

# 'Bilateral same-day cataract surgery should routinely be offered to patients' – Yes

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For some, the very mention of immediate sequential bilateral cataract surgery (ISBCS) or cataract surgery to both eyes on the same day would invoke a strong gut reaction and vehement objection. Although at one time there was good reason for this, advances in technology in cataract surgery have been dramatic. We now perform cataract surgery under topical anaesthesia through ever smaller corneal wounds that allow for more predictable refractive outcomes, quicker visual recovery, and quicker refractive stabilisation. The bulk of cataract operations are now done as a day-case procedure. Cataract surgery nowadays has a generally very low rate of complications, and we would argue that ISBCS has now become a viable and safe alternative. We have learnt from LASIK that bilateral simultaneous surgery is a viable option if the complication rate is low and the visual recovery is rapid.

Few surgeons currently offer ISBCS routinely, but more offer ISBCS in special situations in cases where general anaesthesia is required to complete the cataract operations safely, and where repeated general anaesthesia is undesirable because of complex medical problems, or in patients with significant disabilities or handicap, where it is performed to minimise the distress for the patient.

However, the advantages of ISBCS extend beyond this. Many active patients with high hyperopia and high myopia have to put up with significant anisometropia in the interim period, but ISBCS allows for the faster return to full visual function and final refraction. Cataract procedures are also normally undertaken on older patients who will benefit from the faster visual rehabilitation, fewer hospital visits, reduced transportation problems, and less need for assistance from relatives or carers, whereas

younger patients can benefit from missing fewer days of work and minimising income loss. Clinicians often underestimate the emotional distress and burden to the patients and their families of the postoperative recovery period and repeated hospital visits.

Although ISBCS should be offered primarily for the patients' benefit, there are clear secondary benefits as well for the healthcare professional and healthcare system. The reduced paperwork, reduced administration, and reduced need for repeated clinical contacts create an efficiency that reduces the cost of ISBCS when compared with delayed sequential bilateral cataract surgery. These potential economic gains can be reallocated within the healthcare system to benefit both the individual and other patients.

Many studies have reported high levels of patient satisfaction and good clinical outcomes with few complications,<sup>1–6</sup> and one may very well ask with ISBCS, 'Why not?' For most surgeons, it is the fear of the bilateral sight-threatening complications with the most dreaded risk being bilateral endophthalmitis. To date, there have been four reported cases of bilateral endophthalmitis following ISBCS. Three of these cases were associated with incomplete sterile technique,<sup>7–9</sup> whereas in the remaining one case, instruments from the same sterilisation cycle were used.<sup>10</sup>

ISBCS requires special precautions<sup>3</sup> with complete sterile separation of the two eyes with rescrubbing, and new sets of instruments and fluids. Full-cycle sterilisation should be used for the disinfection of instruments, and instruments for each eye should come from different cycles, ideally with the instruments for one eye coming from a batch that has been in use the week before. IOLs, viscoelastics, and fluid should come from different batches. If any complications, such as vitreous loss, dropped nucleus, or choroidal haemorrhage, should occur with the first eye,

then surgery to the second eye is not undertaken on the same day. For the postoperative period, patients should be given separate drop bottles for each eye, and instructed on washing hands before instilling eye drops into the second eye. A group of prominent ISBCS surgeons presented their endophthalmitis data at the 2008 ASCRS meeting with 10/33 000 cases of unilateral endophthalmitis (0.03%), and to date, there have been no reported cases of bilateral endophthalmitis where all the precautions were undertaken.<sup>11</sup>

Although toxic anterior segment syndrome (TASS) has a propensity to occur in clusters raising the possibility of bilateral TASS with ISBCS, there have been, to date, no reports of TASS with ISBCS. Good theatre practice with attention to the proper cleaning and sterilisation of ophthalmic instruments while adhering to particular precautions, especially if detergents or ultrasonic water baths are used in the cleaning process, as well as proper consideration regarding the use of any intraocular medications during surgery, with particular attention to avoiding intraocular medications with preservative or additives associated with TASS, can help prevent the occurrence of TASS.<sup>12</sup>

Bilateral cystoid macular oedema has been reported to not be a problem among the practitioners of ISBCS,<sup>13</sup> but the prophylactic use of topical NSAIDs in the postoperative period has been suggested.<sup>3</sup>

The ability to adjust the refractive target in the second eye from the results of the first operation<sup>14</sup> may be the single, most valuable advantage of staged, sequential surgery. However, biometry accuracy has improved with the use of optical coherence biometry; and the better the individual surgeon's refractive outcomes are, the less important adjustment becomes.

In offering ISBCS routinely, strict adherence to protocol is important. Patients should have bilateral symptomatic cataracts, be well informed, and bilateral cataract surgery on the same day must be the patient's informed preference. In addition, it is important that the surgeon should be confident in their ability to deliver refractive accuracy and good surgical outcomes with a low complication rate. The endophthalmitis rates for the unit should be known and should be low.

In stating that ISBCS should routinely be practiced, we are not suggesting that ISBCS be offered to every patient who wants it. Cases should be technically straightforward, and patients who are at a higher risk of intraoperative or postoperative complications are not given the option of ISBCS. Patients with corneal endothelial dystrophies, previous corneal refractive surgery, small pupils requiring mechanical dilation, brunescant cataracts, and active diabetic eye disease are not suitable.

In conclusion, ISBCS, done well with the proper precautions and adherence to protocol, has been shown to be advantageous, safe, and more efficient for the patient,

healthcare system, and physician, and should be offered routinely and not just in exceptional circumstances.

### Conflict of interest

The authors declare no conflict of interest.

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