MOPTIM

Optical Biometer

Colombo IOL II

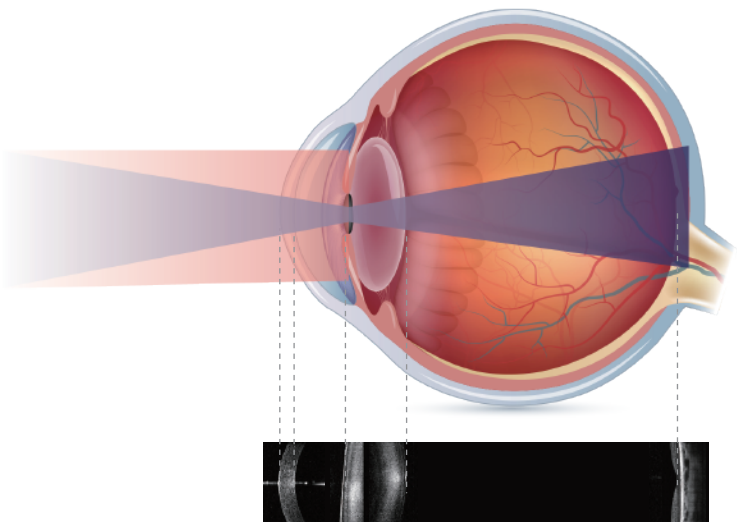
Discover New Frontiers in Optical Biometry with the

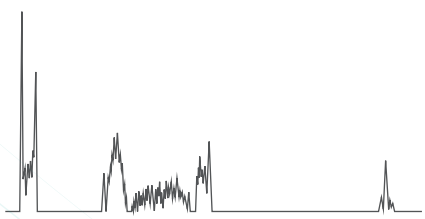
Patented Dual-path OCT Technology

Meet the Colombo IOL II, a pioneering optical biometry device featuring B-scan dual-path OCT technology. IIt simultaneously captures comprehensive biometric parameters such as keratometry, axial length, central corneal thickness, anterior chamber depth, lens thickness, pupil size, white-to-white, retinal thickness, vitreous chamber depth, choroidal thickness, and visual axis offset.

Moreover, it offers high-definition OCT imaging of the cornea and retina, facilitating real-time fixation check and enhancing pre-surgery screening.

Evolution of Optical Biometry Technology





A-scan Technology (PCI/OLCR)

- Imaging feature is unavailable
- Unable to conduct a fixation check

Colombo family Optical Biometers

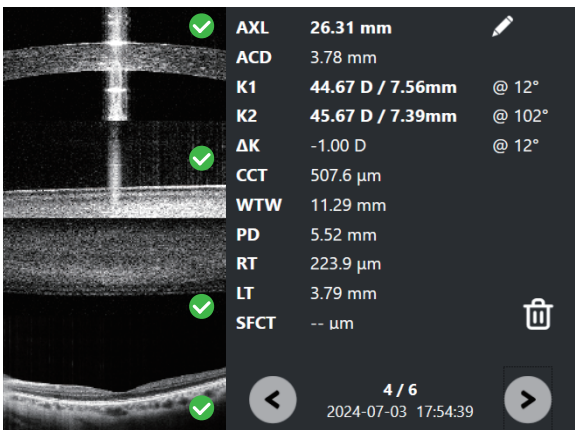
B-scan Dual-path Technology

- Simultaneous imaging of the cornea and retina
- Automatic real-time fixation check

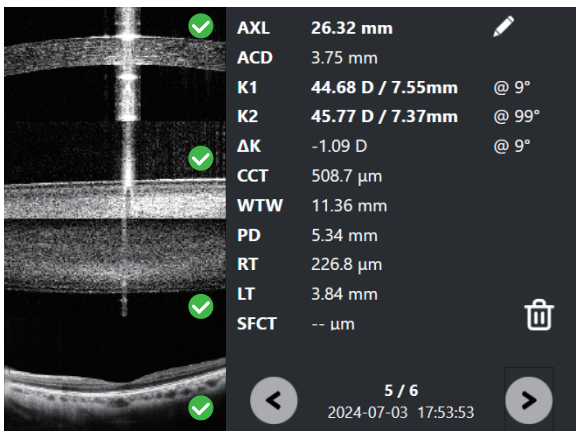
Impact of Fixation

Same eye being measured 4 times - good fixation brings consistent readings, while poor fixation can result in significant differences in measurements.

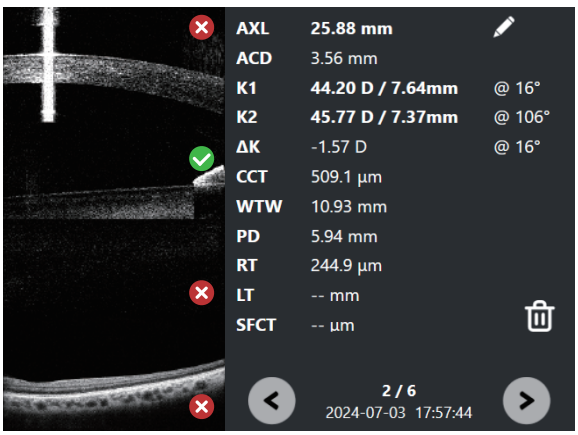
#1 Good fixation



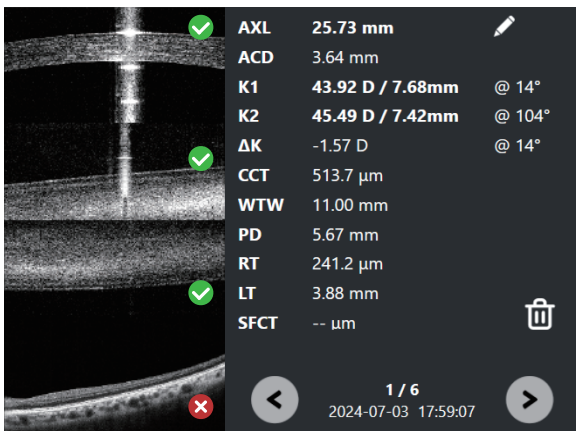
#2 Good fixation



#3 Poor fixation



#4 Poor fixation



Exceptional Clinical Repeatability

Ensured by Automatic Real-time Fixation check

The Colombo IOL II automatically initiates the scan upon detecting the corneal reflection and fovea at the center. This ensures reliable axial length measurements, minimizes errors due to poor fixation, and reduces the risk of post-surgery refractive surprises.

Designed for Dense Cataract and Complex Cases

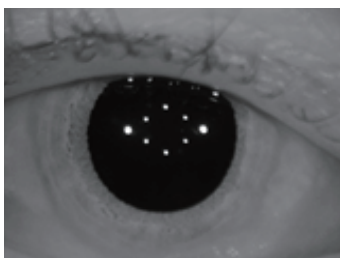
with a 1050nm Working Wavelength

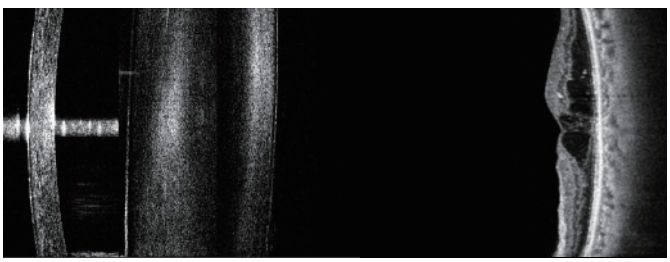
02

The 1050nm wavelength offers better penetration due to its reduced scattering and lower absorption by water, enabling clearer imaging of deeper ocular structures even in the presence of cataracts.

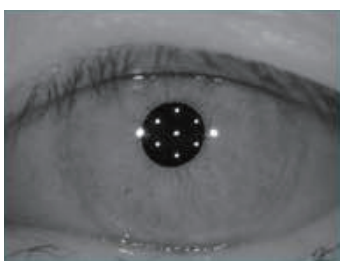
The ColomboIOL II, leveraging this technology, is especially suitable for complex cases like cataracts combined with retinal diseases, thanks to its capacity for detailed retinal OCT imaging.

Case 1: 55 yrs, OD, Grade 1 cataract

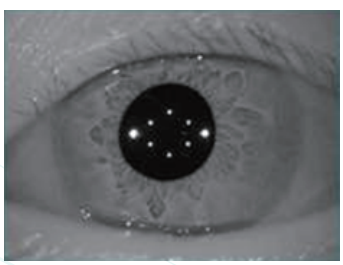


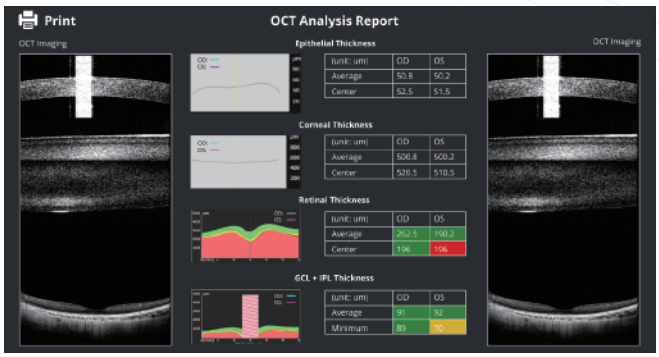


Case 2: 57 yrs, Grade 2 cataract

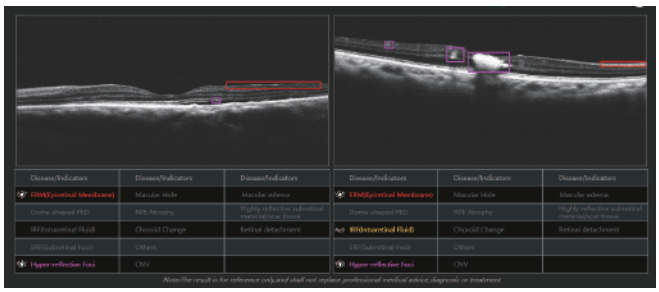


Case 3: 70 yrs, Grade 3 cataract

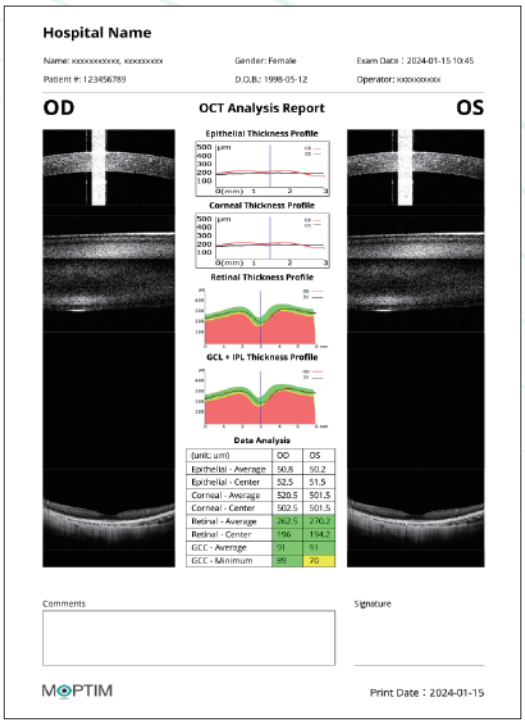




OCT Analysis Report



Smart Retina Assistant



OCT Analysis Report

Identify Hidden Retinal Issues for Safer Procedures with

Retinal Screening

The Colombo IOL II provides 6mm high definition retinal OCT imaging with superior penetration, perfect for pre-cataract surgery screening and choroidal thickness analysis. This cutting-edge technology enables clinicians to clearly visualize the retina, detect potential issues early, and plan surgeries more effectively for improved visual outcomes.

03

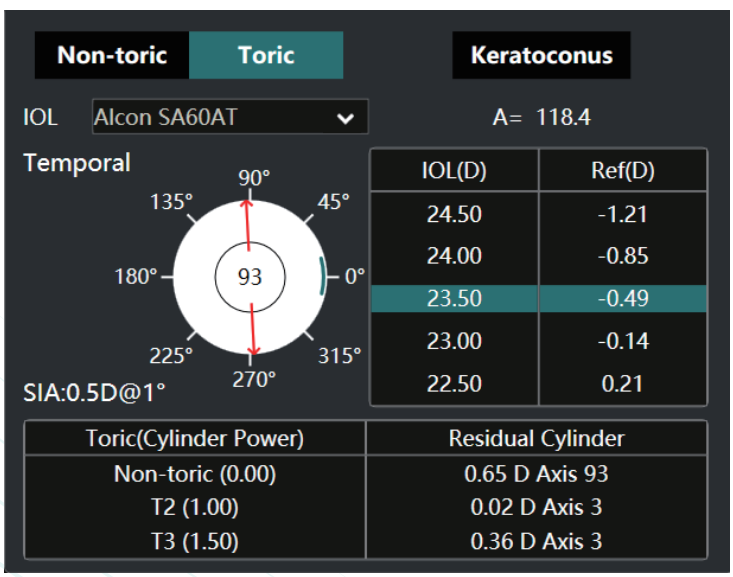
Built-in IOL Formulas

The Colombo IOL II integrates a wide range of formulas, such as the Kane Suite, Hoffer Q, SRK T, SRK II, Holladay I, Shammas, and Shammas-Cooke, ensuring precise customization and enhanced surgical outcomes.

Among these, the Kane formula stands out by combining theoretical optics, clinical data, and artificial intelligence to deliver highly accurate IOL power calculations.

Numerous clinical studies have demonstrated that the Kane formula outperforms other formulas in predicting postoperative refractive outcomes[1]. Additionally, research published in Clinical & Experimental Ophthalmology confirmed its superior accuracy in patients with keratoconus[2]. These advancements result in improved refractive outcomes and increased patient satisfaction.

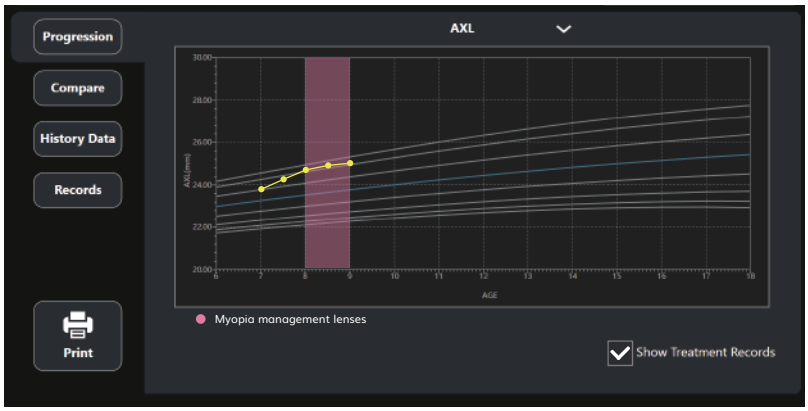
[1] Barrett, G., & Savini, G. (2020). Evaluation of new IOL power calculation formulas. Journal of Cataract & Refractive Surgery, 46(6), 868-872.
[2] Hill, W. E., & Koch, D. D. (2019). Evaluation of IOL power prediction accuracy in keratoconus patients. Clinical & Experimental Ophthalmology, 47(4), 414-420.



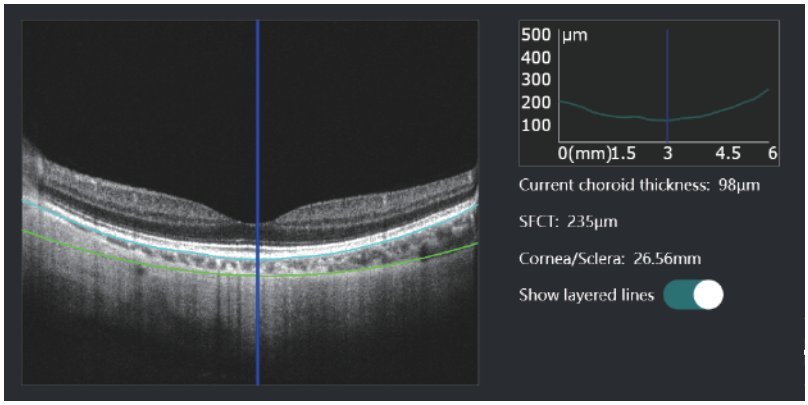
IOL Calculation Interface

Available Formulas:

Kane Standard
Kane Keratoconus
Kane Toric
SRK-T, SRK II
Holladay I
Hoffer Q
Shammas PL
Shammas PHL
Shammas-Cooke



Myopia Trend Analysis



Choroidal Thickness Evaluation

Advanced Myopia Management Solution with

Choroidal Thickness Evaluation

The Colombo IOL II provides complete myopia progression analysis software, assisting in the assessment of myopia management effectiveness.

Furthermore, the Colombo IOL II is unique as the only optical biometer to offer high-definition OCT imaging for evaluating choroidal thickness. This capability is essential for monitoring ocular health conditions, particularly in understanding the structural changes associated with myopia.

SPECIFICATIONS

MEASUREMENT RANGE	Axial Length	13.0 mm – 37.0 mm
	Corneal Thickness	0.2 mm – 1.4 mm
	Corneal Radii	28.1 D – 84.3 D
	Anterior Chamber Depth	1.3 mm – 4.7 mm
	Lens Thickness	2 mm – 5.15 mm
	Pupil Size	0.5 mm – 13.5 mm
	White-to-white	6 mm – 16 mm
DISPLAY SCALING	Axial Length	10 μm
	Corneal Thickness	0.1 μm
	Corneal radii	0.01 D
	Anterior Chamber Depth	10 μm
	Lens Thickness	10 μm
	Pupil Size	10 μm
	White-to-white	10 μm
TOLERANCE	Axial Length	±20 μm
	Corneal Thickness	±9 μm
	Corneal Radii	±0.25 D
	Anterior Chamber Depth	±0.05 mm
	Lens Thickness	±0.05 mm
	Pupil Size	±0.09 mm
	White-to-white	±0.1 mm
OCT IMAGING	Central Wavelength	850 ± 20 nm
	Resolution	5 μm
	Scan Range	4 mm
SOFTWARE	Myopia Trend Analysis	Yes
	Choroidal Evaluation	Yes
	OCT Analysis	Yes
	Visual Axis Offset	Yes
	IOL Formulas	Kane Suite, SRK II, SRK-T, Holladay I, Hoffer Q, Shammas PL, Shammas PHL, Shammas Cooke
MACHINE SPECIFICATIONS	Acquisition	Auto / Manual
	Power	AC 100-240V, 50/60Hz, 180VA
	Dimension	500 (L) x 320 (W) x 470 (H) mm
	Weight	19.7 kg
	LCD Screen	10.1 inch touch screen

* Specifications are subject to change without notice.

MOPTIM®

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