



مستشفى الملك فيصل التخصصي ومركز الأبحاث  
King Faisal Specialist Hospital & Research Centre

# VISUAL OUTCOMES OF CONTINUOUS POWER LENSES TARGETING BLENDED VISION FOR PRESBYOPIA MANAGEMENT

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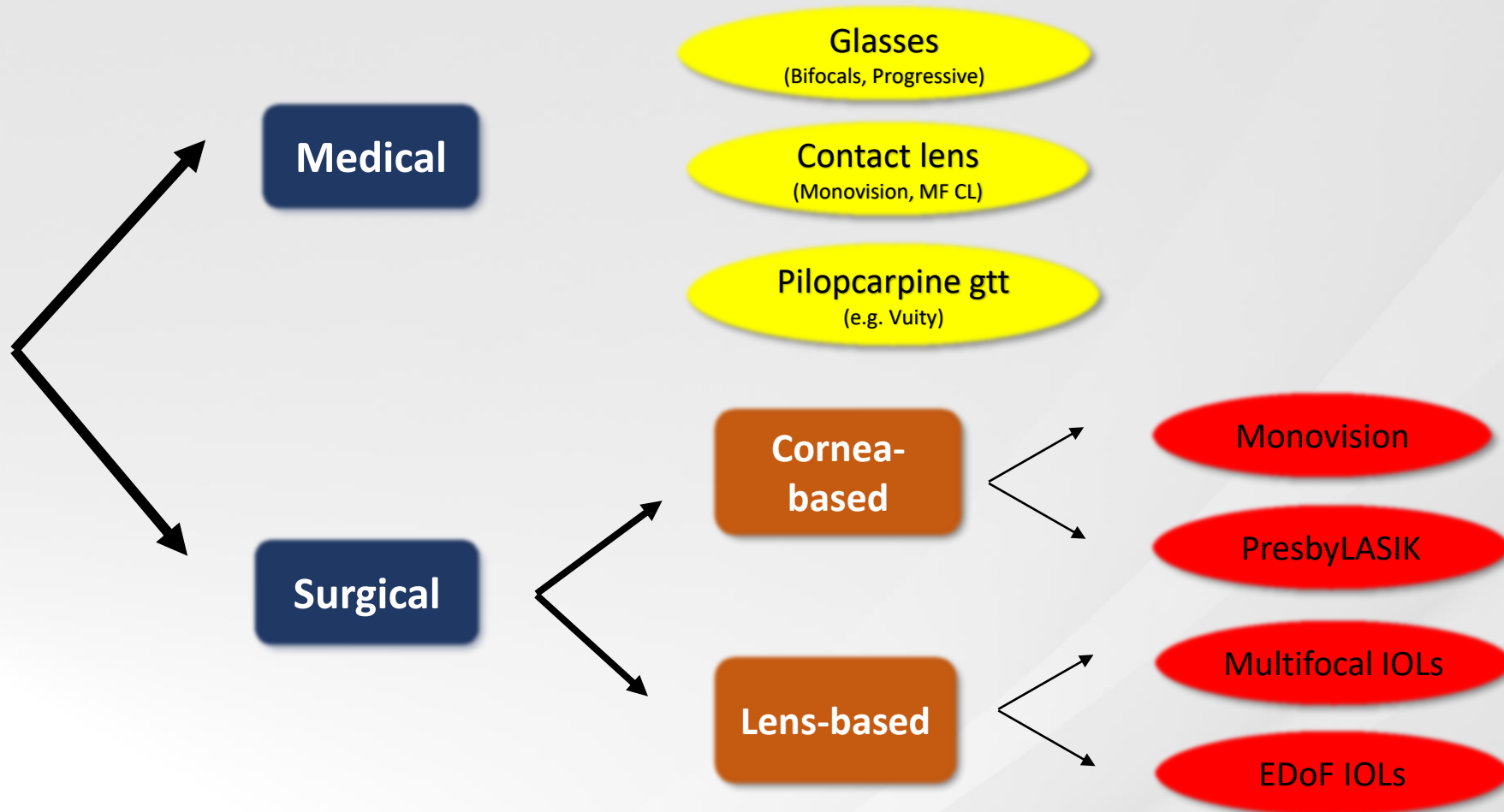
# Introduction



- Presbyopia is a progressive condition of **losing the accommodation ability** that affects individuals above the age of 40 years



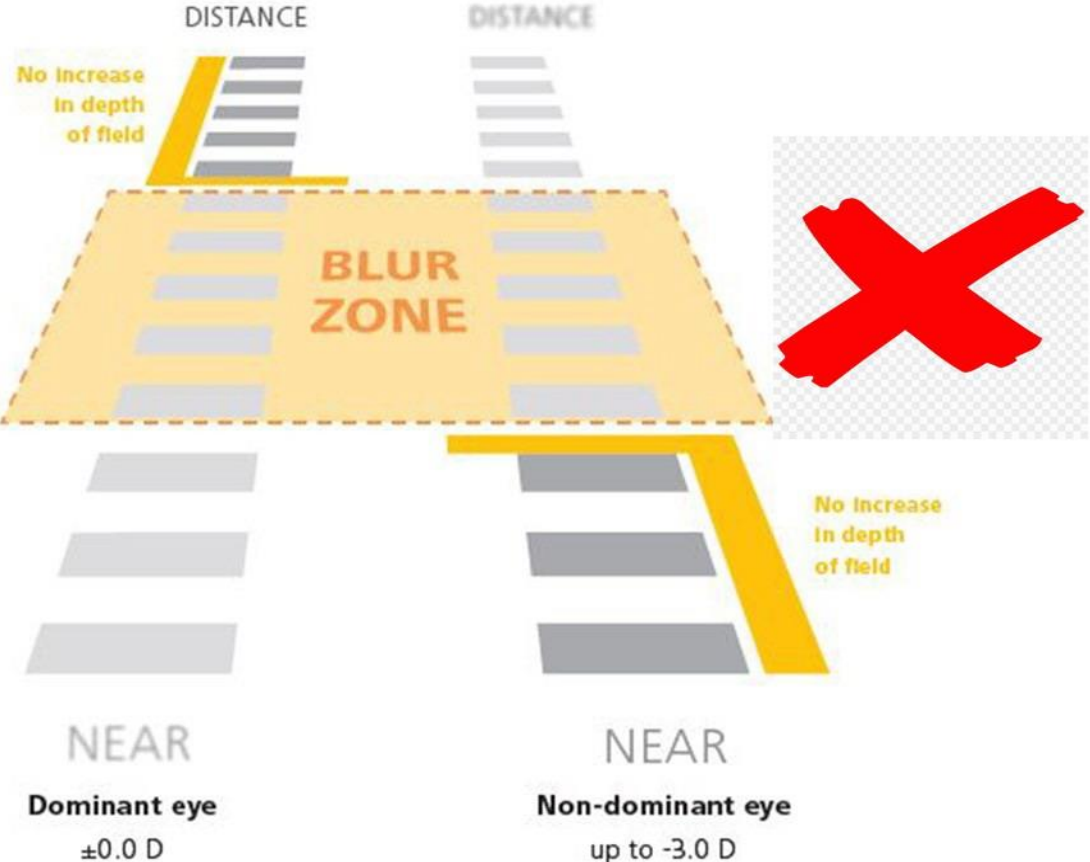
# Introduction



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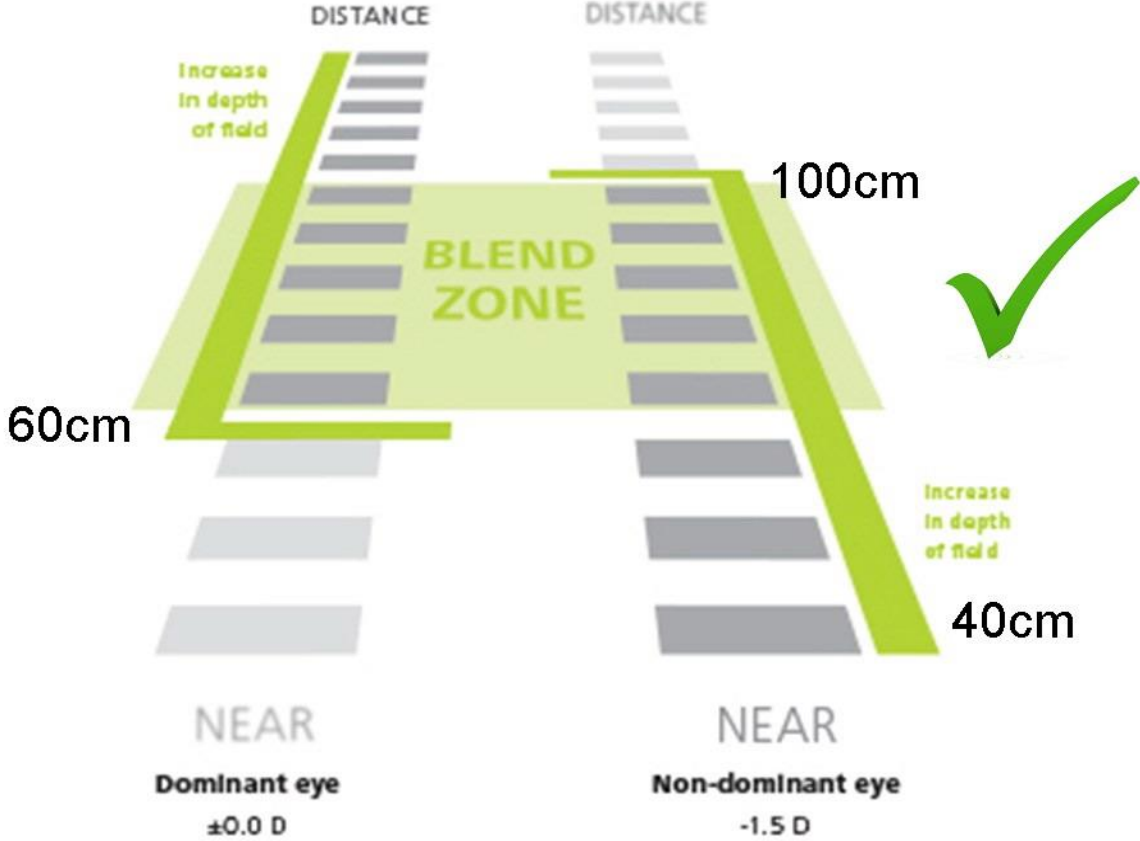
## Conventional monovision

Can be done with AAB00, PCB00 or ZCT(Toric), but there is a blur zone and longer adaptation

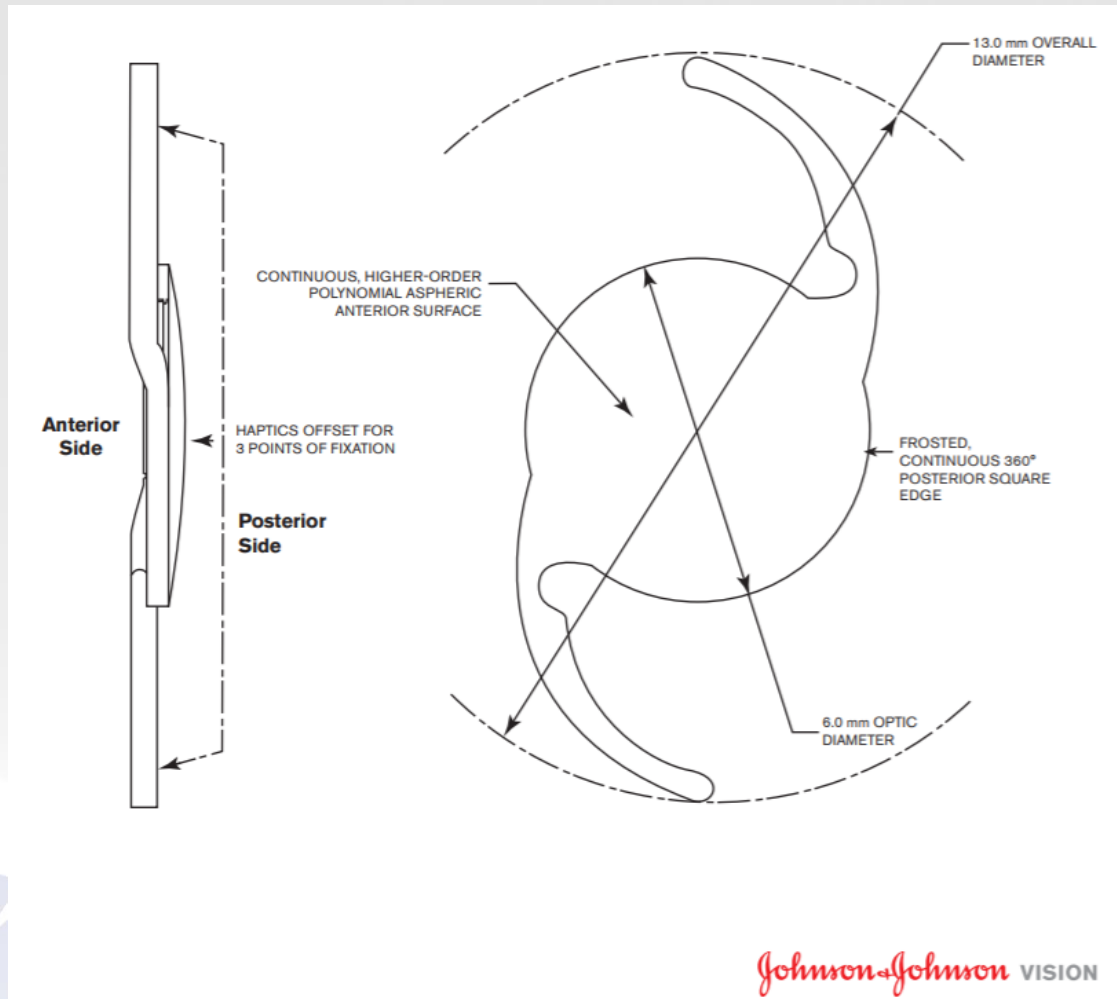


## TECNIS Eyhance IOL Blended Vision

Eyhance has a range of focus not a point of focus like Conventional monovision



# Tecnis Eyhance



## Monofocal-Plus IOL

✓ **Distance**

✓ **Intermediate**

Broader landing zone



## Non-diffractive continuous power IOL

- 1-piece, hydrophobic, acrylic, UV filter
- Biconvex spherical posterior surface
- Continuous, higher order aspheric anterior surface without rings

# Purpose

Evaluate clinical outcomes and subjective visual function following bilateral implantation of Tecnis Eyhance IOL in patients with presbyopia targeting blended vision

# Methods



**Inclusion criteria:** visually significant bilateral cataracts in adult patients (age  $\geq 18$  years) available to attend follow-up visits.



**Exclusion criteria:** patients with significant pre-existing ocular pathologies (excluding corneal ectasia or mild corneal disease) not limited to significant corneal scarring, corneal decompensation, glaucoma, retinal disease, macular degeneration, capsule or zonular fiber abnormalities with potential of inducing IOL decentration, tilting and inadequate support for implantation in the capsular bag, etc. Pregnant or nursing patients, those with concomitant autoimmune disease, a history of healing problems, and contraindications to local anesthesia and sedation were also excluded from the study.



**NEI-VFQ:** National Eye Institute Vision Function Questionnaire

# Results



## Study Patients

44 subjects  
n=88 eyes

Age:  $64.7 \pm 9.8$   
Female: 61.4%

Binocular UVA  
Distance:  $-0.05 \pm 0.12$   
Intermediate:  $0.10 \pm 0.18$   
Near:  $0.28 \pm 0.21$



## Blended Vision

29 subjects  
n=58

Age:  $63.4 \pm 10.4$   
Female: 58.6%

Binocular UVA  
Distance:  $-0.05 \pm 0.13$   
Intermediate:  $0.09 \pm 0.19$   
Near:  $0.25 \pm 0.24$



## Control Group

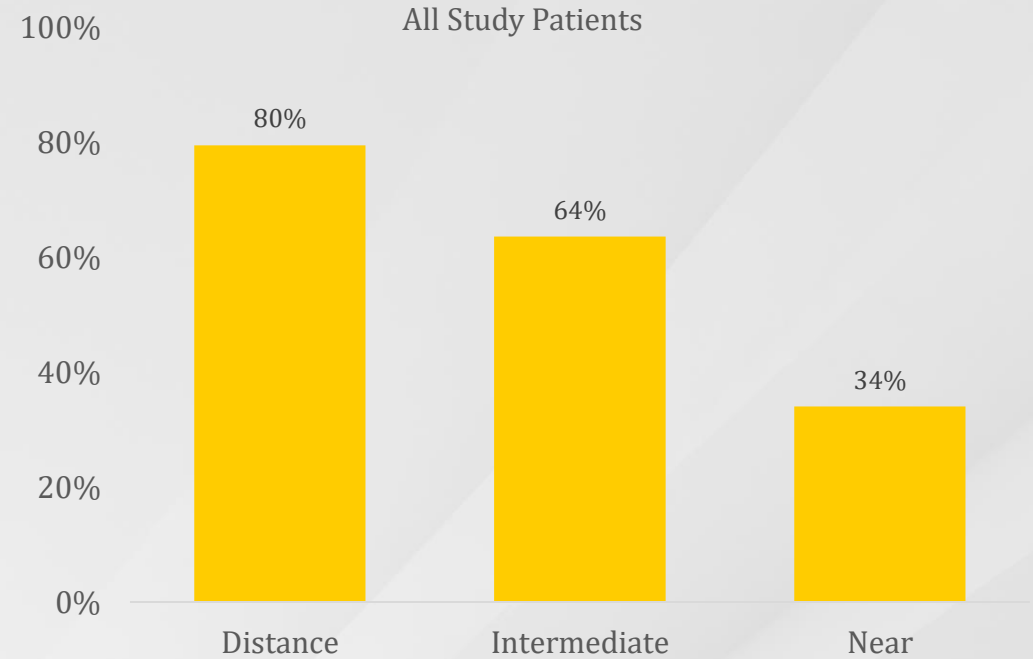
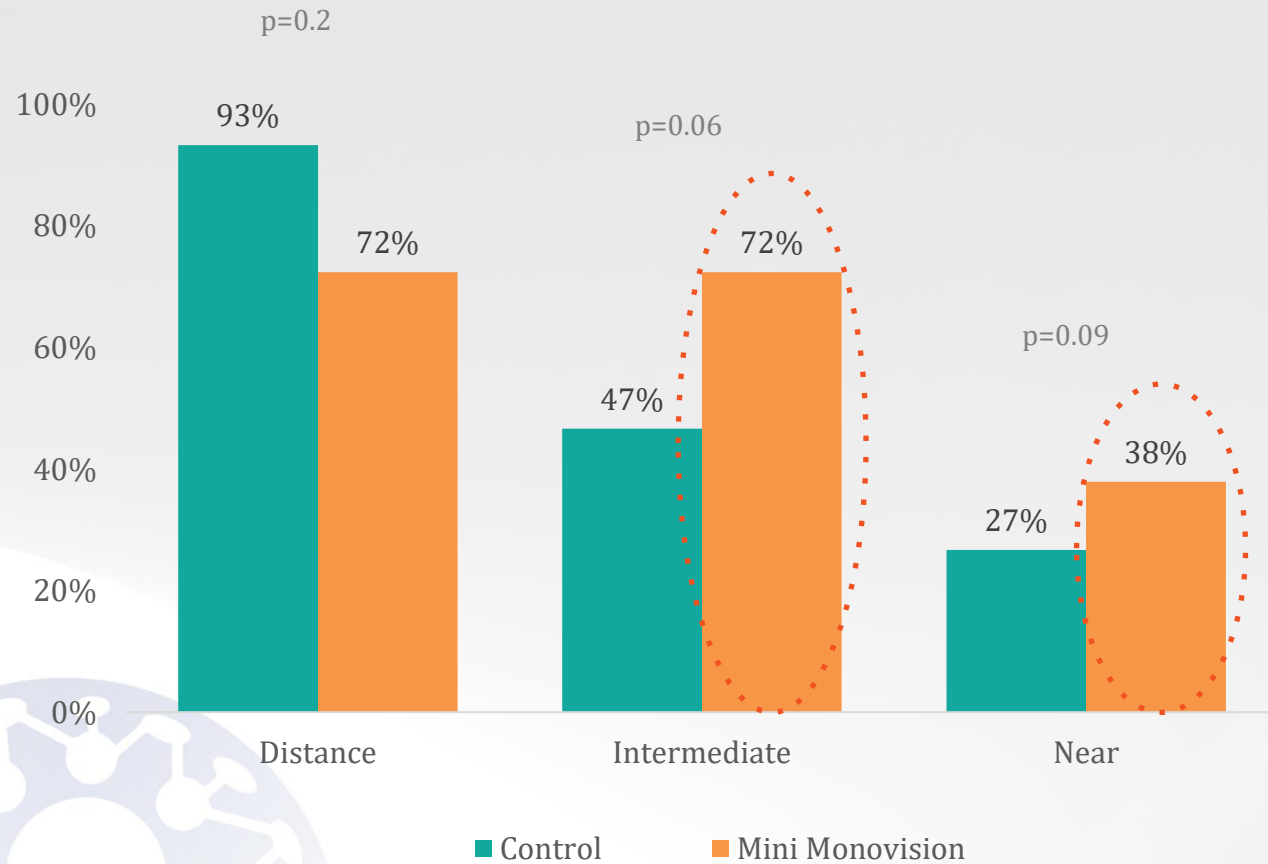
15 subjects  
n=30

Age:  $67.2 \pm 8.6$   
Female: 66.7%

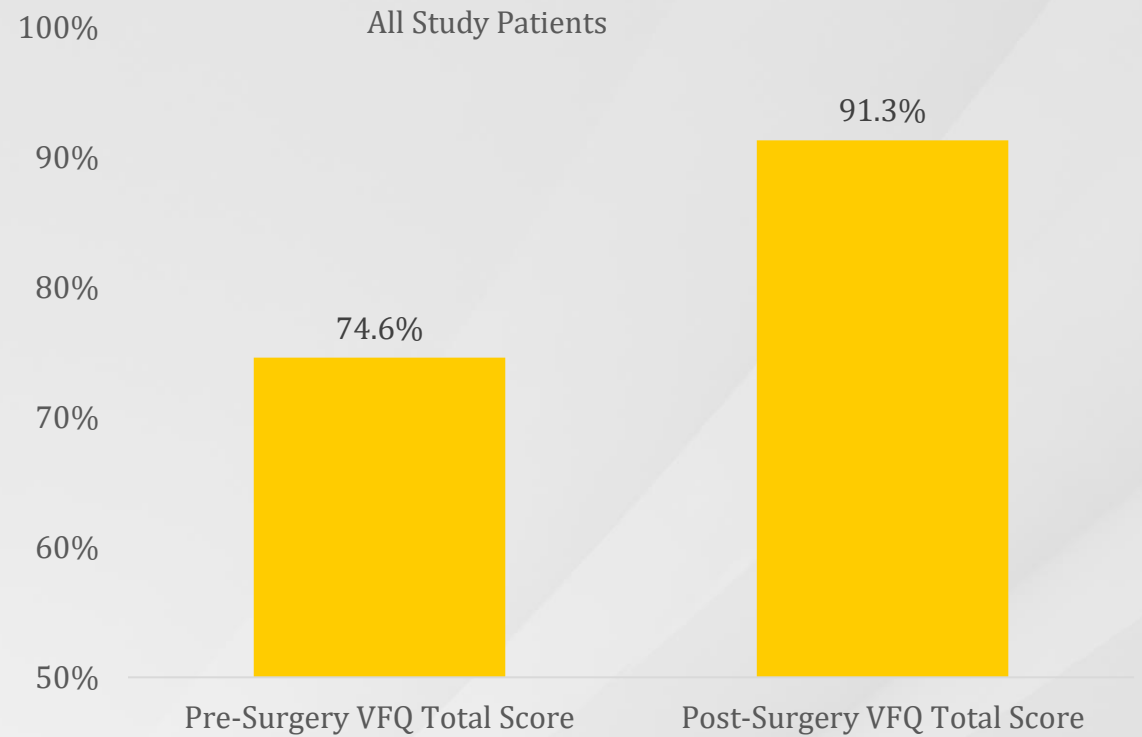
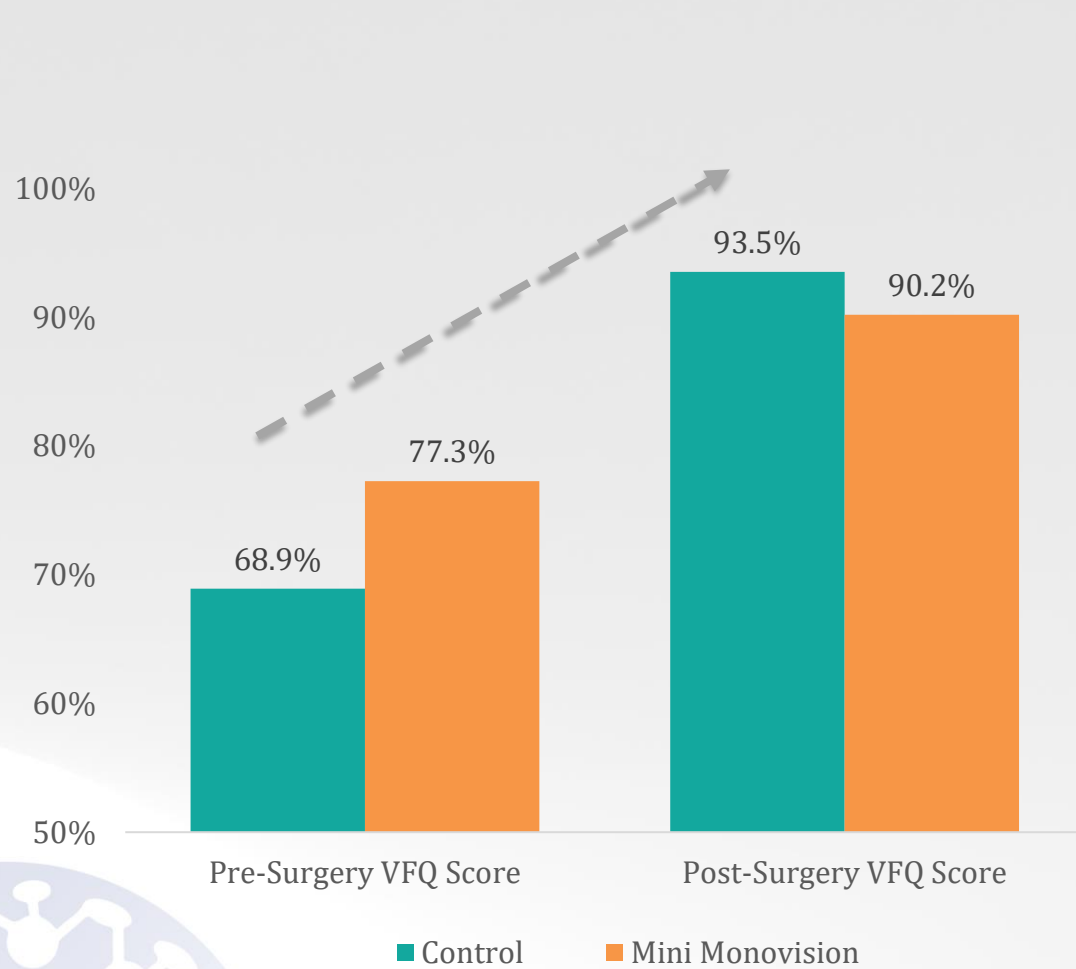
Binocular UVA  
Distance:  $-0.05 \pm 0.10$   
Intermediate:  $0.11 \pm 0.15$   
Near:  $0.34 \pm 0.13$



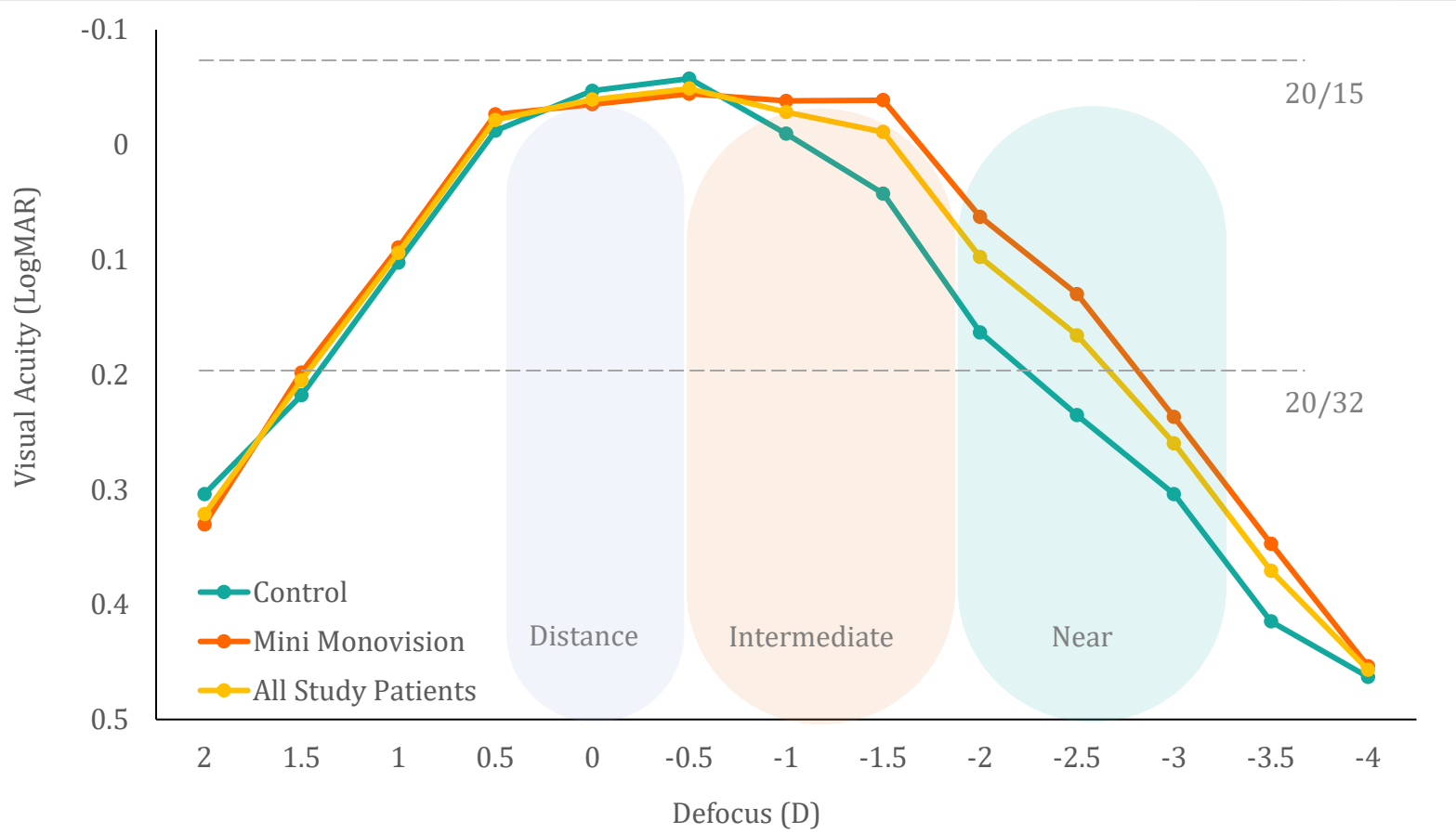
# Spectacle Independence Questionnaire



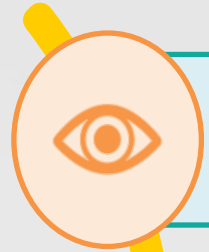
# National Eye Institute Vision Function Questionnaire



# Defocus Curve



# Conclusion



Improved VA at distance, intermediate & near vision



↑ Spectacle independence: distance (80%) + intermediate (64%)  
*Blended vision*: improved at intermediate (72%) + near (38%)



Overall positive trend in patient satisfaction

# References

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3. Mencucci R, Cennamo M, Venturi D, Vignapiano R, Favuzza E. Visual outcome, optical quality, and patient satisfaction with a new monofocal IOL, enhanced for intermediate vision: preliminary results. *J Cataract Refract Surg*. 2020 Mar;46(3):378–87.
4. Lundström M., et al., “Risk factors for refractive error after cataract surgery: Analysis of 282 811 cataract extractions reported to the European Registry of Quality Outcomes for cataract and refractive surgery”, *J Cataract Refract Surg*. 44(4), 447-452 (2018). PMID:29685779.