

# Comparison of visual and quality of life outcomes from limbal relaxing incisions vs toric intraocular lens implantation for astigmatic correction during standard cataract surgery

## Session Details

**Session Title:** Pseudophakic IOLs Toric

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## Abstract Details:

### Purpose:

To compare post-operative visual outcomes of LogMAR uncorrected (UCDVA), best corrected visual acuity (BCDVA) and spherical equivalent (SE) in patients undergoing astigmatic correction during standard cataract surgery with limbal relaxing incisions (LRIs) or toric intraocular lenses (tIOL) in an ongoing prospective, randomized controlled study (UKCRN ID: 16848). To ascertain post-operative spectacle dependence and vision-related quality of life (QoL) in these patients.

### Setting:

Sussex Eye Hospital, Brighton & Sussex University Hospitals NHS Trust, United Kingdom.

### Methods:

Patients with astigmatism (0.75 to 2.5 D) undergoing cataract surgery were randomized (1:1) to receive LRI or tIOL. Visual outcomes were compared preoperatively with one-month follow up. LogMAR UCDVA and BCDVA were assessed using the 4m ETDRS charts. Postoperative subjective refraction and SE were recorded and patients completed a validated QoL questionnaire. The questionnaire consisted of 20 questions scored on a 5-category response scale. Each patient had a Quality of Life Impact of Refractive Correction (QIRC) score that was subsequently converted to a Rasch-weighted score.

### Results:

50 patients were recruited, of which 27 had LRIs and 23 had tIOLs. The mean age was  $72.86 \pm 11.13$  years (range 50-90 years). There was no significant difference in the one month mean post-operative UCDVA (LRI:  $0.27 \pm 0.21$  vs. tIOL:  $0.19 \pm 0.21$ ;  $P=0.21$ ), BCVA (LRI:  $0.48 \pm 0.44$  vs. tIOL:  $0.61 \pm 0.78$ ;  $P=0.50$ ) and post-operative SE (LRI:  $-0.51 \pm 0.63$  vs. tIOL:  $-0.27 \pm 0.64$ ;  $P=0.23$ ) between the groups. There was also no significant difference in the mean post-operative QIRC scores; LRI group: 55.048 (range 43.228-66.202) and the tIOL group 55.380 (range 43.371-65.022) respectively ( $P=0.85$ ). However spectacle independence was reported to be 12.7% more in the tIOL group.

### Conclusions:

More eyes with tIOLs reported postoperative spectacle independence. Cataract surgery combined with astigmatic correction offered an improvement in UCDVA and BCDVA in both the LRI and toric IOL groups. There was no statistical difference in visual outcomes between both groups 1-month postoperatively. Astigmatic correction with LRIs or toric IOLs offers similar quality of life outcomes for astigmatism between 0.75 to 2.5 D 1-month postoperatively. FINANCIAL INTEREST: One of the authors research is funded, fully or partially, by a company producing, developing or supplying the product or procedure presented, One of the authors travel has been funded, fully or partially, by a company producing, developing or supplying the product or procedure presented

