The Aladdin Biometer HW3.0

Product Description

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Product Description

The Aladdin HW3.0 is an instrument designed to calculate the power of the intra-ocular lens (IOL) to be implanted after cataract removal.

The essential measurements for the IOL power are:

- ***Axial length of the eye (the distance between the cornea and the retina)***
- ***Curvature of the cornea.***
- ***Anterior Chamber Depth***

Product Description

The Aladdin HW3.0 is an instrument designed to calculate the power of the intra-ocular lens (IOL) to be implanted after cataract removal.

Depending on the type of IOL and the characteristics of the eye to be implanted, additional measurements may be necessary such as:

- ***Corneal topography***
- ***White to white***
- ***Pupillometry***
- ***Central corneal thickness***
- ***Crystalline lens thickness***

The Aladdin HW3.0 can perform 9 different measurements in one instrument.

1. AXIAL LENGTH
2. ANTERIOR CHAMBER DEPTH
3. LENS THICKNESS
4. CENTRAL CORNEAL THICKNESS
5. KERATOMETRY
6. WHITE TO WHITE
7. CORNEAL TOPOGRAPHY
8. CORNEAL WAVEFRONT ANALYSIS
9. PUPILLOMETRY

Product Description

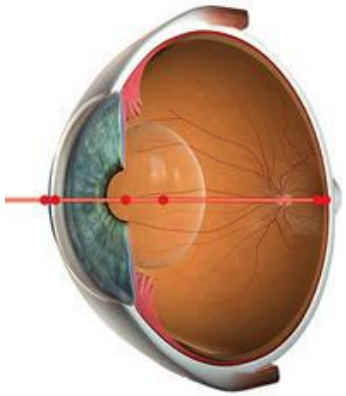
The measurement of the axial length is called “Biometry”

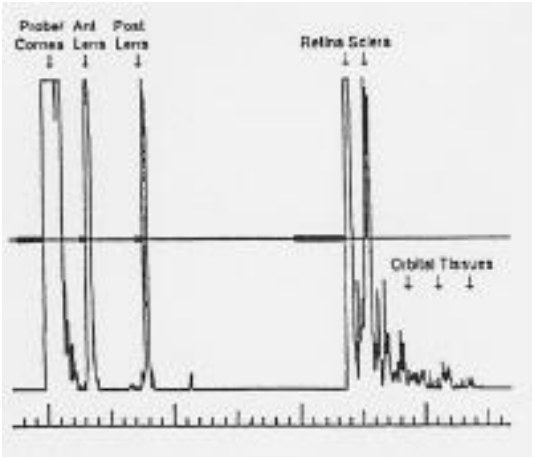
Because the Aladdin accurately measures the axial length of the eye it is called a “Biometer”.

Product Description

Axial length is the distance between the cornea and the **Inner Limiting Membrane** which is at center of the retina. The axial length can be measured by different methods:

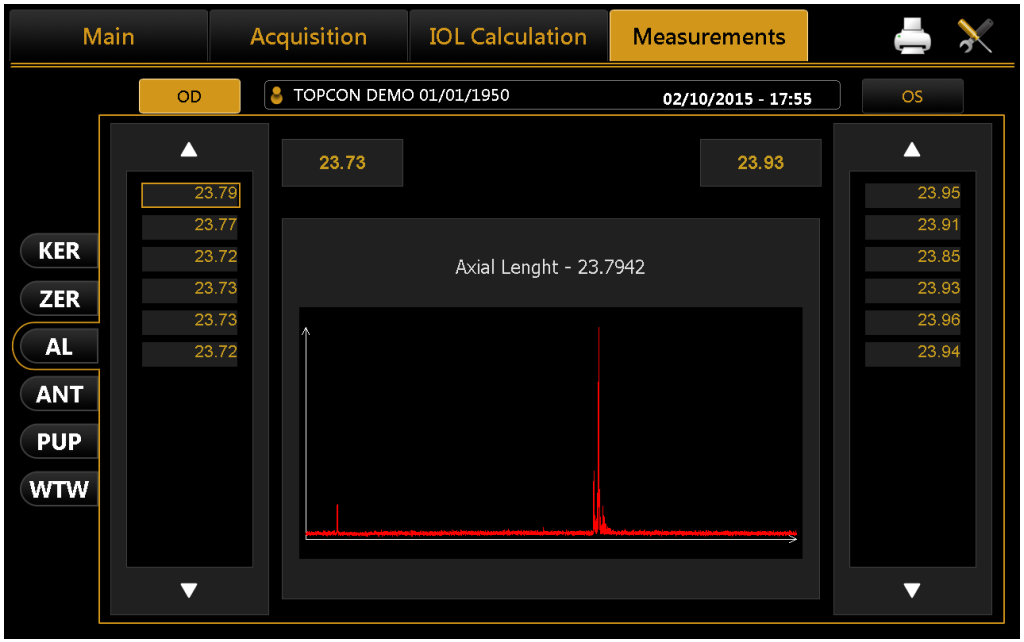
- ***Ultrasound*** (involves touching the cornea or placing a water container on the eye to measure through the liquid)
- ***Low coherence interferometry*** (does not touch the eye and it is faster and more accurate)





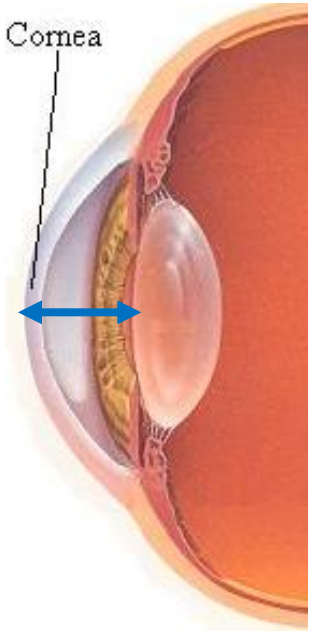
Product Description

The Aladdin HW3.0 uses a low-coherence interferometry system and a *super luminescent diode with a 830nm* wavelength that can measure through dense cataracts with a substantial noise reduction.



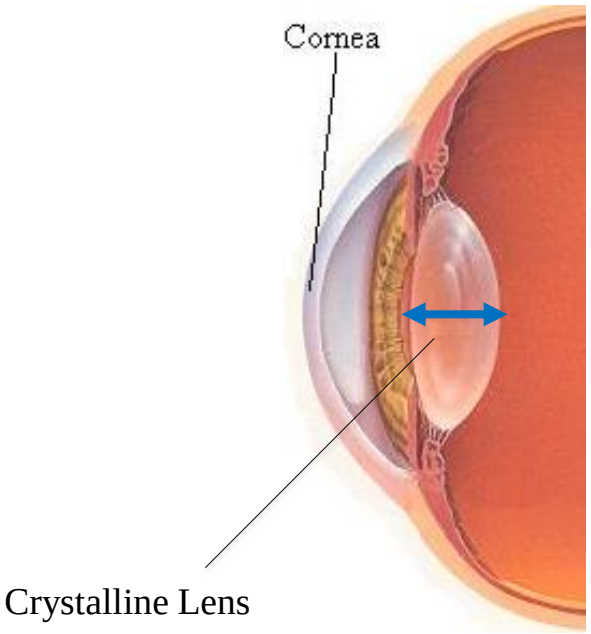
Product Description

Anterior Chamber Depth (ACD) is the distance between the anterior surface of the crystalline (anterior capsule) and the outermost stratum of the cornea (epithelium).



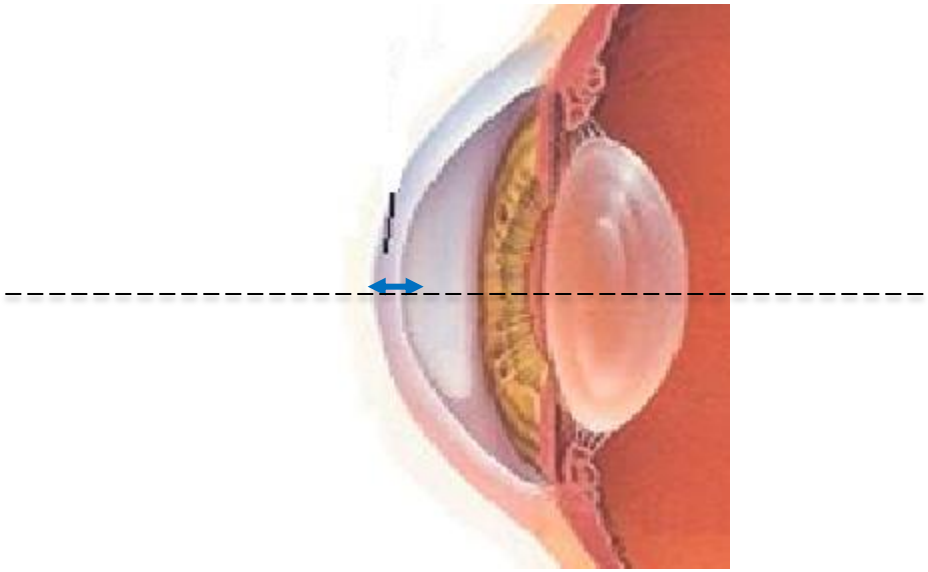
Product Description

Crystalline Lens Thickness (LT) is the distance between the anterior and posterior surfaces of the crystalline.



Product Description

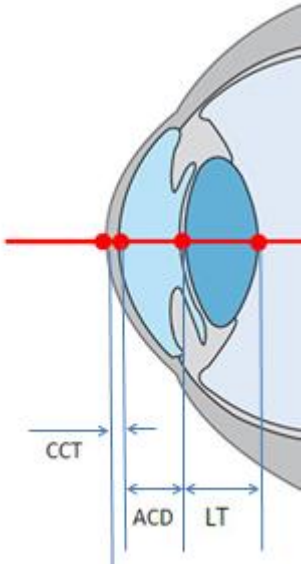
Central Corneal Thickness (CCT) is the distance between the epithelium, -or outermost layer of the cornea- and the endothelium –the innermost layer- measured at the center of the cornea or apex.

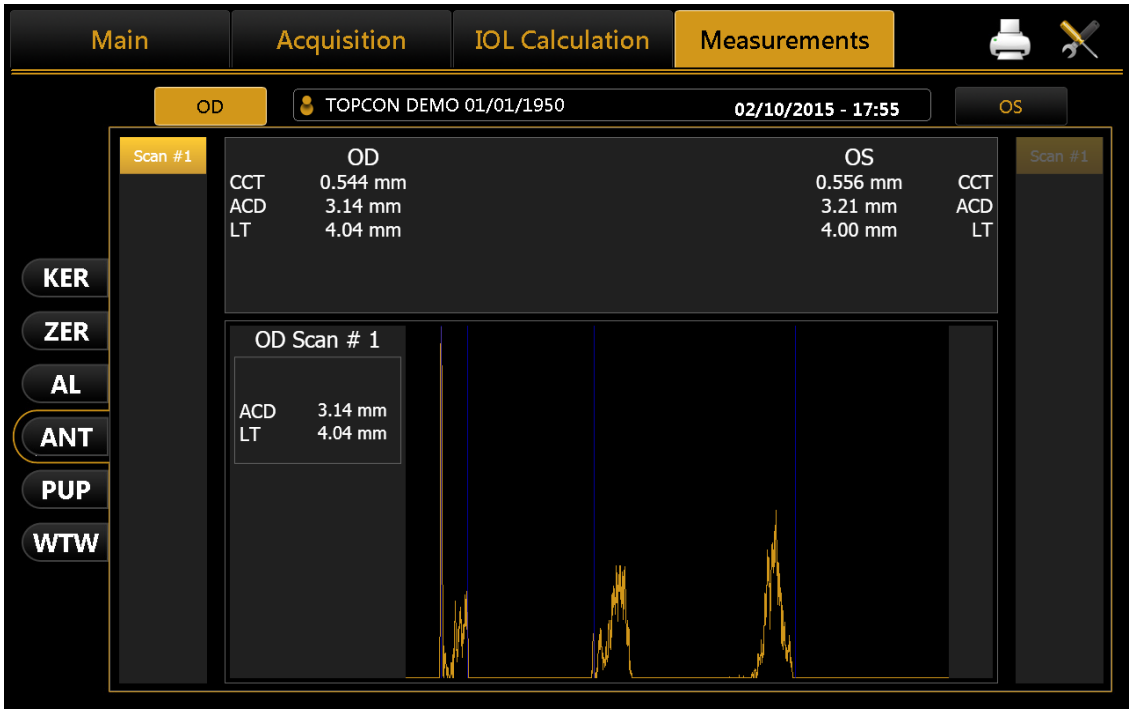


Central Corneal Thickness

Product Description

In the Aladdin HW3.0 Central Corneal Thickness, Lens Thickness and Anterior Chamber Depth are measured by low coherence interferometry





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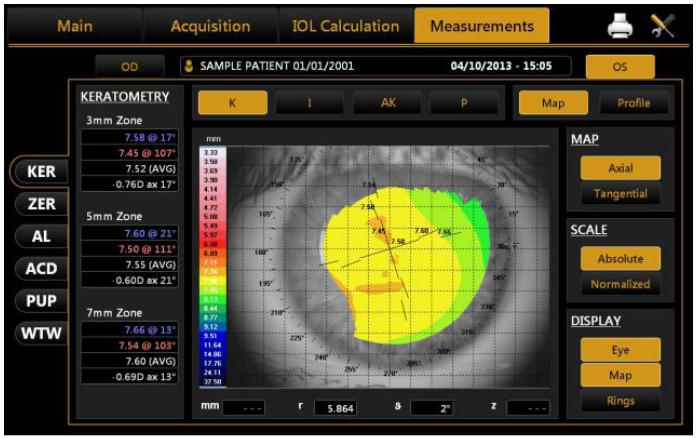
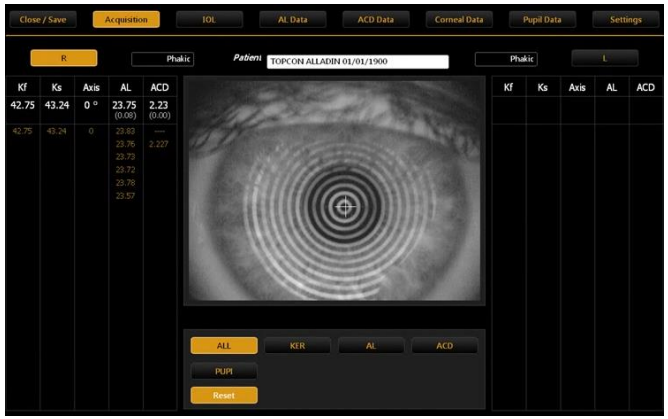
Product Description

Keratometry is used to measure the corneal curvature. It is based on the reflection of the Placido disk on the eye at a controlled working distance for measuring precision.





By using Placido disk based keratometry the Aladdin provides a more accurate placement of the horizontal (K1) and vertical (K2) axis. ***Additionally the Placido rings allow for 3-zone keratometry at 3, 5 and 7mm from the center of the cornea.***

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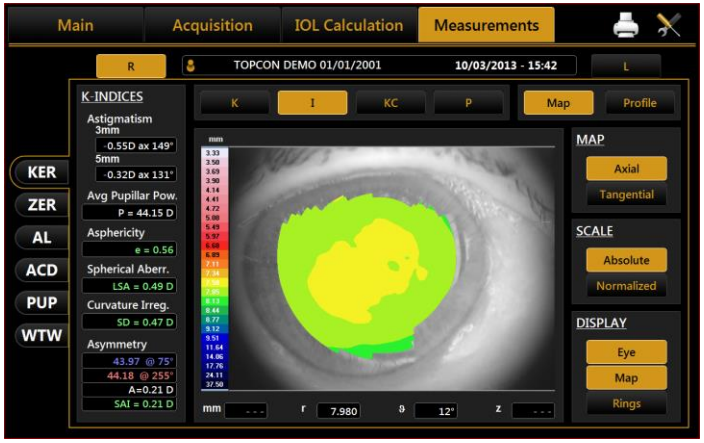
Product Description

Corneal Topography is the mapping of the anterior surface of the cornea to detect irregularities that may interfere with the vision.

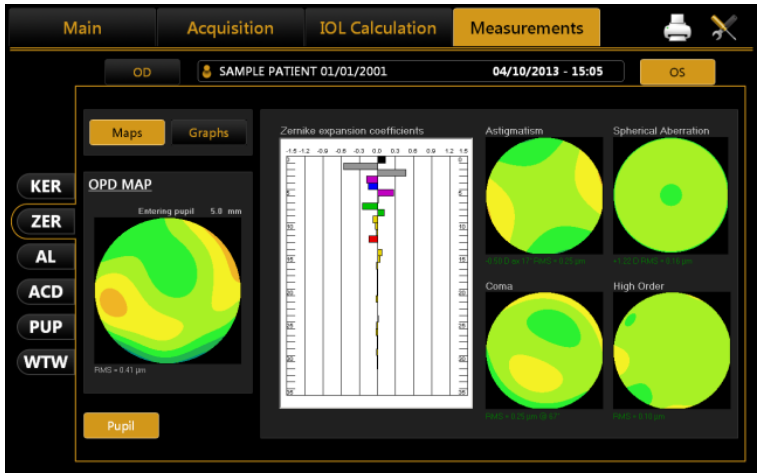


In the Aladdin the corneal map is obtained from the reflection of 24 rings of a Placido disk at a distance of 80 millimeters from the patient's eye. This provides over 6,200 measured points on the cornea and over 100.000 points analyzed by the software.

Product Description

Corneal Wavefront Analysis

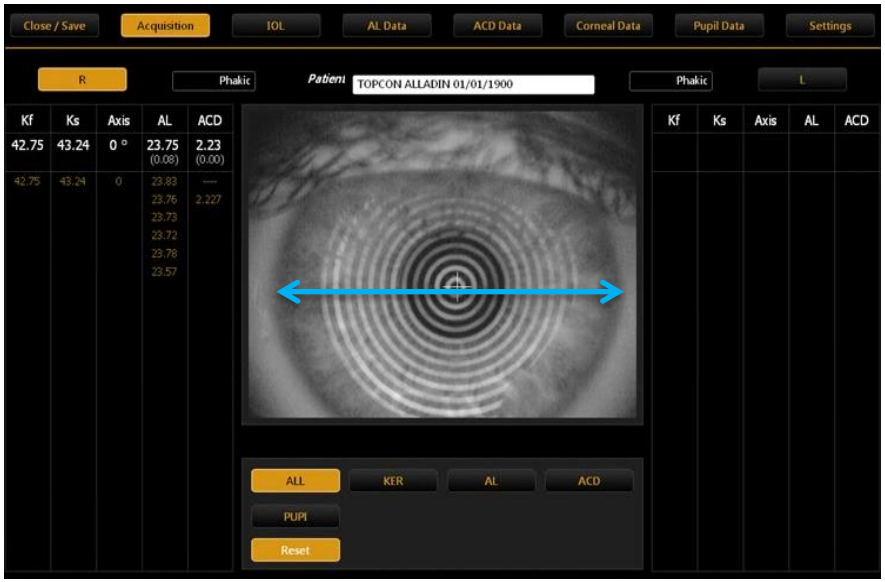
Using the Placido rings, the Aladdin performs a detailed wavefront analysis of the corneal surface showing corneal aberrations at different pupillary diameters.



When implanting certain types of premium IOL's, aberrations at different pupillary diameters are an important factor in the selection of the proper lens model and size.

Product Description

Corneal Diameter (White-to-White) With the acquisition of the corneal topography it is possible to determine the Corneal Diameter, also called "white- to- white" distance because it goes from one scleral border to the opposite. Being the sclera white in color, the distance is called “white-to-white”



White-to-white measurements are important in the calculation of anterior chamber IOL’s.

Product Description

Pupillometry is the measurement of the pupil diameter in daylight conditions (photopic) and nighttime conditions (scotopic or mesopic). The results indicate the maximum and minimum pupil diameters the patient's eye can reach under different illumination conditions.

In the Aladdin, pupillometry is performed with LEDs. The instrument uses infrared LEDs to allow the pupil to dilate (scotopic or mesopic) and white LEDs to reproduce light conditions (photopic) and to contract the pupil (dynamic pupillometry).

ALADDIN HW 3.0

Generic Toric IOL Calculator

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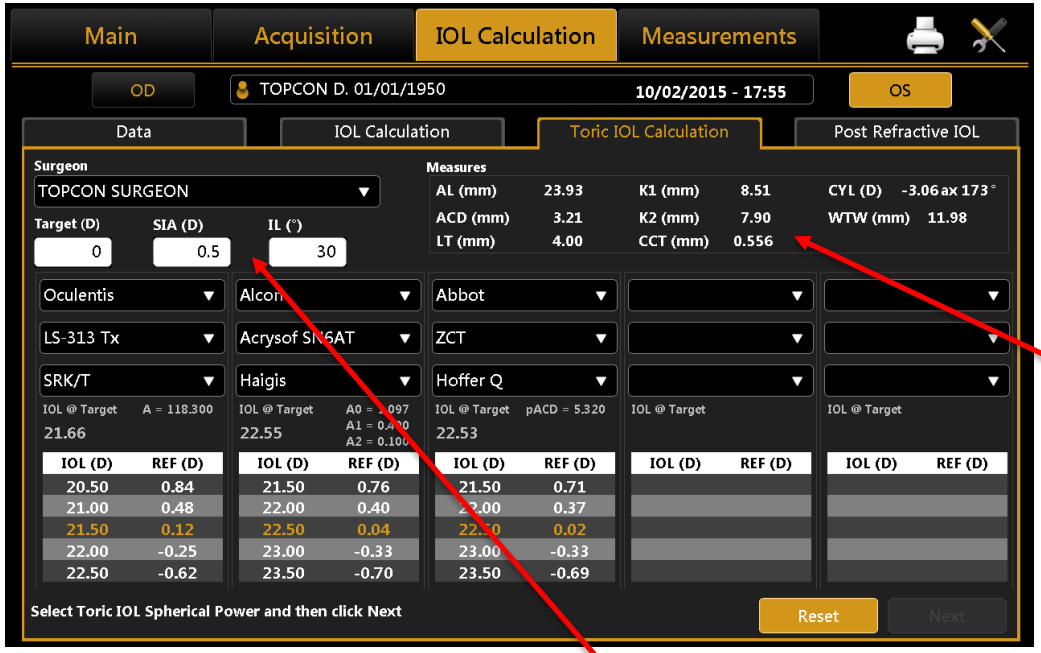
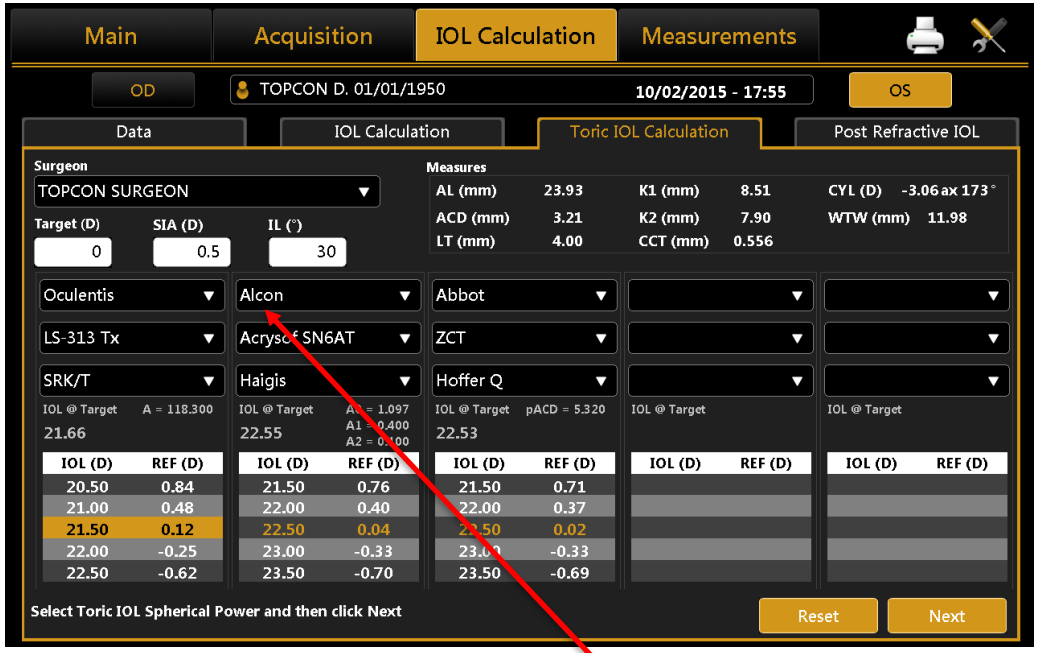
ALADDIN HW 3.0 – Generic Toric IOL Calculator



All the measurements are reported

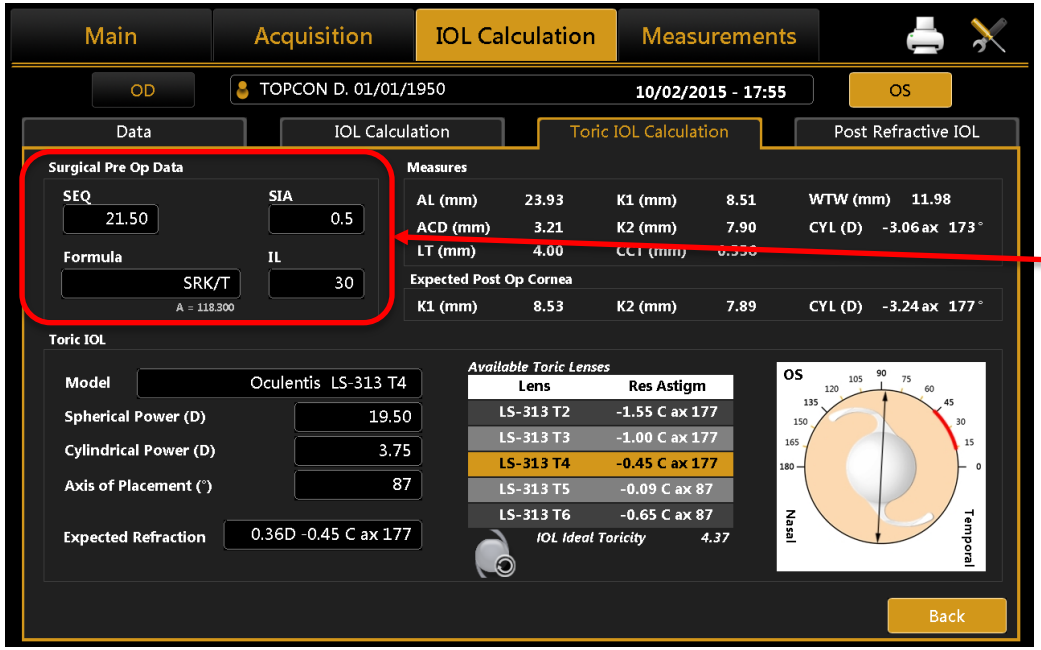
The Surgically Induced Astigmatism and the Incision Location are preset by the surgeon

ALADDIN HW 3.0 – Generic Toric IOL Calculator



Every toric IOL manufacturer can be selected for the calculation

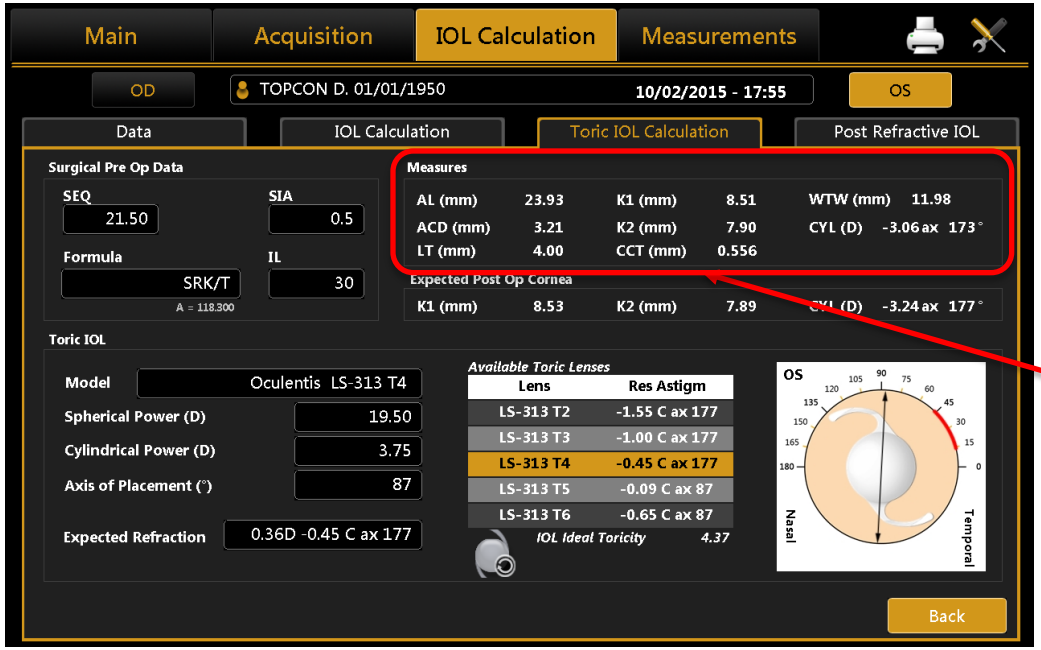
ALADDIN HW 3.0 – Generic Toric IOL Calculator



The summary of the toric IOL calculation is shown with all the data

Surgical Pre Op Data

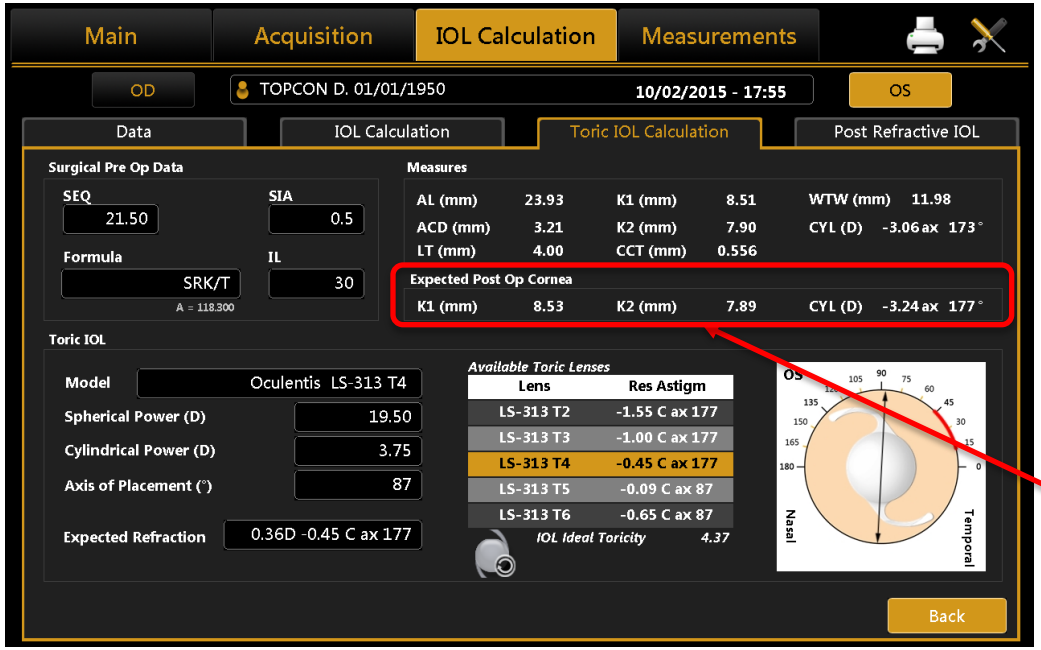
ALADDIN HW 3.0 – Generic Toric IOL Calculator



The summary of the toric IOL calculation is shown with all the data

Measurements data

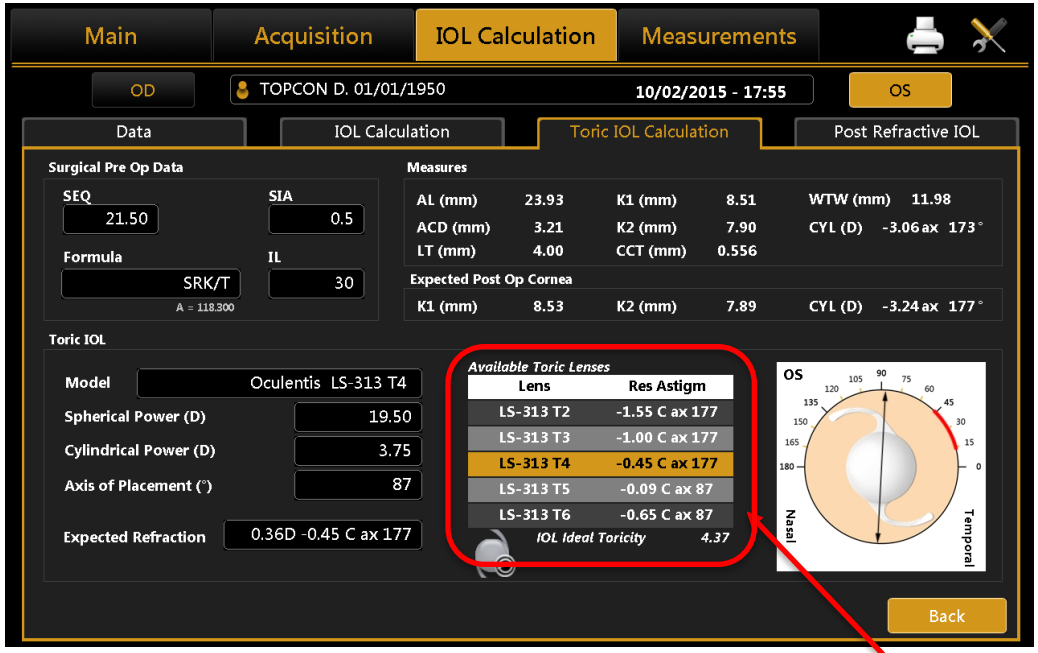
ALADDIN HW 3.0 – Generic Toric IOL Calculator



The summary of the toric IOL calculation is shown with all the data

Expected Post Op Cornea

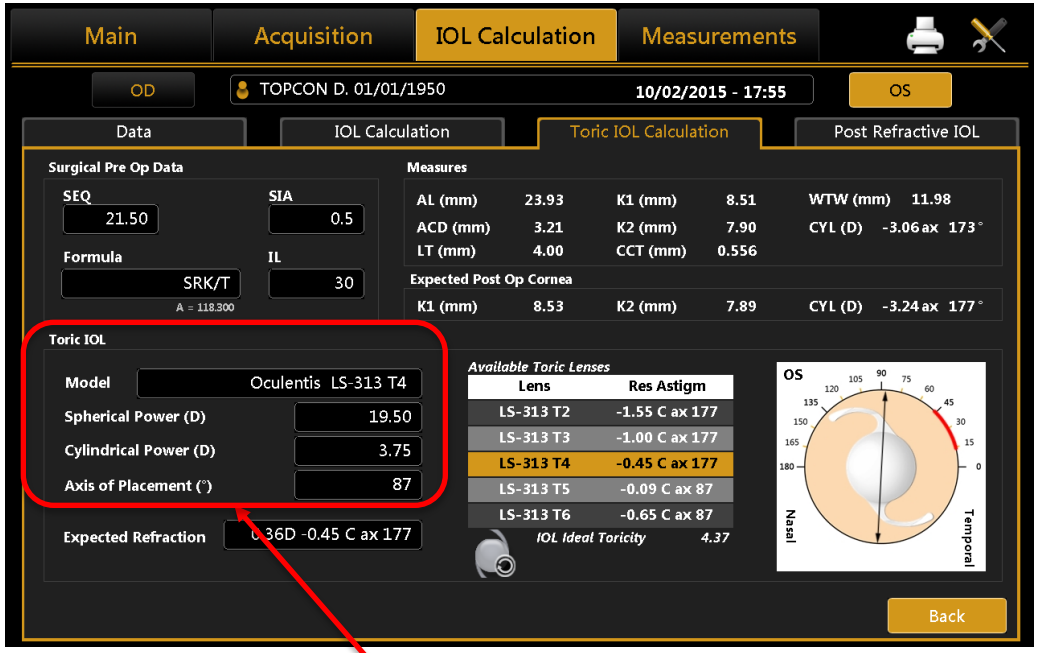
ALADDIN HW 3.0 – Generic Toric IOL Calculator



The summary of the toric IOL calculation is shown with all the data

Available IOL toricities

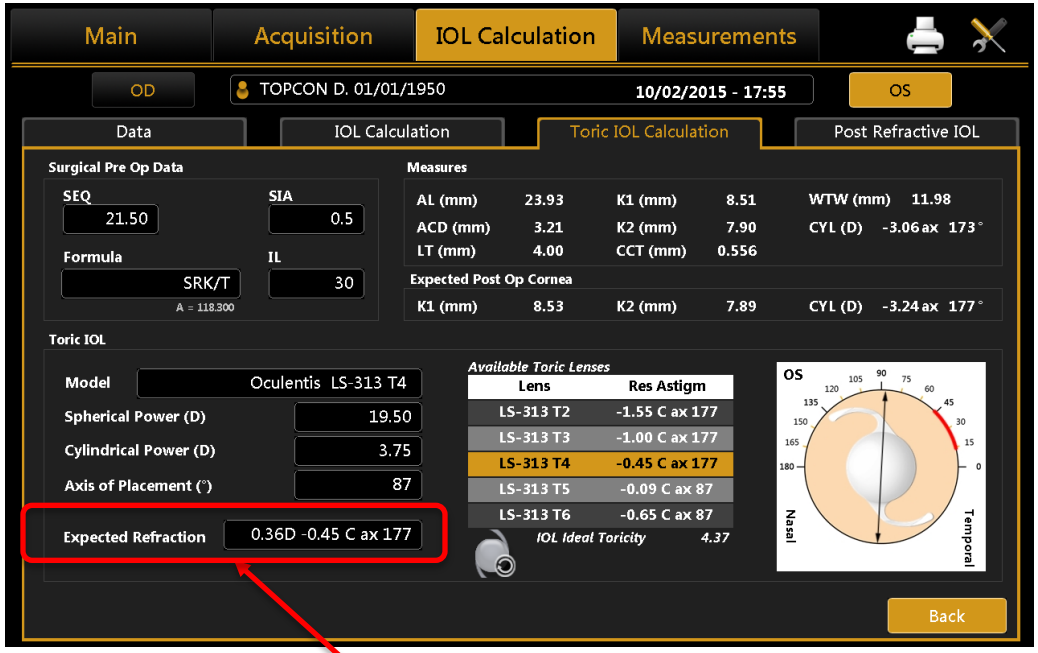
ALADDIN HW 3.0 – Generic Toric IOL Calculator



Toric IOL details

The summary of the toric IOL calculation is shown with all the data

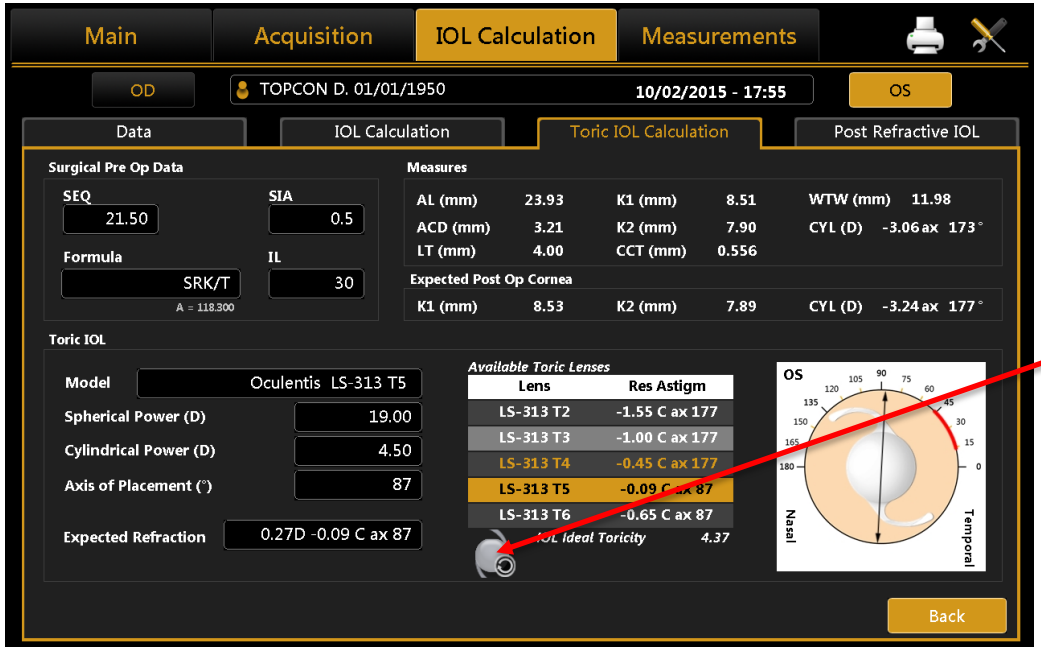
ALADDIN HW 3.0 – Generic Toric IOL Calculator



Expected Refraction

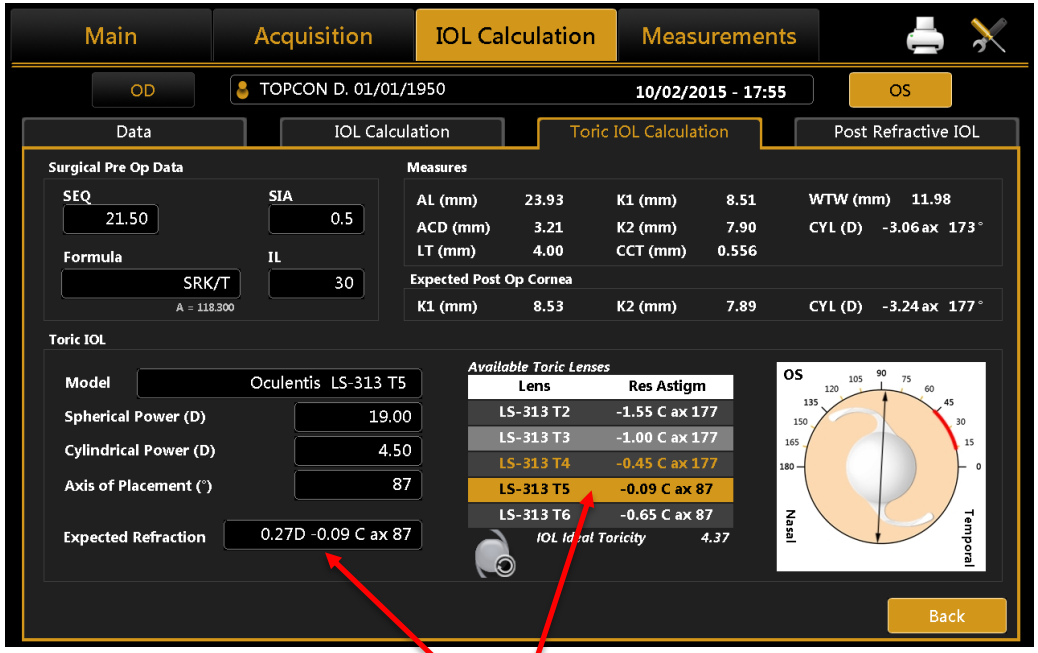
The summary of the toric IOL calculation is shown with all the data

ALADDIN HW 3.0 – Generic Toric IOL Calculator



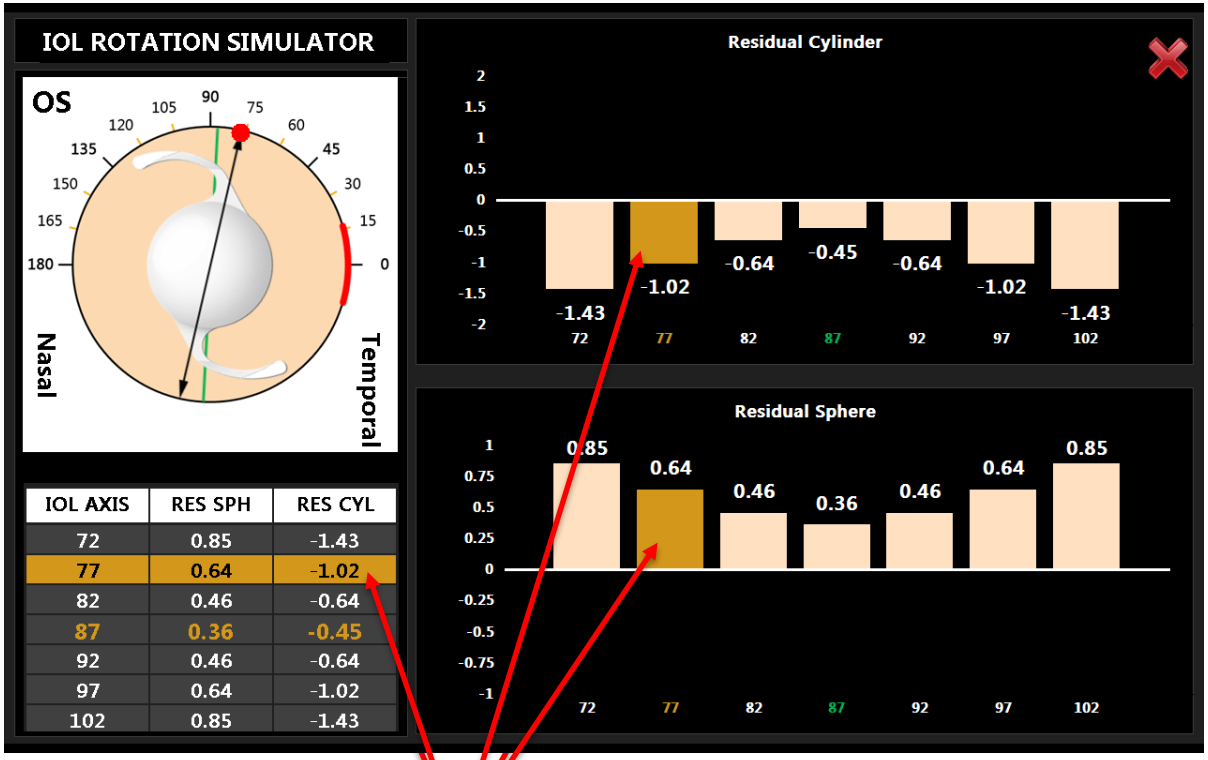
Click here for the IOL Rotation Simulator

ALADDIN HW 3.0 – Generic Toric IOL Calculator



Select a different lens toricity and check the expected refraction

ALADDIN HW 3.0 – Generic Toric IOL Calculator



IOL AXIS	RES SPH	RES CYL
72	0.85	-1.43
77	0.64	-1.02
82	0.46	-0.64
87	0.36	-0.45
92	0.46	-0.64
97	0.64	-1.02
102	0.85	-1.43

Each row represents 5 degrees of rotation of the IOL

CONCLUSIONS

- **Fully stand alone instrument with connectivity options**
- **Fast and easy to use**
- **High accuracy in biometry**
- **Measures axial length through dense cataracts**

- **Corneal Topographer Integrated**
- **Static and Dynamic Pupillometry**
- **A good guide for Premium IOL implantation**

Thank You

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