

EDoF IOL AT LARA vs TRIFOCAL IOL AT LISA TRI

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 SPAIN*

EDoF IOL AT LARA vs TRIFOCAL IOL AT LISA TRI

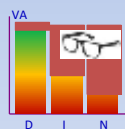
Fewest dysphotopsia,
 Glasses needed for reading
 and intermediate



Conservative patients
 accepting to wear glasses



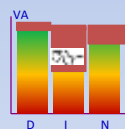
Fewest dysphotopsia,
 Glasses needed for reading
 and intermediate



Conservative but quality
 conscious patients accepting
 to wear glasses



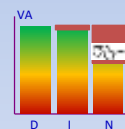
Spectacle independence
 for reading and distance



Patients with a special
 focus on spectacle
 independent near vision



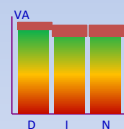
Spectacle independence for
 distance & inter-mediate.
 Less dys-photopsia than
 trifocals



Patients with an active
 lifestyle accepting reading
 glasses



Spectacle independence
 for all activities



Premium patients with a
 high urge for spectacle
 independence



EDoF IOL AT LARA vs TRIFOCAL IOL AT LISA TRI

LISA concept

- L Light distributed asymmetrically** between distant and near focus for improved intermediate vision and greatly reduced halos and glare
- I Independency from pupil size** due to high performance diffractive-refractive microstructure covering the complete 6.0 mm optical diameter
- S SMP technology** for a lens surface without any right angles for ideal optical imaging quality with reduced light scattering
- A Aberration correcting optimized aspheric optic** for better contrast sensitivity, depth of field and sharper vision



AT LARA 829

The perfect balance...

...between increased
spectacle independence

...and less dysphotopsias
& visual side effects



ZEISS AT LARA



NEXT GENERATION

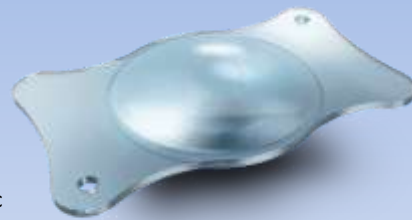
Extended Depth of Focus (EDoF) IOL

- **Widest range of focus** within EDoF segment
- **Less visual side effects** than multifocal IOLs

Cataract and refractive surgeons can now have more choice for different patient needs:

- **AT LARA** offers a **perfect balance** for patients seeking spectacle independence for an active lifestyle with less side effects
- **AT LISA tri** is a gold standard for patients seeking **maximum spectacle independence**

AT LARA 829MP



Hydrophilic acrylic (25%) with hydrophobic surface properties

4 point-haptic design

MICS (1.8 mm)

Pre-loaded BLUEMIXS injection system

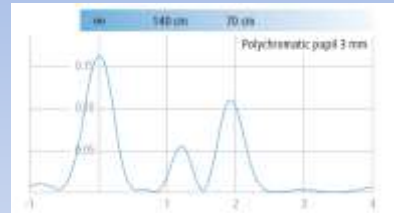
360° anti-PCO ring and sharp edges

The next generation EDoF IOL:

AT LARA 829

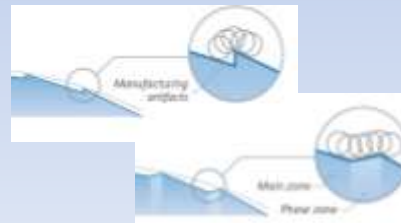
- **LIGHT BRIDGE** Optical design

Diffractive optical design with far dominant light distribution and 2 power additions creating an **optical bridge effect** to extend the range of focus



- **Smooth Micro Phase (SMP) Technology**

Patented design and manufacturing technology, minimizing light scattering and glare by **including the manufacturing process into optical design optimization**



AT LARA 829MP – Aspheric optics

- **Contrast Sensitivity Optimization**

- **Corrección cromática avanzada**

- The diffractive design is balanced such that material-based chromatic aberrations are to a large degree neutralizing by the chromatic aberration from the diffractive grating

- **Aspheric designs in IOLs:**



- Use residual corneal asphericity for focus extension
- Better performance if tilted
- Neutral to corneal 'abnormalities'(post-LASIK)

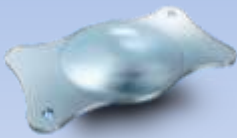
- Reduce residual asphericity
- Maximize image quality and contrast

ZEISS AT LARA

Superior optical performance inducing less visual side effects than multifocal IOLs



AT LARA 829 Technical data



AT LARA 829MP precargada	
Diseño óptico	Difractiva, esférica. Extensiones de profundidad de foco: 0,95 D y 1,9 D
Material	Acrílico hidrófilo (contenido de agua: 25 %) con propiedades de superficie hidrófoba
Diámetro óptico	6,0 mm
Diámetro total	11,0 mm
Angulación de los hápticos	0°
Diseño de la lente	MICS, una sola pieza
Tamaño de la incisión	1,8 mm
Constante A recomendada por el fabricante ¹	118,5
Rango de dioptrías	-10,0 a +32,0 D, incrementos de 0,5 D
ACB	5,20
Implantación en	Saco capsular
Juego de inyectores/cartuchos ²	BLUEMIX® 180
Indicaciones	Cataratas seniles y otras formas de cataratas. Corrección visual de la ataxia en pacientes con y sin presbicia.

AT LARA 829



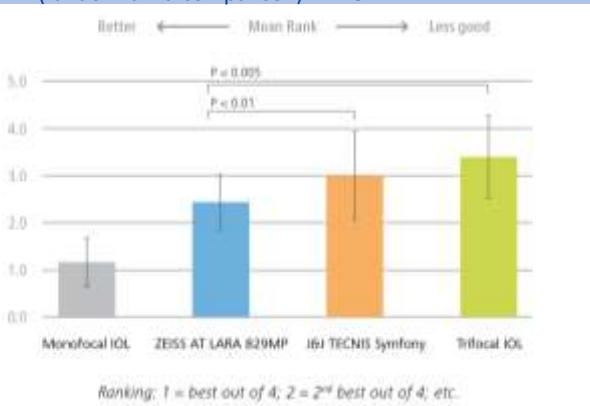
Defocus curve (n=25)

AT LARA shows **better VA** in a wider focus range compared to AMO Symfony

AT LARA 829

Favorable ratings on visual side effects

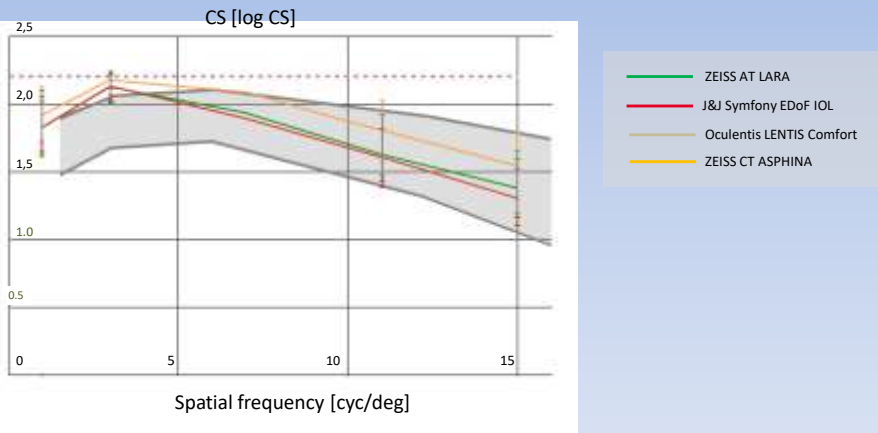
Subjective ranking of visual experience
(random blind comparison): n=48



AT LARA produces **less visual side effects** compared to a trifocal IOL

AT LARA 829

Excellent contrast sensitivity in the normal range



AT LARA produces **excellent Contrast Sensitivity** for most of the spatial frequencies

NEW AT LARA toric 929MP/M

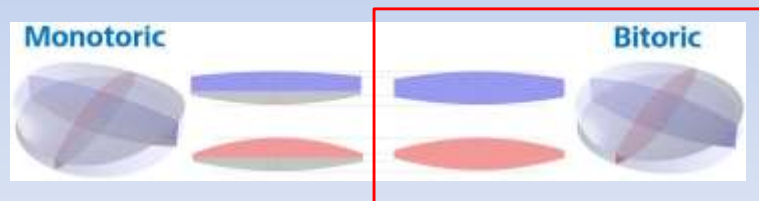
- Toric EDoF IOL with wide range of focus and reduced visual side effects, as AT LARA 829MP
 - Precise astigmatism correction
 - Proven rotation stability
 - Available range:
 - AT LARA toric 929MP*:
 - SE: -8.0 D to +32.0 D
 - CYL: +1.0 D to +4.0 D
 - AT LARA toric 929M*:
 - SE: -4.0 D to +32.0 D
 - CYL: +4.5 D to +12.0 D
 - in 0.5 D increments, respectively
- * Further preselected SE/cylinder combinations are available above and below the stated SE range.



AT LARA toric 929MP/M

Excellent Optical Quality - Bitoricity

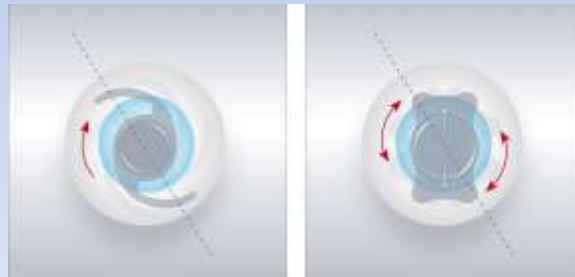
- Bitoric designs by default provide an **excellent quality image**, also in high cylinder values, leading less aberrations
- Its design also enables production of **higher cylinder powers**



AT LARA toric 929MP/M

• Easy to use – 4-Haptic design

- In comparison to IOLs with C-loop haptics, the ZEISS 4-haptic lens design provides the ability to **fine tune the axis alignment in both directions** allowing for more efficiency in surgery



Rotation of IOL with C-loop haptics vs ZEISS 4-haptics design.

AT LARA toric 929MP/M Calculation

- **Reliable and accurate calculations**
- We recommend to choose from the following options for calculation:
 - IOLM700 (Haigis Suite; Barrett Suite; new TK)
 - ZEISS MED IOL Calculation Service @ iolcalculations.meditec@zeiss.com
 - Z CALC 2.0 (October 2018)



ZEISS		
Name of IOL: AT LARA toric 929 MP		
A constant of manufacturer: 118.30		Calculate constants
Height	+0.001	+0.000
Height 2	+5.000	Height 3
Height 4	+5.87	
Height 5	+5.87	
Height 6	+5.87	
Height 7	+5.87	
Height 8	+5.87	
Height 9	+5.87	
Height 10	+5.87	
Height 11	+5.87	
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Height 94	+5.87	
Height 95	+5.87	
Height 96	+5.87	
Height 97	+5.87	
Height 98	+5.87	
Height 99	+5.87	
Height 100	+5.87	

AT LISA TRI IOL

- With its trifocal platform **AT LISA tri IOL** brings multifocal optic design to a complete new level:

- achieving outstanding visual results
- meeting highest expectations of cataract, presbyopia and astigmatism patients
- offering your patients a whole new sensation of almost total spectacle independence



This sensation describes not only excellent visual outcomes, but also a feeling of vision continuity within the whole vision range at almost all distances. It allows patients to live an active life without glasses and enjoy a full spectrum of activities without limitations.



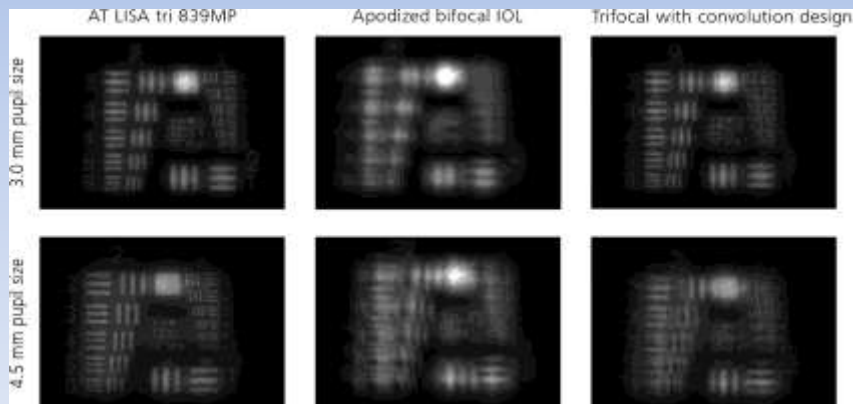
AT LISA TRI & TRI TORIC IOL

- Additional third focal point for real intermediate vision
- Excellent optical efficiency – day and night
 - Asymmetrical light transmittance
 - Pupil size independency
 - Reduced visual phenomena
- Precise astigmatism correction with ZEISS AT LISA tri toric



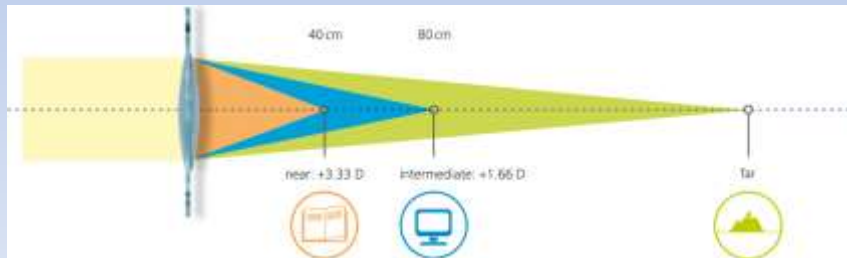
AT LISA TRI & TRI TORIC IOL

- The superior intermediate vision with ZEISS AT LISA tri family becomes evident when compared to an apodized bifocal IOL or a trifocal IOL with convolution design.



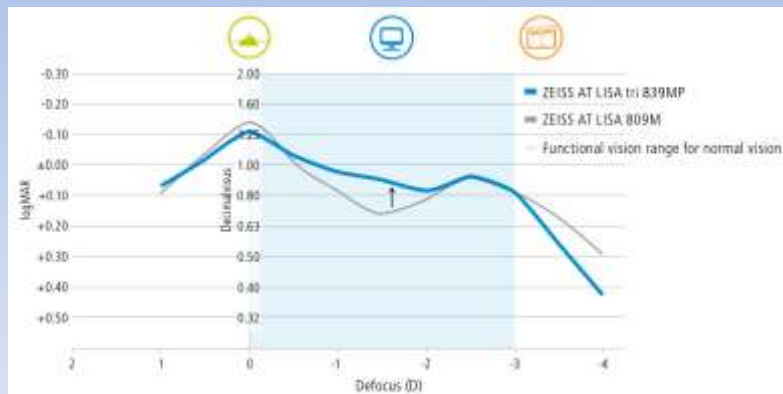
AT LISA TRI & TRI TORIC IOL

- **Intermediate addition of +1.66, and near addition of +3.33, to perform most daily activities.**



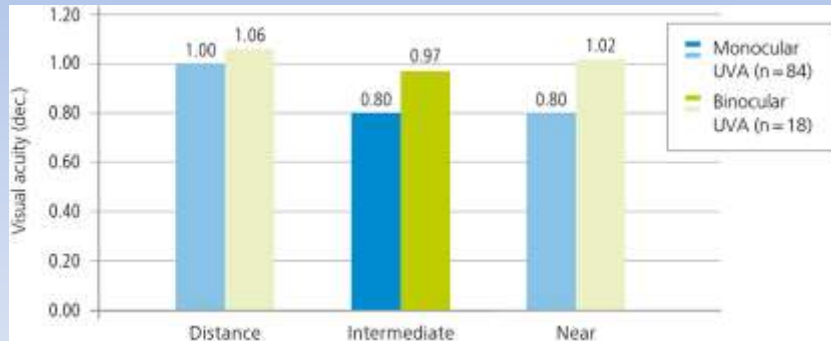
AT LISA TRI & TRI TORIC IOL

Smooth transition between near, intermediate and far vision



AT LISA TRI & TRI TORIC IOL

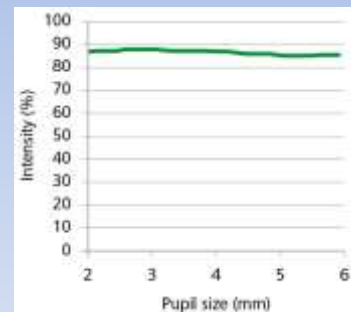
Optical design provides high resolution images with very good contrast sensitivity at all distances and under a wide range of light conditions.



AT LISA TRI & TRI TORIC IOL

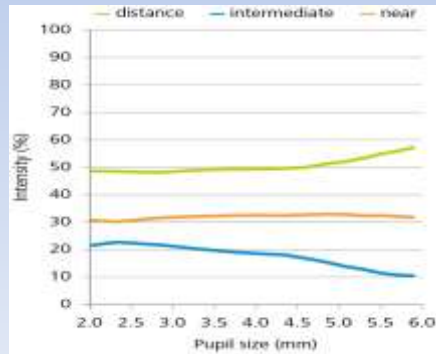
- **Overall light transmittance**
- The refractive-diffractive profile designed to enhance intermediate vision over the central optic of the ZEISS AT LISA tri increases the overall efficiency of light transmittance to an average rate of:

85,7 %



AT LISA TRI & TRI TORIC IOL

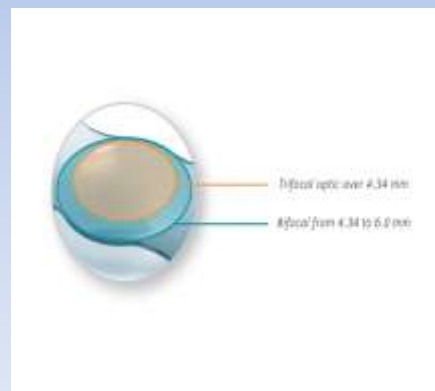
- **Asymmetrical light distribution**
- Asymmetrical light distribution of **50 %, 20 % and 30 %** between far, intermediate and near foci, with pupil independence provide more satisfying and predictable visual outcomes for younger patients with active pupils.



AT LISA TRI & TRI TORIC IOL

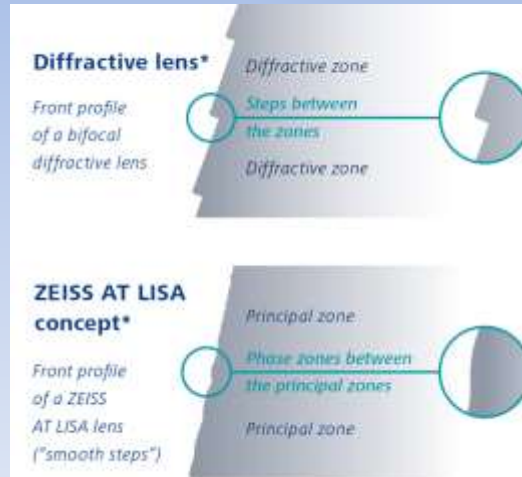
The maximized, **pupil-independent** design ensures consistent optical performance regardless of the lighting conditions.

Optic with trifocal center and bifocal periphery ensures **optimized night vision**.



AT LISA TRI & TRI TORIC IOL

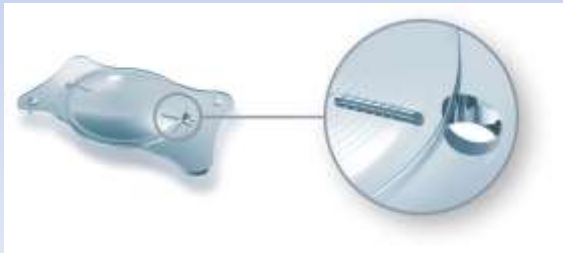
Utilizing **Smooth Micro Phase (SMP)** Technology the ZEISS AT LISA tri optic does not have any sharp angles, resulting in improved optical image quality with **reduced light scattering**.



AT LISA TRI TORIC IOL

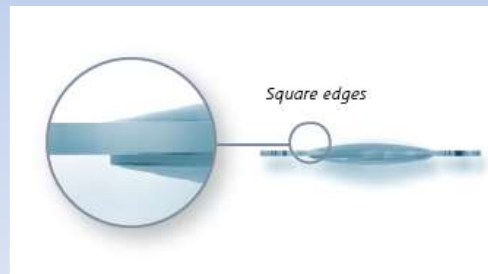
Equiconvex bitoric optic improves the optical performance of the lens.

- Clear axis marks on the posterior side of the ZEISS AT LISA tri toric, as well as the 4-haptic design and a non-sticky IOL surface enable an easy bi-directional alignment.



AT LISA TRI & TRI TORIC IOL

- In addition to its square edge design, the ZEISS AT LISA tri & Tri TORICA also offer a 360 degree anti-PCO barrier for double PCO (Posterior Capsular Opacification) protection.



AT LISA TRI IOL

Technical Specifications



	AT LISA® tri 839MP preloaded
Optic Design	Trifocal, diffractive. +3.33 D near add and +1.66 D intermediate add at the IOL plane, aspheric (aberration correcting)
Material	Hydrophilic acrylic (25%) with hydrophobic surface properties
Optic Diameter	6.0 mm
Total Diameter	11.0 mm
Haptic Angulation	0°
Lens Design	Single-piece, MICS
Incision Size	1.8 mm
Company Labeled A-Constants ¹	118.6
Diopter Range	0.0 to +32.0 D, 0.5 D increments
ACD	5.33
Implantation in	Bag
Injector / Cartridge Set ²	BLU/EMIXS® 180
Indications	Presbyopia correction in patients with or without cataract (Prelex or CLE)

AT LISA TRI TORIC IOL



Technical Specifications

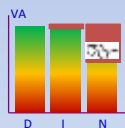
AT LISA tri toric 939MP preloaded	
Optic Design	Trifocal, bitoric, diffractive, +3.33 D near add and +1.66 D intermediate add at the IOL plane, aspheric (aberration correcting)
Material	Hydrophilic acrylic (25%) with hydrophobic surface properties
Optic Diameter	6.0 mm
Total Diameter	11.0 mm
Haptic Angulation	0°
Lens Design	Single-piece, MICS
Incision Size	1.8 mm
Company Labeled A-Constant ¹	118.8
Diopter Range	-10.0 to +28.0 D Larger diopter range available as non-preloaded ³
	Sphere +10.0 to +28.0 D, 0.5 D increments
	Cylinder +1.0 to +4.0 D, 0.5 D increments
ACD	5.32
Implantation in	Bag
Injector / Cartridge Set ²	BLUEMIXS 180
Indications	Presbyopia and astigmatism correction in patients with or without cataract (Prelex or CLE)

EDoF IOL AT LARA vs TRIFOCAL IOL AT LISA TRI

AT LARA Family

(AT LARA 829 & AT LARA toric 929)
Extended Depth of Focus (EDoF) IOL

Spectacle independence from far to intermediate distances.
Less visual side effects

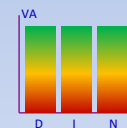


Patients with an **active lifestyle** more sensitive to side effects and **accepting reading glasses**

AT LISA tri family

(AT LISA tri 839 & AT LISA tri toric 939)
Trifocal IOL

Maximal spectacle independence at all distances

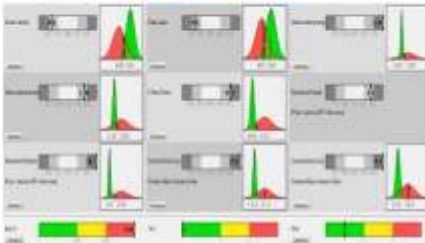


Patients with a strong desire to **get rid of glasses entirely**

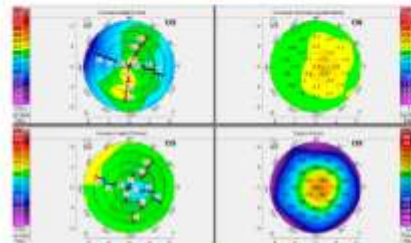
Surgeons have more options to adapt the IOL according to patients needs

PANTALLAS PARA EVALUACION DE CIRUGÍA DE CATARATAS

- Reporte de Índices



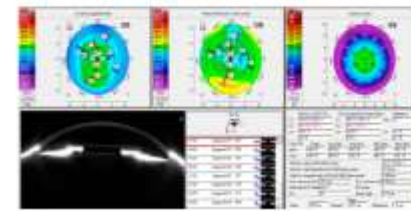
- 4 Mapas Topométricos



- Distribución de Potencias

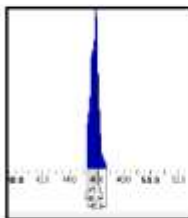


- Pre-op de Cataratas



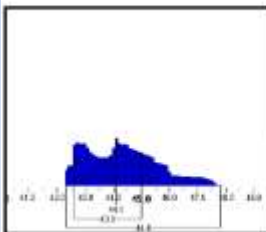
CORNEAL SURFACE POWER DISTRIBUTION

INDICACIÓN PARA LIO'S MULTIFOCALES



ADECUADO

Total Cor. Sph.Aberration (wFA Z40) (6mm zone):	0.152 μm
Total Cor. Irregular Astig. (wFA HO RMS) (4mm zone):	0.085 μm



NO ADECUADO

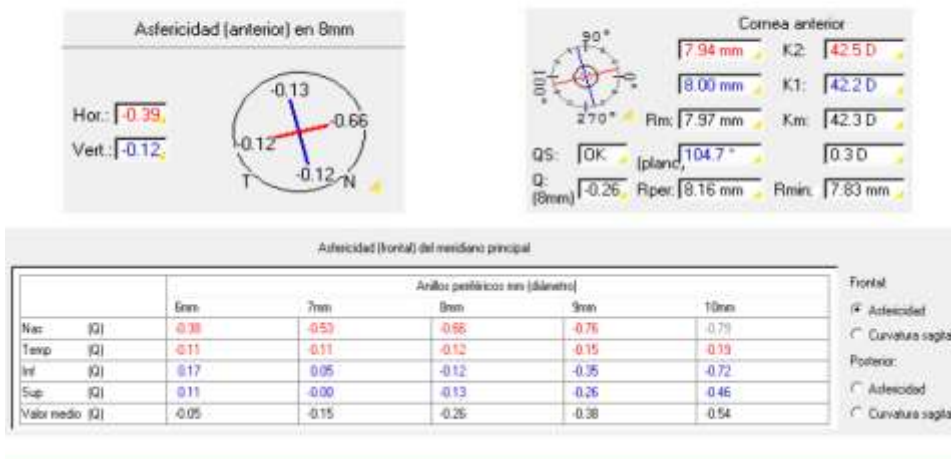
Total Cor. Sph.Aberration (wFA Z40) (6mm zone):	0.452 μm
Total Cor. Irregular Astig. (wFA HO RMS) (4mm zone):	0.458 μm

CORNEAL SURFACE POWER DISTRIBUTION



CORNEAL ASPHERICITY

MAPAS TOPOMÉTRICOS ASFERICIDAD



EDoF IOL AT LARA & TRIFOCAL IOL AT LISA TRI MIX & Match

Results: Halo and Glare Simulator

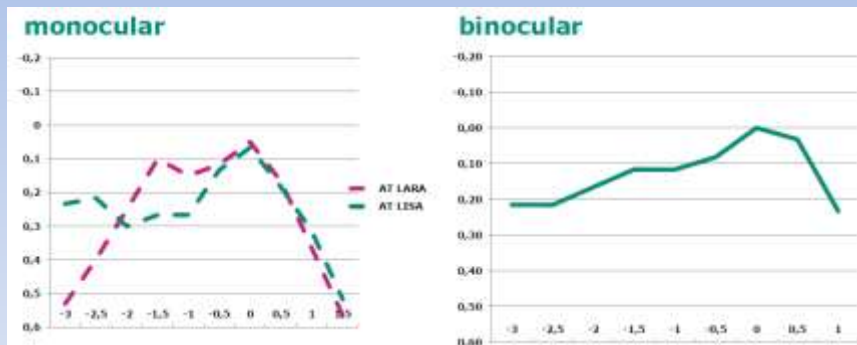
• N = 9

Halo and Glare values

- Minimal value: 17,44 %
- Maximal value: 62,16 %
- Median: 39,20 %
- Mean: 40,54 %

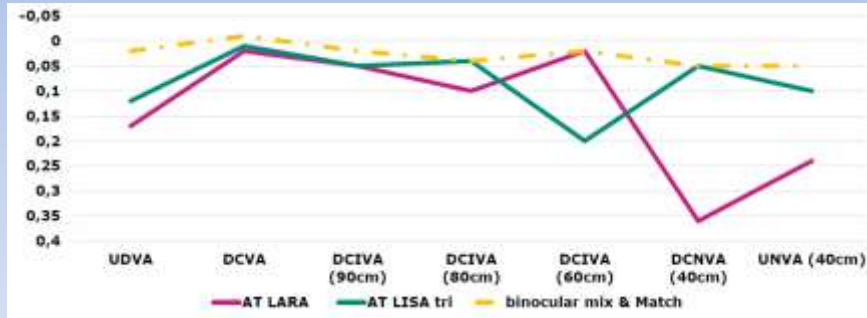


EDoF IOL AT LARA & TRIFOCAL IOL AT LISA TRI MIX & Match



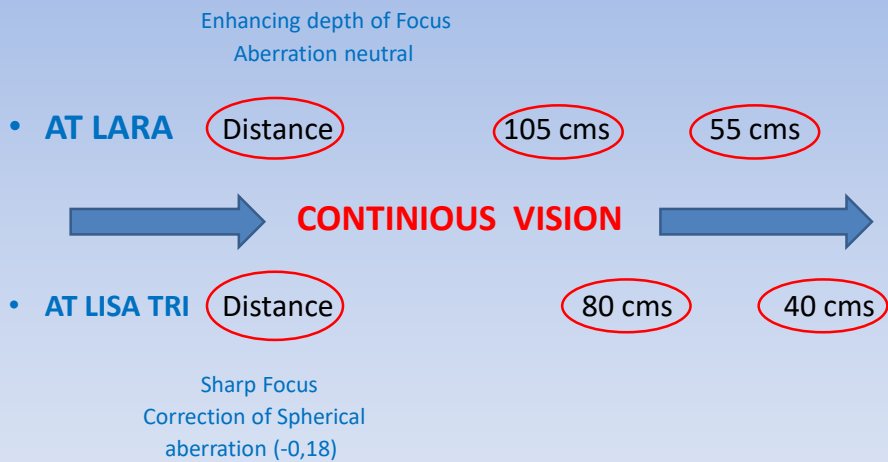
Defocus Curve 6-12 months postop

EDoF IOL AT LARA & TRIFOCAL IOL AT LISA TRI MIX & Match



Visual Acuity Results

EDoF IOL AT LARA & TRIFOCAL IOL AT LISA TRI MIX & Match



Muchas Gracias

