

Point/Counterpoint Excimer Laser Debate:

Techniques that do not use an excimer laser can help fine-tune the postoperative vision of refractive IOL patients.

BY R. BRUCE WALLACE III, MD

There are many causes for poor vision in patients with multifocal and accommodating IOLs, and dry eye is number one, in my opinion. Although refractive complications can occur, overall, I think we can expect patients to attain better multifocal visual acuity after their second eye receives a lens. My colleagues and I encourage visual cortical adaptation. If that is not effective, we have to figure out a way to help patients by fine-tuning their sphere and cylinder.

FINE-TUNING THE POSTOPERATIVE RESULT

My experience with multifocal lenses dates back to 1988 (before LASIK was performed). I had to use the available technologies and techniques such as mini RK, punctal occlusion, limbal relaxing incisions (LRIs), and conductive keratoplasty (CK; Refractive, Inc., Irvine, CA) to enhance visual results. The aforementioned modalities were also appropriate for dry eye patients who did not want to undergo laser surgery.

Now, my colleagues and I primarily use LRIs to reduce residual astigmatism after IOL implantation. For postoperative myopia, we usually perform laser vision correction, but sometimes we consider mini RK or piggyback IOLs. For postoperative hyperopia, we like CK or piggyback IOLs.

CASE STUDY FOR CK

A 60-year-old female presented with a 6-month history of having the Array lens (Advanced Medical Optics, Inc., Santa Ana, CA) in both eyes. Her visual acuity was 20/40 OU, and her manifest refractions measured +1.75 -0.50 X 44 OD and +1.25 -0.75 X 87 OS. One month after undergoing CK, her UCVA was 20/25 OU, and it improved to 20/20 UCVA OU at 3 months. I have found that CK is a wonderful approach to enhancing the refractive outcome of a patient who expected better vision.

PIGGYBACK IOLs

Fortunately, it is relatively easy to calculate the power of piggyback IOLs for correcting refractive errors in pseudophakes. I prefer piggybacking IOLs to exchanging a lens. Low-powered IOLs are available from STAAR Surgical Company (Monrovia, CA) and from Advanced Medical Optics, Inc.

CONCLUSION

When it comes to fine-tuning visual results after the implantation of a multifocal or accommodating IOL, however, approaches other than LASIK may be appropriate. It is helpful to have access to an excimer laser. Because of the unpredictable time necessary for visual cortical neuroadaptation, I try to postpone a secondary procedure as long as possible, which is difficult to do if the patient's unhappy. The surgeon must consider all causes of poor postoperative vision, however, and not just the refractive error. There may be other issues involved besides refractive errors such as dry eye. If a patient is 20/happy but his visual acuity is technically lower than expected, the staff needs to avoid calling attention to minor deficiencies in his corrected vision. If problematic refractive errors surface after refractive lens surgery, however, the surgeon should address the error and take the opportunity to enhance the results. If the patient is not unhappy then it is probably not wise to attempt a fix. When it comes to fine-tuning, I say, "If it ain't broke, don't fix it." ■

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Do You Need One?

Patients with presbyopia-correcting IOLs likely require laser vision correction for precise enhancements.

BY STEVEN J. DELL, MD

Surgeons who are implanting presbyopia-correcting IOLs need to have access to an excimer laser, or they must at least collaborate with an ophthalmologist who does.

STUDY

My colleagues and I studied all of the available premium IOLs (the Crystalens, [Eyeonics, Inc., Aliso Viejo, CA], AcrySof Restor [Alcon Laboratories, Inc., Fort Worth, TX], and Rezoom [Advanced Medical Optics, Inc., Santa Ana, CA]) and every possible combination of them. All of the patients we examined had achieved a refractive result that was 0.25 D of the target and had no more than 0.50 D of cylinder postoperatively.

We surveyed patients postoperatively in the areas of overall visual quality, happiness, and the desire to have the same surgery again. We found that uncorrected distance vision was the greatest predictor of patients' satisfaction. If they saw better than 20/25 (ie, 20/20 or 20/15) postoperatively, then they were extremely happy. This was true regardless of the type of IOL. Those patients who saw 20/25 were slightly less happy.

Patients who received a diffractive multifocal IOL were surprisingly unhappy with small amounts of astigmatism postoperatively, almost as if this type of lens amplified their astigmatic complaints. It seemed that even 0.50 D of astigmatism was enough to affect them in some cases. Still, these patients with the AcrySof Restor were generally quite satisfied. Experience has taught me that the AcrySof Restor lens is very sensitive to refractive misses of any variety.

Interestingly, we found no correlation between uncorrected near vision and patients' satisfaction with IOL implantation. Although all the patients saw relatively well at near, those with the very best near acuity were no happier than those who saw slightly less well at near.

"Patients who received a diffractive multifocal IOL were surprisingly unhappy with small amounts of astigmatism postoperatively."

CONCLUSION

It appears that even patients seeking presbyopia-correcting IOLs still placed the greatest premium on high-quality uncorrected distance vision. Sacrificing that in exchange for better near acuity is unlikely to lead to high levels of patient satisfaction. Achieving results such as these in a large patient population will require the precise enhancement capabilities of an excimer laser. ■

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