

and that in a high percentage of cases intrusion of microorganisms in the anterior chamber occurs during surgery.²

In view of these findings, a preoperative reduction of the conjunctival and periocular flora would be desirable. In fact, there is a reduction of the conjunctival flora by topical application of antibiotics before ocular surgery.² Studies, however, report statistically significant evidence of an increased risk for endophthalmitis following preoperative antibiotic prophylaxis.^{2,3} This may be explained by an elevated risk to select resistant bacteria by prolonged preoperative treatment with antibiotics.³⁻⁵ In addition, preoperative topical antibiotics and even fluoroquinolones failed to reduce intraocular contamination during surgery.² The only procedure that showed statistically significant reduction in conjunctival flora and also in postoperative endophthalmitis is the preoperative irrigation with povidone-iodine.^{2,3}

Despite wide use, there are only rare data on the effectiveness of postoperative antibiotics in intraocular surgery. Some studies reveal weak evidence for a potential benefit of subconjunctivally delivered antibiotics.^{2,3} For topical use, even over a long period after surgery, no data are available.

In light of the aforementioned data from the literature, the intense preoperative and postoperative use of fluoroquinolones recommended by Moshirfar et al.¹ is not encouraged and may predispose patients to the development of antimicrobial resistance and to infection with resistant bacteria.

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Reply: We are pleased to hear of your low incidence of postoperative endophthalmitis. We favor the use of fourth-generation fluoroquinolones because they cover bacterial resistance to the second-generation and third-generation antibiotics, have broader coverage than the second-generation and third-generation fluoroquinolones for gram-positive bacteria, and are equally effective for gram-negative bacteria based on *in vitro* and *in vivo* studies.^{1,2} In addition, gatifloxacin and moxifloxacin are less prone to resistance development because of their resistance to single-step topoisomerase mutations and enhanced activity against gram-positive pathogens.³

Although Ness and Reinhard have seen a low incidence of endophthalmitis with a single use of ofloxacin preoperatively, Ta et al.⁴ performed a prospective randomized controlled trial

comparing 3-day and 1-hour preoperative ofloxacin prophylaxis for cataract surgery. They found that 42% of eyes receiving 1-hour preoperative ofloxacin had positive conjunctival culture immediately before surgery, compared with 19% of eyes receiving 3 days of ofloxacin. Immediately after surgery, 34% of eyes with 1-hour prophylaxis compared with 14% of eyes receiving 3 days of prophylaxis had positive cultures. Furthermore, fewer bacteria were isolated from eyes receiving 3 days of prophylactic antibiotic. Likewise, Kowalski et al.⁵ found that commercially formulated moxifloxacin every 15 minutes preoperatively starting an hour before bacterial challenge and postoperatively with 4 drops separated by 4 hours prevented endophthalmitis in a rabbit model of endophthalmitis. Based on these results and our clinical experience, we believe that 3 days of prophylactic antibiotic use is superior to 1 antibiotic dose preoperatively.

We agree with Ness and Reinhard that the efficacy of postoperative antibiotics after phacoemulsification is currently unknown. However, Mather et al.² performed a prospective laboratory study in rabbit models that measured the effect of cataract surgery on the aqueous humor levels of topical moxifloxacin. They found no statistically significant difference in the penetration of topical moxifloxacin in eyes that had had cataract surgery compared with unoperated eyes. Furthermore, they discovered that a 3-drop schedule of moxifloxacin immediately after surgery produced aqueous concentrations that were well above the minimum inhibitory concentrations for resistant strains of the most common organisms implicated in endophthalmitis after cataract surgery. Until more studies have been performed, we are hopeful that the fourth-generation fluoroquinolones may be effective in eliminating bacteria that are introduced intraoperatively.—Majid Moshirfar, MD, Douglas P. Marx, MD

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Combined ICRS insertion and LASIK in high myopia

In their article,¹ Mian et al. introduced planned combination of intrastromal corneal ring segment (ICRS) insertion and laser *in situ* keratomileusis (LASIK) as an effective modality to reduce ablation depth and subsequently save more residual corneal stroma. However, there are some pitfalls in their article.

First, even though LASIK and ICRS insertion are approved by the U.S. Food and Drug Administration (FDA) as separate

procedures,² planned combination of them has not been approved for correction of high myopia.³

Second, the authors state in their introduction that both LASIK and ICRS have the additive effect of inducing central corneal flattening by different mechanisms; however, it should be mentioned that ICRS insertion will maintain the cornea's inherent positive asphericity, whereas LASIK yields an oblate postoperative pattern.³

Third, only 41% of their patients achieved uncorrected visual acuity of 20/40 or better, which is much lower than that after implantation of phakic intraocular lenses (IOLs)⁴; hence, the entire procedure is not as appropriate as they claim.

Fourth, in 3 eyes (20%) (cases 3, 7, and 8), only the intended LASIK correction has been corrected (and not the preoperative manifest refraction-intended total correction), and it seems that ICRS insertion has not played an effective role in decreasing myopia in these eyes. Hence, the ICRS role may be unpredictable when inserted simultaneously during LASIK.

Fifth, the follow-up period is too short (1 month in 2 cases and 12 months in the others) to conclude that "this procedure is good for correction of high myopia," as stated by the authors. Safety and effectiveness of new interventions should be evaluated by longer follow-up periods and a larger sample size.⁵

Sixth, if for any reason the surgeon decides to remove the ICRS, it seems more difficult in practice owing to the overlying LASIK flap.

Simultaneous LASIK and ICRS insertion does not yield predictable outcomes nor is it cost effective for patients. Implantation of phakic IOLs may be a better choice for patients with high myopia provided the anterior chamber depth is adequate.

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Implantation of foldable intraocular lens with anterior optic capture in isolated posterior capsule rupture

We would like to raise several pertinent points regarding isolated posterior capsule rupture occurrence and its management described in the article by Pushker et al.¹

Isolated posterior capsule rupture is a well-recognized clinical entity. In our literature review, we came across 22 cases reported prior to the authors' case.^{2–9} Previous authors suggest that the absence of a formed nucleus in young patients allows

contrecoup forces to be transmitted through the lens substance.³ We theorize that its occurrence in young patients following blunt trauma is due to localized pressure buckling the cornea and deforming the soft nucleus (with posterior bulging against the posterior capsule). In addition, zonular tension pulls the posterior capsule centrifugally. This combination results in a blow-out rupture of the posterior capsule.

We recently managed a similar case. Two months following blunt ocular trauma, a 19-year-old man had lens aspiration with implantation of an Alcon MA60BM intraocular lens (IOL) in the capsular bag. We aspirated the lens through a superior 2.75 mm clear corneal incision using automated irrigation/aspiration with an anterior chamber maintainer (ACM). With low-flow settings and the ACM, no vitreous prolapsed and anterior vitrectomy was not required. The posterior chamber IOL was placed in the capsular bag, with no optic capture, and has remained stable with over 1 year of follow-up. Even without grossly fibrotic edges, these posterior capsular defects are relatively stable and resistant to enlargement like posterior capsulorhexis.

In essence, we feel that vitreous loss should be avoided with the attendant reduction in the risk for retinal detachments and cystoid macular edema. Plain capsular bag fixation is also possible in most cases and is ideal because prolapsing the optic anteriorly brings it closer to the iris and increases the risk for iris chafing and pigment dispersion. If the defect is extremely large or the edges of the posterior capsule defect are not visualized, the posterior chamber IOL haptics should be placed in the ciliary sulcus (with posterior optic capture through an intact anterior capsulorhexis). In fact, anterior optic capture was recommended by Gimbel and DeBroff¹⁰ in cases in which the posterior capsule tear occurred during or after posterior chamber IOL insertion rather than in cases with preexisting breaks. In cases of posterior capsule tear during or after posterior chamber IOL insertion, leaving the haptics in the capsular bag, rather than trying to dial them out into the sulcus, minimizes vitreous disturbance.

Finally, we would like to point out that the Alcon MA30BA has polymethyl(methacrylate) haptics not polypropylene haptics as mentioned by the authors.

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