SAY ANYTHING

WHAT ARE YOUR PREFERENCES FOR REFRACTIVE CORRECTION AND ENHANCEMENTS AFTER CATARACT SURGERY?

ASHVIN AGARWAL, MS

- Executive Director and Chief of Clinical Services, Dr. Agarwal's Eye Hospital, Chennai, India

"Laser vision correction to address residual ametropia after cataract surgery is an increasingly popular strategy for satisfying a patient's desire for spectacle independence. Careful counselling is a must before proceeding because of the high prevalence of dry eye disease in this population. Patients who are experiencing halos and starbursts must be informed that these phenomena may persist after laser vision correction.

Refractive stability (±0.50 D) for 3 months after cataract surgery is desirable before laser treatment is performed. Patients can wear trial glasses or contact lenses during this period.

My choice of procedure depends on the mean refractive spherical equivalent and the extent of higher-order aberrations.

For patients with a significant refractive error but mild aberrations, I usually recommend SMILE. I am cautious while docking the laser because the cataract incision, astigmatic keratotomies, and loose conjunctiva can interfere with suction.

For patients with moderate aberrations who are experiencing visual disturbances such as ghosting and halos, I recommend LASIK with a customized ablation profile, even when a low amount of correction is required. To avoid possible posterior segment complications, the flap is created with a femtosecond laser. I have found wavefront-guided treatment to be more effective in patients with monofocal IOLs than in those with multifocal IOLs because of an inability to capture wavefront images in eyes with the latter type of lens.

For patients with thin corneas or topographic irregularities for whom a flap-based procedure is contraindicated, I perform topography-guided PRK (Contoura Vision, Alcon). Late reepithelization from age-related delays in wound healing is a major concern, especially in patients with diabetes. It is important to explain to them that they may need to wear a bandage contact lens for a period of 3 days or longer after laser vision correction. The intraoperative application of mitomycin C and strict use of UV protection (for at least 3 months after surgery) are advisable even if the amount of correction is low. These strategies help to prevent the development of haze in response to sun exposure—a particular concern in India, where I practice."

KENNETH A. BECKMAN, MD

- Director of Corneal Surgery, Comprehensive EyeCare of Central Ohio, Westerville

"Many surgical options are at our disposal to treat patients who experience a residual refractive error after cataract surgery. The most appropriate choice can depend on the magnitude of the error. Whatever option is chosen, it is always important to optimize the ocular surface and treat any dry eye symptoms before proceeding with a surgical enhancement.

If the refractive error is significant, patients may benefit from either an IOL exchange or the implantation of a secondary (ie, piggyback) IOL. I prefer the latter, when possible, because this strategy poses less risk of posterior capsular rupture.

For small refractive errors, when corneal surgery is used, my first choice is PRK because of its ease, straightforwardness, and low risk of complications. Compared with LASIK, however, patients may experience more postoperative discomfort initially, and there are risks of delayed wound healing and infection. In my experience, most eyes with small refractive errors are fairly healthy, and wound healing is not a problem. The last thing I want for these patients is a complication related to a LASIK flap. Obviously, if surgeons are more comfortable with another procedure, I recommend that they go with their strength.

For me, simple is better."

ANDREW D. BARFELL, MD
- Fellow in refractive surgery, Cincinnati Eye Institute, Ohio

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When a patient is dissatisfied after cataract surgery, there are several options for surgical refractive correction and enhancement. The first is to modify the existing IOL. A tilted or malpositioned IOL can be repositioned. An IOL exchange may be the best strategy for a major refractive surprise or if dysphotopsias persist. Alternatively, a piggyback IOL can be placed if there is a large hyperopic surprise or the patient is unable to undergo laser vision correction. All of these procedures are safer to perform when the posterior capsule is intact, so it is advisable to defer an Nd:YAG laser capsulotomy until a return to the OR has been ruled out.

The most common surgical approach to correcting minor refractive errors after cataract surgery is laser vision correction. It is typically performed after an Nd:YAG laser capsulotomy because even subtle posterior capsular opacification may induce light scatter and alter the effective lens position. Although LASIK and PRK carry their own sets of risks and benefits, generally speaking, LASIK offers a faster and more predictable road to visual recovery and patient satisfaction. Patients heal faster, see better sooner, and experience less discomfort after LASIK. These are important considerations in the era of refractive cataract surgery.

That said, LASIK may not be advisable in patients who received an astigmatic keratotomy or limbal relaxing incisions at the time of cataract surgery. Moreover, PRK may be a more suitable option for patients with thin or otherwise irregular corneas. PRK is also advisable for patients with a history of LASIK. In this situation, care should be taken to avoid disrupting the LASIK flap, and we typically extend the duration of mitomycin C application.

We have a low threshold for pursuing refractive enhancements. If we have an opportunity to convert patients from *20/0K* to *20/ecstatic*, we like to do so. We are careful to weigh and discuss with them all risks and benefits as well as their expectations. Just as our preoperative counseling and management of refractive cataract patients are highly personalized, so, too, is our approach to enhancing these patients' outcomes after surgery."

WILLIAM B. TRATTLER, MD
- Director of Cornea, Center for Excellence in Eye Care, Miami

Significant advances have improved refractive outcomes for patients undergoing cataract surgery or refractive lens exchange. These include more accurate IOL formulas for virgin eyes and eyes that have undergone corneal refractive surgery and automated methods for the intraoperative identification of the target axis for astigmatism correction. Nevertheless, results in a small percentage of patients are off target. This can be frustrating for patients, especially those who have paid out of pocket for a premium IOL.

Fortunately, if cataract surgery was uncomplicated, patients are typically eligible for a refractive enhancement. I favor an IOL exchange or a piggyback IOL if a patient is significantly hyperopic after cataract surgery. If a patient who received a toric IOL has significant residual astigmatism after the cataract procedure, I will use the Berdahl & Hardten Astigmatism Fix Calculator (www.astigmatismfix.com) to determine if a simple rotation of the IOL will correct the refractive error. For a patient with myopia and/or astigmatism, I typically recommend corneal refractive surgery. Three options are available—LASIK, PRK, and SMILE—and all are effective and have excellent safety profiles.

The choice of refractive procedure often comes down to the surgeon's personal preferences, which are usually based on their experiences with similar patients. An advantage is that pseudophakic patients who require a corneal refractive enhancement typically have small refractive errors (< 2.00 D myopia and astigmatism).

The benefits offered by each of the three refractive procedures may also help surgeons to make a recommendation. Visual recovery after LASIK and SMILE is faster than after PRK. Because the refractive errors in this patient population tend to be small, however, PRK is easy to perform. The epithelium typically heals in just a few days, and the risk of haze formation is extremely low because only a small amount of tissue is ablated." ■