# 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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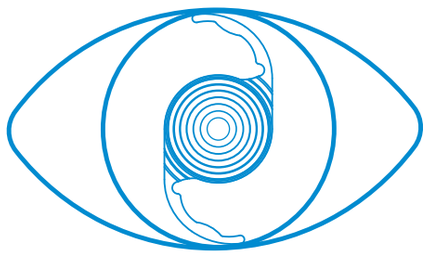
## Methodology

**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± 0.37D with **84.9% of eyes being within ±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)

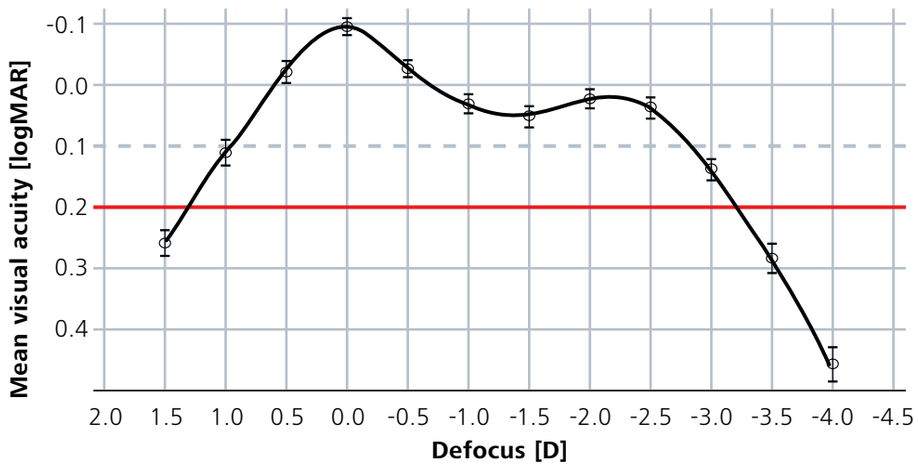



Figure 1: Mean binocular defocus curve at 3 months (error bars represent the standard deviation)

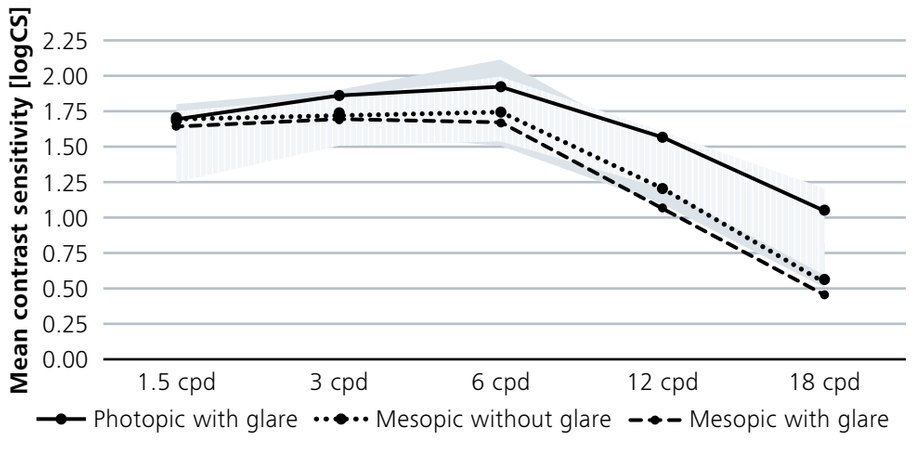



Figure 2: Mean binocular contrast sensitivity at 4-6 M postoperatively

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