

Why Bilaterally Implant Multifocal IOLs?

Mixing these lenses does not provide higher rates of spectacle independence.

BY PAUL MANN, MD

Presbyopia-correcting IOLs are gaining in popularity for several reasons. Today's cataract surgery patients are young and active, and they want freedom from spectacles. Additionally, these lenses offer a fuller range of vision than monovision or blended vision LASIK.

Three presbyopia-correcting lenses are currently available in the US, and each has its advantages. Although it may be tempting to mix IOLs to gain the benefits of two models, I have found that patients achieve optimal vision when they receive the same multifocal lens in both eyes.

THE AVAILABLE PRESBYOPIA-CORRECTING LENSES

The ReZoom (Advanced Medical Optics, Inc., Santa Ana, CA) is a zonal refractive multifocal lens. Its power alternates from the center to the periphery of the optic, and an altered curvature on the front of the IOL allows for multiple points of focus.

The AcrySof Restor (Alcon Laboratories, Inc., Fort Worth, TX) is an apodized diffractive multifocal lens that is based on the AcrySof single-piece lens platform. The diffractive grading is limited to the central 3.6 mm of the lens, while the periphery of the IOL is purely refractive, just like that of a monofocal lens. Additionally, the diffractive step heights are larger (approximately 1.3 μm) in the center of the AcrySof Restor lens and gradually become smaller toward the periphery.

The Crystalens (Eyeonics, Inc., Aliso Viejo, CA) is a modified plate haptic lens with a biconvex optic. The IOL's hinges allow its forward and backward movement along the axis of the eye.

SURVEY QUESTIONS

We asked patients to rate their answers to the following questions on a scale of 1 to 5 (1 = poor, 2 = below average, 3 = satisfactory, 4 = good, 5 = excellent).

- How would you rate the quality of your vision?
 - Distance vision
 - Computer/intermediate
 - Reading
 - Nighttime
 - Daytime
 - Overall
- Do you have difficulty with halos/glare?
- Do you ever wear glasses?
- Would you recommend cataract surgery to your family and friends?
- Do you feel that the benefit of this surgery was worth the investment?
- Do you feel that you were adequately informed before surgery about possible visual outcomes?

POSTOPERATIVE PHONE SURVEY

Methodology

I began implanting the Crystalens in February 2004, the AcrySof Restor lens in July 2005, and the ReZoom lens a few months later. In 2006, my practice conducted a study to determine patients' satisfaction with these three IOLs. All respondents underwent IOL implantation between January 1 and December 31, 2006. My staff contacted these individuals 3 months after their last procedure (see *Survey Questions*).

Our study included 205 patients. Thirty-two had re-

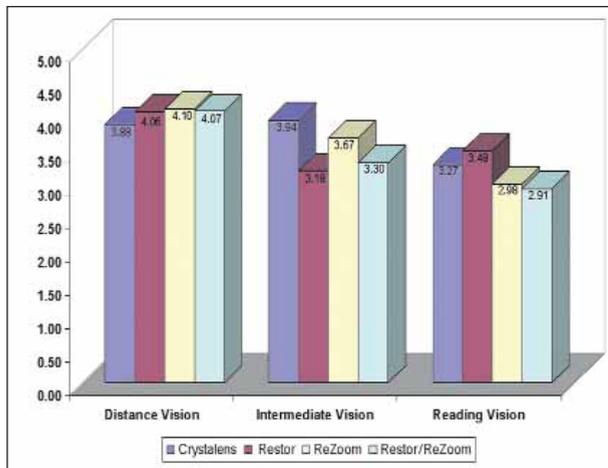


Figure 1. In a survey by Dr. Mann's practice, patients in all four groups rated their distance, intermediate, and reading vision on a scale of 1 to 5 after receiving IOLs in both eyes.

ceived bilateral Crystalens, 82 had received bilateral AcrySof Restor IOLs, 49 had received bilateral ReZoom lenses, and 42 had received an AcrySof Restor lens in one eye and a ReZoom IOL in their fellow eye.

Results

My staff and I asked patients to rate their vision on a scale of 1 to 5, with 5 being the best. Those who had received the AcrySof Restor or ReZoom lens bilaterally or the two IOLs in combination rated their distance vision similarly (Figure 1). The Crystalens patients had the best intermediate vision, and the AcrySof Restor patients had the best reading vision.

Patients who received the AcrySof Restor in one eye and the ReZoom lens in their fellow eye had slightly better nighttime (3.73), daytime (4.14), and overall vision (3.82) than the patients in the other groups. The scores for overall vision were 3.73 in the Crystalens group, 3.76 in the AcrySof Restor group, and 3.69 in the ReZoom group.

When asked, 36% of the Crystalens, 47% of the AcrySof Restor, 84% of the ReZoom, and 60% of the AcrySof Restor/ReZoom patients reported difficulty with halos. Problems with glare were reported by 31% of the Crystalens, 35% of the AcrySof Restor, 16% of the ReZoom, and 19% of the AcrySof Restor/ReZoom patients.

Interestingly, 100% postoperative independence from spectacles was reported by 78% of the AcrySof Restor, 55% of the ReZoom, 51% of the AcrySof Restor/ReZoom, and 45% of the Crystalens patients (Figure 2).

PATIENTS' SATISFACTION

Surprisingly, quality of vision and spectacle independence did not always correlate with patients' satisfaction. When asked, 82% of the Crystalens, 78% of the AcrySof

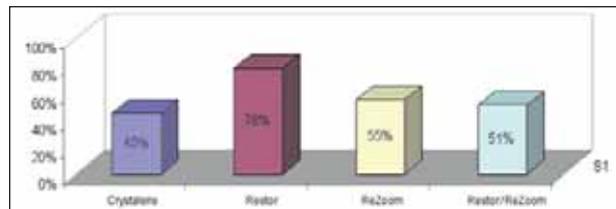


Figure 2. The survey determined how many patients achieved 100% independence from their spectacles after bilateral IOL surgery.

Restor, 78% of the ReZoom, and 74% of the AcrySof Restor/ReZoom patients said that they would recommend the procedure. Additionally, 76% of the AcrySof Restor, 76% of the ReZoom, 70% of the Crystalens, and 63% of the AcrySof Restor/ReZoom patients replied that the benefit of lens implantation was worth its cost.

Eighty-five percent of Crystalens patients, 77% of AcrySof Restor/ReZoom, 69% of AcrySof Restor, and 69% of ReZoom patients stated that they were properly educated about the procedure. Because I started implanting the Crystalens 1.5 to 2 years before the other two lenses, my staff and I have a lot more experience with this lens, and we are probably better at educating patients about it. Based on our experience, counseling patients so that they have realistic expectations is key to their happiness with presbyopia-correcting IOLs. For example, only 45% of our Crystalens patients are completely independent of spectacles. Eighty-two percent of them said that they would recommend the procedure to friends and family members, however, and 70% of them felt that the benefits of the IOL's implantation were worth its cost.

CONCLUSION

In our study, the majority of patients in all four groups were pleased with their outcomes and would recommend the procedure to others. Surprisingly, mixing the AcrySof Restor and ReZoom lenses did not yield a higher level of spectacle independence than the bilateral implantation of either lens. Based on these results, I am less likely to combine these IOLs and prefer to implant the three lens models bilaterally. When patients strongly desire independence from spectacles, I am more inclined to implant the AcrySof Restor lens bilaterally. I am anxious, however, to see data about other surgeons' experience mixing this IOL with the Crystalens. ■

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