ASSORT®

CorT

Total Corneal Astigmatism

The CorT method of quantifying corneal topographic astigmatism has been shown to correspond better to manifest refractive cylinder than other commonly used measures and could lead to more accurate measurement of corneal astigmatism and an ultimately better visual outcome for patients.

The combination of the astigmatism values from the majority of Placido rings on a topography system enables the derivation of a value (CorT) that is more representative of the whole cornea by its closer correlation to the manifest refractive cylinder than using parameters derived from manual K, simulated K from the 3.0 mm zone alone, or corneal wavefront.

The CorT provides a consistent measure of corneal astigmatism across regular and irregular corneas, which can then be implemented in corneal incisional and refractive laser surgery to better correct astigmatism. In particular toric IOL and femto-LRI planning will lead to better visual outcomes for patients.

The CorT value is calculated as a summated vector mean of the astigmatism values determined from a large number of adjacent concentric Placido rings.

CorT:

- Accurate representation of corneal astigmatism
- Better than Sim K, Manual K and Corneal Wavefront
- Incorporated into CZM Atlas® and CSO Sirius® topographers
- CorT is calculated using all the data captured by the topography system
- Change 'Incorporated into....' Point to 'Incorporated into all leading topographers'
- Consistent measure of corneal astigmatism for regular and irregular corneas

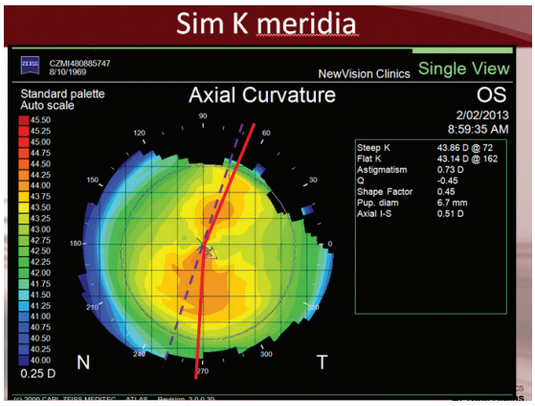

Figure 1: The Simulated Keratometry (Sim K) parameter is calculated using only one Placido ring leading to inaccurate measures of corneal astigmatism.

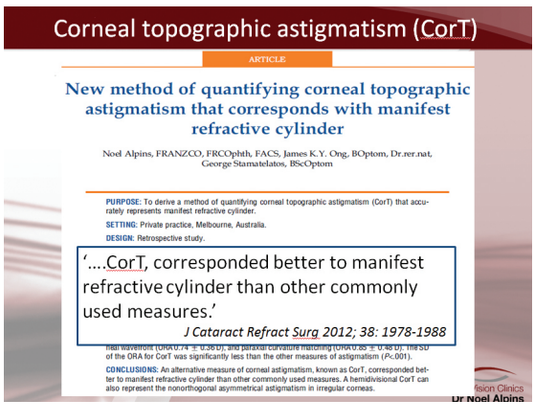

Figure 2: CorT peer reviewed scientific paper published in the Journal of Cataract and Refractive Surgery 2012.

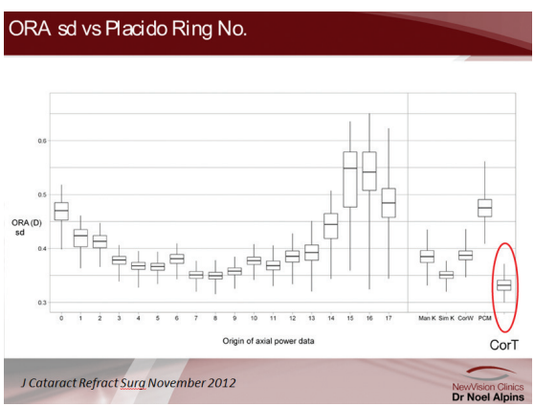

Figure 3: The CorT parameter displays more consistency in measuring corneal astigmatism than other parameters.

ASSORT®

CorT

A diagnostic tool without rival

CorT is implemented into topographers using the iASSORT® software

A CorT value of the total corneal power including the posterior cornea is calculated in the topographers that are able to measure it.

Furthermore, by dividing the cornea into two hemi divisions, two CorT values can be calculated. These two CorT values, one for the superior cornea and one for the inferior can then provide a vectorial measure of corneal irregularity known as topographic disparity.

In this way, a standardised parameter can be compared across all topography systems for corneal irregularity instead of the various individual measures currently that are different for each system.

Using CorT, consistent values are obtainable for surgical procedures and analysis for both regular and irregular corneas undergoing surgery. This also enables nomogram refinement to be more precise and result in better outcomes.

Corneal astigmatism measures

- CorT most reliable astigmatism value for cornea
- Sim K, Manual K, corneal wavefront more variable where irregularity exists
- Posterior cornea needs inclusion for total corneal power

Learn more

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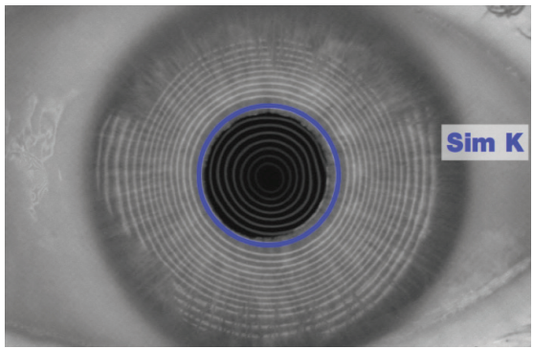

Figure 4:
Sim K in calculated using one single Placido Ring

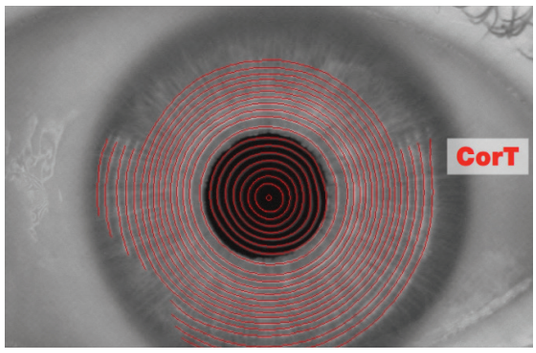

Figure 5:
Incorporating all valid data can be more accurate than Sim K

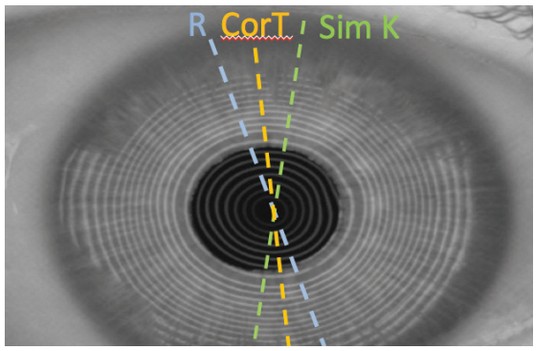

Figure 6:
The CorT is closer in magnitude and orientation to the refractive cylinder than Sim K

Dr Noel Alpins