	Int sc:	<input type="text" value=""/>	<input type="text" value=""/>	Nva sc:	<input type="text" value=""/>

Manifest RX:

SPH:	CYL:	Axis:
OD: <input type="text" value="+0.25"/>	<input type="text" value="+0.75"/>	<input type="text" value="047"/>
Dva:	Nva:	
OD: <input type="text" value="20/20"/>	<input type="text" value=""/>	<input type="text" value="J7"/>

LDD #1 performed 03/14/2024 (target plano)
(wait at least 3 weeks after RK)



No Difference Between Eyes With or Without History of Prior Refractive Surgery

58 year old

Ocular History:

Date	Side	Ocular Disease	Sx Procedure	Proc Surgeon
02/07/2024	OD	Cataract	Droplless Cataract Surgery (Light Adjustable Lens 20.5) ** wait at least 3 weeks for first LDD (s/p RK) **	Searcy, Gregory
01/01/1994	OU	Refractive error	RK	Hilliard OH

03/14/2024

Visual acuity:

OD	Dva sc:	20/25	cc:		ph:		Int sc:	20/53	-	Nva sc:	J16
OS	Dva sc:	20/20	-1	cc:		ph:		Int sc:		Nva sc:	

Manifest RX:

SPH:	CYL:	Axis:
OD: +0.25	+0.75	047
Dva:	Nva:	
OD: 20/20		J7

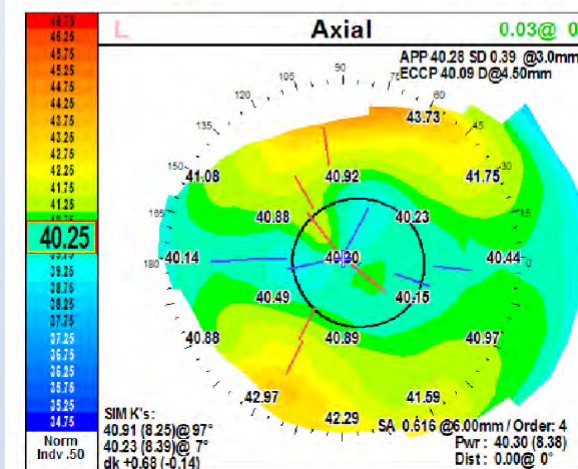
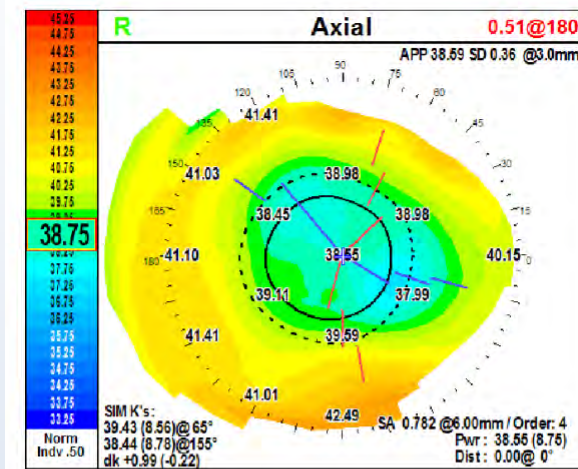
03/21/2024

Visual acuity:

OD	Dva sc:	20/25	+2	cc:		ph:		Int sc:	20/33		Nva sc:	J3
OS	Dva sc:	20/20		cc:		ph:		Int sc:			Nva sc:	
OU	Dva sc:			cc:		ph:		Int sc:			Nva sc:	

Manifest RX:

SPH:	CYL:	Axis:
OD: Plano	+0.25	150
Dva:	Nva:	
OD: 20/20	-1	J1



Lock-in #1 performed 03/21/2024

No Difference Between Eyes With or Without History of Prior Refractive Surgery

58 year old

Ocular History:

Date	Side	Ocular Disease	Sx Procedure	Proc Surgeon
02/07/2024	OD	Cataract	Droplax Cataract Surgery (Light Adjustable Lens 20.5) ** wait at least 3 weeks for first LDD (s/p RK) **	Searcy, Gregory
01/01/1994	OU	Refractive error	RK	Hilliard OH

“Light-Adjustable Lenses Are Applicable to Eyes With Prior RK”
Ophthalmology Advisor. November 9, 2023.

44 eyes of 34 patients with prior RK
64% 20/20 or better, 73% 20/25 or better, 93% 20/30 or better

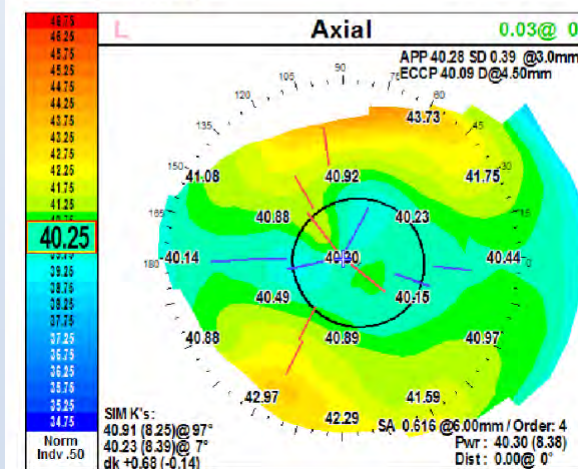
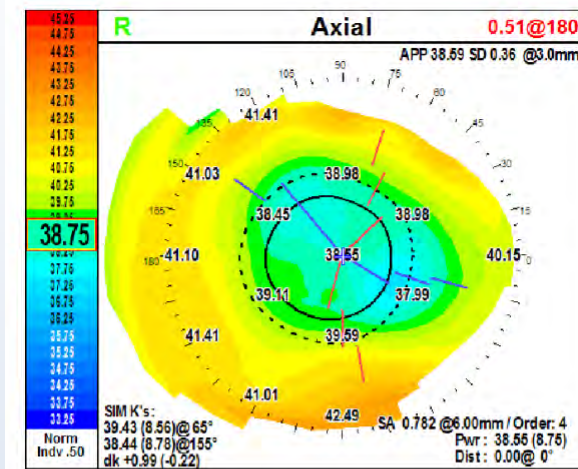
03/21/2024

Visual acuity:

OD	Dva sc:	20/25	+2	cc:		ph:		Int sc:	20/33	Nva sc:	J3
OS	Dva sc:	20/20		cc:		ph:		Int sc:		Nva sc:	
OU	Dva sc:			cc:				Int sc:		Nva sc:	

Manifest RX:

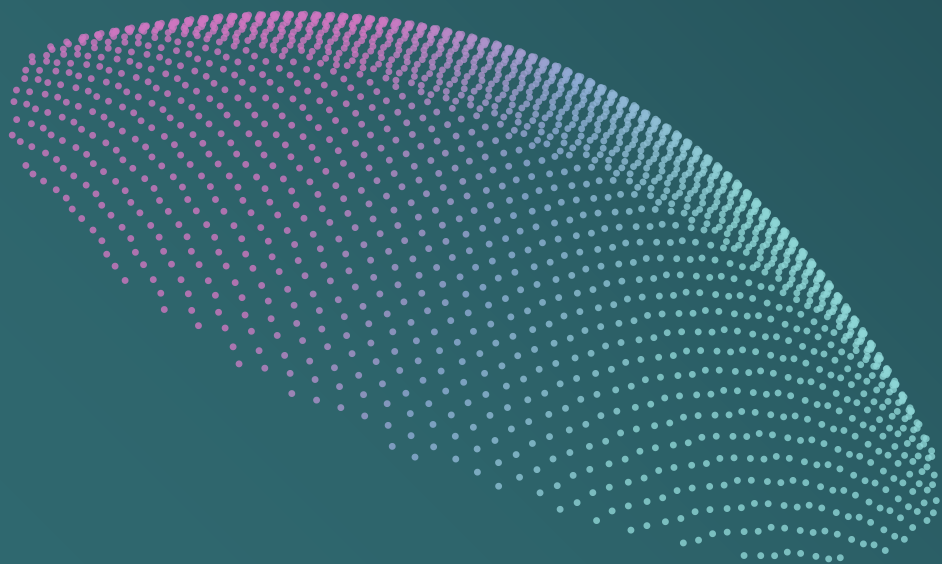
	SPH:	CYL:	Axis:
OD:	Plano	+0.25	150
OD:	20/20	-1	J1



Lock-in #1 performed 03/21/2024

Summary

LAL Delivers Customized Vision for Every Patient



Adjustability offers better refractive outcomes for every patient

Outstanding binocular range and quality of vision

Dysphotopsias

- No increase in glare or halo versus monofocal

Low Light Conditions

- No reduction in contrast versus a monofocal lens
-

Momentum Driven by Quality of Vision and Satisfaction

666 Practices

~1,200 Surgeons
~300 Optometrists



**~98,000 LAL
Implants**

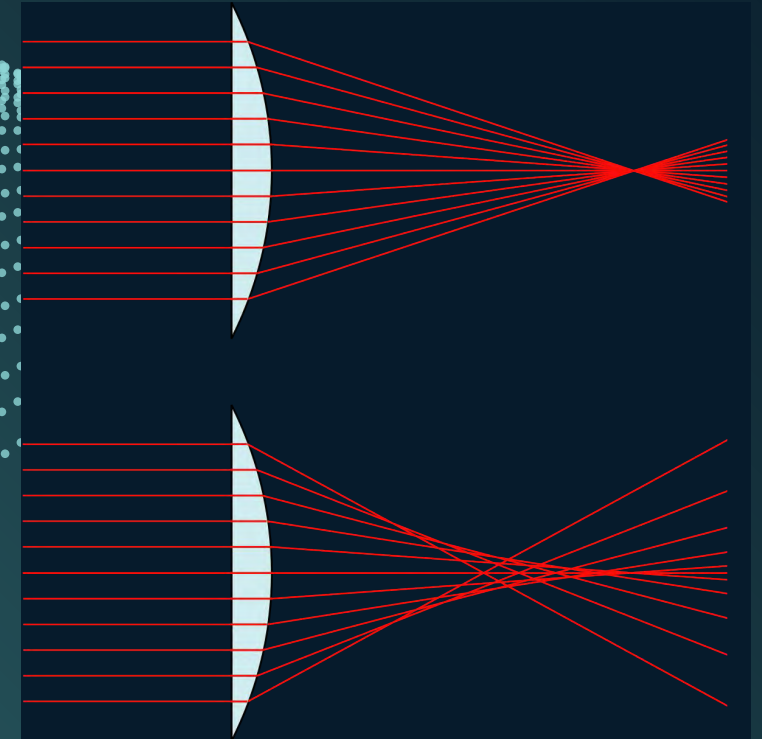
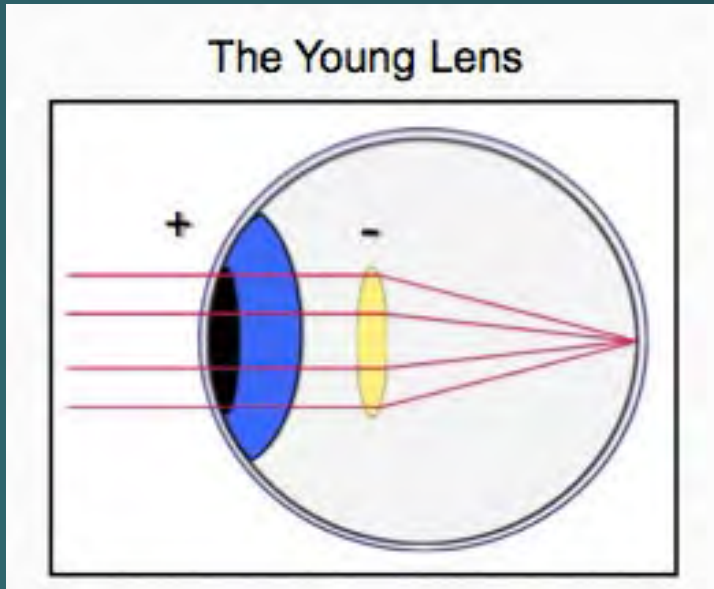


96% Customer willingness to recommend

93% State the LAL provides best vision

80% Will use LAL in their own eyes

Adjustability is Here to Stay !



20/20 and J2	90%
20/25 or better	99%
J2 or better	96%

Thank You !!!