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INSTITUTO OFTALMOLOGICO EUROPEO

CLINICAL RESULTS
RAYONE TRIFOCAL
(315 eyes)

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Clínica Baviera

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INCLUSION CRITERIA

- **Prospective study**
  - Multicentre, Clínica Baviera Spain
  - Multi-surgeon
  - Approved Medical-Legal Commission Clinic Bavaria
- **Age <75 years**
- **Pre-op refraction: -7 D> SE < +7 D, astigmatism < 2.50 D**
- **Bilateral implantation**
- **Refractive lens ex or cataract Surgery (phacoemulsification)**
- **Aim: Emmetropia**
- **Follow up >1 month**

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EXCLUSION CRITERIA

- Previous corneal surgery,
- Clinically Significant corneal diseases,
- History of Corneal disease,
- Active retinal diseases or poor visual prognosis,
- Neuro-Ophthalmologic disease,
- Intra-or postoperative complications,
- Glaucoma (except if slight involvement and good control)

- **Non-exhaustive listing:** we apply the usual exclusion criteria for mutifocal

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PREOP EVALUATIONS

- Preop Refraction: UDVA & CDVA (Snellen), UNVA & CNVA (Jaeger)
- Corneal topography/tomography
- Pupillometry
- Ocular Surface (TBUT, meniscus, Schirmer test)
- BMC & Fundus
- Corneal endothelial cell count
- Biometry via IOLMaster
- OCT macular

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POSTOP EVALUATIONS

- Postop Refraction:
  - UDVA & CDVA (Snellen), UNVA & CNVA (Jaeger)
- Ocular Surface
  - (TBUT, meniscus, Schirmer test)
- BMC & Fundus
- High macular OCT
- High patient satisfaction test
  - (Clinica Baviera Satisfaction Questionnaire)

Validation of the Spanish Catquest-9SF in patients with a monofocal or trifocal intraocular lens

Mats Lundström, MD, PhD, Fernando Llovet, MD, PhD, Andrea Llovet, MD, Mercedes Martinez del Pozo, MD, Blas Mompean, MD, José-Vincente González, OD, Konrad Pesudovs, PhD

PURPOSE: To validate the Spanish Catquest-9SF and study patient-reported visual function after implantation of a trifocal versus a monofocal intraocular lens (IOL).

SETTING: Clinica Baviera, Valencia and Madrid, Spain.

DESIGN: Prospective case series.

METHODS: The Catquest-9SF was translated from English to Spanish according to a standard procedure. The Spanish version was validated through Rasch analysis. Patients completed the Catquest-9SF before cataract surgery and 3 months after the surgery. The change in patient-reported visual function caused by surgery, the level of achieved visual function, and satisfaction with vision after surgery were assessed for bilaterally implanted trifocal IOLs versus monofocal IOLs.

RESULTS: The Spanish Catquest-9SF showed very good psychometric properties. Patient-reported achieved visual function was significantly better for those with a trifocal IOL than for those with a monofocal IOL ($P < .001$). This was also true when the groups were matched for age and ocular comorbidity ($P = .006$). In multivariate analyses of all cases and matched cases (the same age and no comorbidity), the reported visual function was significantly better with trifocal IOLs than with monofocal IOLs ($P = .001$ and $P = .008$, respectively). There was greater improvement after trifocal IOL implantation in the matched cases, although not significant ($P = .103$).

CONCLUSIONS: Results show the Spanish version of Catquest-9SF is a valid patient questionnaire with good psychometric properties. Patients with a trifocal IOL implanted bilaterally reported better visual function than those with a monofocal IOL implanted bilaterally. The change in visual function after surgery was also greater in patients with a trifocal IOL.

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Preop Data 315 RayOne Trifocal IOLs

DATAS PREOP		
Medium Age (years)	56 años ± 7 (min 36, máx 72)	
SE (D)	+ 1,22 D ± 2,50 D (min -6,5; máx +6,62)	
Cylinder (D)	-0,60 D ± 0,49 D (min -2,52; máx 0)	
	LogMAR	Decimal
UDVA	0,63 ± 0,47 (min 0; máx 1,70)	0,36 ± 0,26 (min 0,02, máx 1)
CDVA	0,06 ± 0,15 (min -0,03; máx 1,30)	0,91 ± 0,17 (min 0,05; máx 1,08)
UNVA	0,6 ± 0,25 (min 0; máx 0,9)	0,25 ± 0,25 (min 0,12, máx 1) Jaeger J11

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Spherical Equivalence

	Preop	Postop >1 mes	Postop ALTA (>3 meses)
Spherical equivalence SE (D)	+ 1,22 D ± 2,50 D (min -6,5; máx +6,62)	-0,19 ± 0,47 D (min -2,88; máx +1,12)	-0,12 ± 0,33 D (min -1,38; máx +0,50)

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UDVA

	Preop	Postop >1 months	Postop ALTA (>3 months)
UDVA Decimal	0,36 ± 0,26 (min 0,02, máx 1)	0,92 ± 0,12 (min 0,4; máx 1,2)	0,94 ± 0,10 (min 0,4; máx 1,2)
UDVA LogMAR	0,63 ± 0,47 (min 0; máx 1,70)	0,04 ± 0,07 (min -0,08; máx 0,40)	0,03 ± 0,06 (min -0,08; máx 0,40)

CDVA

	Preop	Postop >1 months	Postop ALTA (>3 months)
CDVA Decimal	0,91 ± 0,17 (min 0,05; máx 1,08)	0,97 ± 0,10 (min 0,4; máx 1,2)	0,98 ± 0,07 (min 0,8; máx 1,2)
CDVA LogMAR	0,06 ± 0,15 (min -0,03; máx 1,30)	0,02 ±0,05 (min -0,08; máx 0,4)	0,01 ± 0,03 (min -0,08; máx 0,19)

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UNVA

	Preop	Postop >1 months	Postop ALTA (>3 months)
UNVA Decimal	0,25 ± 0,25 (min 0,12, máx 1) Jaeger J11	0,76 ± 0,15 (min 0,3; máx 1) Jaeger J2	0,76 ± 0,15 (min 0,3; máx 1) Jaeger J2
UNVA LogMAR	0,6 ± 0,25 (min 0; máx 0,9)	0,13 ± 0,10 (min 0; máx 0,52)	0,13 ± 0,11 (min 0; máx 0,52)

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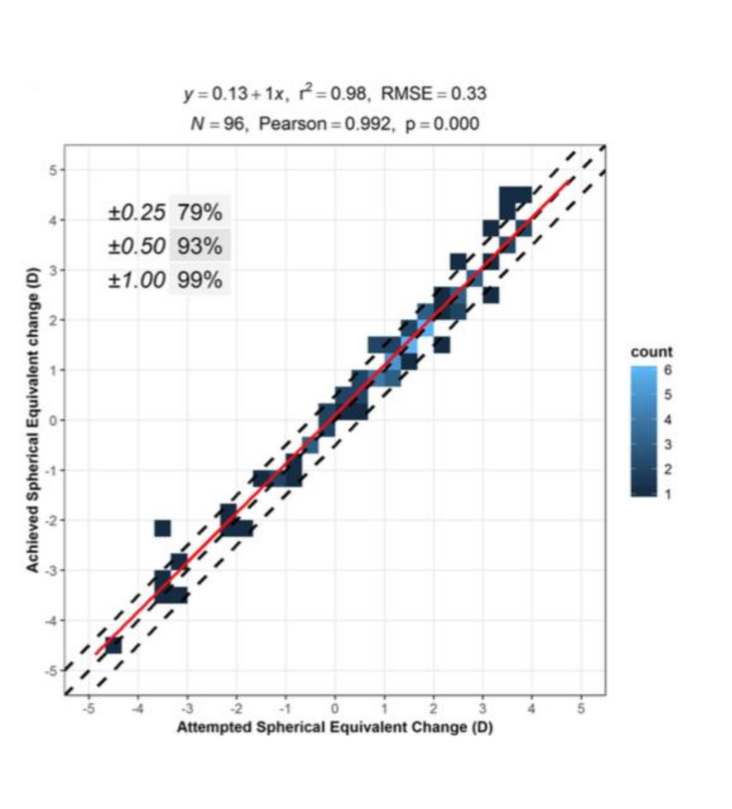
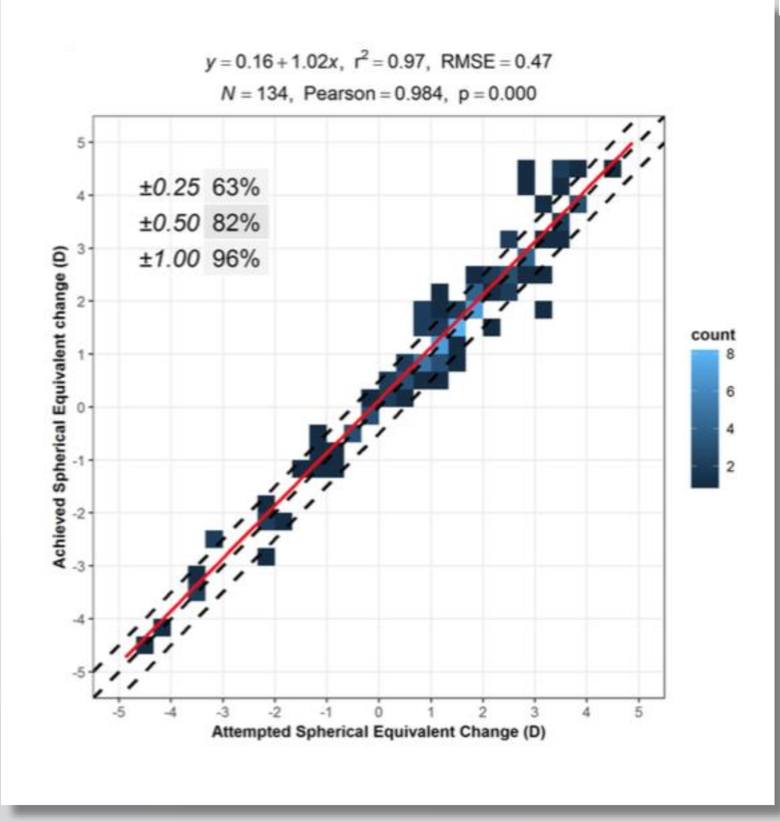
Predictability



High (includes possible bioptic)



1 month

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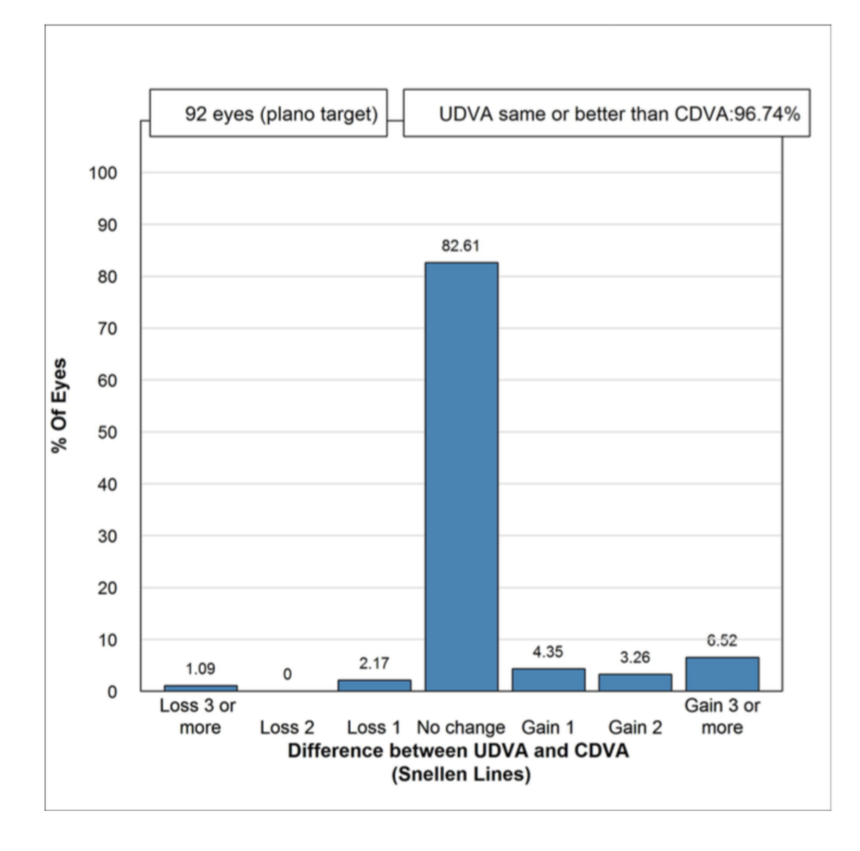
Efficacy *(UDVA postop vs CDVA preop)*



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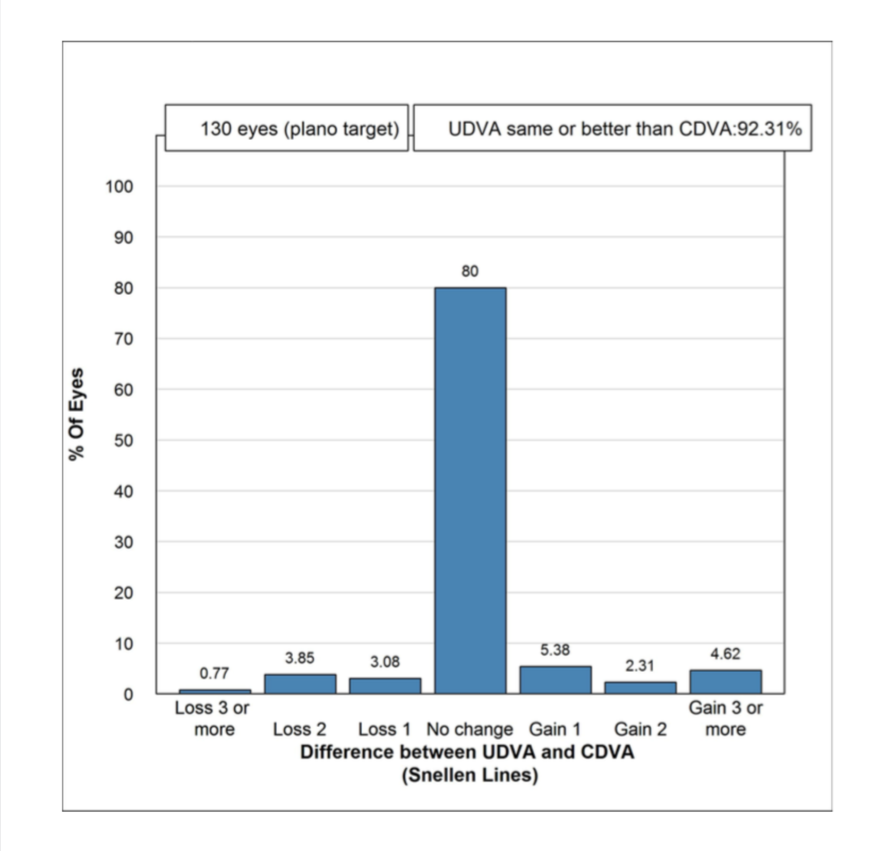
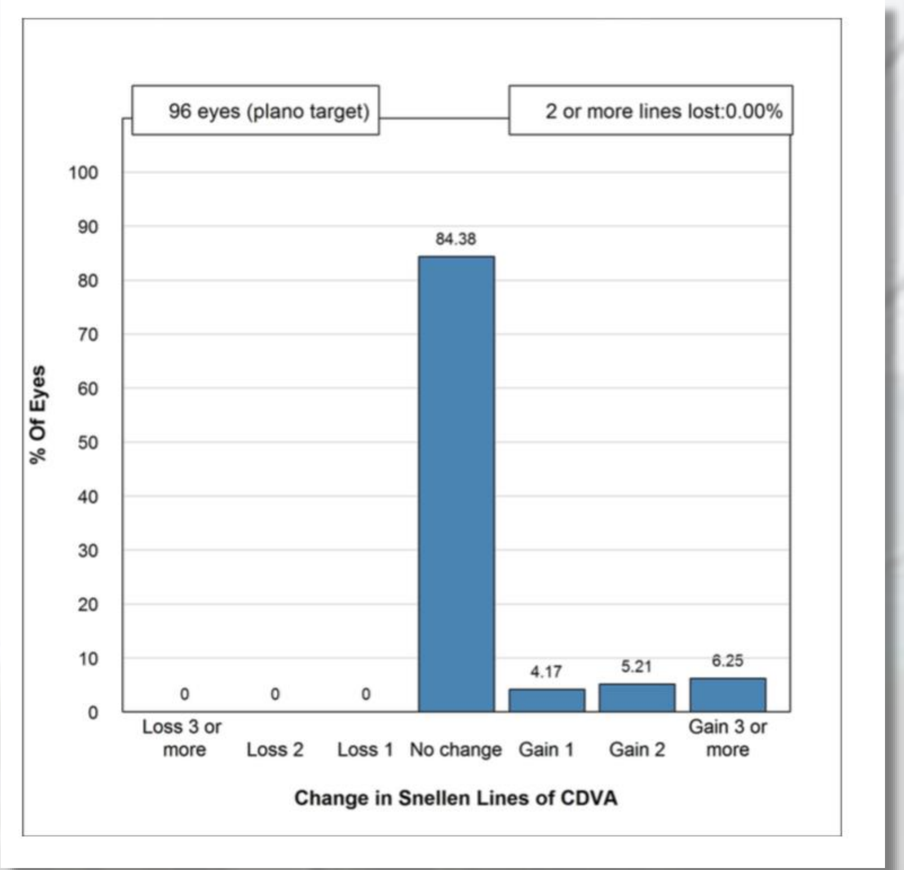
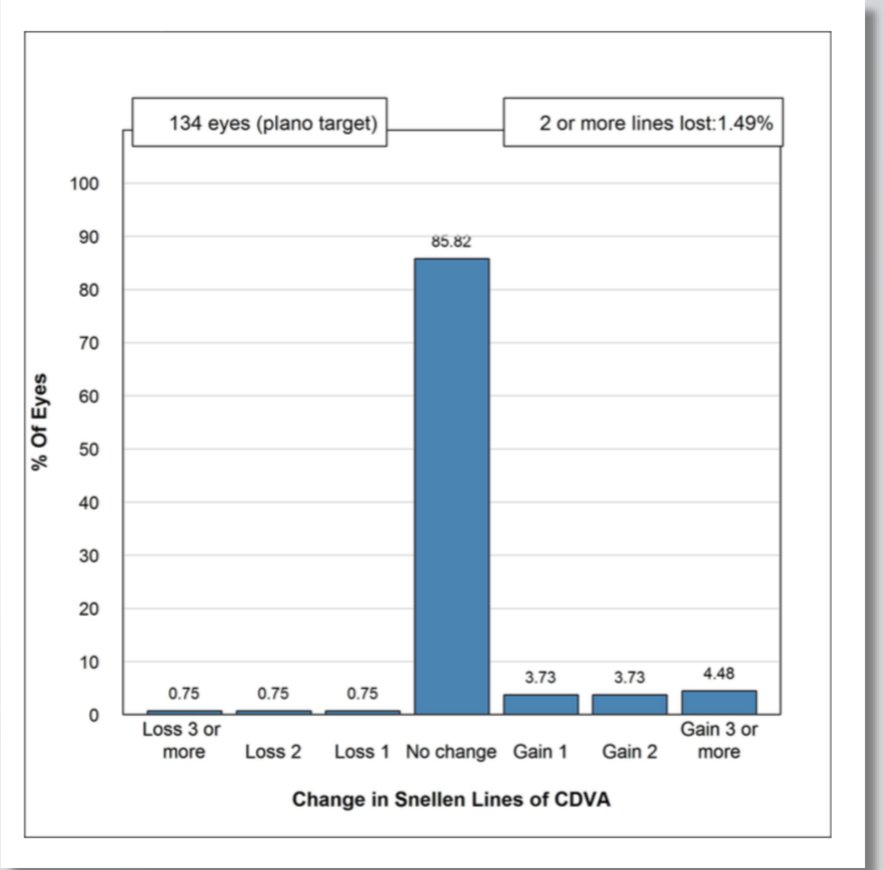


1 month

Security CDVA postpop vs CDVA preop





High (includes possible bioptic)

1 month

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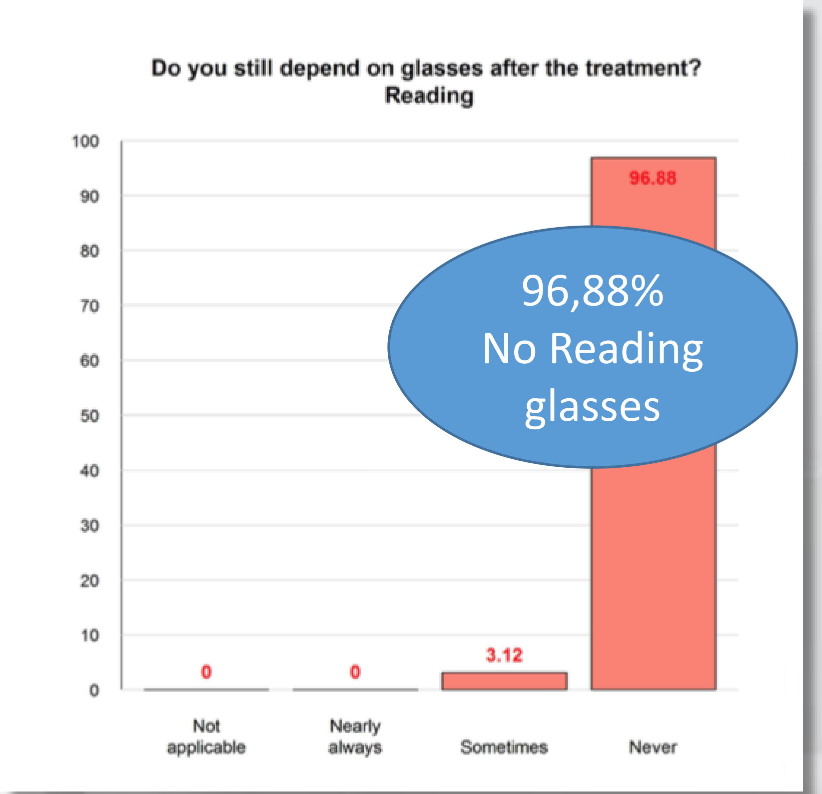
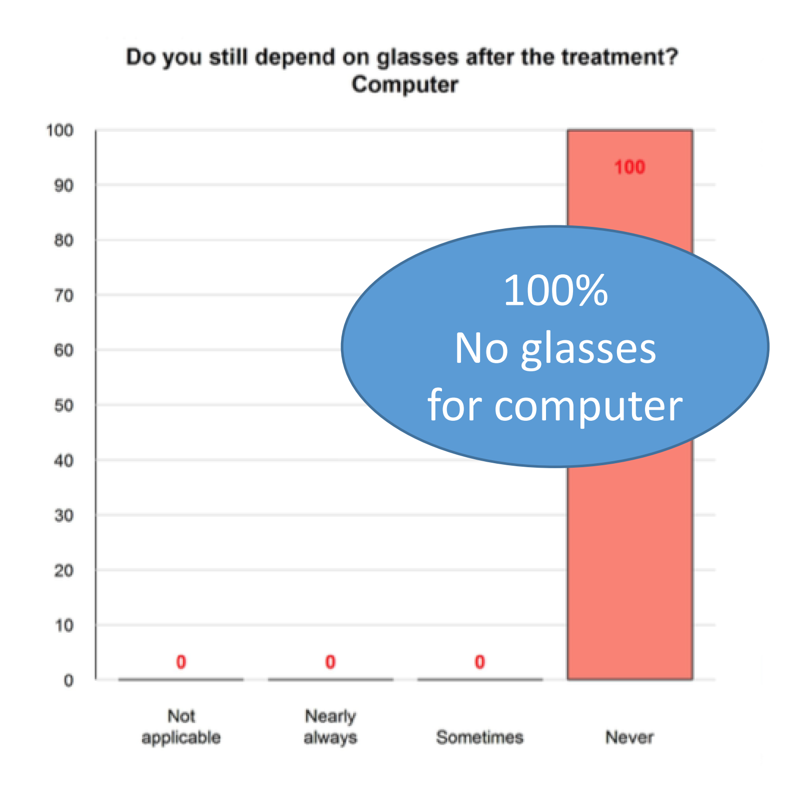
PATIENT SATISFACTION QUESTIONNAIRE RESULTS (n=32)

- NEAR VISION (78% said they Read > 1 hour a day)
(62% said they use Computer > 1 hour a day)

Need for glasses postop





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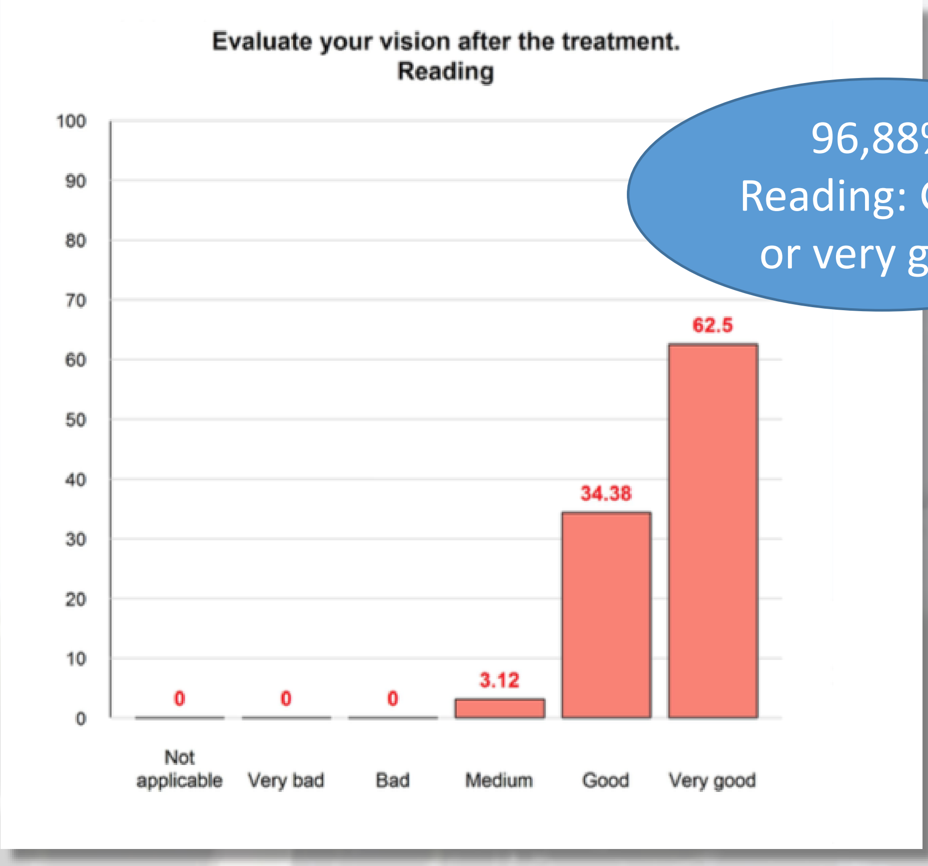
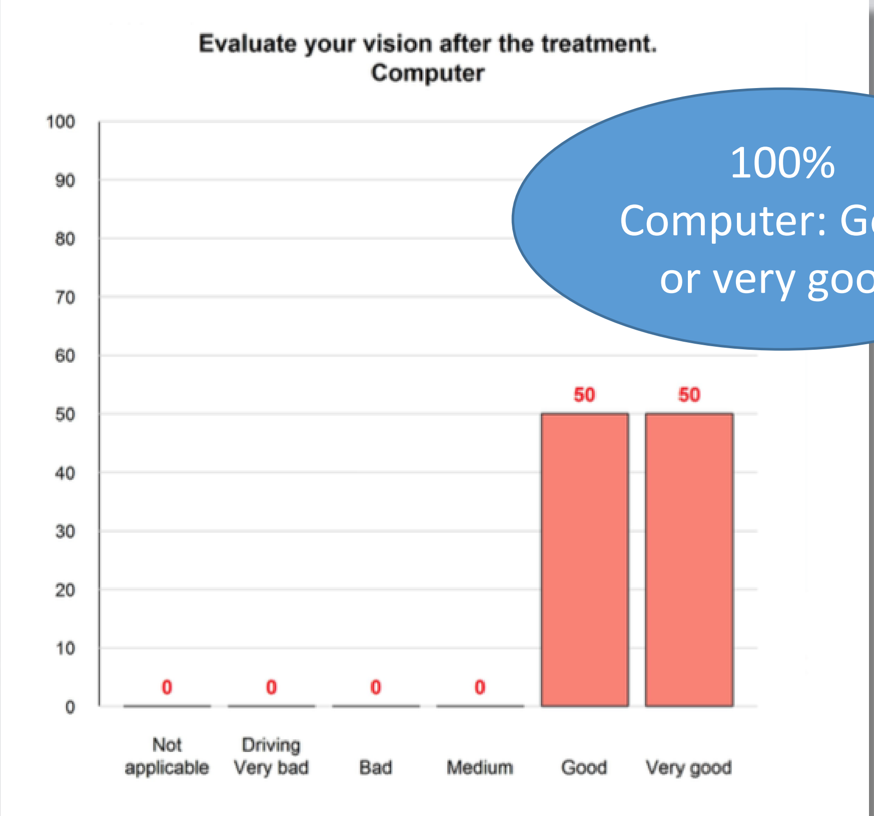
PATIENT SATISFACTION QUESTIONNAIRE RESULTS (n=32)



96,88%
Reading: Good or very good



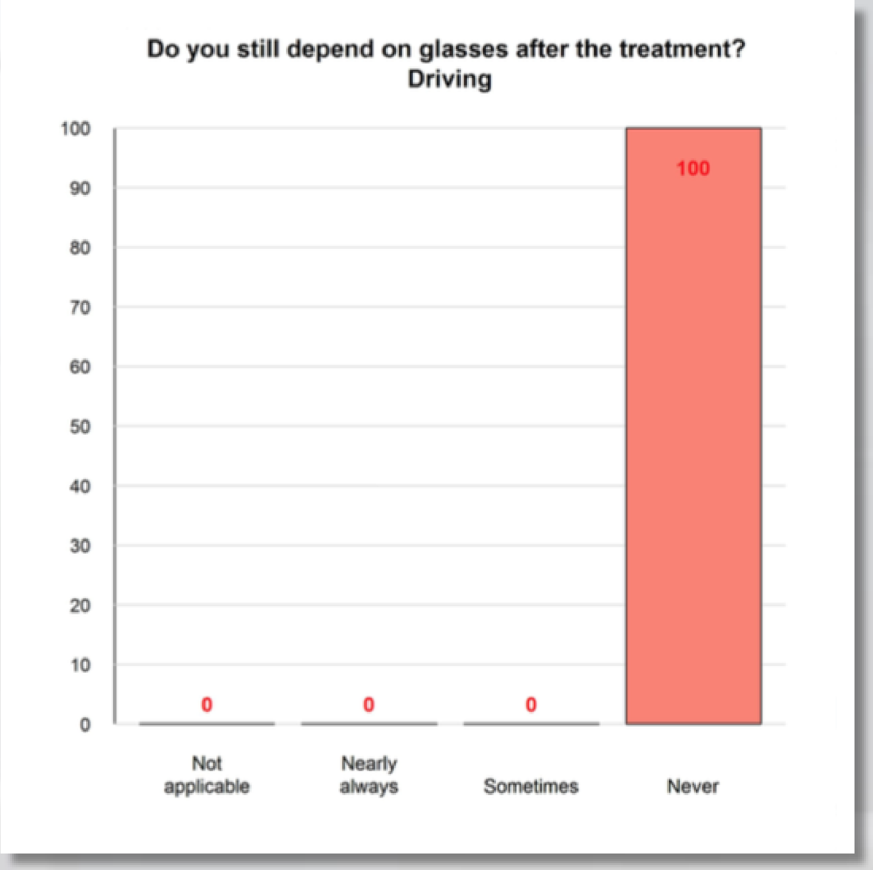
100%
Computer: Good or very good

Satisfaction for Near Vision Postop

PATIENT SATISFACTION QUESTIONNAIRE RESULTS (n=32)

- DISTANCE VISION: 54% were driving at night before surgery

Need glasses postop



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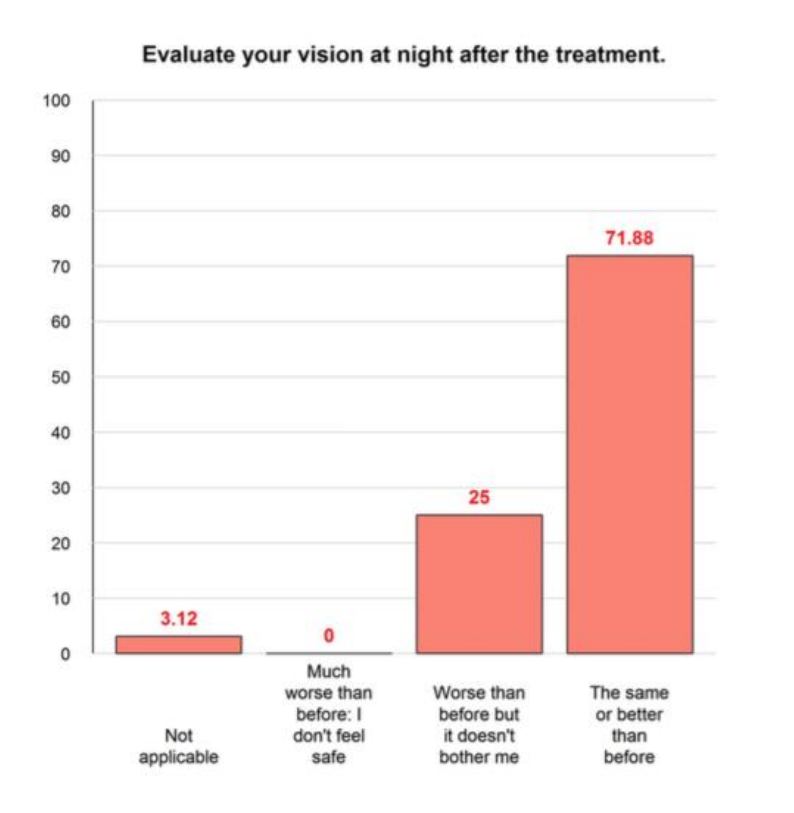
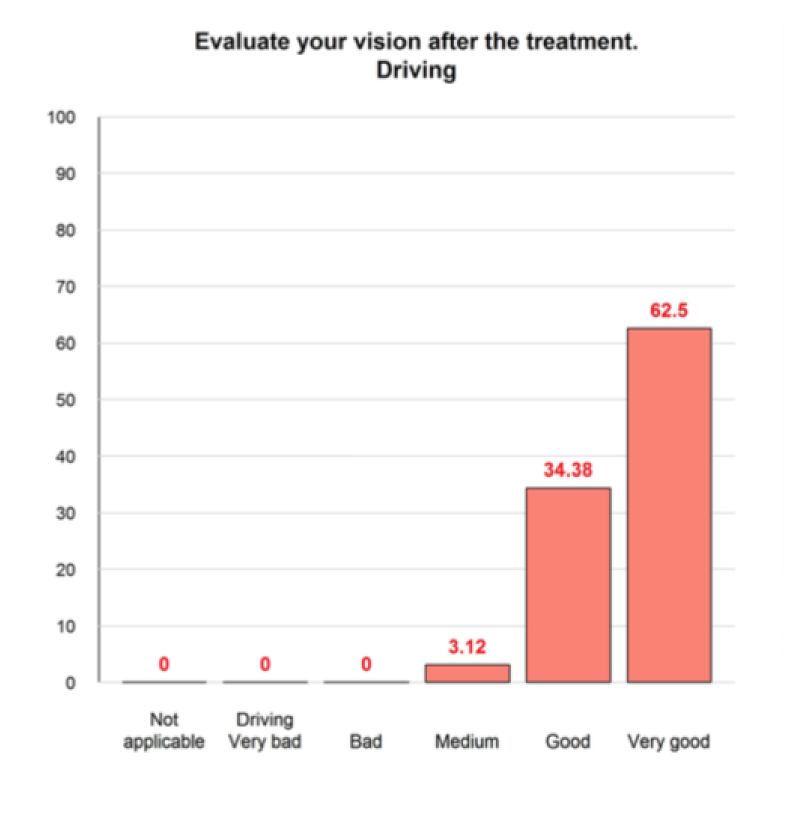
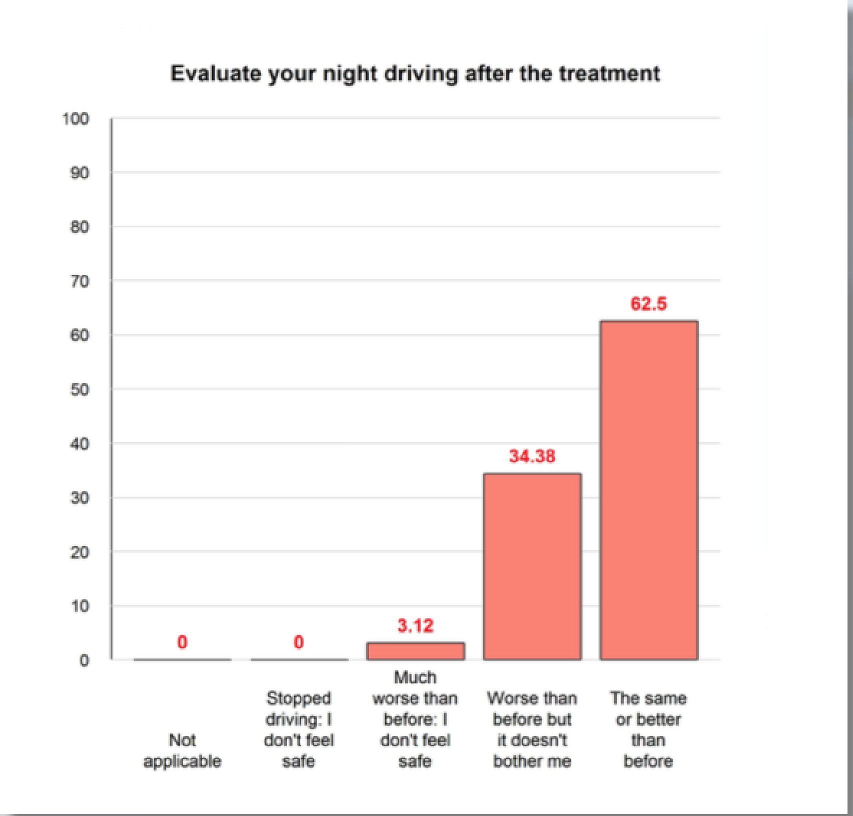
PATIENT SATISFACTION QUESTIONNAIRE RESULTS (n=32)







Satisfaction for Distance Vision postop

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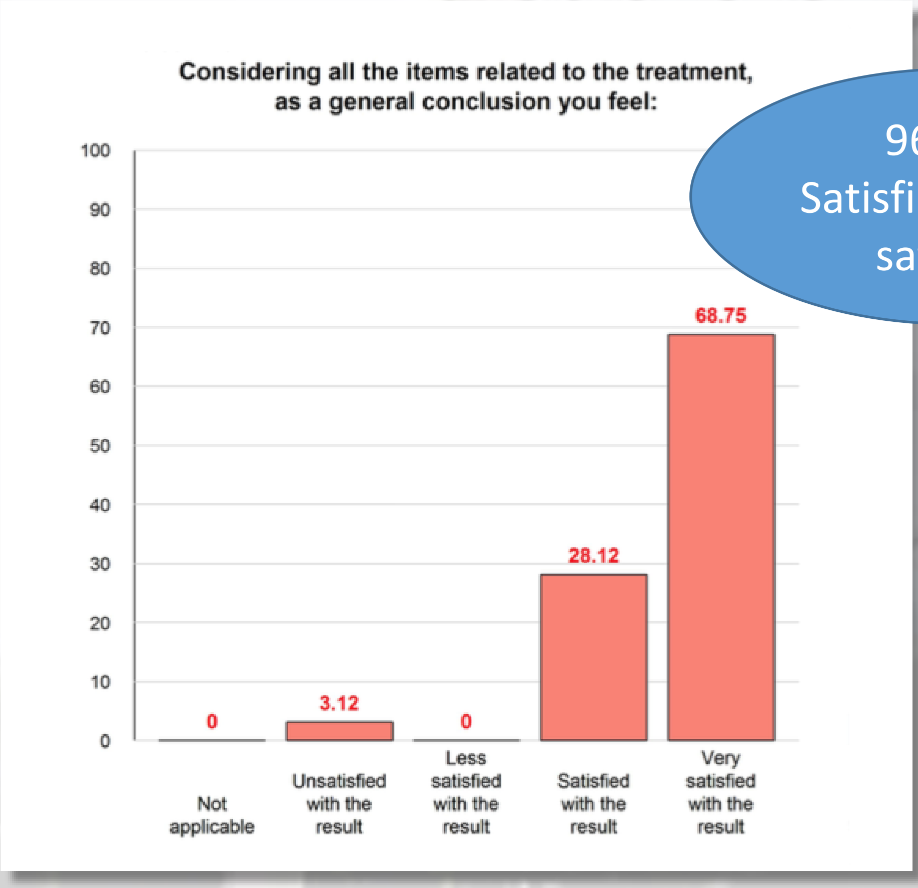
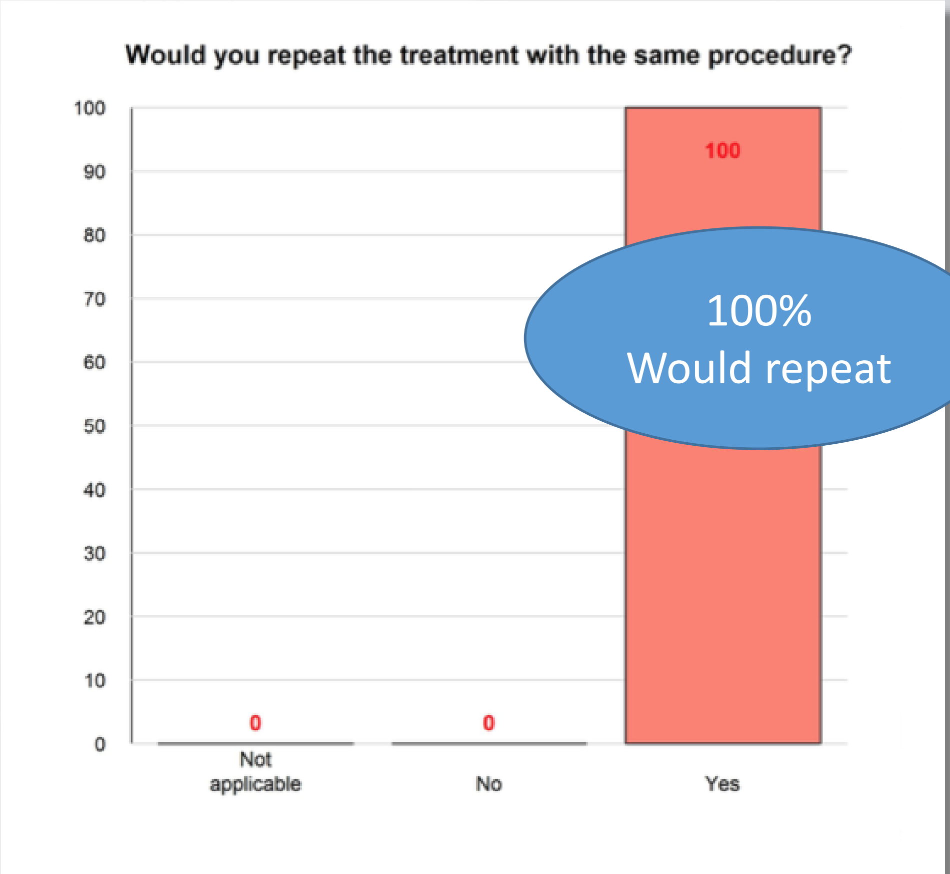
PATIENT SATISFACTION QUESTIONNAIRE RESULTS (n=32)



96,88%
Satisfied or very satisfied



100%
Would repeat

General satisfaction/would repeat surgery

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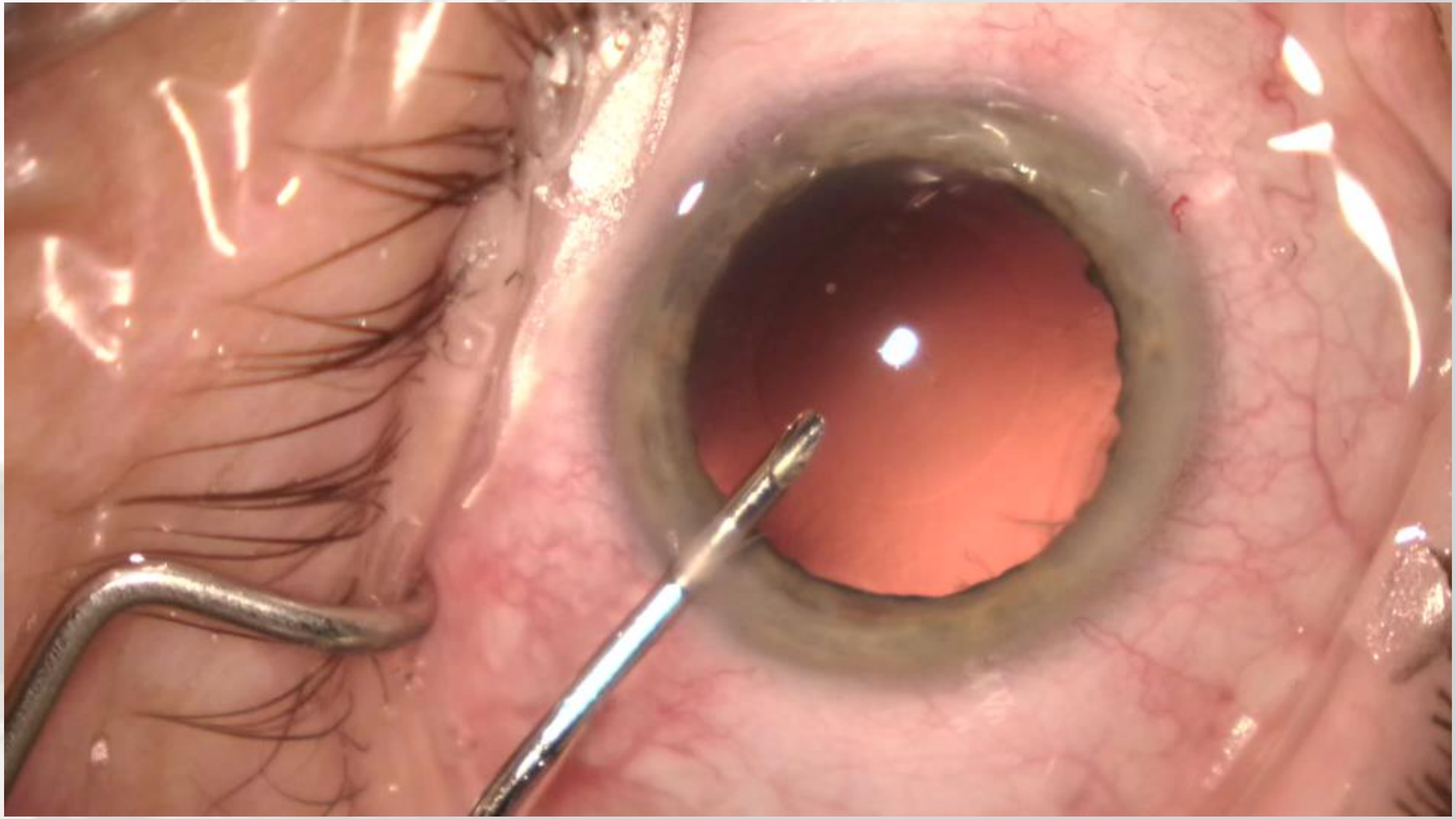

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Thank you for your attention!

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