



Optical Coherence Tomography  
**RS-3000 Advance 2**

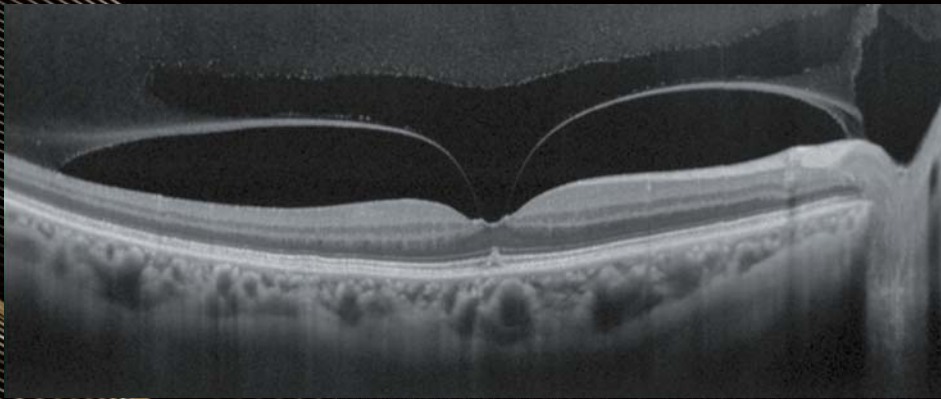


THE ART OF EYE CARE

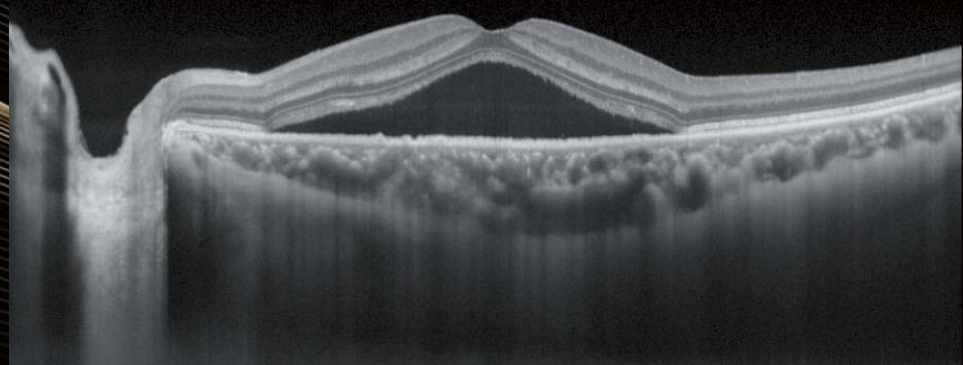
# Premium OCT for your daily practice

-Providing a comprehensive solution for retina and glaucoma

## Retina Analysis



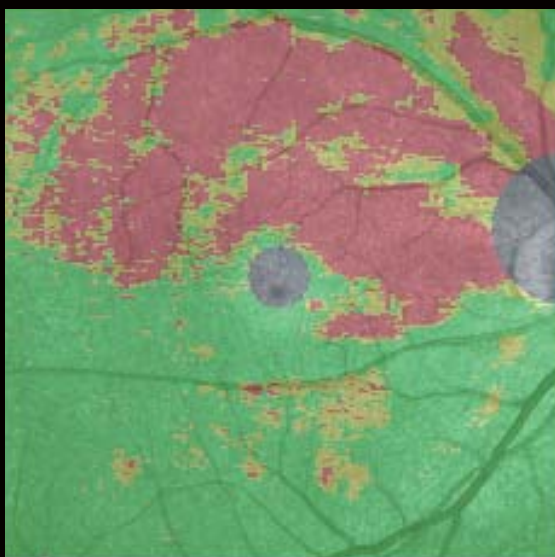
Retinal mode



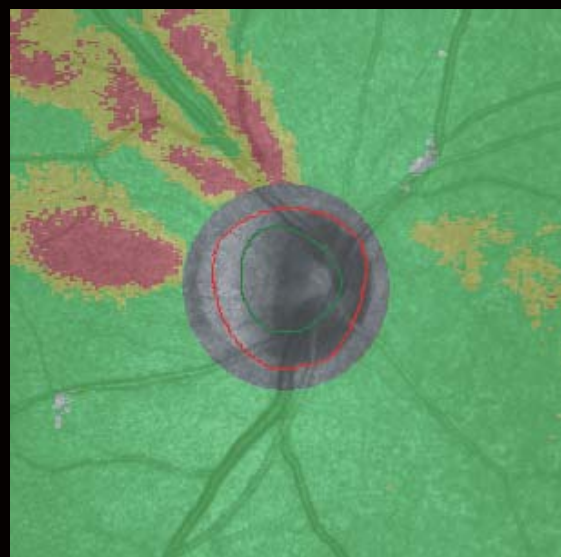
Choroidal mode

Image courtesy of Hokkaido University Hospital

## Glaucoma Analysis



9 x 9 mm  
Normative database (macula)



6 x 6 mm  
Normative database (disc)



# AngioScan

\*AngioScan is optional.

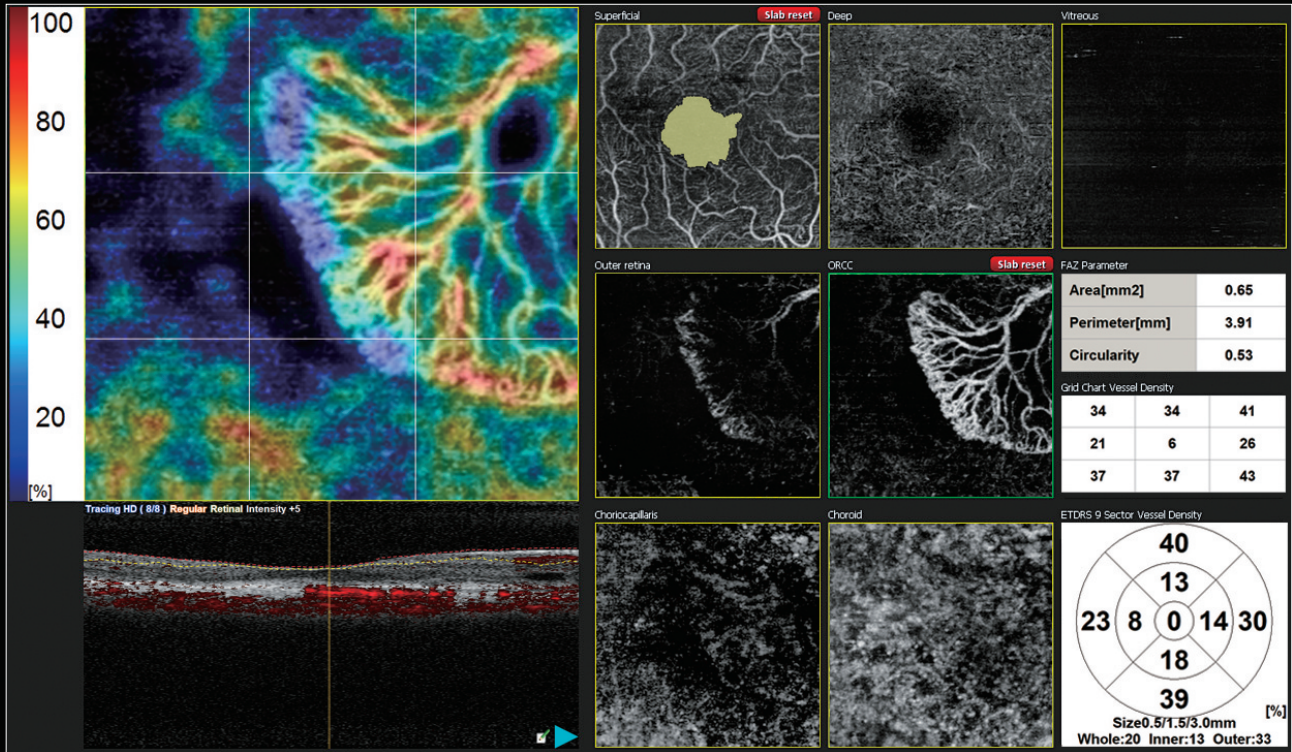
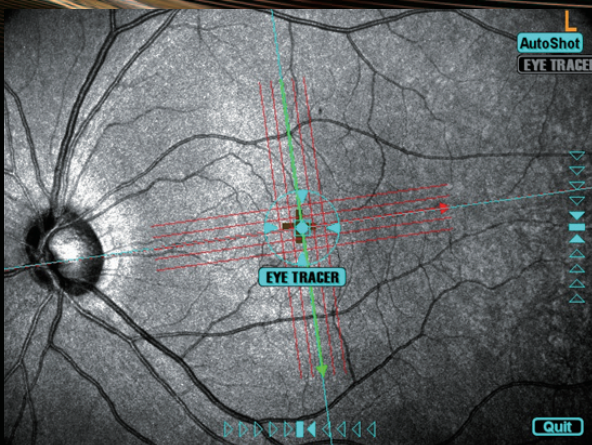


Image courtesy of Dr. Alejandro Villalobos

# SLO



## SLO-based eye tracer

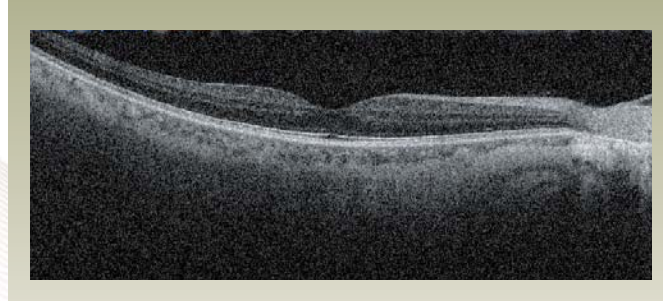
Real time compensation for eye movements, resulting in more accurate scans, ensuring higher image quality and maximum reproducibility



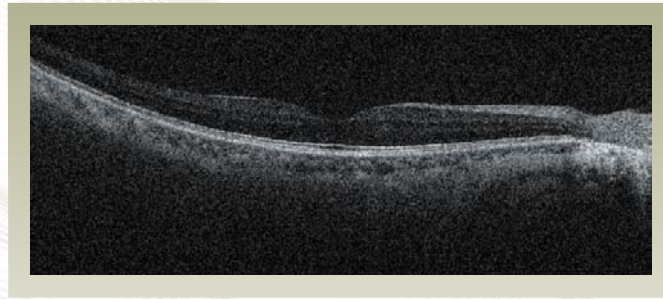
# Retina Analysis

## Selectable OCT Sensitivity

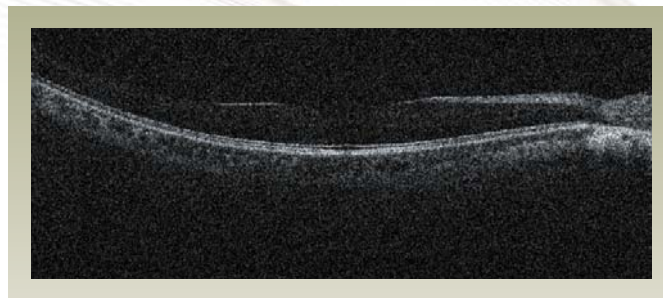
Selection of the appropriate OCT sensitivity allows acquisition of B-scan images through media opacities.



Ultra fine



Fine

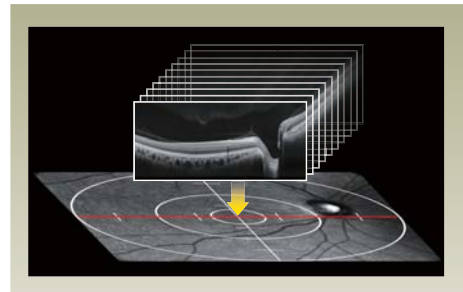


Regular

B-scan images in cataractous eye captured with ultra fine, fine and regular sensitivities

## Tracing HD Plus

The tracing HD plus function traces involuntary eye movements to maintain the same scan location on the SLO image for accurate image capture. This function allows accurate averaging of up to 120 images. The tracing HD plus function combined with ultra fine sensitivity image capture results in high resolution and high contrast images of chorioretinal pathology.



## Enhanced Image

Enhanced image function allows greater resolutions of vitreous retina images by adjusting brightness of weak OCT signals.



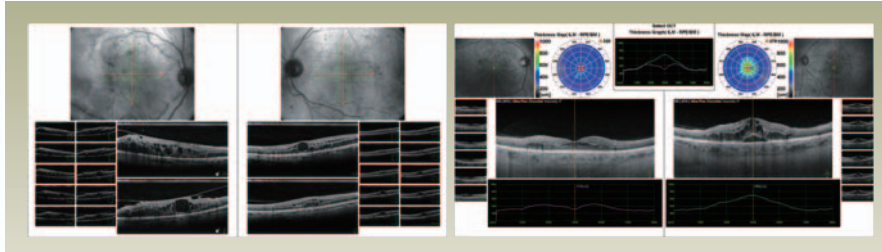
Intensity 0

Intensity +10

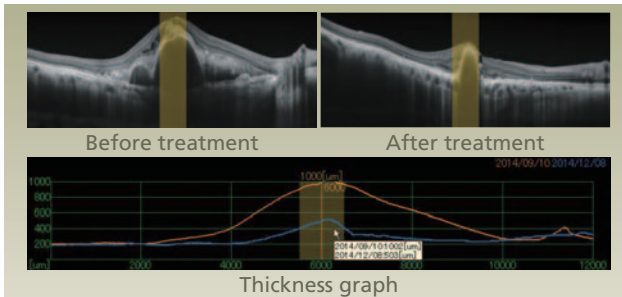


### Macula Multi and Macula Radial

- Macula multi and macula radial scan patterns enable multiple raster scans simultaneously, decreasing rescans.
- The tracing HD function centers the scan on the fovea or on the region of interest.



Tracing HD



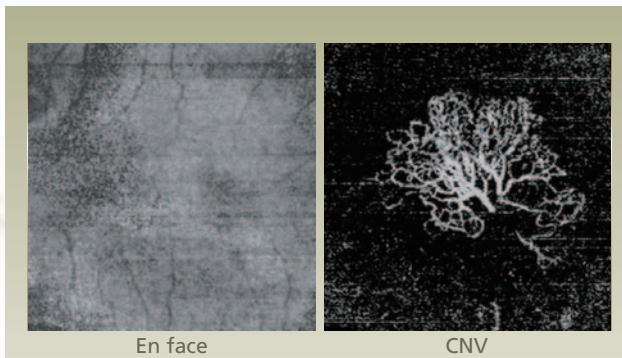
### Macula Comparison

- Users can select two images for comparison.
- Chronological change in retinal thickness can be analyzed with a graph indicating its trend by designating the area on the thickness graph based on user preference.

Tracing HD

Ultra fine

Images courtesy of Hokkaido University Hospital



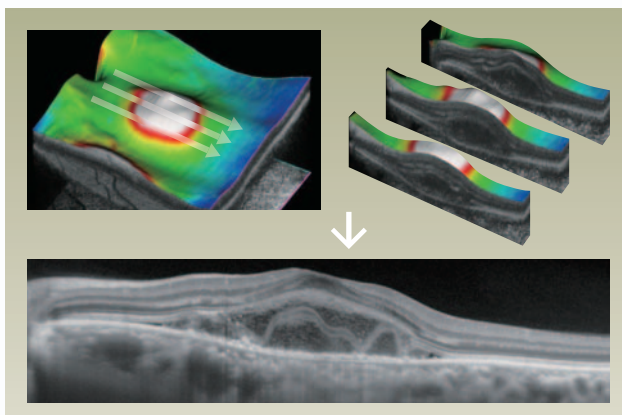
### En face OCT

- En face view presents frontal sections of the retinal layers.
- Combined assessment of the B-scan and En face images defines the shape and the extension of lesions.

### AngioScan

- AngioScan images illustrate retinal microvasculature using a non-invasive method.
- OCT-Angiography allows segmentation of layers of interest in exquisite detail for greater in-depth evaluation.

Images courtesy of Prof. Eric Souied, Centre Hospitalier Intercommunal de Créteil



### Select and Rescan Mode (SR Mode)

The select and rescan mode allows capture of an entire image of the retina with the macula map scan pattern and select a cross-sectional OCT image with the location of lesion from up to 256 images based on user preference.

Cross-sectional OCT images can be reacquired on the selected region with the tracing HD plus function.

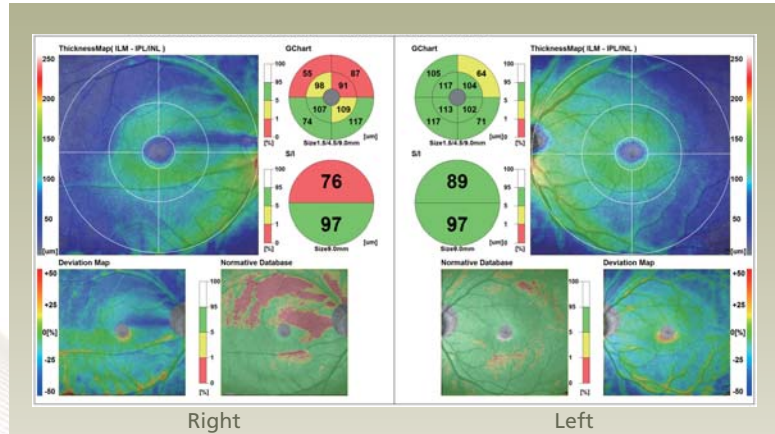
This mode is useful in efficiently obtaining a high-quality image of a region of interest.

Images courtesy of Hokkaido University Hospital

# Glaucoma Analysis

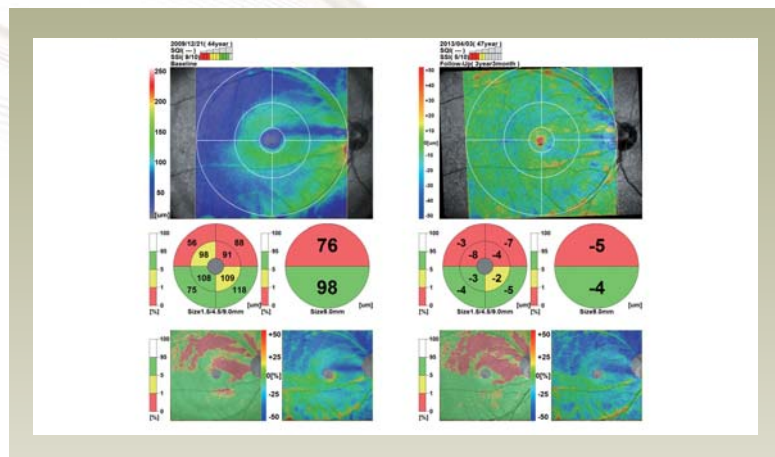
## Macula Map

Wide area 9 x 9 mm normative database allows analysis of [NFL+GCL+IPL] thinning from optic disc to macula in a single report.



## Glaucoma Comparison

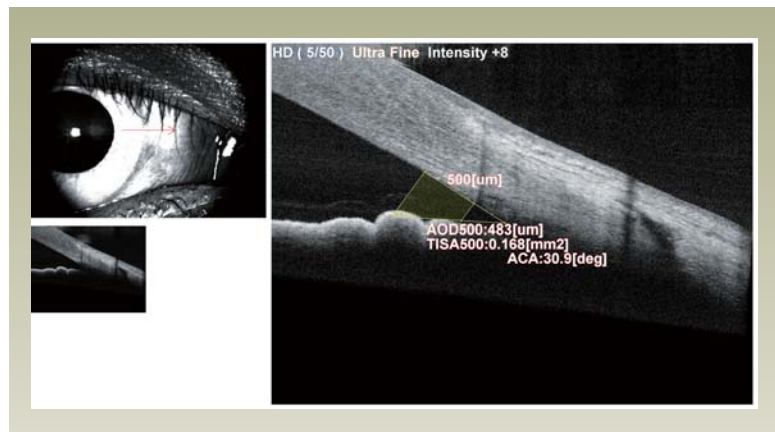
- User can select two images for comparison.
- The Torsion Eye Tracer (TET) ensures accurate image capture by correcting ocular cyclotorsion and fundus tilt.
- TET ensures high image reproducibility during image capture for follow-up examinations, enhancing the accuracy of comparative analysis.



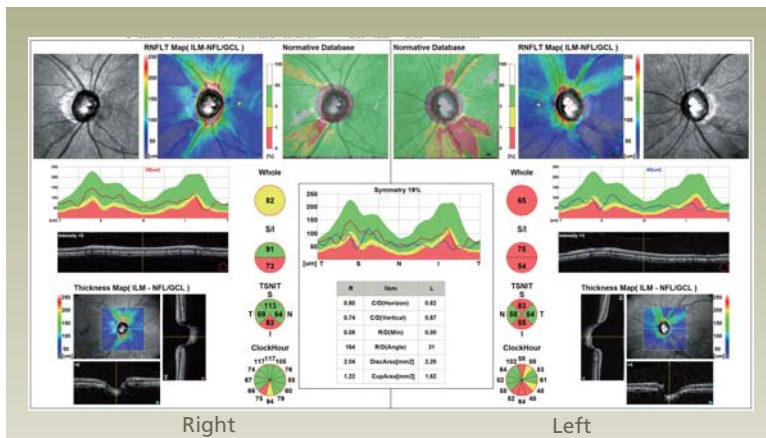
## Anterior Chamber Angle

- The optional anterior segment module captures images of the anterior segment for refractive and lens implant cases.
- ACA, AOD500 (AOD750), and TISA500 (TISA750) can be measured.

Further details are available in the "Anterior Segment Analysis" section.

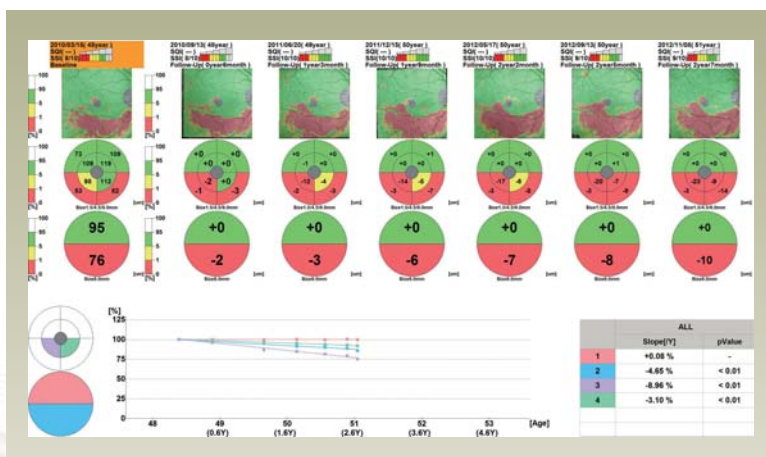






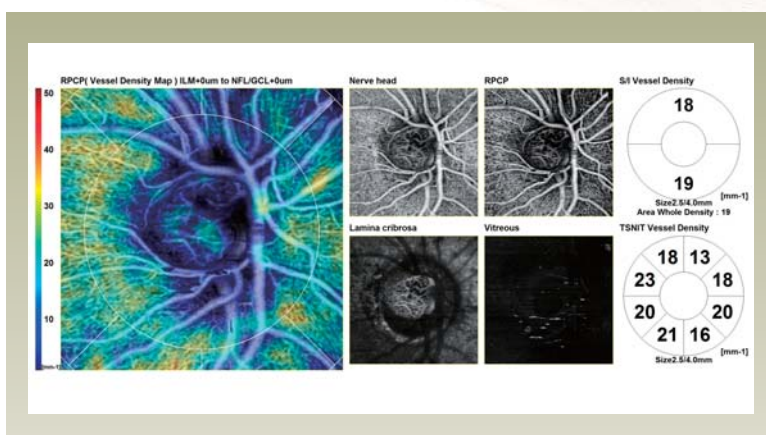
### Disc Map

- Optic nerve head (ONH) and retinal nerve fiber layer (RNFL) thickness can be examined.
- Optic shape editor function allows greater accuracy of C/D ratio analysis by editing optic cup and disc segmentation in detail.



### Glaucoma Progression

- Data from 50 different visits can be analyzed.
- The chronological change is presented for retinal thickness with various maps, charts, and graphs for trend analysis.
- Trend analysis allows long-term follow-up examination. It is available for user designated scan patterns.



### AngioScan

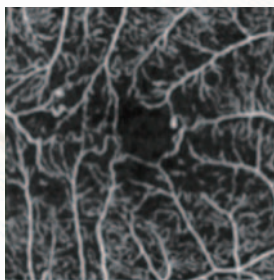
- AngioScan image allows assessment of the structural vasculature of the optic disc.
- OCT-Angiography scanning of the optic disc is available for 3 x 3 mm up to 9 x 9 mm.

# AngioScan

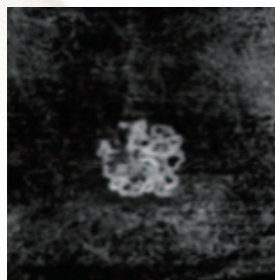
## Comprehensive OCT-Angiography Imaging and Diagnostics

The simple interface provides seven slabs for the macula map / four slabs for the disc map with intuitive functionality and removal of projection artifacts. Segmentation into multiple slabs allows enhanced assessment of retinal microvasculature at specific depths and regions of interest. The effect of pathology can be evaluated in greater detail at each retinal depth.

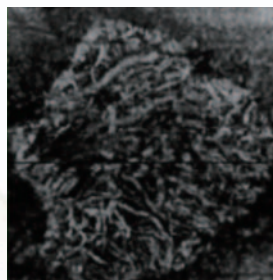
- Macula AngioScan: Macula Map  
Vitreous, Superficial, Deep, Outer retina, ORCC, Choriocapillaris, Choroid
- Optic Nerve Head AngioScan: Disc Map  
Vitreous, Nerve head, Radial peripapillary capillary plexus (RPCP), Lamina cribrosa



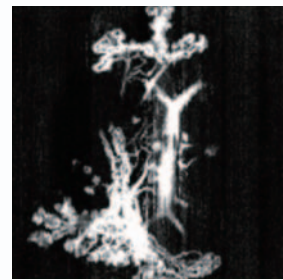
Superficial  
Diabetic retinopathy



ORCC  
Choroidal neovascularization



Choroid  
Stargardt



Vitreous  
Proliferative diabetic retinopathy

Images courtesy of Prof. Stanislao Rizzo, Careggi University Hospital, University of Florence  
Dr. Alejandro Villalobos

Dr. Carolyn Majcher and Dr. Rick Trevino, Rosenberg School of Optometry, UIW

## Flexible Functions

### Tracing HD Plus

The tracing HD plus function tracks eye movements to maintain the same scan location on the SLO image for accurate image capture.

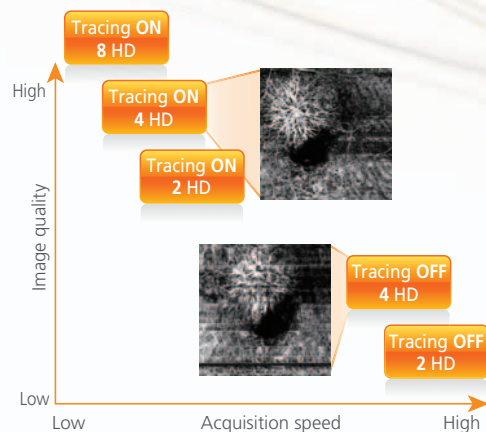
### Selectable Definition

Two, four, or eight scans per line (2 HD, 4 HD, or 8 HD) can be selected.

8 HD provides high quality images combined with the tracing HD function.

### Fine Mode

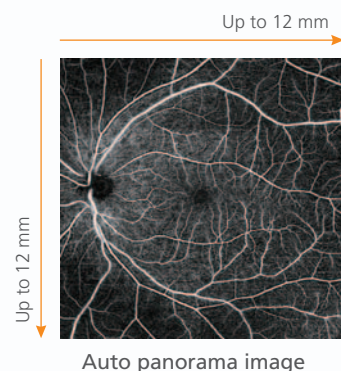
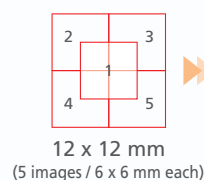
Fine mode OCT angiography results in high-resolution images to enhance diagnosis.



## Wide Area Image

### Auto Panorama Imaging

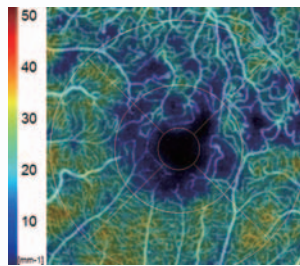
During the panorama acquisition, the tracing HD plus is activated and multiple, consecutive image captures are performed automatically without moving the fixation target. The tracing HD plus feature reduces image overlap and/or gaps between images. Panoramas up to 12 x 12 mm can be automatically composed.





## Vessel Density Map and Perfusion Density Map

Quantification of vessels in each layer provides metrics to assess disease progression and the effects of treatment. Quantitative analysis can be performed with the vessel density map and perfusion density map. Both maps can be displayed in all slabs.



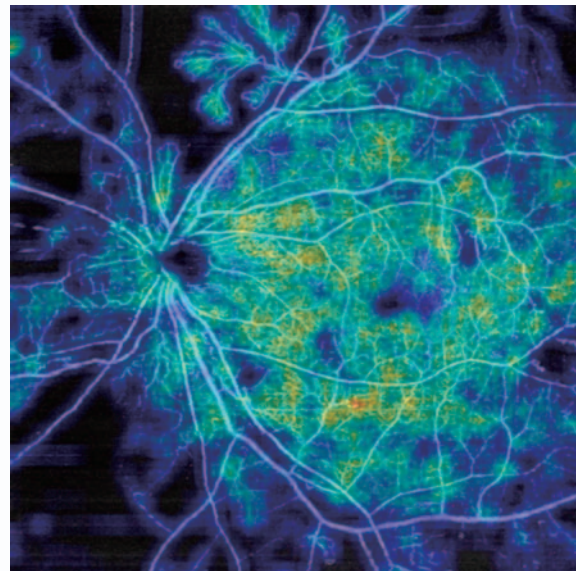
Vessel density map  
(Superficial capillary plexus)

18	16	17
19	8	15
21	19	21

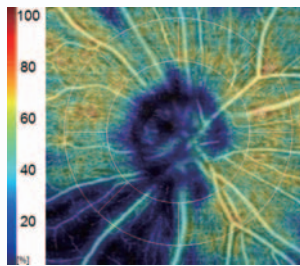
Grid chart  
[mm<sup>-1</sup>]



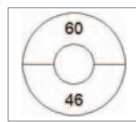
ETDRS chart  
[mm<sup>-1</sup>]



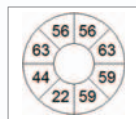
Panoramic vessel density map



Perfusion density map  
(Radial peripapillary capillary plexus)



S/I chart [%]

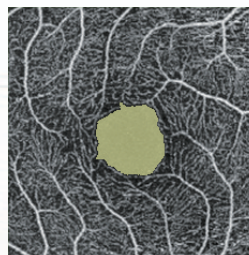


TSNIT [%]

Images courtesy of Chiba University Hospital  
Tohoku University

## Autodetection of FAZ and Shape Analysis

Foveal Avascular Zone (FAZ) is automatically detected and shape metrics are provided for rapid assessment.



Autodetection of FAZ

Area[mm <sup>2</sup> ]	0.52
Perimeter[mm]	3.04
Circularity	0.71

FAZ parameter

## Follow-up Function

The follow-up function presents the changes over time, in vessel density or perfusion density in easily understandable maps. Data are presented in chronologic order to evaluate vascular changes with disease progression.

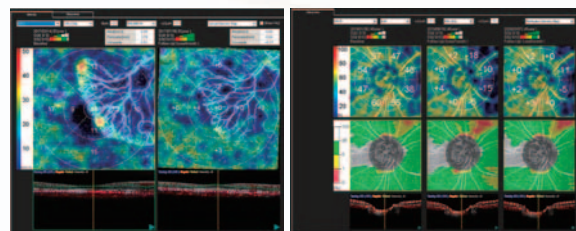


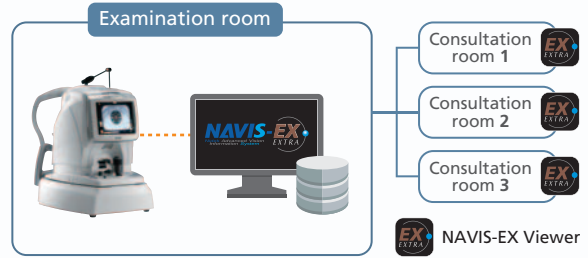
Image courtesy of Dr. Alejandro Villalobos

# NAVIS-EX

NAVIS-EX is image filing software, which networks the RS-3000 Advance 2 and other NIDEK diagnostic devices. This functionality enhances the capability of the diagnostic device with additional features and increases clinical efficiency.

- Analysis and report
- Normative database
- Long axial length normative database\*
- DICOM connectivity
- B-scan Denoising Software\*

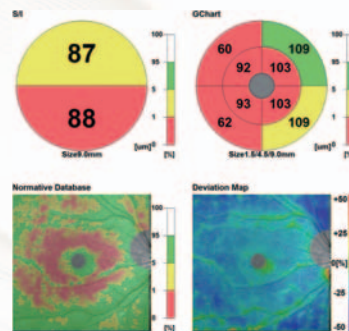
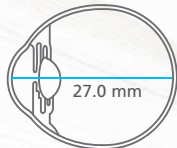
\*Optional



## Long Axial Length Normative Database

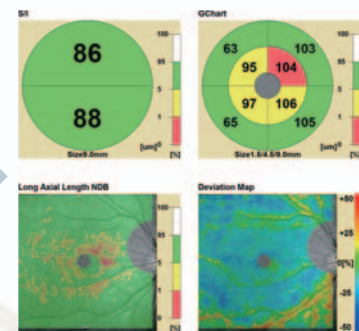
The long axial length normative database is optional software for assisting clinicians in diagnosing macular diseases and glaucoma in patients with long axial lengths. Data was collected from a sample of Asian patients.

Sample analysis of a patient with long axial length (27.0 mm)



Normative database

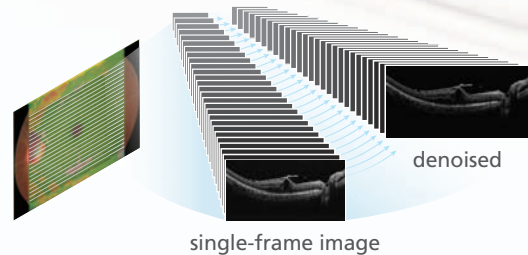
Axial length compensation



Long axial length normative database

## B-scan Denoising Software

The B-scan Denoising Software is optional software that generates images with equal clarity to those generated by averaging 120 images. This new image enhancement technique uses deep learning to automatically display a denoised image once B-Scan acquisition is complete. This software enhances the functionality of the wide area scan for screening the peripheral retina.



## Anterior Segment Analysis

The optional anterior segment module enables observation and analyses of the anterior segment.

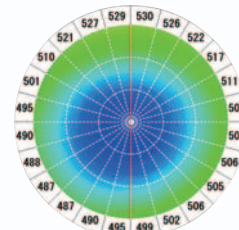
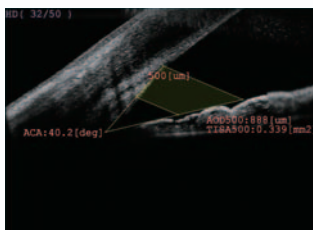
Angle measurement

- ACA
- AOD500 (AOD750)
- TISA500 (TISA750)

Cornea measurement

- Corneal thickness
- Corneal apical thickness and user designated locations

- Corneal thickness map
- Map indicating corneal thickness plotted radially





# Multimodal Imaging

Evaluate retinal structure and function simultaneously using combined OCT and Microperimetry images

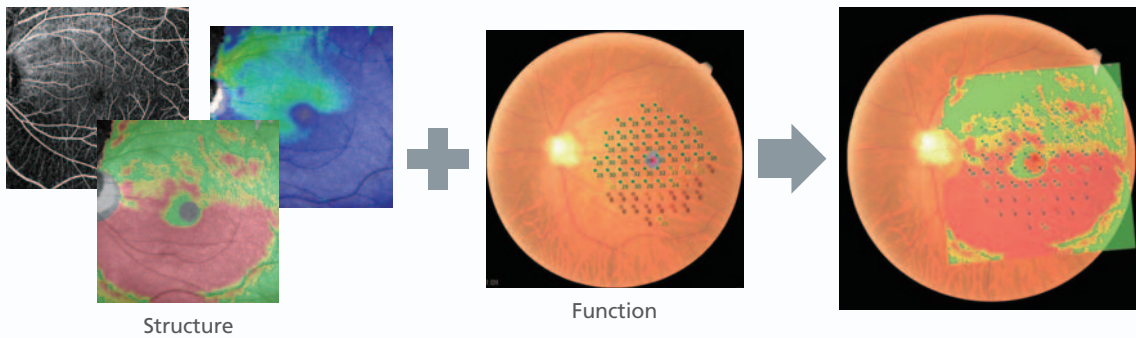
Various OCT modalities can be registered with Microperimetry.



OCT  
RS-3000 Advance 2

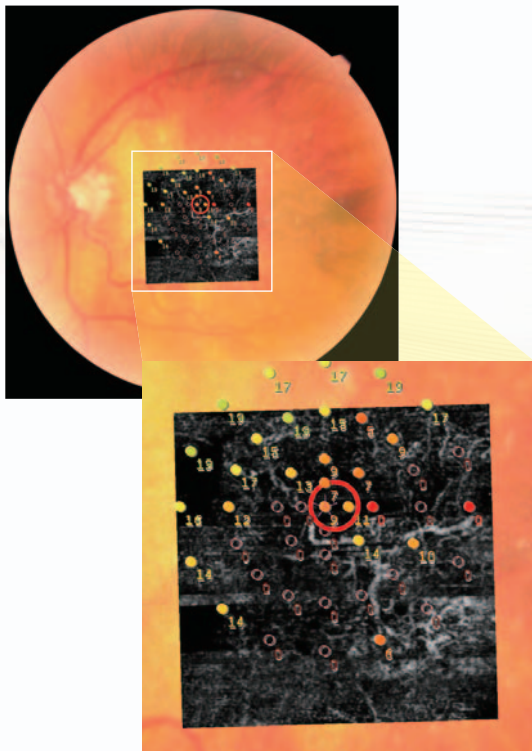


Microperimeter  
MP-3



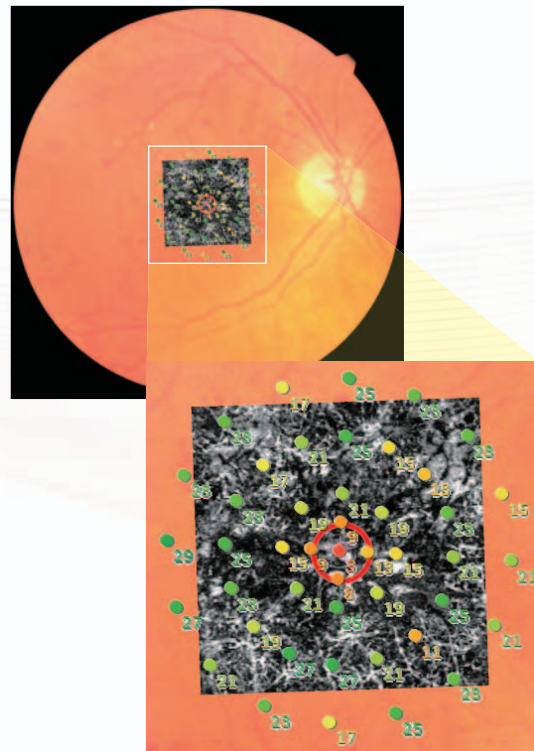
## Clinical Case

Age-related Macular Degeneration (AMD)



OCT-Angiography + Microperimetry  
(Outer retina)

Diabetic Macular Edema (DME)



OCT-Angiography + Microperimetry  
(Deep capillary)

## RS-3000 Advance 2 Specifications

<b>OCT scanning</b>	
Principle	Spectral domain OCT
Optical resolution	Z: 7 µm, X-Y: 20 µm
Scan range	X: 3 to 12 mm Y: 3 to 9 mm Z: 2.1 mm
Digital resolution	Z: 4 µm, X-Y: 3 µm
OCT light source	SLD, 880 nm
Scan speed	Up to 85,000 A-scans / s
Image averaging	Up to 120 images
Normative database area	9 x 9 mm (macula), 6 x 6 mm (disc)
Internal fixation lamp	637 nm
External fixation lamp	630/565 nm
Auto alignment	Z direction
Minimum pupil diameter	ø2.5 mm
Focus adjustment range	-15 to +10 D (VD=12 mm)
Working distance	35.5 mm
Software analysis	Segmentation of 6+1 retinal layers Macular thickness map RNFL thickness map [NFL+GCL+IPL] analysis Optic nerve analysis Follow-up analysis
<b>Fundus surface imaging</b>	
Principle	Confocal scanning laser ophthalmoscope (SLO light source: 785 nm)
Angle of view	40° x 30° (zoom: 20° x 15°)
PC networking	Available
Display	Tilttable 8.4-inch color LCD
Power supply	100, 120, 230 V AC 50/60 Hz
Power consumption	300 VA
Maximum power output (transformer)	1,000 VA
Dimensions/mass	380 (W) x 524 (D) x 515 (H) mm / 34 kg 15.0 (W) x 20.6 (D) x 20.3 (H)" / 75 lbs.
Optional accessories	Anterior segment module, motorized optical table, PC rack, long axial length normative database, AngioScan (OCT-Angiography), B-scan Denoising Software

### Anterior segment module (optional)

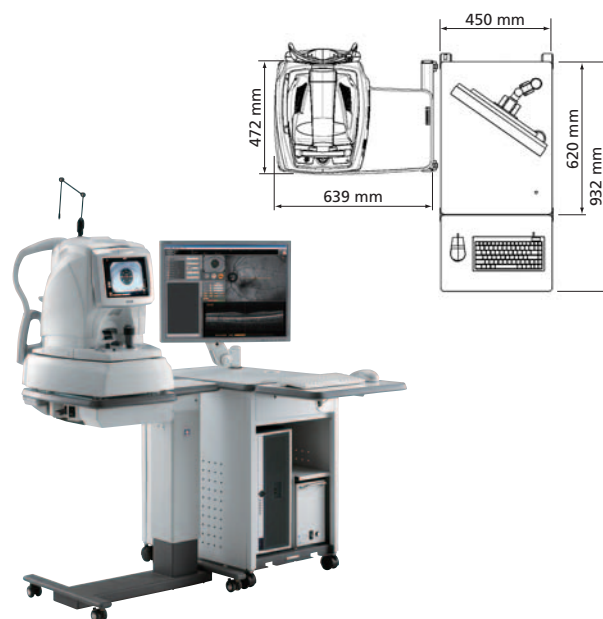
Software analysis	Corneal thickness measurement Corneal thickness map Angle measurement
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### Motorized optical table (optional)

Dimensions/mass	639 (W) x 472 (D) x 600 to 850 (H) mm / 28 kg 25.2 (W) x 18.6 (D) x 23.6 to 33.5 (H)" / 62 lbs.
Power supply	100 V AC (available from the transformer) 50/60 Hz
Power consumption	150 W

### PC rack (optional)

Dimensions/mass	620 (W) x 450 (D) x 700 (H) mm / 29 kg 24.4 (W) x 17.7 (D) x 27.6 (H)" / 64 lbs.
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More clinical information available online at the NIDEK Education page

For more clinical information, please visit the Education page on the NIDEK website. This site allows access to case reports, journal articles, and video presentations.



<https://www.nidek-intl.com/education/>



Case reports



Videos

Product/model name: Optical Coherence Tomography RS-3000 Advance  
Brochure and listed features of the device are intended for non-US practitioners.  
Specifications may vary depending on circumstances in each country.  
Specifications and design are subject to change without notice.

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