

# Same-day Bilateral Refractive Lens Exchange

If demonstrated to be safe, this procedure may become a desirable option for patients who elect to pay privately for vision correction.

BY DANIEL S. DURRIE, MD

Refractive surgeons are experiencing an exciting paradigm shift in lens surgery that is best characterized as a move from traditional lens surgery to the premium channel. In the traditional model, a third party pays; when premium services are rendered, however, patients are financially responsible. Traditionally, we surgeons aimed to optimize patients' BCVA after standard cataract surgery. Today, we strive to optimize their UCVA at both near and distance for a lifetime. The traditional model is characterized by phacoemulsification and the implantation of a monofocal IOL at an ambulatory surgery center. With the advent of the premium IOLs, refractive cataract surgeons are using femtosecond lasers and implanting toric and presbyopia-correcting IOLs. In the future, we may even perform lens surgery in an in-office refractive suite. Compared with the traditional emphasis on cases per hour and controlling costs, the premium model focuses on exceeding patients' expectations.

## INTERNATIONAL POPULARITY

The shift to the premium channel presents an opportunity for us to consider bilateral same-day lens surgery. Steve A. Arshinoff, MD, FRCSC, has been gathering data for many years on techniques for and the safety of bilateral, simultaneous cataract surgery—more accurately referred to as *immediate, sequential, bilateral cataract surgery* (ISBCS). This procedure is being performed with increasing frequency worldwide, owing to its medical

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merits and cost savings realized by health care systems offering ISBCS.<sup>1</sup> In Finland, many hospitals have a rate of ISBCS approaching 50% of cases, and in the Canary Islands of Spain, 80% of cataract procedures are performed as ISBCS (data on file with the International Society of Bilateral Cataract Surgeons). Ten percent of ESCRS members report routinely performing ISBCS.<sup>2</sup> Considerable published evidence shows ISBCS to be at least as effective as delayed, sequential, bilateral cataract surgery, and no published articles show that the former is less safe.<sup>3</sup>

## BILATERAL ENDOPHTHALMITIS

ISBCS has not gained traction in the United States to the same degree that it has internationally. US reimbursement rules impose significant financial disincentives on surgeons with regard to operating on both eyes on the same day. Another obstacle is surgeons' fear of simultaneous bilateral endophthalmitis or bilateral toxic anterior segment syndrome. Arshinoff and Bastianelli reported that, from 1950 to the present, four

cases of simultaneous bilateral endophthalmitis have been published; all of these cases involved a breach in aseptic protocol.<sup>4</sup> Their literature search revealed that, in recently published European studies on prophylactic intracameral cephalosporin, the incidence of postoperative endophthalmitis after unilateral cataract surgery weight-averaged to one in 331 (0.3%) without prophylactic intracameral antibiotics and to one in 1,977 (0.05%) with prophylactic intracameral antibiotics. In comparison, studies conducted in the United States using only topical antibiotics report infection rates as low as 0.028%. Extrapolating from data from the intracameral antibiotic arm, Arshinoff and Bastianelli calculated that the risk of simultaneous bilateral endophthalmitis after ISBCS would approach 1:100 million patients.<sup>4</sup>

Data collected from members of the International Society of Bilateral Cataract Surgeons show that no instances of bilateral simultaneous endophthalmitis occurred in 95,606 cases of ISBCS. The overall rate of endophthalmitis after cataract surgery on one eye was one in 5,759 cases, and infection rates were significantly reduced with intracameral antibiotics to one in 14,352 cases.<sup>4</sup>

### BILATERAL REFRACTIVE LENS EXCHANGE

Given the recently rapid progress in modern lens surgery techniques, should we be open to performing same-day bilateral lens surgery? I would argue yes if scientific data can show that it is safe and adds value to patients' experiences.

Jonathan Christenbury, MD, has the best-documented series of same-day bilateral refractive lens exchange (RLE) in the United States.<sup>2</sup> In 2005, Dr. Christenbury implanted the AcrySof IQ Restor IOL (Alcon Laboratories, Inc.) in both eyes of his patients 1 to 2 weeks apart. They complained during the period between surgeries of difficulty with the disparity in image quality between their eyes. Between 2006 and 2007, Dr. Christenbury performed bilateral lens implantation 1 day apart in 1,006 eyes. His patients reported greater satisfaction with the procedure, mainly because their eyes came to work together more quickly. A common complaint, however, regarded the inconvenience of undergoing surgery on 2 consecutive days. In response, Dr. Christenbury issued a new consent form that allowed patients to opt for same-day bilateral RLE. Each eye was treated as a separate procedure with different equipment and preparation. Ninety percent of his eligible patients chose same-day bilateral RLE, and from this cohort of more than 1,000 patients, he has reported zero cases of endophthalmitis or toxic anterior segment syndrome. The only complication he

has reported is capsular rupture in two cases. In both, the complication affected the second eye in sequence and resulted in no vision loss.<sup>2</sup>

### CONCLUSION

My primary purpose in writing this article is to stimulate discussion about same-day bilateral RLE. When LASIK was first introduced, we waited 6 months between procedures on the right and left eyes. As supportive data became available, the time between surgeries decreased to 3 months and then 1 week before same-day bilateral procedures became the norm. I believe that lens surgery will follow a similar progression.

My colleagues and I are not currently performing same-day bilateral RLE in our practice. We have incorporated premium IOLs and laser cataract surgery, however, and are considering whether to move some of our lens surgery to the office's refractive suite in the next few years. Same-day bilateral RLE represents a natural step in the progression of premium services we offer to patients. We will only take this step, however, if scientific data prove it to be safe. As lens surgery evolves, patients' safety remains the indisputable *sine qua non*. ■

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2. Durrie D, Arshinoff SA, Christenbury J, et al. Same-day bilateral cataract surgery. Paper presented at: The American College of Ophthalmic Surgeons Summit; October 21, 2011; Orlando, FL.
3. Arshinoff SA. Immediately sequential bilateral cataract surgery. *Advanced Ocular Care*. 2011;2(2):37-39.
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If demonstrated to be safe, would you offer same-day bilateral refractive lens exchange to patients who elect to pay privately for vision correction?

- Yes  
 No