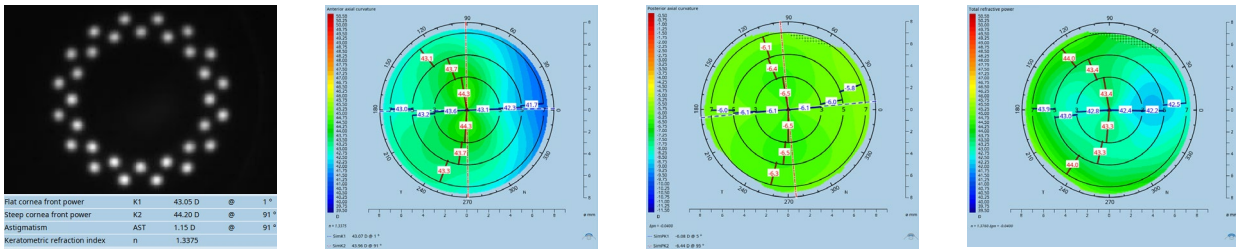


K-readings you can trust

Keratometry or short K-readings are key for corneal diagnostics as well as for cataract surgery. Specifically, for cataract surgery it is indispensable to have absolutely reliable and precise K-readings since every error in the Ks translates 1:1 to your refractive outcome.

Dual zone keratometry and swept source OCT based SimK and topography

The Eyestar features gold standard reflective keratometry for the anterior surface of the cornea based on 32 measurement points for excellent precision of K-readings, astigmatism and axis orientation¹⁾. The Swept Source OCT based topography adds SimK of the anterior and posterior cornea, together with detailed information corneal surfaces, pachymetry as well as the total corneal power.



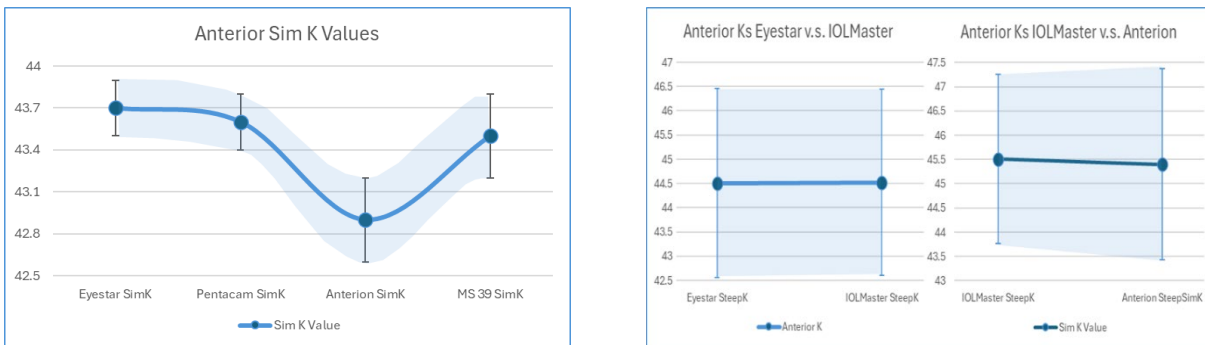
Dual zone keratometry Anterior topography Posterior topography Total refractive power

Having anterior reflective Ks and SimKs simultaneously may improve confidence in the outcome. Reflective K readings are more affected by ocular surface instabilities (tear film) whereas the elevation based SimK are more influenced by local defects or bad fixation. If the values agree well then you may use them with full confidence, if discrepancies are seen, then the source of the difference may be assessed and the more reliable method chosen.

More confidence with Eyestar’s cutting edge technology

The JCRS article by Galzignato et.al.²⁾ compares the repeatability of measurements of the several Biometers. The results indicate that the Eyestar provides best in class repeatability on Keratometry. What was apparent in this comparison was that the Anterior showed the least good values for the keratometry together with the Argos biometer.

Another study by Kundu et.al.³⁾ compared the measurements of the Eyestar, Pentacam, Anterior and MS 39. It shows that the K-Readings agree well between all devices apart from the Anterior and on normal as well as on keratoconic eyes (see Graph 1.). Similar findings are found in papers by Lender et.al.⁴⁾ and Kool van Langenberghe et.al.⁵⁾, who showed differences in the K readings between the Anterior and other devices.



Graph 1: K-value comparison based on data by Kundu et.al.³⁾ on the left and based on Lender et.al.⁴⁾ on the right. In both cases there is a clinically relevant difference between the Eyestar and the Anterior in contrast to the other devices Eyestar was compared with and well agreed.

Take home message

- The Eyestar provides excellent K-readings, from gold standard dual zone reflective keratometry.
- Swept Source OCT based SimK of the anterior and posterior cornea complement corneal assessment.
- All this is done in a single measurement process, for improved efficacy and confidence in your diagnostic process.

Literature:

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