

## USE DIGITAL TECHNOLOGY TO STUDY RESIDUAL ASTIGMATISM

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**Introduction:** We want to know how do the three intraocular interfaces (posterior cornea surface, anterior lens surface and posterior lens surface) affect the residual astigmatism.

**Method:** Under cycloplegics, the central 3.6mm radii of internal ocular surfaces in 42 eyes were measured in both vertical and horizontal meridians by EAS-1000 (Scheimpflug photography). Then the orthogonal C0 (power along axis 90° - power along axis 0°) were obtained with application of the equation:  $P = (n_2 - n_1)/R$ .

**Result:** The C0 of corneal astigmatism was +1.20

D. The C0 induced from posterior cornea, anterior lens and posterior lens was -0.21D, +0.05D and -0.53D respectively. The ratio of posterior: anterior corneal radii was 0.896 in vertical meridian and 0.906 in horizontal meridian.

**Conclusion:** Our study reveals that posterior lens surface is the main interface affecting the residual astigmatism and the anterior lens surface may add to the corneal astigmatism. The lower ratio of posterior: anterior corneal radii in vertical meridian makes the eyes with with-the-rule corneal astigmatism have a higher compensating rate for corneal astigmatism.

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