



AUGENÄRZTE
GERL, KRETZ & KOLLEGEN

Treating your own refractive manager

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Financial Disclosure

Acufocus¹

Alimera^{2,3,4}

AMO^{1,2,3}

AVS¹

Carl Zeiss Meditec^{1,2,3,4}

Glaukos^{1,2,3,4}

Hoya¹

LensAR¹

Mediphacos¹

MST⁴

Oculentis^{1,2,3,4}

ODC⁴

PhysIOL¹

Polytech^{1,2,3,4}

Santen¹

Teleon^{1,2,3}

Vision Ophthalmology

Group^{2,3,4}

*1 = Research; 2 = Travel Expenses
3 = Honorary; 4 = Consulting*

Cooperations



Univ.- Augenklinik
Universität Heidelberg



Provisus
Research Institute





Which IOL to choose for my refractive manager???



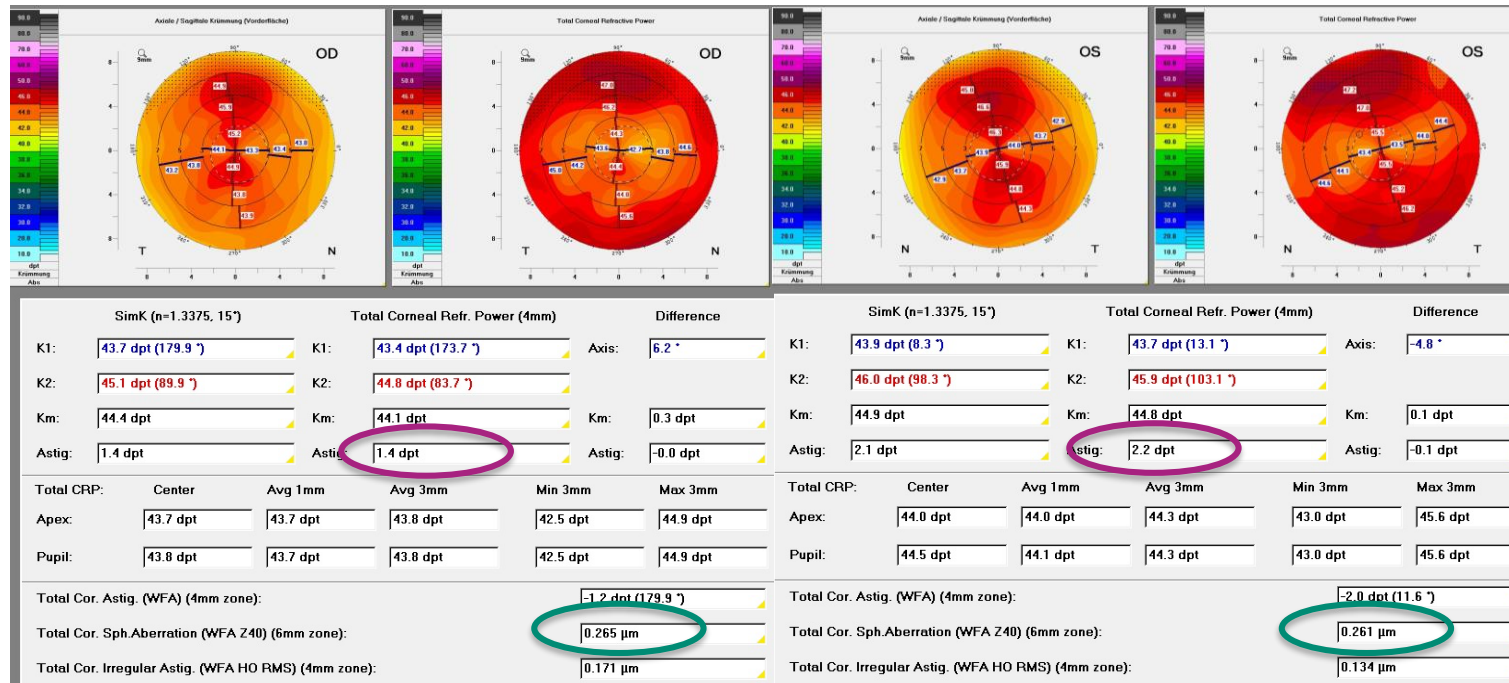
**I didn't , she already knew what she
wanted**



Pre-Op Evaluation



Regular Astigmatism



Nearly +0.3
Spherical Aberration

Hypothesis: Correcting of corneal astigmatism while keeping spherical aberration (Aberration neutral optic) → depth of focus should further be enhanced while perceiving good optical quality



IOL calculation

IOL Master 700



OD rechts	IOL-Berechnung		OS links		
	(!) Markiert einen unsicheren Messwert. (*) Markiert einen manuell editierten Wert. --- Markiert eine fehlgeschlagene Messung.				
AL: 24,98 mm (SD = 9 µm) WzW: 11,8 mm VKT: 3,09 mm (SD = 7 µm) LD: 4,37 mm (!) (SD = 57 µm) R: 7,55 mm ΔD: -1,49 dpt @ 176° R1: 7,68 mm @ 176° R2: 7,43 mm @ 86° Ref: --- VA: --- Ziel Ref.: Plan SIA: +0,50 dpt @ 90° LS: Phak; GS: Glaskörper; LVC: Unbehandelt; LVC-Modus: -			AL: 24,68 mm (SD = 9 µm) WzW: 11,9 mm VKT: 3,15 mm (SD = 8 µm) LD: 4,23 mm (!) (SD = 83 µm) R: 7,44 mm ΔD: -2,18 dpt @ 13° R1: 7,62 mm @ 13° R2: 7,26 mm @ 103° Ref: --- VA: --- Ziel Ref.: Plan SIA: +0,50 dpt @ 90° LS: Phak; GS: Glaskörper; LVC: Unbehandelt; LVC-Modus: -		



EDoF AT LARA toric 929MP

L “Light Bridge” Optical Design

Providing a wider range of focus compared to monofocal IOLs

A Aspheric optics – biometrically optimized & neutral

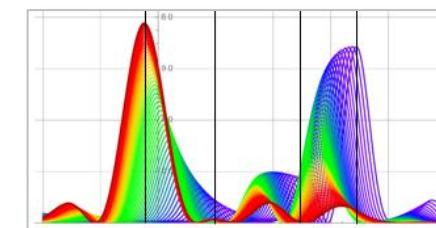
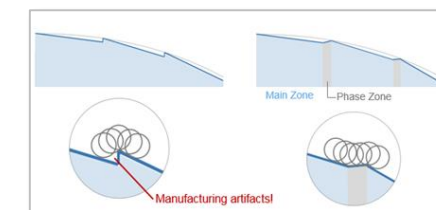
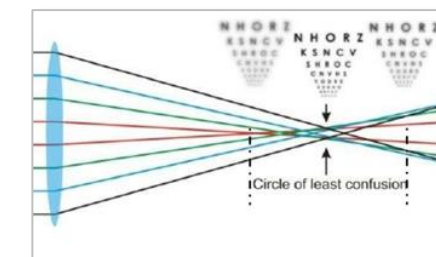
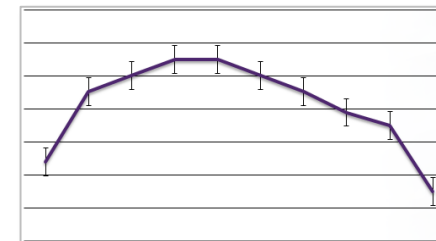
Aberration neutral aspheric design supporting depth of focus and post-LASIK usage

R Reduced visual side effects

Patented SMP technology and EDoF design for, causing less visual side effects than multifocal IOLs

A Advanced chromatic optics

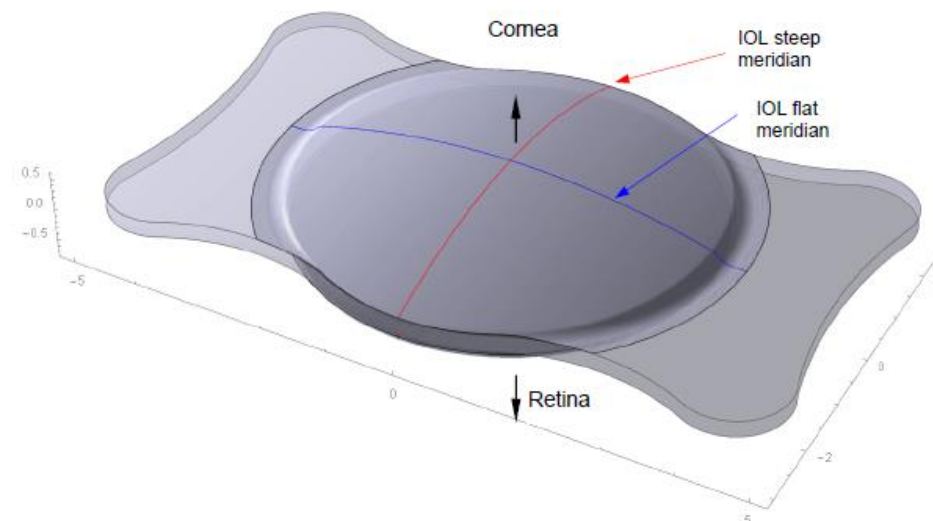
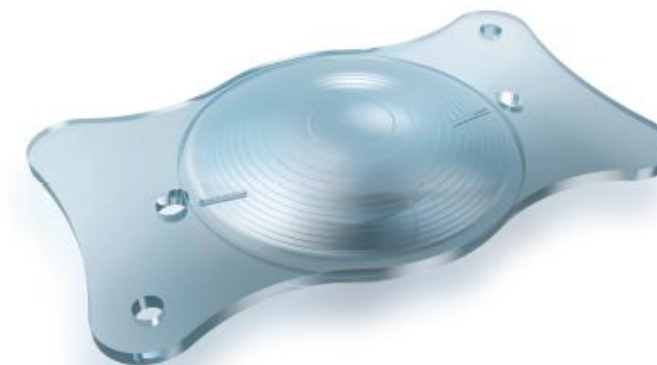
Color optimized optical design for increased contrast sensitivity



EDoF AT LARA toric 929MP



- **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**
- **Bitoric lens design up to 12D Cylinder**



Renown toric stability

easy to align due to plate haptic design

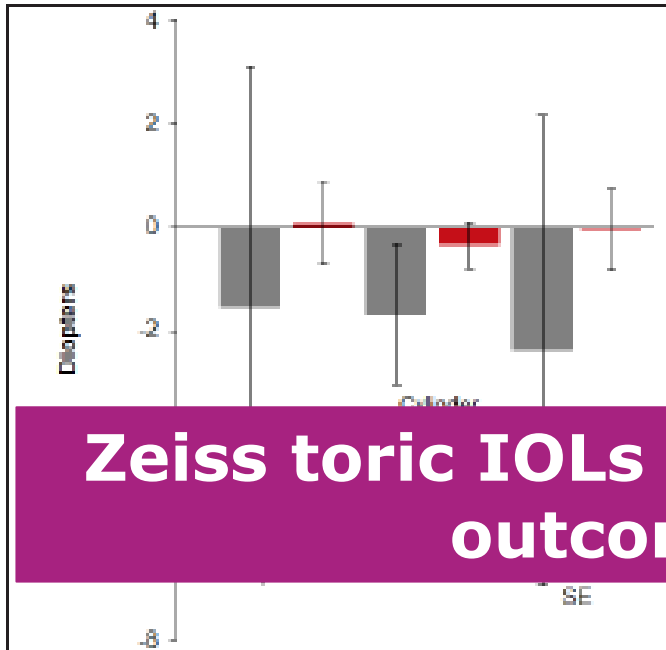


Figure 1. Summary of the refractive outcomes, showing the mean preoperative (gray bars) and postoperative (red bars) values of sphere, cylinder, and spherical equivalent (SE).

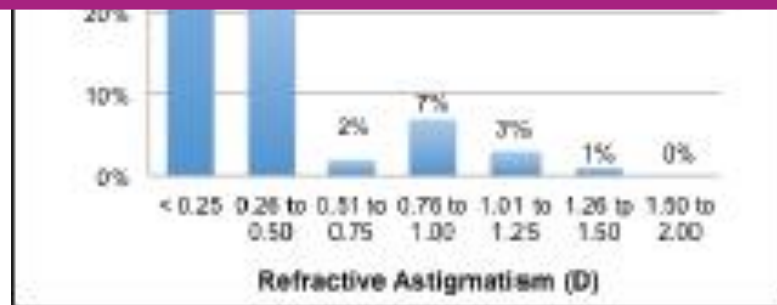
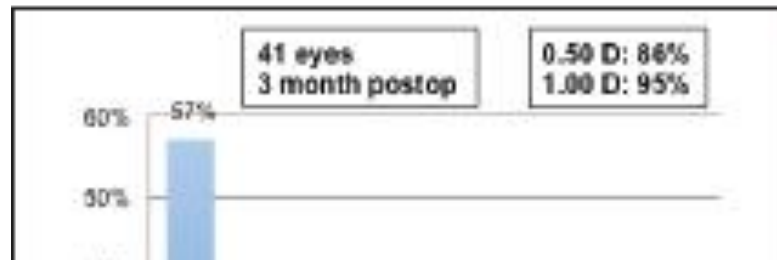
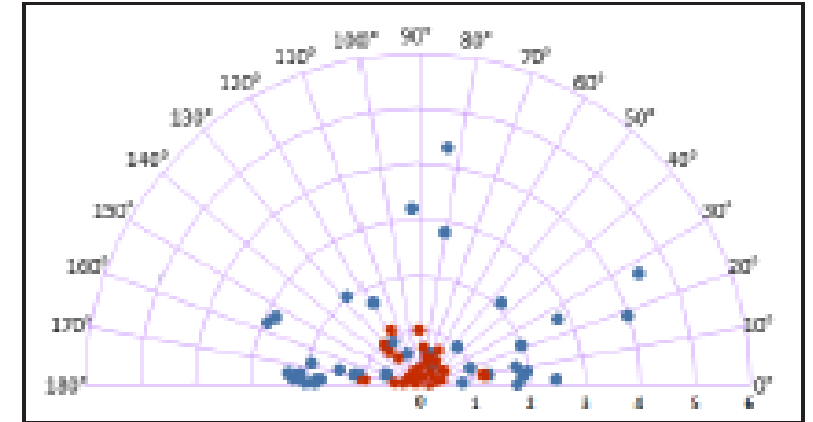


Figure 3. Distribution of the postoperative manifest cylinder. D = diopters



Zeiss toric IOLs offers good rotational stability with predictable outcome even for high diopter astigmatism

Clinical Outcomes and Capsular Bag Stability of a Four-Point Haptic Bitoric Intraocular Lens.

Kretz FT, Breyer D, Klabe K, Auffarth GU, Kaymak H.
J Refract Surg. 2015 Jul;31(7):431-6. doi: 10.3928/1081597X-20150518-11.

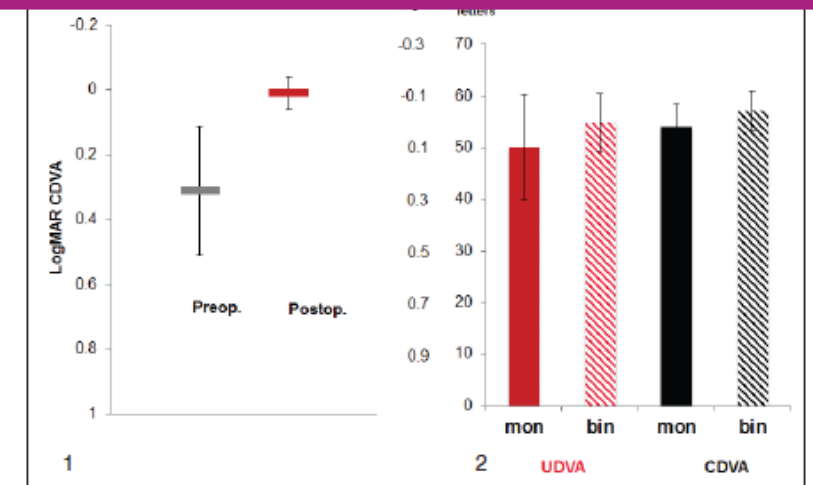
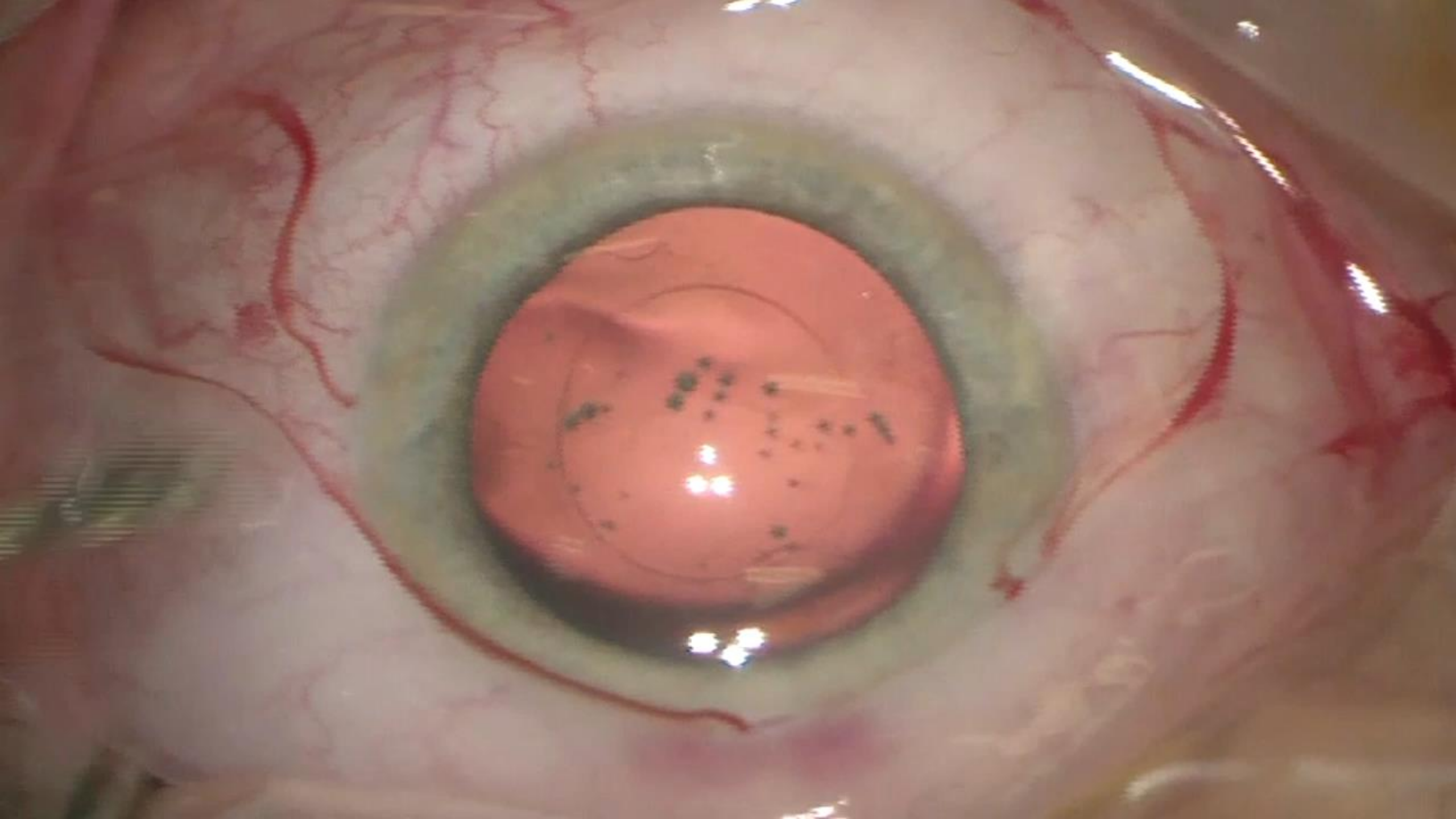


Figure A. (1) Change in monocular corrected distance visual acuity (CDVA) and (2) mean values of monocular and binocular uncorrected distance visual acuity (UDVA) and CDVA.



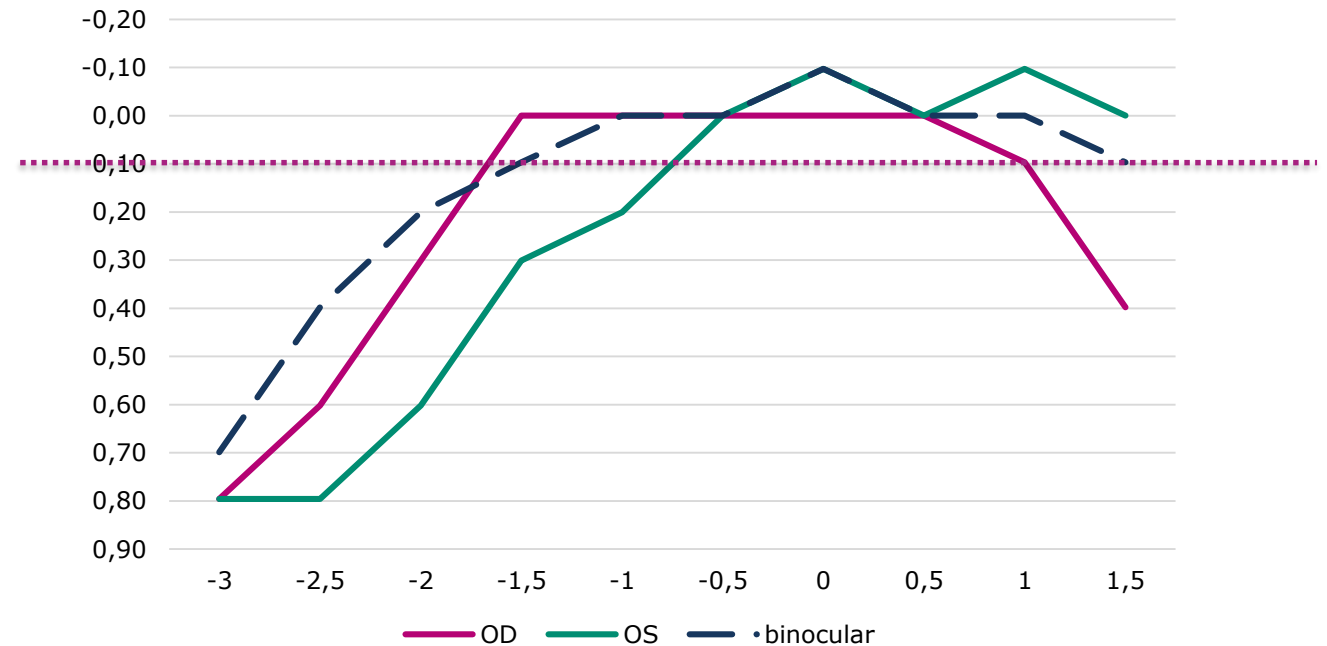


Day 1

Refractive + Functional Results



- Subjective Refraction
 - OD: +0.25
 - OS: -0.25 -0.5 107°
- UDVA [logMar]
 - OD: 0.0
 - OS: 0.0
 - Binocular: -0.1
- CDVA [logMAR]
 - OD: 0.0
 - OS: -0.1
 - Binocular: -0.1



Defocus Curve

Binocular defocus of ≤ 0.1 logMar from +1.5 - -1.5 D



Day 1

Salzburg Reading Desk (binocular)



LogMAR	Average Distance	Contrast	WPM	CPM	Reading Time
0,29	41	100	55	326	14,2
0,28	42,1	75	44	210	16,5
0,38	42	30	84	487	10
-0,03	64	100	42	181	17,3
0,11	62,2	75	47	280	15,4
0,11	62,3	30	37	222	23

No real reduction in near and intermediate under low contrast conditions



Week 1

Refractive + Functional Results



- Subjective Refraction

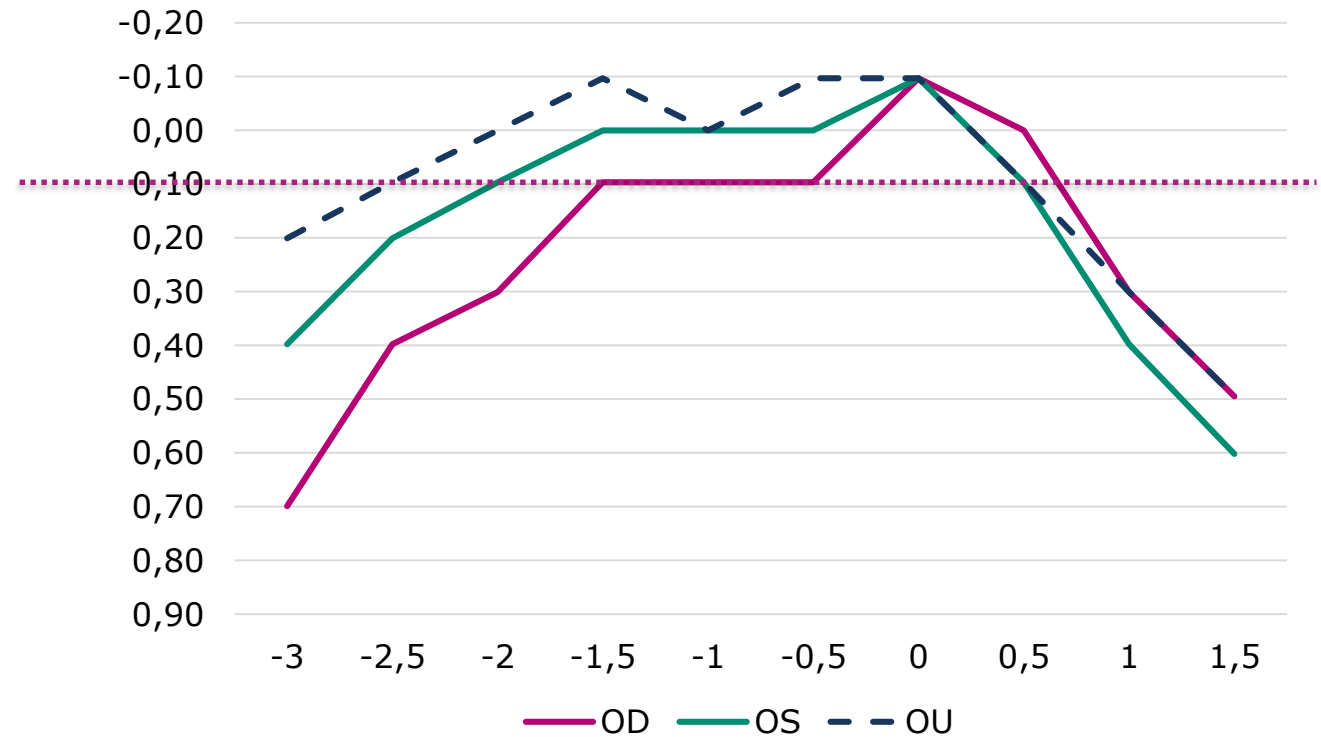
- OD: +0.25
- OS: +0.5

- UDVA [logMar]

- OD: 0.0
- OS: 0.0
- Binocular: -0.1

- CDVA [logMAR]

- OD: -0.1
- OS: -0.1
- Binocular: -0.1



Defocus Curve

Binocular defocus of ≤ 0.1 logMar from +0.5 - -2.5 D



Week 1

Salzburg Reading Desk (binocular)

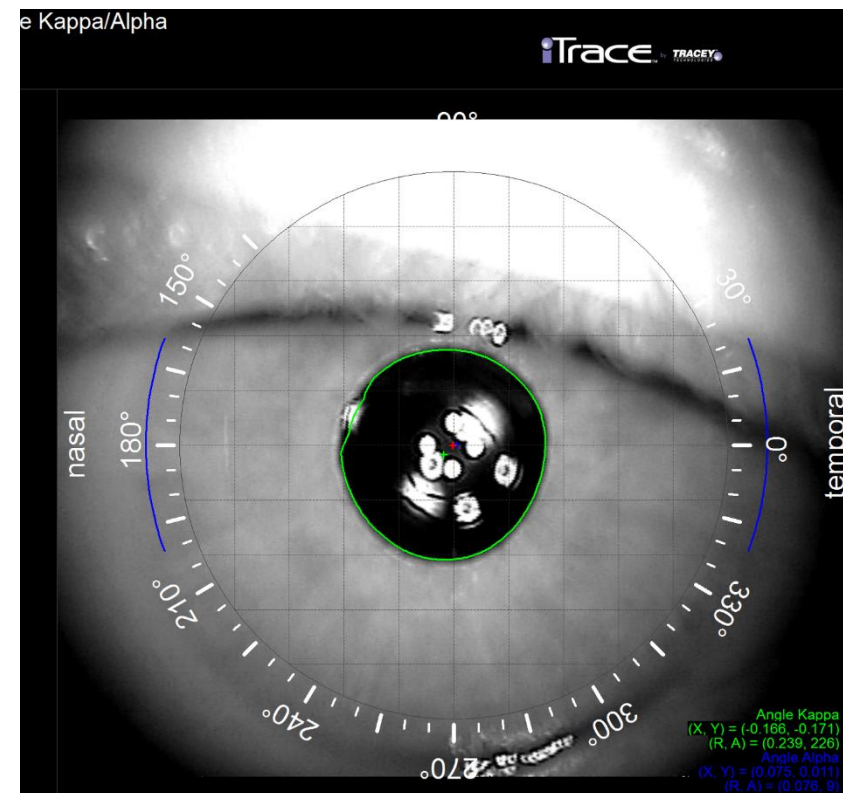
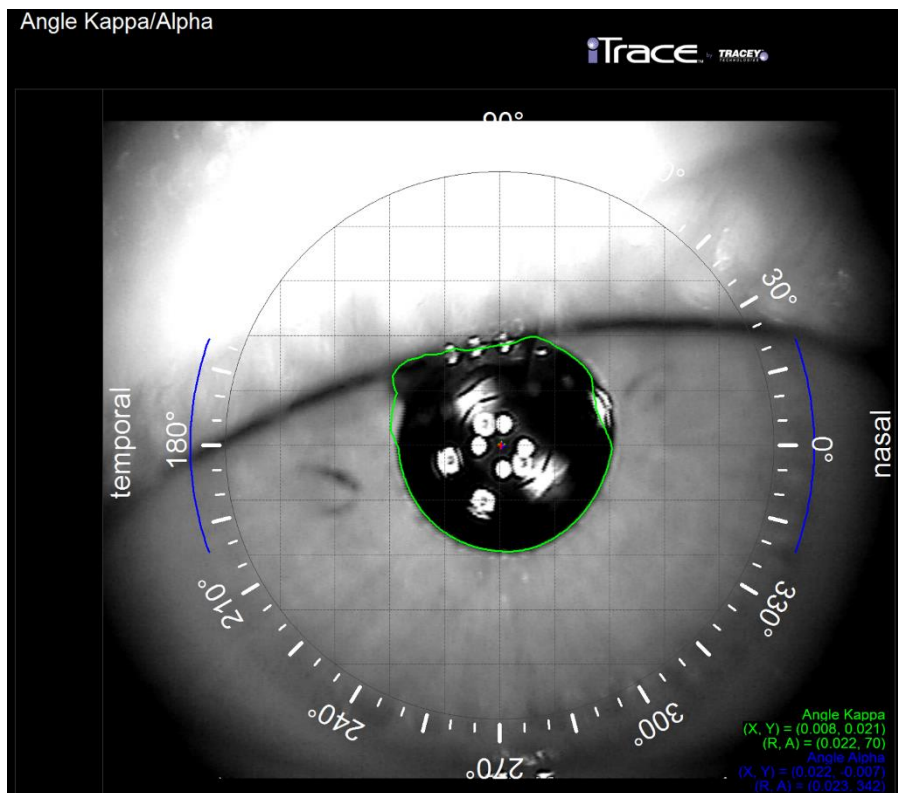


LogMAR	Average Distance	Contrast	WPM	CPM	Reading Time
0,19	38,8	100	33	236	27,7
0,19	38,7	75	44	210	23,4
0,32	38,5	30	49	266	20,8
-0,02	57,3	100	35	180	30,6
0,07	57,4	75	108	582	9,5
0,07	57,9	30	88	426	13

Compared to Day 1 closer preferred distances and slight increase with lower contrast



AT LARA toric 929



Very well centered AT LARA toric 929



Conclusion



- The new **EDoF AT LARA toric 929MP** offers an addition option of individualized care.
- It allowed my refractive manager an excellent visual restoration in all distances due to the Extended range of focus with excellent VA in **Far, Intermediate and Near** distances.
- **Spectacle independence for distance to daily used near** and satisfaction from the surgery and the choice of the IOL.
- So far **no dysphotopsia**.
- Easy **axis alignment**



*Thank you very much for
Your Attention!*



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