Visual acuity and contrast sensitivity: AcrySof ReSTOR apodized diffractive versus AcrySof SA60AT monofocal intraocular lenses

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Purpose
To compare the visual acuity and contrast sensitivity in eyes with the AcrySof ReSTOR multifocal intraocular lens (IOL) (Alcon) and eyes with the monofocal AcrySof SA60AT IOL.

Methods
One hundred eyes had phacoemulsification cataract extraction and implantation of a ReSTOR multifocal IOL in the capsular bag. Inclusion criteria were corneal astigmatism less than 1.5 diopters (D), myopia less than 4.0 D, and no associated ocular disease. A complete ophthalmic examination, including uncorrected visual acuity, best spectacle-corrected visual acuity, and contrast sensitivity, was performed 6 months postoperatively. Results were compared with those in 40 eyes with the AcrySof monofocal IOL single-piece IOL.

Results
In the multifocal group, 90 eyes (90%) had an uncorrected distance visual acuity of 20/25 or better (logMAR <0.10) and an uncorrected near visual acuity at 35 cm of J3 or better (logMAR 0.14). The multifocal group and monofocal group had similar distance uncorrected and best corrected visual acuities; however, the multifocal group had significantly better near uncorrected acuity. The mean contrast sensitivity values were 18.28 dB (static program) and 17.95 dB (dynamic program) in the multifocal group and 19.18 dB (static program) and 21.2 dB (dynamic program) in the monofocal group.

Conclusion
The ReSTOR multifocal IOL provided a satisfactory full range of vision; 92% of the patients achieved total spectacle independence. Contrast sensitivity was lower than with the SA60AT monofocal IOL.