

# CATARACT SURGERY AND KERATOCONUS

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**Background:** Keratoconus (KC) is a common ectatic disorder resulting in progressive corneal thinning and irregular astigmatism. It has been observed that patients affected by KC are more likely to develop lens opacities earlier compared to non-keratoconic patients.

**Objective:** To evaluate the visual and topographic outcomes in patients with keratoconus who have undergone cataract surgery and to analyze different methods of keratometry and formulas for intraocular lens (IOL) calculation in patients with keratoconus.

**Methods:** In a retrospective case series, 8 eyes (6 patients) with keratoconus underwent phacoemulsification with IOL implantation. The mean age was 55 years (range, 39–75 years). The IOL power was determined by using standard and corneal topography–derived keratometry in three formulas: SRK, SRKII, and SRKT. Four months after surgery, best-corrected visual acuity (BCVA), visual improvement, simulated keratometry, and contact lens fit were assessed. Retrospectively, the difference between spherical equivalent and desired refraction was evaluated for the ideal IOL power. The difference between the ideal IOL power and the calculated IOL power from the three formulas was determined to evaluate the best formula for these patients.

**Conclusions:** Determining the stage of KC, pre-operative patient counselling and the preferred method of refractive correction are all crucial to obtain successful postoperative outcomes and good patient satisfaction. The most accurate IOL power was found by using SRKII. IOL calculation is more predictable in mild keratoconus than in moderate and severe disease. The use of toric IOLs can achieve good results only in selected low-grade keratoconic eyes.

All eyes had improved BCVA (mean of four lines). Of the five eyes with mild keratoconus, three were switched from rigid gas-permeable lens wear before surgery to soft toric contact lenses ( $n = 2$ ) or spectacles ( $n = 1$ ). Patients with moderate and severe keratoconus (7 of 12) still required rigid gas-permeable lenses after surgery. In mild keratoconus, there was no difference between standard and topography-derived keratometry.

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