

NEW

iTracking™

REVO NX  
130

THE LATEST OCT STANDARDS

AS SIMPLE AS PRESSING *the start button*



**OPTOPOL**  
technology

# REVO *Evolution continues*

Optopol engineering team, the designers of the first commercially available Spectral Domain OCT in the world, are proud to present the latest innovation, the world's first B-OCT and T-OCT for standard posterior OCT. Our supreme experience in Spectral Domain OCT allows us to provide the market with a state of the art instrument which comes with new advanced technologies and remarkable simplicity of operation.

The latest software release sets up new demands for daily OCT routine in a modern ophthalmic practice. The new modules expand the diagnostic range of OCT by the addition of Posterior and Anterior segment, Corneal topography and Optical biometry with minimum patient fatigue and chair time.

## New OCT standard - all functionality in one device

Once again REVO NX goes beyond the limits of standard OCT. With its new software, REVO NX provides a full functionality scanning from the retina to the cornea. It brings benefits by combining the potential of several devices. With just one REVO NX device you can measure, quantify, calculate and track changes from the cornea to the retina over time.

## OCT made simple as never before

Position the patient and press the START button to acquire examinations of both eyes. The REVO NX guides the patient through the process with vocal messages to increase comfort and reduce patient chair time. Short scanning time means less fatigue for the patient. The ability to create customized scanning protocols of different diagnostic scenarios speeds up the workflow.

## A perfect fit for every practice

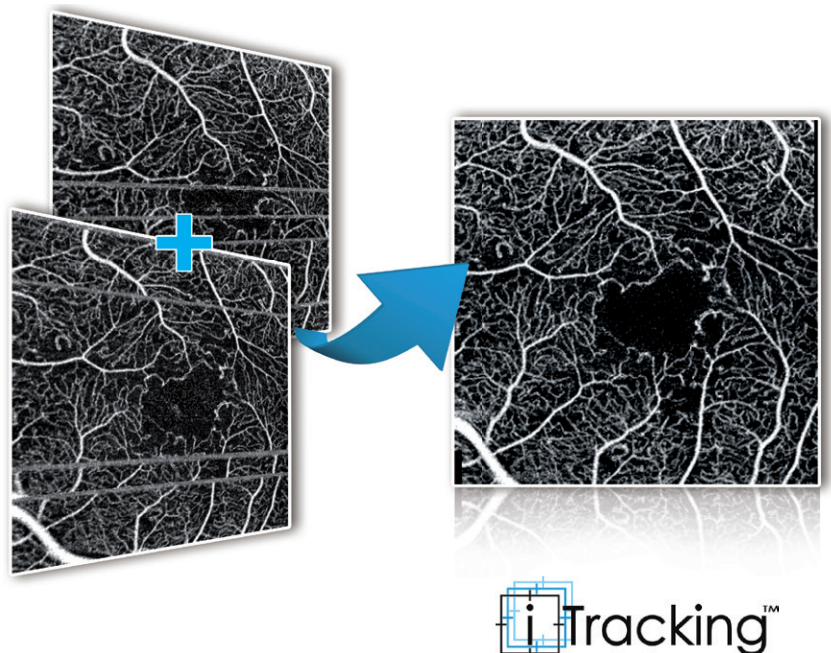
With a small system footprint and access for both the operator and the patient needed from only one side, space saving is further enhanced. And with a single cable connection the REVO NX can easily fit into the smallest of examination rooms. REVO's variety of examination and analysis tools enable it to function effortlessly as a screening or advanced diagnostic device.

## Enhanced vitreous and choroidal details

Enhanced visualization of vitreous and choroid helps to verify the condition below and above the patient's retina faster and easier. The Caliper tool allows to quantify Choroidal thickness. Enhanced scanning mode improves penetration through choroid or reveal fine vitreous details.

## i-Tracking™

i-Tracking™ technology compensates involuntary eye movements and blinks. In Angio OCT mode, each anatomical region is acquired twice automatically. The system immediately creates an artifact-free MC examination using the Motion Correction Technology™. The elimination of eye movement and blinking artifacts ensures the highest resolution of Angio OCT images without patient inconvenience. Clear OCT-A data set makes it easier to interpret the condition of the retina vasculature.

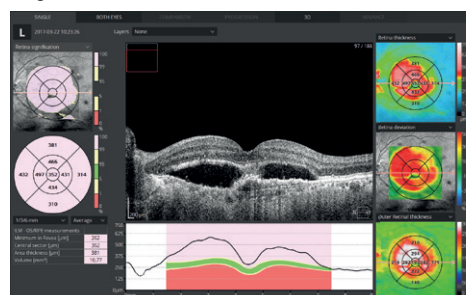




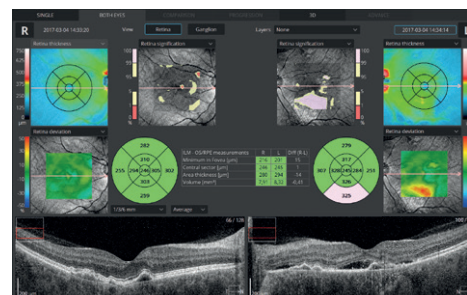
## RETINA

A single 3D Retina scan performs both Retina and Glaucoma analysis. The software automatically recognizes 8 retinal layers which assists with precise diagnosis and mapping of any changes in the patient's condition. A variety of result analysis and presentation methods allows the most suitable selection to increase efficiency.

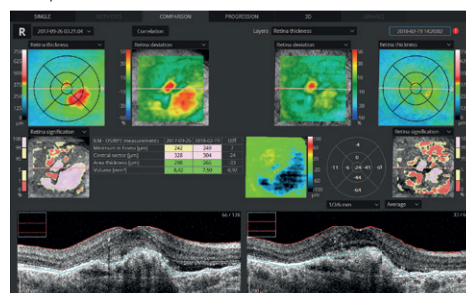
Single



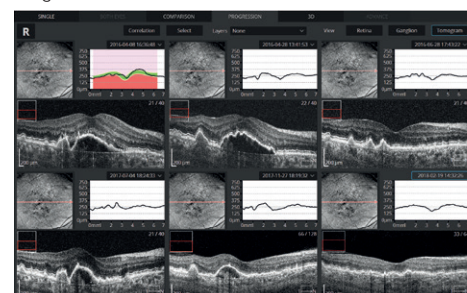
Both



Comparison



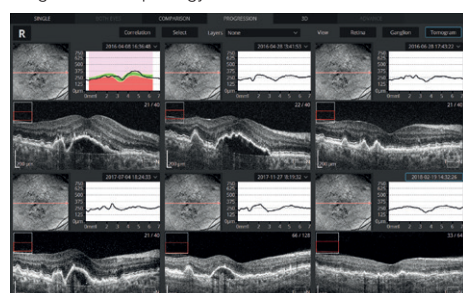
Progression



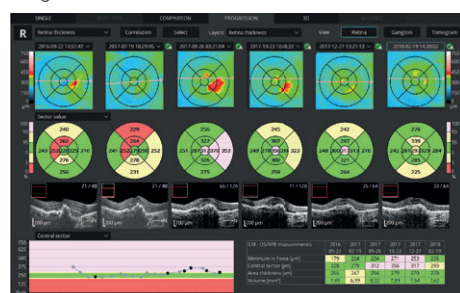
## FOLLOW UP

REVO's standard high density scanning capability and blood vessel structure recognition enable a precise alignment of past and current scans. The operator can analyse changes in morphology, quantified progression maps and evaluate the progression trends.

Progression Morphology



Progression Quantification

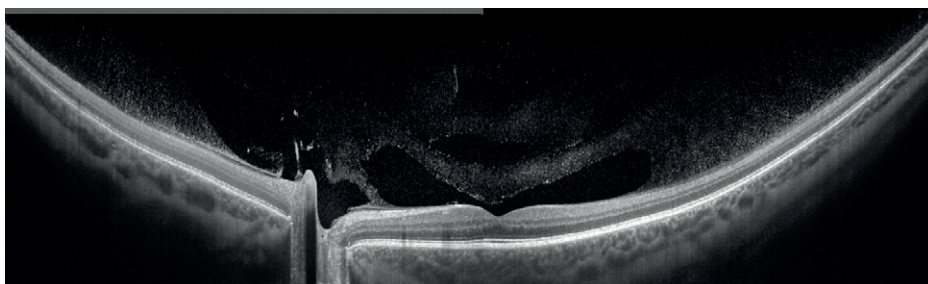
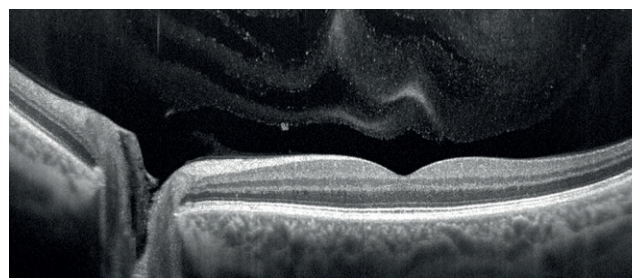
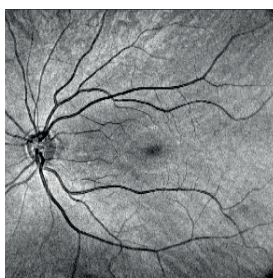


## WIDEFIELD SCAN

12x12 mm Widefield Central scan is perfect for fast and precise screening of the patient's retina. Dense scanning in high resolution tomograms guarantees the discovery of most of the early changes.

Peripheral scanning can reveal diseases in the far periphery.

Easy fixation changing supported by Auto Position Correction - APC™ makes the Periphery alignment quick and precise.



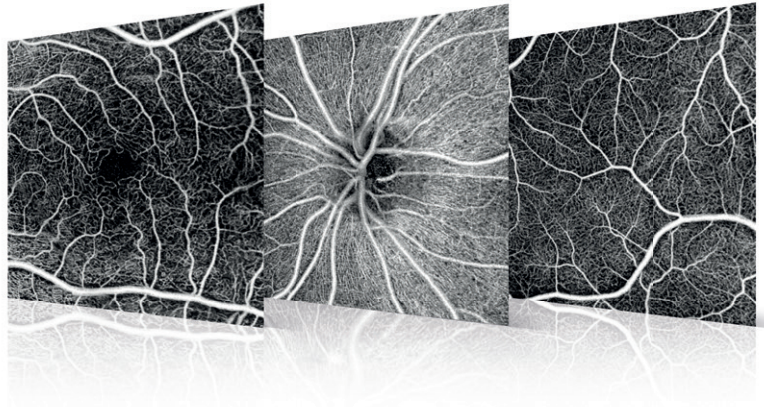
Combined view of two examinations of peripheral scan 12 mm + 12 mm. Done in external software.



## ANGIOGRAPHY SOCT<sup>1</sup>

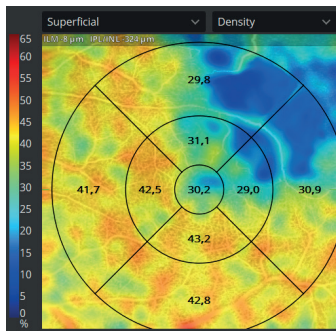
This non-invasive dye free technique allows the visualization of the microvasculature of the retina. Both blood flow and structural visualization give additional diagnostic information about many retinal diseases. Angiography scan allows assessment of the structural vasculature of the macula, the periphery or the optic disc. Extremely short scanning times of 1,6 seconds in standard resolution or 3 seconds in high resolution.

Now Angiography OCT can become a routine in your diagnostic practice.

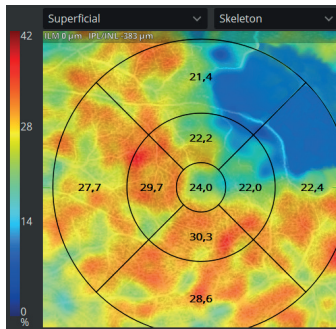


## ANGIO ANALYSIS METHODS

Vessel Density Map



Skeleton Density map



### QUANTIFICATION

The quantification tool provides quantification of the vasculature in the whole analyzed area together with values in specific zones and sectors.

Thanks to the heat map of the analyzed vasculature the evaluation of vascular structure conditions is much faster.

The choice of the quantification method increases the sensitivity of analyses for specific diseases.

Available quantification methods:

- Vessel Area Density - it is defined as the total area of perfused vasculature per unit area in a region of measurement.
- Skeleton Area Density - it is defined as the total area of skeletonized vasculature per unit area in a region of measurement.

Quantification is available for a specific layer in Angio OCT exam:

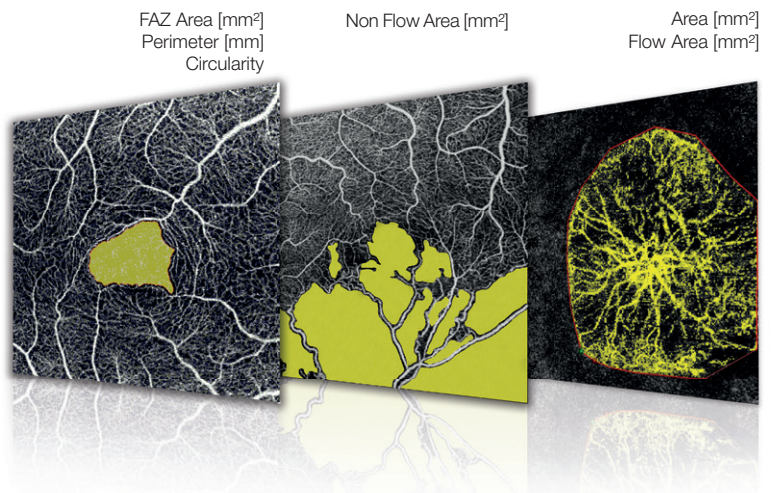
- Retina: Superficial Plexus and Deep Plexus
- Disc: RPC - Radial Peripapillary Capillary

## ANGIO-ANALYTICAL TOOLS

FAZ – Foveal Avascular Zone measurements enable quantification and monitoring of changes in Superficial and Deep vascular layers. FAZ tool is also available for narrow and wide scans.

VFA – Vascular Flow Area allows examination of pathologically affected area and measuring precisely the area covered by vascularization. The user can easily measure area on a predefined or own selected vascular layer.

NFA – Non Flow Area measurement tool makes it possible to quantify the Non Flow Area on the OCT Angio examination. It provides the sum of all marked areas.



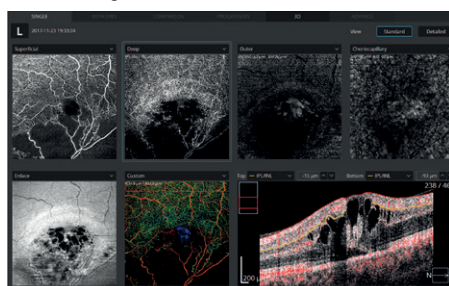
<sup>1</sup> an optional software module



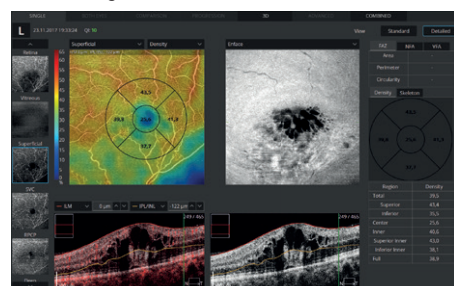
## A COMPLETE SET OF ANGIO OCT ANALYSIS VIEWS

The software allows user to observe, track and compare changes in the microvasculature of the retina in both eyes.

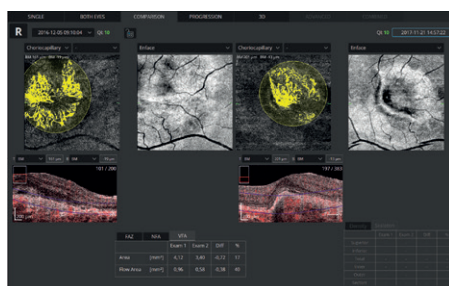
Standard Single View



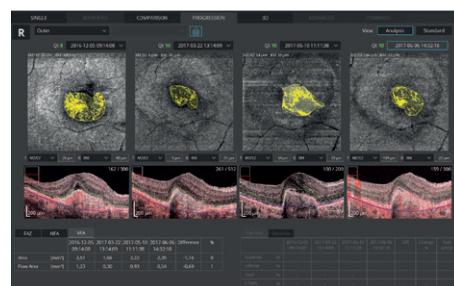
Detailed Single View



Comparison



Progression

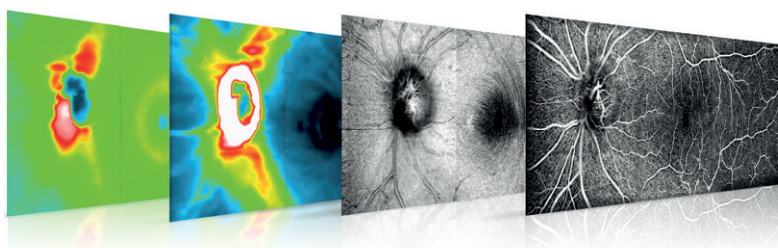


## ANGIOGRAPHY MOSAIC<sup>1</sup>

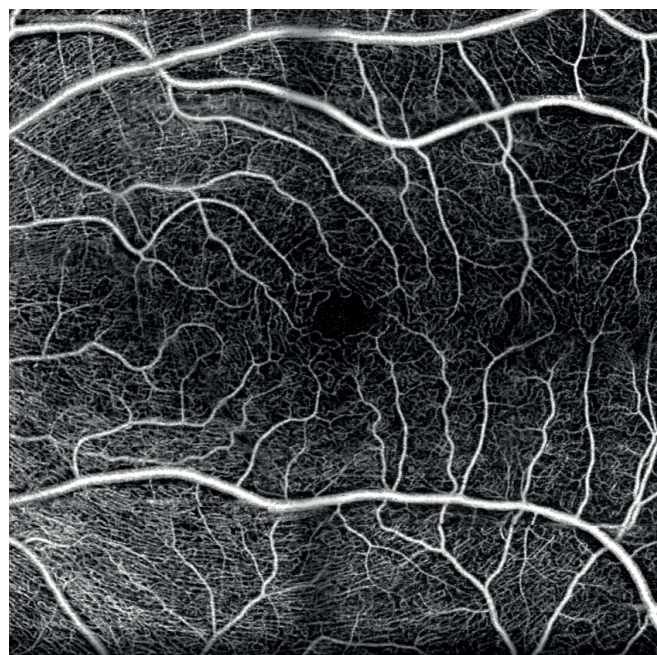
The Angiography mosaic delivers high-detail images over a large field of the retina. Available modes present a predefined region of the retina in a convenient way.



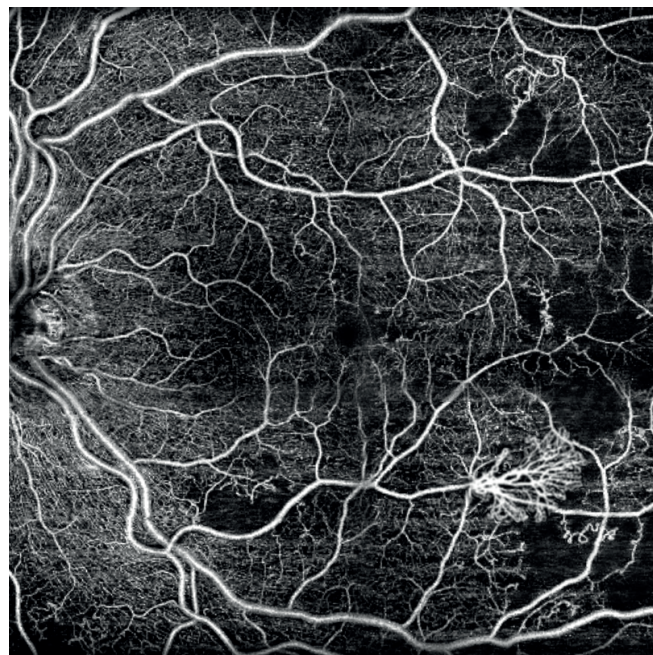
In manual mode it is possible to scan the desired region. Built-in analytics allow the user to see vascular layers, enface or thickness maps.



Healthy patient, Angio Mosaic mode: 7x7 mm



PDR, Angio Mosaic mode: 10x10 mm



\*Images courtesy of Bartosz L. Sikorski MD, PhD

<sup>1</sup> an optional software module



# REVO *lution continues*

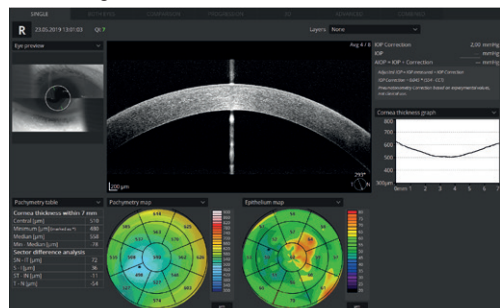
## ANTERIOR

For a standard anterior examination, an additional lens or attachment is not required. This allows examiner to quickly complete the scanning procedure.

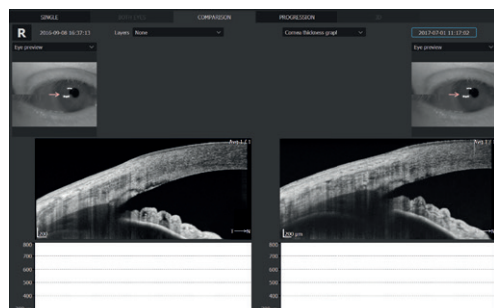
Presentation of the results for both eyes allows quick and precise evaluation of the condition of the patient's anterior segment.

Epithelium and Pachymetry maps are included in the standard package.

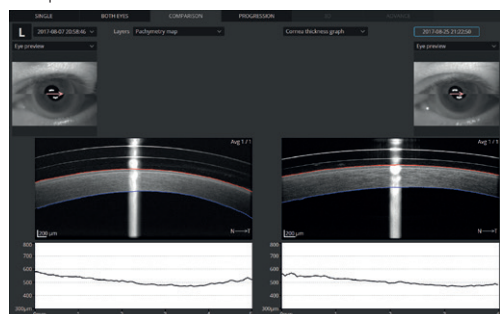
Cornea Single



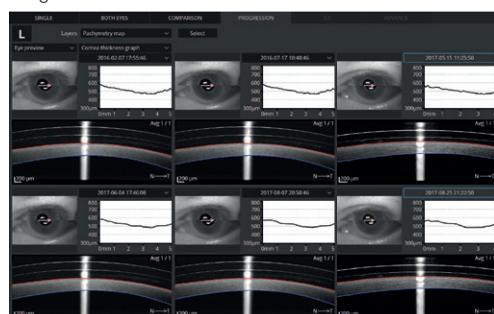
Both



Comparison

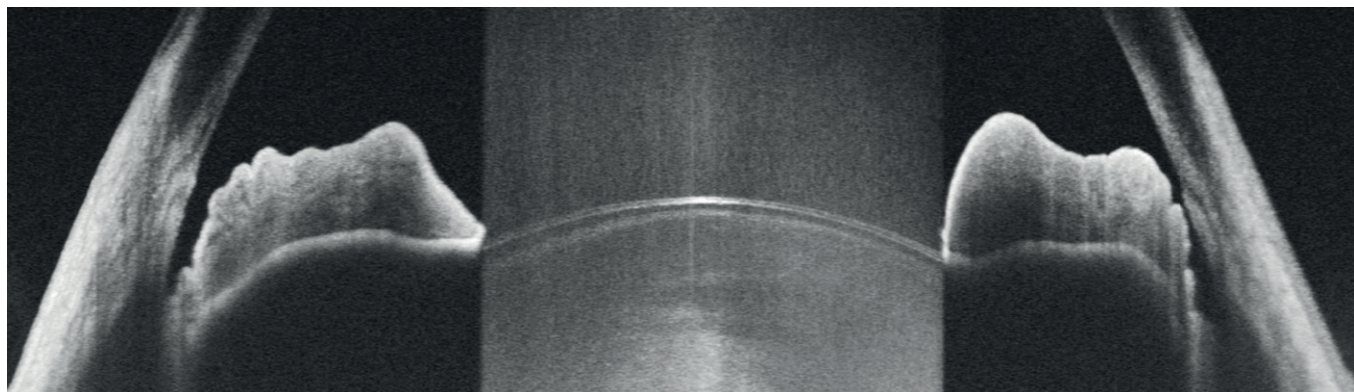


Progression

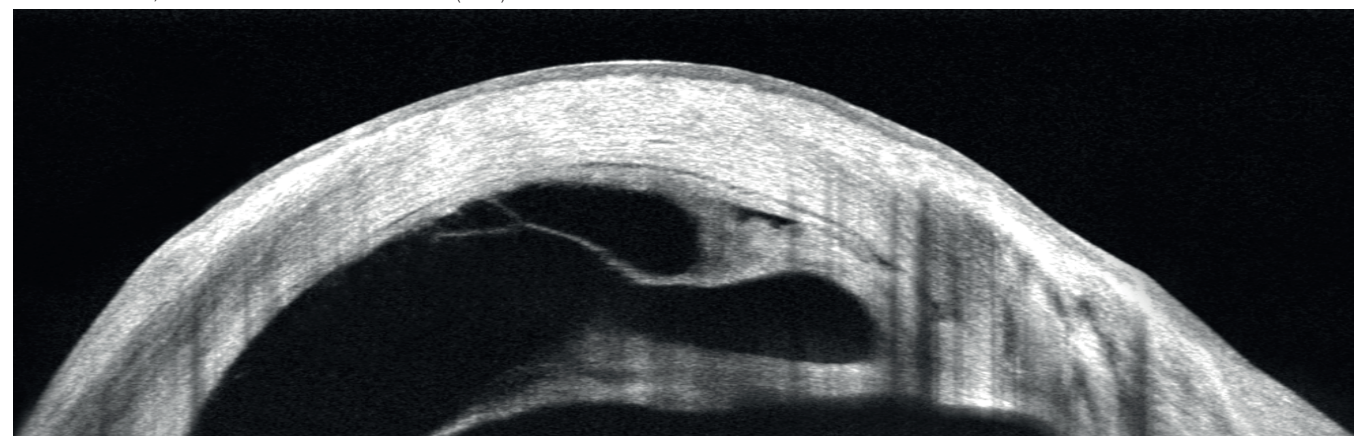


An additional adapter included in the package increases the range of clinical application in Anterior chamber observation.

OCT Gonioscopy\*



Wide cornea scan, Descemet's membrane detachment (DMD) and iridocorneal adhesions\*



\* Images courtesy of Prof. Edward Wylęgała MD, PhD



## TOPOGRAPHY OCT<sup>1</sup>

T-OCT™ is a pioneering way to provide detailed corneal Curvature maps by using posterior dedicated OCT. Anterior, Posterior surfaces and Corneal Thickness provide the True Net Curvature information. With the Net power a precise understanding of the patient's corneal condition comes easily and is free of errors associated with modelling of posterior surface of the cornea. SOCT T-OCT module provides Axial maps, Tangential maps, Total Power map, Height maps, Epithelium and Corneal thickness maps.

Corneal topography module clearly shows the changes in the cornea on the difference map view. Customize

favoured view by selecting from a variety of available maps and display options. Fully Automatic capturing with examination time of up to 0.2 sec makes testing quick and easy.

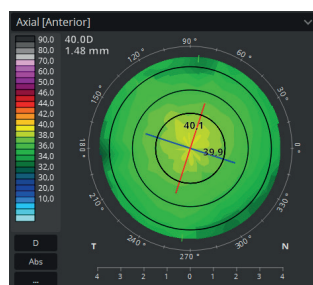
### Topography module provides:

- Full featured Corneal mapping of Anterior, Posterior and Real
- Precise Astigmatism Display Option (SimK: Anterior, Posterior, Real, Meridian and Semi-Meridian  $\phi$  3, 5, 7 mm zones)

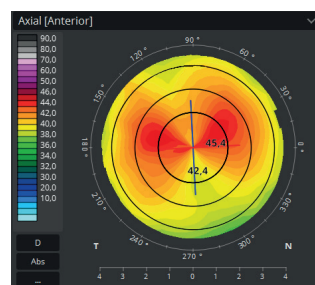
## KERATOCONUS SCREENING

Easily detect and classify keratoconus with Keratoconus classifier. The classification is based on KPI, SAI, DSI, OSI and CSI. In the early stages of keratoconus the results can be complemented by Epithelium and Pachymetry maps.

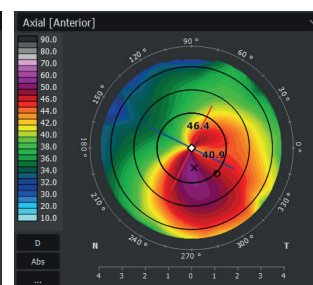
Normal



ATR Astigmatism



Keratoconus



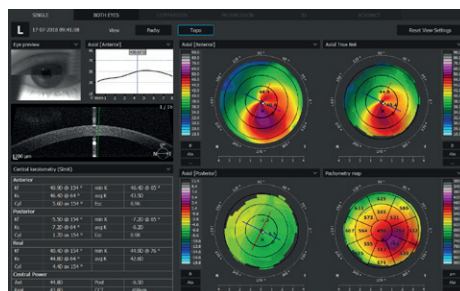
## COMPARE THE EXAMS

Comprehensive software features a range of selectable views: Single, Both. See details on standard Single view and easily see corneal asymmetry on the Both view.

The follow-up feature in the T-OCT™ module gives the possibility to fully compare the changes in the corneal topography over time for:

- LASIK undergone patients
- Keratoconus patients
- The contact lens wearers

Single



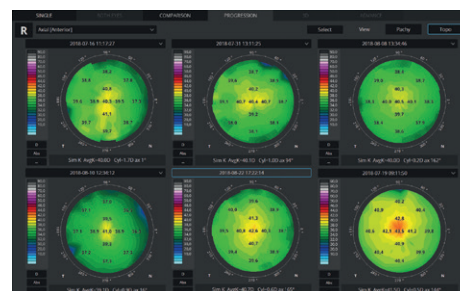
Comparison



Both



Progression



<sup>1</sup> an optional software module

# REVO *lution continues*

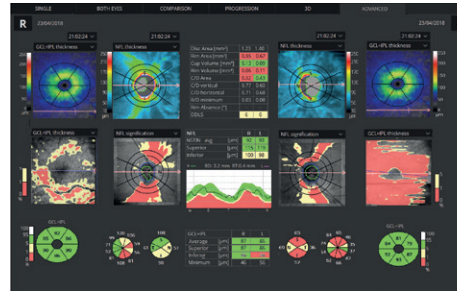
## GLAUCOMA

Comprehensive glaucoma analytical tools for quantification of the Nerve Fiber Layer, Ganglion layer and Optic Head with DDLS for precise diagnosis and monitoring of glaucoma over time.

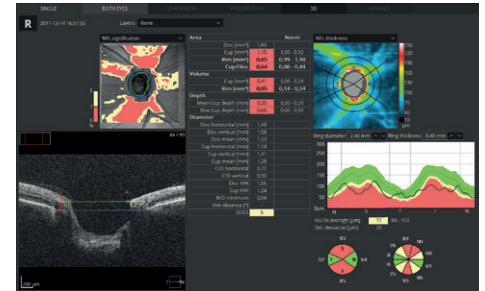
With the golden standard 14 optic nerve parameters and a new Rim to Disc and Rim Absence the description of ONH condition is quick and precise.

Advanced view which provides combined information from Retina and Disc scan to integrate details of the Ganglion cells, RNFL, ONH in a wide field perspective for comprehensive analysis for both eyes.

Advance Retina & ONH

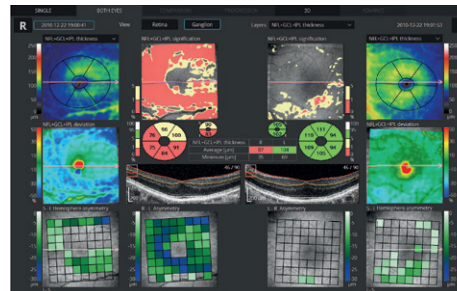


ONH Single

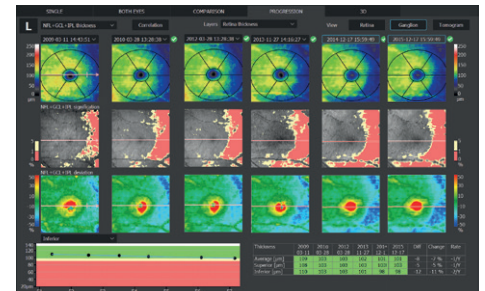


Asymmetry Analysis of Ganglion layers between hemi-spheres and between eyes allows easier identification and detection of glaucoma in early stages and in non-typical patients.

Ganglion Both

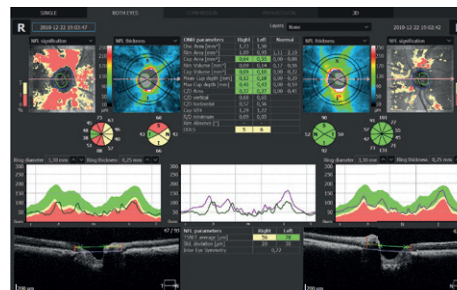


Ganglion Progression



The DDLS (Disc Damage Likelihood Scale) which uses 3 separate classifications for small, average and large discs has been implemented. It supports the practitioner in a quick and precise evaluation of the patient's glaucomatous disc damages.

ONH Both



ONH Progression

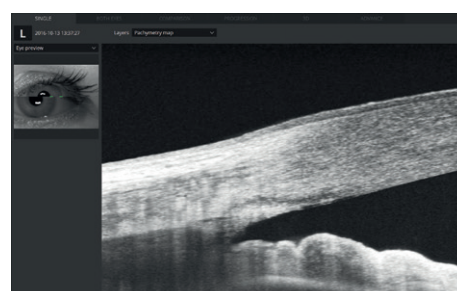


## COMPLETE YOUR GLAUCOMA REPORT

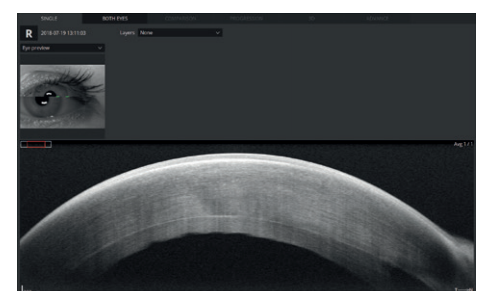
To eliminate the common problem with the understanding of the patient's IOP, the pachymetry module provides IOP Correction value. With the implemented Adjusted IOP formula you can quickly and precisely understand the measured IOP value.

As the Pachymetry and Anterior Chamber Angle Verification require no additional attachments, the predefined Glaucoma protocol, which consists of Retina, Disc and Anterior scans, can be done automatically to reduce patient chair time.

Narrowing angle



Anterior single view



\* Images courtesy of Prof. Edward Wylęgała MD, PhD



# COMPREHENSIVE GLAUCOMA SOLUTION

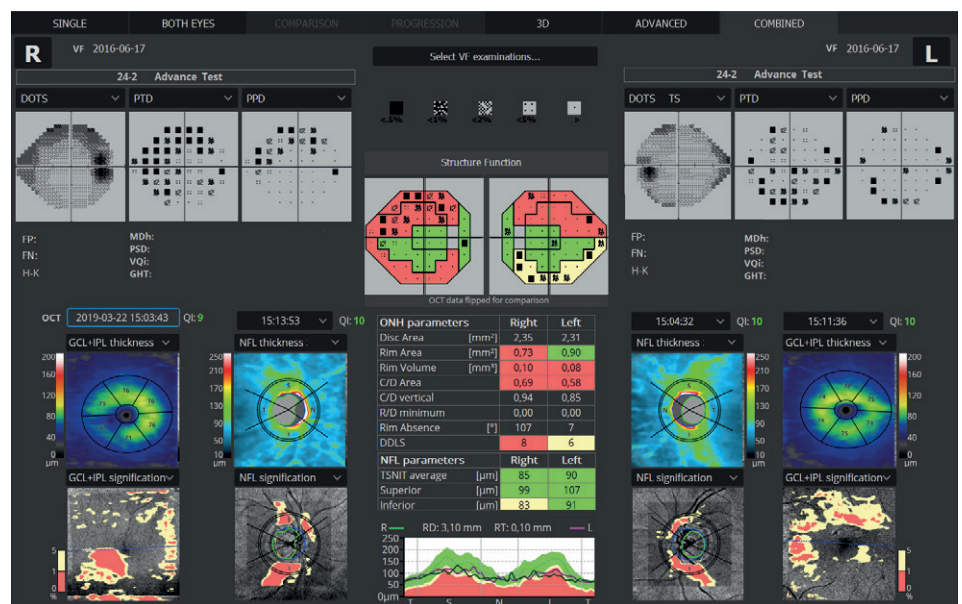
## STRUCTURE & FUNCTION - Combined OCT and VF results analysis

Invaluable combination of information about the functional quality of vision with comprehensive data on retinal Ganglion Cells, RNFL and Optic Nerve Head for both eyes on a single report page. The S&F report contains the following:

- VF sensitivity results (24-2/30-2 or 10-2)
- Total and Pattern Deviation probability graphs for VF results
- Reliability and Global indices for VF results
- Combined map of Structure & Function
- Ganglion cells analysis (GCL+IPL or NFL+GCL+IPL)
- ONH and NFL analysis including charts and comparison tables
- NFL Asymmetry Plot

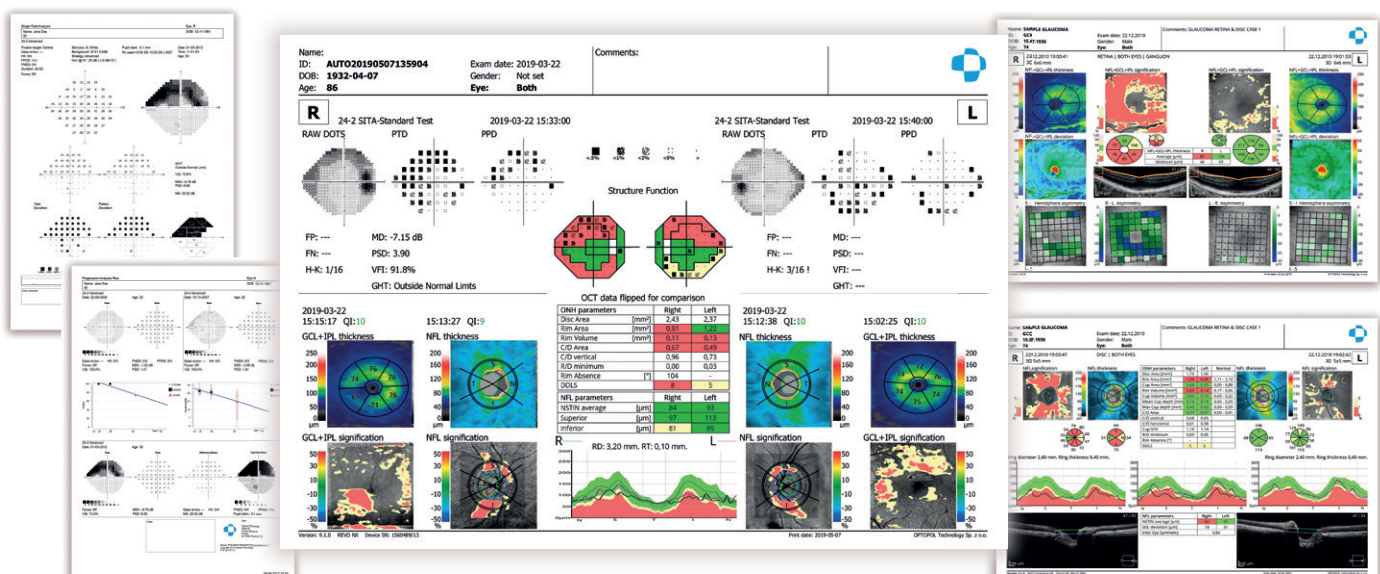
The S&F report compares in a natural way the anatomical relationship between VF and RNFL/Ganglion maps.

Structure & Function



## SINGLE PAGE REPORT

S+F provides a quick and comprehensive single page report for glaucoma management.



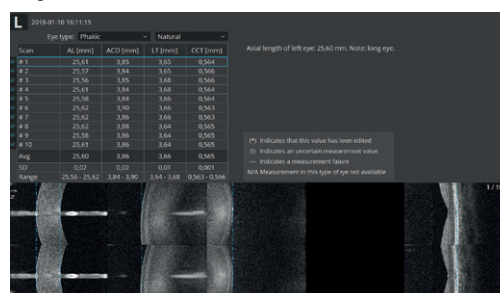


## BIOMETRY OCT<sup>1</sup>

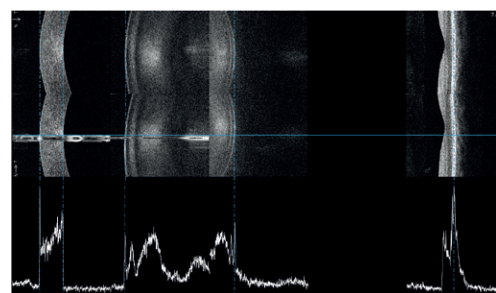
B-OCT<sup>®</sup> is an innovative method of using the posterior OCT device to measure ocular structure along eye axis.

OCT Biometry provides a complete set of Biometry parameters: Axial Length AL, Central Cornea Thickness CCT, Anterior Chamber Depth ACD, Lens Thickness LT.

Single view



Result review

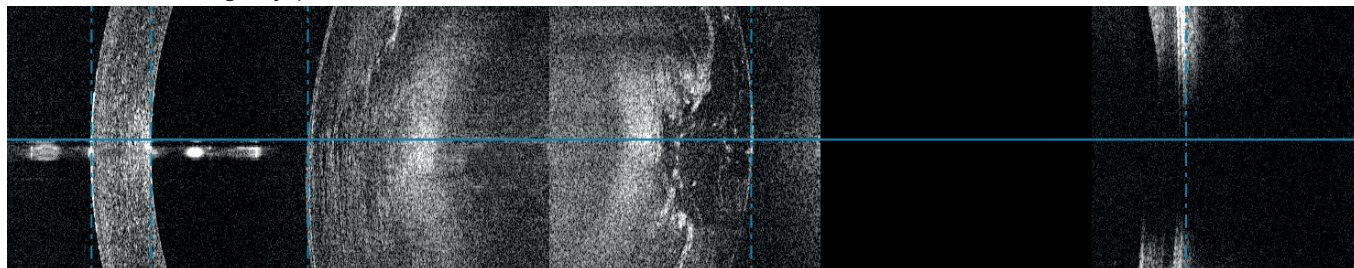


## VERIFY YOUR MEASUREMENT VISUALLY

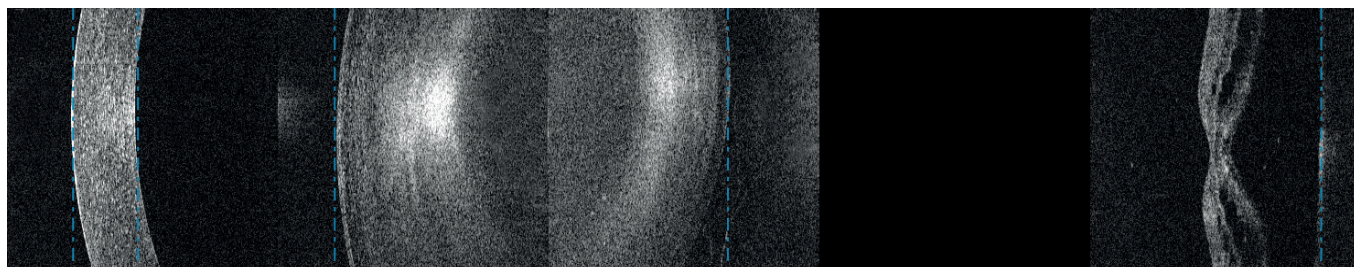
All measurement callipers are shown on all boundaries of OCT image provided by REVO. Now, you can visually verify, identify and if needed, make corrections to any of eye structures that have been measured. With a simple cursor shift it is possible to precisely set boundaries for every difficult patient with 5 µm axial resolution.

From now on you can eliminate the common uncertainty as to how the optical biometer classifies the boundaries in non-typical patients.

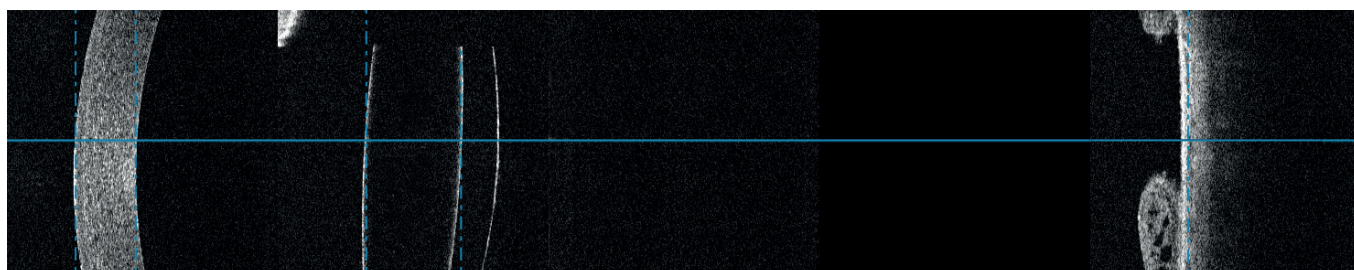
Dense cataract and high myopia



Retinal detachment



PPV and Macular Hole



*\*Images courtesy of Bartosz L. Sikorski MD, PhD*

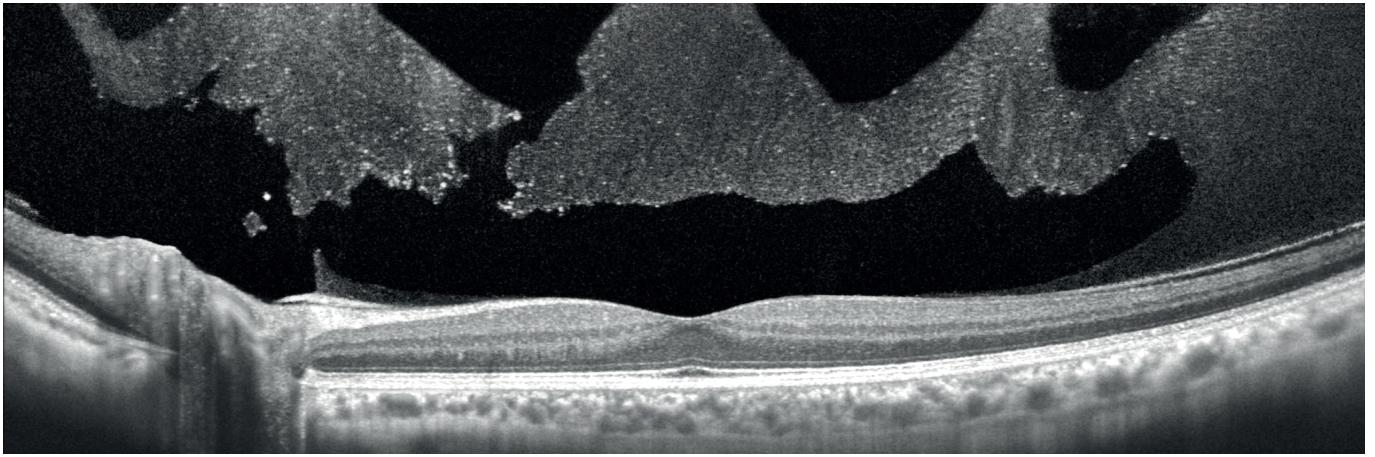
## DICOM, EMR, NETWORK INTEGRATION

A proficient networking solution increases productivity and enhances the patient experience. It allows you to view and manage multiple examinations from review stations in your practice. It effortlessly facilitates patient education by allowing you to interactively show examination results to patients. Every practice will have different requirements which we can cater for by tailoring a bespoke service. DICOM connectivity allows the connection of the REVO into large hospital medical systems. It is possible to send worklists (MWL) and reports (C-storage) or the whole examination to viewing stations. CMDL interface enables the integration of the REVO into practice management systems. There is no additional charge for the networking and DICOM functionality.

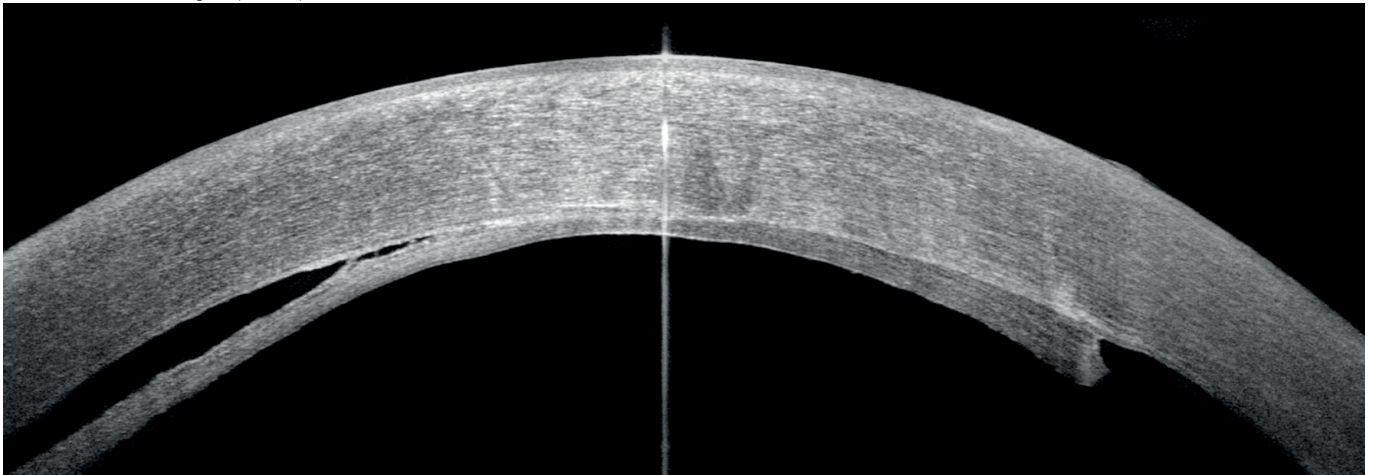
<sup>1</sup> an optional software module



Central 12 mm scan, Enhance Mode to provide vitreous and choroid details

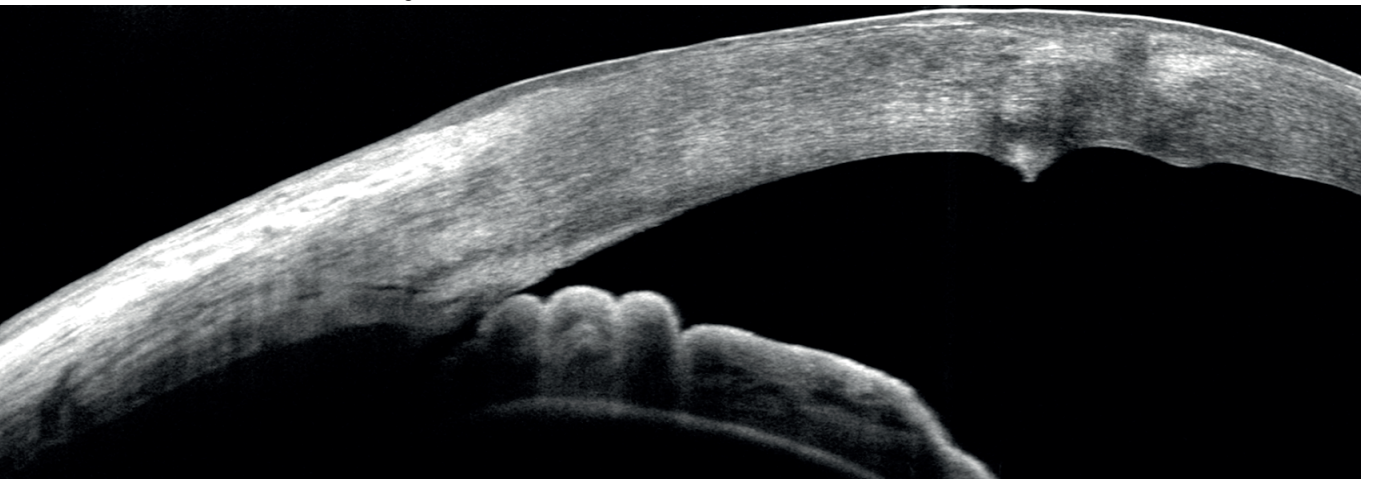


Cornea scan, Posterior graft (DSAEK) detachment



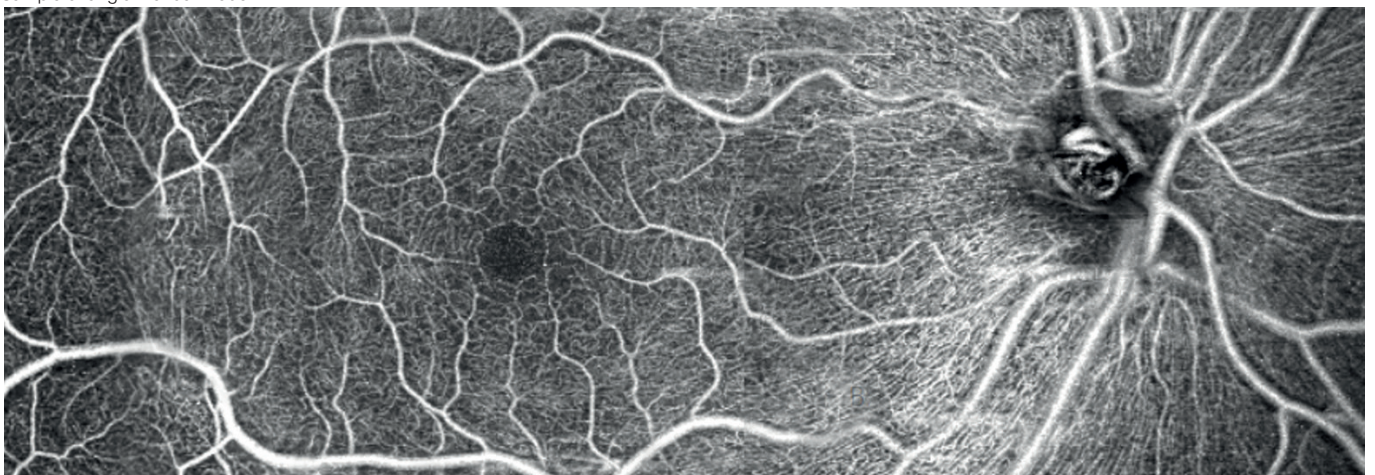
Anterior scan, Cornea Guttata with corneal scarring

*\* Image courtesy of Prof. Edward Wylegala MD, PhD*



Sample of angio Manual mode

*\* Image courtesy of Prof. Edward Wylegala MD, PhD*



*\*Image courtesy of Bartosz L. Sikorski MD, PhD*

Technology:	Spectral Domain OCT
Light source:	SLED, wavelength 830 nm
Bandwidth:	50 nm half bandwidth
Scanning speed:	130 000 measurements per second
Axial resolution:	2.6 $\mu$ m digital, 5 $\mu$ m in tissue
Transverse resolution:	12 $\mu$ m, typical 18 $\mu$ m
Overall scan depth:	2.4 mm
Minimum pupil size:	3 mm
Focus adjustment range:	-25 D to +25 D
Scan range:	Posterior 5 mm to 12 mm, Angio 3 mm to 9 mm, Anterior 3 mm to 16 mm
Scan types:	3D, Angio <sup>1</sup> , Radial (HD), B-scan (HD), Raster (HD), Cross (HD), TOPO, AL, ACD
Fundus image:	Live Fundus Reconstruction
Alignment method:	Fully automatic, Automatic, Manual
Retina analysis:	Retina thickness, Inner Retinal thickness, Outer Retinal thickness, RNFL+GCL+IPL thickness, GCL+IPL thickness, RNFL thickness, RPE deformation, MZ/EZ-RPE thickness
Angiography OCT <sup>1</sup> :	Vitreous, Retina, Choroid, Superficial Plexus, RPCP, Deep Plexus, Outer Retina, Choriocapillaries, Depth Coded, SVC, DVC, ICP, DCP, Custom, Enface, FAZ, VFA, NFA, Quantification: Vessel Area Density, Skeleton Area Density, Thickness map
Angiography mosaic:	Acquisition method: Auto, Manual Predefined auto modes: 7×7 mm, 10×6 mm, 10×10 mm, 12×5 mm, Manual
Glaucoma analysis:	RNFL, ONH morphology, DDLS, OU and Hemisphere asymmetry, Ganglion analysis as RNFL+GCL+IP and GCL+IPL, Structure + Function <sup>2</sup>
Biometry OCT <sup>1</sup> :	AL, CCT, ACD, LT
Corneal Topography Map <sup>1</sup> :	Axial [Anterior, Posterior], Refractive Power [Kerato, Anterior, Posterior, Total], Net Map, Axial True Net, Equivalent Keratometer, Elevation [Anterior, Posterior], Height, KPI (Keratoconus Prediction Index)
Anterior:	Pachymetry, Epithelium map, Stroma map, AIOP, Angle Assessment, AOD 500/750, TISA 500/750
Anterior Wide Scan :	Angle to Angle view (Adapter required), Wide Cornea
Connectivity:	DICOM Storage SCU, DICOM MWL SCU, CMDL, Networking
Fixation target :	OLED display (the target shape and position can be changed), external fixation arm
Dimensions (W×D×H) / Weight:	382 mm × 549 mm × 462 mm / 23 kg
Power supply / consumption :	100 V to 240 V, 50/60 Hz / 115 VA to 140 VA

<sup>1</sup> an optional software module

<sup>2</sup> via connection with PTS software version 3.4 or higher

[www.optopol.com](http://www.optopol.com)

OPTOPOL Technology Sp. z o. o.  
ul. Żabia 42, 42-400 Zawiercie, Poland  
Tel/Fax: +48 32 6709173

 [info@optopol.com](mailto:info@optopol.com)

Local Distributor: