

Acrysof Restor IOL

Presbyopic lens removal and exchange.

BY KEITH LIANG, MD, FACS

The new presbyopia-correcting lens technology will enable surgeons to offer more options to patients who desire the ability to see well at distance and near without glasses. The areas of cataract and refractive surgery will merge into refractive lens surgery, which will be at least as challenging in terms of patient selection and achieving satisfactory outcomes. The best psychological test, prescreening and counseling, may still yield that occasional patient who appears physiologically perfect but has complaints of glare or photopsia that will make each surgeon ask, is this worth it? Multifocal lenses will probably be exchanged at a greater rate than monofocals due to some patients' inability to adapt. Refractive lens surgeons will have to face the challenge of safely removing a multifo-

cal lens and exchanging it for a monofocal. The following technique will allow surgeons to safely perform this surgery.

THE TECHNIQUE

Timing of Surgery

The Acrysof Restor lens (Alcon Laboratories, Inc., Fort Worth, TX) is on an SA60 acrylic platform, which allows for decreased posterior capsular haze, increased stability in the capsule, and thus more predictable refractive outcomes. The timing of removal is multifactorial in presbyopic lens patients. It is technically easier to remove this lens early in the postoperative period. But, the adjustment stage for operating on the second eye, correcting astigmatism, treating dry eyes, and fine-tun-

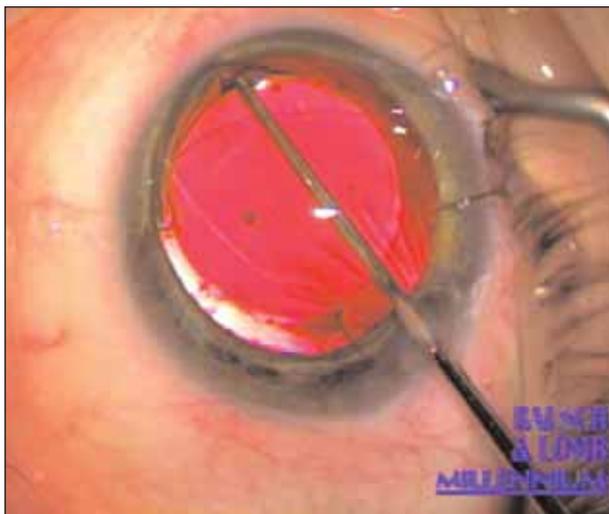


Figure 1. After viscodissection is complete, the author frees the lens via gentle rotation to undo all adhesions.

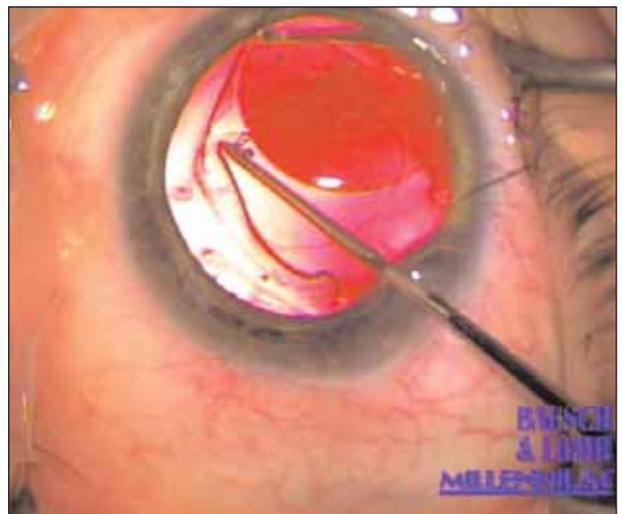


Figure 2. The author spins the lens into the anterior chamber with a Sinskey Hook (Katena Products, Inc., Denville, NJ).



Figure 3. The first lens is placed in a viscoelastic sandwich to protect the endothelium with a dispersive agent on top of the lens and a cohesive to slowly expand the capsular bag.

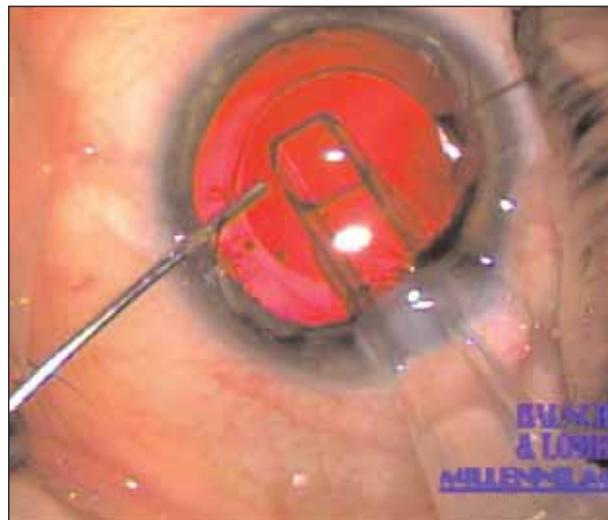


Figure 4. The surgeon injects a second lens below the first into the capsular bag to protect the posterior capsule.

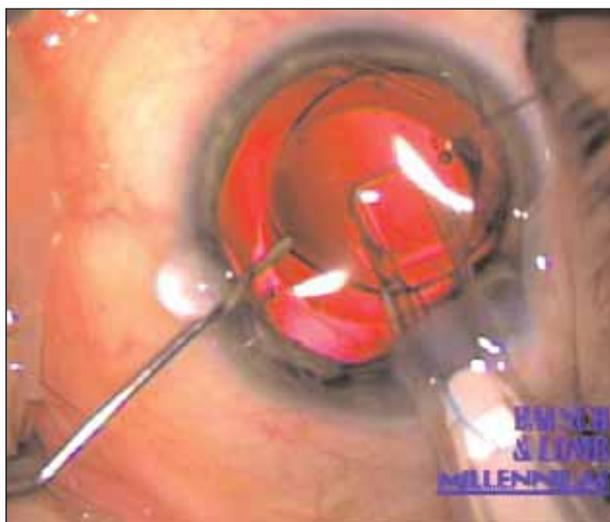


Figure 5. The second lens unfolds in the capsular bag.

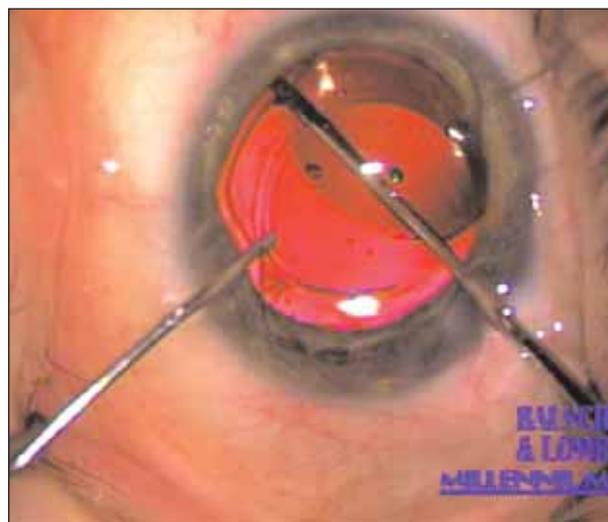


Figure 6. The author dials the haptics of the second lens into the capsular bag.

ing residual refractive errors with the excimer laser all delay the decision process. As each eye heals, the capsule binds to the acrylic material and increases the difficulty of the IOL's removal. Prolonging steroid use may slow the healing process, thereby increasing the duration for safe lens removal.

Communicate Risks

When all avenues have been exhausted with the unhappy patient, document the risk of surgery and discuss the possibility that the lens may not be removed if it is not in the

patient's best interest. This decision is made intraoperatively. Patients may forget the risks of intraocular surgery because the original surgeries progressed smoothly. I will order an Acrysof SN60WF lens (Alcon Laboratories, Inc.) and a sulcus-fixated lens preoperatively.

Intraoperatively

During surgery, I decrease the illumination of the microscope's light and increase its angulation to prevent direct macular exposure. I use higher magnification to visualize the capsule's edge on the lens. The edge can be

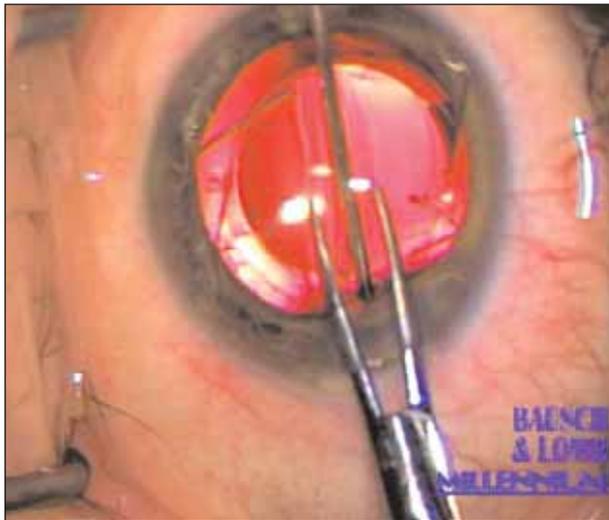


Figure 7. With the second lens in the bag protecting the posterior capsule, the author folds the first lens with a cyclodialysis spatula below and with a lens folder on top.

very adhesive to the capsule. I use a flat hydrodissection cannula with a cohesive viscoelastic in order to viscodissect the capsule from the lens. If I cannot gently elevate the edge, I use a 25-gauge bevel-down needle with viscoelastic and scratch down on the lens to get underneath the capsular edge and inject viscoelastic. Once the edge is elevated, I switch back to the flat cannula and viscodissect the lens and haptics so the lens can spin freely in the bag complex. It is also important to perform viscodissection in the fornix around the acrylic haptics.

After freeing the lens, I spin it to ensure that all adhesions have been severed and rotate the lens supracapsularly (Figures 1 and 2). I place a dispersive viscoelastic

above and cohesive viscoelastic underneath the lens. Next, I inflate the bag with the cohesive viscoelastic (Figure 3).

Explanting the Lens

When removing the original lens, I inject the second lens into the bag beneath the first to protect the posterior capsule (Figure 4). Removing IOLs is not a common skill for most surgeons, because it requires them to cut the lens using two hands simultaneously. Removing the lens also requires great concentration. Eliminating the risk of the posterior capsule's popping up during the IOL's removal adds a greater safety margin for most surgeons. Once the second lens is in the bag (Figures 5 and 6), one does not have to worry about accidentally puncturing the posterior capsule with the lens cutters. One may focus on cutting the lens and not damaging the endothelium. If I am implanting an acrylic lens, I refold it in the anterior chamber and remove it. This process is easier with the Acrysof SA60 platform. If I am using a silicone lens, I slice it with lens cutters, which allow the eye to remain astigmatically neutral (Figures 7 and 8).

CONCLUSION

As the performance of presbyopic refractive lens surgery increases in regularity, surgeons should become comfortable with IOL removal. They will face this situation with greater frequency than with monofocal lenses. ■

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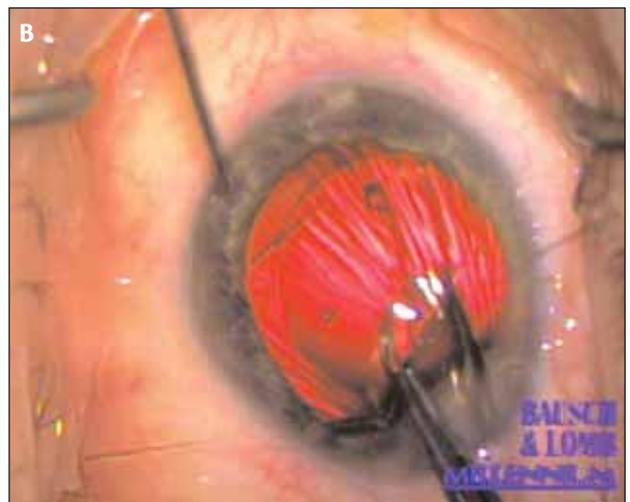
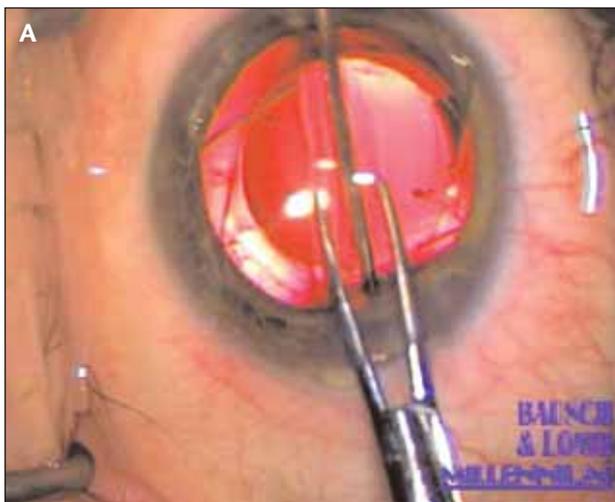


Figure 8. The author folds the first lens (A) and removes it through the original incision (B).