

Study Spotlight: First peer-reviewed clinical outcomes of ZEISS AT ELANA 841P



Seeing beyond

Bilateral cataract surgery with AT ELANA® 841P provides patients with continuous range of vision from far to near with high contrast sensitivity, visual and refractive outcomes

Source



Title
Visual Outcomes of a New Hydrophobic Trifocal Intraocular Lens in Cataract Treatment: A Prospective Clinical Study



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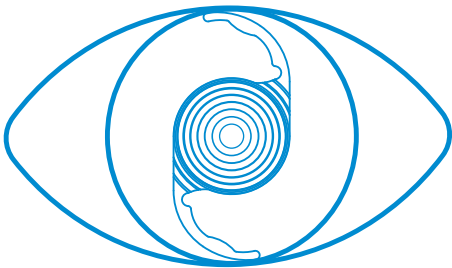
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Methodology

AT ELANA 841P bilateral implantation in 126 patients with age-related cataracts

- Prospective, multicenter, non-comparative clinical study
- Surgeries performed at 11 surgical sites in Czech Republic, Germany and Slovakia
- Corrected and uncorrected monocular visual acuities for distance, intermediate (80 cm) and near (40 cm) at 4-6 M
- Binocular defocus curve at 3 M
- Binocular contrast sensitivity in mesopic and photopic conditions at 4-6 M
- Binocular visual symptoms via non-directed questionnaire at 4-6 M

Sample size



AT ELANA 841P
252 eyes/126 patients; Mean age: 63.3 years

Results

Visual acuity and refractive outcomes

The **mean monocular corrected visual acuities** in all 252 implanted eyes at 4-6 months were **excellent for far, intermediate, and near distances** (table 1). The mean subjective spherical equivalent (SE) refraction was $-0.11 \pm 0.37D$ with **84.9% of eyes being within $\pm 0.5D$** at the last visit.

Defocus curve performance

The mean binocular distance-corrected visual acuity was better than 0.2 logMAR in **the defocus range of +1.0 to -3.0D** (figure 1) with a peak at distance vision of -0.10 logMAR (0.0D). **All eyes met the ISO defocus performance requirement for full visual range IOLs** at 1 m, 6 cm, 50 cm and 40 cm with VA of 0.2 logMAR or better.

Contrast sensitivity (CS) and visual symptoms

Very good levels of CS for all tested light conditions at all spatial frequencies (figure 2). All subjects showed a similar performance profile when compared to the normal range distribution of healthy middle-aged phakic population. **No patients experienced severe halos or dysphotopsia.**

Visual acuity (logMAR)	
CDVA	-0.06 ± 0.08 (-0.28 to 0.22)
DCIVA	0.10 ± 0.10 (-0.16 to 0.44)
DCNVA	0.10 ± 0.13 (-0.20 to 0.50)

Table 1: Monocular corrected visual acuity at 4-6 months postoperatively (shown as means, standard deviations and ranges)

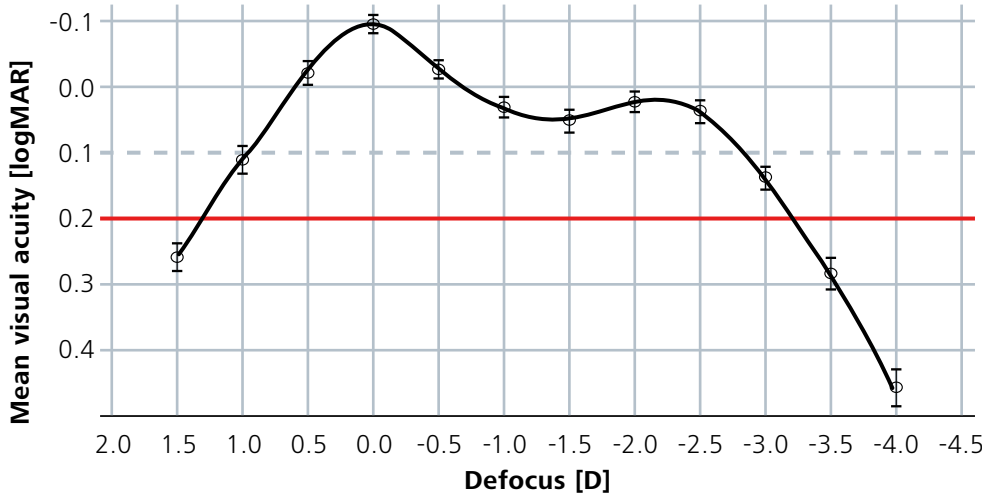


Figure 1: Mean binocular defocus curve at 3 months (error bars represent the standard deviation)

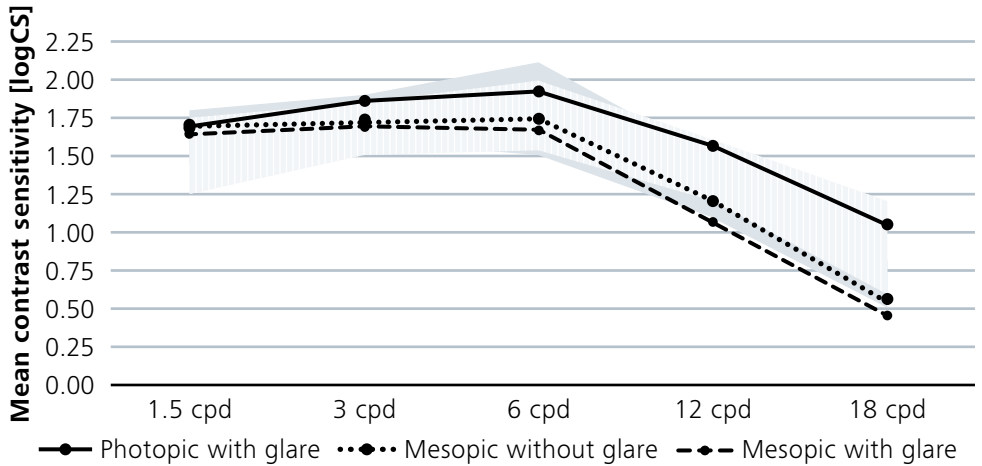


Figure 2: Mean binocular contrast sensitivity at 4-6 M postoperatively