Light adjustable IOL

The light-adjustable intraocular lens (IOL) had moved from the lab to the clinic, where it is producing good visual results in longer term studies. In particular, it is receiving good marks for achieving its potential for fine-tuning refractive outcomes. A new study confirms that the innovative IOL is also safe, causing no more damage to the corneal endothelium than conventional phacoemulsification and IOL implantation cataract surgery. German researchers evaluated endothelial cell loss and corneal thickness over a one-year period in 120 eyes receiving light-adjustable IOLs and the associated UV light lock-in treatment. The mean cumulative UV light dose at the cornea was 61.47 J/cm² ± 2.37 (SD). The mean endothelial cell loss was 6.91 per cent ± 3.66 per cent two weeks after surgery before adjustment and 6.57 per cent ± 3.81 per cent 12 months after lock-in. The mean relative change in corneal thickness from preoperatively was 6.18 per cent ± 3.97 per cent two weeks postoperatively and −0.64 per cent ± 1.88 per cent 12 months after lock-in. These results are similar to those reported in the literature after conventional phacoemulsification with IOL implantation. In particular, the UV light exposure for adjustment and lock-in procedures did not appear to add to the endothelial damage caused by the cataract surgery.


Sequential bilateral cataract surgery safety

Advocates of sequential bilateral cataract surgery point to improvements in economy and patient satisfaction. Opponents have voiced concerns over the safety and potential increased risks posed by this approach. A large Canadian study indicated that the sequential bilateral approach is at least as safe as the traditional approach. The researchers surveyed members of the International Society of Bilateral Cataract Surgeons (ISBCS) to determine the results of unilateral and bilateral cataract surgeries performed by experienced bilateral cataract surgeons. They also looked at recently reported frequencies of postoperative endophthalmitis with or without the use of prophylactic intracameral antibiotics (as used in the landmark ESCR Endophthalmitis Study). Four cases of bilateral simultaneous endophthalmitis after immediately sequential bilateral cataract surgery (ISBCS) have been reported in the past 60 years, all with breaches of aseptic protocol. No bilateral simultaneous endophthalmitis occurred in the 95,606 ISBCS cases collected. The overall rate of postoperative endophthalmitis after ISBCS was one in 5,759. Infection rates were significantly reduced with intracameral antibiotics to one in 14,352 cases. These rates are at least as low as and sometimes even lower than published rates for unilateral surgery, particularly when recommended precautions are taken. The researchers suggest that simultaneous bilateral cataract surgery is more accurately referred to as immediately sequential bilateral cataract surgery (ISBCS) to clearly differentiate it from delayed sequential bilateral cataract surgery. The approach is becoming more popular around the world.

- SA Arshinoff et al., JCRS, “Incidence of postoperative endophthalmitis after immediate sequential bilateral cataract surgery”, Volume 37, Issue 12, 2105-2114.

Femto LASIK

Femtosecond laser flap creation has become a popular approach to LASIK surgery, with several platforms available to ophthalmic surgeons. Claims made in favour of femtosecond LASIK include more accurate flap creation and better safety. A new meta-analysis questions these claims. A look at seven prospective randomised controlled trials describing a total of 577 eyes with myopia showed no significant differences in the efficacy, accuracy, or safety with using femtosecond or conventional microkeratomes. However, postoperative total aberrations were significantly lower in eyes that had femtosecond LASIK.


During the ASCRS Symposium on Cataract, IOL and Refractive Surgery Chicago, Illinois, USA