

Not so Ordinary Cataract Surgery

BY MARK KONTOS, MD

This month's installment of "Inside Eyetube.net" focuses on the use of instrumentation to manage complex cataract surgical cases. With tools such as capsular hooks, capsular tension rings (CTRs) and segments, and iris hooks, surgeons can achieve excellent visual results in even the most challenging patients.

ZONULAR WEAKNESS

Nicole Fram, MD, and Samuel Masket, MD, use a femtosecond laser to create and center an anterior capsulotomy in a patient with Weill-Marchesani syndrome and a subluxated cataract. The 61-year-old patient had a history of brachymorphia and microspherophakia with zonulopathy, which induced inferior subluxation and tilting of bilateral cataracts. The patient also had corneal astigmatism as well as mixed nuclear and posterior subcapsular cataracts. In the video, Drs. Fram and Masket encounter diffuse zonulysis and use capsular support hooks (Figure 1) and an Ahmed Capsular Tension Segment (FCI Ophthalmics, Inc.) to stabilize the capsular bag. Due to marked loss of the superior zonule, the superior capsular bag is anterior to the iris, which requires Drs. Fram and Masket to perform a limited pars plana vitrectomy to create adequate space in the posterior chamber for suturing the capsular tension segment to the sclera. This video demonstrates that a capsulotomy created with a femtosecond laser has sufficient tensile strength to tolerate surgical maneuvers. Drs. Fram and Masket report that the patient had an uneventful recovery from surgery and achieved her goal of 20/20 near UCVA.

In their video, third-year resident Matt Ward, MD, and Thomas A. Oetting, MD, also use a CTR to manage a complex case. Early in the procedure, the iris prolapses out of the paracentesis. The surgeons initially attribute this event to intraoperative floppy iris syndrome. They soon discover, however, that vitreous worked its way around the lens via weakened zonules and pulled the iris with it as it exited the paracentesis. After performing a vitrectomy and particulate staining, Drs. Ward and Oetting use a CTR to center the

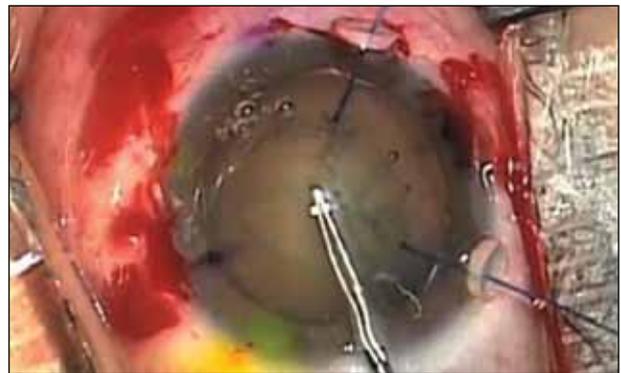


Figure 1. After the superior capsule is significantly separated from the peripheral edge, Drs. Fram and Masket insert capsular hooks to support the lens superiorly.



Figure 2. After viscodissection with a cohesive viscoelastic, Drs. Ward and Oetting place the CTR so that it initially pushes toward the area of weak zonules and away from the area of intact zonules.

lens, support the weak zonules, and narrow the path by which vitreous can come forward. Based on the experience, Drs. Ward and Oetting recommend that, when placing a CTR while the lens is present, surgeons perform viscodissection with a cohesive viscoelastic to create a space in which to position



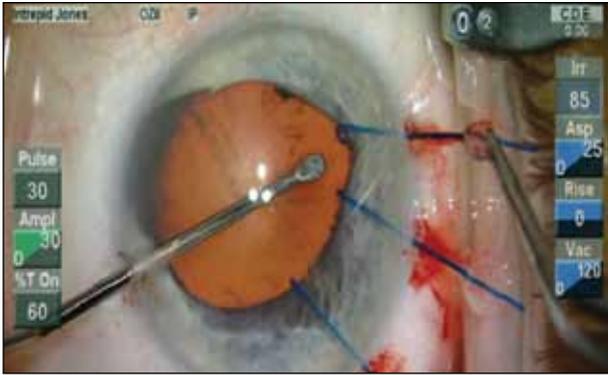


Figure 3. Dr. Jones uses iris hooks to engage the superior portion of the iris and tether it out of the way during phacoemulsification.

the CTR just under the capsule, thus making cortical removal less difficult (Figure 2). (For more information on managing vitreous prolapse, see the “Complex Case Management” column in the July issue.)

INFERIOR COLOBOMA

Jason Jones, MD, demonstrates how careful surgical technique can avert trouble in challenging cases. He repairs a congenital inferior iris coloboma at the time of cataract surgery. After breaking the posterior synechiae under viscoelastic, Dr. Jones retracts the iris with hooks but is careful not to compromise the ciliary body and zonules (Figure 3). After he removes the dense nucleus and implants an IOL, Dr. Jones sutures the iris sphincter to reapproximate the pupil to a more normal position.



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CONCLUSION

Fortunately, cataract surgery is usually a routine event. As this month's selection of videos suggests, complexities can arise with any case. Technological advances and innovative use of instrumentation continue to make the specialty dynamic and interesting to surgeons. ■

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