Visual outcome, optical quality, and patients' satisfaction with a new monofocal intraocular lens, enhanced for intermediate vision: preliminary results

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OBJECTIVES

To compare visual outcomes, contrast sensitivity, optical quality, spectacle independence and visual disturbances in patients implanted with:

- **TECNIS™** 1-piece monofocal IOL (ZCB00)
- **TECNIS Eyhance™** IOL (ICB00)

STUDY DESIGN

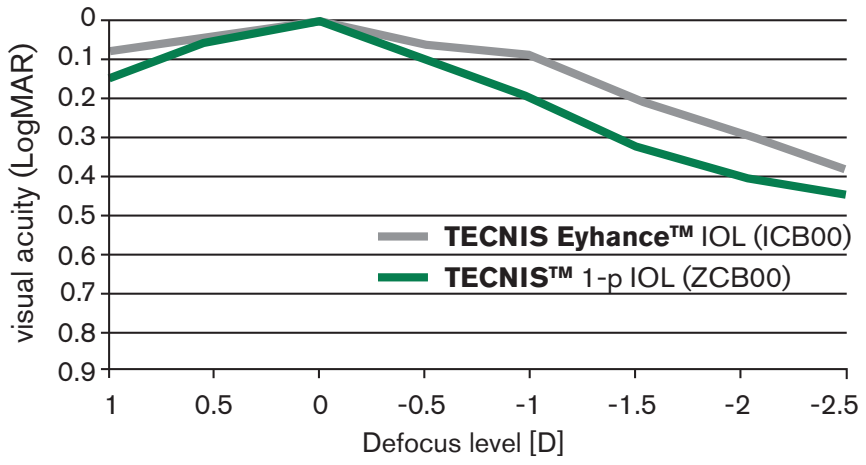
Prospective case series, six months follow-up. 40 patients without ocular comorbidities and corneal astigmatism <0.75 D underwent cataract surgery with bilateral implantation of the two study lenses.

- Monocular and binocular uncorrected and corrected distance (UDVA and CDVA at 4 m) visual acuities
- Uncorrected, distance-corrected and corrected intermediate (UIVA, DCIVA, CIVA at 66 cm)
- Binocular near visual acuities (UNVA, DCNVA, CNVA at 40 cm)
- Binocular defocus curve
- Photopic contrast sensitivity
- Objective scatter index (OSI), Strehl ratio, modulation transfer function (MTF) cut-off
- Halo and glare perception
- Spectacle independence

RESULTS:

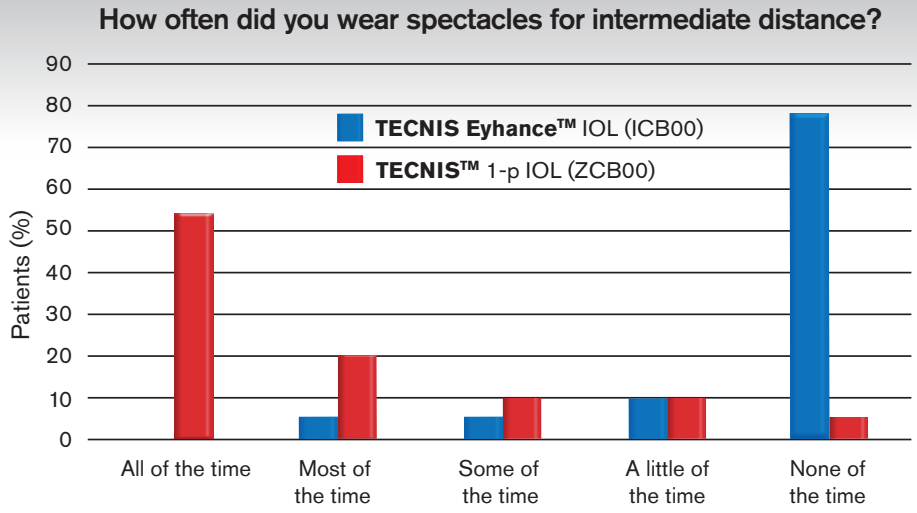
TECNIS Eyhance™ IOL achieved a smoother profile along the entire curve, especially within the intermediate defocus range (up to -1.50 D, corresponding to 66 cm). The **TECNIS Eyhance™** IOL provided significantly better defocus results at -1D and -1.5 D of defocus compared with ZCB00.

BINOCULAR DEFOCUS CURVE



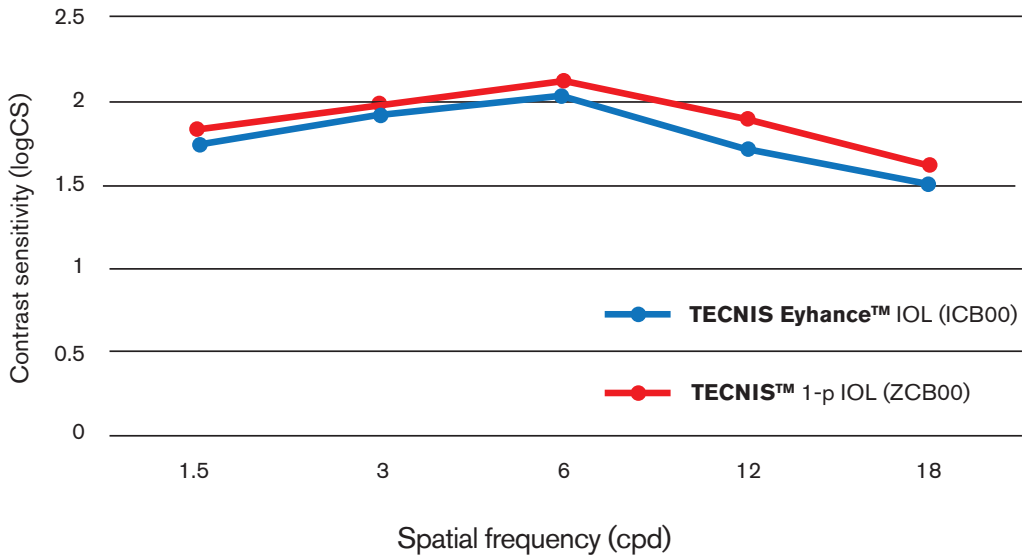
Johnson&Johnson VISION

SPECTACLE INDEPENDENCE FOR INTERMEDIATE DISTANCE



TECNIS Eyhance™ IOL provides higher spectacle independence for intermediate distance

CONTRAST SENSITIVITY MEASURED UNDER PHOTOPIC CONDITIONS



There is no significant difference between **TECNIS Eyhance™** IOL and **TECNIS™** 1-piece IOL

CONCLUSION

In patients without ocular comorbidities the **TECNIS Eyhance™** IOL (ICB00) showed **better uncorrected intermediate visual acuity and higher spectacle independence for intermediate vision without impairment of far vision and visual quality,** compared to the **TECNIS™** IOL ZCB00. There were **no significant differences between the two groups in terms of photopic contrast sensitivity, OSI, MTF cut-off, Strehl ratio, glare and halo perception.**

Reference:

Mencucci R, et al. Visual outcome, optical quality, and patients' satisfaction with a new monofocal intraocular lens, enhanced for intermediate vision: preliminary results. *J Caract Refract Surg* 2020 Jan 27; Epub 2020. REF2020CT4037.

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