NIDEK
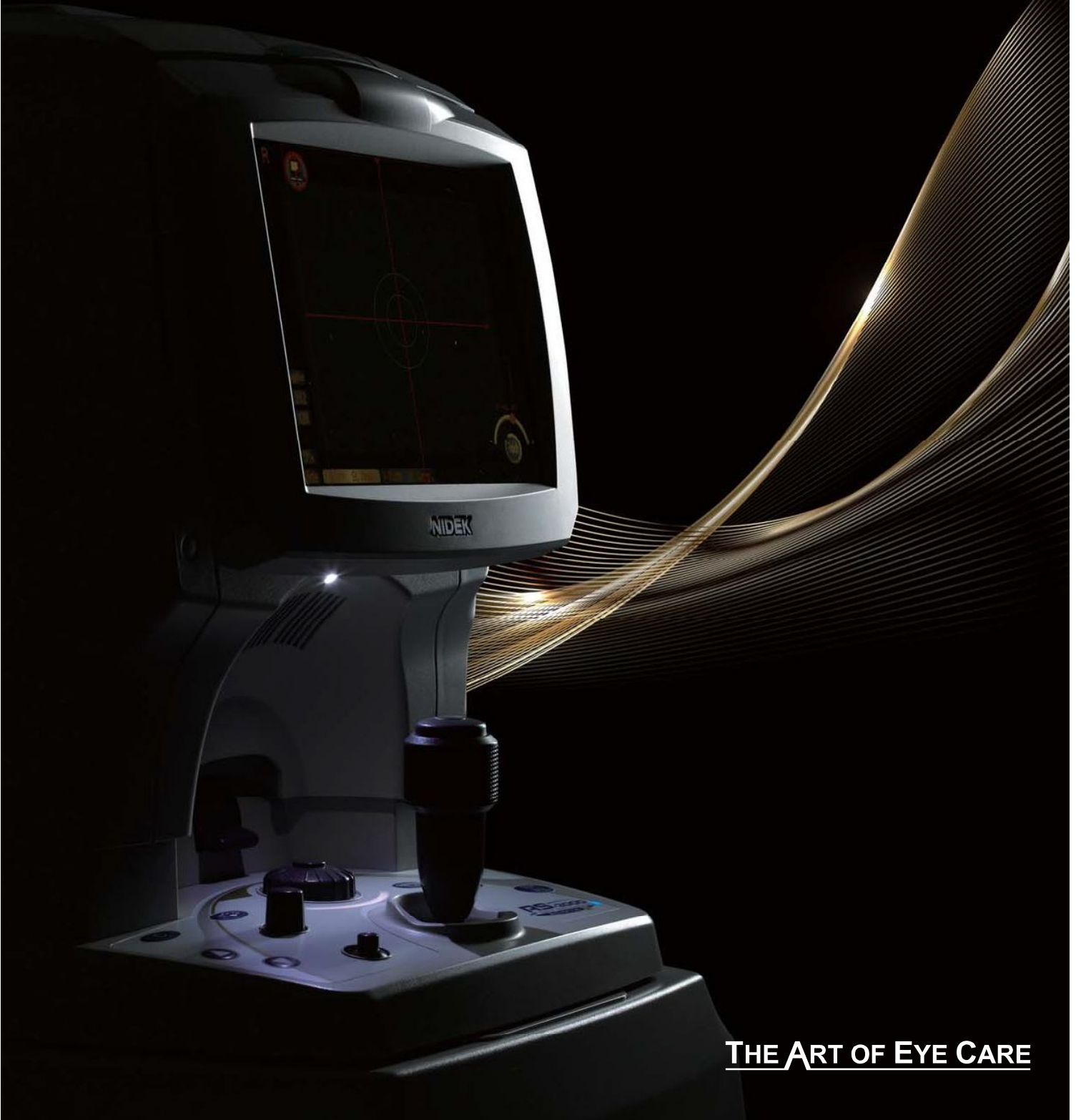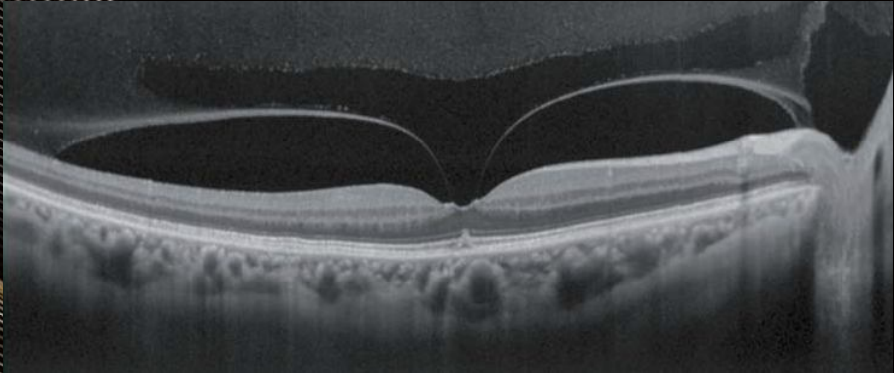
Optical Coherence Tomography

RS-3000 Advance 2
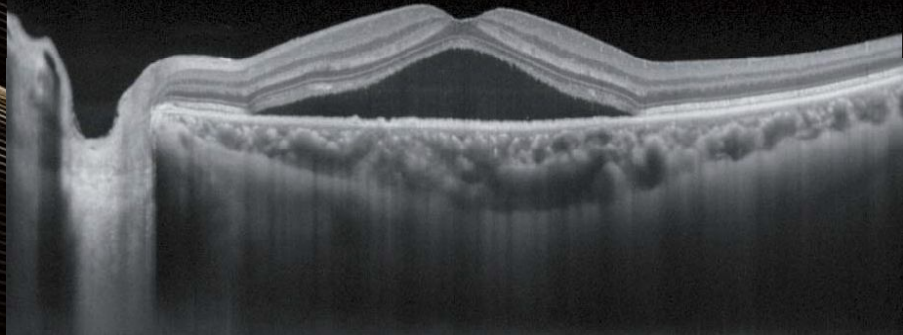
THE ART OF EYE CARE

Premium OCT for your daily practice

Providing a comprehensive solution for retina and glance
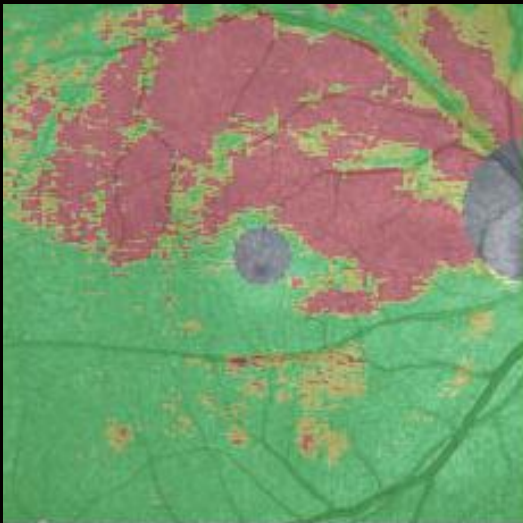
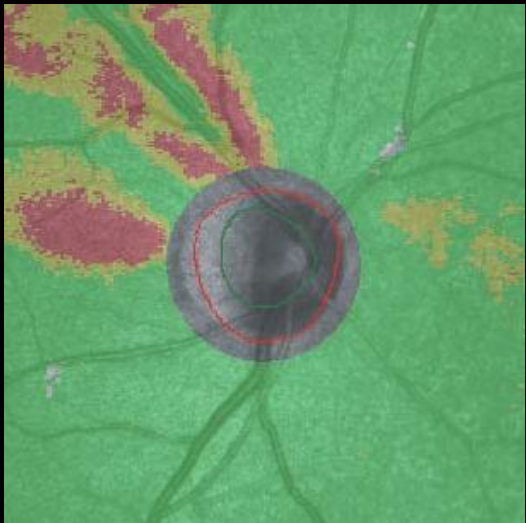## Retina Analysis

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 software.

Superficial	Deep	Vitreous
Outer retina	ORCC	

FAZ Parameter

Area[mm2]	0.72
Perimeter[mm]	4.10
Circularity	0.54

Grid Chart Vessel Density

9	12	9
8	10	11
8	12	16

Choriocapillaris	Choroid

ETDRS 9 Sector Vessel Density

```
        12
        13
9  5  (12) 13  11
        10
        14      [mm-1]
```

Size0.5/1.5/3.0mm
Whole:11 Inner:10 Outer:11

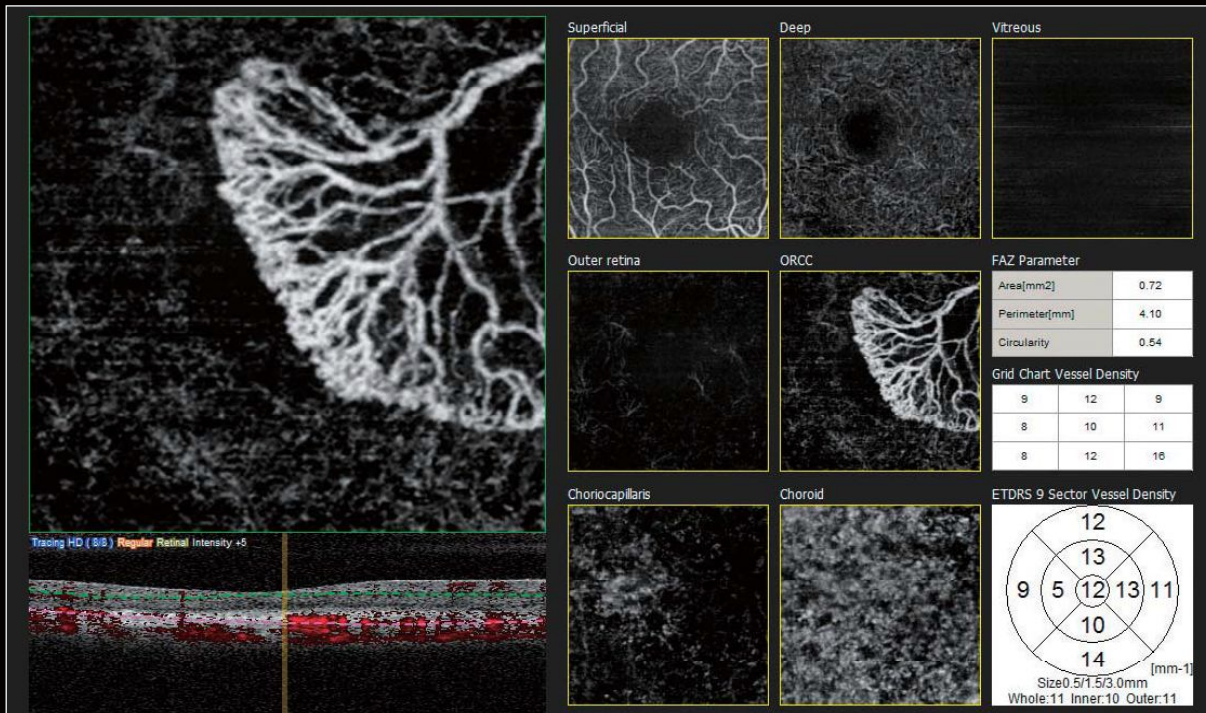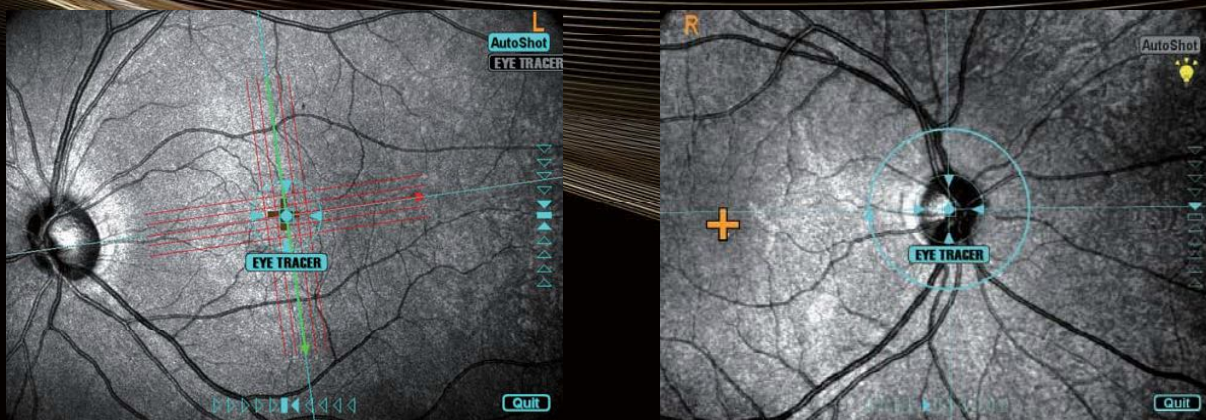Tracing HD (8/8) Regular Retinal Intensity +5
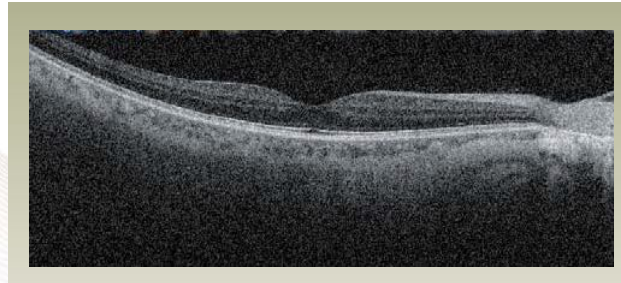
Image courtesy of Dr. Alejandro Villalobos

SLO

SLO-based eye tracer

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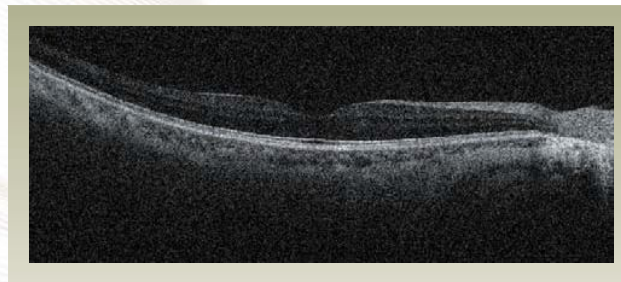
Retina Analysis

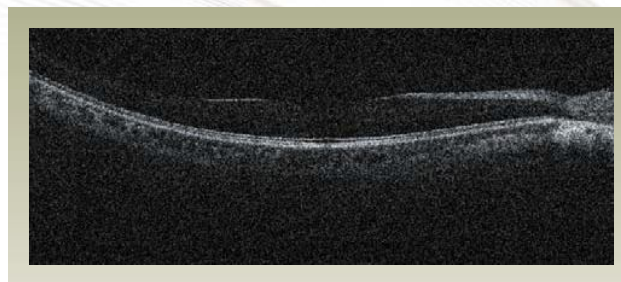## Selectable OCT Sensitivity

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.
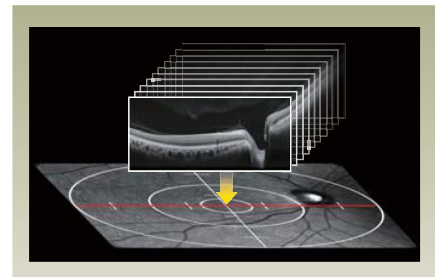
Enhanced Image

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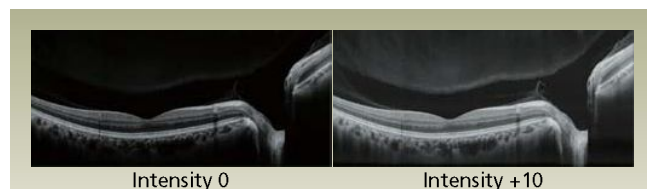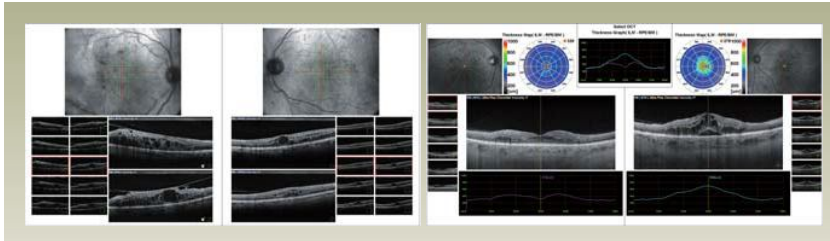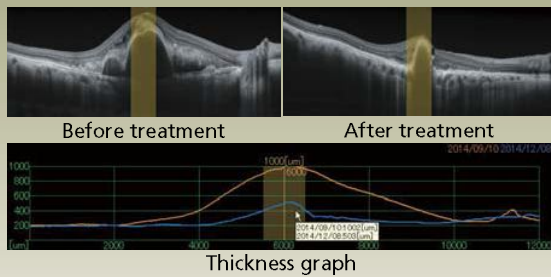

Intensity 0   Intensity +10

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

Before treatment   After treatment

Thickness graph

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   Choroidal

Images courtesy of Hokkaido University Hospital

En face   CNV
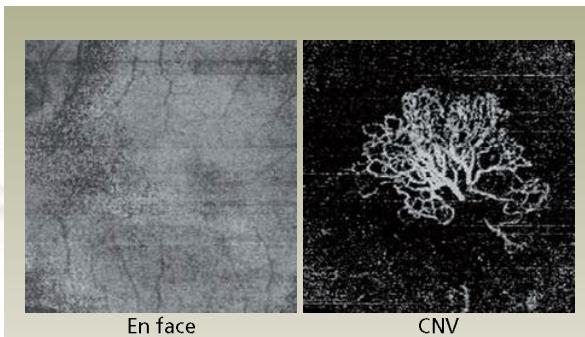
En face OCT

• 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
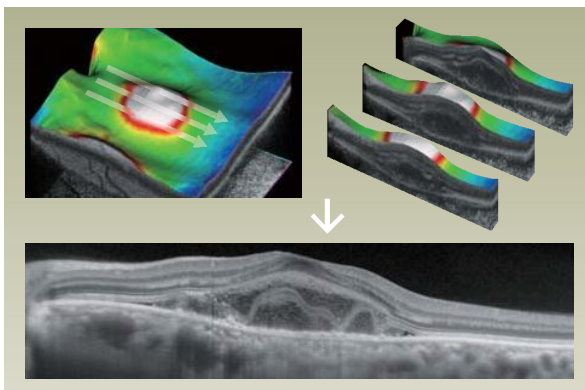
## Select and Rescan Mode (SR Mode)

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.

Right   Left
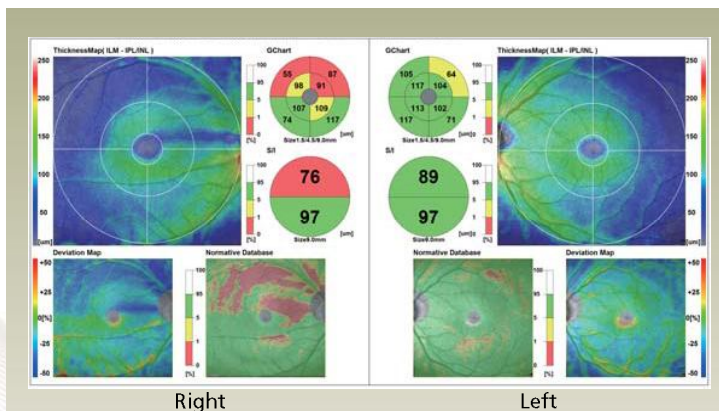
Glaucoma Comparison

- 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.
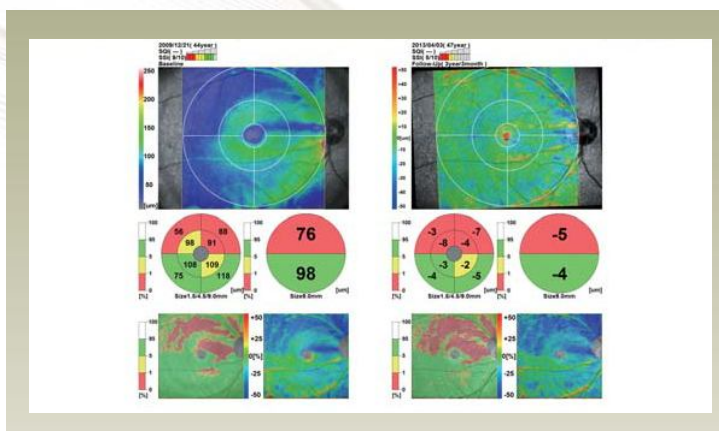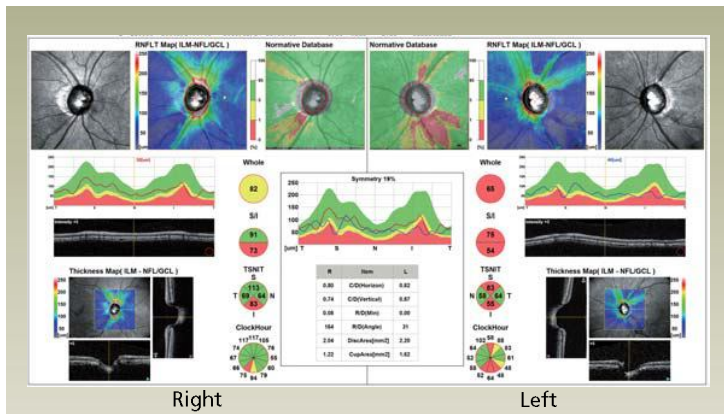

Anterior Chamber Angle

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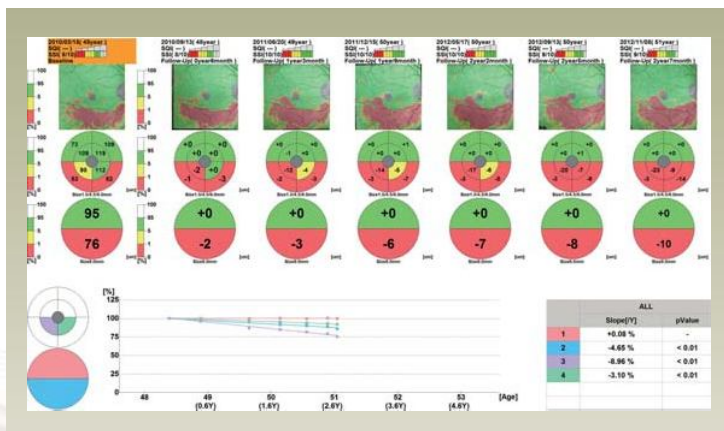- ACA, AOD500 (AOD750), and TISA500 (TISA750) can be measured.

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

Disc Map

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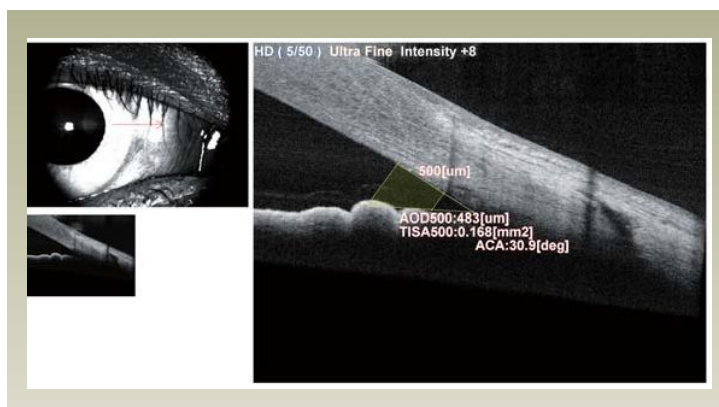
- Optic nerve head (ONH) and retinal nerve fiber layer (RNFL) thickness can be examined.
- Optic shape editor function allows greater accuracy of C/D ratio analysis by editing optic cup and disc segmentation in detail.

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.
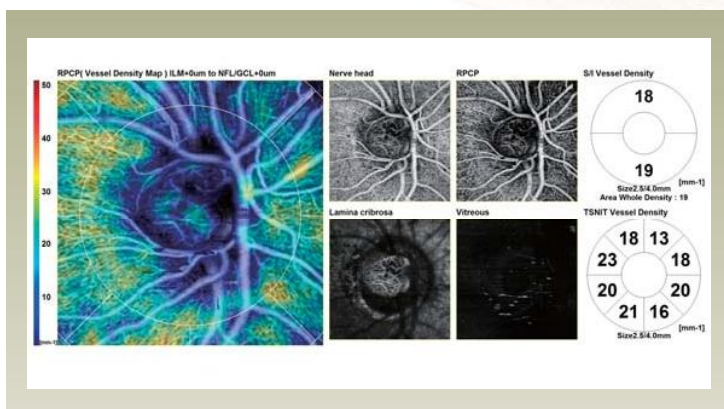
AngioScan

- 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.
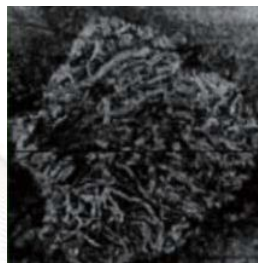
- Macula AngioScan: Macula Map
    Vitreous, Superficial, Deep, Outer retina, ORCC, Choriocapillaris, Choroid

- Optic Nerve Head AngioScan: Disc Map
    Vitreous, Nerve head, Radial peripapillary capillary plexus (RPCP), Lamina cribrosa
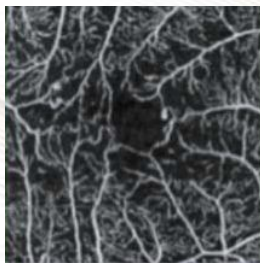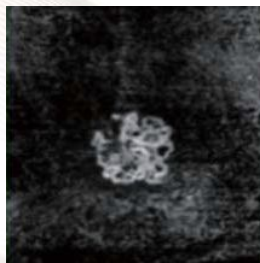
Superficial	ORCC	Choroid	Vitreous
Diabetic retinopathy	Choroidal neovascularization	Stargardt	Proliferative diabetic retinopathy

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

- Based on the clinical requirement, the tracing function can be set for high definition and high contrast imaging. Images can also be captured within seconds without the tracing function.
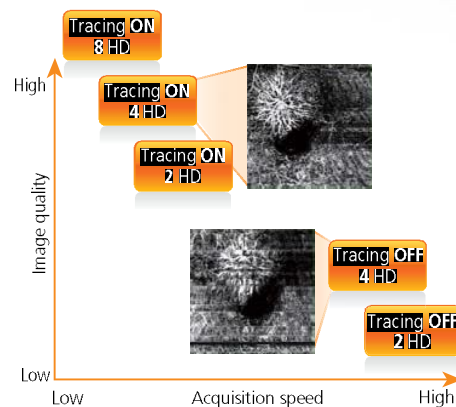
Selectable Definition

Two-, four- or eight-scan per line (2 HD, 4 HD, 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

Wide Area Scan
Scan size can range from 3 mm to maximum of 9 mm in 0.3 mm increment.
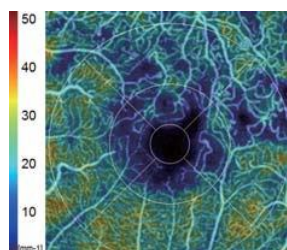
Auto Panorama Imaging
During the panorama acquisition, the tracing HD plus is activated and multiple, consecutive image captures are performed automatically without moving the fixation target. The tracing HD plus feature reduces image overlap and/or gaps between images. Panoramas up to 12 x 12 mm can be automatically composed.

Up to 12 mm

Up to 12 mm

12 x 12 mm
(5 images / 6 x 6 mm each)
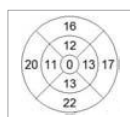

Auto panorama image
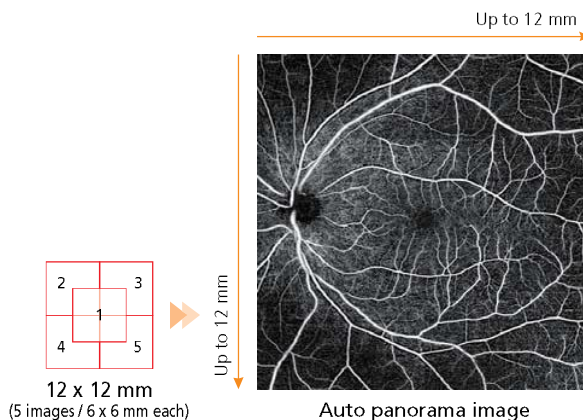
Vessel Density Map and Perfusion Density Map

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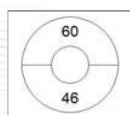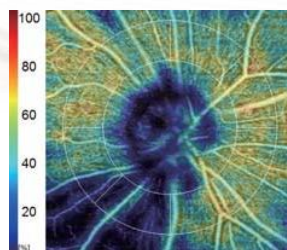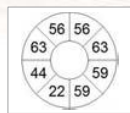

Vessel density map
(Superficial capillary plexus)

Grid chart
[mm-1]

ETDRS chart
[mm-1]

Perfusion density map
(Radial peripapillary capillary plexus)

S/I chart [%]

TSNIT [%]

Panoramic vessel density map
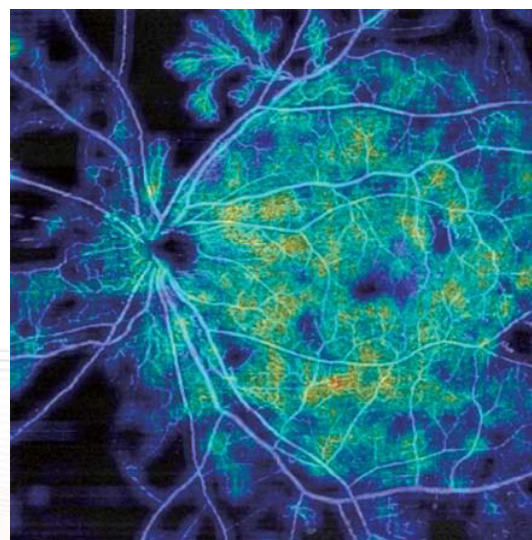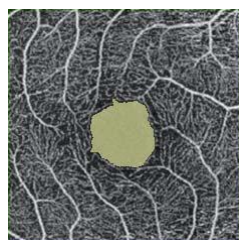
Images courtesy of Chiba University Hospital
Tohoku University

Autodetection of FAZ and Shape Analysis

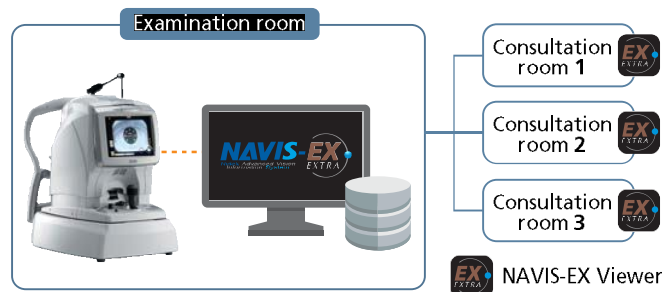Foveal Avascular Zone (FAZ) is automatically detected and shape metrics are provided for rapid assessment.

Autodetection of FAZ

Area[mm2]	0.52
Perimeter[mm]	3.04
Circularity	0.71

FAZ parameter

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 (optional software)
- DICOM connectivity

Examination room

Consultation room **1**

Consultation room **2**

Consultation room **3**

NAVIS-EX Viewer

Long Axial Length Normative Database

The long axial length normative database is optional software for use with the RS series designed to assist clinicians in diagnosing macular diseases and glaucoma.

This normative database was developed based on data from normal eyes (free of ocular pathology) with long axial length. Data was collected from Asian cases by measuring the macular area in 3-D to obtain retinal thickness values, such as full retinal and [NFL+GCL+IPL] thickness, which is important for the diagnosis of macular diseases and glaucoma.

Sample analysis of a patient with long axial length

Normative database without axial length compensation

Long axial length normative database with axial length compensation

N Normative database
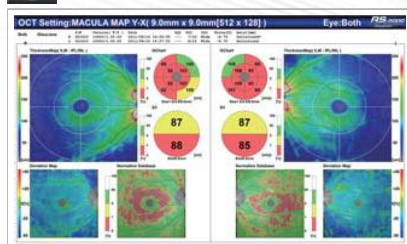
L Long axial length normative database
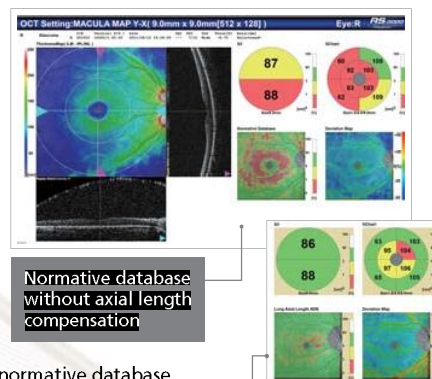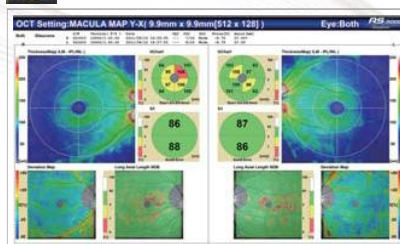
Anterior Segment Analysis

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

Angle measurement

- ACA
  Angle between posterior corneal surface and iris surface
- AOD500 (AOD750)
  Distance between iris and a point 500 µm (or 750 µm) away from scleral spur on posterior corneal surface
- TISA500 (TISA750)
  Area circumscribed with AOD500 (or AOD750) line, posterior corneal surface, line drawn from scleral spur in parallel with AOD line, and iris surface

Cornea measurement

- Corneal thickness
  Corneal thickness of apex and user's preferred sites
- Corneal thickness map
  Map indicating corneal thickness measured in radial directions
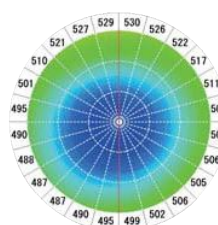
Anterior segment adaptor

Multimodal Imaging

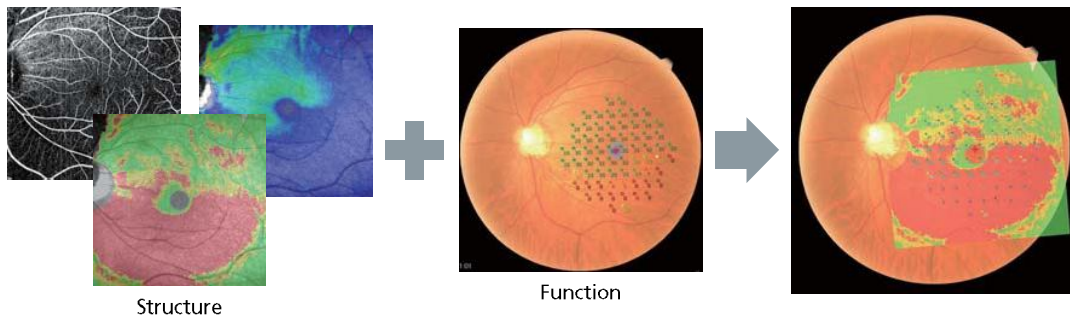## Evaluate retinal structure and function simultaneously using combined OCT and Microperimetry images

Various OCT modalities can be registered with Microperimetry.
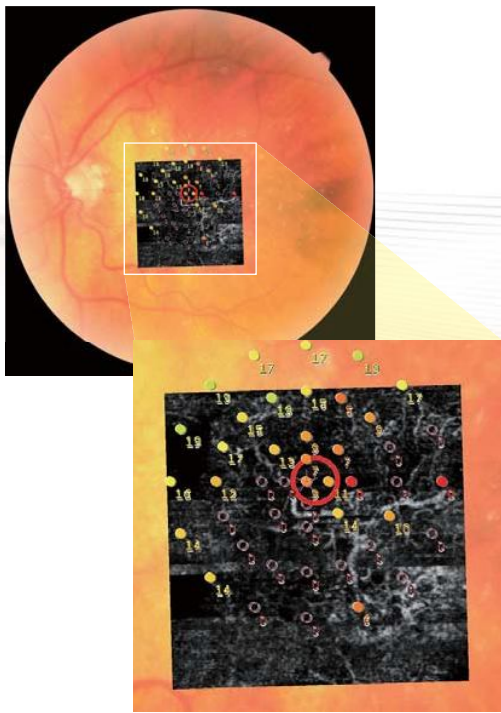

OCT
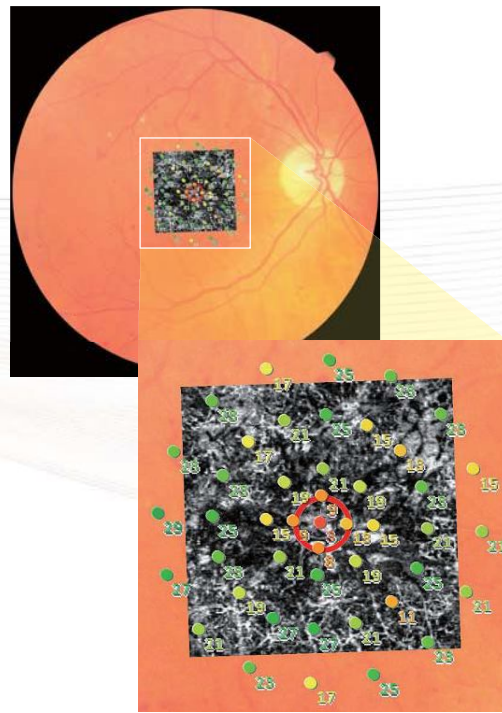RS-3000 Advance 2

Microperimeter
MP-3

Structure

Function

Clinical Case

Age-related Macular Degeneration (AMD)

OCT-Angiography + Microperimetry
(Outer retina)

Diabetic Macular Edema (DME)

OCT-Angiography + Microperimetry
(Deep capillary)