


ANTERION[®]

Multimodal Imaging Platform
Optimized for the Anterior Segment

■ HEIDELBERG
ENGINEERING ■


Multimodal Functionality for Enhanced Patient Care

Heidelberg Image Quality

 **Imaging App**


- Anterior chamber and angle imaging
- Corneal and scleral imaging
- Visualization of the lens and both surfaces
- Customizable scan patterns
- Peripheral imaging




 **Cataract App**

- Axial length
- Lens thickness
- Aqueous depth
- Central corneal thickness
- Anterior axial curvature
- Total corneal power
- Total corneal wavefront
- Spheric and toric IOL calculator
- Formulas:
 - SRK/T
 - Haigis
 - Holladay I
 - Hoffer® Q
 - Barrett formulas (Universal II, Toric, True-K, True-K Toric)
- Import options for IOL database
- OKULIX ray tracing

Modular Design

 **Cornea App**

- Corneal topography
- Corneal tomography
- Pachymetry
- Total corneal power
- Corneal wavefront analysis
- Corneal differential maps
- Progression analysis

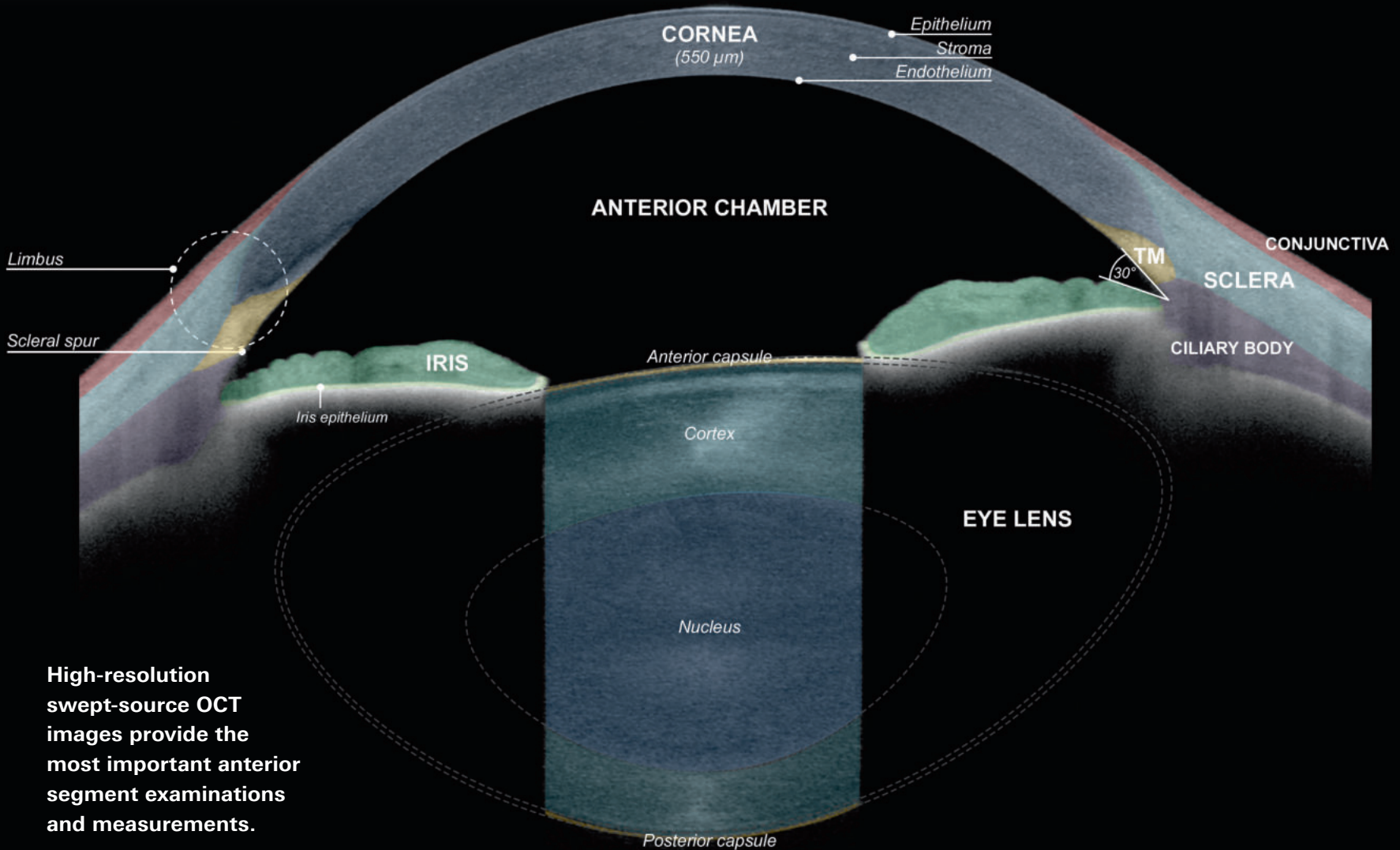
 **Metrics App**

- Anterior chamber angle assessment
- 360° graphs of angle parameters
- Anterior chamber volume
- Lens vault
- Lens thickness
- Free-hand measurements

Experience Confident Diagnostics and Workflow Optimization

- Visually confirm all measurements with exceptionally clear swept-source OCT images.
- Increase efficiency and save space with a customizable, compact platform.
- Simplify the patient journey and transform your clinical workflow.

Anterior Segment Anatomy

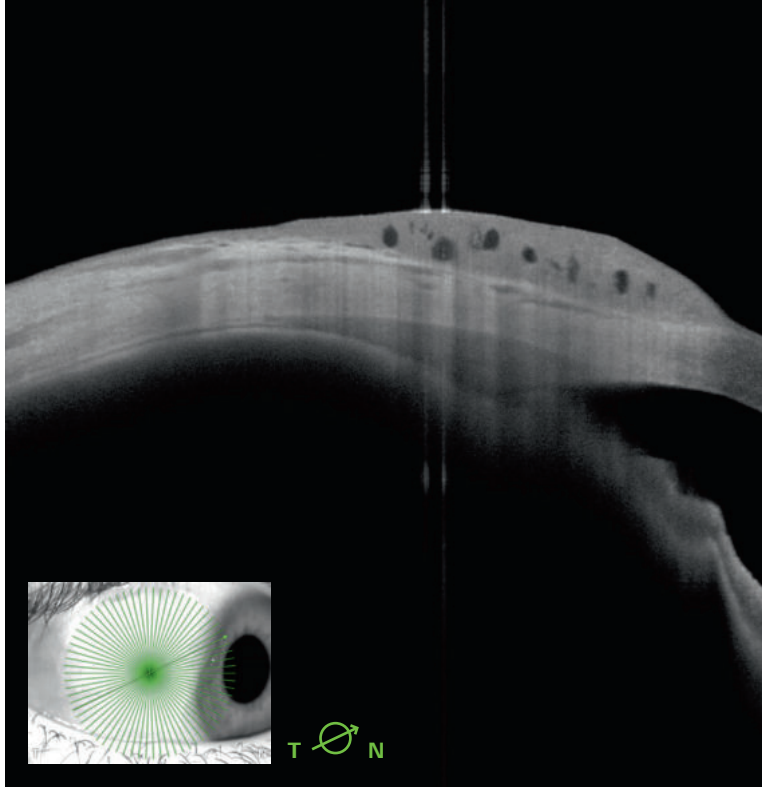


High-resolution swept-source OCT images provide the most important anterior segment examinations and measurements.



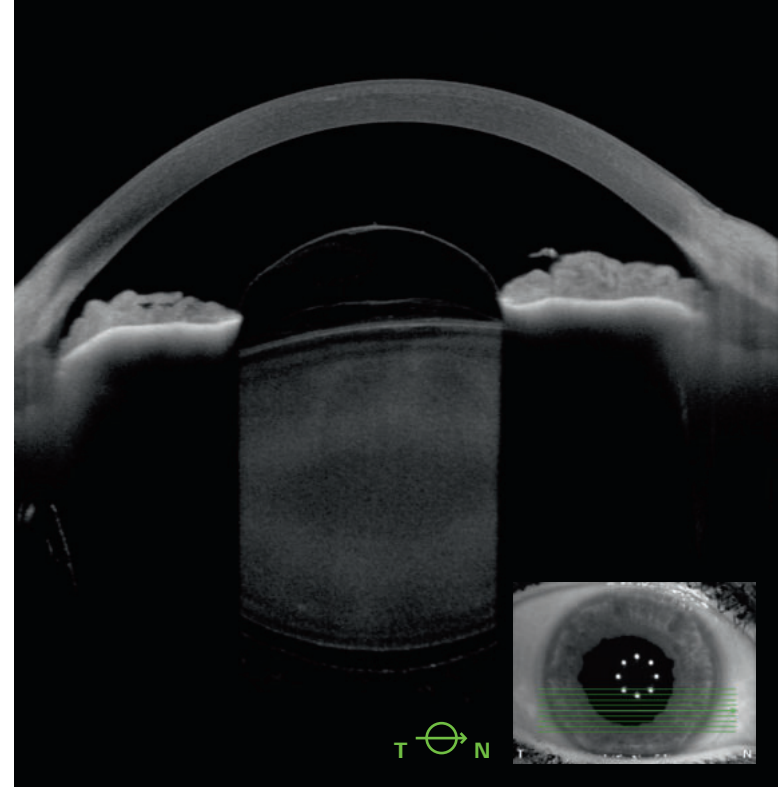
Imaging App* – Stunning Heidelberg Image Quality

The Imaging App focuses on the high-resolution visualization of the entire anterior segment, from the anterior surface of the cornea to the posterior surface of the lens. It delivers impressive and revealing OCT images that assist you in the diagnosis and management of anterior segment alterations.

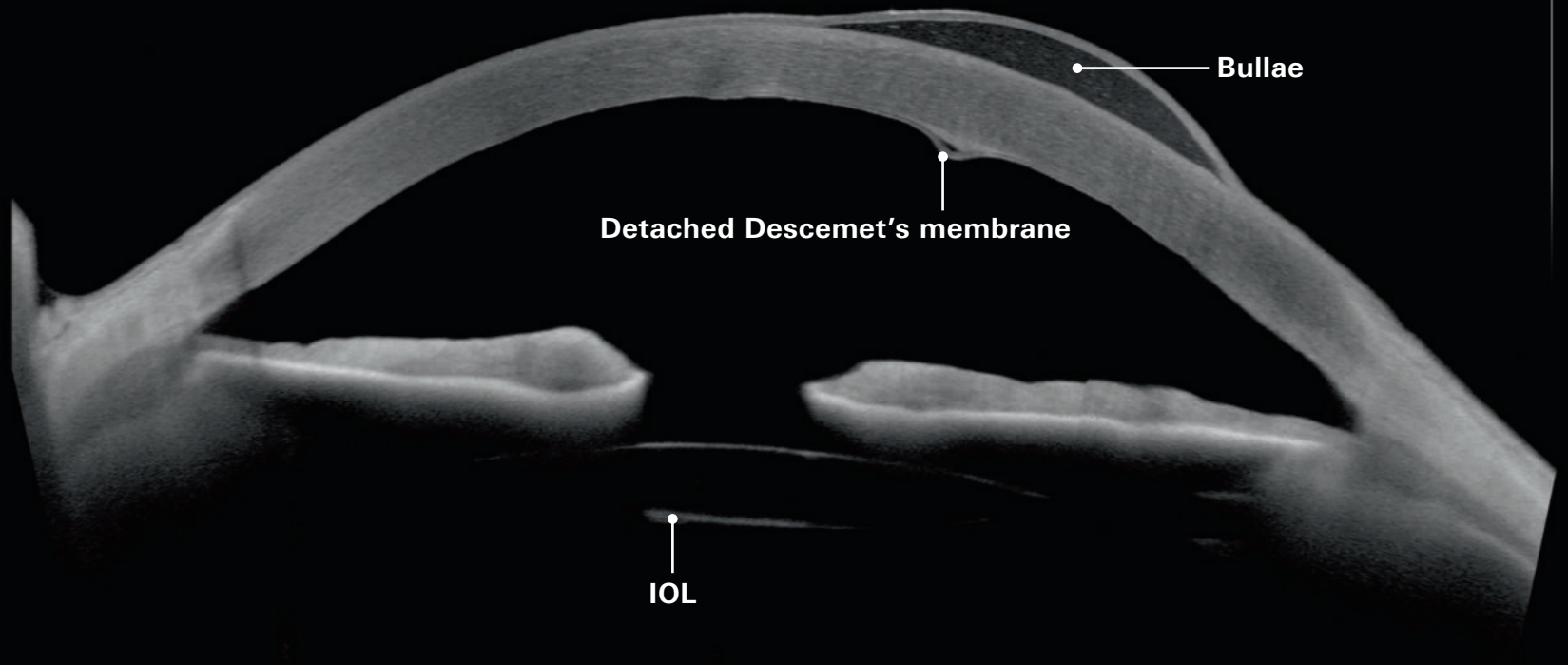


Conjunctival nevus (lateral fixation)

Image courtesy: Sacha Nahon-Esteve, MD, Nice, France

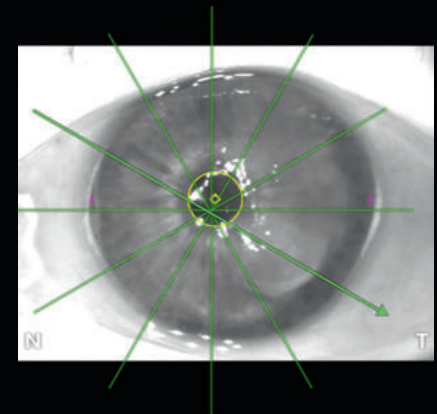


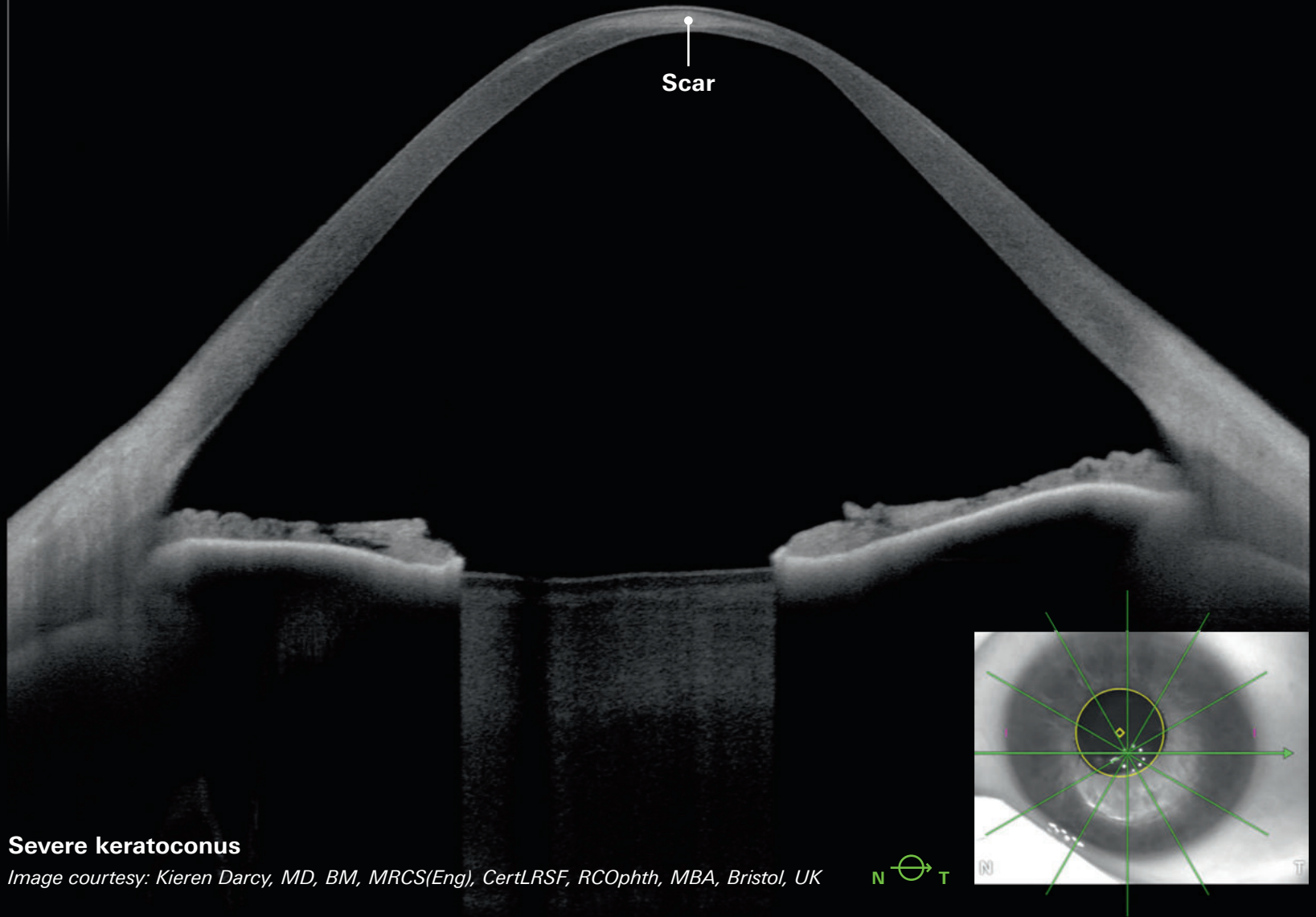
Post trauma, vitreous in the anterior chamber



Bullae due to hydrops

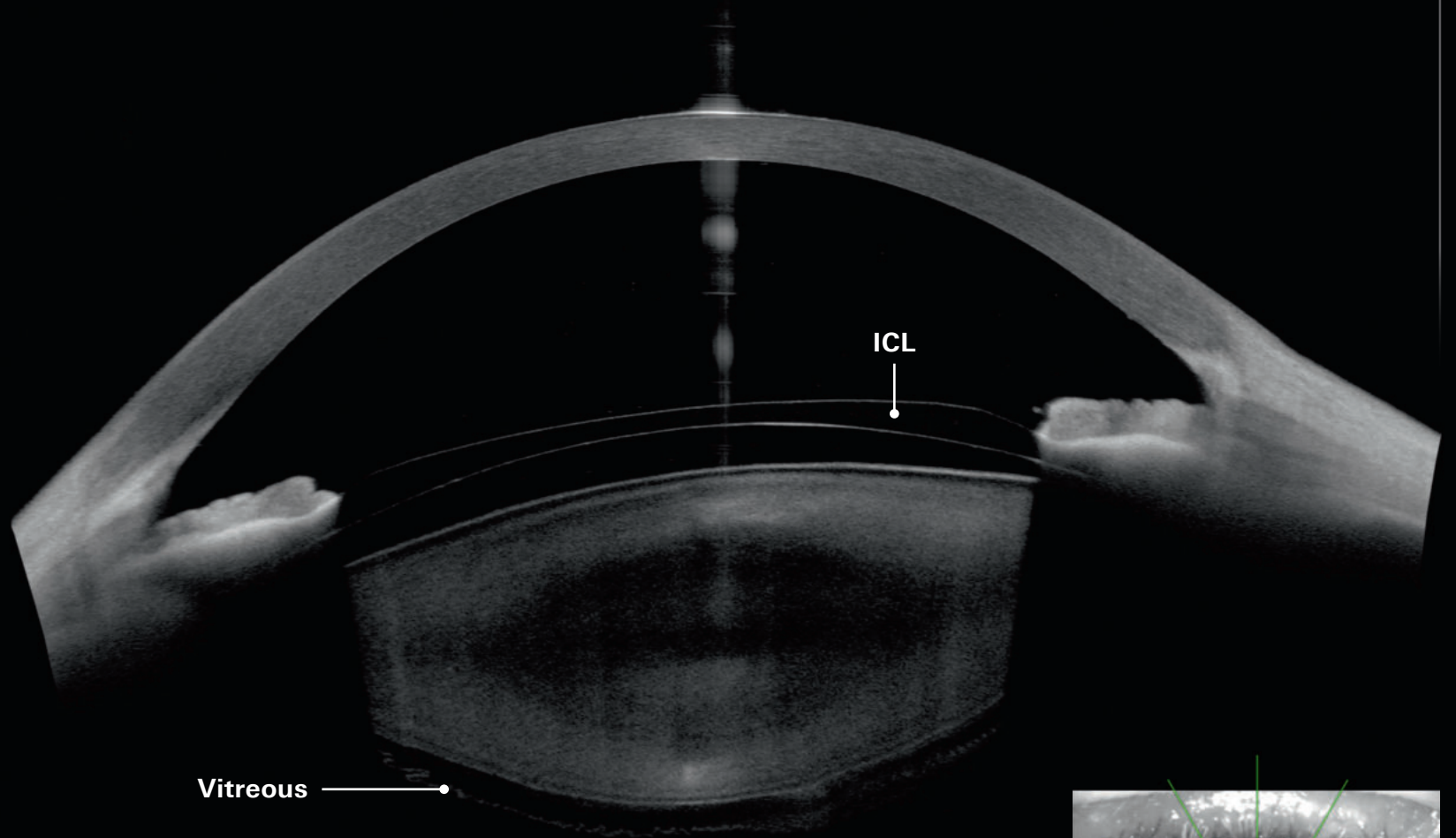
Image courtesy: Kieren Darcy, MD, BM, MRCS(Eng), CertLRSF, RCOphth, MBA, Bristol, UK





Severe keratoconus

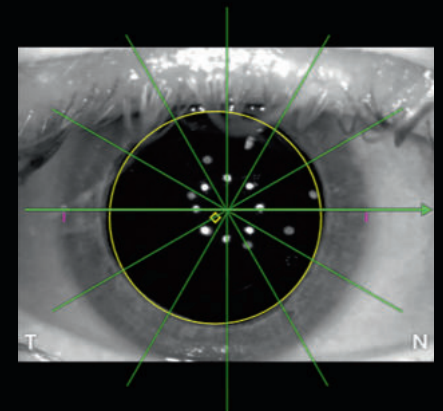
Image courtesy: Kieren Darcy, MD, BM, MRCS(Eng), CertLRSF, RCOphth, MBA, Bristol, UK

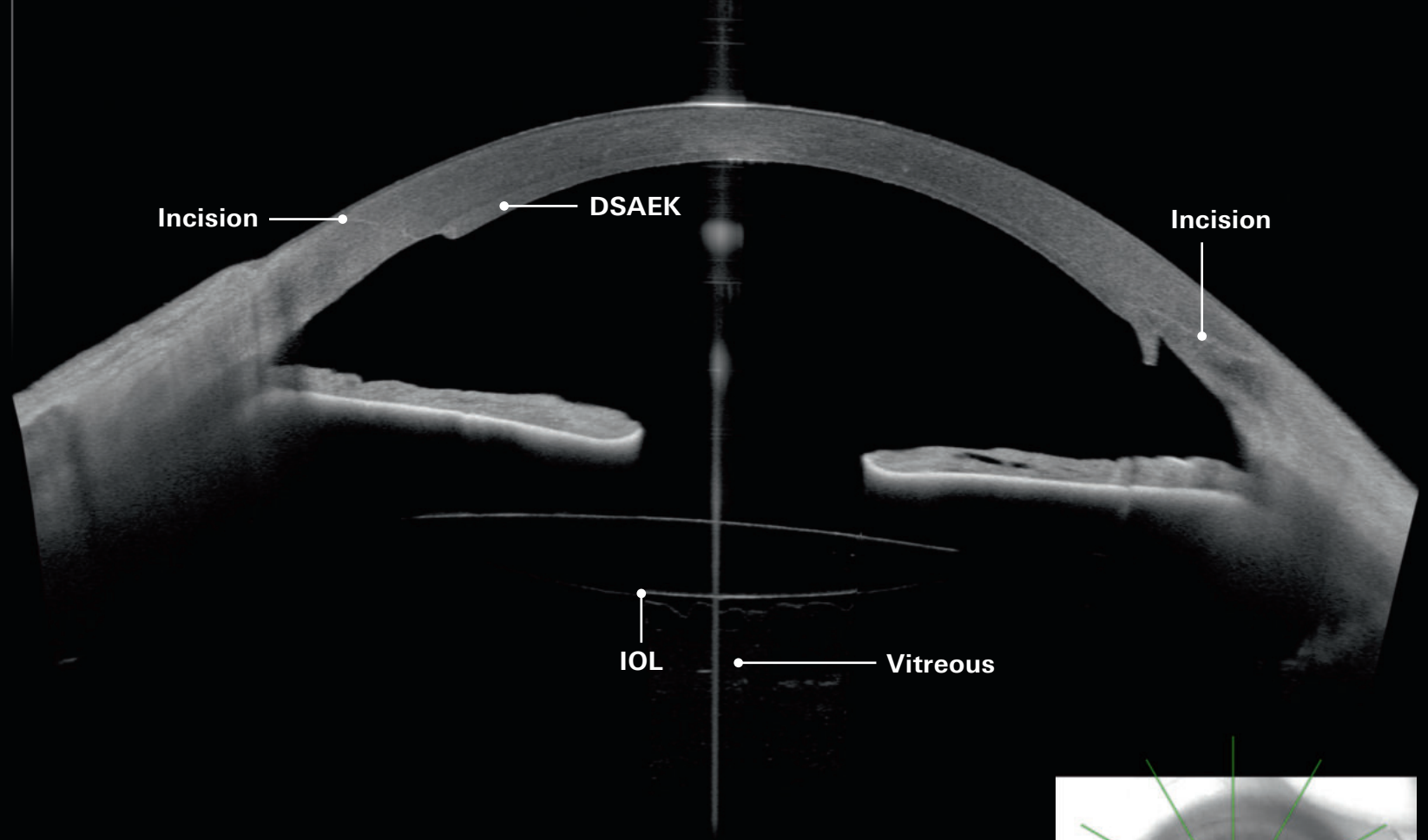


200 μm

ICL in mydriasis

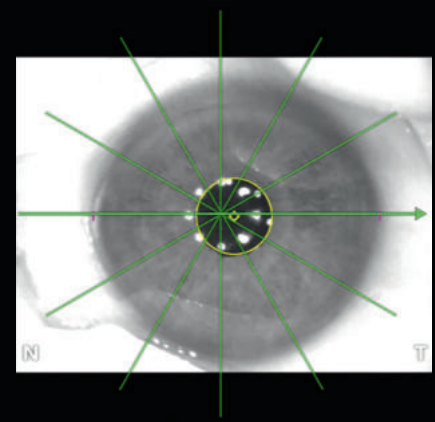
Image courtesy: Tobias Duncker, MD, Halle, Germany

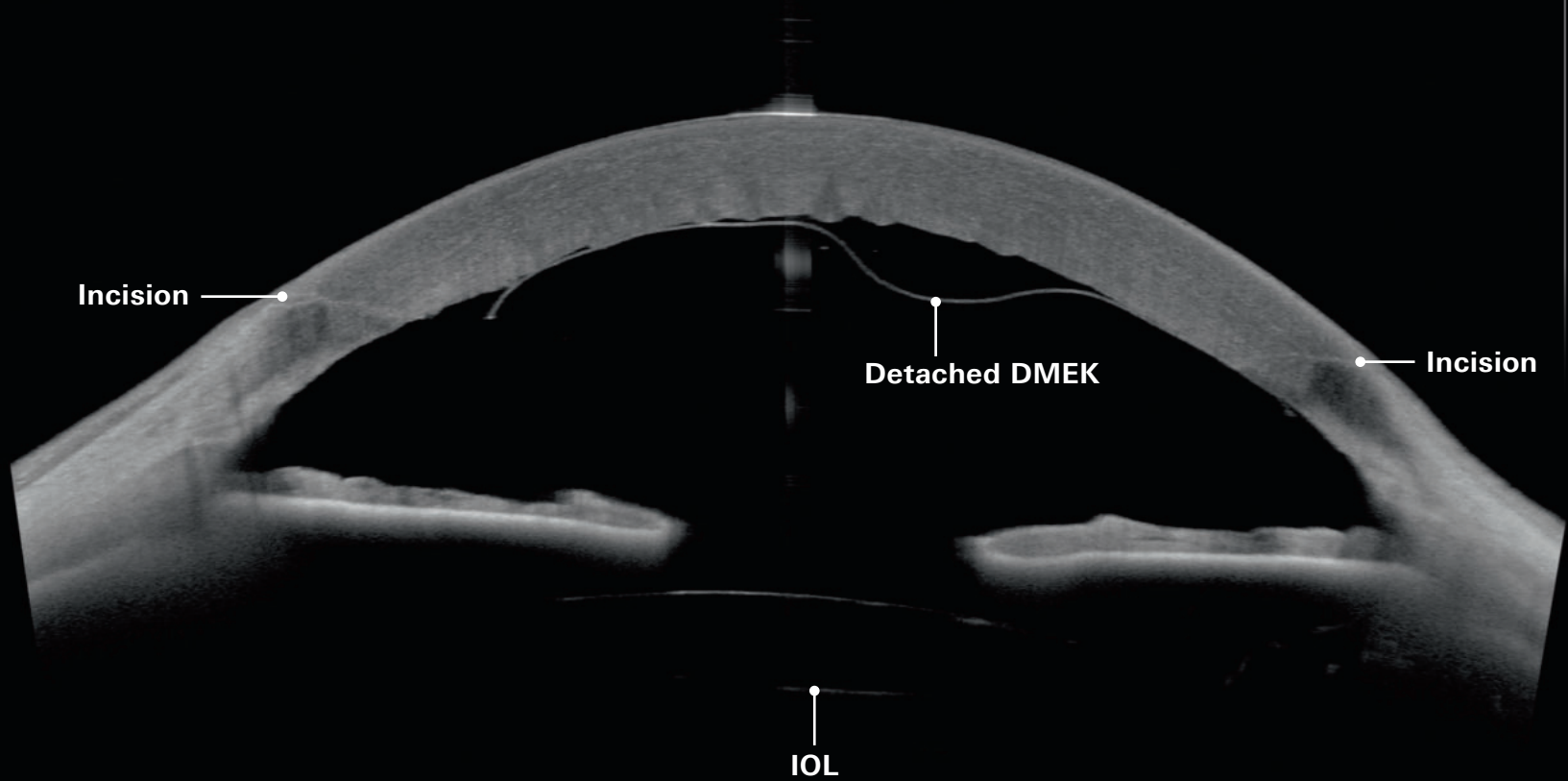




200 μm

Descemet's Stripping Automated Endothelial Keratoplasty (DSAEK)
Image courtesy: Kieren Darcy, MD, BM, MRCS(Eng), CertLRSF, RCOphth, MBA, Bristol, UK

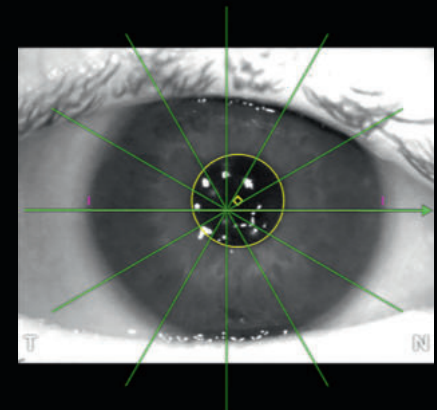


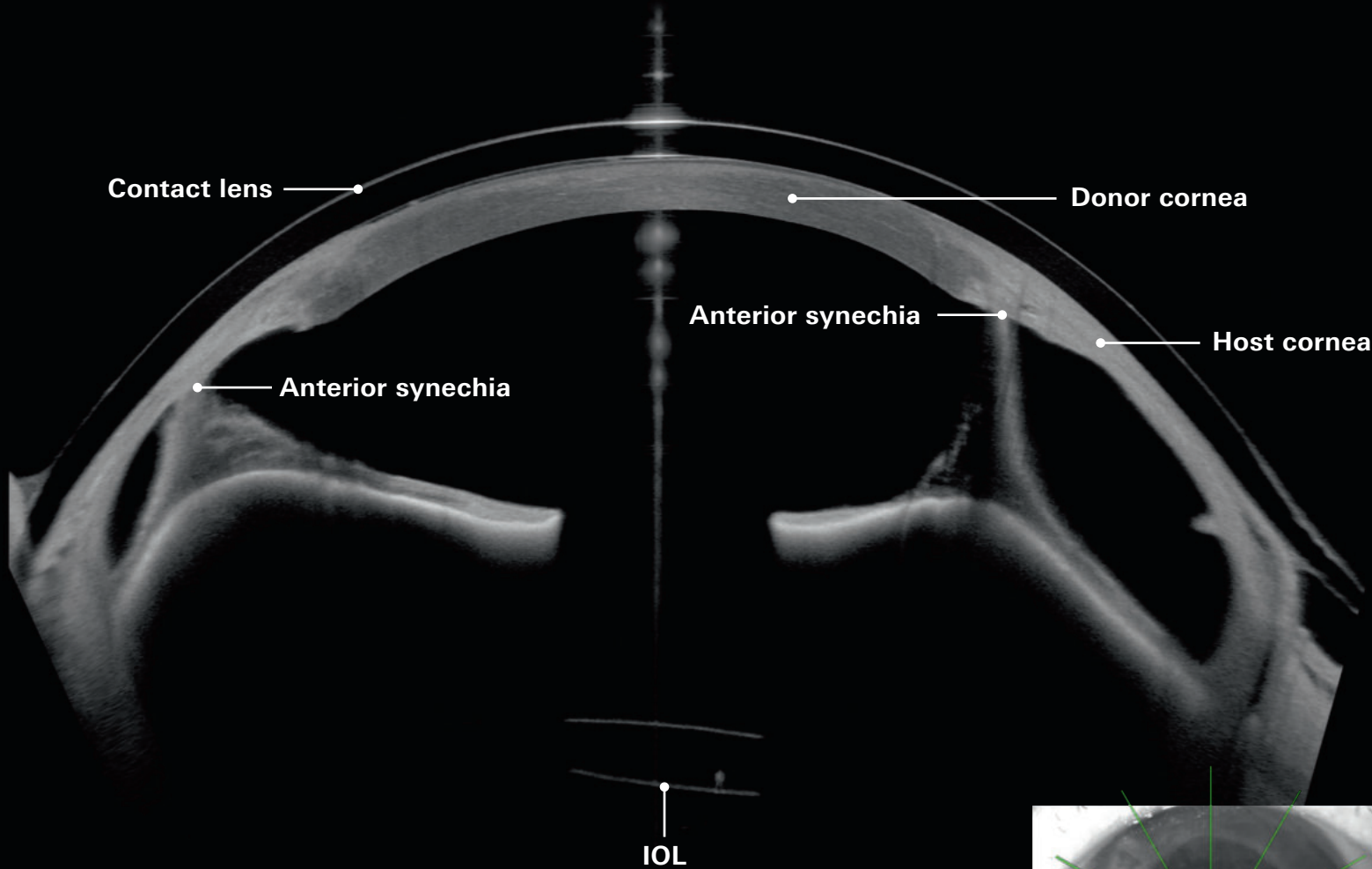


200 μ m

Descemet's Membrane Endothelial Keratoplasty (DMEK)

Image courtesy: Tobias Duncker, MD, Halle, Germany

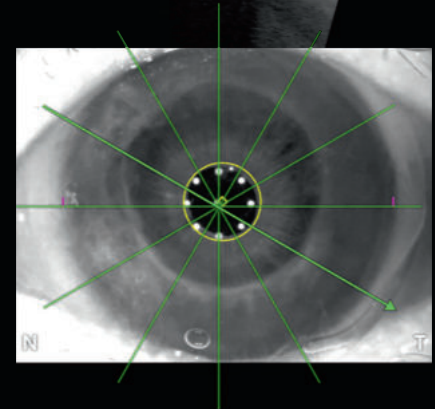




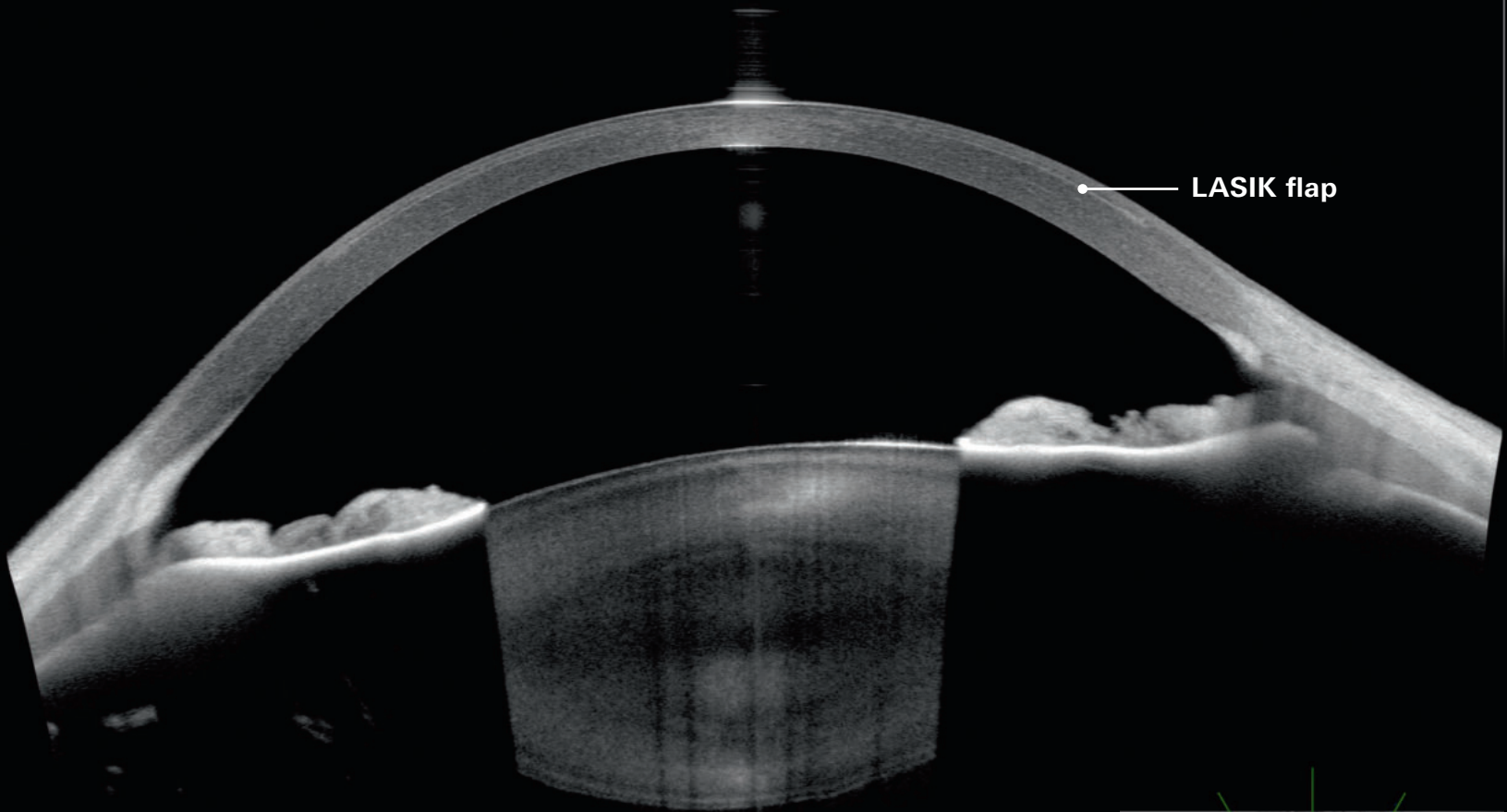
200 μ m

Keratoplasty, anterior synechia, pseudophakic eye with contact lens

Image courtesy: Tobias Duncker, MD, Halle, Germany

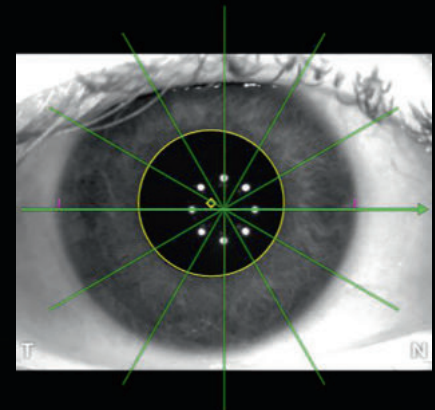


N \rightarrow T



200 μ m

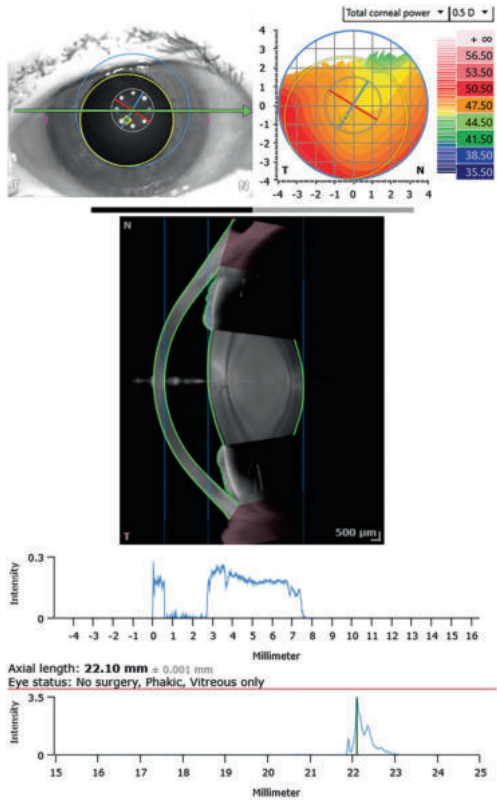
LASIK



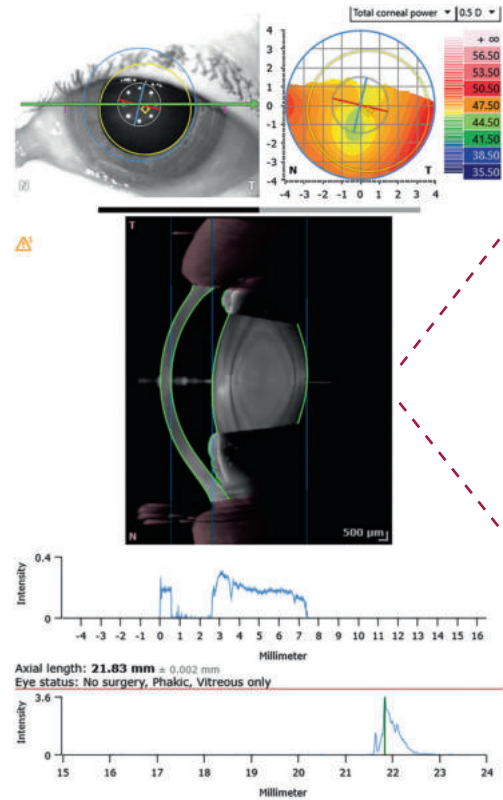


Cataract App* – Confirm Biometry on OCT Images

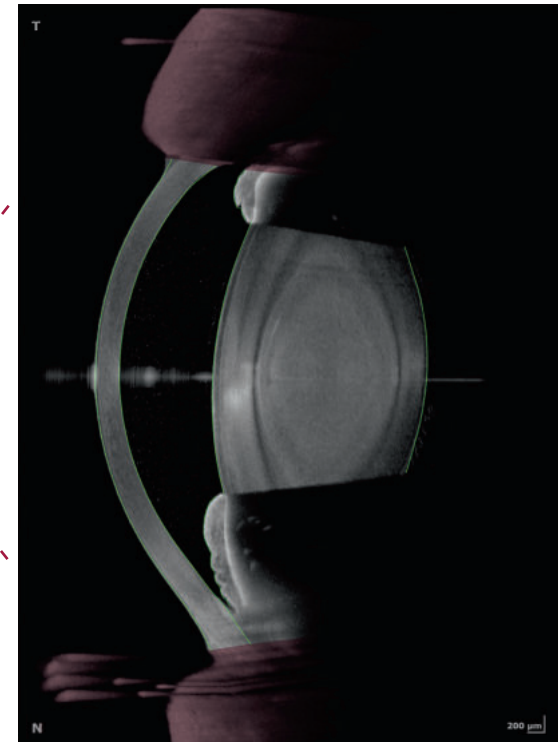
Biometry OD



Biometry OS



OCT cross-sectional scan OS



Optimize your clinical workflow using OCT images to visually compare or confirm biometry data for both eyes. See what you measure and measure what you see – for more confidence.

*The ANTERION Cataract App is optional.

Save Time to Support Pre-Operative Routine

Parameter tab

Basics ▶ Premium IOL

	OD	OS [⚠]	OD - OS Difference
Anterior axial curvature (simulated)			
nk = 1.3375; 3 mm ring			
SimK average	47.17 D	46.47 D	0.70 D
SimK (steep)	47.40 D @ 134°	47.14 D @ 164°	
SimK (flat)	46.93 D @ 44°	45.82 D @ 74°	
Astigmatism (steep)	0.47 D @ 134°	1.32 D @ 164°	
Astigmatism (Steep)			
nc = 1.376; nah=1.336; 3 mm ring			
Astigm. (total)	0.57 D @ 148°	1.82 D @ 167°	
Astigm. (posterior)	-0.30 D @ 91°	-0.35 D @ 91°	
Δ Ast. (anterior - total)	-0.11 D @ -14°	-0.49 D @ -3°	
Total corneal wavefront			
3 mm zone, pupil-centered			
Z ₄ Spherical aberration	0.03 μm	n/a	n/a
RMS HOA	0.12 μm	n/a μm	n/a μm
Pachymetry			
CCT (vertex)	564 μm	534 μm	30 μm
Anterior segment			
AQD	2.18 mm	2.07 mm	0.11 mm
WTW	11.22 mm	11.15 mm	
Lens thickness	4.79 mm	4.78 mm	0.01 mm
Pupil			
Pupil diameter	6.5 mm	6.4 mm	0.1 mm
Pupil center x/y (kappa)	-0.39/-0.69 mm	0.42/-0.31 mm	
Axial length			
Length	22.10±0.00 mm	21.83±0.00 mm	0.27 mm

Spheric calculator OS

Eye status: No surgery, Phakic, Vitreous only

Target refraction: 0.00 D [+ -] IOL database: keyuser

Template: Custom

Barrett Universal II		Haigis	
Bausch&Lomb EnVista TORIC (MXE)		Bausch&Lomb EnVista TORIC (MXE)	
A const: 119.11 DF: -0.50		A0: 1.460 A1: 0.400 A2: 0.100	
IOL power	Residual refraction	IOL power	Residual refraction
23.71 (optimal)	0.00 (optimal)	23.58 (optimal)	0.00 (optimal)
24.50	-0.57	24.50	-0.66
24.00	-0.21	24.00	-0.30
23.50	0.15	23.50	0.06
23.00	0.50	23.00	0.41
22.50	0.84	22.50	0.75

Barrett Universal II		Haigis	
Bausch&Lomb LI61AO SofPort		Bausch&Lomb LI61AO SofPort	
A const: 118.57 DF: 0.00		A0: 0.057 A1: 0.186 A2: 0.171	
IOL power	Residual refraction	IOL power	Residual refraction
23.07 (optimal)	0.00 (optimal)	22.65 (optimal)	0.00 (optimal)
24.00	-0.68	23.50	-0.63
23.50	-0.31	23.00	-0.26
23.00	0.05	22.50	0.11
22.50	0.41	22.00	0.47
22.00	0.77	21.50	0.83

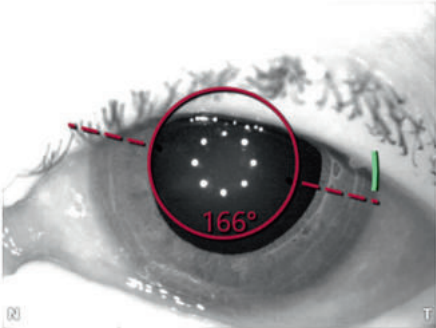
Toric calculator OS

Posterior astigmatism: Measured

Incision location (—): 0° [+ -]

Surgically induced astigmatism: 0.2 D [+ -]

IOL axis (---): 166°

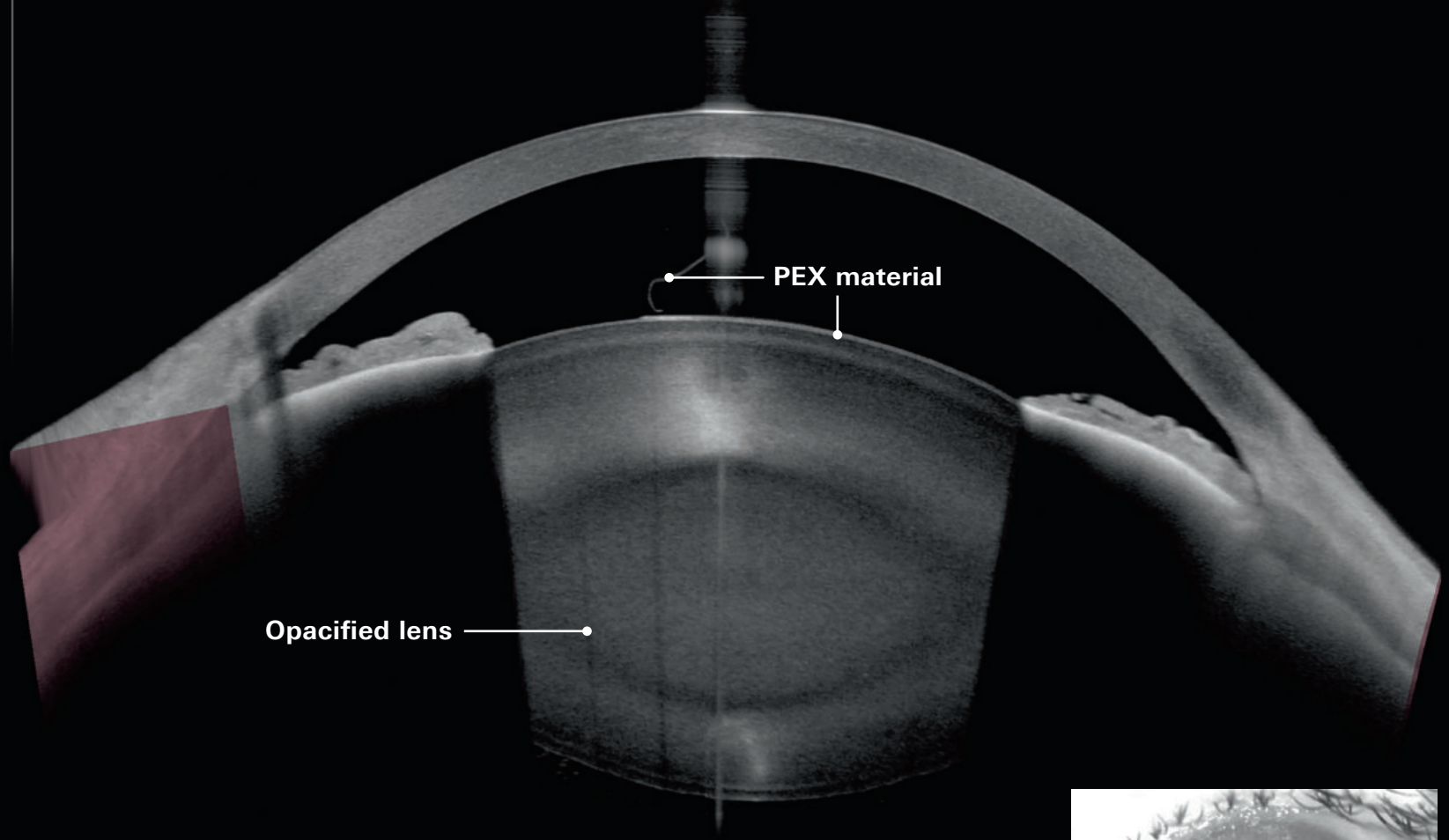


IOL overlay opacity: [Slider]

Toric calculator applies "Barrett Toric"

Toric IOL details			Residual astigmatism		
Cyl. IOL	Cyl. CP	Axis	Cylinder	Axis (Steep)	
1.25 D	0.85 D	166°	0.69 D	166°	
2.00 D	1.35 D	166°	0.18 D	166°	
2.75 D	1.86 D	166°	0.32 D	76° [⚠]	[⚠]

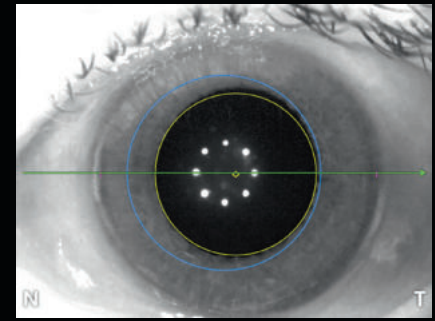
Using the dedicated parameter tab, differences between the right and left eye can easily be identified. The integrated spheric and toric IOL calculator adds further convenience to pre-operative routine and workflow.

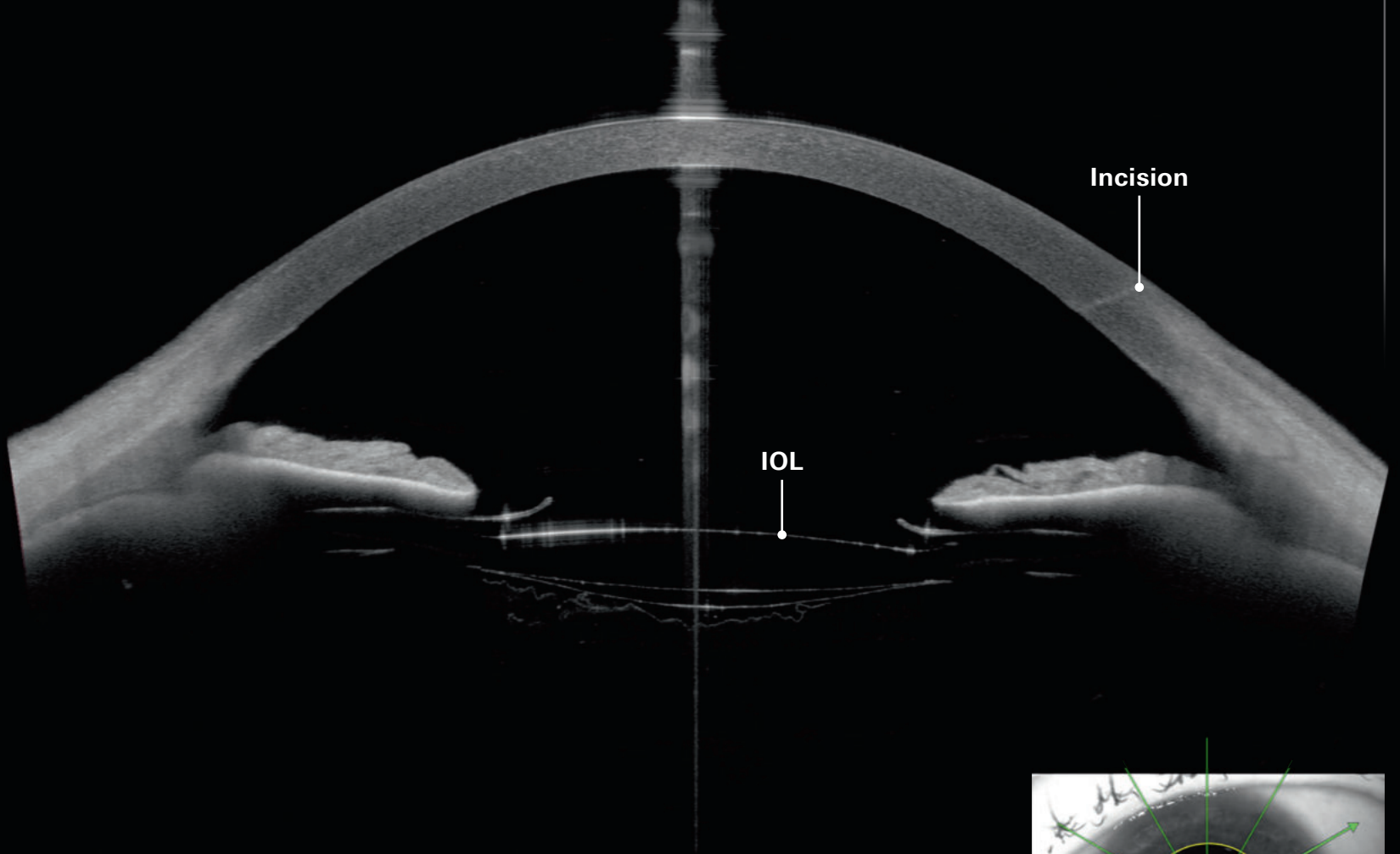


200 μm

Nuclear 3+ cataract with pseudoexfoliation syndrome (PEX)

Image courtesy: Oliver Findl, MD, MBA, FEBO, Vienna, Austria



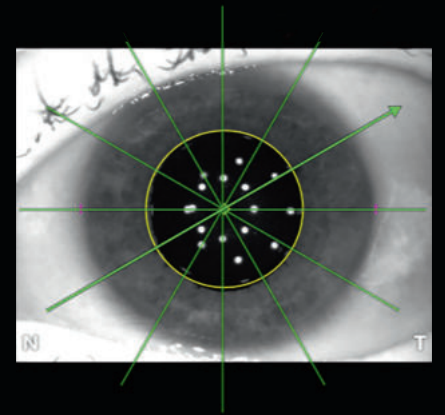


200 μm

Dilated pseudophakic eye, post cataract and capsulotomy

Confirm the reliability of your data using the Imaging App if clinically indicated.

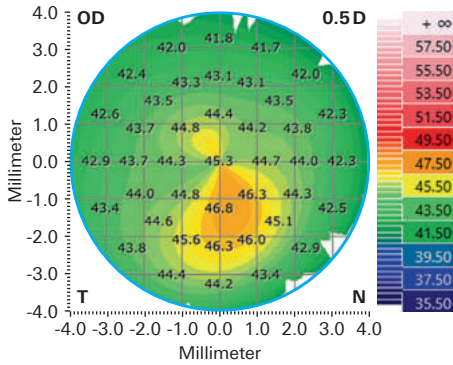
Image courtesy: Ulrich Kellner, MD, Siegburg, Germany



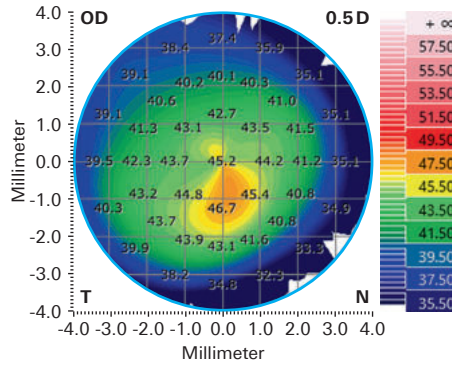


Cornea App* – Customized Reports to Optimize Workflow

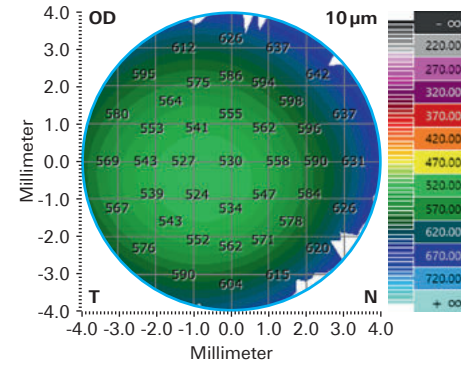
Anterior axial curvature



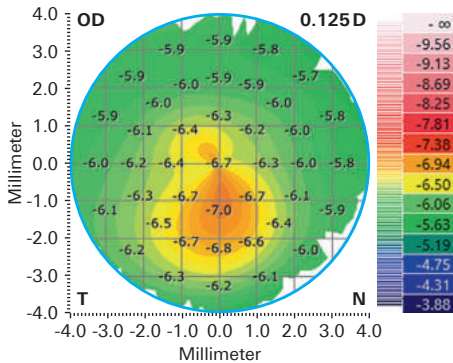
Anterior tangential curvature



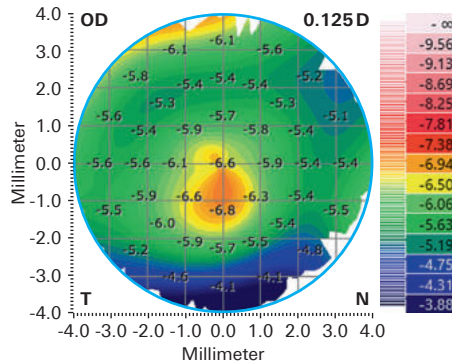
Pachymetry



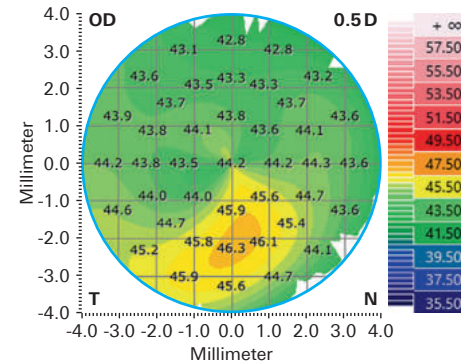
Posterior axial curvature



Posterior tangential curvature



Total corneal power



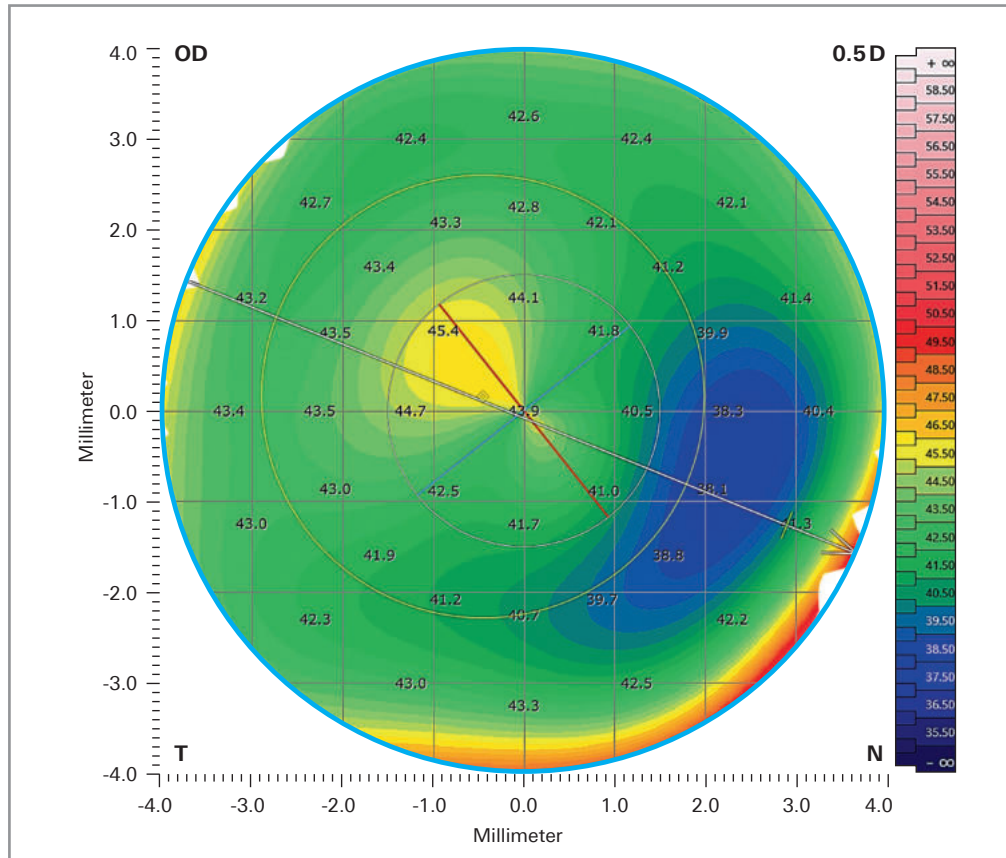
Keratoconus Multiview

Image courtesy: Oliver Findl, MD, MBA, FEBO, Vienna, Austria

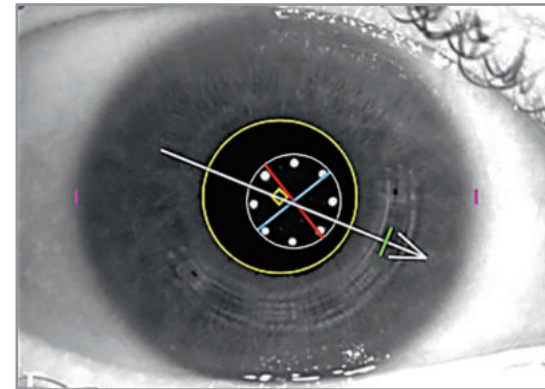
*The ANTERION Cornea App is optional.

Corneal Maps Correlate with Camera and OCT Images

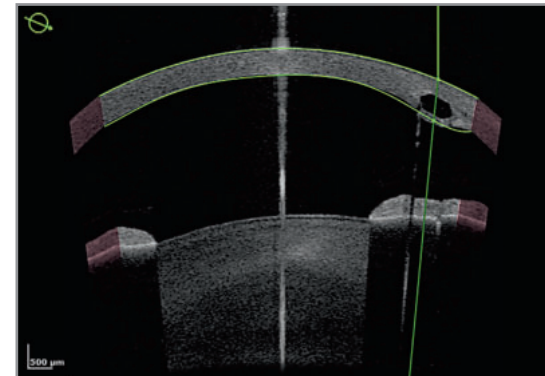
Total corneal power map



IR camera image



OCT cross-sectional scan



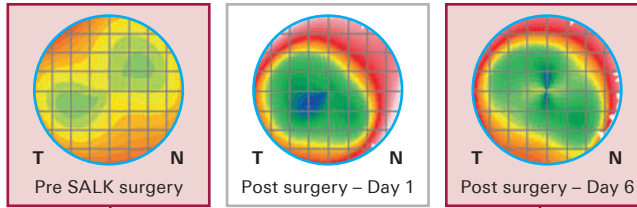
Intrastromal corneal ring segment

Image courtesy: Oliver Findl, MD, MBA, FEBO, Vienna, Austria

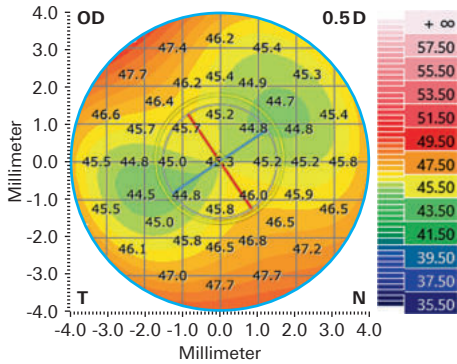


Visualize, Measure and Document Progression

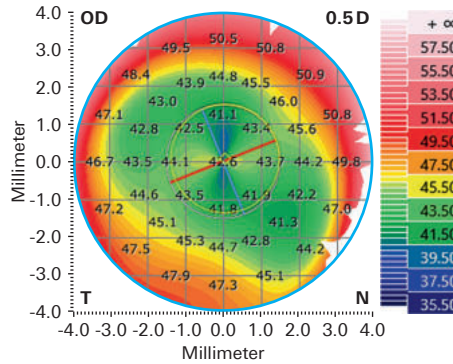
Examinations –
Total corneal
power map:



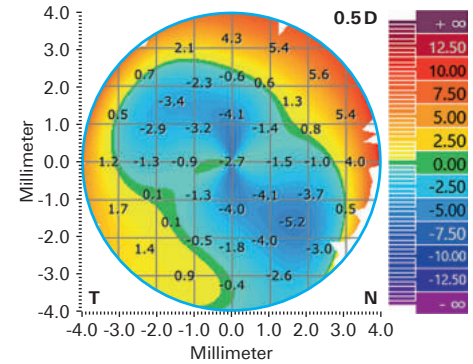
Baseline Pre SALK surgery



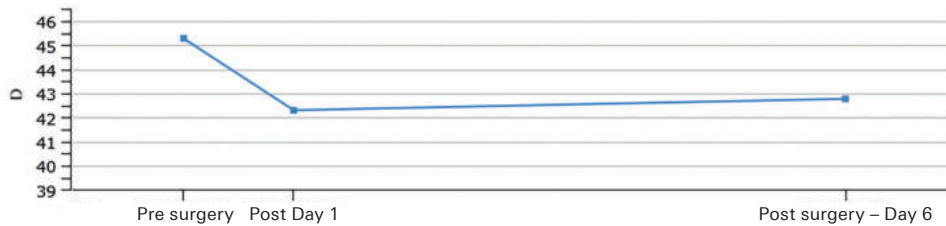
Follow-up Post surgery – Day 6



Follow-up – Baseline Difference



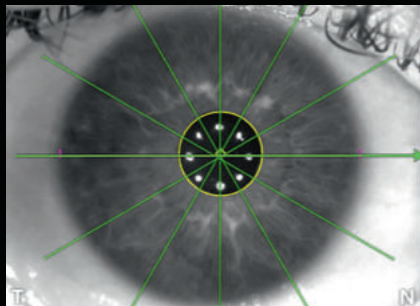
Trend analysis Total corneal power – K (average)



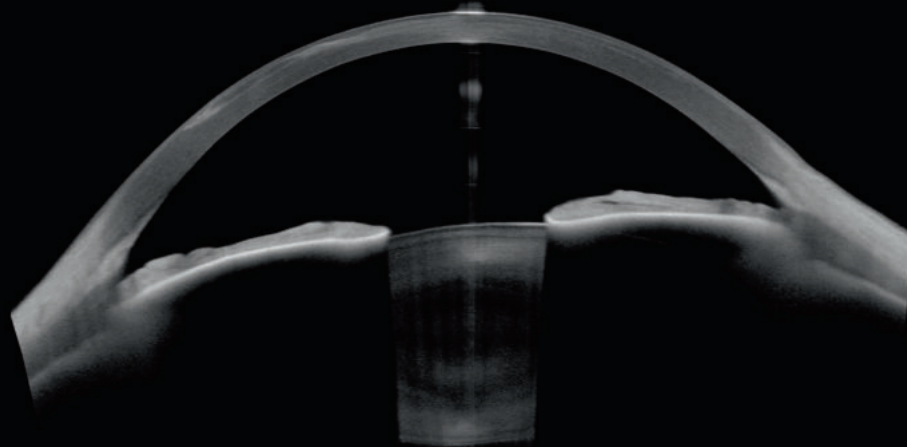
Superficial Anterior Lamellar Keratoplasty – SALK

Image courtesy: Kieren Darcy, MD, BM, MRCS(Eng), CertLRSF, RCOphth, MBA, Bristol, UK

Baseline – Pre SALK surgery



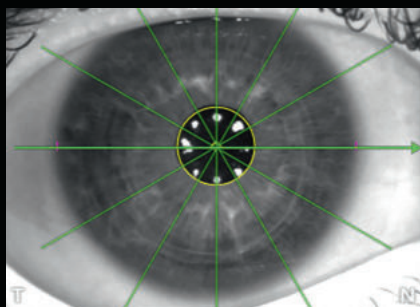
200 μm



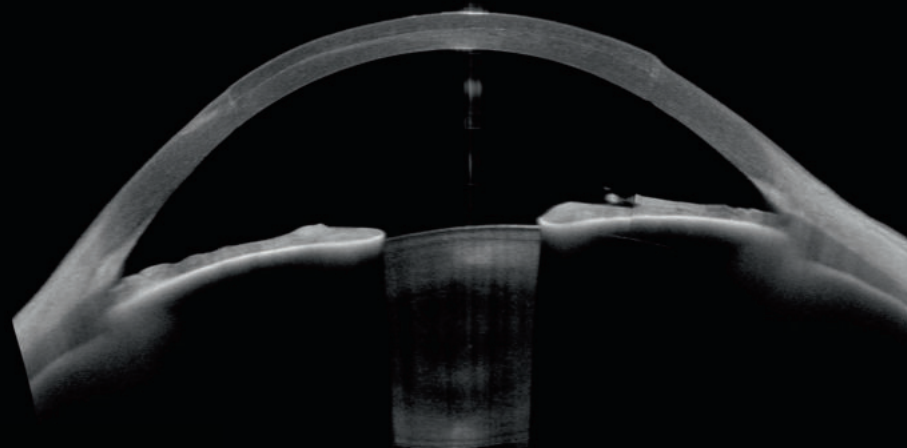
T → N



Follow-up – Day 6 – Post SALK surgery



200 μm



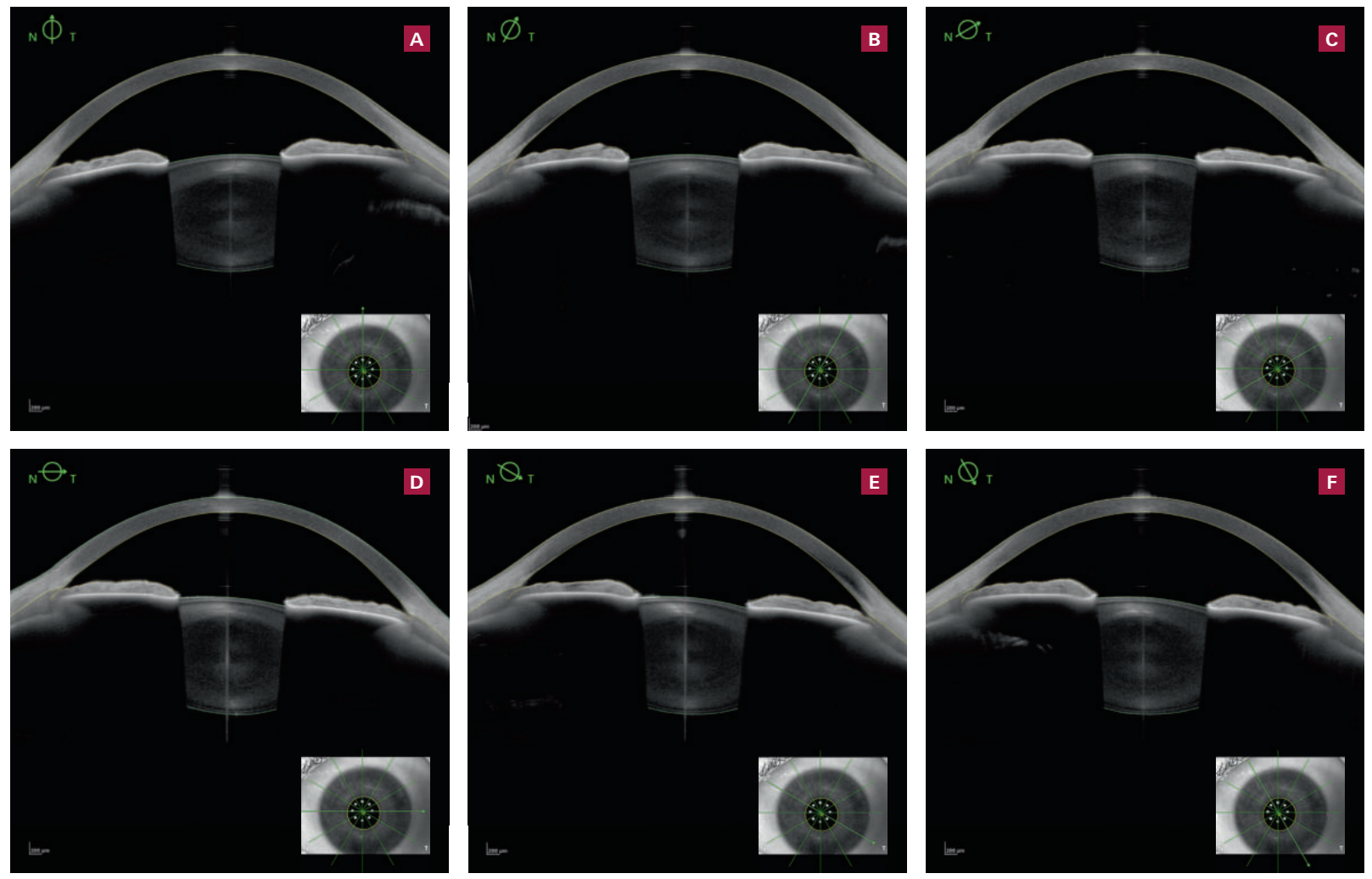
T → N

Confirm the reliability of your data using the Imaging App

Image courtesy: Kieren Darcy, MD, BM, MRCS(Eng), CertLRSF, RCOphth, MBA, Bristol, UK



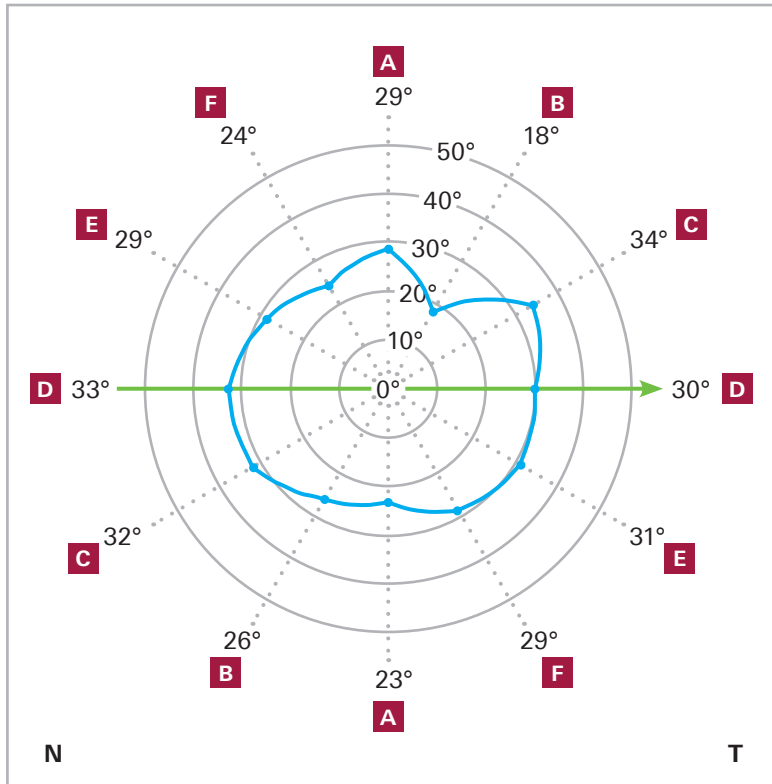
Metrics App* – Measure What You See



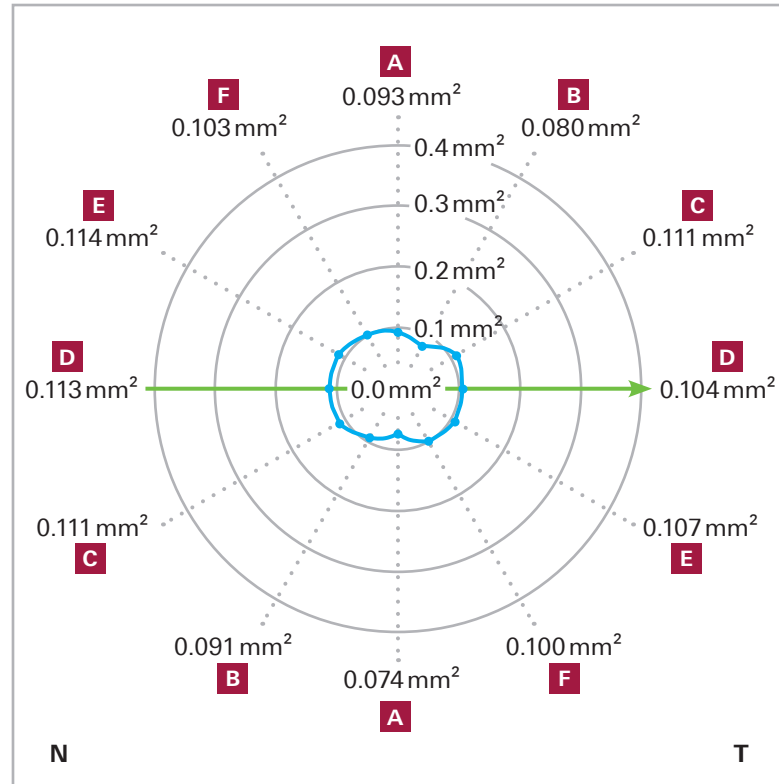
*The ANTERION Metrics App is optional.

Anterior Segment Parameters at a Glance

ACA 500

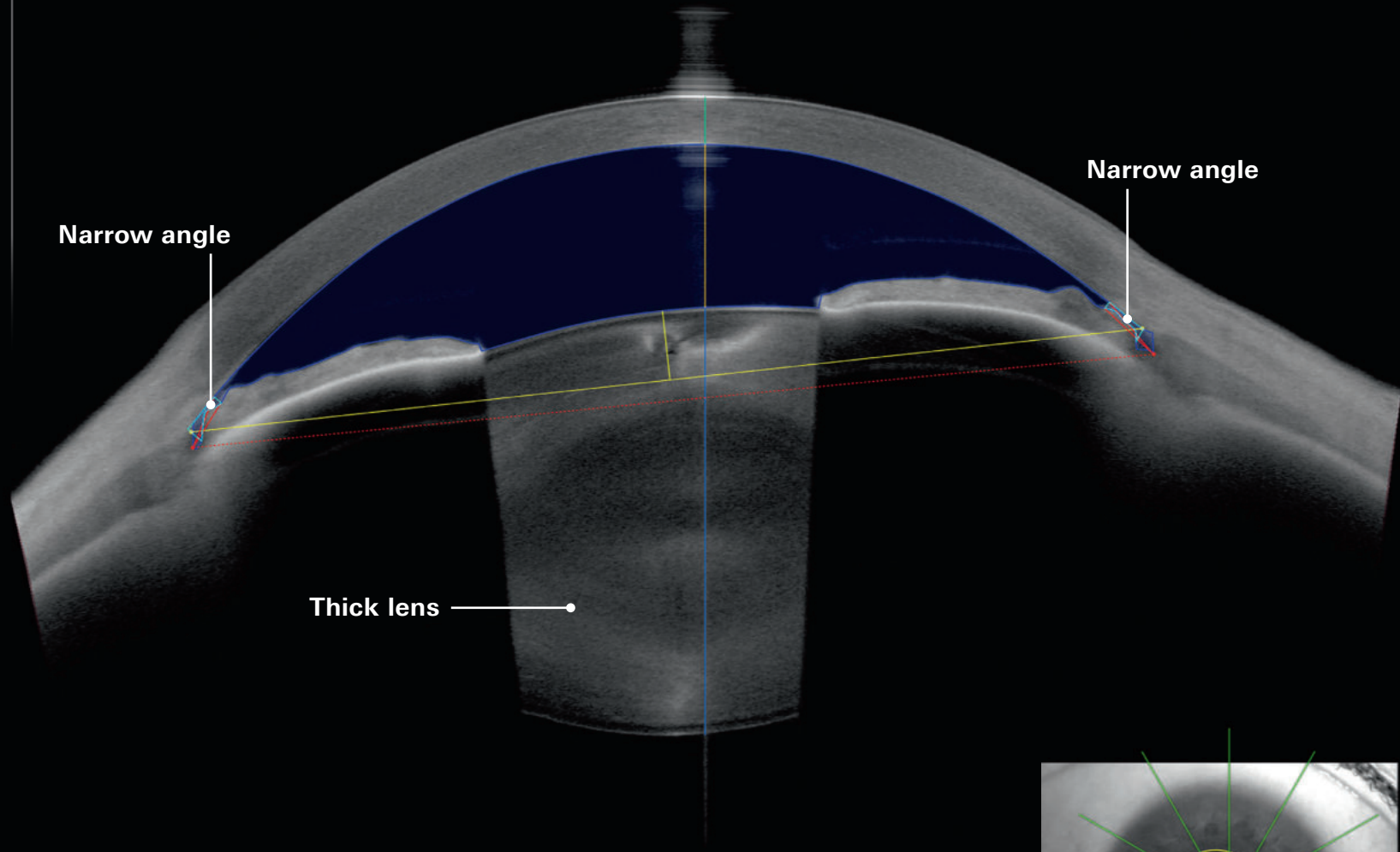


TISA 500



The Metrics App features the essential anterior chamber metrics such as aqueous depth, anterior chamber angles (ACA), angle opening distance (AOD), scleral spur angle (SSA), trabecular iris space area (TISA), ACA distance, spur-to-spur distance, central corneal thickness, and white-to-white. The ability to visualize anterior segment parameters at a glance using the 360° graphs is an additional benefit that can help save time.





Narrow angle

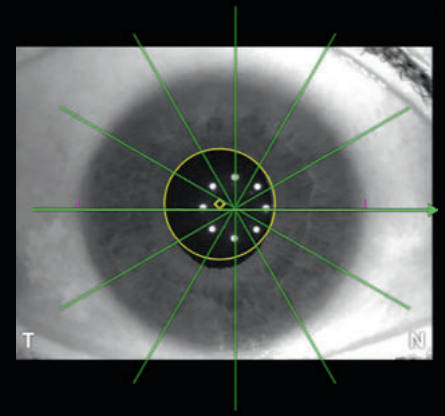
Narrow angle

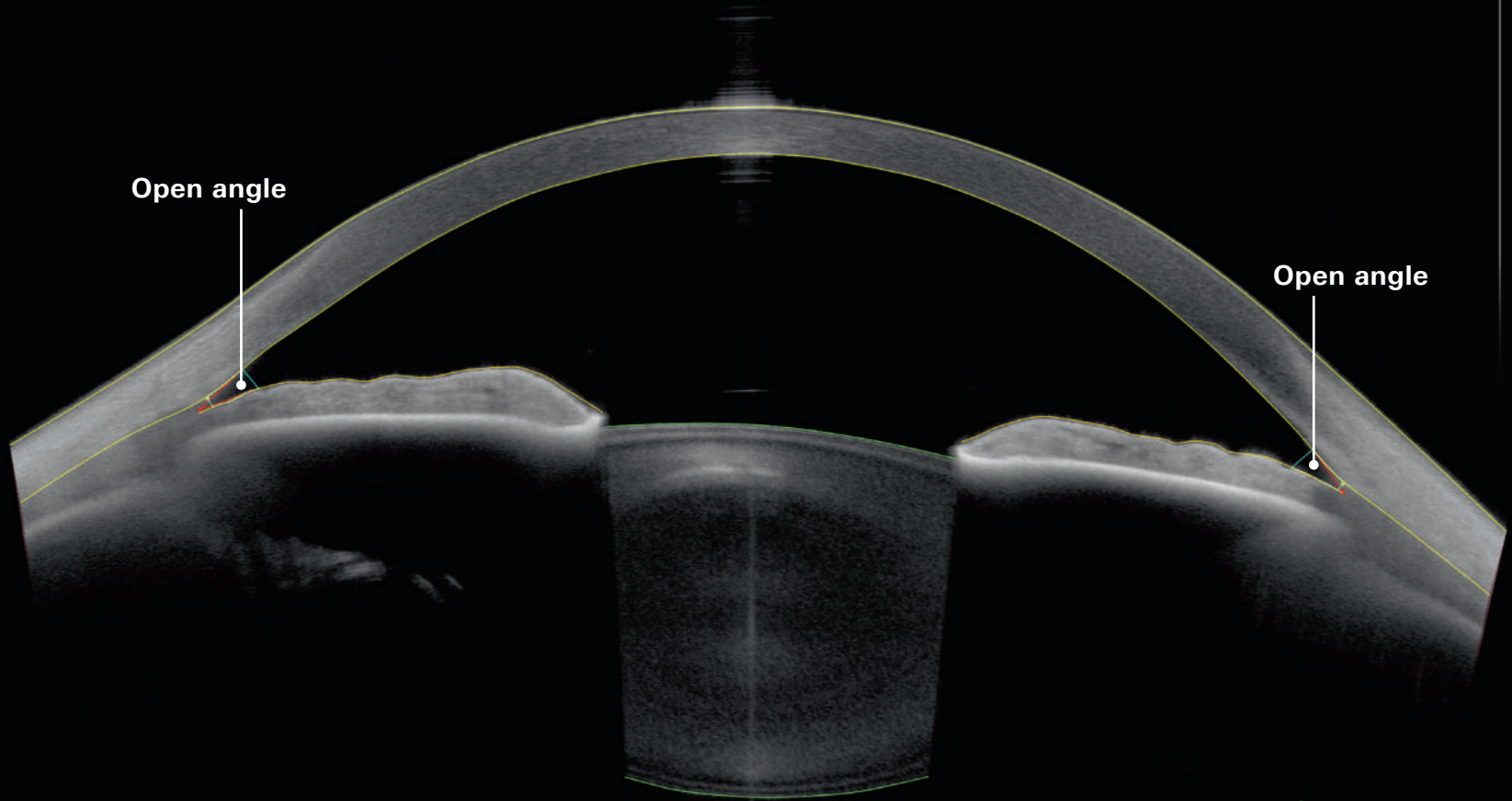
Thick lens

200 μ m

Narrow anterior chamber angles and thick lens

Image courtesy: Ulrich Kellner, MD, Siegburg, Germany

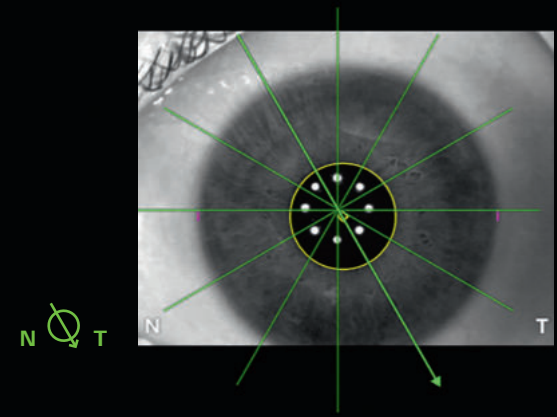




200 μ m

Open anterior chamber angles

Image courtesy: Ulrich Kellner, MD, Siegburg, Germany





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