optovue

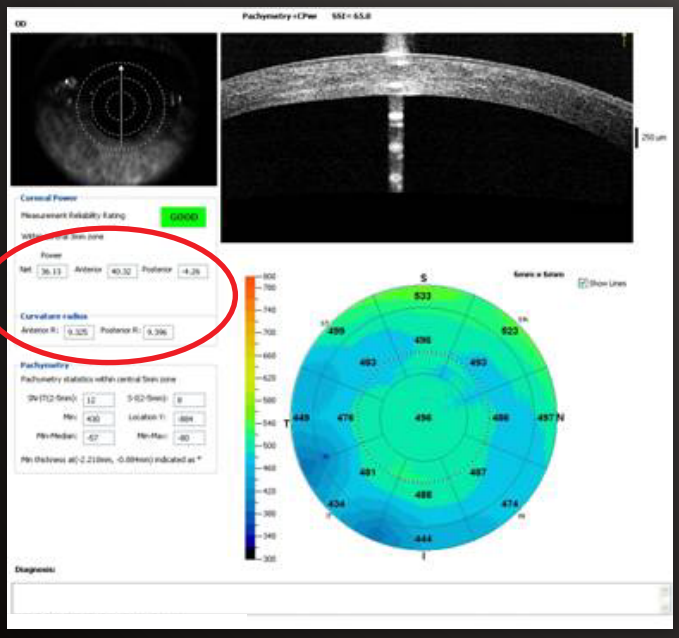
DEFINING THE OCT REVOLUTION

TCP™ Total Corneal Power

New Confidence for Post-Refractive Patients

"In my experience, the accuracy of the FD-OCT IOL power calculation method is higher than with any other tool available, making it an integral part of my preoperative diagnostic testing in cataract eyes that have previously undergone refractive laser surgery."

Erik L. Mertens, MD, FEBOphth



"RTVue Total Corneal Power measurement has excellent repeatability, 0.17 D STDev on the post-lasik/PRK patient."

Baikoff, G. "CLINICAL APPLICATION OF OCT IMAGING IN THE ANTERIOR SEGMENT", Centre de Chirurgie du Segment Antérieur, Clinique Monticelli, Marseille, France, For the Cornea Didactic Course ESCRS summer meeting 2011

INPUT VARIABLES

ACD - Anterior Chamber Depth

AL - Axial Eye Length

→ Biometer

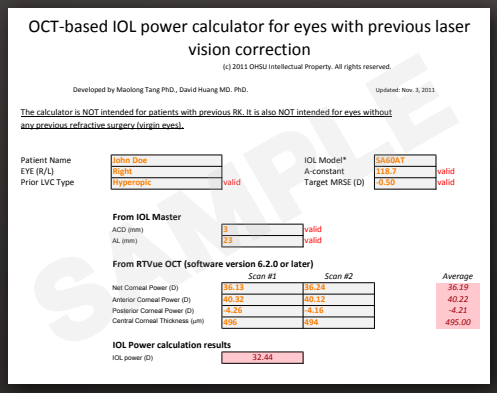
Net Corneal Power

Anterior Corneal Power

Posterior Corneal Power

Central Corneal Thickness

→ RTVue w/ TCP



OCT-based IOL power calculator for eyes with previous laser vision correction

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Developed by Maolong Tang PhD., David Huang MD. PhD. Updated: Nov. 3, 2011

The calculator is NOT intended for patients with previous RK. It is also NOT intended for eyes without any previous refractive surgery (virgin eyes).

Patient Name	John Doe		IOL Model*	SA60AT
EYE (R/L)	Right		A-constant	118.7 valid
Prior LVC Type	Hyperopic	valid	Target MRSE (D)	-0.50 valid

From IOL Master

ACD (mm)	3	valid
AL (mm)	23	valid

From RTVue OCT (software version 6.2.0 or later)

	Scan #1	Scan #2	Average
Net Corneal Power (D)	36.13	36.24	36.19
Anterior Corneal Power (D)	40.32	40.12	40.22
Posterior Corneal Power (D)	-4.26	-4.16	-4.21
Central Corneal Thickness (µm)	496	494	495.00

IOL Power calculation results

IOL power (D): 32.44

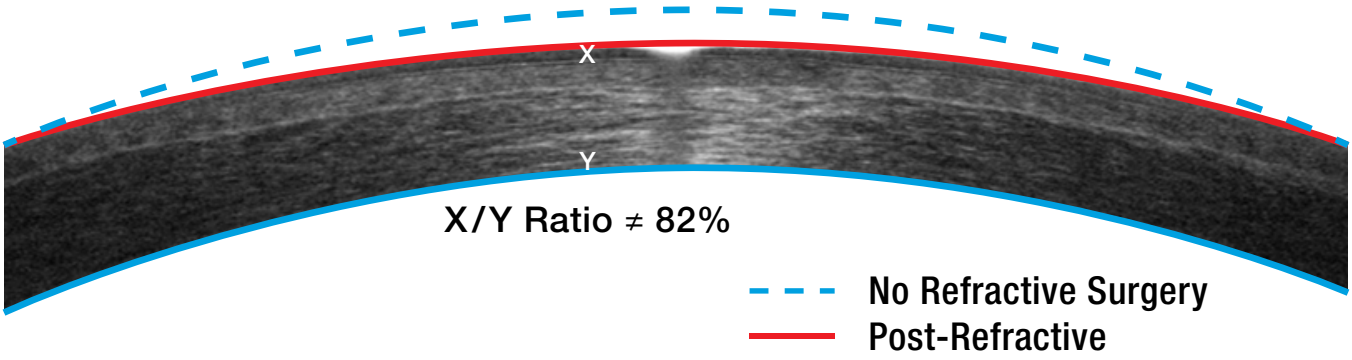
SAMPLE

Note: RTVue TCP values are not interchangeable with K values for other formulas. See page 3 for a full-size report.

GET THE OCT-BASED IOL POWER CALCULATOR HERE:

www.coollab.net/index.php?id=852

Cataract Surgery and the refractive patient



PROBLEM:

- Post refractive patients, especially those choosing premium IOL's, are increasing in number and are challenging as they have higher expectations.
- K-values from keratometry, IOL Master and topography on post refractive patients are difficult due to the fact that these instruments only measure the front corneal surface and use the ratio of 82% to assume the back surface. In post refractive patients, this ratio may no longer be valid and could lead to post operative surprises.
- Scheimpflug imaging systems directly capture front and back measurements however the slow capture speed, 15 micron resolution (versus 5 micron for SD-OCT), and fluctuating angle of capture make addressing post refractive patients problematic.

SOLUTION: RTVue with Total Corneal Power (TCP™)

- Unique in the market - The only SD-OCT that provides corneal power to date
- Directly measures the anterior and posterior surface of the cornea – no assumed ratio
- 5 micron resolution
- Excellent repeatability*

*Baikoff, G. "CLINICAL APPLICATION OF OCT IMAGING IN THE ANTERIOR SEGMENT," Centre de Chirurgie du Segment Antérieur, Clinique Monticelli, Marseille, France, For the Cornea Didactic Course ESCRS summer meeting 2011

Sample OCT-Based IOL Power Calculator

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Central Corneal Thickness (μm)	496	494	*495.00*

IOL Power calculation results

IOL power (D)	32.44

*The calculator was tested on the following IOL models: Alcon SA60AT (A-constant = 118.7), SN60WF (A-constant = 118.9), SN6AT4 (A-constant = 119.2), and AMO ZA9003 (A-constant = 118.9). This IOL formula is provided to aid other investigators in the replication of our published results. The authors do not warrant that the formula will work as well for others. Additional information at :

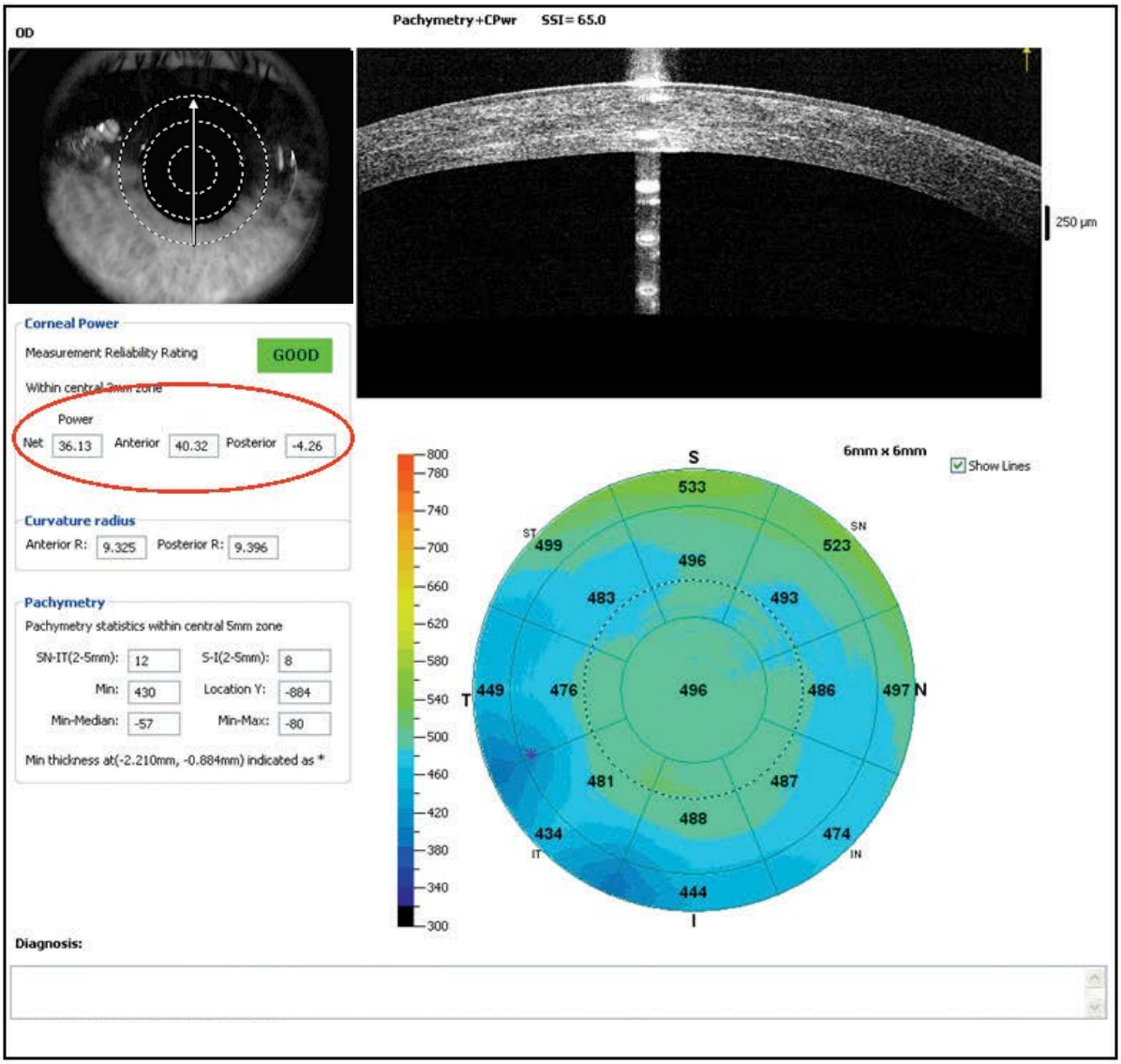
1. Tang M, Wang L, Koch DD, Li Y, Huang D, Intraocular lens power calculation after previous myopic laser vision correction based on corneal power measured by Fourier-domain optical coherence tomography, Journal of Cataract & Refractive Surgery, in press;

2. Tang M, Wang L, Koch DD, Li Y, Huang D, Intraocular lens power calculation after myopic and hyperopic laser vision correction USING optical coherence tomography, Saudi Journal of Ophthalmology, in press

RTVue TCP Report

> *Utilization of TCP provides an important and novel piece to the puzzle in obtaining accurate biometry. This is particularly crucial in eyes that have had prior corneal procedures including refractive procedures such as LASIK. Incorporating this measurement into IOL selection has given me additional assurance of proper lens selection.*

Jason Bacharach, MD
Director of Research at North Bay Eye Associates
California Pacific Medical Center, Vice-Chair of Glaucoma Division, San Francisco / Petaluma Valley Hospital



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