

ReSTOR IOL. At the time of lens exchange, I would perform a limited anterior vitrectomy, taking care not to extend the posterior capsule tear. Because the 1-piece AcrySof ReSTOR IOL is in the sulcus, the haptics could be rotated into the anterior chamber; with the anterior chamber filled with OVD, the lens could be folded in the anterior chamber and removed through a clear corneal wound. If possible, I would capture the optic under the anterior lens capsule, leaving the haptics in the sulcus oriented perpendicular to the posterior tear.

Another option would be to exchange the IOL with a monofocal lens; however, this might necessitate bilateral IOL exchange, which would be less than ideal. This should be discussed with the patient.

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■ The relevant facts in this case are sulcus placement of an AcrySof ReSTOR IOL, which is “somewhat mobile,” and decentered posterior capsule rupture that originated from a capsulorhexis break with herniation of vitreous into the anterior segment. These factors have resulted in symptomatically reduced vision. Also, there is a residual refractive error in this eye of -1.25 D spherical equivalent.

I would like to point out 2 details that may help avoid similar situations. The first is that 1-piece foldable acrylic IOLs are unsuitable for sulcus implantation. This is certainly true of the AcrySof ReSTOR IOL. It is beyond the scope of this section to elaborate on this; it has been discussed more than once in this consultation section.

Second, when a break in the posterior capsule occurs, especially to the extent documented in the photograph, adequate vitrectomy is mandatory. Capsule breaks for which no vitrectomy is mandated are the rare exception. There is no good reason to avoid vitrectomy in these cases, but many good reasons to perform it. My approach would be the following: I would first perform adequate vitrectomy, preferably through the pars plana. This would include partial excision of the posterior capsule as necessary to clear the central 6.0 mm optical zone. Then, I would press the IOL posteriorly through a limbal paracentesis to capture it posteriorly with the intact part of the capsulorhexis. To best center the IOL, I would extend the anterior capsule opening selectively with the vitrector in a controlled manner to optimize centration.

This would give the patient the chance to achieve the desired result without IOL exchange, subjecting him to no more intervention than necessary. If refraction (which should become less myopic with posterior

buttoning-in) and visual quality were acceptable after this, no further action need be taken. If the result did not meet the expectations (not only refractive, which could be corrected by photorefractive keratectomy/laser in situ keratomileusis), I would recommend IOL exchange, implanting a Tecnis bifocal IOL (Advanced Medical Optics), which would be placed in the sulcus (and capsulorhexis = fixated posteriorly, as indicated above). In view of the large capsular dehiscence inferotemporally, I would recommend prophylactically securing 1 IOL haptic to the iris.

I would not exchange the AcrySof ReSTOR for a monofocal IOL because the other eye has had good, subjectively satisfactory vision with a bifocal IOL, despite the residual refractive error. Also, a monofocal IOL would not have a “positional” advantage over the Tecnis IOL. The only alternative, namely a ReZoom IOL (Advanced Medical Optics), would not be my personal preference because I am not convinced about the “mix-and-match” principle.

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■ Based on reports in the literature, implantation of a 1-piece AcrySof IOL in the ciliary sulcus probably represents poor judgment.^{1,2} Implantation of the 3-piece AcrySof IOL in the sulcus (eg, MA60BM, Alcon) has met with variable results.^{3,4} On the other hand, scleral or iris suture fixation of 1-piece and 3-piece hydrophobic acrylic IOLs has had success.⁵⁻⁹ The key difference appears to be stability of the IOL. When loose in the sulcus, these IOLs can move, which leads to decentration, iris chafing, pigment dispersion, chronic inflammation, glaucoma, and CME. When securely sutured, they generally perform well. Unfortunately, it is difficult to predict the sulcus size from the corneal diameter to ascertain which eyes will permit secure sulcus implantation without suture fixation.¹⁰ Barring direct measurement with ultrasound biomicroscopy, the risk for deleterious IOL mobility remains unknown.

My goals for this patient consist of primarily preserving the ocular health of the left eye and secondarily providing the spectacle-free vision he desires. Both goals can be accomplished by triamcinolone-assisted¹¹ anterior vitrectomy and exchange of the decentered IOL for an appropriately powered 3-piece multifocal IOL fixated by suture to the iris.¹² Alternatively, suture fixation of the subluxated 1-piece IOL will increase the myopia in the eye and require a corneal refractive procedure to obtain acceptable uncorrected distance visual acuity. Because the eye must be opened for IOL exchange or repositioning, the risks of this initial

procedure are not demonstrably different; however, the repositioning will necessitate an additional surgery. A third option, exchange for an anterior chamber IOL, sacrifices multifocality and may mean an increased requirement for glasses.

Choices in the United States for an iris suture-fixed multifocal IOL include the AcrySof ReSTOR 3 piece (MA60D3) and ReZoom (NXG1). The option of the mix-and-match approach should be discussed with the patient (L. Akaishi. "What We Can Learn from Presbyopia Correcting IOLs," EyeWorld APACRS annual meeting edition, September 2006. Available at <http://www.eyeworld.org/article.php?sid=330613> [online]. Accessed October 1, 2007). In either case, the IOL power should be adjusted downward to allow for the lens' relatively anterior position in the eye. Anterior chamber OCT (Visante, Carl Zeiss Meditec) can be used to locate the IOL position just posterior to the iris plane and measure the presumed postoperative chamber depth to aid in IOL power calculation.

The operative technique for IOL exchange is straightforward and involves cutting and removing the subluxated IOL. A variety of techniques have been described.¹³ The new IOL is inserted in the anterior chamber and the haptics rotated into the ciliary sulcus while the optic is kept anterior to the iris. The pupil is constricted and OVDs are used as needed to depress the iris around the haptics. The preferred suture for iris or scleral fixation is 9-0 polypropylene (Prolene) because of its enhanced longevity compared with the finer 10-0 suture. The long, curved needles should be passed as peripherally as possible to prevent pupil ovalization. A prolonged course of postoperative topical antiinflammatory agents to quiet the eye and prevent the development of CME should be considered.

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■ A tear in the anterior capsule extending through the equator and posterior capsule is a common form of capsule tear. Nearly 50% of anterior capsule tears extend into the posterior capsule, and 19% of those require vitrectomy.¹ With the increasing number of presbyopic and toric IOLs implanted and the heightened expectations of patients receiving these IOLs, I am convinced every surgeon will inevitably face the dilemma this case illustrates. How we manage these problematic cases will directly affect patient satisfaction and may have medicolegal implications.

The groundwork for dealing with complications of this type begins with the informed consent. Intraocular lens implantation has become so habitual that surgeons do not warn patients that they may not have the surgeon's first-choice IOL, or even have an IOL implanted. When implanting presbyopic IOLs, the surgeon should inform the patient that he or she might not receive the planned IOL or at worst, not receive a multifocal lens. Although these scenarios are unlikely, this discussion would meet the legal requirement of informed consent.

The implantation of a 1-piece AcrySof ReSTOR IOL in the ciliary sulcus was an unfortunate selection. This IOL is thick and has a sharp anterior surface edge, no haptic angulation, and a short overall diameter. It will not fixate, which is the cause of the postoperative IOL movement in the lateral and anterior-posterior direction. This IOL, without angulation and with its sharp anterior edge, will continue to chafe the posterior iris and cause chronic uveitis and eventually CME. This will occur