

Point/Counterpoint: Multifocal Versus

Multifocal IOLs offer more flexibility.

BY SAMUEL MASKET, MD

There is tremendous energy being devoted to the debate over monofocal versus multifocal IOL implants for correcting presbyopia. Arguably, the best presbyopic treatment we can offer today is lens-based intraocular surgery, but we must consider several important points when evaluating this option for patients. For example, what will bring them the most freedom from spectacles? How easily, how quickly, and for how long will they be able to read? What quality of vision will they have?

Furthermore, binocularly can be very important, particularly in elderly patients who are prone to injury if they lose this type of vision. We must also consider pseudoaccommodation (I do not believe that we have a true accommodating lens yet that produces adequate levels of true accommodation). Other key factors include the patient's ocular health, medical history, lifestyle, and visual goals. Finally, is the patient willing to spend additional money out of pocket in order to achieve spectacle independence? All of these considerations come into play when we make treatment decisions. Given today's present technology, in my experience with the binocular implantation of the AcrySof Restor IOL (Alcon Laboratories, Inc., Fort Worth, TX), when near emmetropia is achieved, the patient has the best opportunity for true spectacle independence.

MONOVISION'S NEGATIVES

Before I choose monovision for a patient, I must be confident that he has success with a contact lens trial. Someone with advanced cataract, however, cannot perform a contact lens trial.

Monovision recipients have compromised depth perception for all visual tasks. There is no distance at which they have satisfactory binocularly. Most of my monofocal patients keep a pair of glasses in the car, because their myopic eye interferes with their ability to drive at night. Likewise, some use glasses for prolonged periods

"I do not believe that we have a true accommodating lens yet that produces adequate levels of true accommodation."

of reading. Finally, from the physician's perspective, the reimbursement for monovision lenses is low.

MONOVISION'S POSITIVES

Monovision patients do not have to worry about losing contrast sensitivity after cataract surgery, because this procedure, as a rule, does not have any undesired optical effects. This type of surgery also places less pressure to perform on surgeons: they do not have to meet the same demands of achieving emmetropia and reducing cylinder as they do with multifocal IOLs. Also, the monofocal IOLs' focal range can be adjusted up or down, and their implantation costs the patient less than does a multifocal.

MULTIFOCAL IOLs' NEGATIVES

Multifocal IOLs admittedly have a few drawbacks. First, patients must have normal macular function to succeed with these lenses, although this is also true to a certain extent with monovision, because binocular summation is an important mechanism. Second, the implantation of multifocal IOLs is exacting. I have been very successful with the AcrySof Restor IOL but only so far as I am able to achieve results as close to emmetropia as possible. Fortunately, surgeons have the opportunity to adjust patients' refractions postoperatively with an excimer laser, piggyback IOLs, or limbal relaxing incisions. Third, multifocal lenses have a limited focal range and produce some loss of contrast sensitivity, and patients may experience halos and glare postoperatively.

Monofocal IOLs

Multifocal IOLs: why not?

BY DOUGLAS D. KOCH, MD

Multifocal IOLs do not work in eyes that have trivial posterior capsular opacification, more than 0.75 D of cylinder, corneal topographic irregularities, or macular disease. In fact, these lenses sometimes fail despite achieving a perfect result in an ostensibly ideal candidate. Even more interestingly, multifocal IOL patients generally are not happy with their quality of vision until they receive their second implant. Should we as refractive surgeons worry about this phenomenon or not? It is a valid question, because patients are pleased with these lenses overall once they receive them bilaterally.

UNANSWERED QUESTIONS

What happens to multifocal patients' vision in the future, particularly if they develop macular degeneration? I have now implanted five or six different kinds of multifocal IOLs. Every time a patient becomes affected by macular degeneration, his vision drops off more precipitously than would occur with a monofocal IOL. How do we screen somebody at age 50 to learn whether he will have severe macular disease when he is 80? Some may say that, at that point, we can exchange the lens and that getting 30 years of good vision with the lens is worth its implantation. The concern, however, is legitimate with the lack of another option.

SELECTING PATIENTS TO RECEIVE MULTIFOCALS

I have exchanged five multifocal IOLs in the last 3 months for patients who received the lenses from quality surgeons. These patients had glare, halos, and a poor quality of vision. One had subtle pseudophakodonesis in both eyes that I could only see by looking at the Purkinje images on the IOLs. She had intractable daytime glare and inadequate reading vision. When I interviewed these patients, I would have considered three of them good candidates for a multifocal IOL. How can we better select patients? I hope we can eventually devise a reliable method.

What if we make a patient unhappy with multifocal IOLs worse? What if we implant a multifocal IOL, and for some reason it does not suit the patient? What if we compound the problem by incorrectly assuming that the issue must be the capsule and proceed with an Nd:YAG laser capsulotomy?

MY EXPERIENCE WITH MONOVISION

When I treat a presbyopic patient with monovision, I aim for plano in one eye and -1.25 to -1.50 D in the other. My patients can perform most activities without glasses, although they cannot drive as well at night in difficult, rainy conditions. However, most of the time, they drive at night without glasses. It is true that they cannot read fine print as well as their counterparts who have multifocal IOLs, but monovision is not subject to the difficulties in patient selection. Nor do my patients experience any optical compromises. Glasses can always correct their refractive errors. Finally, monovision will serve patients well over their lifetimes as their eyes age and macular function declines.

CONCLUSION

I think the debate of multifocals versus monofocals is interesting. I continue to use both modalities, and I spend a lot of time talking to patients to help them select the option that will maximize their satisfaction with their postoperative vision. I believe, however, that monovision is optically and functionally more forgiving, allows for immediate adaptation, is amenable to full spectacle correction, and is an excellent lifetime solution for many if not most patients. ■

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Fourth, there are certain contraindications to multifocal lenses: maculopathy; anterior basement membrane dystrophy; epiretinal membrane optic neuropathy; a need for prisms; and, of course, difficult personalities. Finally, multifocal IOLs cost patients more than monofocal implants.

"There is no single lens system that I think works best for all presbyopic patients."

MULTIFOCAL IOLs' POSITIVES

Surgeons can help patients achieve spectacular reading and distance vision with multifocal lenses. In the AcrySof Restor lens' FDA trial, 95% of subjects 4 to 6 months postoperatively stated in a subjective questionnaire that they would have this lens implanted in their eyes again.¹ Multifocal lenses offer a strong likelihood of spectacle independence as well as good depth perception and stereo-acuity. In addition, physicians receive higher reimbursement with these implants than with monofocal IOLs. Finally, I rarely have to remove an AcrySof Restor IOL due to complications or a patient's dissatisfaction.

CONCLUSION

In short, the decision to use a multifocal IOL to correct presbyopia must be balanced between the patient's visual needs and the physician's confidence in these lenses. Essentially, surgeons must individualize their treatments. There is no single lens system that I think works best for all presbyopic patients. Therefore, the surgeon and patient together have to weigh the benefits and risks of each modality before making a decision. ■

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1. AcrySof ReSTOR Apodized Diffractive Optic Posterior Chamber Intraocular Lenses. Premarket approval application (PMA) P040020. Available at: <http://www.fda.gov/cdrh/pdfs/p040020b.pdf>. Accessed March 21, 2007.

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