

Exchanging a Presbyopia-Correcting IOL

Decision making, techniques, and myths regarding these exchanges.

BY RICHARD TIPPERMAN, MD

The indications for exchanging a monofocal lens tend to be for malpositioning, significant IOL-induced anisometropia, or dysphotopsia. Whether valid or not, there is an unspoken opinion that the need to perform an IOL exchange is in some way related to a failure of the cataract surgery or the IOL's performance.

Although many patients may be happy with the absolute presbyopia that accompanies emmetropia with a monofocal IOL, many others choose to obtain better functional near vision with a presbyopia-correcting lens. The vast majority of individuals who receive presbyopia-correcting lenses will be very pleased with their postoperative vision, but rare patients will require explantation of the IOL. In these instances, the need for an explantation can be considered a benefit of a reversible refractive procedure rather than a failure of IOL technology.

PATIENTS' SATISFACTION

Despite improved near visual function, patients may be dissatisfied with presbyopia-correcting IOLs for several reasons. To some degree, many patients—even those who do well after surgery—experience an element of postpurchase dissonance (also known as *buyer's remorse*). Postpurchase dissonance is a well-recognized human state, which has been studied extensively by behavioral scientists. It can be defined as a feeling of regret, which is often associated with the purchase of high-value items.

Of the patients who are dissatisfied postoperatively, many have good but not great results. They may wear correction for visual tasks more than they feel they should, or their uncorrected vision may not be as good

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as they wish. These individuals are at the greatest risk for buyer's remorse postoperatively. They do not require an IOL exchange, however, because replacement of their presbyopia-correcting IOL with a monofocal lens will increase their dependence on spectacle correction for near vision. Rather, these patients need further education on how they see better at near than they would if they had chosen a monofocal IOL. They should also be given specific strategies for maximizing their visual function depending on the presbyopia-correcting platform they are using.

IOL EXCHANGE

Exchanging a presbyopia-correcting lens is no different than explanting other IOLs. The crux of the case involves completely reopening the capsular bag. Often, gently depressing the IOL's optic posteriorly will release the seal between the anterior capsulorhexis and the optic's surface. I then prefer to use a cohesive ophthalmic viscosurgical device (OVD) to reinflate the capsular bag. Slow and gentle but liberal use of an OVD will allow reopening of the capsular bag in virtually all cases.

If the anterior capsulorhexis adheres to the optic's surface, the surgeon can place a 25- or 30-gauge needle on the viscoelastic syringe and then slide the tip of the nee-

dle under the edge of the capsulorhexis. For single-piece acrylic IOLs, it can be helpful to position the tip of the viscoelastic cannula so that the OVD is dispersed down the axis of the haptic. This will facilitate releasing the haptic from the recesses of the capsular bag. Similarly, with the Crystalens (Bausch + Lomb, Rochester, NY), it is helpful to aim the OVD toward the footplate of the IOL where the polyamide haptic is located to completely open the capsular bag and release the haptics.

MYTHBUSTING

Twelve Weeks

Capsular adhesion to the IOL and its optic can occur quickly in the first few postoperative weeks in some eyes, but it can take much longer in others. In my opinion, the time elapsed from the initial surgery is a lesser indicator of how challenging the IOL exchange will be than the size of the anterior capsulorhexis. IOLs in eyes with extremely small anterior capsular openings can be difficult to explant. Even though the capsular bag can be completely reinflated, the geometric considerations of removing the IOL from the bag through an extremely small capsulorhexis opening can be difficult. The techniques described earlier using a small-gauge needle and OVD work well to reinflate a capsular bag well beyond 12 weeks after surgery.

You Break It, You Buy It

It can be challenging to evaluate a patient with a presbyopia-correcting lens who has early capsular fibrosis and is unhappy with his or her overall visual function. The difficulty lies in determining which part of his or her visual symptoms is referable to the secondary membrane and which may be related to the IOL. Obviously, it is easier to perform a YAG capsulotomy than an IOL exchange, and in many cases, the former will resolve any visual symptoms. Unfortunately, a YAG capsulotomy will not eliminate the visual symptoms of all patients. In such cases, the physician will have to manage a patient with a presbyopia-correcting IOL and an open posterior capsule, which increases the risks associated with an IOL exchange.

I routinely explain these nuances to patients. I stress that, when clinical evidence and history clearly indicate that posterior capsular opacification is the etiology of the visual disturbances, I will always proceed with a YAG capsulotomy. In cases where it is not possible to be certain, however, I explain to patients that an IOL exchange prior to a YAG capsulotomy is technically easier and safer and, in some respects, a more conservative option than an initial YAG capsulotomy.

I view performing an IOL exchange in the setting of an

open capsule in much the same way as operating on an eye with a traumatic cataract and a ruptured capsule or compromised zonules. The patient needs to be informed of the increased risk and to be a part of the decision-making process. Ultimately, if he or she feels the reduced visual function from the traumatic cataract (or presbyopia-correcting IOL) significantly compromises his or her quality of life, and if he or she understands the risks involved with surgery, then I will proceed.

A presbyopia-correcting IOL may be exchanged in the setting of an open posterior capsule, but it is more challenging, because the surgeon cannot fully rely on the hydraulic pressure of the OVD to reopen the capsular bag. Careful, slow dissection with an OVD combined with traction and counter-traction on the capsule and the IOL's haptics with microsurgical instruments will usually allow the lens to be removed without significantly disrupting the remaining capsular support. In some cases where there is significant capsular fibrosis, however, it may be necessary to amputate the IOL's haptics and leave them within the capsular recesses while the lens' optic alone is removed.

CONCLUSION

When necessary, an IOL exchange can be performed later than 12 weeks after surgery. I believe that the degree of difficulty of removing the IOL is likely more closely related to constriction of the capsulorhexis than the time elapsed since the initial surgery. Additionally, although it is preferable and easier to perform an IOL exchange with an intact capsular bag, this procedure can be performed even after a YAG capsulotomy.

The need for an IOL exchange in a patient with a presbyopia-correcting IOL is a rare but real occurrence. Clinical results from patients who undergo the exchange of these lenses are excellent.¹ The reversibility of a presbyopia-correcting lens' implantation is unmatched by other refractive surgeries. ■

A video of the author's handling of a dislocated Tecnis Multifocal IOL (Abbott Medical Optics Inc., Santa Ana, CA) is available at <http://eyetube.net/?v=wohee>.



Richard Tipperman, MD, is a member of the active teaching staff at Wills Eye Hospital in Philadelphia. He is a consultant to Alcon Laboratories, Inc. Dr. Tipperman may be reached at (484) 434-2716; rtipperman@mindspring.com.



1. Galor A, Gonzalez M, Goldman D, O'Brien TP. Intraocular lens exchange surgery in dissatisfied patients with refractive intraocular lenses. *J Cataract Refract Surg.* 2009;35(10):1706-1710.