

Mixing Multifocal IOLs

An ophthalmologist achieves personal success with refractive lens exchange combining the AcrySof Natural Restor and ReZoom IOLs.

BY JONATHAN D. CHRISTENBURY, MD

I underwent successful LASIK about 10 years ago for a -4.00 D refractive error. I enjoyed spectacle-free vision for a number of years until I developed the visual symptoms of presbyopia. I admit that I am a refractive surgery patient. I enjoyed being independent of spectacles. As my presbyopia increased, however, I became dependent on reading glasses for almost every near task, including computer work. I am very familiar with multifocal IOLs, because I have implanted a combination of the AcrySof Natural Restor IOL (Alcon Laboratories, Inc., Fort Worth, TX) and the ReZoom IOL (Advanced Medical Optics, Inc., Santa Ana, CA) in more than 4,000 patients since May 2005. Over time, I became envious of their good postoperative vision (95% of them are free of spectacles), and I finally decided to undergo refractive lens exchange. My positive experience has inspired confidence among my patients who are interested in this surgical option, and it has motivated me to offer the procedure to a wider population. As a surgeon who implants multifocal IOLs, I have learned that these lenses provide the best reading vision and that they only produce glare for the first couple of months postoperatively. If patients are told that these phenomena are transient and part of a normal healing process, very few of them, in my experience, comment about their night vision after 3- to 6-months postoperatively. I also observed that patients who receive a different multifocal lens in each eye seemed to have better intermediate vision and better reading vision in dim light than those who receive the same lens in both eyes. In my experience, multifocal and monofocal lenses appear to provide comparable visual acuity at distance.

Patients who have other combinations of lenses also report satisfactory postoperative vision, including those who have a ReZoom lens in one eye and an AcrySof Natural Restor IOL in the other. Although the lenses are tinted dif-

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ferently, none of my patients complained that combined IOLs affected their color perception.

Based on the aforementioned observations, I chose to undergo refractive lens exchange with the ReZoom and AcrySof Natural Restor IOLs. I was comfortable selecting this procedure after prior LASIK, because many of my patients have achieved good BSCVAs with the same treatment.

MY MIXED MULTIFOCAL IOL ROUTE

About 1.5 years ago, I decided to undergo multifocal IOL implantation in both eyes with the AcrySof Natural Restor lens in my left eye and the ReZoom IOL in my right, dominant eye.

I chose Stephen Slade, MD, of Houston to implant the lenses because I have known him for more than 15 years. Furthermore, he trained me to perform refractive surgical procedures, including astigmatic keratotomy, RK, and automated lamellar keratoplasty, and we were co-investigators for a number of FDA clinical trials of PRK and LASIK. Dr. Slade and I have also observed each other operating a number of times, both inside and outside the United States. Under Dr. Slade's tutelage, I learned a meticulous and conservative approach to surgery that I still follow today.

Preoperatively, I did my own biometric calculations, and I brought my own lenses to Dr. Slade's practice. Of course, he performed his own IOL calculations, testing, and full examinations, but he did agree with my choice

of lens for each eye. I used the By-Pass K Method for calculating the power of my IOLs, because I have found it to be accurate in patients with a history of prior cornea refractive surgery in my own practice. Dr. Slade said I was one of the most cooperative ophthalmologists, or ophthalmologists' family members, he has treated.

My preoperative UCVA measured 20/20 OU, which allowed me to read some of the letters on the 20/15 Snellen line. In contrast, my unaided near vision was approximately 20/80. Without reading glasses, I was not able to read newsprint. I had 20/20 BCVA up close and had no significant distance refractive error because of having undergone LASIK. I had approximately 0.75 D of astigmatism in my left eye, which did not bother me.

Dr. Slade implanted the AcrySof Natural Restor IOL in my left eye on a Thursday. Due to my workload at that time, I had to wait a few weeks before Dr. Slade could place the ReZoom IOL in my right eye. Before I underwent the second procedure, my vision felt very unbalanced, a phenomenon that many patients had described to me after I had implanted their first multifocal IOL. Despite this effect, I returned to work the following Monday and resumed my regular clinical and surgical schedule. Interestingly, I quickly neuroadapted to my uneven vision and began to read with both eyes equally. I only used reading glasses intermittently between my first and second procedures.

I returned to work several days after Dr. Slade implanted the ReZoom lens in my right eye. I immediately noticed that my sense of being visually unbalanced had resolved and that I no longer needed glasses for reading. My near vision cleared first, then my distance vision. I had some mild fluctuation in my vision at first, but it did not interfere with my overall function. I was also interested to observe that my binocular intermediate and near vision was so much better than my monocular, intermediate, and near vision.

Over the next several months, my vision improved as I neuroadapted to the lens implants. At 3 months postoperatively, however, I began to notice that shiny objects and glossy pages were causing glare and that my vision was becoming hazy. Soon thereafter, I was diagnosed with mild capsular haze, and I consulted a local colleague who performed my bilateral YAG laser capsulotomy. My vision improved significantly the next day.

In the past, I have not hesitated to perform YAG laser capsulotomy on patients who developed similar complaints with their near vision after the implantation of multifocal IOLs. Mild posterior capsular opacification can significantly affect the quality of near vision provided by these lenses.

POSTOPERATIVE OUTCOMES

Since I underwent refractive lens exchange, I do not need glasses for driving, using the computer, or reading. I occasion-

ally use magnifiers to minimize the visual effects from a lid lesion. I previously wore reading glasses while I positioned the IntraLase FS laser's suction ring (Advanced Medical Optics, Inc.) on my patients' corneas, but I rarely need them now.

Before the implantation of my ReZoom/AcrySof Natural Restor IOLs, I had difficulty picking up a collagen punctal plug in a dim examination room. I can do this now without difficulty. I did experience glare and halos for approximately 6 weeks postoperatively, but these problems have resolved. My experience has helped me be more empathetic with my own multifocal IOL patients. Because I experienced the common early nighttime visual symptoms, which resolved, I can offer positive reinforcement to my own patients as they progress through their own healing process.

I currently see 20/20 at distance and J1+ at near. In my office, I can sit in front of a computer monitor until my nose is approximately 8 inches away, and then I can roll slowly backward and have continuous vision of the computer screen until I am 3 or 4 feet away. I do not seem to have a gap in my vision.

I did experience some low contrast sensitivity before I underwent the YAG laser capsulotomy. Since then, my vision is so good that I have not bothered to test my contrast sensitivity.

TODAY'S PRACTICE

Many patients who are curious about cataract surgery or refractive correction will research multifocal IOL technology on the Internet, which I think helps them become more educated. Cataract surgery patients seem to be extremely satisfied with multifocal lens technology. Having their vision restored and becoming independent of spectacles are wonderful experiences for the active cataract patient population. One of my patients told me she "younged up!" Currently, my colleagues and I implant multifocal IOLs in 60% to 70% of our cataract procedures.

Many patients are still confused about the types of presbyopia-correcting IOLs available, however, and can be easily overwhelmed by the potential combinations. I try to keep the discussion as simple as possible by telling patients immediately whether or not they are good candidates for multifocal IOLs. If I think they are eligible for a combination of lenses, I tell them that I chose the ReZoom/AcrySof Natural Restor mix, because I have observed that it provides the best intermediate and near vision. Once they hear that I have undergone the procedure and learn about my results, they ultimately understand that it is a safe procedure, similar to LASIK, which many of their friends have undergone.

Although I have not performed the procedure on any of my staff members (they are all too young), I have implanted the AcrySof Natural Restor and ReZoom IOLs in a number of their family members. In some cases, I have performed

refractive lens exchange with the AcrySof Restor and ReZoom IOLs off label in younger patients who are not candidates for LASIK or the Visian ICL (STAAR Surgical Company, Monrovia, CA). I do perform bilateral ReZoom implantation in patients who have mild amblyopia and advise them they are more likely to wear reading glasses for prolonged reading. I estimate that 95% of my patients with combined multifocal IOLs do not wear spectacles—including those who underwent LASIK for residual refractive error. When I am choosing a multifocal IOL for a patient who has significant corneal toricity, I target a predicted postoperative spherical equivalent of zero, because their perceived and functional vision will be better until LASIK or PRK is performed. This seems to be the easiest experience for astigmatic patients, even if some may require temporary astigmatic spectacles, and our excimer lasers are accurate when correcting mixed astigmatism. I think it is important to discourage patients from using reading glasses immediately after the implantation of a multifocal IOL, because the spectacles seem to slow neuroadaptation significantly.

TAKE-HOME POINTS

I have learned that managing expectations in refractive surgery in general is critical to having a happy refrac-

tive surgery patient. Many presbyopes, even if they are advised that their intermediate vision will not be adequate, are not happy patients. People require intermediate vision for many tasks, and the majority of us use computers for work. Also, presbyopic patients want clear distance vision in both eyes, just like they had with whatever optical correction they were using before presbyopia-correcting IOL surgery. The patients who are happiest with these lenses are those who rarely need spectacles to achieve functional reading, intermediate, and distance vision. To get there, the doctor and patient need to accept nighttime vision glare or halos for a couple of months. The best presbyopic correction I have experienced is the ReZoom/AcrySof Natural Restor IOL combination. Because of my personal experience, I know that night vision and quality of vision improves after a number of months because of neuroadaptation. ■

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