



Introduction of Cornea /Anterior Segment OCT CASIA2

Features & Advantages

- Faster scanning speed (50.000 A-scans/sec), Fourier Domain Swept Source
- Advanced imaging → much wider and much deeper
- High usability due to different perspectives and easier software
- New sales approach → also for cataract
- Higher resolution images
- Complete focus up to 13mm scanning depth!
- New applications for Glaucoma (automatic SS detection and analysis)
- Improvements for toric IOL fitting

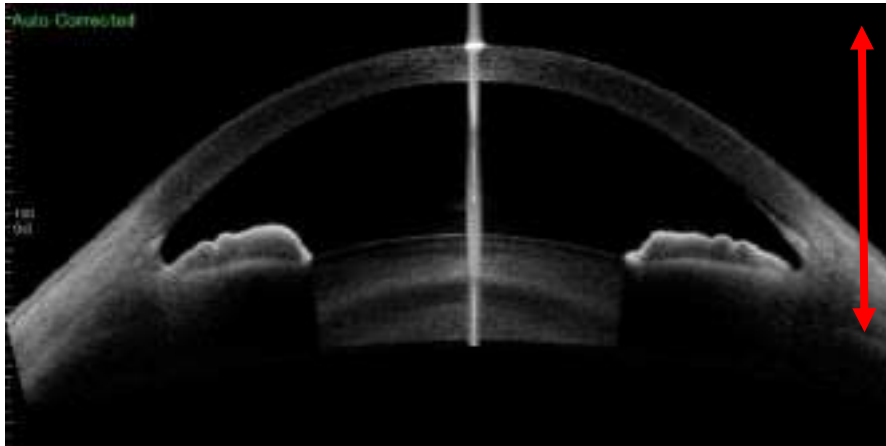
Features & Advantages

- Same GUI as OA/EM/UD → easy to handle
- New report function → creates pdf just by one click, also export as pdf, jpg or DICOM
- Numbers of A/B-Scans (pixel) per measurement slices increased from 256 to 800! Much more points → higher resolution!
- Okulix available
- OA-2000 can be connected to software for standard & advanced IOL calculation
- Light source integrated in machine
- Touchscreen PC/Monitor

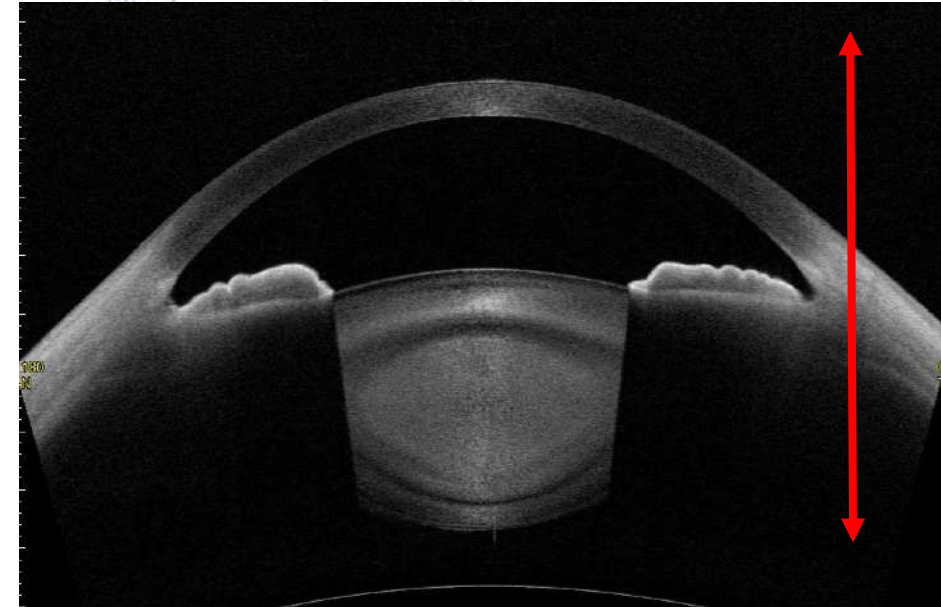
Advanced imaging

Deeper!

Scan the anterior cornea to posterior lens
with just one shot



6mm(SS-1000, CASIA)



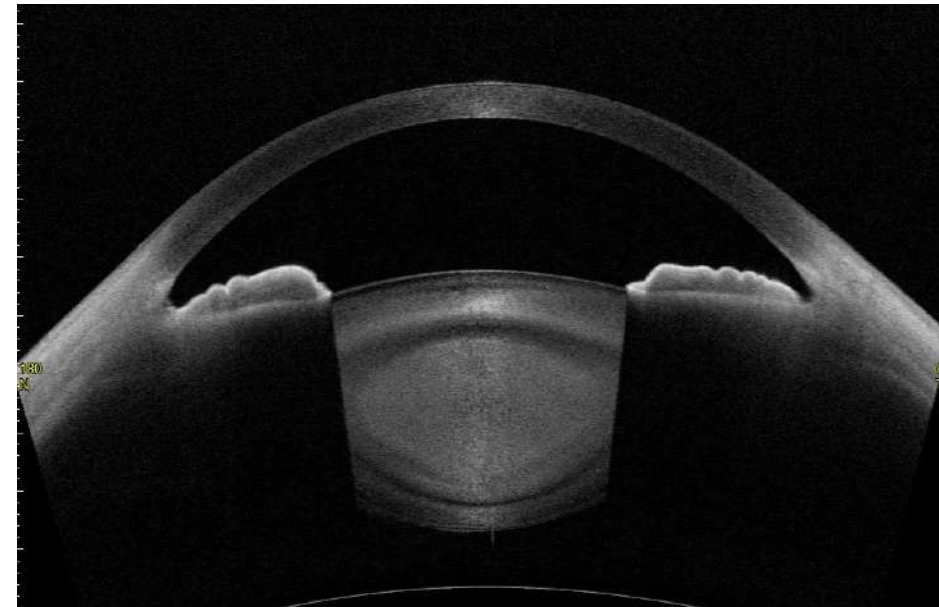
13mm(CASIA2)

We realized higher sensibility towards depth
by improving light source of coherency functions

Advanced imaging

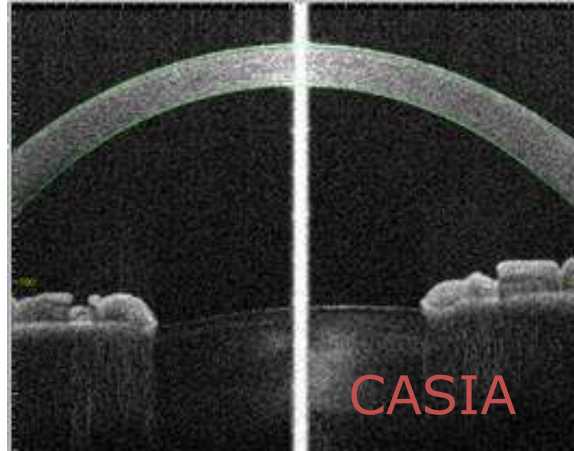
With this new capability there is no different focus needed → no positive or negative scan anymore, since we obtain the full area in one shot!

Advantage: all information in one scan type!



Advanced imaging

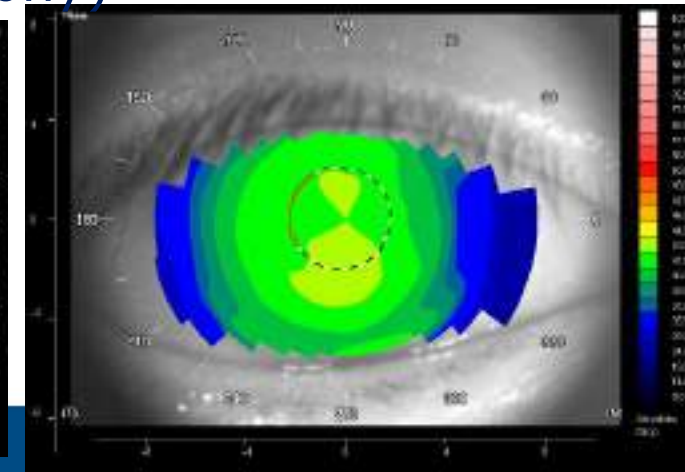
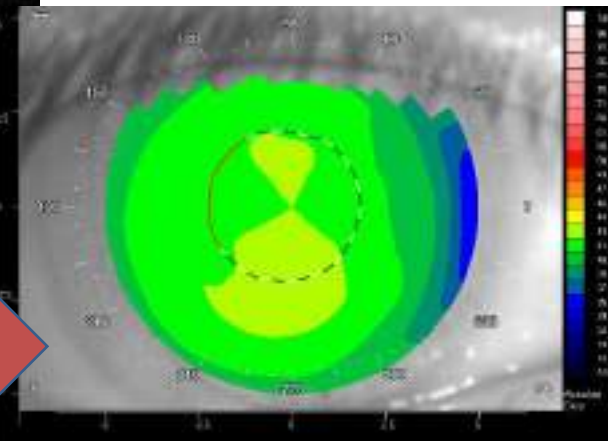
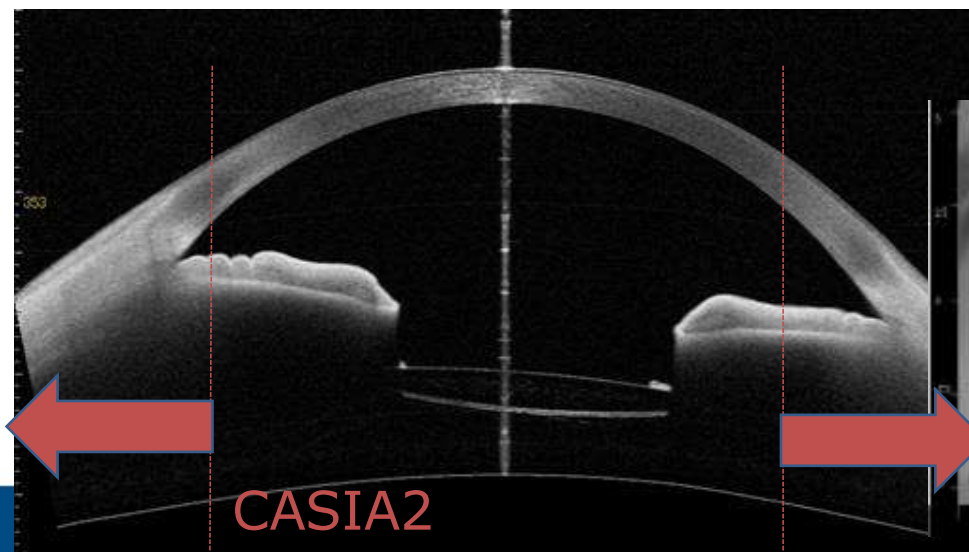
Wider!



Captures images now around the angle as well in corneal topography mode

Possible to observe corneal topography, angle and IOL without switching measuring modes.

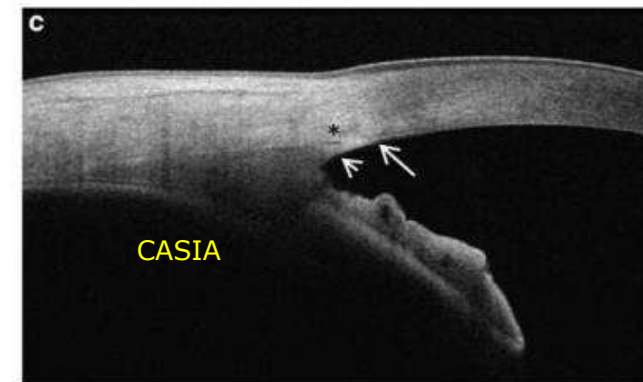
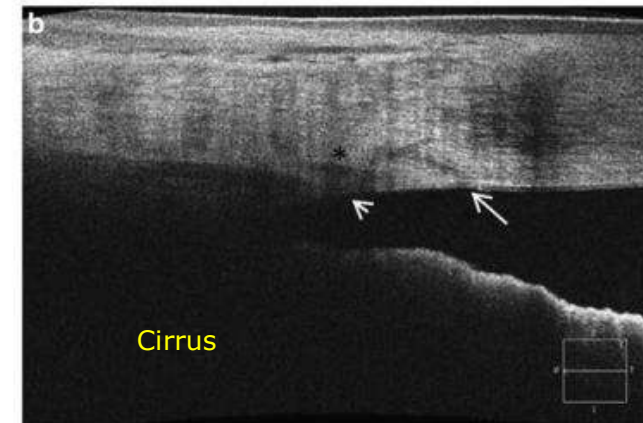
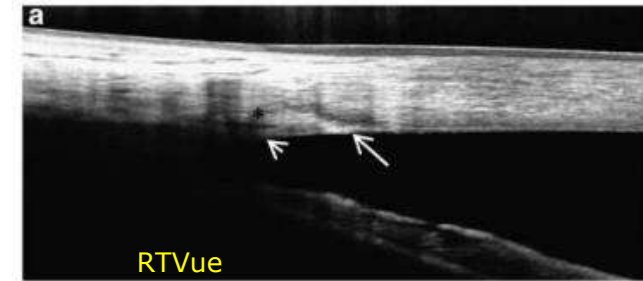
Measurement range: 10mm→16mm
(in corneal topography)



Clear images by near-infrared laser with wavelength of $1.3\mu\text{m}$

- $1.3\mu\text{m}$ wavelength laser makes highly sensible anterior segment OCT
- ⇒ Longer wavelength leads to higher penetration
- ⇒ Penetrates even in corneal clouding, sclera and conjunctiva

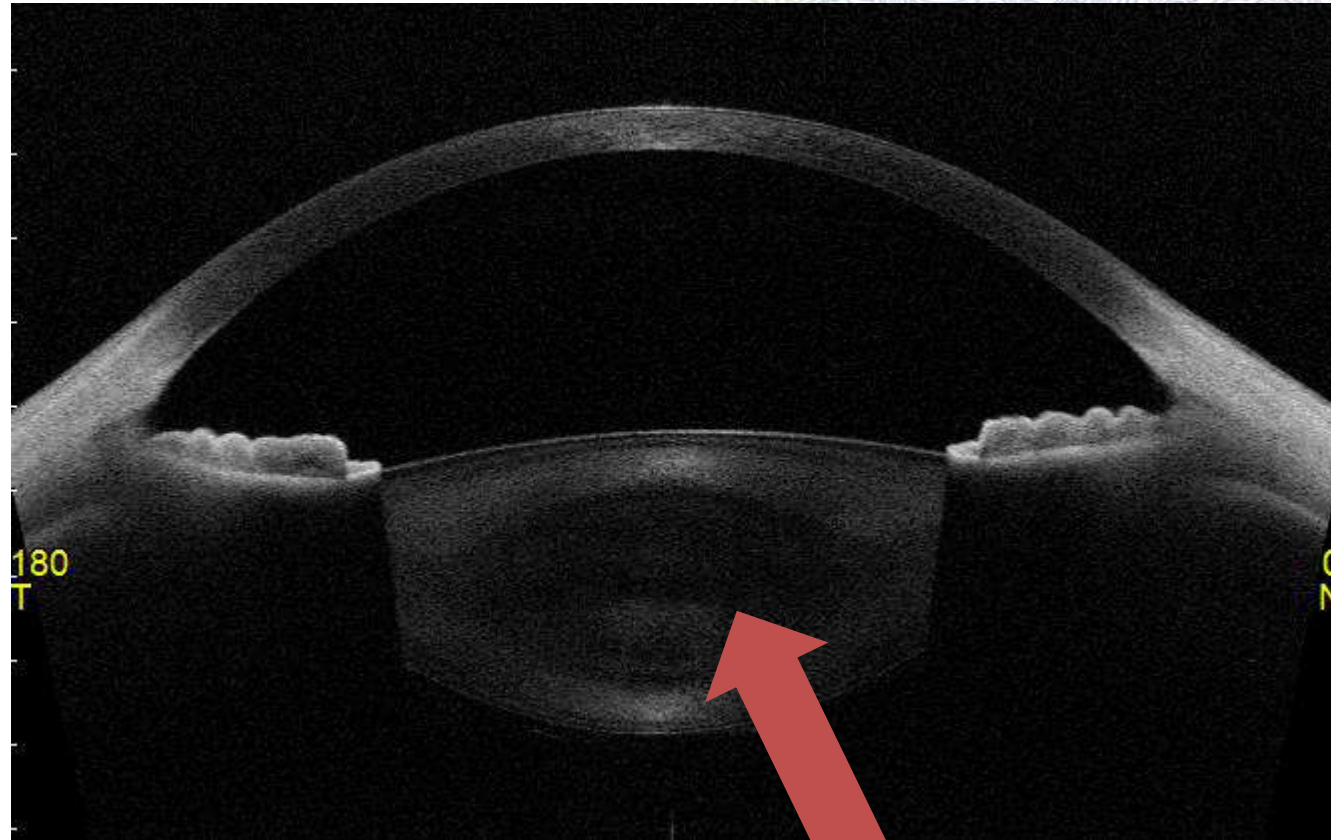
Already used by CASIA



Anterior chamber angle imaging with OCT
CKS Leung and RN Weinreb
Eye (2011) 25, 261–267

Clinical images

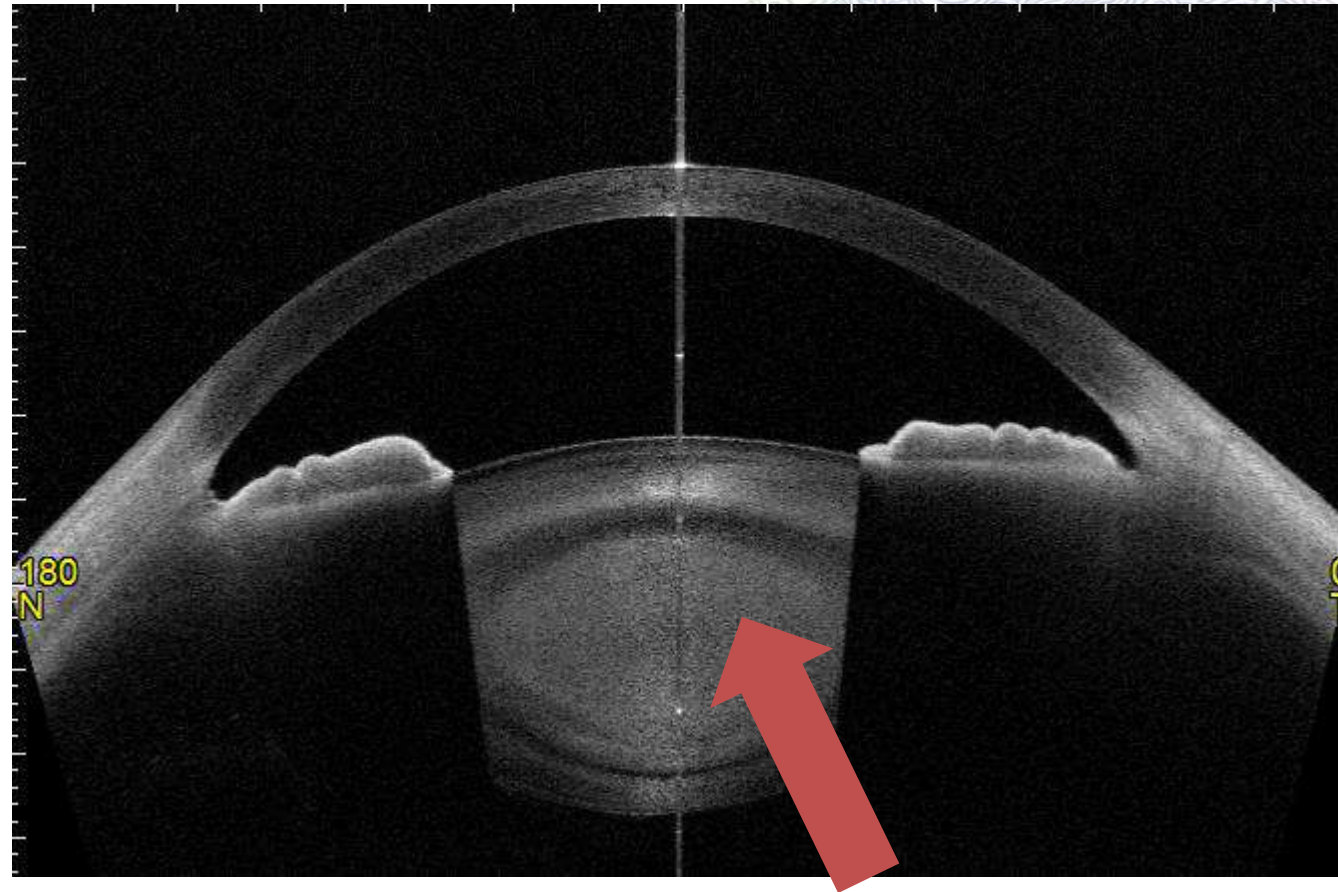
Sample of normal lens



Lens nucleus is likely to be extracted
in a low-luminance state

Clinical images

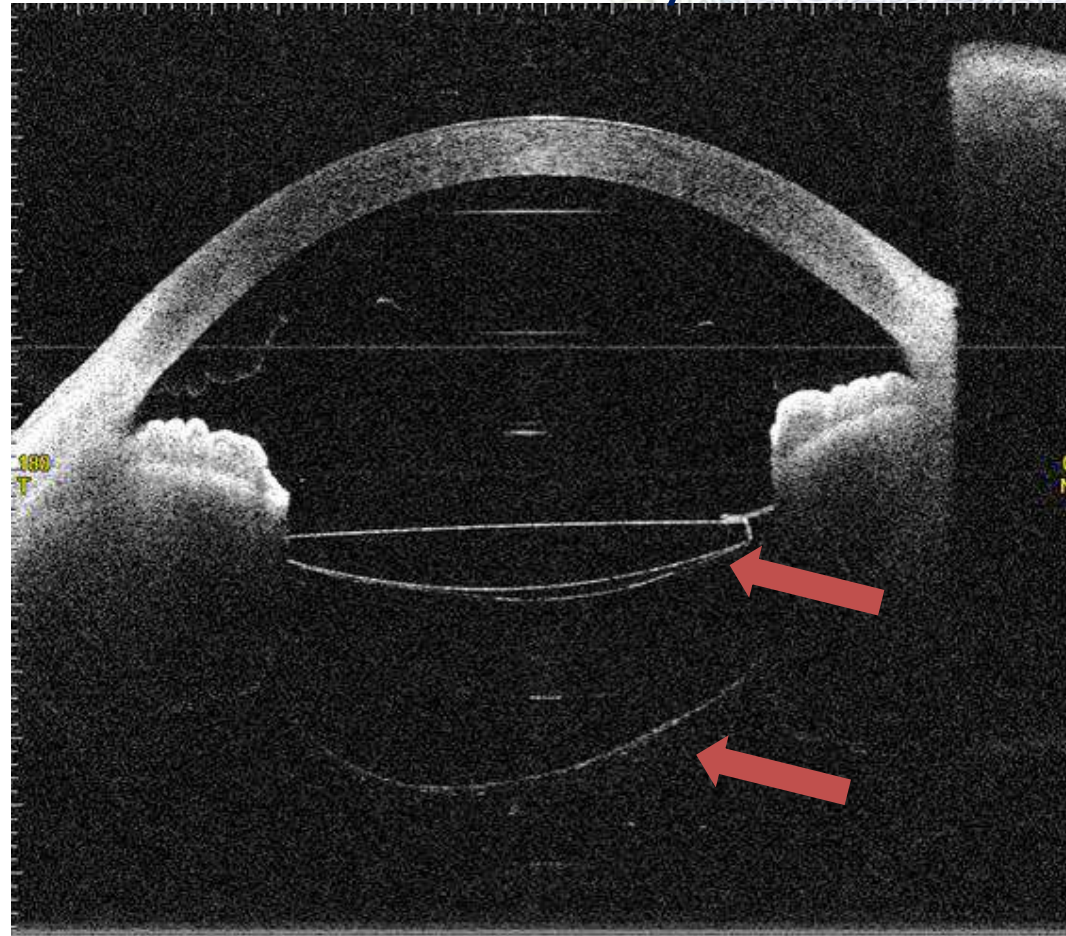
Sample of lens clouding by nuclear cataract



Observe clouding of lens nucleus

Clinical images

Sample of vitreous detachment of IOL
inserted eye



Data presented by:
Dr. Yuta Ueno
University of
Tsukuba Hospital

Observe IOL and anterior vitreous detachment

Overview of Scan Types

CASIA2 Testing Protocol and Scanning Type List (from version 1H)

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Category	Testing Protocol Name	Scanning Type	Scanning Method	Scanning Area (mm) φ: diameter B: B Scan Width C: C Scan Width D: depth	A/B Scan (Pixel)	B/C Scan (number of images)	Duration (sec)	Purpose		
General	Anterior Segment Screening	Corneal Map	Radial	φ16-D11	800	16	0,3	General		
	Option Menu	AS H+V	Cross (H+V)	B16-D11	800	Overlaid Horizontal 8 Images / Vertical 8 Images	0,3	Corneal Shape Analysis Angle Analysis		
		AS Global scan	Radial	φ16-D11	800	128	2,4	Anterior Chamber Analysis		
Cataract	Pre-op	Lens Biometry	Radial	φ16-D14	800	16	0,3	Testing before Cataract surgery		
		Corneal Map	Radial	φ16-D11	800	16	0,3			
	Option Menu	Vitreous Raster	Raster H (Optional deg)	B12×C12-D14	400	256	2,4		Corneal Shape Analysis Angle Analysis Lens Analysis IOL Choice	
		AS H+V	Cross (H+V)	B16-D11	800	Overlaid Horizontal 8 Images / Vertical 8 Images	0,3			
		Lens H+V	Cross (H+V)	B16-D14	800	Overlaid Horizontal 8 Images / Vertical 8 Images	0,3			
		AS Global scan	Radial	φ16-D11	800	128	2,4			
	Post-op	Lens Global scan	Radial	φ16-D14	800	128	2,4			
		Corneal Map	Radial	φ16-D11	800	16	0,3		Testing after cataract surgery	
		Option Menu	AS H+V	Cross (H+V)	B16-D11	800	Overlaid Horizontal 8 Pictures / Vertical 8 Pictures		0,3	Corneal Shape Analysis Angle Analysis
			Lens H+V	Cross (H+V)	B16-D14	800	Overlaid Horizontal 8 Pictures / Vertical 8 Pictures		0,3	Observe and analysis IOL condition
AS Global scan	Radial		φ16-D11	800	128	2,4				
	Lens Global scan	Radial	φ16-D14	800	128	2,4				
Glaucoma	Detailed Angle	Global AC Analysis	Radial	φ16-D11	800	128	2,4	Glaucoma		
		Angle Analysis	Radial	φ16-D11	800	16	0,3			
	Option Menu	AS H+V	Cross (H+V)	B16-D11	800	Overlaid Horizontal 8 Images / Vertical 8 Images	0,3		Narrow Angle Analysis Angle-closure Analysis	
		AngleHD__N	Raster H (0 deg)	B8×C4-D11	800	64	1,2			
		AngleHD__T	Raster H (0 deg)	B8×C4-D11	800	64	1,2			
		AngleHD__S	Raster H (90 deg)	B8×C4-D11	800	64	1,2			
		AngleHD__I	Raster H (90 deg)	B8×C4-D11	800	64	1,2			
	Bleb	Bleb Raster	Raster H (Optional deg)	B12×C12-D11	400	256	2,4		Glaucoma Observe bleb condition	
Custom	Optional naming	AS Single	Raster H (Voluntary deg)	B16-D11	800	Overlaid Horizontal 16 images	0,3	Observe between cornea and anterior lens		
		Lens Single	Raster H (Voluntary deg)	B16-D14	800	Overlaid Horizontal 16 images	0,3	Observe between cornea and posterior lens		
		AS Movie	Cross (H+V)	B16-D11	800	0	-	Observe between iris and anterior lens by movie		
		Lens Movie	Cross (H+V)	B16-D14	800	0	-	Observe all around lens by movie		

Scanning type differs but scanning method is same.
 CASIA2 obtains 8 images simultaneously.
 CASIA2 obtains 16 images simultaneously.

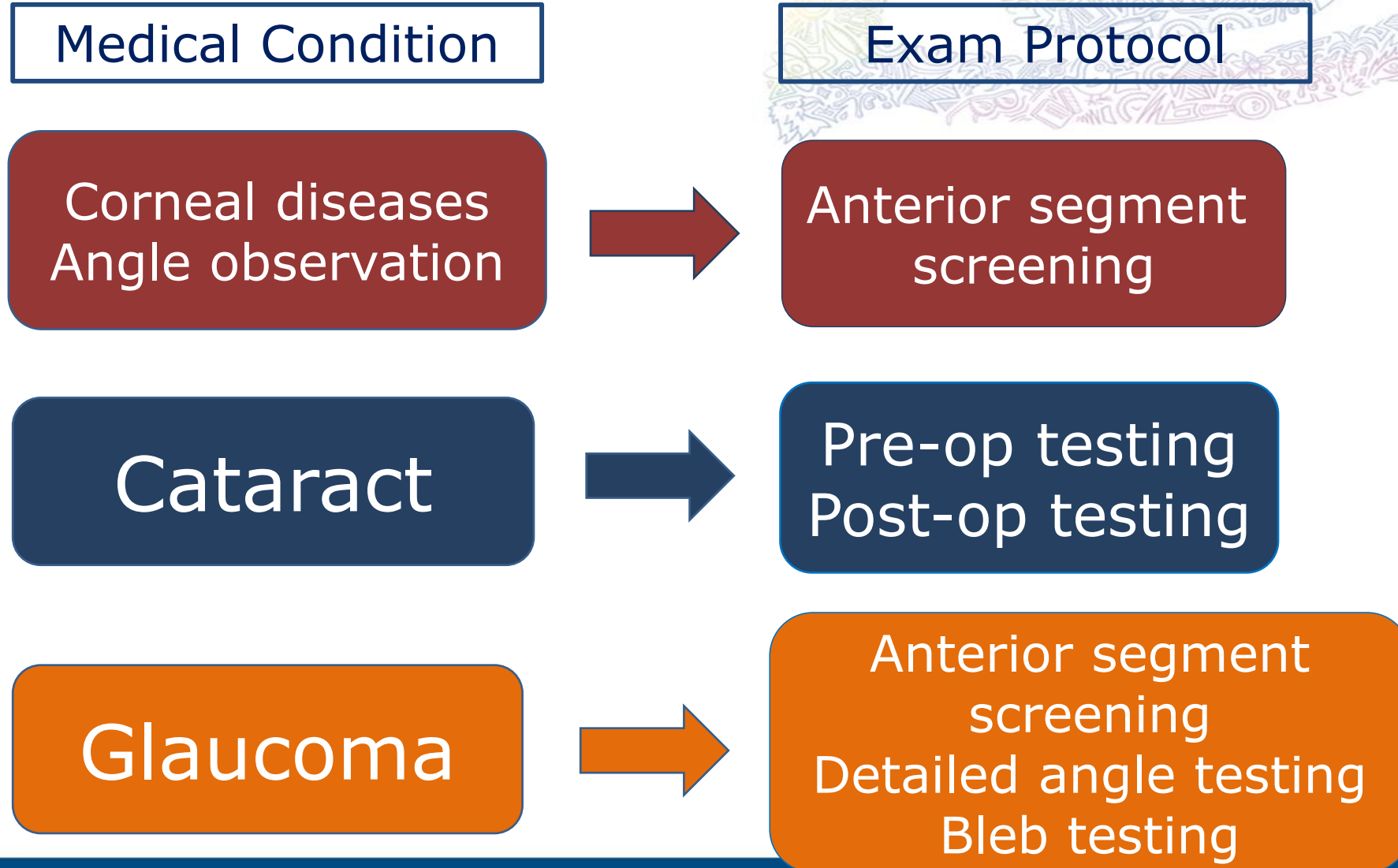
Overview of Scan Types



Overview of Scan Types

- What is new?
- → if we scan in one direction only as: H&V, then CASIA2 takes 8 images in 0.3 seconds and overlays them in order to validate data!
- Standard anterior segment screening only with 16 scans → time only 0.3 seconds
- For more scans in one exam you need to choose "AS Global Scan" exam protocol

CASIA2 – Medical Condition & Testing Protocol

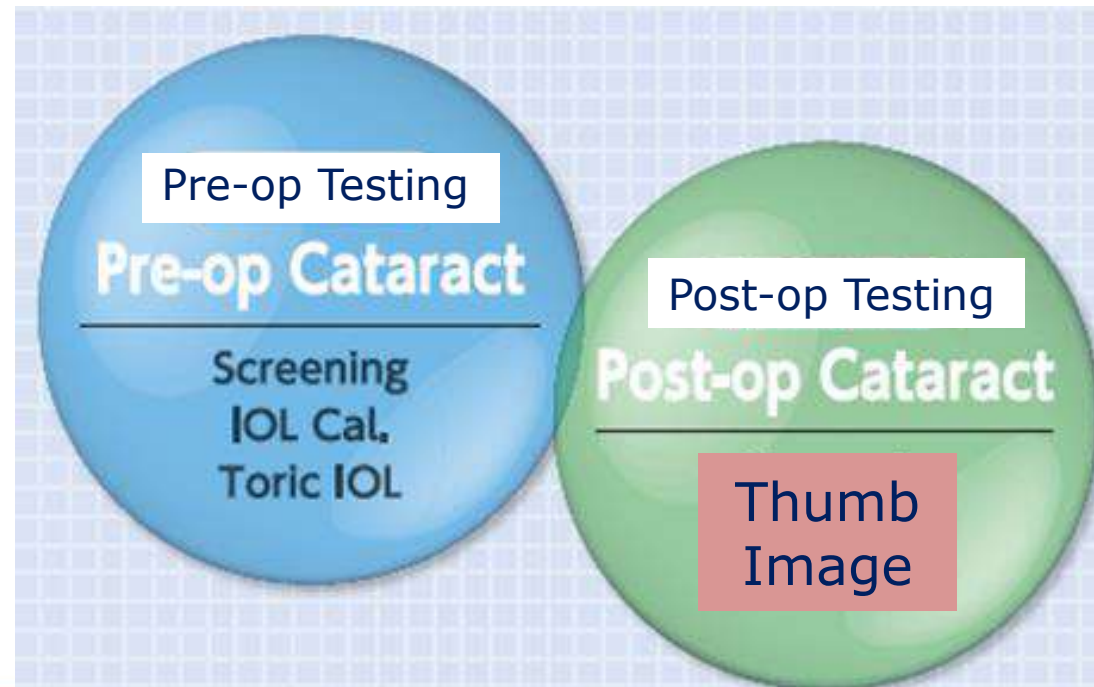


Applications also for cataract surgery

Testing application for cataract surgery: CICS

CICS stands for **CASIA IOL Cataract Surgery**

Analysis application of Pre-op & Post-op testing
for supporting cataract surgery efficiently



Application – for Cataract

Testing before cataract surgery

Measurement: 1. Lens Biometry 1x measurement
2. Corneal Map 3x measurements

Purpose: 1. Anterior segment capturing from cornea to posterior lens
2. Measure corneal refractive power for IOL power calc. and corneal shape analysis

Testing after cataract surgery

Measurement: Corneal Map 1x measurement

Purpose: 1. Analyze corneal shape and tilt of IOL, decentration after surgery
2. Changes of expansion degree of angle

Applications – for cataract surgery SKYMED

Pre-op Testing: Screening function

- Application to evaluate premium IOL (Toric IOL and multi-focal IOL)
- Possible to select appropriate lens for a patient

The screenshot displays the 'Pre-op Cataract' software interface. At the top, it shows 'ID: 1250' and 'Normal Ohba'. The main area is divided into several sections:

- Corneal topography:** Four circular heatmaps showing corneal curvature. The top-left is 'Axial Power [Keratometric]', top-right is 'Axial Power [Posterior]', bottom-left is 'Axial Power [Real]', and bottom-right is 'Pachymetry'.
- Anterior segment image:** A grayscale photograph of the eye's anterior segment.
- Anterior segment OCT image:** A cross-sectional OCT scan of the anterior segment.
- Keratometry:** A table with columns for 'Keratometry', 'IOL Choice', and 'Anterior Chamber'. The 'Keratometry' column lists values for K1, K2, and Cyl. The 'IOL Choice' column lists 'Real Cyl', 'Posterior', and 'Eccentric'. The 'Anterior Chamber' column lists 'ACD', 'ACD[Post]', 'ACD[True]', 'ACW', and 'Lens Thickness'.

Red boxes with arrows point to these specific features. A 'Supervised by:' section on the right lists 'Dr. Naoyuki Maeda' (Osaka University) and 'Dr. Kazuhiko Onuma' (Chiba University). The bottom right corner features the TOMEY logo and the text 'TECHNOLOGY AND VISION'.

Keratometry	IOL Choice	Anterior Chamber
K1 [D] 43.5 @ 118	Real Cyl [D] -4.8 @ 20	ACD [mm] 3.20
K2 [D] 42.4 @ 28	Posterior [D] 0.4 @ 17	ACD[Post] [mm] 3.49
Cyl [D] -1.1 @ 28	Eccentric [mm]	ACD[True] [mm] 3.25
ACW [mm] 42.8	HOVA [mm]	ACW [mm] 11.11
Real [mm] 11.8	HOVA [mm]	Lens Thickness [mm] 3.87

Pre-op Testing

Lens shape analysis

- Automatically measures radius of curvature, lens thickness and tilt of lens (in respect to the visual axis)



Pre-op Testing: IOL Cal. function and combination with the OA-2000

- Connect our new CASIA2 to our Optical Biometer OA-2000
- Automatically obtain axial length value and corneal refractive power
- Compare power calculation and several calculation methods including premium IOL with Okulix or other Raytracing formulas



Applications – for cataract surgery SKYMED

IOL Calculation

- IOL calc. with standard formulas & Okulix
- connect our OA-2000 to import axial length data or input manually

Pre-op Cataract [IOL Calculation] ID: 301162 Exam Date: 2016/JM/15 17:01:31 QS: OK (3 / 3) Details

Surgeon: IOL Type: Free Formula Type: Free

Target Ref. 0.0 Device CASIA2 KI=1.3375 Haigis optimized / standard ACD(Epi.) [mm] 3.43 OKULIX ACD(Endo.) [mm] 2.85 Lens Thickness [mm] 4.48

Device OA-2000 AvgK Kerato 43.90 [D] K1(KF) [D] 43.80 K2(Ks) [D] 44.01

Fitting Immersion Axial [mm] 24.40

Formulas SRK/T Haigis standard Holladay 1 **OKULIX** Update

Model Bausch and Lomb:Teo Bausch and Lomb:Teo Bausch and Lomb:Teo Alcon: SN60WF

Lens Const. A-Const 118.40 A-Const 117.90 SF 1.39

Power. 17.43 17.48 17.22

Liist	IOL	Ref.	IOL	Ref.	IOL	Ref.	IOL	Ref.
	15.50	1.27	15.50	1.36	15.00	1.46	16.50	1.46
	16.00	0.94	16.00	1.02	15.50	1.14	17.00	1.12
	16.50	0.62	16.50	0.68	16.00	0.81	17.50	0.79
	17.00	0.29	17.00	0.34	16.50	0.48	18.00	0.47
	17.50	-0.05	17.50	-0.01	17.00	0.15	18.50	0.13
	18.00	-0.39	18.00	-0.35	17.50	-0.19	19.00	-0.21
	18.50	-0.73	18.50	-0.72	18.00	-0.53	19.50	-0.55
	19.00	-1.08	19.00	-1.08	18.50	-0.87	20.00	-0.87
	19.50	-1.43	19.50	-1.45	19.00	-1.22	20.50	-1.21

Settings Report Cornea Detail Post op. Values Personal Const. EXIT

Connect OA-2000

Compare with Okulix

Applications – for cataract surgery SKYMED

IOL Calculation

- use Okulix as your favourite IOL tool

Pre-op Cataract [IOL Calculation] ID: 301162 Exam Date: 2016/04/15 17:01:31 QS: OK (8 / 31) Details QA

Name: Benedikt Richard

Surgeon: IOL Type: Free Formula Type: Free Haigis optimized / standard ACD (Epi.) [nm] 3.43

Target Ref. 0.0 Device CASIA2 KI=1.3375 Haigis optimized / standard

Device CA-2000 AvgK Kerato OKULIX Result

Fitting Immersion K1(KF) [D] 43.80

Axial [mm] 24.40 K2(Ks) [D] 44.01

Details

Formula SRK/T

Model Bausch and Lomb: Tes

Lens Const A-Const 118.40

Power 17.43

List

IOL	Ref.
15.50	1.27
16.00	0.94
16.50	0.62
17.00	0.29
17.50	-0.05
18.00	-0.39
18.50	-0.73
19.00	-1.08
19.50	-1.43

ModelName

IOL	Paraxial	Best Foc.
16.50	1.40	1.46
17.00	1.15	1.12
17.50	0.81	0.79
18.00	0.50	0.47
18.50	0.16	0.13
19.00	-0.19	-0.21
19.50	-0.53	-0.55
20.00	-0.85	-0.87
20.50	-1.16	-1.14

Carl Zeiss: AT Lisa809M

IOL	Paraxial	Best Foc.
15.00	1.25	1.26
15.50	0.92	0.93
16.00	0.60	0.60
16.50	0.27	0.28
17.00	-0.06	-0.05
17.50	-0.39	-0.39
18.00	-0.72	-0.72
18.50	-1.05	-1.05
19.00	-1.38	-1.38

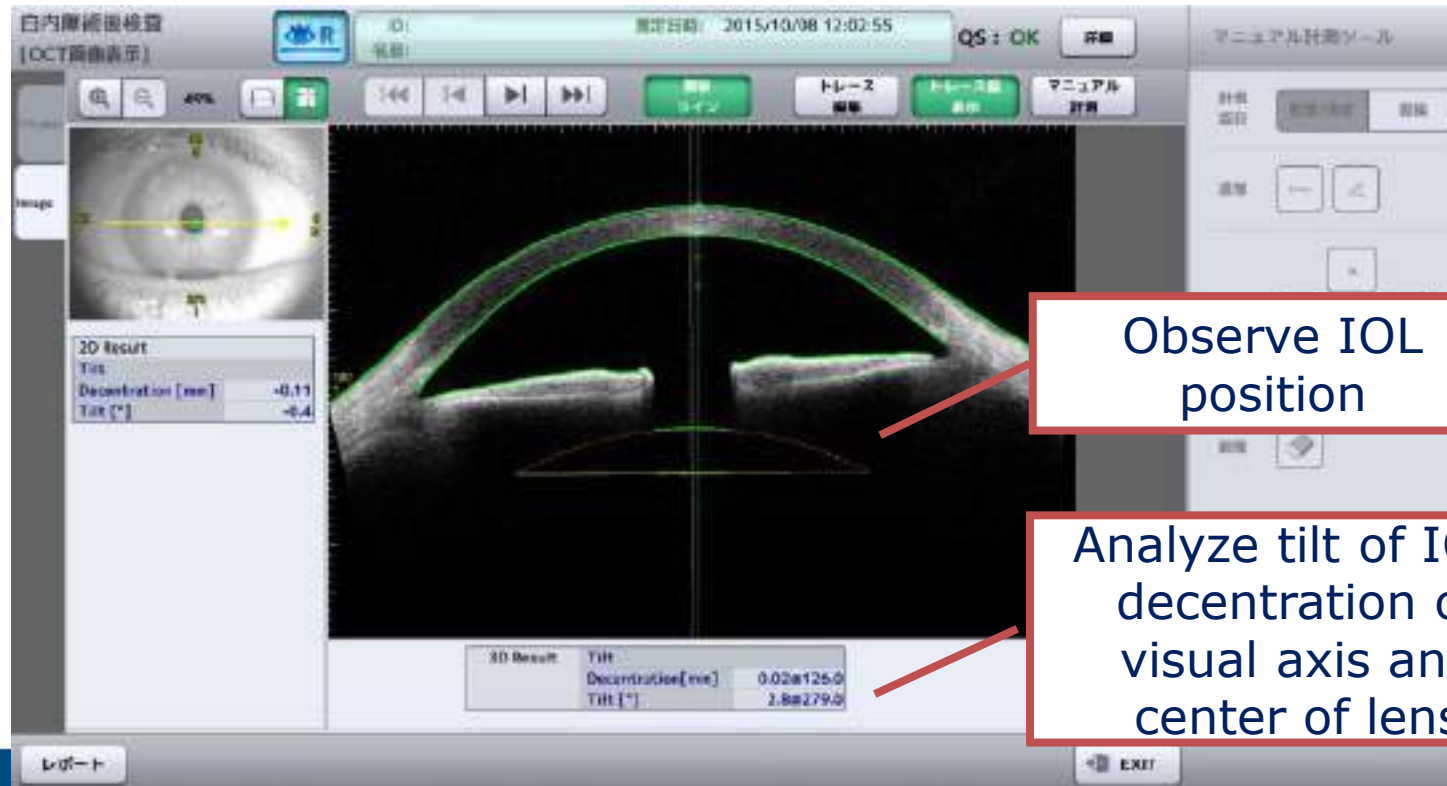
Okulix database

Settings Report Cornea Detail Post op. Values Personal Const. EXIT

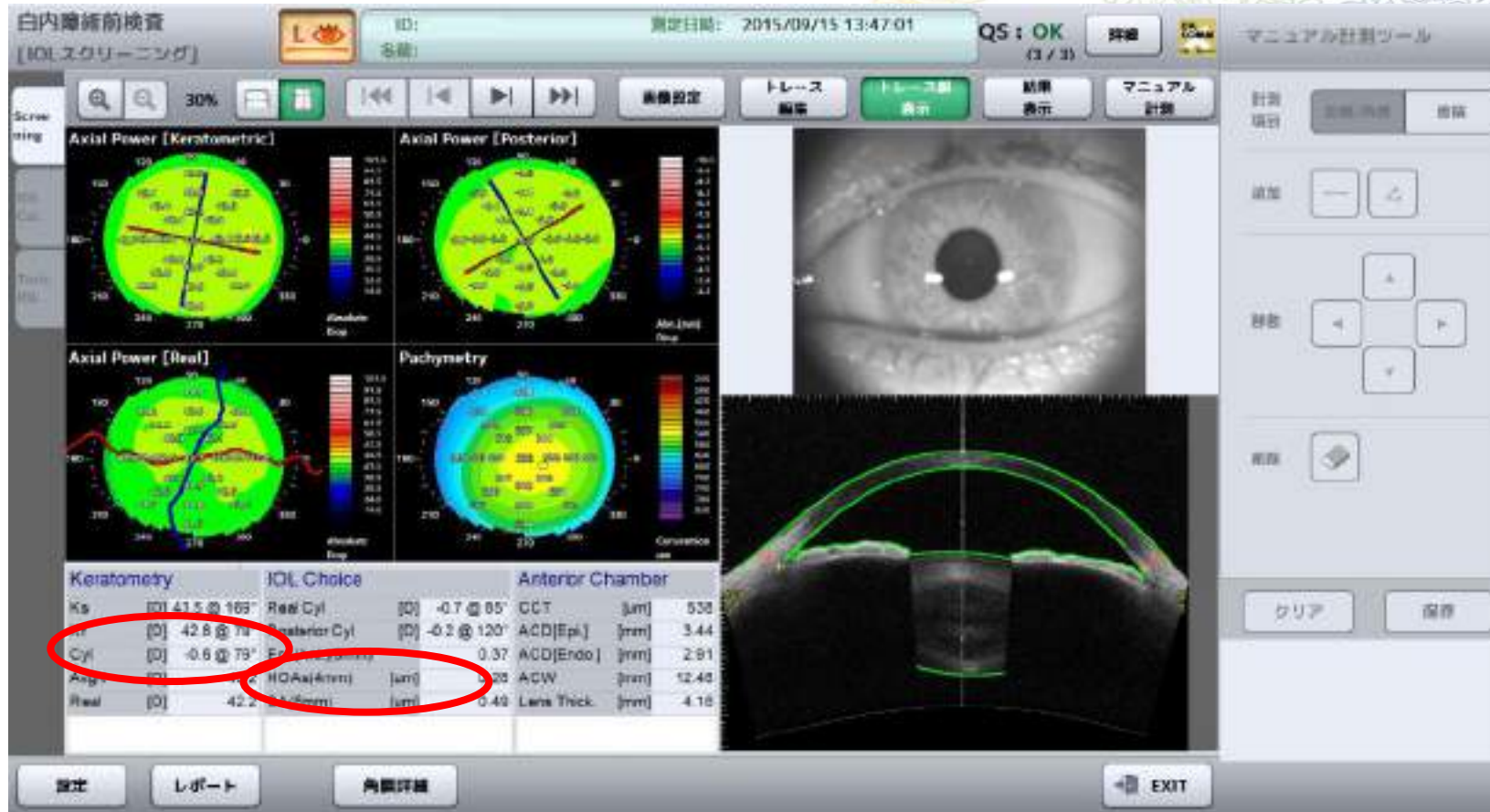
Applications – after cataract surgery

Display tilt and decentration of IOL

- Observe IOL conditions after cataract surgery
- Quantitative analysis: tilt of lens & distance between visual axis and center of lens
(especially effective for sewn cases)

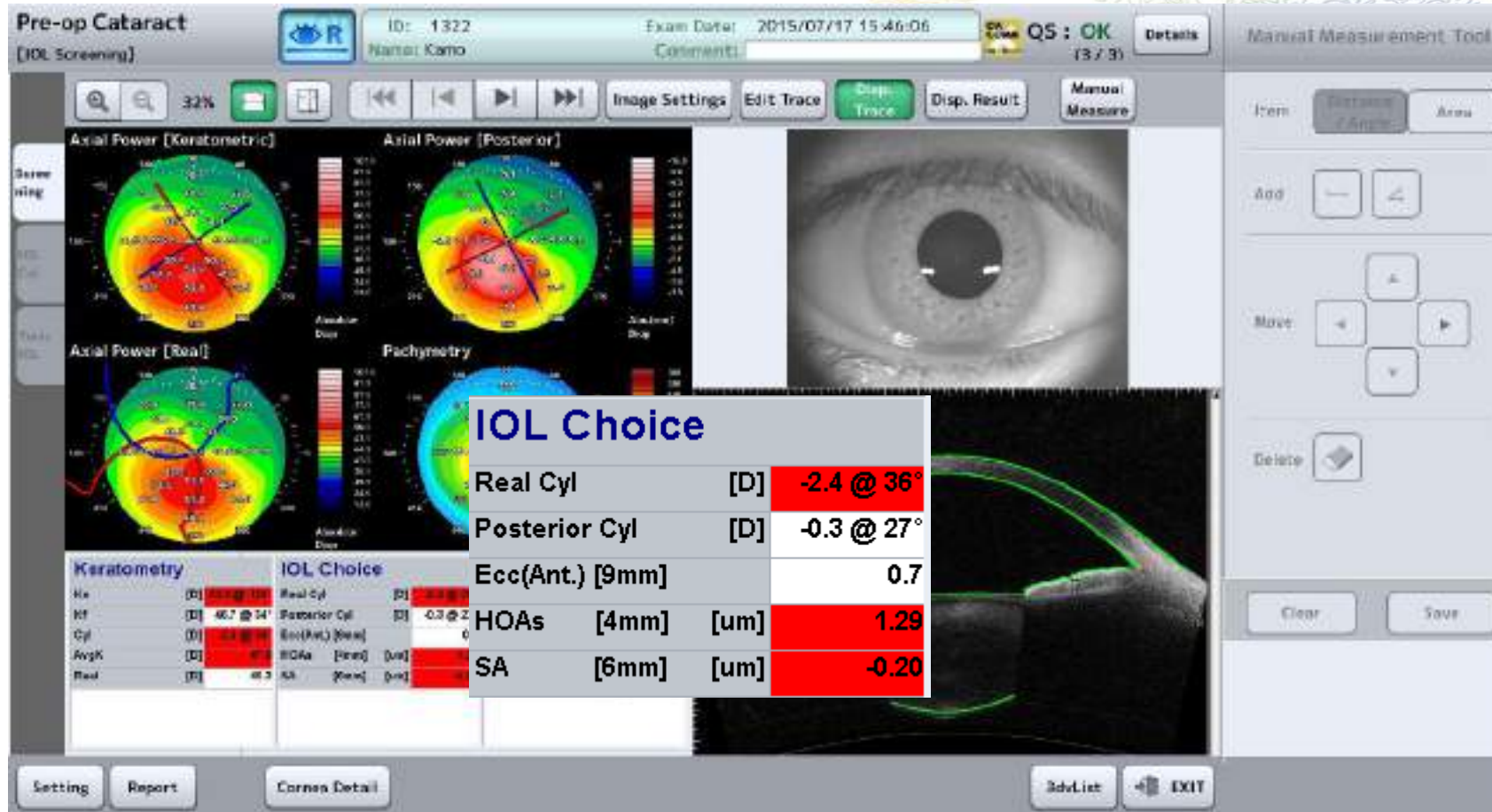


Pre-op Testing: Sample of Screening function



Low values of CYL and HOAs (higher order aberrations)
→ Multifocal IOL is applicable (e.g. normal eye)

Pre-op Testing: Sample of Screening function



High values of HOAs and SA (spherical aberration)
→ Premium IOL is not available (e.g. Keratoconus)

Pre-op Testing

Toric IOL function

- Application to determine astigmatism power and model of IOL
- Calculation without using calculator on the web



白內障術前検査
[Toric IOL]

ID: 患者ID: 2015/10/02 15:05:47 QS: OK (3 F 3) 詳細 04 COME

可視化画像 系列再画像 KOL画像

Axial Power [Real]

装置 CASIA2

Cyl Real

K1/Kf[D] 41.04 @ 9

K2/Ks[D] 42.44 @ 99 (Steep)

1.80 Dp 00

Incision Axis 0 * abs.

SIA[D]: 0.5

IOL_Power 18.0

97 (+288)

120 (+0)

0 (+171)

Reference axis: Target axis (IOL): Incision axis:

Crossed-Cyl (Corneal) [D]	Implant CYL (IOL) [D]	Residual Astigmatism [D]
1.88 @ 97	1.50	0.850 @ 97
	2.25	0.340 @ 97
	2.00	0.180 @ 7

角膜詳細 EXIT

Axis registration

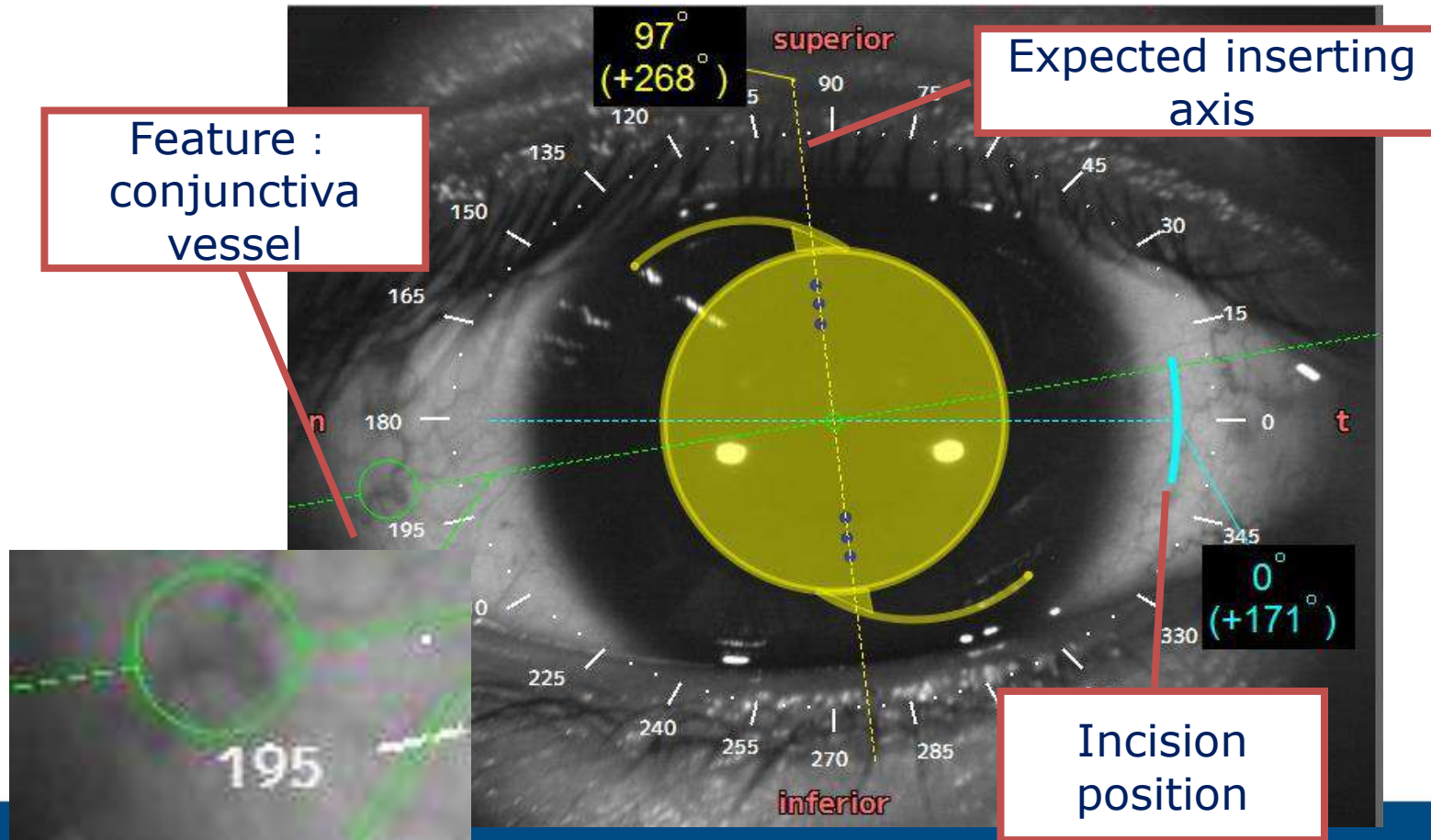
Toric IOL choice

Astigmatism power

Pre-op Testing

Axis Registration

- Display sample axis featuring standard position of ink and vessel
- Display incision position and expected inserted axis



Application – Corneal topography

Topo mode: wider area (also 16mm) →
2D Analysis also for angle calculation!



2D Analysis Topography STAR 360° Multiple Image Front Monitor 3D View Both Eyes Map Differential Map Trend Analysis Image Settings

OD(R)	OS(L)
	2016/04/15 17:02:55 AS H+V
	2016/04/15 17:03:42 Vitreous Raster
	2016/04/15 17:03:25 Corneal Map #
	QS: OK 2016/04/15 17:02:58 Corneal Map
	QS: OK 2016/04/15 17:02:18 Corneal Map
	QS: OK 2016/04/15 17:02:09 Corneal Map
	Lens Biometry

Setup Measure View Database Report Pre-op Cataract

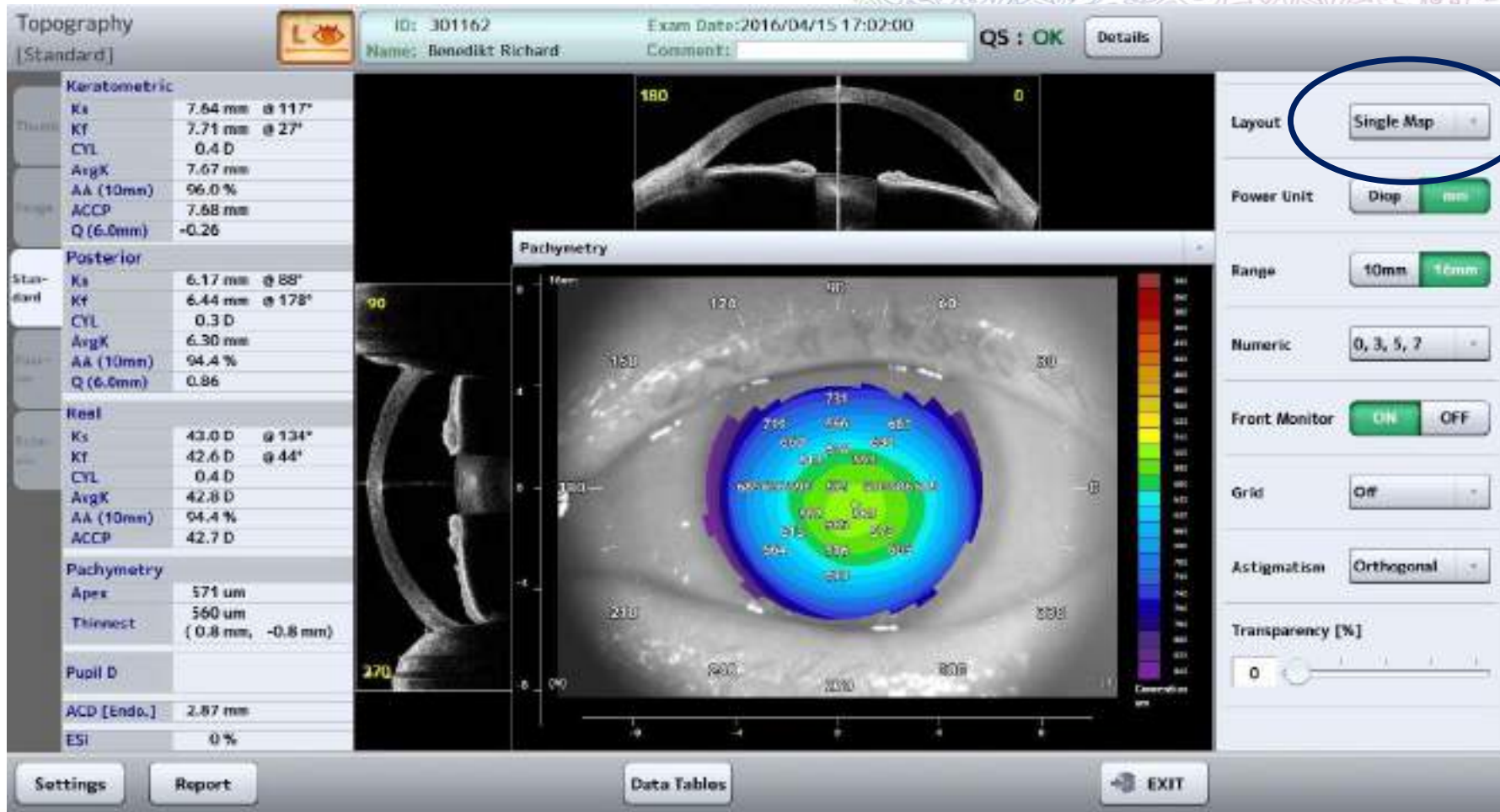
Application – Corneal topography

Topography Analysis also with 16 scans



Application – Corneal topography

Topo mode: choose layout by one click, eg. Single map or four maps



Topography [Standard] ID: 301162 Exam Date: 2016/04/15 17:02:00 QS: OK Details
Name: Bonodikt Richard Comment:

Keratometric
Ks 7.64 mm @ 117°
Kt 7.71 mm @ 27°
CYL 0.4 D
AvgK 7.67 mm
AA (10mm) 96.0 %
ACCP 7.68 mm
Q (6.0mm) -0.26

Posterior
Ks 6.17 mm @ 88°
Kt 6.44 mm @ 178°
CYL 0.3 D
AvgK 6.30 mm
AA (10mm) 94.4 %
Q (6.0mm) 0.86

Real
Ks 43.0 D @ 134°
Kt 42.6 D @ 44°
CYL 0.4 D
AvgK 42.8 D
AA (10mm) 94.4 %
ACCP 42.7 D

Pachymetry
Apex 571 um
Thinnest 560 um (0.8 mm, -0.8 mm)
Pupil D
ACD [Endo.] 2.87 mm
ESI 0 %

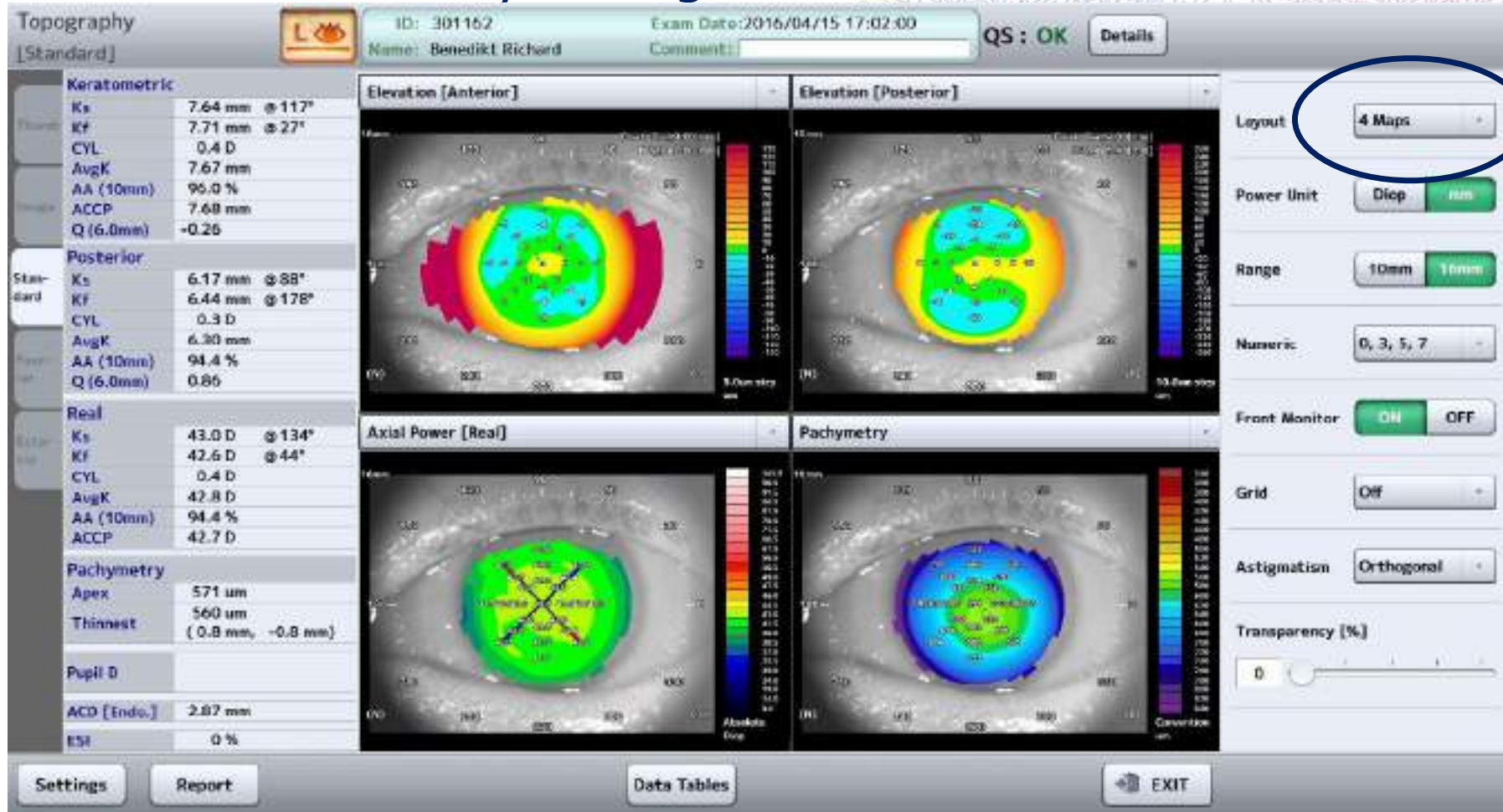
Pachymetry

Layout: Single Map
Power Unit: Diop mm
Range: 10mm 1mm
Numeric: 0, 3, 5, 7
Front Monitor: ON OFF
Grid: Off
Astigmatism: Orthogonal
Transparency [%]: 0

Settings Report Data Tables EXIT

Application – Corneal topography

Topo mode: layout classic with four maps (which can be individually changed as well)



The screenshot displays the SKYMED corneal topography software interface. The main window is titled "Topography [Standard]" and shows patient information: ID: 301162, Exam Date: 2016/04/15 17:02:00, Name: Benedikt Richard, and Comments. The interface is divided into several sections:

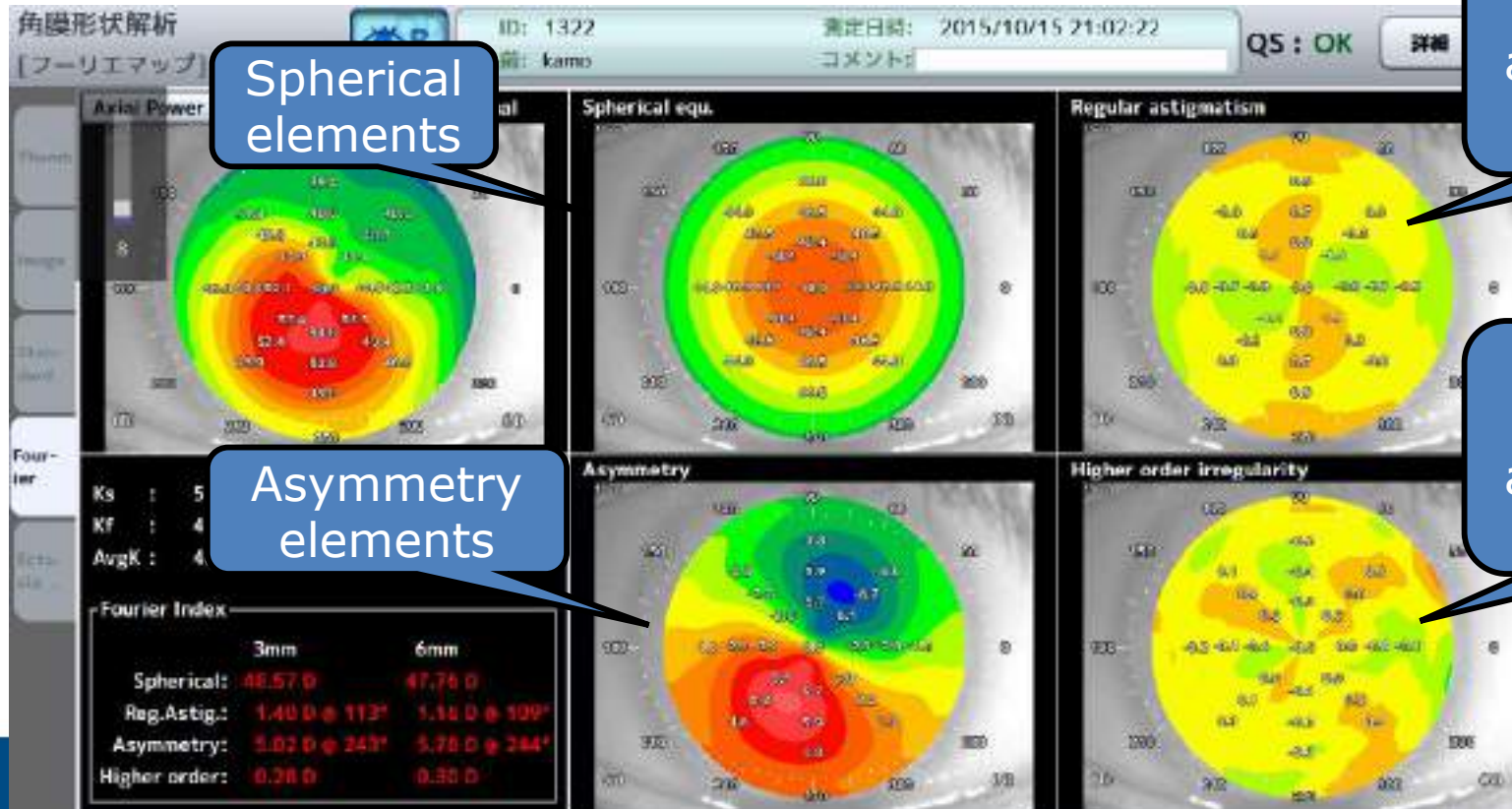
- Left Panel:** Contains data tables for Keratometric, Posterior, Real, and Pachymetry measurements.
- Top Row:** Displays "Elevation [Anterior]" and "Elevation [Posterior]" maps.
- Bottom Row:** Displays "Axial Power [Real]" and "Pachymetry" maps.
- Right Panel:** Contains settings for Layout (4 Maps), Power Unit (Diopters/mm), Range (10mm/10mm), Numeric (0, 3, 5, 7), Front Monitor (ON/OFF), Grid (Off), Astigmatism (Orthogonal), and Transparency (%).

The "4 Maps" setting in the right panel is circled in blue. The maps themselves show color-coded topographic data of the cornea, with a color scale on the right of each map. The "Axial Power [Real]" map shows a color scale from 40.0 to 46.0 D. The "Pachymetry" map shows a color scale from 500 to 600 micrometers.

Application – Corneal topography and shape

Fourier analysis: Evaluation of corneal shape as follows

- A. Spherical elements
- B. Regular astigmatism elements
- C. Asymmetry elements
- D. High irregular astigmatism elements



Spherical elements

Regular astigmatism elements

Asymmetry elements

High - irregular astigmatism elements

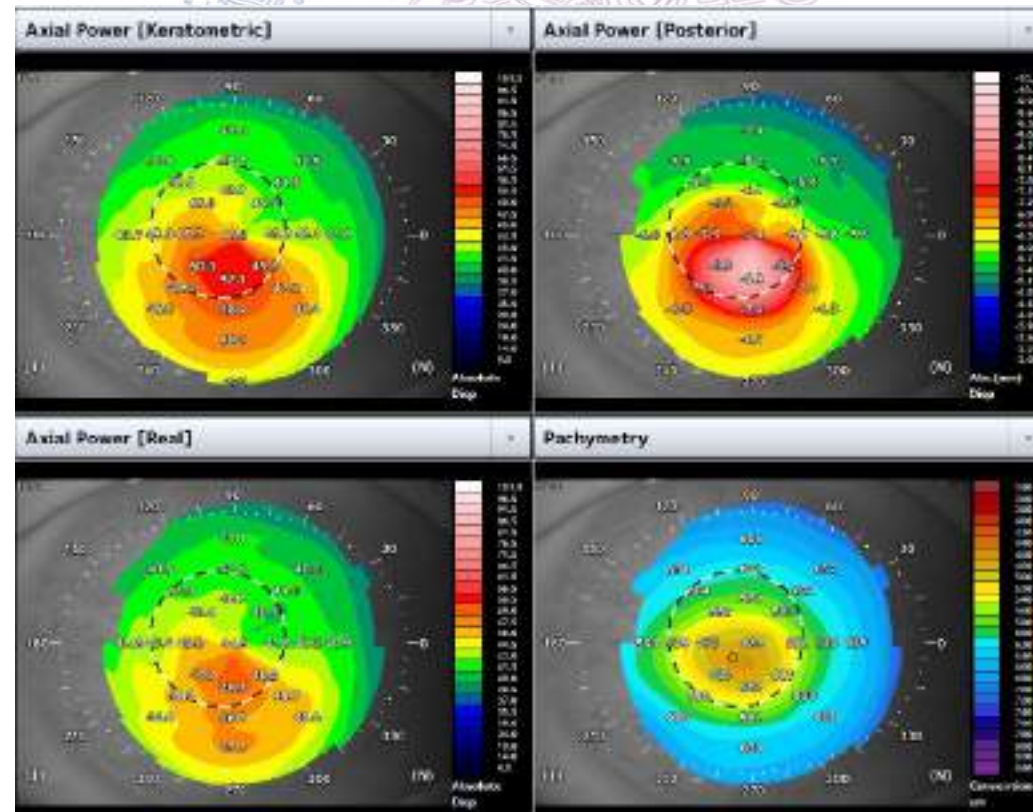
Application – Corneal topography and shape

Target:

Corneal diseases and post-LASIK eyes

Purpose:

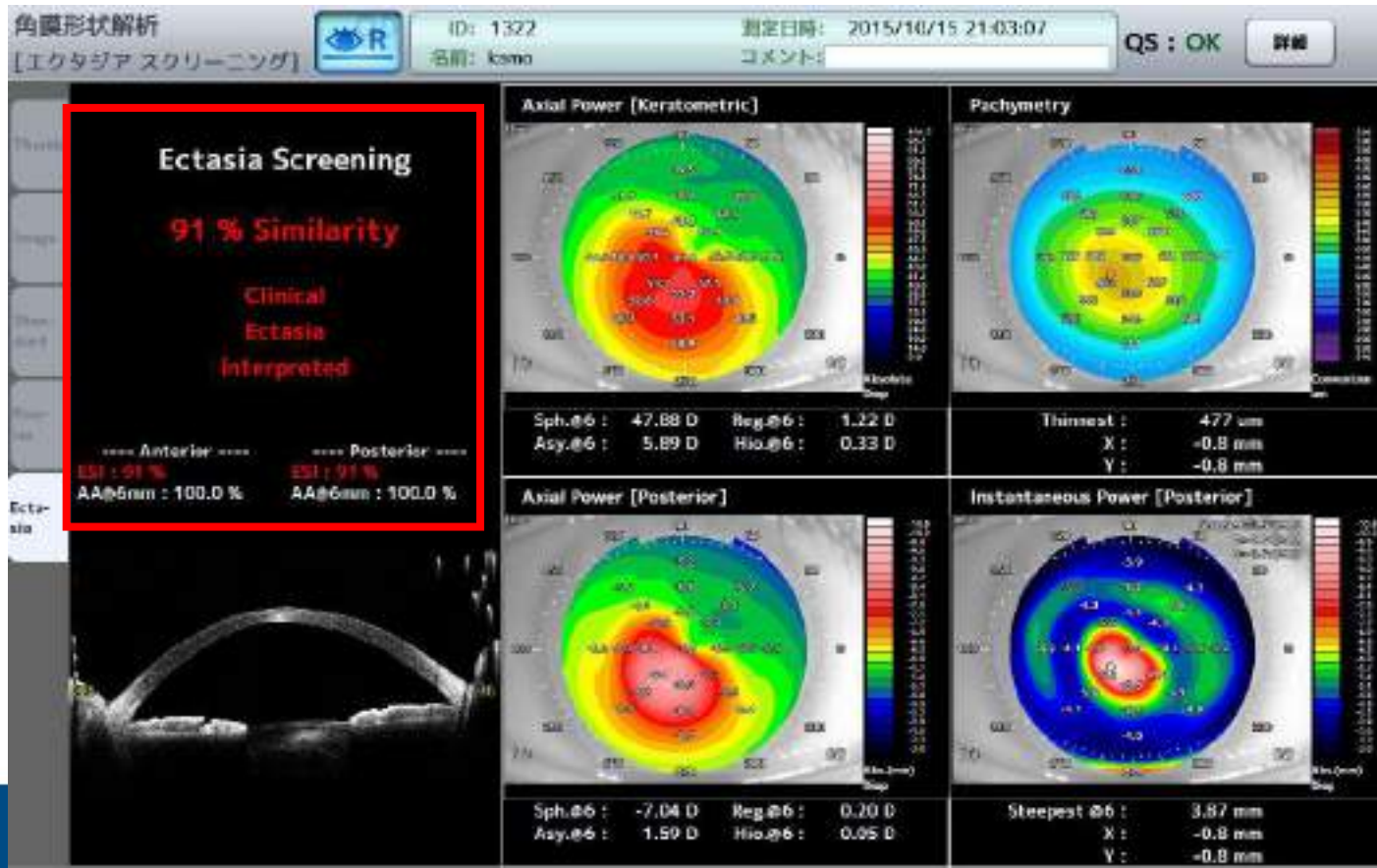
1. Check condition of corneal shape before/after surgery
2. Check corneal irregular astigmatism toward patients with low VA
3. Check fitting problem of contact lens



Application – Corneal topography and shape

Ectasia screening

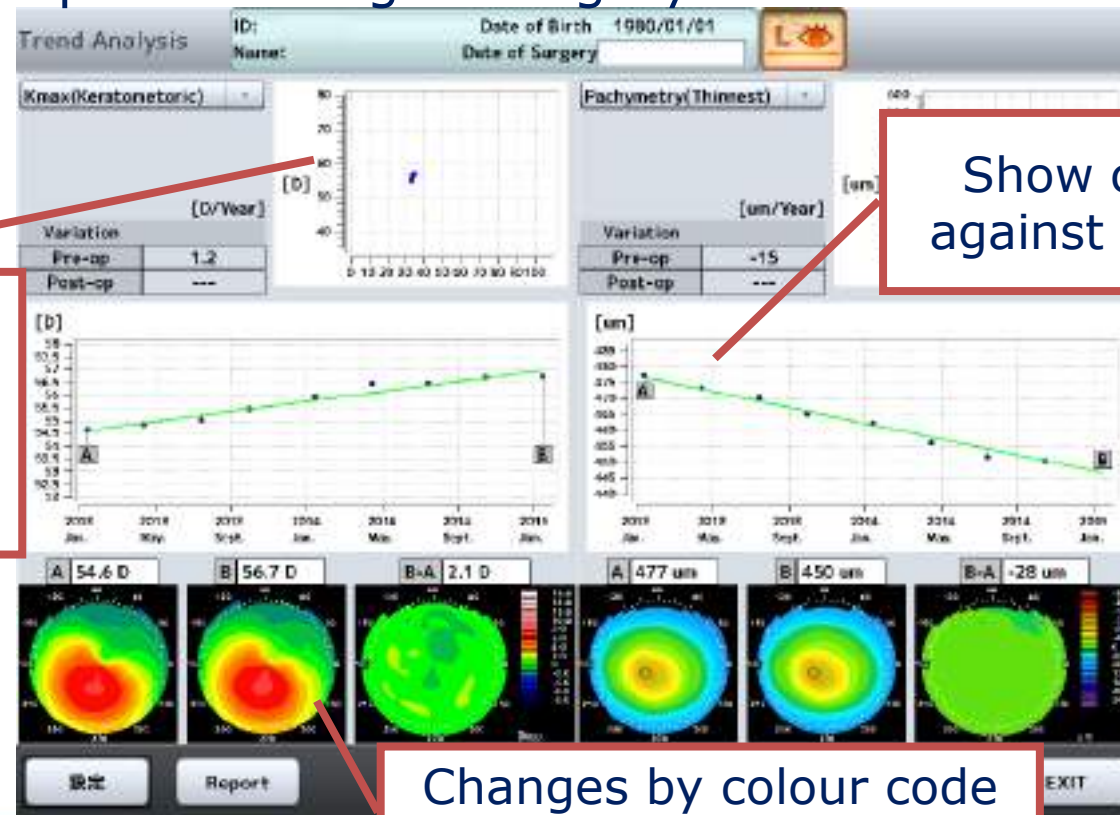
Detects Ectasia patterns such as keratoconus and pellucid marginal corneal degeneration



NEW applications

Trend analysis

- Display chronological changes of several parameters of corneal shape
- Useful when observing chronological changes of keratoconus and judging appropriate timing of surgery



Show changes against age axis

Show changes against time axis

Changes by colour code map – differential map

NEW applications

Trend analysis

- Choose what you like to check for “trend analysis”

Trend Settings

Type : Left Area

Right Area

Kmax(Keratometric)

- AvgK(Keratometric)
- AvgK(Posterior)
- AvgK(Real)
- Kmax(Keratometric)**
- Kmax(Posterior)
- Kmax(Real)
- Cyl(Keratometric)
- Cyl(Posterior)
- Cyl(Real)
- ACCP(Keratometric)

NEW applications

Trend analysis

- Choose what you like to check for “trend analysis”

Trend Settings

Type : Left Area

Right Area

- Cyl(Real)
- ACCP(Keratometric)
- Ecc(Anterior)
- Ecc(Posterior)
- Steepest(Anterior)
- Steepest(Posterior)
- BFS(Anterior)
- BFS(Posterior)
- Pachymetry(Apex)
- Pachymetry(Thinnest)**

More applications

Known applications from CASIA:

- Corneal shape analysis
 - ▶ Ferrara Ring Data export
 - ▶ Data Tables export
- Anterior segment analysis
 - ▶ Angle analysis (automatic)
 - ▶ ACD/CCT → PIOL
 - ▶ Corneal flap thickness
 - ▶ manual distance/angle measurement
- Bleb analysis → Horizontal/Vertical scans
- Movie

More applications – for Glaucoma

NEW: Automatic detection of SS
 → Automatic calculation of angle

2D Analysis [ACA]

ID: No ID Exam Date: 2016/04/14 20:26:31
 Name: Comment:

61% Image Settings Edit Trace Disp. Trace Manual Measure

ACA
 CCT
 ACD
 Flap

SS-Left
 AR-Left
 SS-Right
 AR-Right
 Lens-F



Manual Measurement Tool

Item: Distance / Angle Area

Add: [←] [↖]

Move: [←] [↑] [→] [↓]

Delete: [X]

Clear Save

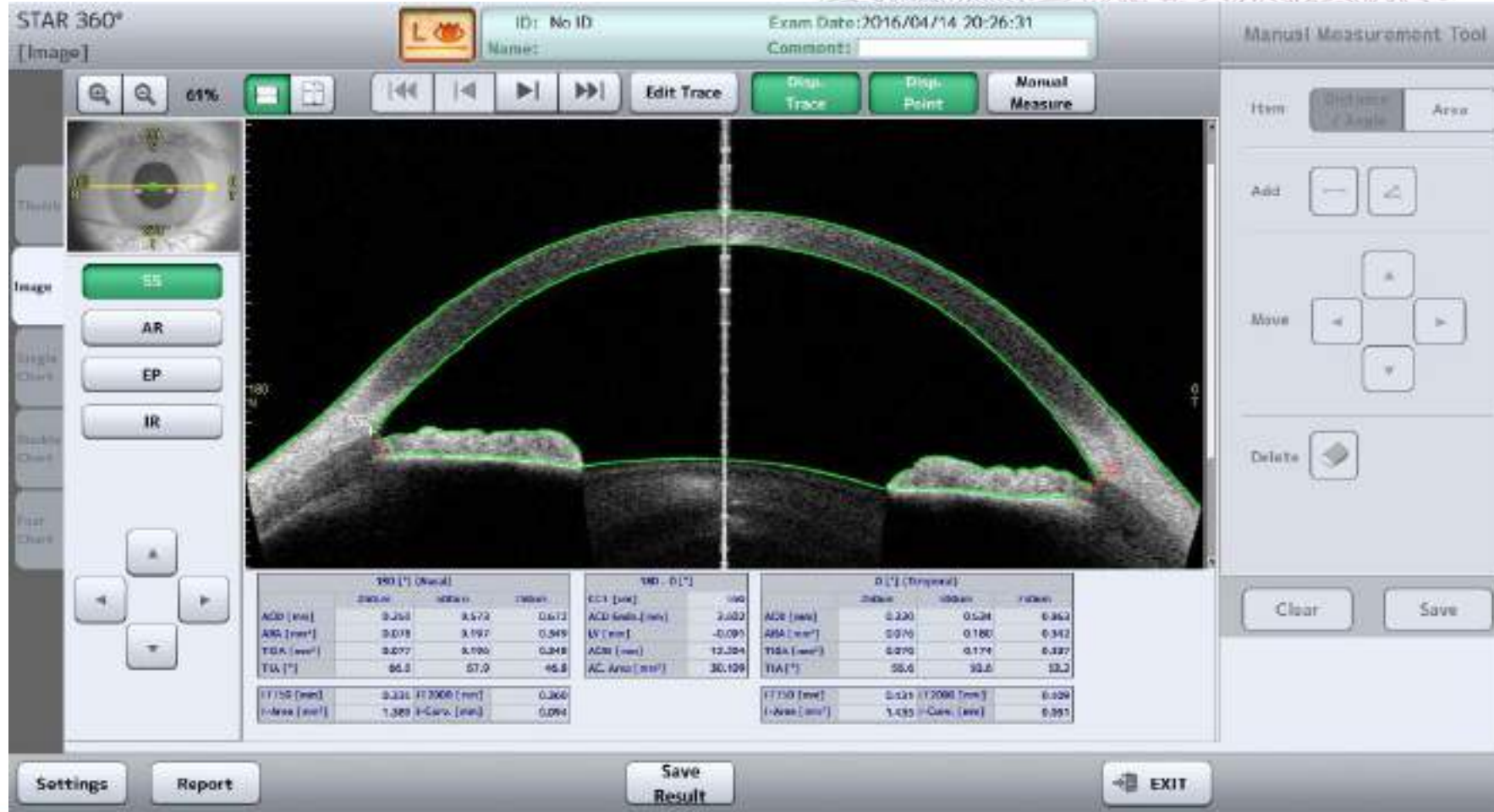
	184 [°]		184 - 4 [°]		4 [°]	
	500um	750um	CCT [um]	549	500um	750um
AOD [mm]	0.479	0.701	ACD Endo.[mm]	3.601	AOD [mm]	0.672 1.166
ARA [mm²]	0.160	0.312	LV [mm]	-0.124	ARA [mm²]	0.244 0.473
TISA [mm²]	0.158	0.311	ACW [mm]	12.043	TISA [mm²]	0.219 0.448
TIA [°]	49.3	47.2			TIA [°]	50.6 58.1

Settings Report Clear Save Result Save All EXIT

More applications – for Glaucoma

NEW: STAR 360°

→ Automatic SS detection and ITC analysis



STAR 360°
[Image]

ID: No ID
Exam Date: 2016/04/14 20:26:31
Name:
Comments:

61% Edit Trace Disp. Trace Disp. Point Manual Measure

Manual Measurement Tool
Item: Distance / Angle Area
Add: [Left] [Right]
Move: [Up] [Down] [Left] [Right]
Delete: [Delete]
Clear Save

SS
AR
EP
IR

SS [°] (Normal)				SSD - D1 [°]		D [°] (Dryeye)			
	200um	300um	350um	EC1 [um]	SSD		200um	300um	350um
ACD [mm]	0.258	0.572	0.672	ACD Smth. [mm]	2.022	ACD [mm]	0.220	0.524	0.662
ASA [mm²]	0.018	0.197	0.345	W [mm]	-0.095	ASA [mm²]	0.076	0.180	0.342
TGA [mm²]	0.077	0.190	0.248	ACB [mm]	12.204	TGA [mm²]	0.070	0.174	0.227
TIA [°]	66.8	57.0	46.8	AC Area [mm²]	30.199	TIA [°]	55.6	39.8	33.2
ITD [mm]	0.326 (12000 [um])	0.266				ITD [mm]	0.121 (12000 [um])	0.029	
I-Area [mm²]	1.389 (I-Curv. [um])	0.094				I-Area [mm²]	1.435 (I-Curv. [um])	0.091	

Settings Report Save Result EXIT

More applications – for Glaucoma



NEW: STAR 360°

→ lots of data and values, by clicking on them they will be visible

The screenshot shows the STAR 360° software interface. At the top, it displays 'ID: No ID', 'Exam Date: 2016/04/15 16:00:05', and 'Comment:'. Below this is a control bar with zoom (61%), navigation, and 'Edit Trace', 'Disp. Trace', 'Disp. Point', and 'Manual Measure' buttons. The main area shows a cross-sectional image of the eye with green outlines. On the right is a 'Manual Measurement Tool' panel with 'Distances / Angle' and 'Area' options, 'Add' and 'Move' buttons, and a 'Delete' button. At the bottom, there are 'Settings', 'Report', 'Save Result', and 'EXIT' buttons.

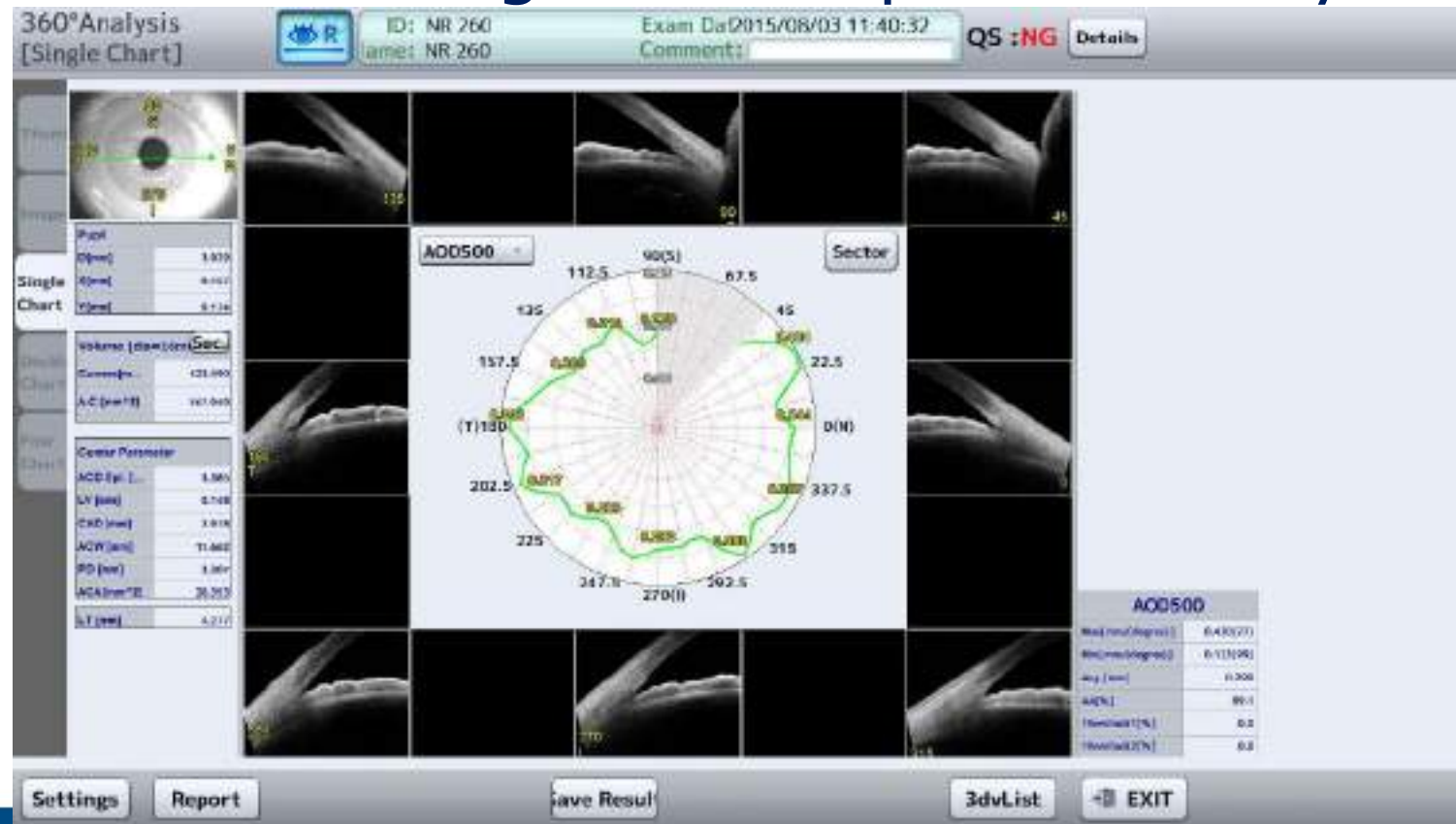
180 [°] (MMGD)			180 - 0 [°]		0 [°] (Newport)			
FLX [mm]	300 [mm]	120 [mm]	CLT [mm]	507	200 [mm]	300 [mm]	120 [mm]	
ACD [mm]	0.380	0.368	0.521	2.876	ACD [mm]	0.388	0.413	0.340
ASA [mm]	0.034	0.100	0.215	0.208	ASA [mm]	0.037	0.121	0.233
TFA [mm]	0.034	0.100	0.215	11.426	TFA [mm]	0.037	0.121	0.230
TA [°]	90.4	44.5	40.1	21.284	TA [°]	87.5	47.6	37.4
IT190 [mm]	0.211	IT200 [mm]	0.214	IT190 [mm]	0.300	IT200 [mm]	0.203	
I-Area [mm²]	1.785	I-Curv. [mm]	0.199	I-Area [mm²]	1.785	I-Curv. [mm]	0.200	

More applications – for Glaucoma

NEW: Angle analysis (360°)

ITC done automatically

→ Evaluate angle index quantitatively

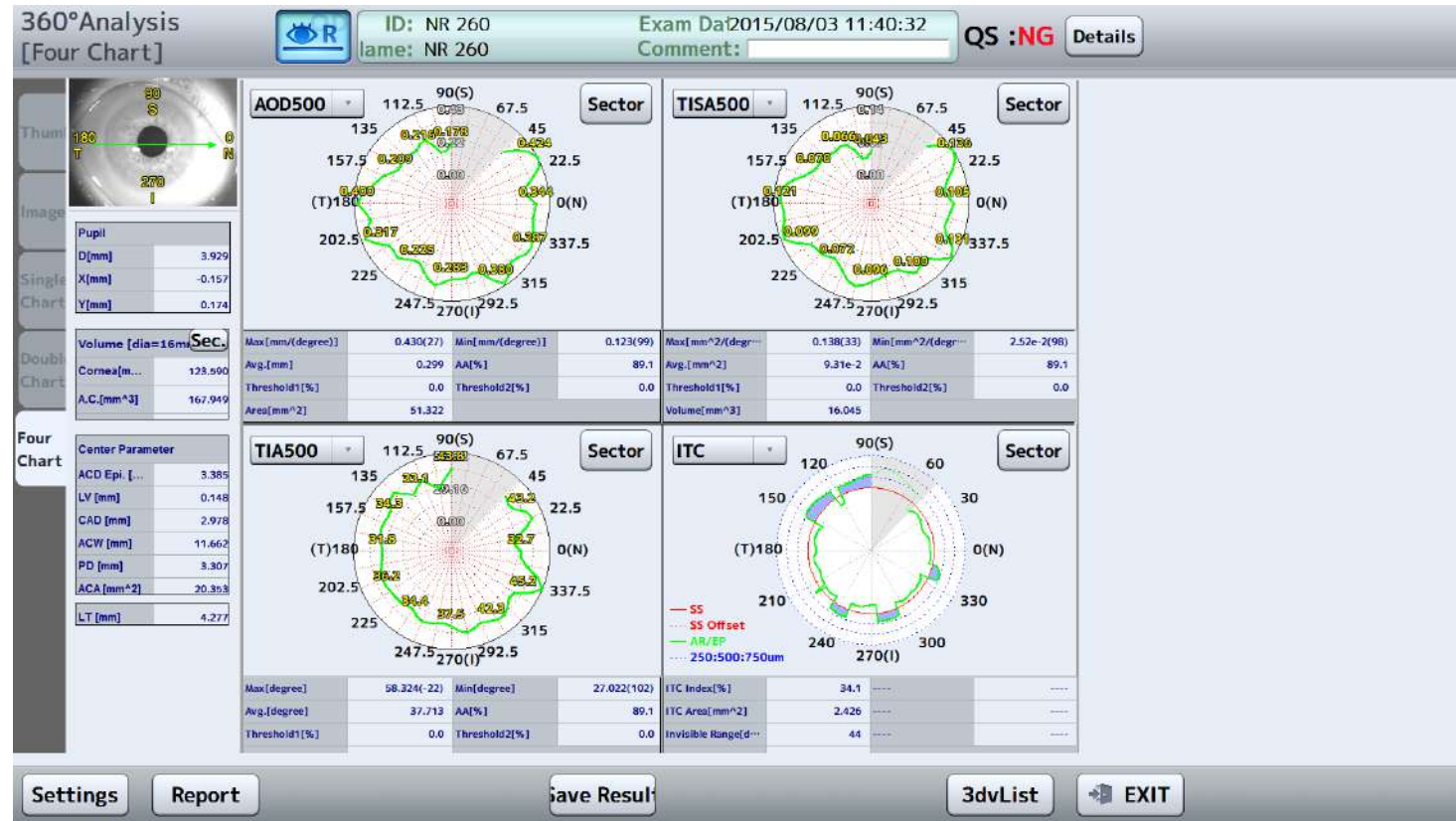


More applications – for Glaucoma



Angle analysis (360°)

- Quantitative angle index



More applications – for Glaucoma SKYMED

Target: Glaucoma patients / suspects

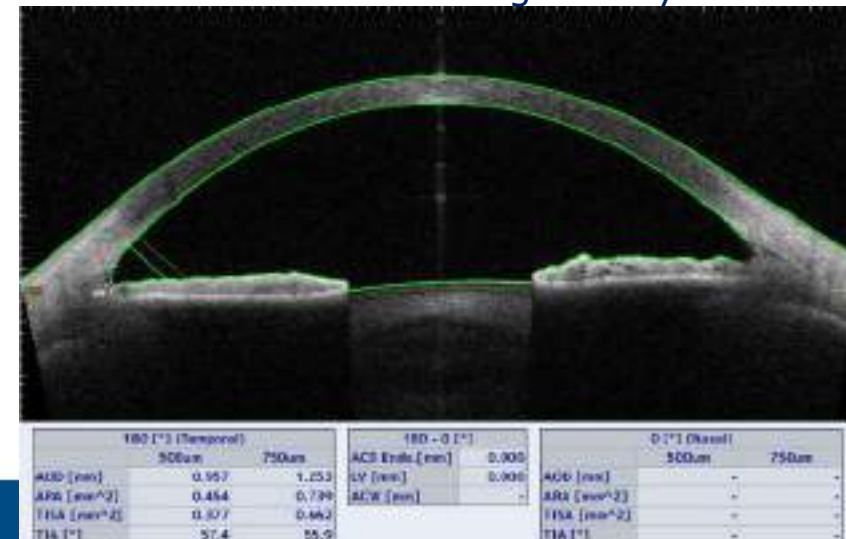
- Anterior segment screening
- Angle, ACD
- Testing before cataract surgery
- Lens shape analysis

Purpose: Diagnosis of angle-closure glaucoma / open-angle glaucoma
Changes of expansion degree of Glaucoma surgery / IOL insertion

Lens shape analysis



Angle analysis

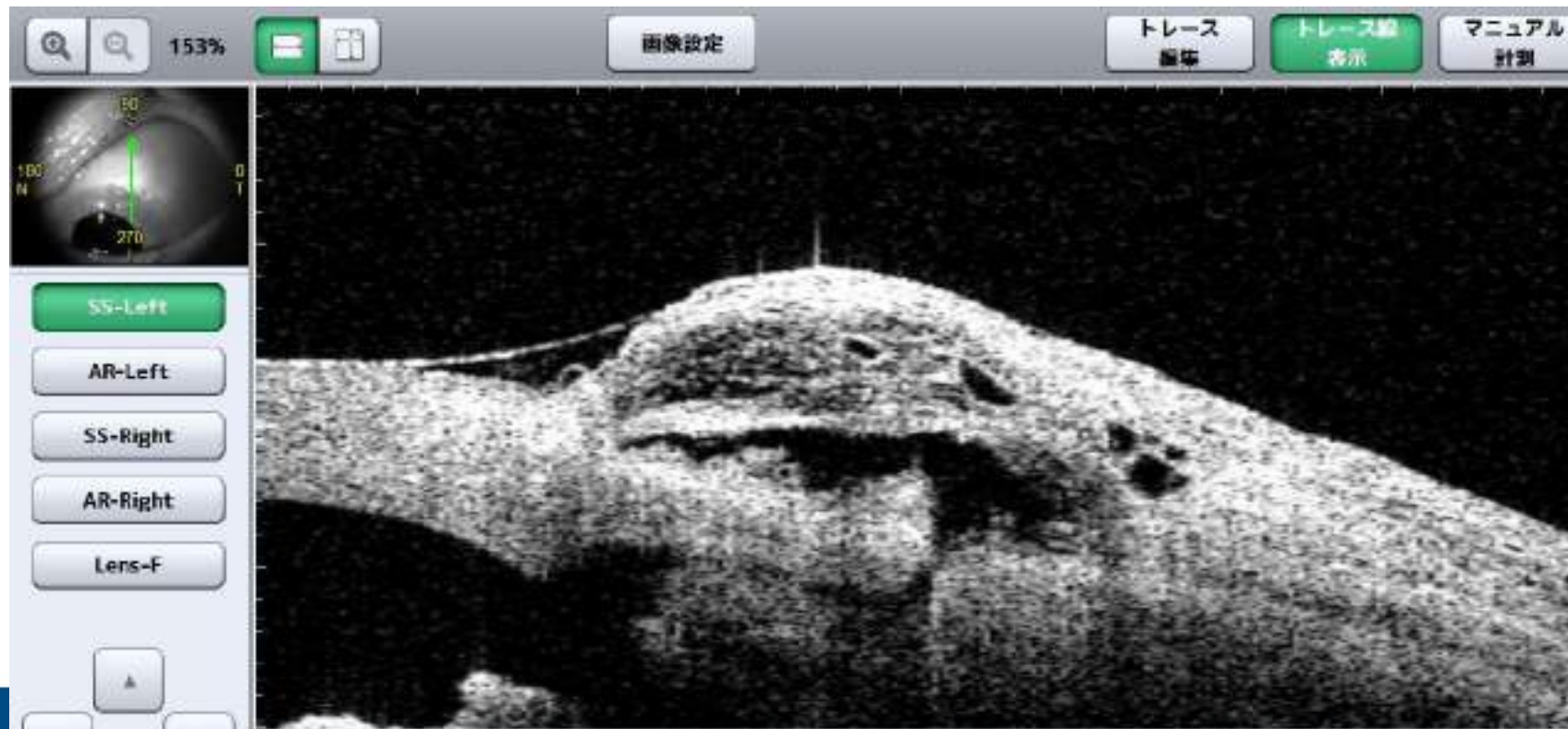


Applications - for Glaucoma

Target: Post-trabeculectomy eyes (filtering operation)

Bleb testing

Purpose: Observe bleb condition



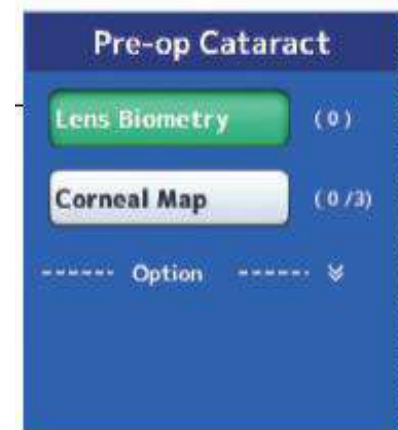
Applications - for Glaucoma



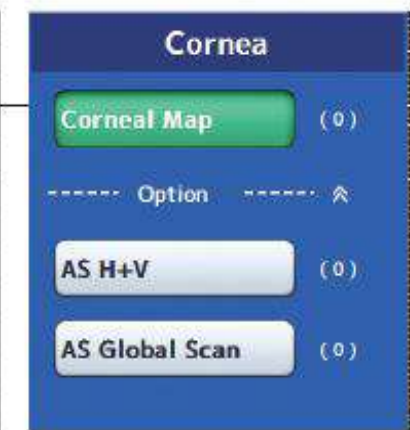
High usability

Easy measurement

- Measurement is made easily with touch panel operation using LCD monitor (similar to OA & EM)
- Joystick is also available
- Manage daily measuring by simply choosing your test protocol



Scanning type is already set



Other scanning types are also selectable

High usability

Easy measurement

- More options below chosen measurement type



See scan details and check settings

High usability

Report function

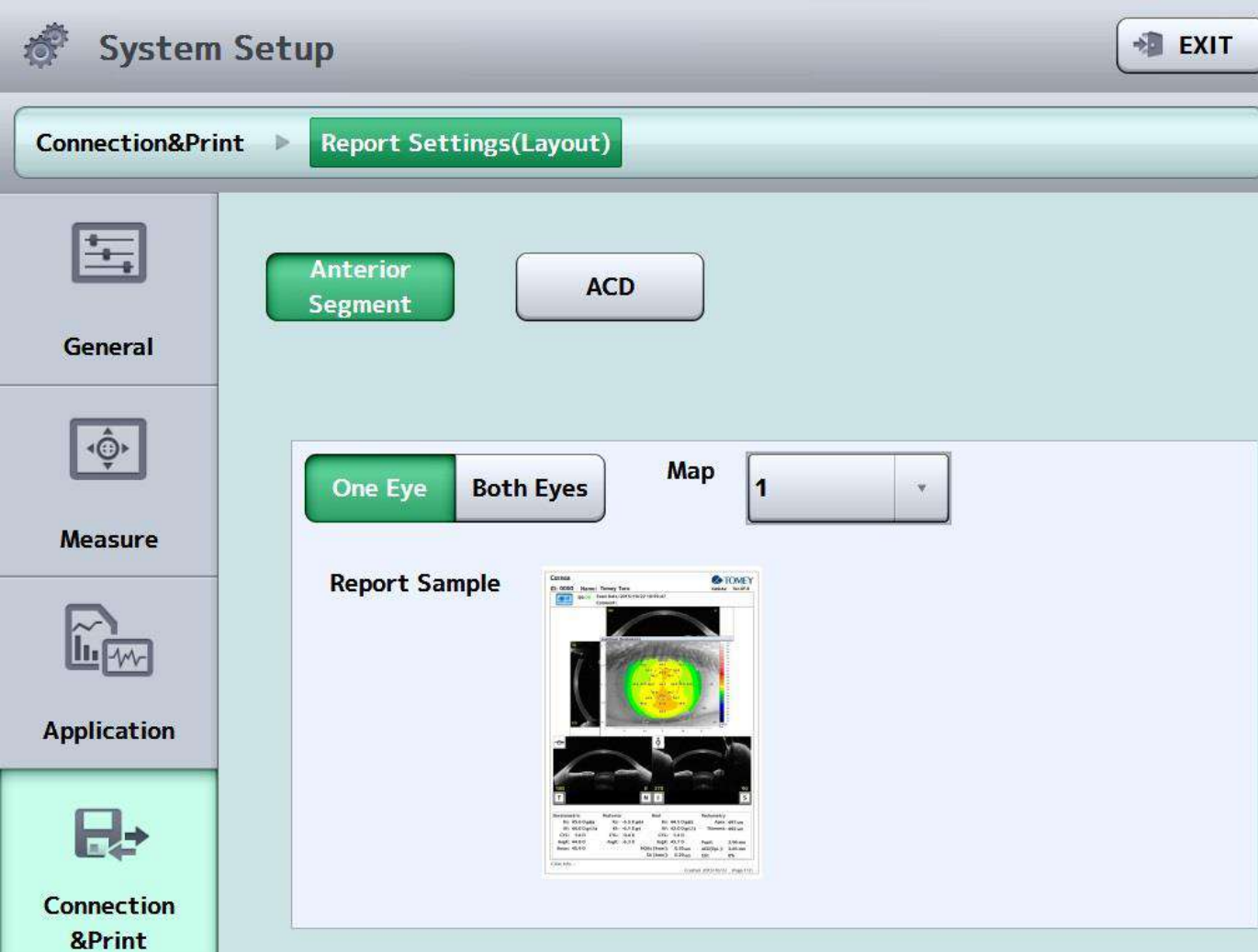
- Display the report with one touch after measurement
- Output in a clear format (pdf) is available



High usability

Report function

- Choose Report layout in the system setup



The screenshot displays the "System Setup" interface. At the top right, there is an "EXIT" button. Below the title bar, a navigation bar shows "Connection&Print" and "Report Settings(Layout)". On the left, a vertical sidebar contains icons for "General", "Measure", "Application", and "Connection & Print", with the last one highlighted in green. The main area features several configuration options: "Anterior Segment" (highlighted in green), "ACD", "One Eye" (highlighted in green), "Both Eyes", "Map", and a dropdown menu set to "1". Below these options, a "Report Sample" window shows a preview of a report layout, including a central heatmap image and a table of data.

Reference 1	Reference	Ref	Reference 2
RI: 60.03um	RI: -3.33um	RI: 163.13um	RI: 40.03um
RI: 44.03um	RI: -10.33um	RI: 40.03um	RI: 40.03um
RI: 44.03um	RI: 16.33um	RI: 16.33um	RI: 16.33um
RI: 44.03um	RI: 16.33um	RI: 16.33um	RI: 16.33um
RI: 44.03um	RI: 16.33um	RI: 16.33um	RI: 16.33um
RI: 44.03um	RI: 16.33um	RI: 16.33um	RI: 16.33um

CASIA2 – Benefits

- Non-invasive and non-contact testing
 - ⇒ Patient-friendly
- Much faster scanning speed ⇒ Patient-friendly and also Doctor-friendly
- Testing by optometrists
 - ⇒ Doctor-friendly
- Illustration to patients using images by OCT
 - ⇒ Greater satisfaction
- Several Indexes
(angle analysis, ACD, corneal shape)
 - ⇒ Effective for screening and observation

CASIA2 – Benefits

- 1.3 μ m wavelength leads to high penetration
 - ⇒ Visualize narrow angle clearly
 - ⇒ Extract bleb deeply
 - ⇒ Deeper scanning penetration
- Several applications for anterior segment
 - ⇒ Auto-analysis all around the angle (360° with auto SS detection)
 - ⇒ Calculation of bleb cubic content
 - ⇒ Corneal shape analysis function
 - ⇒ Applications for cataract surgery



CASIA2 covers everything
you need for anterior
segment testing