

Posteriorly Dislocated PCIOL and Capsular Bag

BY ERIC D. DONNENFELD, MD; JAE YONG KIM, MD, PhD;
AND LOUIS D. "SKIP" NICHAMIN, MD

CASE PRESENTATION

A 68-year-old male physician underwent uncomplicated phacoemulsification with implantation of a single-piece acrylic PCIOL in his left eye 2 years ago. He now presents with complaints of glare and decreased vision. An examination reveals an inferiorly displaced IOL-capsular bag complex with pseudophacodonesis (Figure).

The plan is to remove the PCIOL and capsular bag and to replace them with either a sutured PCIOL or an ACIOL. On the day of surgery, however, as the patient lies supine on the OR table, the IOL-bag complex appears to have dislocated farther posteriorly. It is positioned vertically, tethered only by the temporal zonules. No retinal surgeon is available for a combined case.

Would you cancel the case and reschedule with a retinal colleague? Would you use a posterior assisted levitation technique to remove the IOL? Would you leave the dislocated IOL and continue with your plan to suture an IOL or ACIOL? How would you manage this case surgically?



Figure. Inferiorly displaced single-piece acrylic IOL and capsular bag complex.

ERIC D. DONNENFELD, MD

Complex IOL removals require of the ophthalmologist the ability to make decisions on the fly and to call an audible. The most important consideration is, in the words of Hippocrates, to “do no harm.” In general, the ophthalmologist can contemplate his or her next steps before taking action. Referring the patient to a vitreoretinal surgeon is never a bad idea, whereas reaching into the midvitreal, grasping the IOL and vitreous, and pulling both out of the eye is always a poor decision.

It is better to be lucky than to be good. For this reason, I would make one attempt with maximal pupillary dilation to roll the patient onto his face and hope the IOL/capsular bag complex dislocated into the anterior chamber. If this effort were not successful, then I would make a stab incision at the limbus and bring the patient to the slit lamp. When he was sitting upright at the slit lamp, the IOL would likely

return to the position seen in the preoperative photograph. I would gently instill a viscoelastic behind the capsular bag and bring the IOL into the anterior chamber. If that were not possible, however, with the patient on the operating table, I would use the same stab incision to attempt to viscodissect the IOL into the anterior chamber. After administering acetylcholine (Miochol-E; Bausch + Lomb) to capture the lens, I would perform an anterior vitrectomy guided by triamcinolone and remove the IOL.

The final option I would consider would be a pars plana vitrectomy. I prefer a 25-gauge sutureless technique. I would perform a vitrectomy in the pupil anterior to the IOL. Then, I would use the vitrector to push the IOL forward into the space created to capture the lens-bag complex in the anterior chamber. At this point, the case would be half over, and determining where to place the IOL would become the next challenge.

JAE YONG KIM, MD, PhD

I would continue the case. Prior to commencing the procedure, however, I would perform specular microscopy to verify that the endothelial count was sufficient to permit intraocular surgery. If the measurement were less than 1,000 cells/mm², I would consider combining the IOL exchange with Descemet stripping automated endothelial keratoplasty.

If the endothelial cell count were borderline (1,000–1,500 cells/mm²), I would perform only an IOL exchange as follows using BSS Plus (Alcon Laboratories, Inc.). After creating a 2.7-mm nasal scleral tunnel incision, I would perform posterior assisted levitation¹ with a viscodispersive ophthalmic viscosurgical device to address the fragile vertical positioning of the IOL-bag complex. I would secure the nasal area of the IOL-bag complex using a Sheets glide inserted through the nasal scleral tunnel incision. The Sheets glide would not only support the IOL-bag complex, but it would also precede the complex during explantation.

I would remove the dislocated single-piece IOL-bag complex and Sheets glide using a Kelman-McPherson forceps through the enlarged nasal scleral tunnel incision. I would then insert a three-piece IOL into the anterior chamber and transsclerally suture it with 10–0 Prolene (Ethicon, Inc.) via an ab externo approach.² I would perform an anterior vitrectomy to remove the ophthalmic viscosurgical device and prolapsed vitreous in the anterior chamber.

LOUIS D. “SKIP” NICHAMIN, MD

Although not an uncommon phenomenon, the posterior migration of a loose lens-capsule complex upon the patient’s assuming a supine position can certainly give rise to shock—if not frank panic—in a surgeon encountering the situation for the first time.

The maneuver is theoretically possible, but I would not attempt to place the patient face down in the hope of capturing the IOL in the anterior chamber, given the difficulty of this positioning and unlikelihood of success. The management of this case depends on the surgeon’s training and experience, particularly in regard to vitreous management. If he or she is uncomfortable working through a pars plana approach, a referral to a vitreoretinal colleague would be prudent.

Personally, I would commence with a standard three-port pars plana vitrectomy using traditional 20- or 23-gauge instrumentation. I find the tensile strength of 25-gauge instruments to be inadequate for the maneuvers required in this type of complex surgery. The key to managing this problem initially is to relieve all vitreous traction surrounding the IOL-bag complex without severing the remaining zonular tether. Excellent visualization is a necessity, and this approach requires the surgeon to be familiar

with the use of corneal contact lenses or an indirect viewing system.

Once all vitreous attachments had been relieved, the IOL-bag complex could be captured anterior to the iris and either resecured or removed and replaced with a sutured PCIOL or an ACIOL. Although more challenging than working with a three-piece design, this one-piece acrylic lens could be sutured into the sulcus by securing each haptic with a double-armed 9–0 Prolene suture. My preferred approach uses the superb scleral pocket technique described by Richard Hoffman, MD. It obviates the need for conjunctival dissection and cautery and affords an excellent means by which to bury the suture knot.³ Other important points are to maintain a closed-chamber environment and to have proper intracameral instruments available such as those manufactured by MicroSurgical Technology. ■

Section Editor Bonnie A. Henderson, MD, is a partner in Ophthalmic Consultants of Boston and an assistant clinical professor at Harvard Medical School. Thomas A. Oetting, MS, MD, is a clinical professor at the University of Iowa in Iowa City. Tal Raviv, MD, is an attending cornea and refractive surgeon at the New York Eye and Ear Infirmary and an assistant professor of ophthalmology at New York Medical College in Valhalla. Dr. Henderson may be reached at (781) 487-2200, ext. 3321; bahenderson@eyeboston.com.

Eric D. Donnenfeld, MD, is a professor of ophthalmology at NYU and a trustee of Dartmouth Medical School in Hanover, New Hampshire. Dr. Donnenfeld is in private practice with Ophthalmic Consultants of Long Island in Rockville Centre, New York. He is a consultant to Abbott Medical Optics Inc.; Alcon Laboratories, Inc.; Allergan, Inc.; Bausch + Lomb; and Merck & Co., Inc. Dr. Donnenfeld may be reached at (516) 766-2519; eddoph@aol.com.

Jae Yong Kim, MD, PhD, is an assistant professor in the Department of Ophthalmology at the University of Ulsan College of Medicine, Asan Medical Center, Seoul, Republic of Korea. He acknowledged no financial interest in the products or companies he mentioned. Dr. Kim may be reached at jykim2311@gmail.com.

Louis D. “Skip” Nichamin, MD, is the medical director of Laurel Eye Clinic in Brookville, Pennsylvania. He acknowledged no financial interest in the products or companies he mentioned. Dr. Nichamin may be reached at (814) 849-8344; nichamin@laureleye.com.



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