

PRE- AND POSTOPERATIVE CUSTOMIZATION CONSIDERATIONS



Tailor your routine protocols to each patient's eyes and comorbidities.

BY LISA BROTHERS ARBISSER, MD

In refractive cataract surgery, mastering each technique's intricacies is essential for optimizing patient outcomes. This column is designed to be a comprehensive guide for both novice and seasoned ophthalmologists that focuses on pivotal aspects of surgery. Drawing from my chapter on surgical pearls that appeared in the book *The Art of Refractive Cataract Surgery for Residents, Fellows, and Beginners*,¹ coedited by Fuxiang Zhang, MD, and Alan Sugar, MD, articles will offer a detailed examination of surgical steps and be complemented by video demonstrations when available.

Each installment will explore a different facet of surgery for the refinement of technique and patient care. The goals of this approach are to enhance surgical skills and promote a deeper understanding of the nuances involved in managing diverse cases.

1. Zhang Y. *The Art of Refractive Cataract Surgery*. 1st ed. New York, NY: Thieme Publishers; 2022. © 2022 Thieme Publishers. Reprinted with permission. www.thieme.com.

In refractive cataract surgery, success hinges on a surgeon's ability to tailor procedures to the unique anatomic and health considerations of each patient. This article offers a deep dive into the nuances of pre- and postoperative customization.

SCHEDULING

I recommend scheduling refractive cataract patients early in the day and saving more unpredictable, complex cases for later. It is difficult to apply your best surgical skills under pressure. Customize your routine pre- and postoperative protocols for individual patients' eyes and comorbidities.

MANAGEMENT OF POSTOPERATIVE OCULAR HYPERTENSION

Consider ordering ocular antihypertensives upon discharge for any patient at risk of postoperative pressure spikes. These comorbidities include glaucoma, ocular hypertension, pseudoexfoliation, dense cataract, narrow angle, shallow

anterior chamber, complicated cases, and patients who had a significant postoperative pressure rise after surgery on the fellow eye. I prescribed an acetazolamide sequel for non-sulfa-allergic patients to be administered once upon discharge. One study found alfentanil also works well.¹

INTRACAMERAL ANTIBIOTICS AND BACKUP IMPLANTS

All of my patients after 2007 received intracameral moxifloxacin off-label until my retirement from patient care in 2014. Its use is essential in complicated cases and for immediately sequential bilateral cataract surgery.^{2,3}

I ordered capsular tension rings and three-piece implants (along with the standard one-piece IOLs) as backups for pseudoexfoliation patients. I sometimes chose to capture the optic of a three-piece lens from the sulcus, along with placement of a capsular tension ring in the bag, as the best

option for long-term stability in an eye with severe zonulopathy if it would not foil my refractive plans.

Beware of patients with asymmetric anterior chamber depths unexplained by axial length disparity, as this may signal zonulopathy. Consider intracameral dilation augmentation for small pupils and intraoperative floppy iris syndrome cases. Options include Shugarcane,⁴ preservative-free epinephrine, phenylephrine, and ketorolac intraocular solution 1%/0.3% (Omidria, Rayner) in the balanced salt solution bottle, and topical scopolamine added to the typical dilating regimen of mydracil/phenylephrine (OSRX) to help with staying power, though it will not increase dilation. Do not hesitate to use a Malyugin Ring (MicroSurgical Technology) or other pupillary expansion device. Do not stretch the iris in eyes with intraoperative floppy iris syndrome, and enlarge the pupil only to the size of the circular capsulorhexis to avoid damaging the iris sphincter muscle.

SPECIFIC CONSIDERATIONS FOR PEDIATRIC EYES AND THOSE WITH A SHALLOW CHAMBER

For eyes with a pediatric cataract or a shallow chamber, I favored Healon GV (Johnson & Johnson Vision) in addition to my usual DuoVisc (Alcon). I reserved Healon5 (Johnson & Johnson Vision; viscoadaptive OVD) for intumescent lenses because I found it provides the most control of the anterior capsular shape to prevent a capsulorhexis runout. In my experience, all patients with intralenticular or posterior pressure could benefit from a bolus of intravenous mannitol 0.25 g/kg pushed 20 minutes before incision creation. The drug cannot simply be added to the IV but must be pushed as a bolus to achieve the desired osmotic effect. When properly timed, this approach can greatly increase the efficacy and safety of the procedure. If it is administered too early, however, the patient may

need to void on the table (always have a bedpan or urinal available). I recommend preordering trypan blue dye for visualization to avoid delays in getting it to the table.

REINFORCING ANTIINFLAMMATORY TREATMENT

I favor reinforcing antiinflammatory treatment for patients with uveitis, diabetic retinopathy, or macular edema (especially cystoid macular edema in the fellow eye) and those requiring iris manipulation such as with a Malyugin Ring. Though it is an off-label use, I instilled 0.1 mL of triamcinolone acetonide (Triesence, Alcon) diluted 1:10 with balanced salt solution into the anterior chamber at the completion of the case for these individuals. The idea is to hide the inflammatory event from the immune system to deliver consistently quiet eyes. To date, the technique has not been linked to a steroid-response pressure rise.

For chronic uveitis, I recommend treating the eye as needed to quiet it. Except in patients with severe diabetes, it can be beneficial to administer 60 mg of oral prednisone each morning beginning 2 days before surgery and continuing through 4 days postoperatively—an effective regimen requiring no taper. ■

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LISA BROTHERS ARBISSER, MD

- Emeritus position, Eye Surgeons Associates, the Iowa and Illinois Quad Cities
- Adjunct Professor, John A. Moran Eye Center, University of Utah, Salt Lake City
- Member, CRST Editorial Advisory Board
- drlisa@arbisser.com
- Financial disclosure: None