Why I Prefer Excimer Laser Photoablation to LRIs for Postsurgical Astigmatism

Excimer laser ablation provides more predictable, stable results and a superior quality of vision.

BY GUY M. KEZIRIAN, MD

Compared with limbal relaxing incisions (LRIs), excimer laser ablation is a better option for correcting astigmatism after cataract surgery. The latter procedure delivers more predictable, stable results as well as a higher quality of vision. For the ophthalmic practice, that can translate into growth.

LASERS PRODUCE BETTER ASTIGMATIC RESULTS

Excimer lasers are the best tool available to ensure excellent refractive outcomes for postsurgical cataract patients who have residual refractive errors. Poor predictability, stability, and optical quality make LRIs incompatibile with modern cataract surgery. Although this incisional technique may still play a role in some settings, such as in combination with the initial cataract procedure, postsurgical astigmatism is best managed with state-of-the-art technology (ie, modern excimer lasers).

Lasers treat the astigmatism directly. Unlike LRIs, they do not rely on an indirect biomechanical change. Excimer lasers are therefore more accurate than LRIs, and unlike with LRIs, that accuracy does not decrease with the treatment of high amounts of astigmatism[1] (Figure 1). The predictability of the refractive outcome with excimer lasers is superior to that of LRIs.

Current laser platforms produce an excellent quality of vision, whereas LRIs induce unpredictable and irregular corneal aberrations that can reduce individuals' quality of vision (Figure 2). Patients have come to expect good functional vision after cataract surgery, and they often pay out of pocket to obtain that result with a premium IOL. These individuals deserve to have their postsurgical refractive errors treated with the technology that offers the best visual outcomes: excimer lasers.

In addition, laser correction has the advantage of refractive stability over time,[2] unlike LRIs, which are performed near a vascular limbus and are subject to healing and remodeling.

COSTS ARE MANAGEABLE

The main obstacle to using excimer lasers to manage postsurgical refractive errors is cost. With premium IOLs, these costs can be amortized and built into the upgrade fee. Several laser refractive surgeons offer postcataract laser treatments in a comanagement setting, and they charge between $750 and $950 per eye for the service. If half the eyes that undergo premium IOL surgery in a given practice need LASIK, then the cost of providing a laser procedure afterward is amortized to $475 per eye. By adding that cost to the premium IOL charge, the practice can overcome the

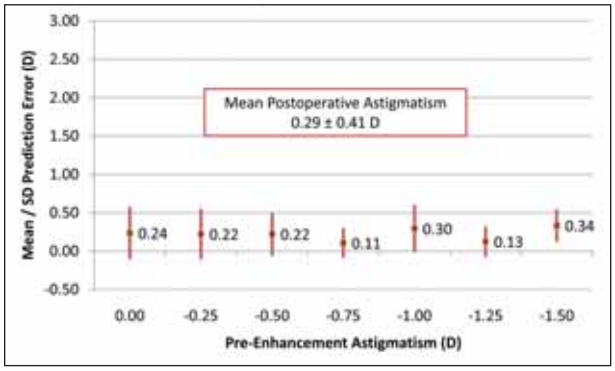

Figure 1. Postoperative refractive astigmatism versus preoperative amounts in a series of eyes that underwent LASIK using an IntraLase FS laser (Abbott Medical Optics Inc., Santa Ana, CA) and Allegretto Wave Eye-Q excimer laser (Alcon Laboratories, Inc., Fort Worth, TX). Note that the accuracy did not diminish with higher treatment amounts.

(Courtesy of Larry Katzen, MD.)

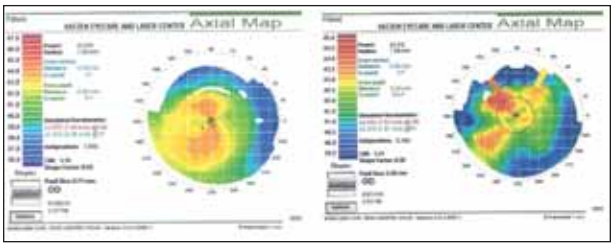

Figure 2. Preoperative and postoperative topographic maps for an eye that underwent LRIs for postsurgical astigmatism. Despite a seemingly successful refractive outcome, significant corneal irregularity is apparent.

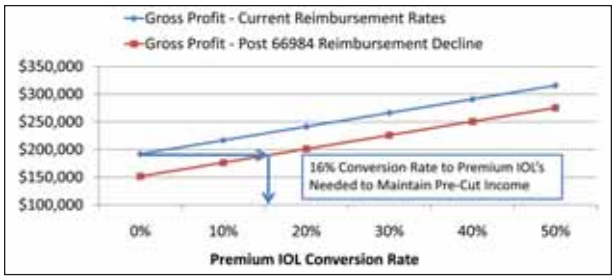

Figure 3. Offset of increased premium IOL conversion rates on impending 21% cut in cataract reimbursements. The top line shows the after-expense profits at various levels of premium IOL conversions in a typical 300-eyes-per-year practice. The bottom line shows the drop in profits that results from the 21% reimbursement cut to ICD code 66984. The graph shows that a premium IOL conversion rate of 16% neutralizes the effects of the cuts on profits, whereas increasing conversions to 40% can double current profits. Patient referrals drive premium IOL conversion rates and depend on excellent visual outcomes. Because lasers produce better outcomes than LRIs, the need to drive premium IOL conversion rates justifies the use of laser treatments for postsurgical astigmatism. Model assumptions: current 66984 reimbursement, $640; overhead, 50% or $320/eye (fixed); impending cut to 66984, 21%.

financial barrier to offering patients the best treatment for their postsurgical astigmatism.

Some surgeons object to extending the cataract procedure to include laser refractive correction. Except for long-term follow-up, a typical cataract patient is "done" after the 10- to 14-day visit. The need for a subsequent LASIK procedure means an additional 6 to 12 weeks until the patient achieves the final outcome. This concern can be counterbalanced by properly setting patients' expectations before their initial cataract operation. The discussion should include an explanation that the second procedure is planned and necessary to obtaining the full benefit of the premium IOL. As such, the laser treatment does not represent a failure of the initial procedure, but rather a commitment to quality that adds value to the overall result.

Certain conditions such as dry eye syndrome are a contraindication to using LASIK for refractive enhancements after cataract surgery. LRIs can also exacerbate dry eyes. Patients with dry eye syndrome therefore may not be eligible for either procedure, although surface ablation may be considered for these cases.

In experienced hands, complications are rare with laser refractive corrections, even among older patients. Cataract surgeons who do not currently perform laser refractive surgery are probably best advised to comanage their post-cataract patients with an established refractive surgeon, rather than to undergo the expense and training to perform laser ablations themselves. The former strategy is more cost effective and has the benefit of accessing the experience of an established refractive surgeon.

BETTER OUTCOMES WILL DRIVE PRACTICE GROWTH

Surgeons who prefer to use LRIs to address astigmatism after the cataract procedure typically cite cost and convenience as their reasons. This article has noted how these concerns can be offset through comanagement with a refractive surgeon and the pricing of premium IOL upgrades. Given the cuts to reimbursement and other financial pressures on today's ophthalmic practice, growing premium IOL volume is a priority. Astigmatism—even as little as 0.50 D—degrades patients' quality of vision and can decrease their satisfaction with their results. Unhappy patients will not refer their friends and will not grow the practice.

Figure 3 shows the impact of growing a premium IOL practice on take-home profits from a cataract practice. If the currently planned 21% reduction in fees is enacted, it will take a 16% premium IOL conversion rate just to stay even with the precut profit level. In contrast, increasing the conversion rate to 40% will more than double a practice's precut profits. To accomplish that growth, the practice must be able to correct residual astigmatism using a stable, predictable procedure. LRIs will not deliver. Excimer lasers will. ■

Guy M. Kezirian, MD, is the president of SurgiVision Consultants, Inc., in Scottsdale, Arizona. He acknowledged no financial interest in the products or companies mentioned herein. Dr. Kezirian may be reached at guy1000@surgivision.net.

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