The Best View for a Difficult Surgery

A SIMPLE DEVICE EXPANDS THE POTENTIAL FOR COMPLEX CATARACT SURGERY ON A PATIENT WITH RETINITIS PIGMENTOSA.

BY JEFFREY WHITMAN, MD

For most of our patients, cataract surgery is straightforward. However, I often see less straightforward cases as a result of referrals. To ensure that the outcomes of complex cases are similar to those of everyday cases, I need a broad range of the latest tools. And in cases where dilation and visibility in the eye aren't optimal, one of the tools I use is the Iris Expander (OASIS).

CASE STUDY

EXAMINATION: I examined a 42-year-old male with a history of retinitis pigmentosa, a bilateral disease that often causes patients to develop cataracts in middle age. The severity of this patient's cataracts required surgery.

The patient had small pupils that would only dilate to 3 mm during the exam. In addition, the lens bag complex had dislocated inferiorly. It was a case where the lens zonules could break free and subluxation of the lens nucleus into the vitreous cavity was clearly possible.

SURGERY: First, I performed a femtosecond anterior capsulotomy that was decentered inferiorly, to keep the true opening closer to the center of the capsule. A capsulotomy performed in this way reduces the stress on the zonules to near zero when removing the central capsule. In the OR, I injected viscoelastic and inserted the Iris Expander through a 2.2-mm incision. I then inserted capsular hooks to support the lens/bag complex superiorly. The devices afforded me good access to the lens so I was able to remove it without creating added stress on the zonules. The nucleus and cortex were removed, and then I placed a capsular tension ring.

Because the capsular bag was dislocated, I implanted a three-piece silicone SoftPort AO intraocular lens (B+L) into the ciliary sulcus. Finally, I removed the capsular tension rings, the Iris Expander and the viscoelastic, leaving the capsular tension ring in the bag to hold and center the capsular bag. I performed the same procedure on the second eye 3 weeks later.

OUTCOMES: The patient is doing very well 10 months after surgery with best-corrected distance visual acuity of 20/50 and 20/60 and a well-centered lens in both eyes. (Visual acuity is limited by his retinal disease.)

CONCLUSIONS: In the past, without the instruments I used for this patient, most cases like this would have resulted in the lens dropping posteriorly or the need to perform an unplanned intracapsular procedure, and I would have had to implant an anterior chamber lens or suture in a lens. Irregular pupils are a risk in this type of case, as well, because manual-stretching devices can break dilator muscles. The Iris Expander dilates symmetrically, so damage is less likely to occur and the pupils typically look good postoperatively. The device is also easy for me to insert and remove.

In cases where the nucleus is 3 mm or larger and the pupil is less than 4 mm or under 5 mm after using an intraocular dilating agent, I plan from the outset to use the Iris Expander. This is true even in simple cases of small pupils or patients who won't dilate at the time of surgery. I find that most patients lose between 1 and 2 mm of dilation during surgery, so a 5-mm pupil can end up at 3 mm or less during cortical removal and lens insertion. The Iris Expander reduces the complication rate that accompanies cataract surgery in these small pupil cases. The device's two sizes — 7.0 mm and 6.25 mm — give me control over dilation, and the good visibility can make difficult cases much easier.

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To view insertion and use of the Oasis Iris Expander during one of Dr. Whitman's cataract surgeries, visit https://www.youtube.com/watch?v=aV974UY-qrU.

Prepare for the Unexpected

WHEN YOU ENCOUNTER FLOPPY IRIS DURING LASER-ASSISTED CATARACT SURGERY, YOU NEED THE RIGHT TOOLS.

BY GEORGE R. REISS, MD

A well-dilated eye is required for cataract surgery, but this isn't always achieved with dilating drops alone. Sometimes, even when dilation is adequate in the office, pupillary challenges may present intraoperatively.

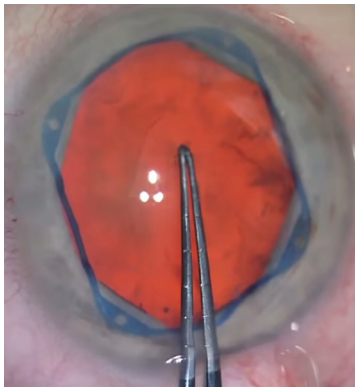
To handle an undilated or underdilated pupil, one of the "tools" I like to have available in each of our operating rooms is the Iris Expander (OASIS). When the unexpected happens, I want the ability to handle it quickly with as little disruption as possible to the surgical flow.

CASE STUDY

EXAMINATION: I examined a 68-year-old male with visually significant cataracts and determined that he required surgery. During the exam, he dilated fairly well. We selected an IOL and scheduled him for a femtosecond laser-assisted procedure.

SURGERY: On the day of surgery, the patient received dilating drops in the morning and looked well dilated when he arrived at the surgical suite. I performed the laser portion of the procedure without issue, but the pupil then became miotic. I injected phenylephrine to dilate the pupil again, but this was unsuccessful. It became clear that we were dealing with a floppy iris.

I proceeded to what is usually my next step for a floppy iris after the dilating agent hasn't worked: the Iris Expander. I injected viscoelastic into the anterior chamber and inserted the device.



The OASIS Iris Expander is a polypropylene ring that expands the pupil and maintains access and visibility throughout the surgical procedure.

The Iris Expander is straightforward to use, requiring a few minutes to attach its four corners to the pupil. In fact, the reason I don't hesitate to use the Iris Expander at this stage is because it adds very little time to surgery. Occasionally, I have to insert it after I've started phacoemulsification; but the device is gentle and flexible, so it's atraumatic enough to permit this. In such cases, the device opens slowly, which allows me to ensure that the capsulotomy isn't affected.

The rest of this patient's cataract surgery proceeded uneventfully. I removed the cataract and implanted the intraocular lens. I gently disengaged the Iris Expander from the pupillary margin with an IOL positioning hook and removed it from the anterior chamber using tying forceps. This took a minute or two, after which time I removed the viscoelastic with an irrigation and aspiration handpiece.

OUTCOMES: After surgery, the patient's pupil looked as though it hadn't been stretched or manipulated. This is typical of my experience with the Iris Expander. When I use this device, I don't see evidence of atrophy or peaked pupils that I sometimes see when using a rigid ring, nor do I see torn irises or pupils.

CONCLUSIONS: The Iris Expander's stable, atraumatic quality is preferable to rigid alternatives because it's easier to use and doesn't require anterior chamber injection of triamcinolone acetonide (Triesence, Alcon). I can insert it in almost any eye, even an eye with a ruptured anterior capsule. The device is also cost effective. I never hesitate to use it to reduce the potential for surgical complications that could be vision threatening as well as costly.

George R. Reiss, MD, has been in private practice in Glendale and Scottsdale, Ariz., for over 25 years. He also participates in the Arizona Ocular Trauma service, participates in several Clinical Glaucoma trials and serves as Team Ophthalmologist for the Arizona Coyotes of the National Hockey League.