Study Spotlight: Far distance retinal image quality of ZEISS AT LISA tri 839MP

Seeing beyond

Comparison of clinical retinal image quality with different premium IOLs using pyramidal wavefront sensor (PWS) based aberrometry.

Source

Title
Retinal image quality with multifocal, EDoF, and accommodative intraocular lenses as studied by pyramidal aberrometry

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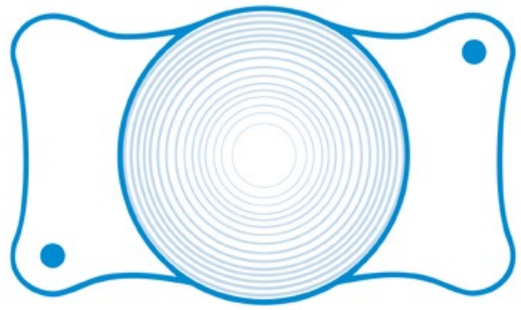
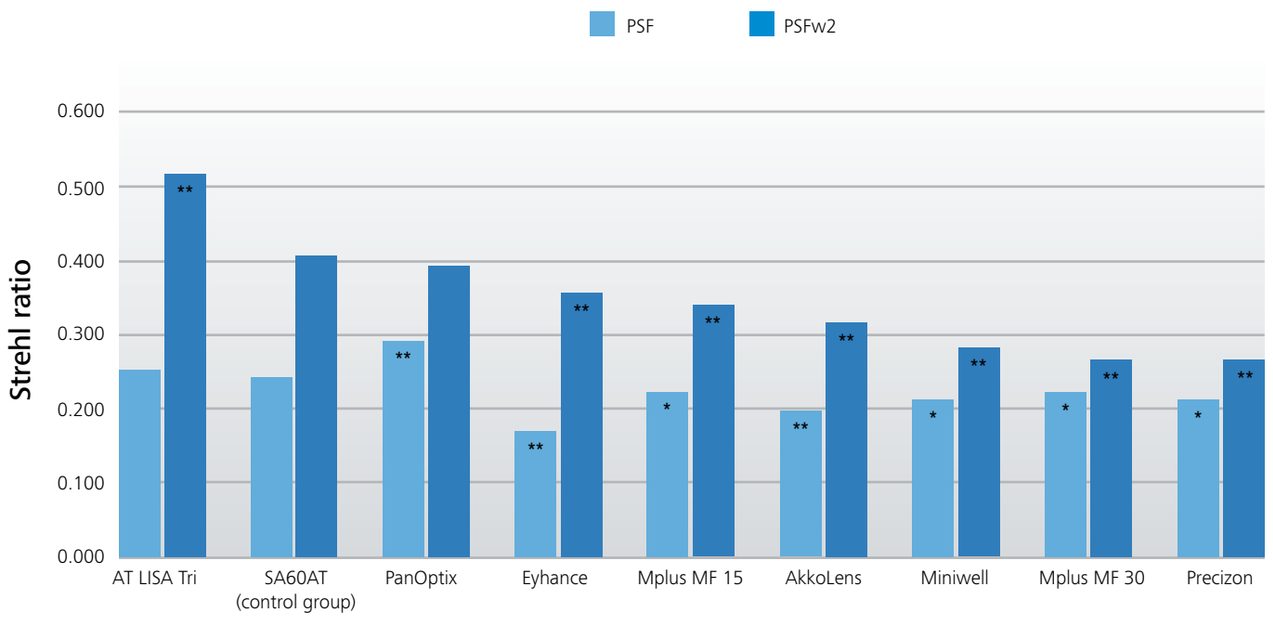
Methodology

- 194 eyes implanted with multifocal, EDoF and accommodative IOLs, inter alia 31 ZEISS AT LISA tri 839MP IOLs. (Control group with monofocal IOLs)
- PWS-Wavefront analysis of far distance PSF Strehl ratio
- Focus on HOA, to avoid bias due to residual ametropia
- Control group with monofocal IOLs (i.e. SA60AT)



Results



*PSF Strehl ratio with (PSF) and without (PSFw2) LOA for each group at 3.0 mm pupil diameter. The second-order aberrations were eventually excluded in the analysis of the PSF Strehl ratio (PSFw2) to avoid any bias induced by residual ametropia. Level of significance is compared to the monofocal spherical control group. *P < 0.05, **P < 0.001*

- ZEISS AT LISA tri 839MP IOL is the only IOL in the study providing a significantly higher mean postoperative value of far distance retinal image quality than the monofocal spherical control group.
- ZEISS AT LISA tri 839MP IOL was found to provide a significantly better far distance retinal image quality than the PanOptix at both 3.0 and 4.0 mm pupil diameter.
- The far distance retinal image quality is of great importance for neuroadaptation, as reduced image quality with blurred vision limits the neuroadaptation process.