

Spectacle Independence After IOL Surgery

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How are you treating most patients who want to be more, if not totally, spectacle independent after IOL surgery? Do you implant monovision or premium IOLs? If you are inserting premium IOLs, are you matching or mixing? Which IOLs will you match or mix, and what is your rationale?

MARK A. KONTOS, MD

In my practice, I discuss the latest lens technology with all patients undergoing IOL surgery, even if they are not candidates for a specialty lens. I do so to advance patients' knowledge, and perhaps a family member or friend may benefit from this technology. For patients who wish to achieve spectacle independence (currently about one in four patients), I tailor a surgical plan to that person's near activities. This frequently results in the use of a Tecnis Multifocal IOL (Abbott Medical Optics Inc., Santa Ana, CA) alone or in combination with the Crystalens (Bausch + Lomb, Rochester, NY). This combination seems to magnify the strengths of each lens and minimize their weaknesses. My experience over time has shown this to be the best approach to achieving a high degree of satisfaction in this group of patients.

I recently returned from an excellent conference on presbyopic correction in Cannes, France, that provided a complete overview of the current treatments for presbyopia. Our international colleagues are currently leading the way in this important area of ophthalmology. They have many more tools at their disposal, including corneal inlays and astigmatism-correcting multifocal IOLs. For our benefit and the benefit of our patients, I hope that we will begin to see these advances in the United States.

JAY S. PEPOSE, MD, PhD

My approach to treating patients who want to be less dependent on spectacles after cataract surgery is customized to each individual, and I discuss the available options with all patients. In the majority of cases, I will

implant a Crystalens AO in the patient's dominant eye first and then offset the nondominant eye accordingly based on his or her feedback at the 1-week postoperative visit. I have found that this aspheric, aberration-free IOL affords very high retinal image quality and excellent intermediate vision. Some patients want a closer focal point and are intolerant of even small amounts of monovision. In these cases, I implant a Tecnis Multifocal IOL in their nondominant eye first and then consider either a Crystalens or a Tecnis Multifocal IOL for their dominant eye. The choice of IOL in the dominant eye is based upon their feedback regarding intermediate vision, contrast, visual quality, and photic phenomenon in the eye with the multifocal. Generally, this particular accommodating and multifocal IOL combination produces excellent near vision (even in somewhat dimmer lighting) and minimal dependence on glasses if the refractive target is hit. My multifocal patients must preoperatively accept the possibility of nighttime halos, photic phenomenon, and reduced contrast for me to proceed. I shy away from multifocals in patients who drive at night professionally or those who work in dim lighting, such as some in restaurants or x-ray suites. If patients were very happy with monovision contact lenses in the past, I may reproduce monovision using aspheric monofocal IOLs. Alternatively, I may correct their corneal astigmatism with limbal relaxing incisions or a toric IOL if there is more than 1.50 D.

MITCHELL SHULTZ, MD

Because there is not one great solution for all patients, I choose among various options depending on the patient's lifestyle and pathology. We must be cognizant of prior refractive procedures, the health of the cornea and ocular surface, and macular pathology. For patients with completely healthy eyes, my lenses of choice are the Tecnis Multifocal IOL and the Crystalens AO.

I select the Tecnis Multifocal IOL for patients who spend a lot of time reading and minimal time driving at night. I find that this lens yields excellent results at all distances, even the intermediate range. However, with patients that still often drive a car at night, I clearly discuss with them

the potential for nighttime glare. In terms of near vision, patients can read well under all lighting conditions with the Tecnis Multifocal IOL, which is not true of the other multifocal technologies available in the United States. I rely on the Crystalens AO for my younger patients who regularly use smartphones, iPads (Apple Inc., Cupertino, CA), and Kindles (Amazon Digital Services, Seattle, WA). I explain that their near vision may not be perfect but that they will be able to use their phones and wireless devices without wearing reading glasses.

If patients have a lot of astigmatism, I steer clear of multifocal lenses and recommend the AcrySof IQ Toric IOL (Alcon Laboratories, Inc., Fort Worth, TX) to achieve the best distance acuity, and I blend vision where possible. For patients with epiretinal membranes, I also shy away from multifocal lenses but will offer the Crystalens AO or the AcrySof IQ Toric IOL. Finally, patients who have undergone hyperopic LASIK are best suited for the Crystalens Five-O.

STEPHEN A. UPDEGRAFF, MD

First, I counsel all cataract patients that, nowadays, I see two types of patients desiring cataract surgery each comprising about 50% of my practice. The first want the cataract off and the window clear, and they do not mind getting a new pair of glasses after surgery. The second view the cataract's removal as a means of possibly reducing or eliminating their need for glasses. When patients fall into the latter category, it is extremely important to determine if they also are a candidate for LASIK or PRK (bioptics). If not, the discussion of a high-technology lens option and reducing/eliminating glasses should cease. I also determine whether or not they have successfully worn monovision contacts. If they have, targeting -1.00 D in their nondominant eye yields what Jay MacDonald, MD, coined as "blended vision" with an aspheric Crystalens. The key advantage of the aspheric Crystalens is the aberration-free optic. If a patient wants a better range of vision following cataract surgery but knows he or she cannot tolerate glare, starburst, or halos, then this is a far better choice than a multifocal. I never promise to get these patients out of readers if the plan is distance Crystalens OU. I seek to provide them with a better range of vision, meaning they can see a computer monitor and at distance without glasses. If they want a guarantee of being free of reading glasses without blended vision, then we talk about multifocal lenses with the understanding that they may have glare, starbursts, or halos, and that their vision may not be as crisp as with the Crystalens AO.

The patient fills out a questionnaire before I see him or her. The answers guide me in determining which technology would best suit his or her expectations.

Patients sign written documentation outlining the pros

and cons of each technology and stating that they understand the process or timeline (including YAG and possible bioptics with LASIK at 3 months for fine-tuning to achieve spectacle independence). This is key to their understanding that they are choosing a more expensive refractive alternative to standard cataract surgery and the work/result that goes into it justifies the "upgrade." I include limbal relaxing incisions, LASIK, and PRK as part of the refractive process.

I have not been a fan of mixing IOLs. It is hard enough to educate patients about the individual technologies, and I have yet to see data demonstrating that mixing achieves better results.

JEFFREY WHITMAN, MD

For pre-Medicare patients who still frequently drive at night and work a lot at the computer or for postrefractive surgery patients, I prefer to binocularly implant the Crystalens AO. Its single point of focus and aspheric optic provide a very high quality of vision. I rarely mix lenses, but if patients are falling short on near vision, I may consider a Crystalens HD in their nondominant eye and target -0.25 to -0.50 D. For my older patients with healthy retinas who want very fine near vision and understand the possible effects of aberrations, I prefer the Tecnis Multifocal IOL. It gives patients great near vision and, in my hands, impairs contrast sensitivity less than the AcrySof IQ Restor IOL. I will place the three-piece Tecnis Multifocal IOL in the sulcus if I break a capsule during premium lens surgery, because the lens centers very nicely.

J. TREVOR WOODHAMS, MD

In my practice, it is the rare cataract patient who does not require a significant amount of preoperative refractive planning. Like most ocular surgeons, I have long been reducing hyperopia and high myopia as an uncompensated added value while selecting single-vision IOL powers. Of course, this benefit can be achieved with any of the available IOL formulas and even passable biometry. The challenge is the ever-rising expectations of our patients.

I usually try to provide a certain degree of monovision to myopic cataract patients. That is not my approach to hyperopes, however, who seem to be happier with optimal distance vision and not having to deal with the new optical phenomenon of blurred distance vision in their reading eye. I rarely perform limbal relaxing incisions anymore, and I tend to avoid toric IOLs. I find the degree of predictability in eliminating cylinder does not meet the level of accuracy that I am accustomed to in PRK and LASIK cases.

I have been highly pleased with the reliable near magnification of multifocal IOLs, but I find that patients' satisfaction is just as dependent on achieving emmetropia at distance as it is in LASIK. If a patient cannot afford a

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presbyopia-correcting IOL or does not choose it for other reasons, I am quick to suggest PRK or mini-LASIK after IOL surgery (at a reduced fee) unless there are contraindications such as dry eye disease. By combining the various tools at our disposal, we can usually give patients a degree of postoperative visual satisfaction undreamed of even 10 years ago. ■

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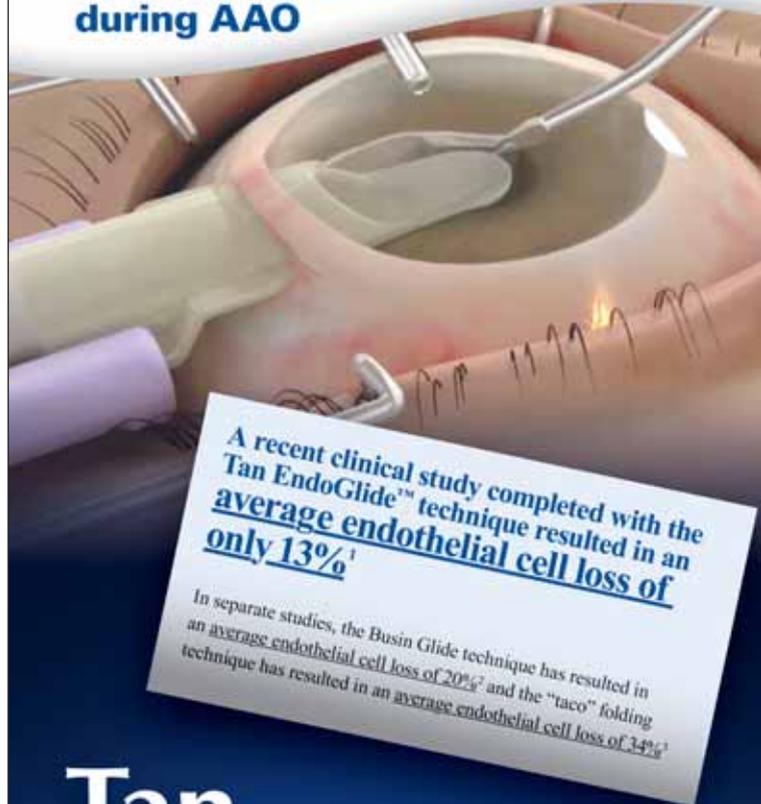
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Reference 1: Eber WB, Melles JS, Tan DT. Dissecting stripping automated endothelial keratoplasty with a graft insertion device: surgical technique and early clinical results. *American Journal of Ophthalmology*. doi:10.1016/j.ajo.2010.08.023

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