

STRATUSTMOCT
DIRECT CROSS-SECTIONAL IMAGING

How a true revolution in
technology actually works.



The Vision Of Technology

STRATUSTMOCT
DIRECT CROSS-SECTIONAL IMAGING

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STRATUSTM OCT

DIRECT CROSS-SECTIONAL IMAGING



RNFL ANALYSIS

RNFL Thickness (OU)

Obtains measurements of retinal nerve fiber layer thickness along circle scans performed around the optic disk.

RNFL Map (OU)

Uses six concentric circle scans to create two maps of retinal nerve fiber thickness around the optic disk (peripapillary region). One map shows average RNFL thickness in microns, and the other shows RNFL thickness using a color code.

RNFL Thickness Change (OU)

Utilizes circle scans around the optic disk to analyze the changes in RNFL thickness from one exam visit to the next.

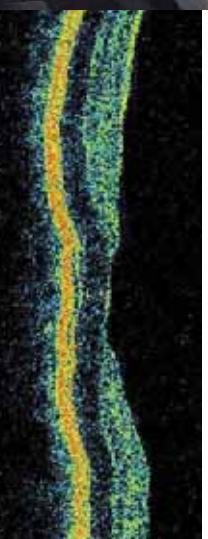
RETINAL THICKNESS ANALYSIS

Retinal Thickness Analysis, Retinal Map,

Retinal Thickness/Volume OU,

Retinal Thickness/Volume Change OU

Multiple Analysis Protocols yield quantitative and visual information.



Intended Use

Direct Cross-Sectional Imaging of Retinal Tissue

Tomographic Imaging

Purpose:	Cross-Sectional Imaging of Retina
Signal Type:	Optical Scattering from Tissue
Signal Source:	Superluminescent Diode, 820 nm
Optical Power:	≤ 750 Microwatts at Cornea
Longitudinal / Axial Resolution:	≤ 10 µm in tissue
Transverse Sample Size:	20 µm in tissue
Scanners:	Galvanometric Mirror
Scan Patterns:	Line, Circle, Concentric Rings, Radial Lines
Scan Pixels:	Adjustable from (1024 axial x 128 transverse) to (1024 axial x 768 transverse)
Longitudinal (Depth) Range:	2 mm in tissue
Scan Rate:	400 A-scan / sec

Fundus Imaging

Purpose:	Fundus Alignment, Documentation
Signal Type:	CCD image
Field of View:	29° x 23°
Viewing Method:	Flat Panel Display
Illumination:	Near IR / Red-Free
Internal Fixation:	32 x 16 LED Dot Matrix
External Fixation:	Slit Lamp Type Adjustable Blinking LED
Minimum Pupil Diameter:	3.2 mm

Electrical

Power Consumption:	100V ~ (±10%), 50/60Hz, 6.0A; 115 V ~ (±10%), 60Hz, 6.0A 230V ~ (±10%), 50/60Hz, 3.0A 700VA
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Footprint

Patient Module:	48 inches x 34 inches, 120 cm x 85 cm
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User Features

Processor:	850 MHz Pentium III
Operating System:	Windows 2000
Memory:	256 Megabytes

Standards and Approvals

UL 2601-1
CSA 22.2 No. 601.1
MDD

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See the future of diagnostic imaging here and now.

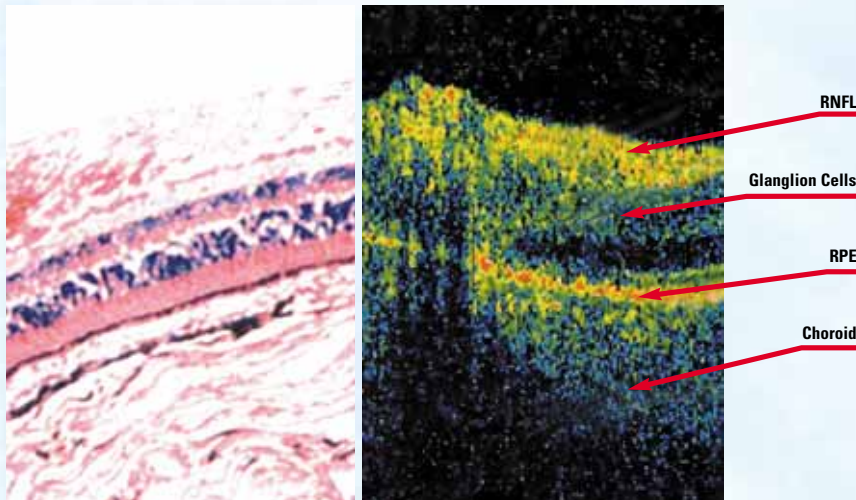
There has never been an optical diagnostic device with the total range of capabilities available in the Stratus^{OCT™}.

Stratus^{OCT™} is the first advance of its kind to offer optical coherence tomography with in vivo diagnostic imaging, so practitioners can conduct ocular examinations for retinal disease and glaucoma at an unparalleled level of detail and accuracy. Stratus^{OCT™} is the only device that measures RNFL, optic disk and retina. It's one remarkable innovation.

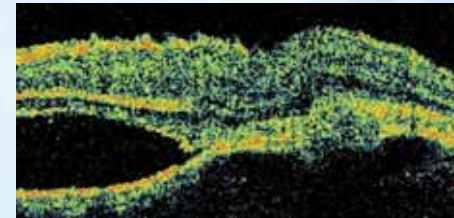
Advanced technology, only available for research . . . until now.

The Stratus^{OCT™} delivers real-time, cross-sectional images of retinal tissue with an axial resolution of 10 microns or less. With the Stratus^{OCT™}, practitioners can avoid more invasive diagnostic procedures and literally see below the surface of the retina. This provides direct measurement of internal retinal structures as an aid in the diagnosis of glaucoma and retinal diseases.

Make clear, informed diagnoses with Stratus^{OCT™}.



Direct cross-sectional images of live tissue allow practitioners to see disease in vivo. More accurate histology means earlier detection and earlier, often presymptomatic, diagnosis of sight-threatening disease.

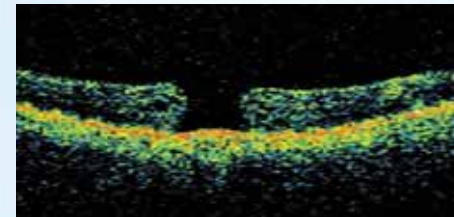


Cystoid Macular Edema (CME) with multiple cysts. No angiogram needed for diagnosis and follow-up. Cross-sectional confirmation of diagnosis, as seen only with Stratus^{OCT™}.

View the objective data and in vivo evidence of retinal disease.

Stratus^{OCT™} allows practitioners to identify changes in the RNFL which can lead to early detection of glaucoma. And Stratus^{OCT™} provides for RNFL thickness, bilateral analysis and serial analysis.

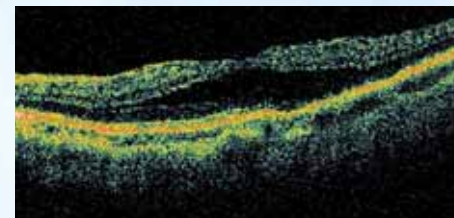
Stratus^{OCT™} scans do not require dilation which increases patient compliance. Images and data for analysis are available instantly, in vivo, with no biohazard or blood-related risk.



Macular Hole. Measure the dimensions of macular hole. Cross-sectional confirmation of diagnosis.

Real-time, in vivo retinal images enhance your ability to diagnose.

Stratus^{OCT™} allows practitioners to perform accurate diagnosis and measurement of CME, CSR and macular holes with cross-sectional scans of retinal thickness and in vivo histology of tissue. Diagnosis is further enabled by color-coded maps and retinal thickness in microns in nine map sectors.



Central Serous Retinopathy Neurosensory detachment at the macula.

See the histology. See the difference.

Case Study One: Asymmetric optic nerve heads

This 36-year-old Asian male presents with asymmetric optic disks, normal IOPs, and is negative for prior ocular disease or trauma, without family history of glaucoma.

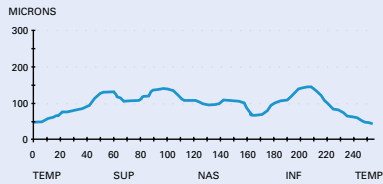
Findings: OD appears within normal limits with a C/D ratio of .5. OS has large cup with C/D ratio of .7. Visual fields within normal limits.

RNFL Thickness Average Analysis demonstrates typical triple-hump pattern and symmetry in nerve fiber layer pattern with no significant difference in thickness measurements between OD and OS.

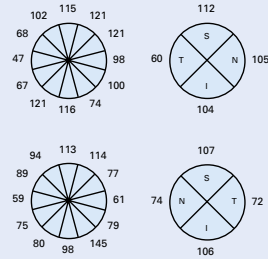
Impressions: Anatomic large nerve head with normal RNFL. Only distinguished with Stratus^{OCT}™.

Cross-sectional imaging is vital in the analysis of RNFL thickness in vivo, particularly in differentiating healthy RNFL from glaucomatous RNFL.

RNFL Thickness Average Analysis



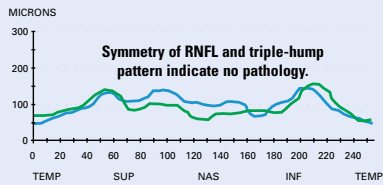
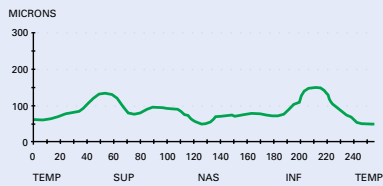
OD



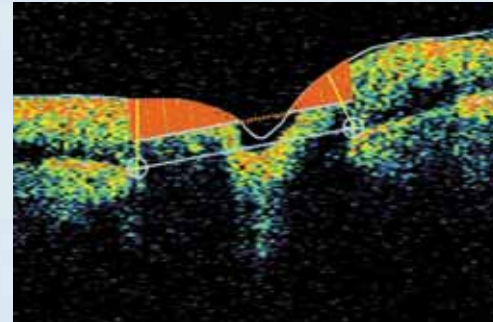
OS

PERSONAL	
Name	Cupping
BirthDate	Asymmetric
BirthDate	XXXX
SCAN	
ScanType	Fast RNFL Thickness (3.4)
ScanDate	03/02/2002
ScanLength	10.87

	OD (N=3)	OS (N=3)	Diff(OD-OS)
Smax/Imac	0.966	0.99	0.024
Smax/Tavg	2.263	1.903	0.361
Imax/Tavg	2.367	2.139	0.228
Smax/Navg	1.292	1.851	-0.559
Max-Min	98	101	-3
Smax	137	137	0
Imax	142	154	-12
Savg	112	107	5
Iavg	104	106	-2
Avg.Thickness	95.583	89.833	5.75

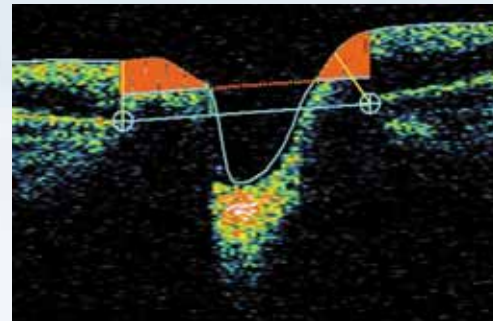


OU



Optic Nerve Head Analysis Results

Vert. Integrated Rim Area (Vol.)	.327 mm ³
Horiz. Integrated Rim Width (Area)	1.578 mm ²
Disk Area	1.998 mm ²
Cup Area	.646 mm ²
Rim Area	1.352 mm ²
Cup/Disk Area Ratio	0.323
Cup/Disk Horiz. Ratio	0.538
Cup/Disk Vert. Ratio	0.58



Optic Nerve Head Analysis Results

Vert. Integrated Rim Area (Vol.)	.188 mm ³
Horiz. Integrated Rim Width (Area)	1.597 mm ²
Disk Area	2.973 mm ²
Cup Area	1.766 mm ²
Rim Area	1.207 mm ²
Cup/Disk Area Ratio	0.594
Cup/Disk Horiz. Ratio	0.775
Cup/Disk Vert. Ratio	0.791

See the retina in real time. See the retina in vivo.

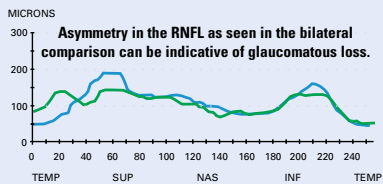
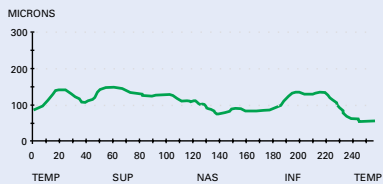
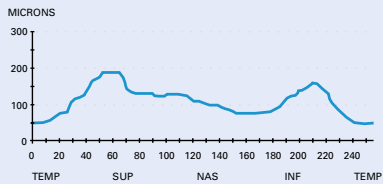
Case Study Two: Symmetric optic nerve heads

This 61-year-old female presents with symmetric optic nerve heads and normal IOPs. Stratus^{ODT}™ reveals glaucomatous change in RNFL, OS.

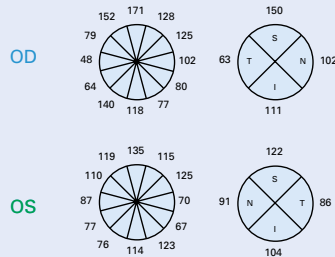
Findings: Symmetric optic discs with C/D ratio of .3.

Impressions: RNFL analysis demonstrates a typical pattern in the OD and flattening of the RNFL pattern in the OS. Thinning of the superior RNFL is consistent with the visual field defect and the diagnosis of glaucoma. This was later confirmed by visual field with infero-nasal defect, OS.

RNFL Thickness Average Analysis

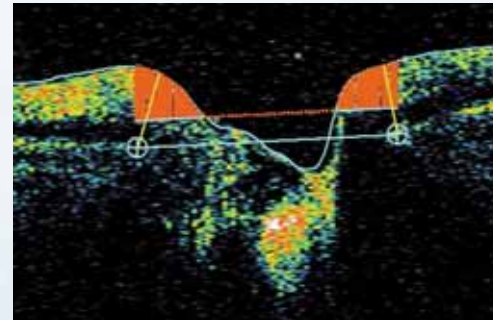


OU



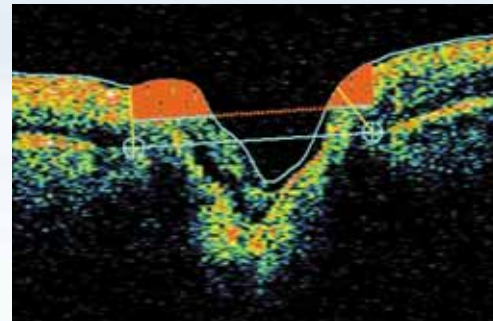
PERSONAL	
Name	Symmetric Disc / Glaucoma
BirthDate	XXXX
SCAN	
ScanType	Fast RNFL Thickness (3.4)
ScanDate	03/01/2002
ScanLength	10.87

	OD (N=3)	OS (N=3)	Diff(OD-OS)
Smax/Imac	1.203	1.102	0.101
Smax/Tavg	3.016	1.64	1.376
Imax/Tavg	2.508	1.488	1.02
Smax/Navg	1.863	1.549	0.313
Max-Min	143	93	50
Smax	190	141	49
Imax	158	128	30
Savg	150	122	28
Iavg	11	104	7
Avg.Thickness	106.667	100.75	5.917



Optic Nerve Head Analysis Results

Vert. Integrated Rim Area (Vol.)	.321 mm ³
Horiz. Integrated Rim Width (Area)	1.717 mm ²
Disk Area	2.53 mm ²
Cup Area	.938 mm ²
Rim Area	1.592 mm ²
Cup/Disk Area Ratio	0.371
Cup/Disk Horiz. Ratio	0.647
Cup/Disk Vert. Ratio	0.593



Optic Nerve Head Analysis Results

Vert. Integrated Rim Area (Vol.)	.313 mm ³
Horiz. Integrated Rim Width (Area)	1.706 mm ²
Disk Area	2.217 mm ²
Cup Area	.764 mm ²
Rim Area	1.453 mm ²
Cup/Disk Area Ratio	0.345
Cup/Disk Horiz. Ratio	0.622
Cup/Disk Vert. Ratio	0.586