



Long-Term Clinical Outcomes of Mix-and-match implantation of multifocal IOLs after cataract surgery

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No conflict of interest

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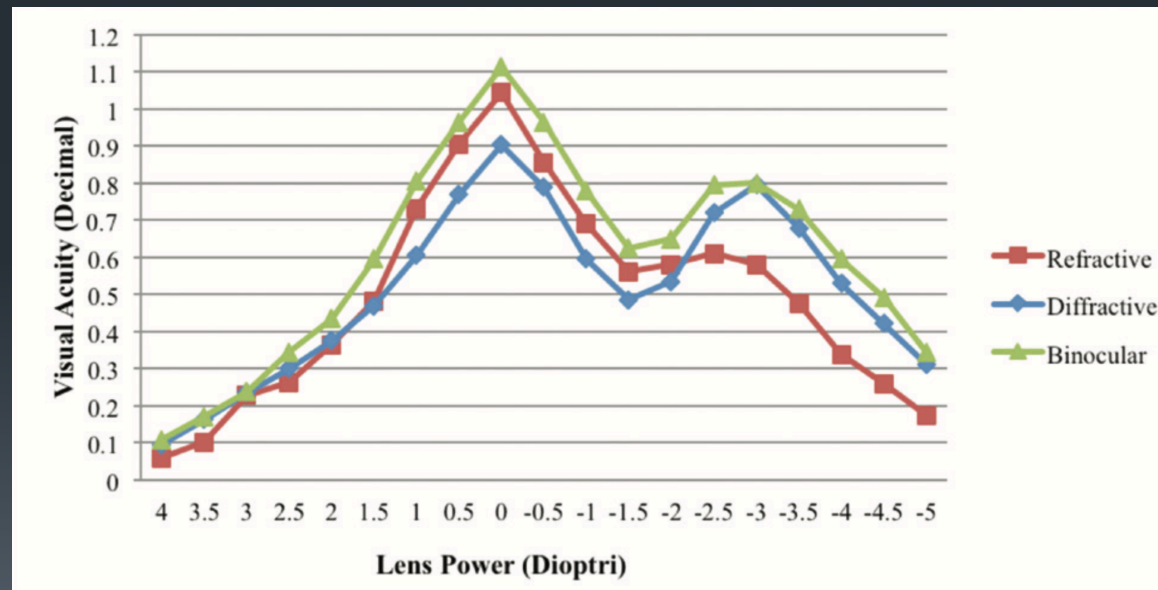
What is it ?

- Implantation of **two different types of IOLs** to **improve the range and quality of binocular vision** by complementing each other's advantages
- Currently, various IOLs and surgical approaches are suggested for **cataract surgery and presbyopia correction** including monovision, accommodating IOLs, multifocal IOLs, and the mix-and-match method

Visual Results Following Implantation of a Refractive Multifocal Intraocular Lens in One Eye and a Diffractive in the Contralateral Eye

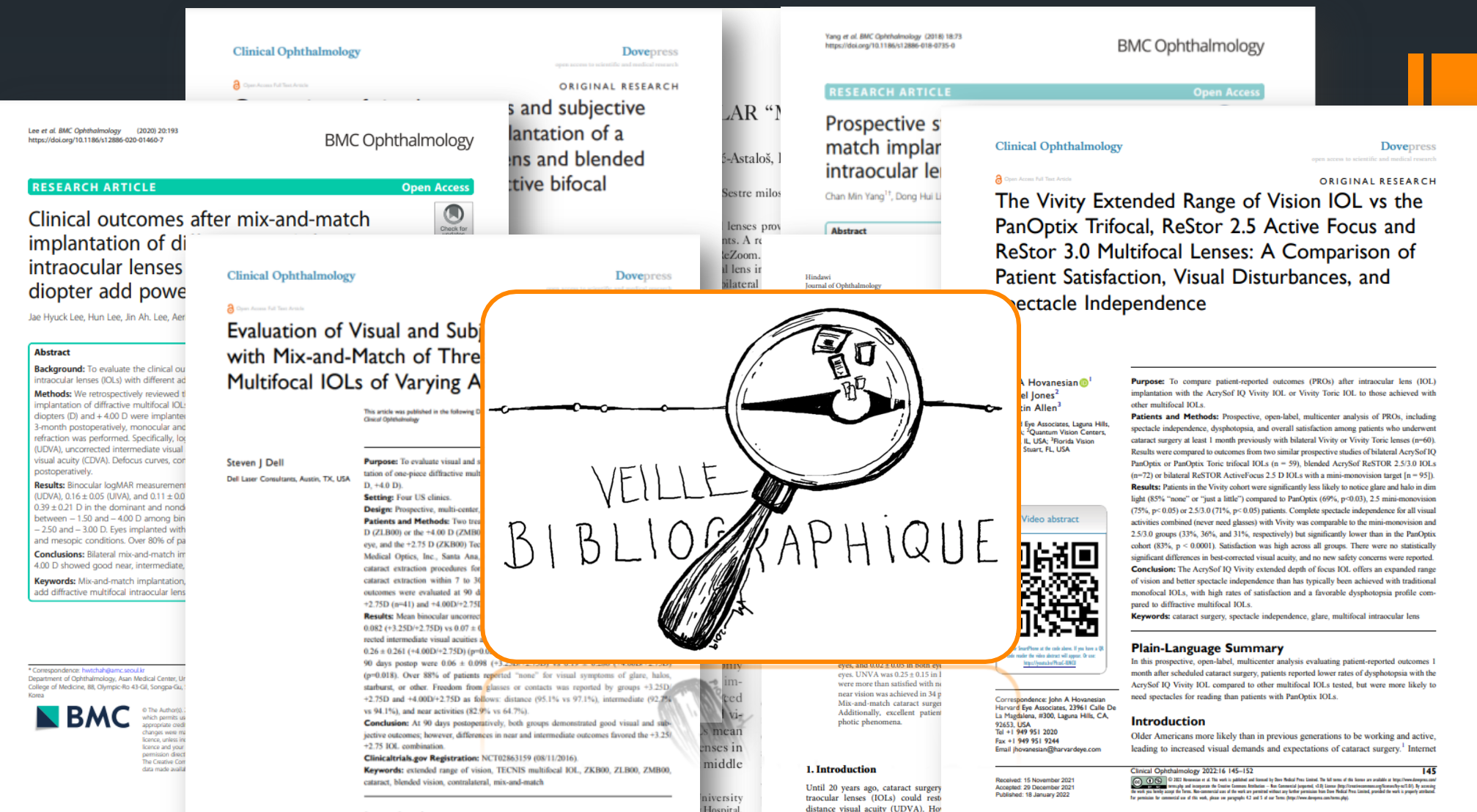
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- Pioneered and applied in 2000 by Uzeyir Güneç who presented his first set of results at the 2003 ESCRS Congress.



ReStor (diffractive) in dominant eye and ReZoom (refractive) in nondominant eye

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A number of studies have compared different types of mix-and-match IOL approaches

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ARTIS Multifocal : achieving quality of life with the asset of binocularity

Cheour, Brour, Trinh, Raffray, Doan, Khaitrine

- Prospective Multicentric controlled trial
- Follows the tenets of Helsinki, study approved by ethical committee, signed informed consent from all patients.
- Two cohorts:
 1. ARTIS PLM +3.0D / ARTIS PLM +3.0D
 2. ARTIS PLM +2.5D / ARTIS PLM +3.0D

MIX & MATCH

Dominant eye

Nondominant eye

Add+2.50D



Add+3.00D

Material and Methods

Inclusion criteria

- Uncomplicated bilateral cataract
- Motivation to achieve spectacle independence

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- Ages younger than 18 years,
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- Previous ocular surgery or trauma
- No ocular or systemic pathology

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Follow-ups at 1 week, 1M, 4-6M and 38-60M

- Visual acuities at several distances: 40 cm, 60 cm and 4 m,
- Defocus curves, Contrast sensitivity,
- Subjective satisfaction questionnaire.
- Complications : Halos, glare,...

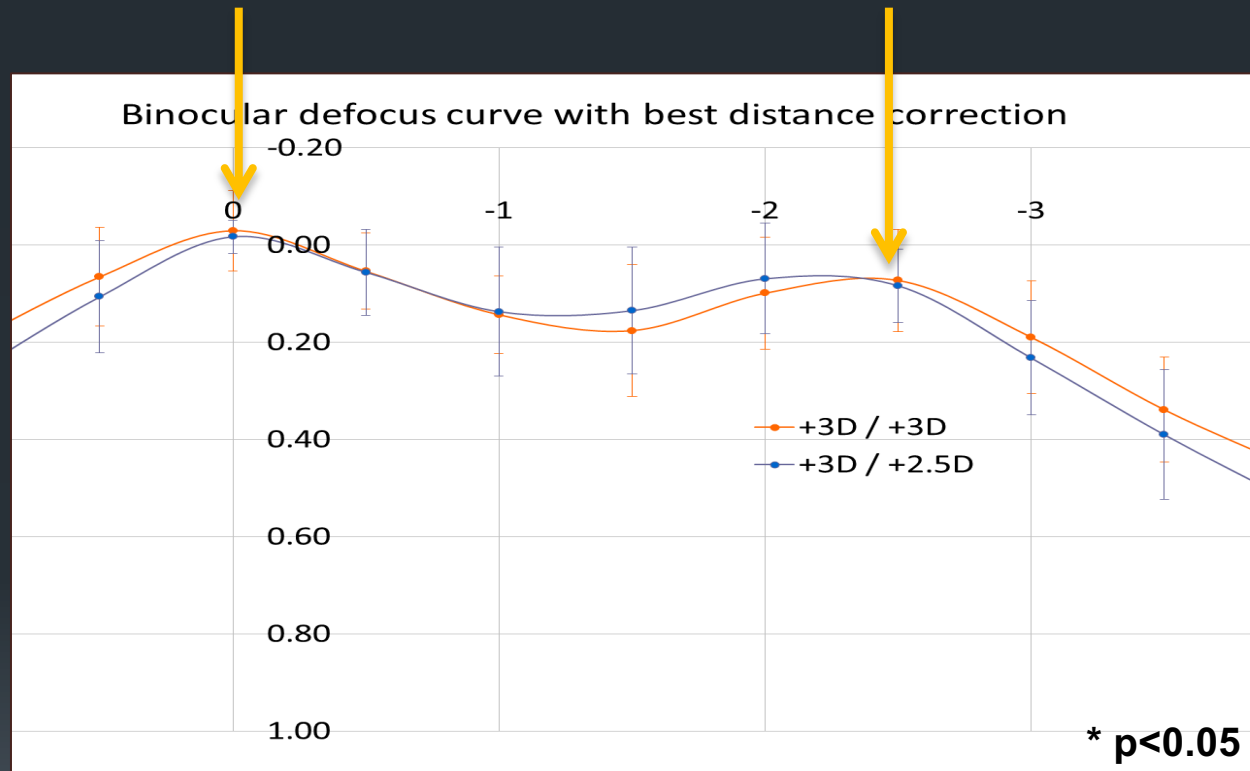
Results : Population, Visual Acuities

- **32 patients (64 eyes)** : - 16 in +2.5D/+3D group (72±7 years old)
- 16 in +3D/+3D group (69±9 years old)

Monocular	UDVA	UIVA	UNVA
+3D	0.10±0.12	0.15±0.16	0.21±0.15
+2.5D	0.08±0.08	0.19±0.09	0.31±0.12
p-value	>0.05	>0.05	>0.05

No significant difference between groups on the near, intermediate and far vision

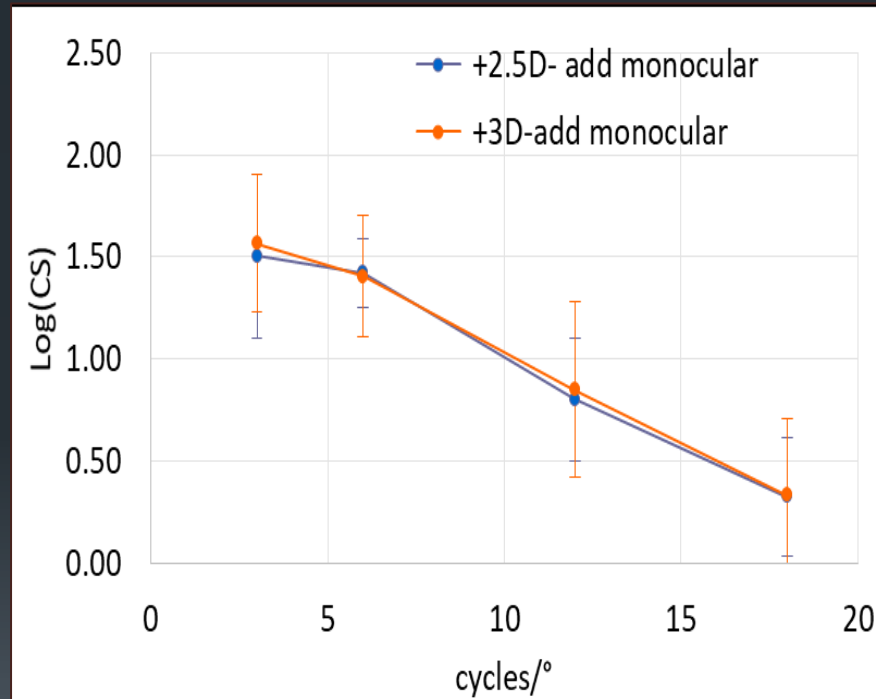
Results : Defocus curve



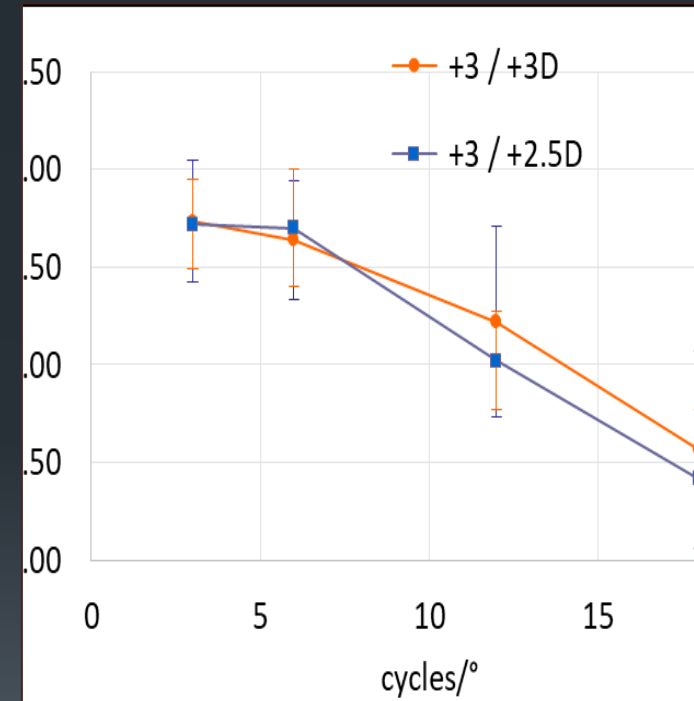
Significant improvement of the VA in the intermediate range of the binocular defocus curve

Results : Contrast Sensivities

Monocular



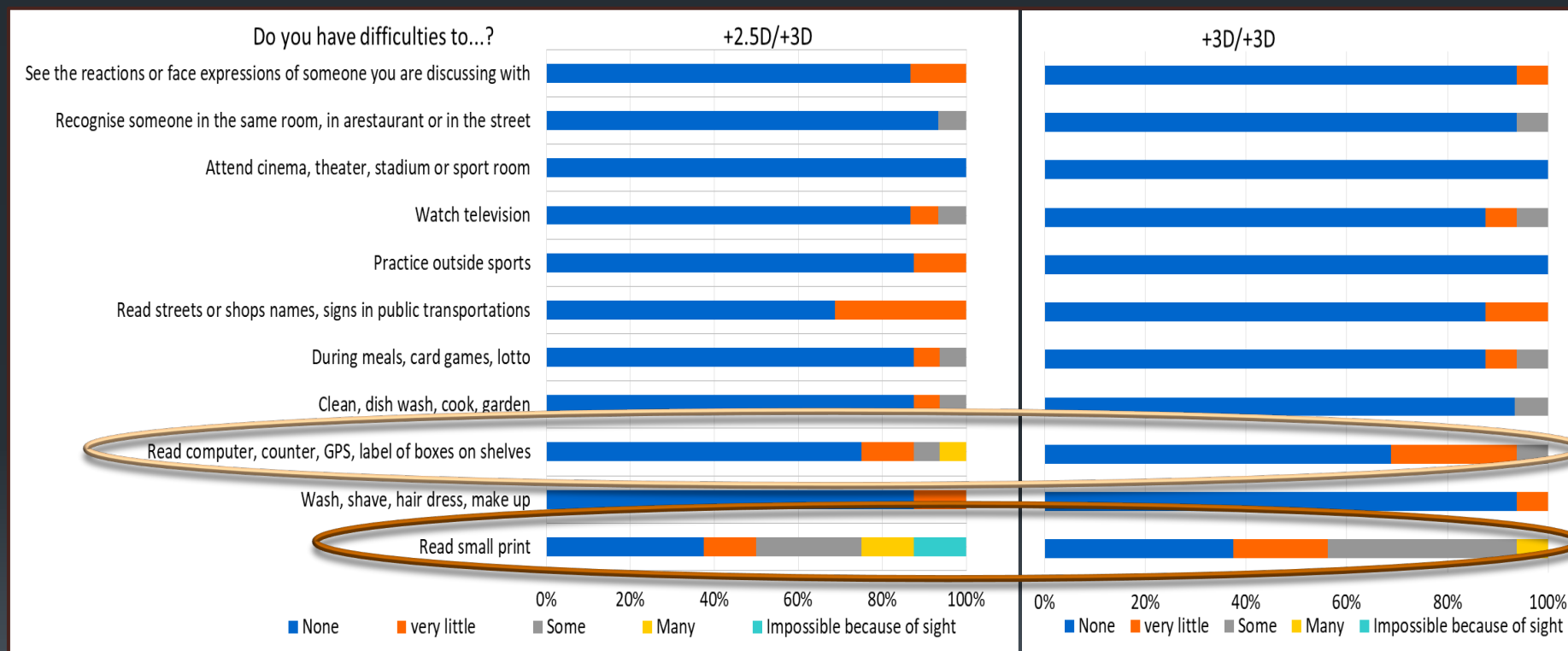
Binocular



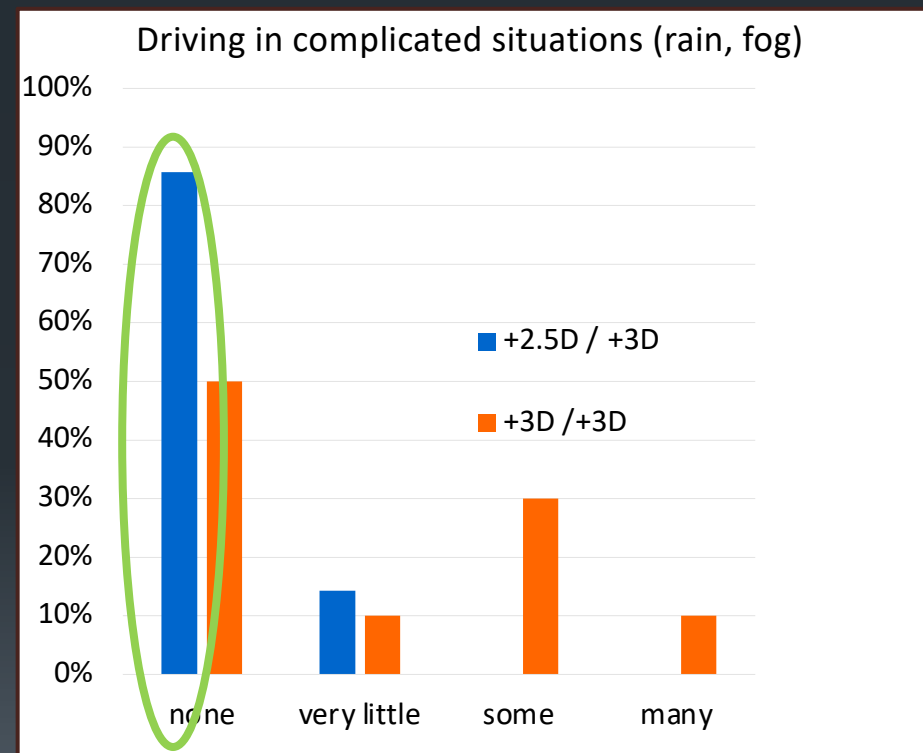
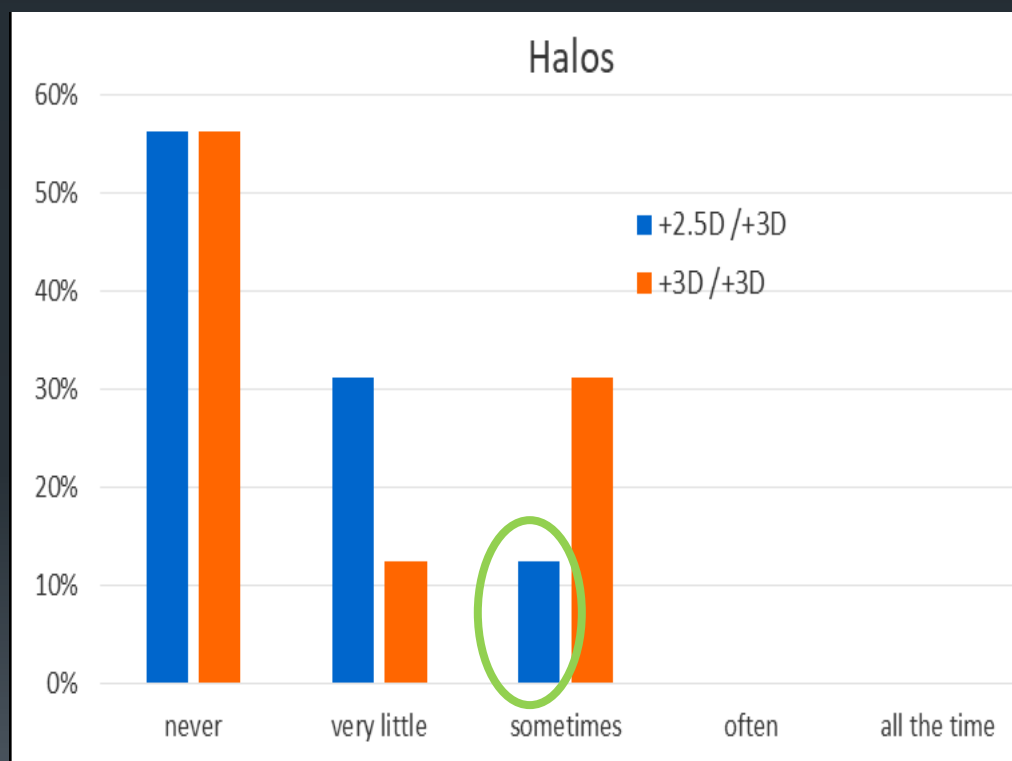
Contrast sensitivity in the normal range of 50-75 years population

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Results : QoL questionnaire

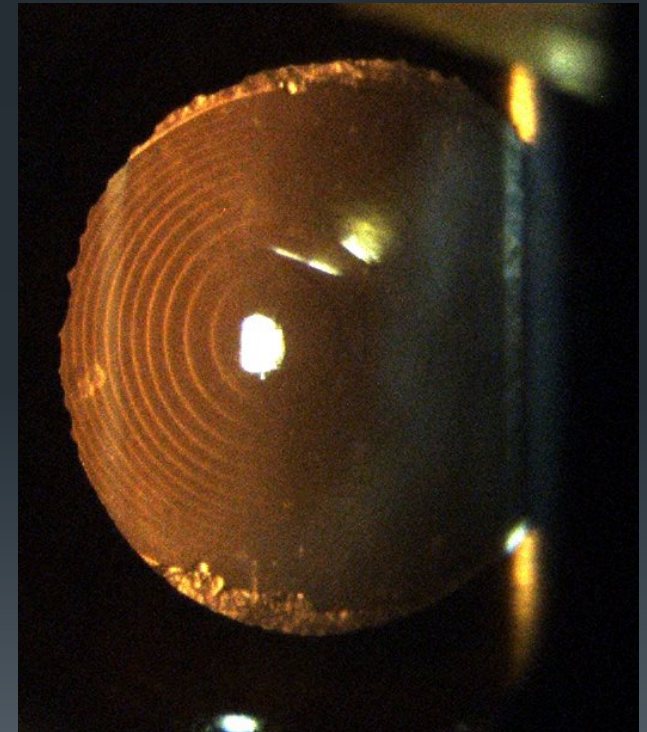
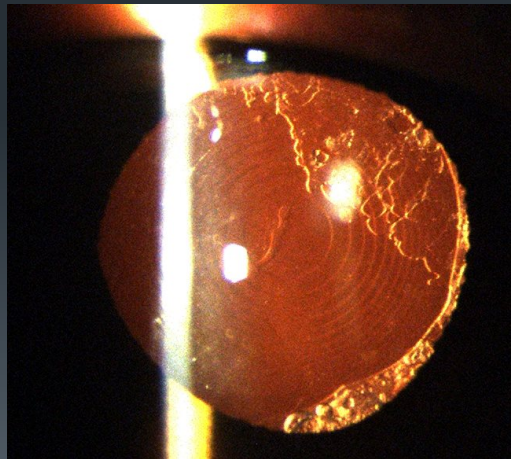
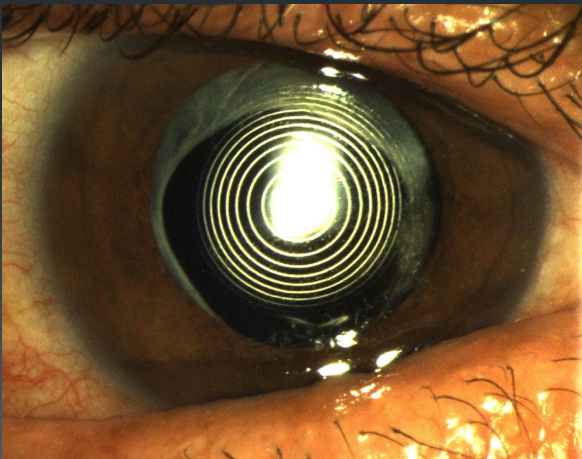


Results : Complications (4-6 Months)

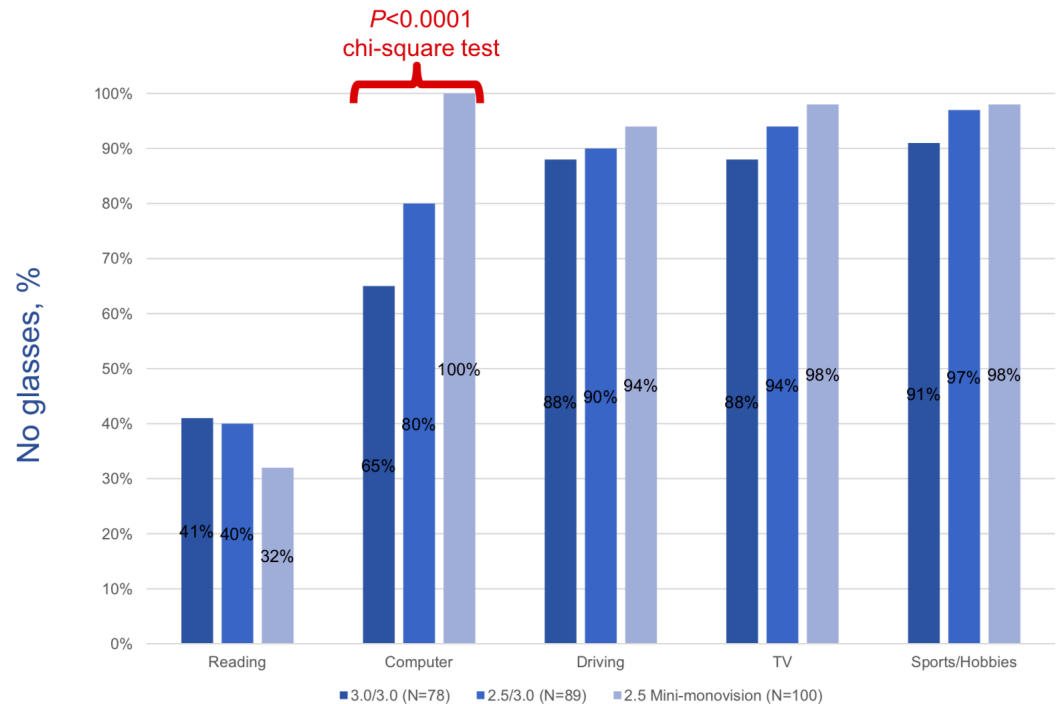


Long-term outcome (46 +/-13Months)

- Good near, intermediate and distance vision
- Reduction of unwanted visual phenomena
- Anterior capsular opacification (1case)
- Posterior capsular opacification (1case)



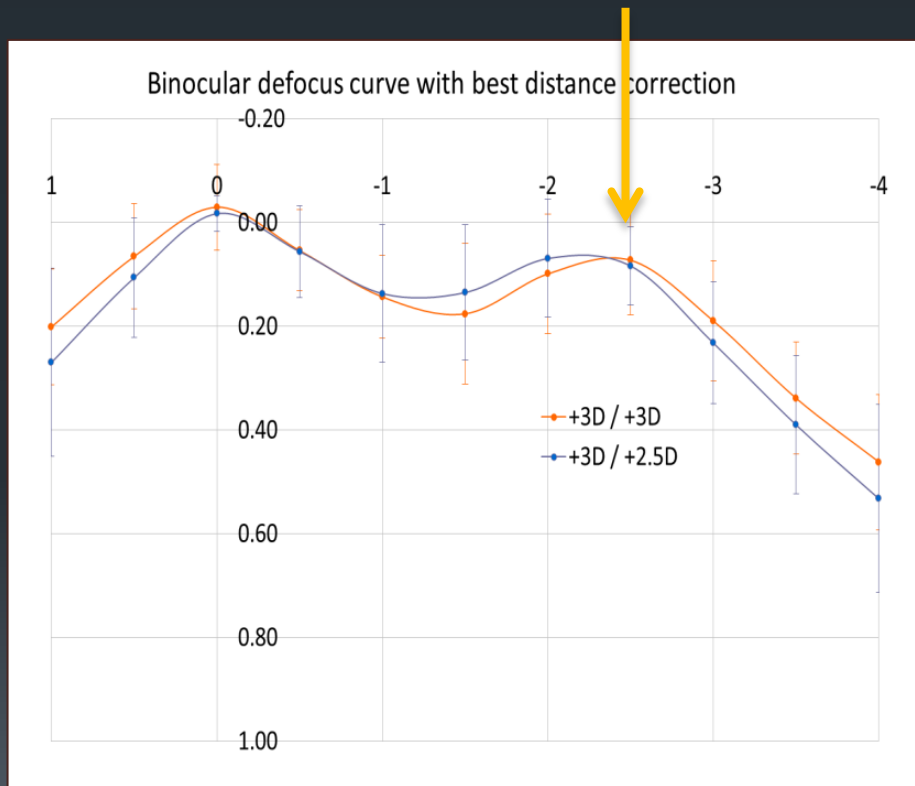
Patient-Reported Outcomes/Satisfaction and Spectacle Independence with Blended or Bilateral Multifocal Intraocular Lenses in Cataract Surgery



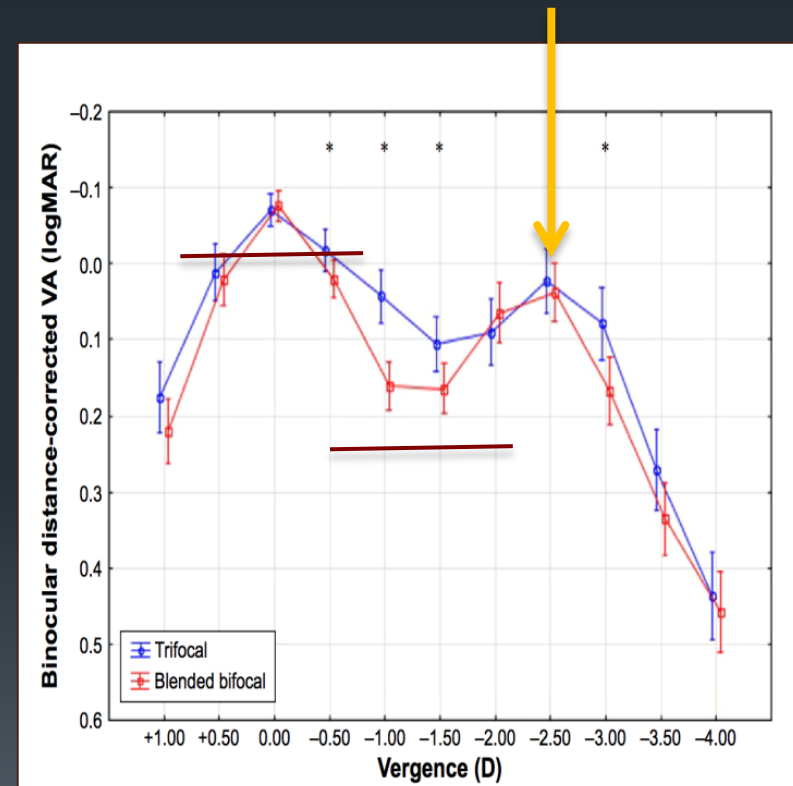
Blended multifocal IOL had better intermediate vision and better quality of vision than bilateral multifocal IOL

Mix and Match vs TRIFOCAL

ARTIS® PLM (Cristalens)



Diffractive TRIFOCAL



Both strategies were effective in enabling good vision for far, intermediate and short distances

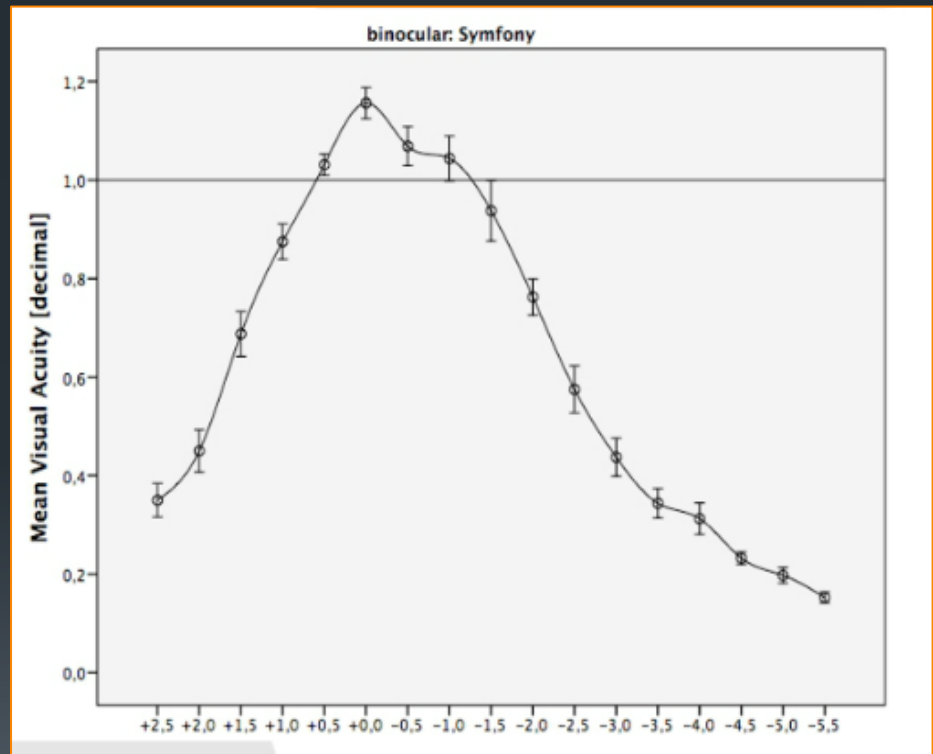
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Mix and Match vs EDOF

ARTIS® PLM (Cristalens)



TECNIS Symphony EDOF



Eur. J Ophthalmol. 2018 Jul;28(4):425-432

Spectacle dependence with slight photic phenomena with EDOF

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The evidence of implanting a different intraocular lens in each eye

Rakhi Melvani and Marjan Farid

Many studies have compared different types of mix-and-match IOL approaches, with promising results :

- Excellent vision at all distances
- High levels of spectacle independence

BUT

- Appropriate patient selection
- Management of patient expectations



One Size Does Not Fit All

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Thank you for your attention



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