

# Bilateral Multifocal IOLs

A surgeon reflects on 10 years with bilateral Array lenses and how their implantation changed him as a surgeon.

BY KEVIN L. WALTZ, OD, MD

In 1998, I was a 41-year-old eye surgeon 6 years into my clinical practice when I was diagnosed with posterior subcapsular cataracts. My UCVA was 20/20 OD and 20/25 OS on the Snellen chart. I was essentially plano in both eyes.

Shortly after my diagnosis, I traveled to Disney World with my family. To my amazement, my Snellen visual acuity totally underestimated my visual disability. Disney World is well known for its bold, colorful buildings. I enjoyed them like everyone else. Under conditions of glare, however, my vision was awful. If a building were backlit by the rising or setting sun, I could not determine if it had doors or windows or even what color it was. My vision was perfect, however, when I looked through an operating microscope. Through this experience, I learned to listen very carefully when a patient complained bitterly about a cataract that appeared relatively trivial at the slit lamp.

At the time of my diagnosis, the FDA had just approved the Array lens (Advanced Medical Optics, Inc., Santa Ana, CA), so my clinical experience with it was minimal. During my preoperative research, I could not find a single eye surgeon in the world who had received a multifocal IOL. Nevertheless, I was willing to try the Array lens and to discover for myself whether or not it worked. I tend to be a risk taker, and I was very motivated to be less dependent on glasses for the rest of my life. I fully accepted that I might need an IOL exchange(s) if I were unhappy with my vision. My experience has been successful and educational.

## PERSONAL HISTORY

My history with glasses had a huge impact on my decision to try the Array IOL. I received my first spectacles at age 13. I had a refractive error of -1.50 D OU with a small amount of cylinder. I had accommodative excess and was prescribed bifocals. I wore them religiously from age 13 until age 35. At that point, my myopia and accommodative issues vanished.

In retrospect, I realize that this change occurred due to my developing cataracts. Regardless, I was able to enjoy life without glasses and bifocals for 6 years. It was glorious.

When I was ready to undergo cataract surgery at age 41, I knew what my options were. Some surgeons may wonder what the big deal was with wearing bifocals. As an explanation, I will share an example from my life. I was 30 years old when I interviewed for my ophthalmology residency. I was wearing a low minus pair of glasses with bifocal lenses. At two different well-regarded institutions, the interviewing ophthalmologists made fun of me for wearing bifocals. Our culture and our profession have very strong preconceptions about bifocals (see *A Cultural Marker*). I would therefore urge my colleagues not to underestimate patients' desire to be free of glasses or bifocals.

## SURGICAL OUTCOME

My partner, Michael G. Orr, MD, performed my surgery. He would have preferred to implant a monofocal IOL. This was the first lesson I learned: a perfectly rational patient, with full informed consent, may make a different choice than the surgeon recommends.

Postoperatively, I achieved an uncorrected distance visual acuity of 20/15+ and an uncorrected near visual acuity of J1+. I was thrilled and relieved. My vision has been stable-to-improved for 10 years. I have lived the life of a successful multifocal IOL patient for a decade: I have no need for glasses but have experienced the annoyance of varying amounts of glare and halos. A multifocal IOL is not a perfect solution, but it can be much better or worse than the alternative. It is a matter of perspective, another lesson I learned. The best surgeons are also often the best communicators, and a large part of the surgeon's job is to communicate the issues the patient will likely face after surgery.

I am a better surgeon for having been a patient. I have a deeper understanding of what comforts and scares patients.

## A CHANGED SURGEON

I have always been described as an aggressive surgeon, because I have always been more willing to remove a patient's seemingly minor cataract than most of my colleagues. After undergoing cataract surgery myself, I became more aggressive still.

I was so impressed with my vision after cataract surgery with Array IOLs that I began to explore the use of these lenses for refractive surgery. In 1999, laser-based refractive surgery for hyperopia was not a great option, but the power of lasers to improve vision among myopic patients brought many high hyperopes into my refractive surgery practice for a consultation.

One patient in particular convinced me that I could improve many patients' high hyperopia with lens-based surgery. Male and in his 60s, this patient presented with a strong desire to be less dependent on glasses (+10.00 D OU). He had worn glasses in the aphakic power range all his life. He and his family became very upset when I told them that laser vision correction was not an option. They insisted that something had to be done, and the patient was willing to try anything. I realized that the problem was mine. If the patient had been aphakic with a refractive error of +10.00 D, I would have happily performed a secondary implant procedure and corrected him with pseudophakia. Why was I not willing to remove his crystalline lenses and correct him with pseudophakia? The Array lens was a great option for this patient. It could correct his distance and near vision, decrease his risk of angle-closure glaucoma, and spare him the frustration of developing cataracts later in life.

I started performing more and more lens replacement surgery on hyperopes, and the procedure worked well for them. Around the year 2000, R. Bruce Wallace, MD, and I began teaching other surgeons in the United States and around the world how to apply advanced principles of cataract surgery to refractive lens surgery. We began calling

lens replacement surgery with a pseudoaccommodating IOL such as the Array *presbyopic lens exchange* or *Prelex*. What I refer to as *Prelex* is the same as refractive lens exchange, but I still prefer the former term for its ease of use. As technology and surgical techniques have improved, refractive lens exchange has become increasingly popular. I have been very comfortable as a strong proponent of Prelex owing to the procedure's dramatic benefits in my own eyes.

I am both an optometrist and an ophthalmologist. I have had the opportunity to perform Prelex on several friends who are also optometrists and who refer patients to me. Several ophthalmologists have consulted me preoperatively who eventually underwent Prelex themselves by different surgeons. All of these patients were pleased with the exchange of their glasses for Array lenses. I am sure they would be even happier with the improved multifocal IOLs available today. These patients had a few things in common. First, they were mature hyperopes who were tired of wearing glasses. Second, they understood the unlikely possibility of catastrophic complications as well as the more mundane postoperative annoyances such as halos and glare. Third, they were willing to take a risk to get what they wanted. These attributes are still the hallmarks of the optimal candidate for premium IOL technology.

## CONCLUSION

I am often asked if I am still happy with my decision to undergo Prelex with the Array lens. Although I underwent cataract surgery at a young age, I have no regrets. I have considered having the Array lens in one of my eyes exchanged for a newer IOL, but I have not proceeded because I see so well. If I were dependent on glasses, I might choose to undergo an IOL exchange. Nor have any of the thousands of patients in whom I implanted an Array lens decided to "upgrade" to newer technology.

I do have one visual limitation worth noting. My reading speed is slower than I would like. I do not require glasses, but I read faster with a pair of readers, which I will wear to improve my reading speed. I have observed the same phenomenon in all of my premium IOL patients, regardless of the lens technology. Wearing readers of almost any strength enables them to read faster. I am careful to share this information with patients preoperatively. A successful premium IOL patient does not require glasses but may still benefit from them for some activities. ■

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## A CULTURAL MARKER

It is easy to appreciate that bifocals or reading glasses are a cultural marker for old age. In Amsterdam in the mid-1700s, for instance, it was common to place a sculpture above a doorway to indicate who lived inside, and many examples may still be found. Figure 1 includes a pair of reading glasses (the sculpture predates the invention of bifocals). The sculpture signifies that the building served as an old men's home or nursing home.



**Figure 1. The reading glasses indicate that this residence in Amsterdam served as a home for old men.**