WOO UNIVERSITY

Anterior Segment and Contact Lens Applications of OCT

Dr. Mile Brujic

WOO UNIVERSITY

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Host: Dr. Ariel Cerenzie

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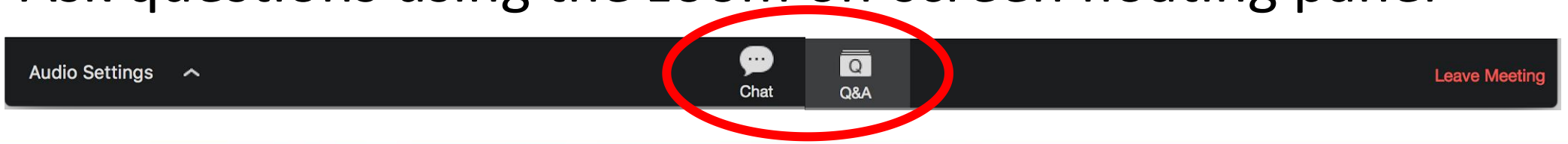

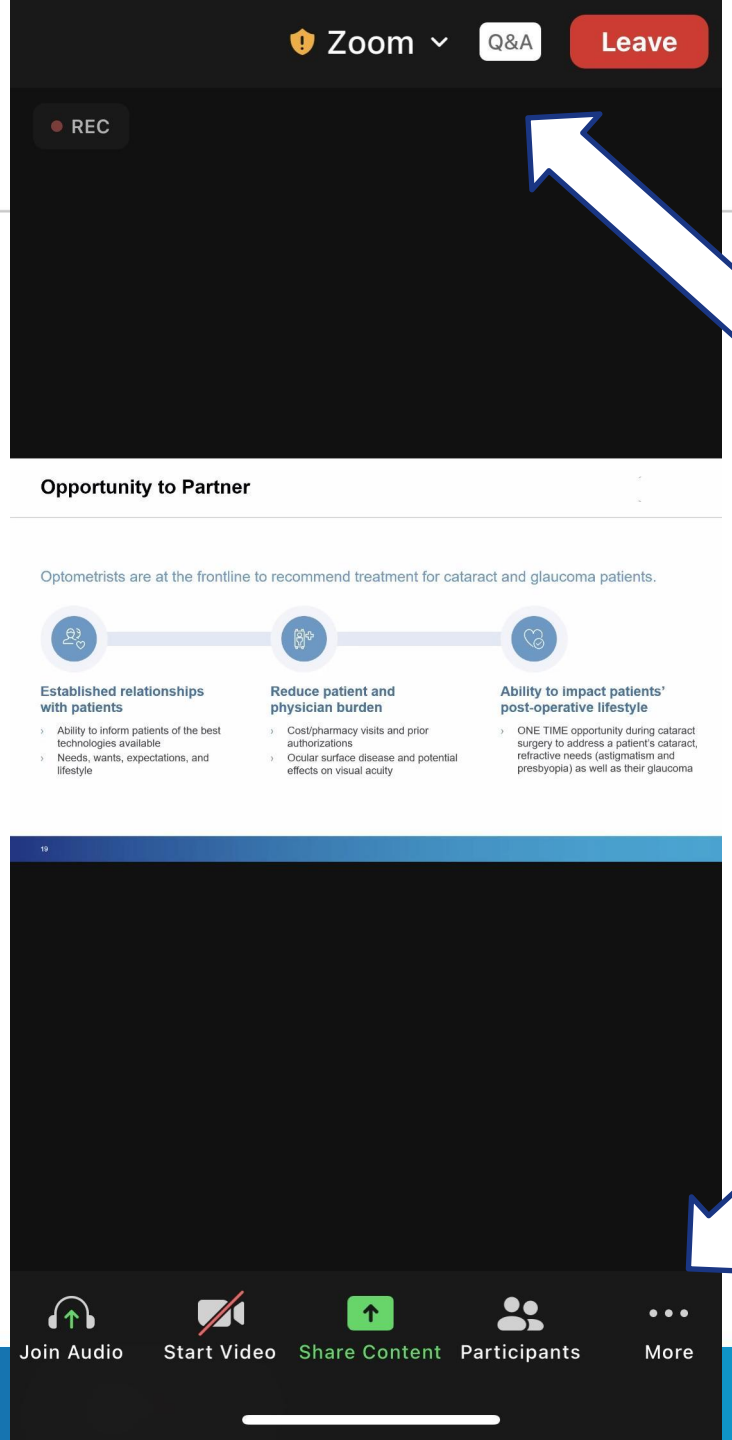
Zoom
Q&A
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REC
Opportunity to Partner
Optometrists are at the frontline to recommend treatment for cataract and glaucoma patients.
Established relationships with patients
Ability to inform patients of the best technologies available
Needs, wants, expectations, and lifestyle
Reduce patient and physician burden
Cost/pharmacy visits and prior authorizations
Ocular surface disease and potential effects on visual acuity
Ability to impact patients' post-operative lifestyle
ONE TIME opportunity during cataract surgery to address a patient's cataract, refractive needs (astigmatism and presbyopia) as well as their glaucoma
19
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Speaker Bio –

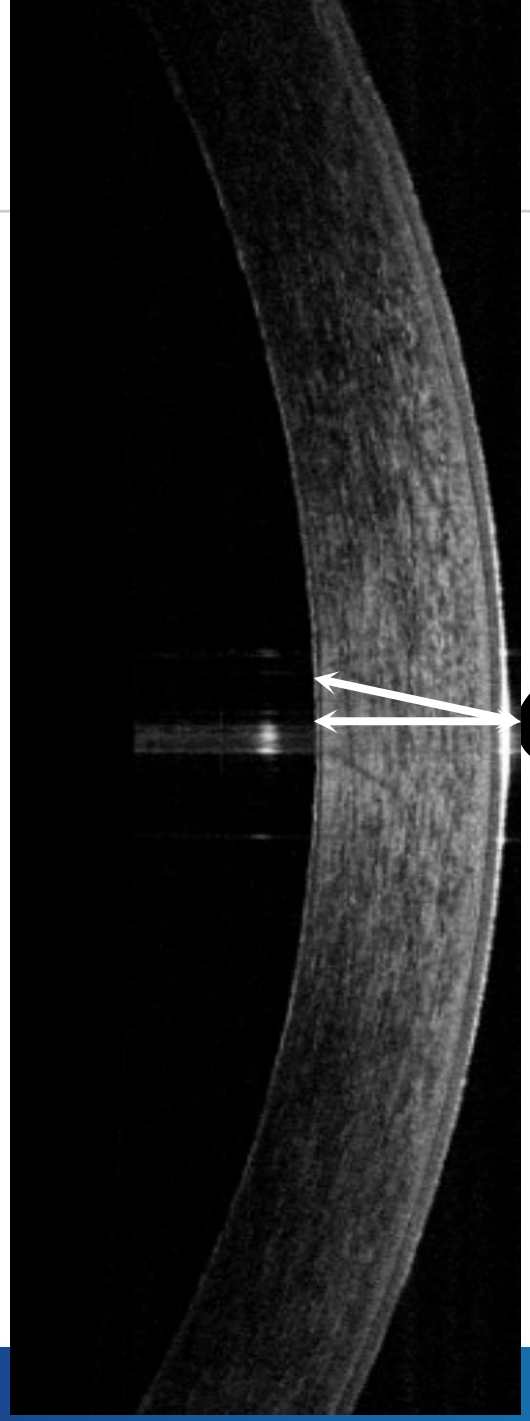
Mile Brujic, OD, FAAO is a 2002 graduate of the New England College of Optometry. He is a partner of Premier Vision Group, a successful four location optometric practice in Northwest Ohio. He practices full scope optometry with an emphasis on ocular disease management of the anterior segment and specialty contact lenses. He is active at all levels of organized optometry. Dr. Brujic is on the editorial board for a number of optometric publications. He has published over 400 articles and has given over 1900 lectures, both nationally and internationally on contemporary topics in eyecare.

Financial Disclosures

- I have received honoraria in the past 2 years for speaking, writing, participating in an advisory capacity, research or meeting support from:Apellis, ABB Optical, Alcon Laboratories, Aldeyra, Allergan, Art Optical, Avellino, Bausch + Lomb Health, Contamac, CooperVision, CSEye, Dompe, Horizon Therapeutics, Johnson & Johnson Vision Care, Kala, Lenstech, Notal Vision, Novartis, Optovue, Oyster Point, Quidel, RVL, Sun Pharma, Tangible Science, Santen, Visus, Walman Optical and Zea Vision.

All financial relationships have been mitigated.

Where We Were



Pachymetry

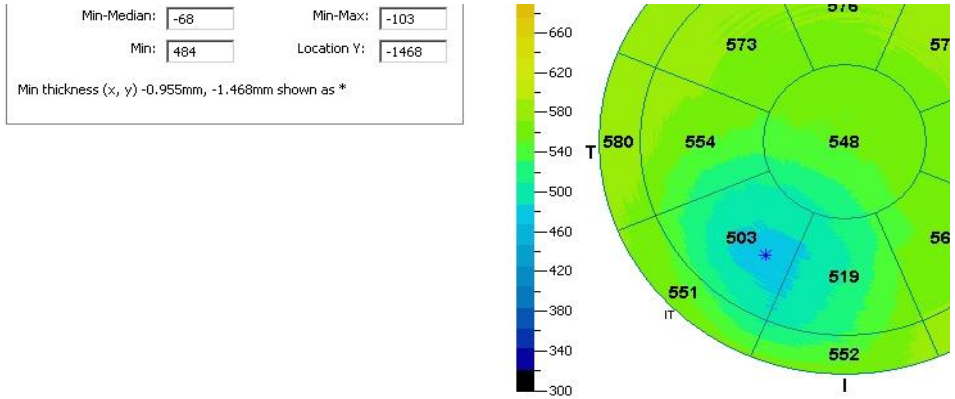
Pachymetry

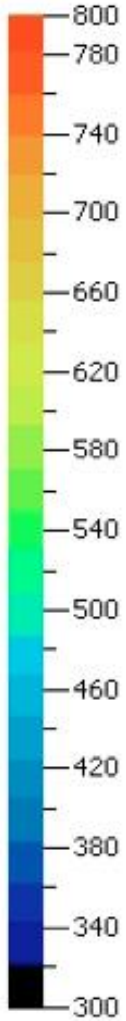
Pachymetry Assessment

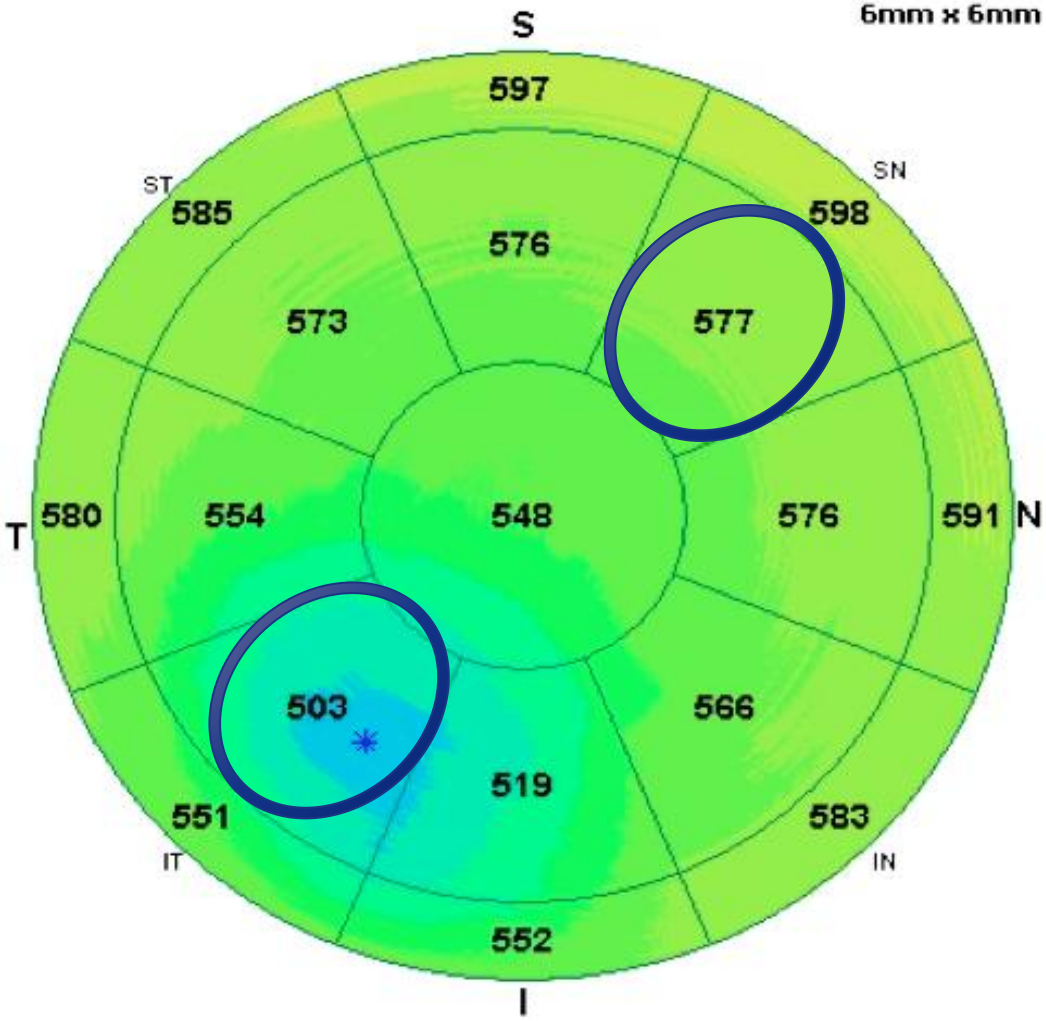
Superior - Inferior Comparison within 5mm zone

SN-IT(2-5mm):	74	S-I(2-5mm):	57
Min-Median:	-68	Min-Max:	-103
Min:	484	Location Y:	-1468

Min thickness (x, y) -0.955mm, -1.468mm shown as *







Published in final edited form as:
J Cataract Refract Surg. 2013 December ; 39(12): 1864–1871.

Keratoconus Diagnosis with An Optical Coherence Tomography-Based Pachymetric Scoring System

Bing Qin, MD[1,2], **Shihao Chen, MD**[3], **Robert Brass, MD**[4], **Yan Li, PhD**[2], **Maolong Tang, PhD**[2], **Xinbo Zhang, PhD**[2], **Xiaoyu Wang, MD**[3], **Qinmei Wang, MD**[3], and **David Huang, MD, PhD.**[2]

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[2]Center for Ophthalmic Optics and Lasers (www.coollab.net), Casey Eye Institute and Department of Ophthalmology, Oregon Health and Science University, Portland, OR

[3]Department of Ophthalmology, Affiliated Eye Hospital of Wenzhou Medical College, Wenzhou, China

[4]Brass Eye Center, New York, NY, USA

Abstract

PURPOSE—To develop an optical coherence tomography (OCT) pachymetry map based keratoconus risk scoring system.

SETTING—This multi-center study was conducted in Doheny Eye Institute, University of Southern California (Los Angeles, CA, USA), Department of Ophthalmology, Affiliated Eye Hospital of Wenzhou Medical College (Wenzhou, China), and Brass Eye Center (New York, NY, USA).

DESIGN—Prospective cross-sectional observational study.

METHODS—A Fourier-domain OCT was used to acquire corneal pachymetry map in normal and keratoconus subjects. Pachymetric variables were: minimum, minimum-median, superior - inferior (S-I), superonasal - inferotemporal (SN-IT), and the vertical location of the thinnest cornea (Ymin). A logistic regression formula and a scoring system were developed based on these variables. Keratoconus diagnostic accuracy was measured by the area under the receiver operating characteristic curve (AROC).

RESULTS—One hundred thirty three eyes from 67 normal subjects, 84 eyes from 52 keratoconus subjects were recruited. The keratoconus logistic regression formula = 0.543 × minimum + 0.541 × (S-I) − 0.886 × (SN-IT) + 0.886 × (minimum-median) + 0.0198 × Ymin. The

Correspondence to: David Huang, MD, PhD, Casey Eye Institute, Oregon Health & Science University, 3375 S.W. Terwilliger Blvd., Portland, OR, USA 97239-4197, davidhuang@alum.mit.edu, (503)494-0633, (503)494-3929 fax.

This study was presented at the American Society of Cataract and Refractive Surgery (ASCRS) annual meeting, San Diego, California, USA, March 2011.

Financial and proprietary interest:
Oregon Health and Science University (OHSU), David Huang, Yan Li, and Maolong Tang have a significant financial interest in Optovue, Inc. (Fremont, CA, USA), a company that may have a commercial interest in the results of this research and technology. These potential conflicts of interest have been reviewed and managed by OHSU. Robert Brass receives speaker honoraria from Optovue, Inc. Bing Qin, Shihao Chen, Qinmei Wang, Xinbo Zhang and Xiaoyu Wang have no proprietary interest in the topic of this manuscript.

Keratoconus Risk Score Table

Updated: October 18, 2013

Patient Name

Variables (μm)	0	1	2	3	OD	OS
SN-IT	<33	33-42	43-51	>51		
Minimum	>499	499 ~ 476	475 ~ 455	<455		
Minimum-Median	>-21	-21 ~ -25	-26 ~ -29	<-29		
S-I	<30	30-40	41-49	>49		
Ymin	>-734	-734 ~ -1069	-1070 ~ -1353	<-1353		
Keratoconus Risk Score						

Keratoconus risk:

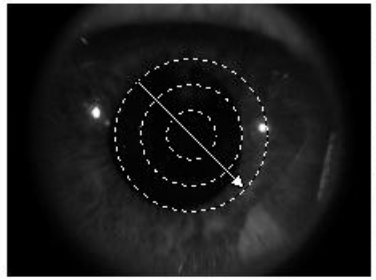
Keratoconus risk score 0~3: low risk, ≥4: high risk.

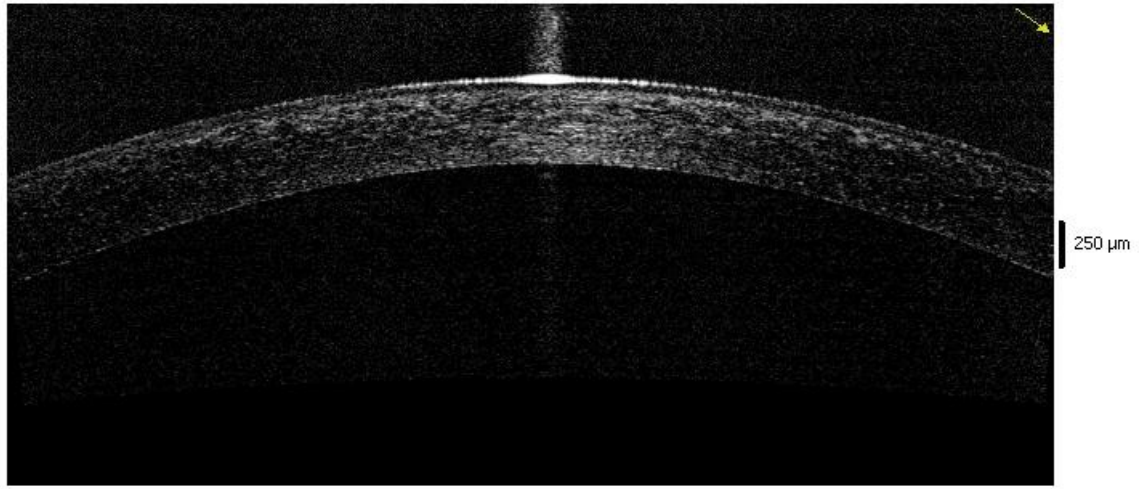
The variables are calculated from the central 5 mm diameter of the pachymetry map. The octant values are averaged in the 2 to 5 mm diameter zone.

S-I = superior-inferior; SN-IT = superonasal-inferotemporal; Ymin = vertical location of the minimum

Reference: Qin B, Chen S, Brass R, Li Y, Tang M, Zhang X, Wang X, Wang Q, Huang D. Keratoconus diagnosis with an optical coherence tomography-based pachymetric scoring system. Journal of Cataract & Refractive Surgery, in press

Pachymetry SSI= 30.8



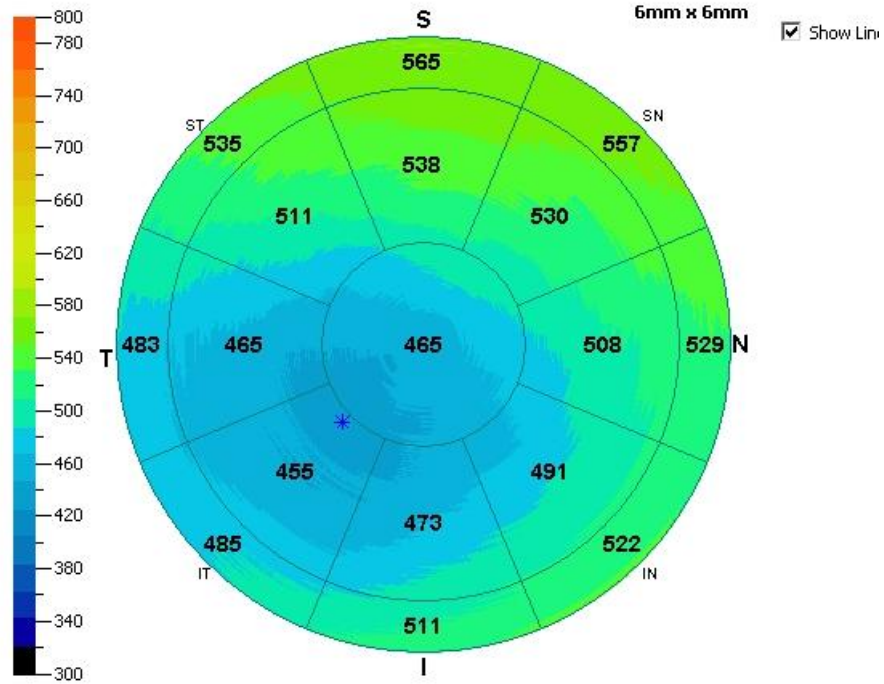


Pachymetry Assessment

Superior - Inferior Comparison within 5mm zone

SN-IT(2-5mm):	75	S-I(2-5mm):	65
Min-Median:	-49	Min-Max:	-116
Min:	440	Location Y:	-760

Min thickness (x, y) -0.784mm, -0.760mm shown as *



Diagnosis:

Report Date: Wednesday May 29 15:00:22 2013

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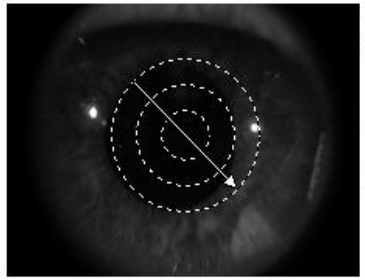

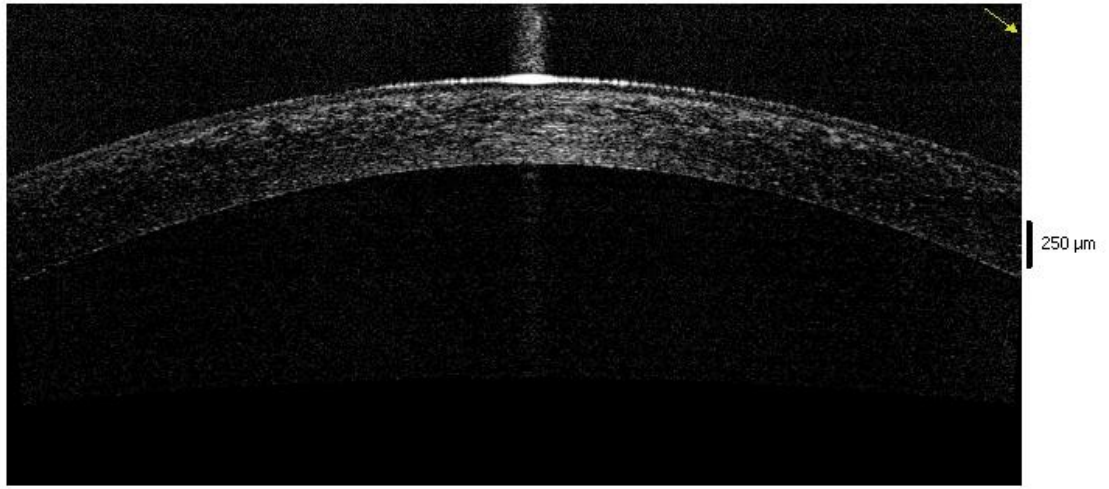

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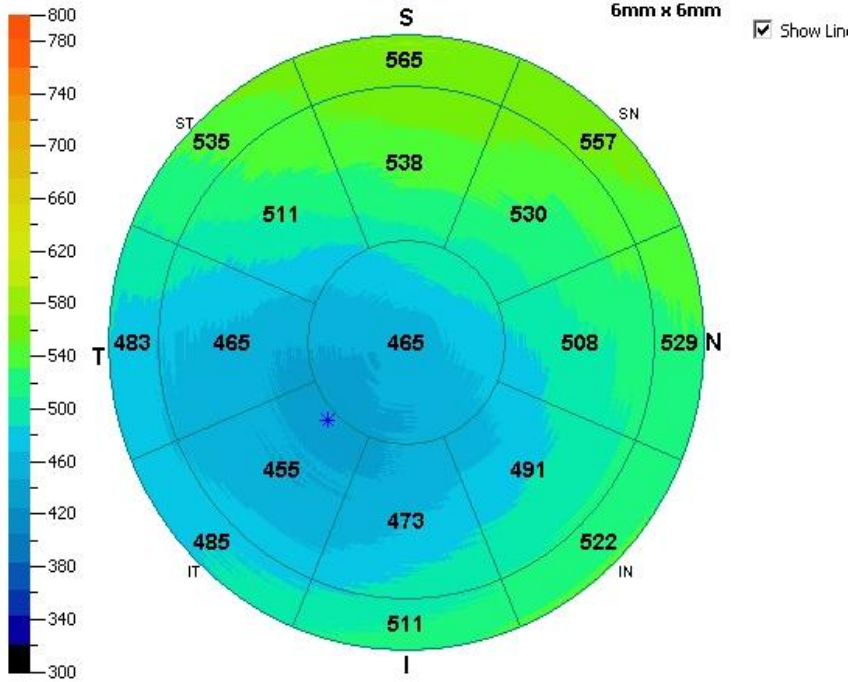

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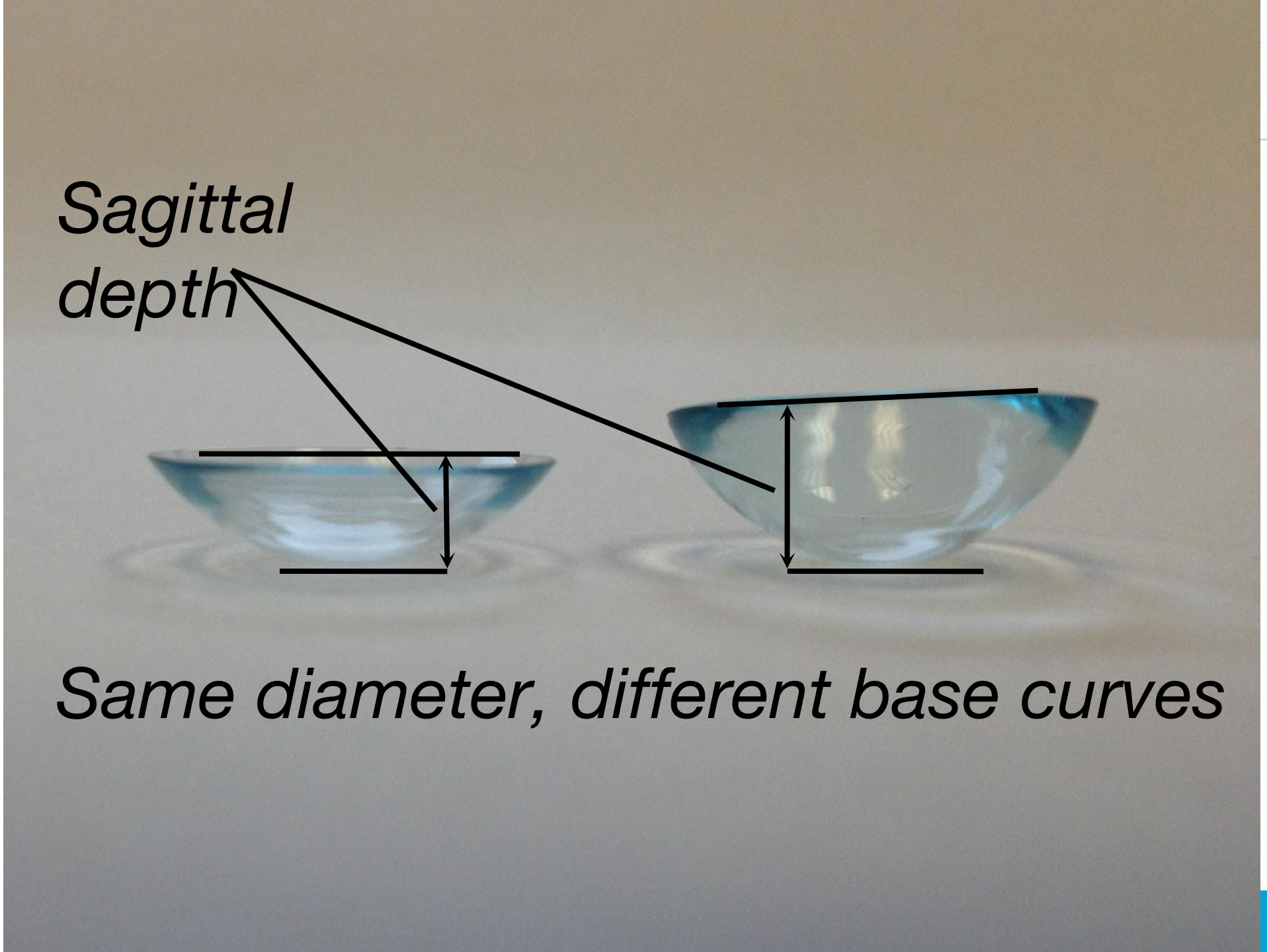
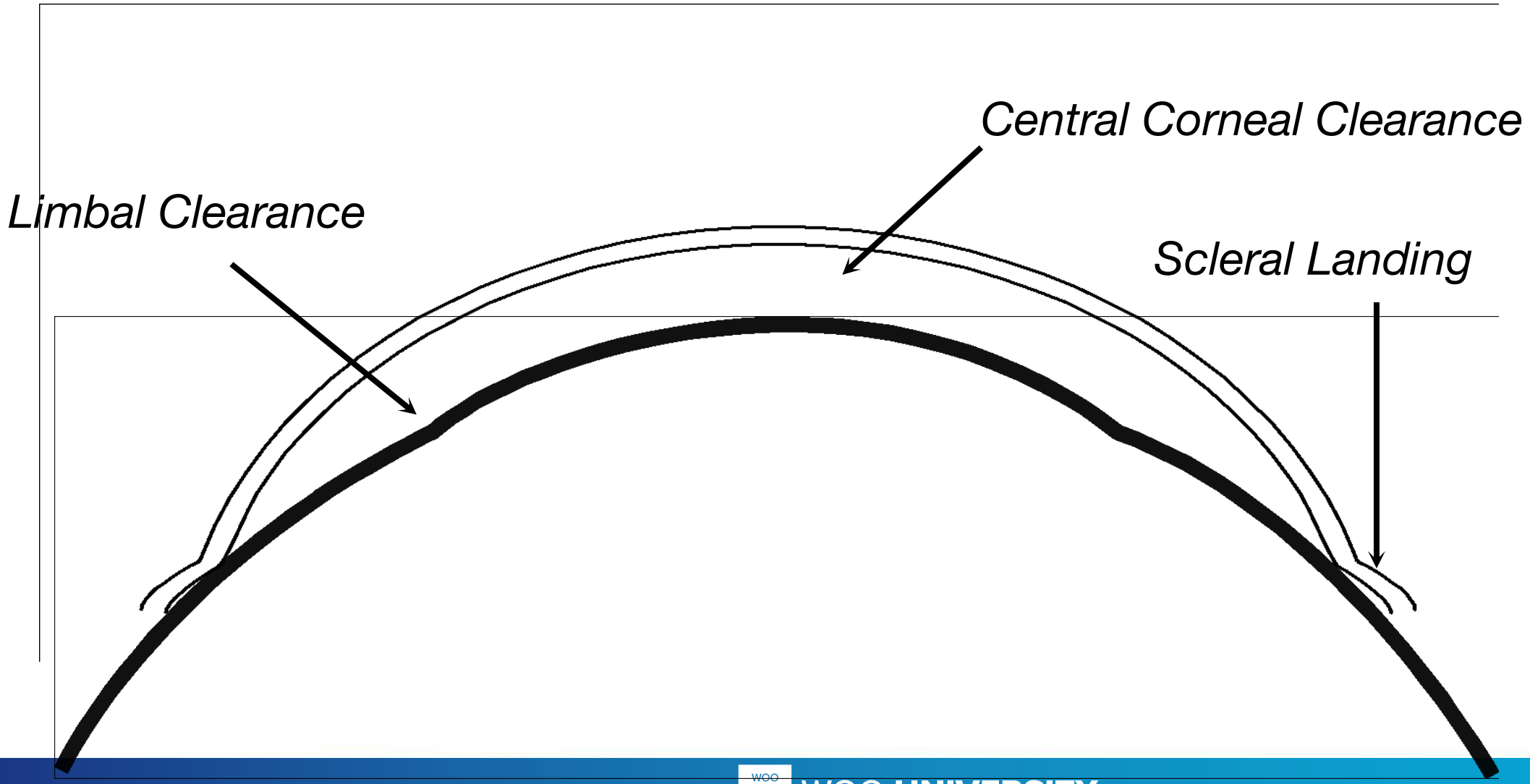
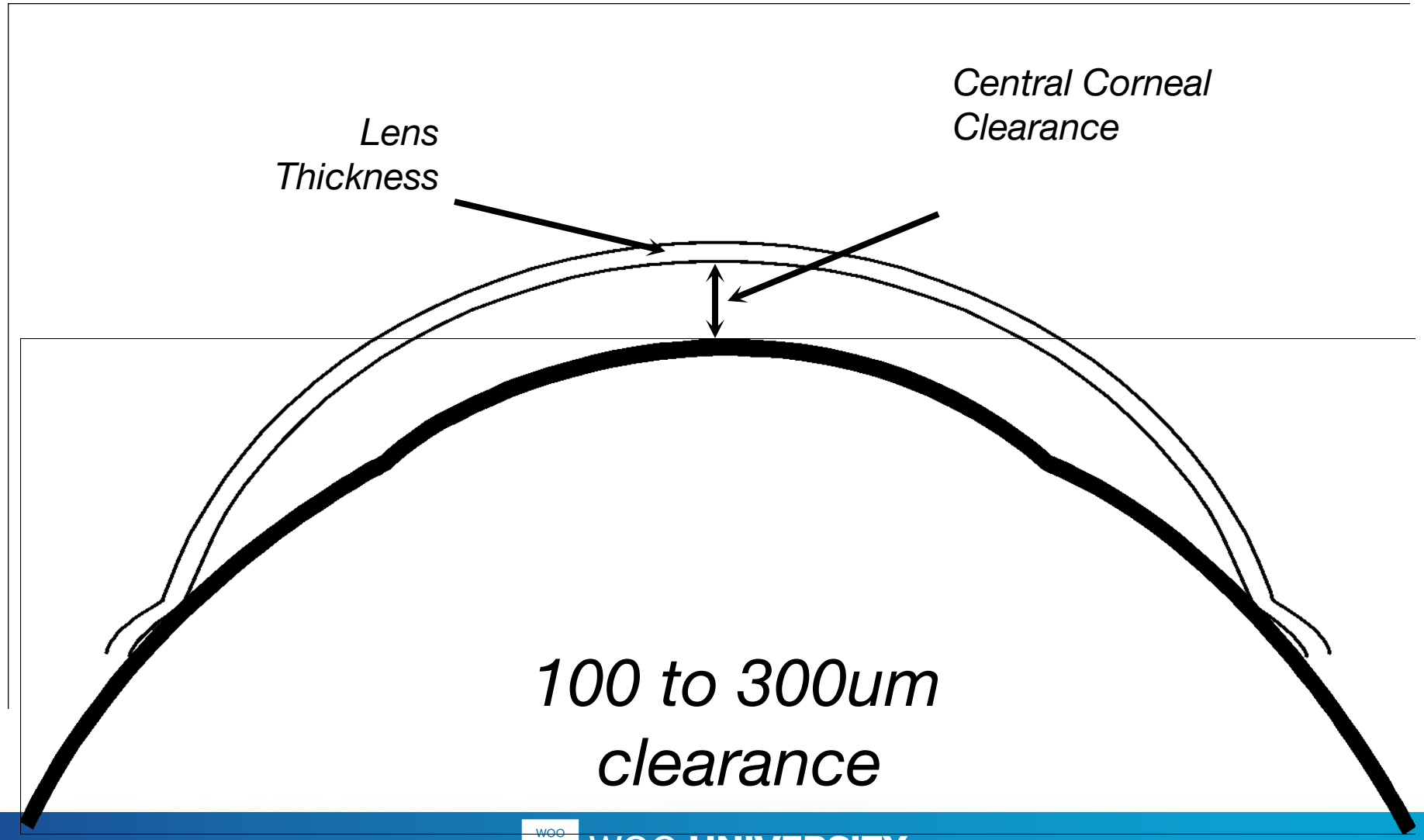


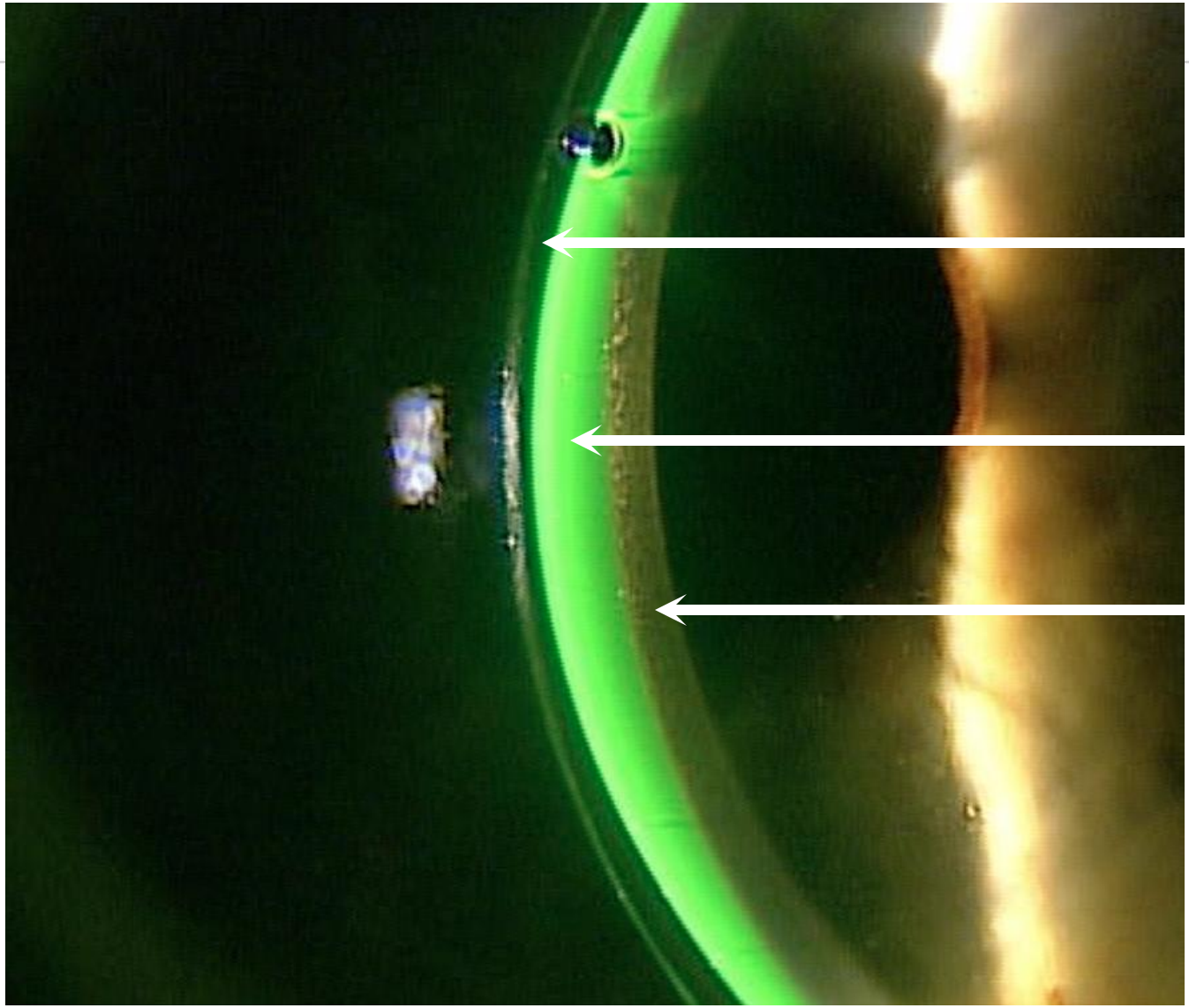
Same diameter, different base curves

The Fitting Philosophy

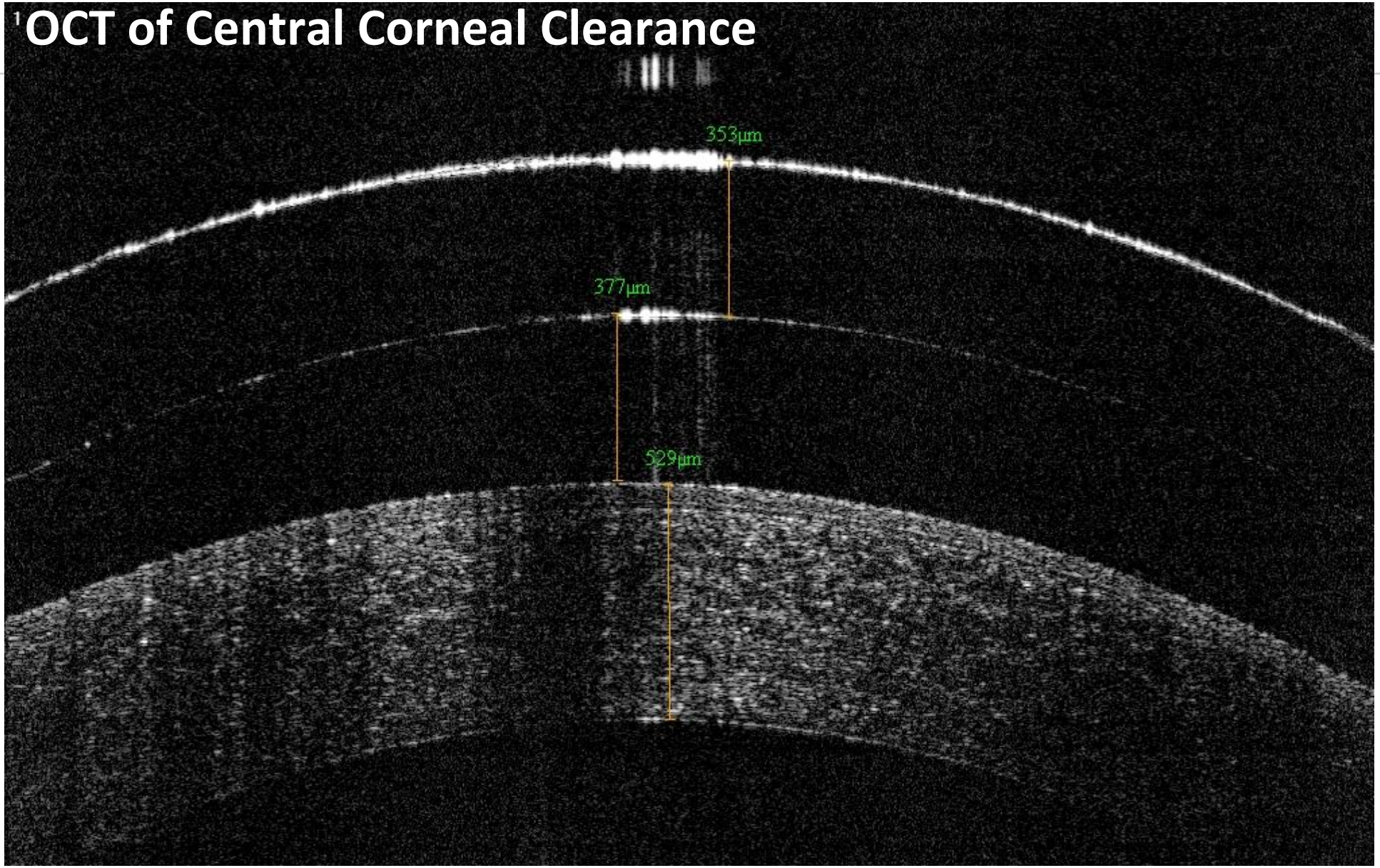


The Fitting Philosophy (Optic Section)





[1]OCT of Central Corneal Clearance



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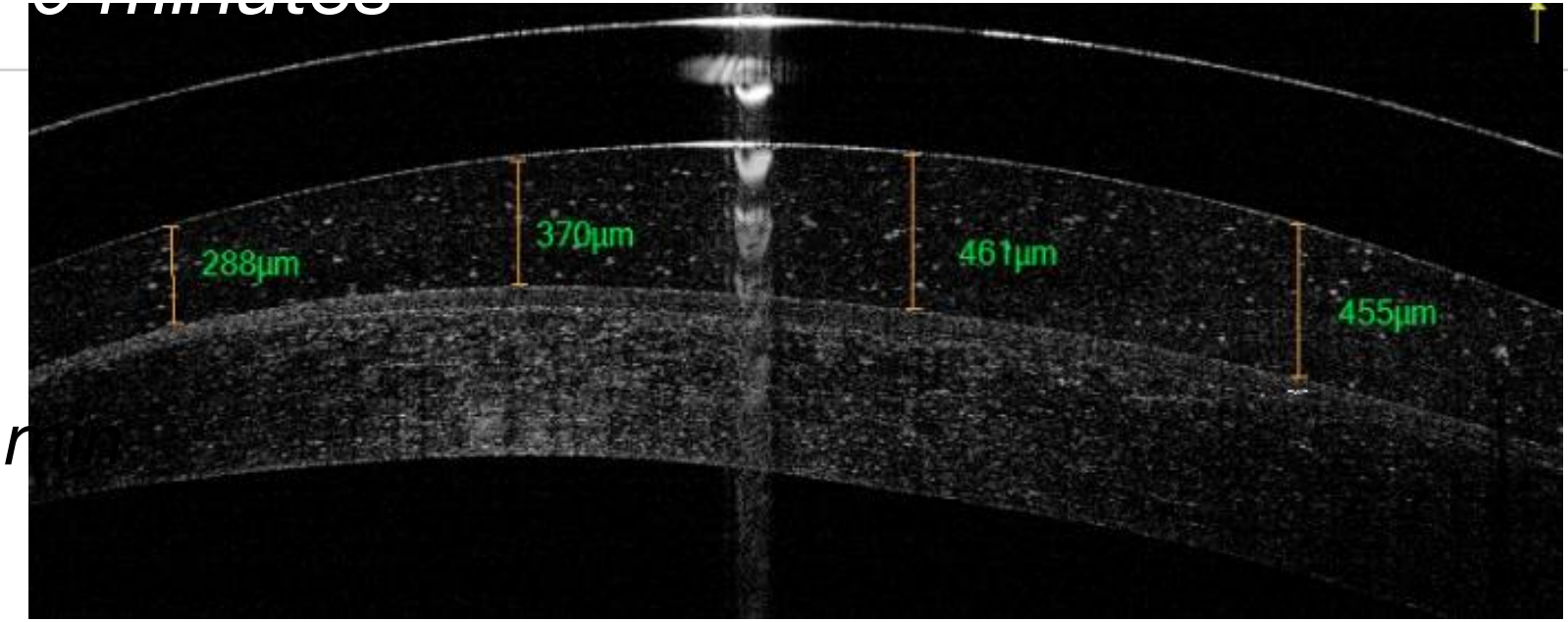
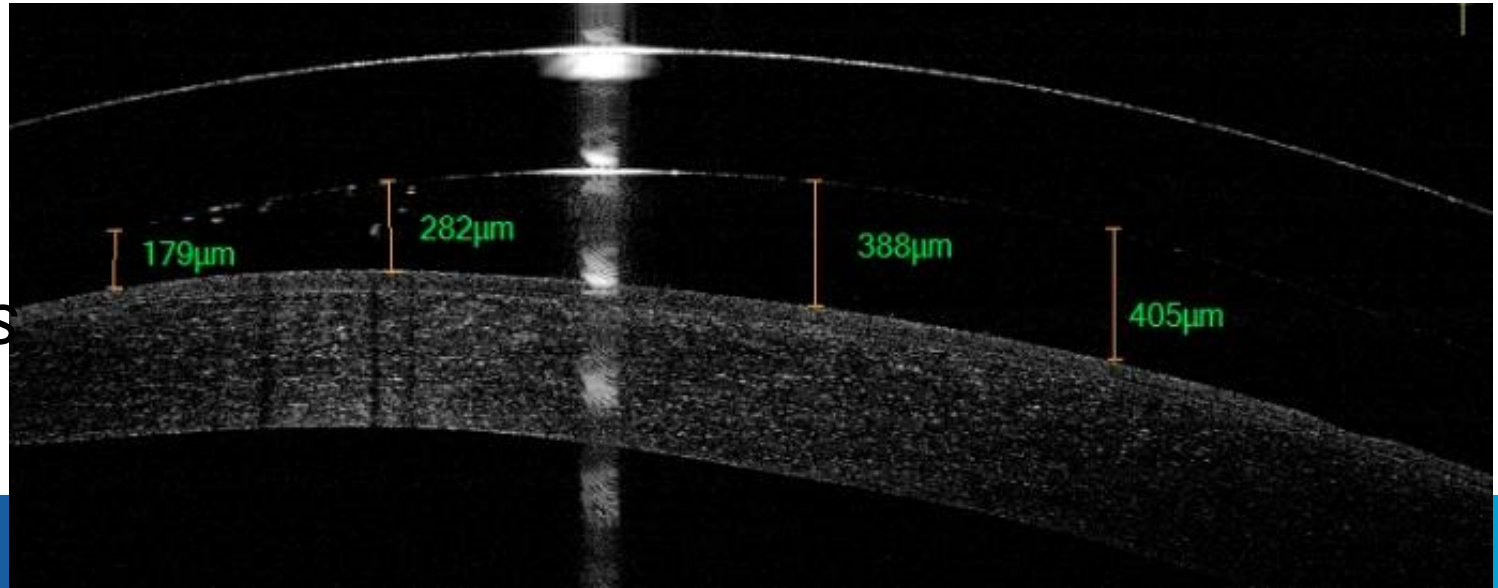


10 hours



How good are we at estimating clearance of a scleral lens over the cornea at the slit lamp?

Estimating Scleral Lens Clearance and Comparing it to OCT Measured Clearance

Mile Brujic, OD, FAAO

Introduction

Scleral lens fitting success is dependent on adequate central corneal clearance (CCC), limbal clearance and appropriate scleral landing characteristics. Accurate CCC estimation is critical in determining whether the sagittal depth of the lens is acceptable or needs to be modified.

There are challenges when attempting to estimate the central corneal clearance at the slit lamp. Much of it relies on appropriate alignment of the slit lamp beam and appropriate comparison of the clearance of the lens over the cornea compared to the thickness of the lens. This study compares an experienced clinicians CCC estimation using a slit lamp evaluation of a scleral lens fit and CCC as measured by spectral domain optical coherence tomography (OCT).

Methods

Five patients at various times during the scleral lens fitting process were first examined at the slit lamp and the CCC was estimated by the examining clinician. At the slit lamp, a vertical optic cross section was used to view the lens, clearance of the lens over the cornea and the cornea. The center thickness of the lens was known prior to viewing the lens at the slit lamp and was used to compare the clearance to estimate the CCC of the lens in micrometers (um). Immediately after the slit lamp assessment and CCC were estimated at the slit lamp, the CCC was measured using the iVue spectral domain OCT pachymetry scan. The pachymetry scan acquires several radial scans through the center of the cornea. The horizontal scan was used as the reference scan and the middle of that scan was used to measure the central corneal clearance with the measurement software tool. If a patient was wearing scleral lenses on both eyes, the same procedure was performed on the fellow eye.

Results

Of the five people examined, four wore scleral lenses in both eyes and one wore a scleral lens in just the right eye. The examiner's estimations varied from those measured by anterior segment OCT. In the five patients that were examined in the study, the closest estimate of CCC was 53um and the largest discrepancy in CCC was 207um. The average difference between CCC estimation and measurement of CCC with anterior segment OCT of the right eye was 82.4um and was 128um with the left eye. There wasn't a consistent overestimation or under estimation of clearance with either eye. With the scleral lenses on the right eye two CCC were underestimated and three were overestimated. With the scleral lenses on the left eye, two of the CCC measurements were underestimated and two were overestimated.

Figure 1. Graph showing the central corneal clearance (in um)as estimated by the examiner and as measured by OCT technology for the right eye.

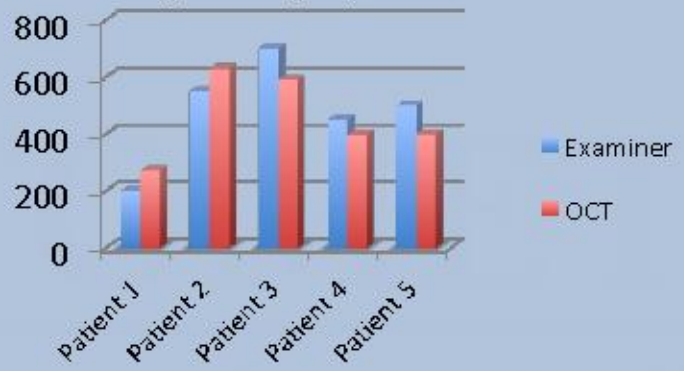
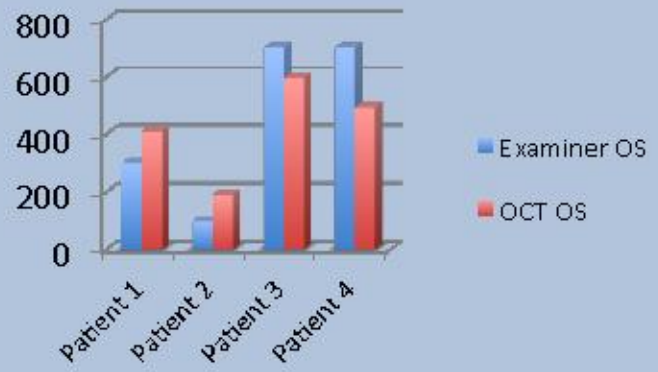


Figure 2. Graph showing the central corneal clearance (in um) as estimated by the examiner and as measured by OCT technology for the left eye.



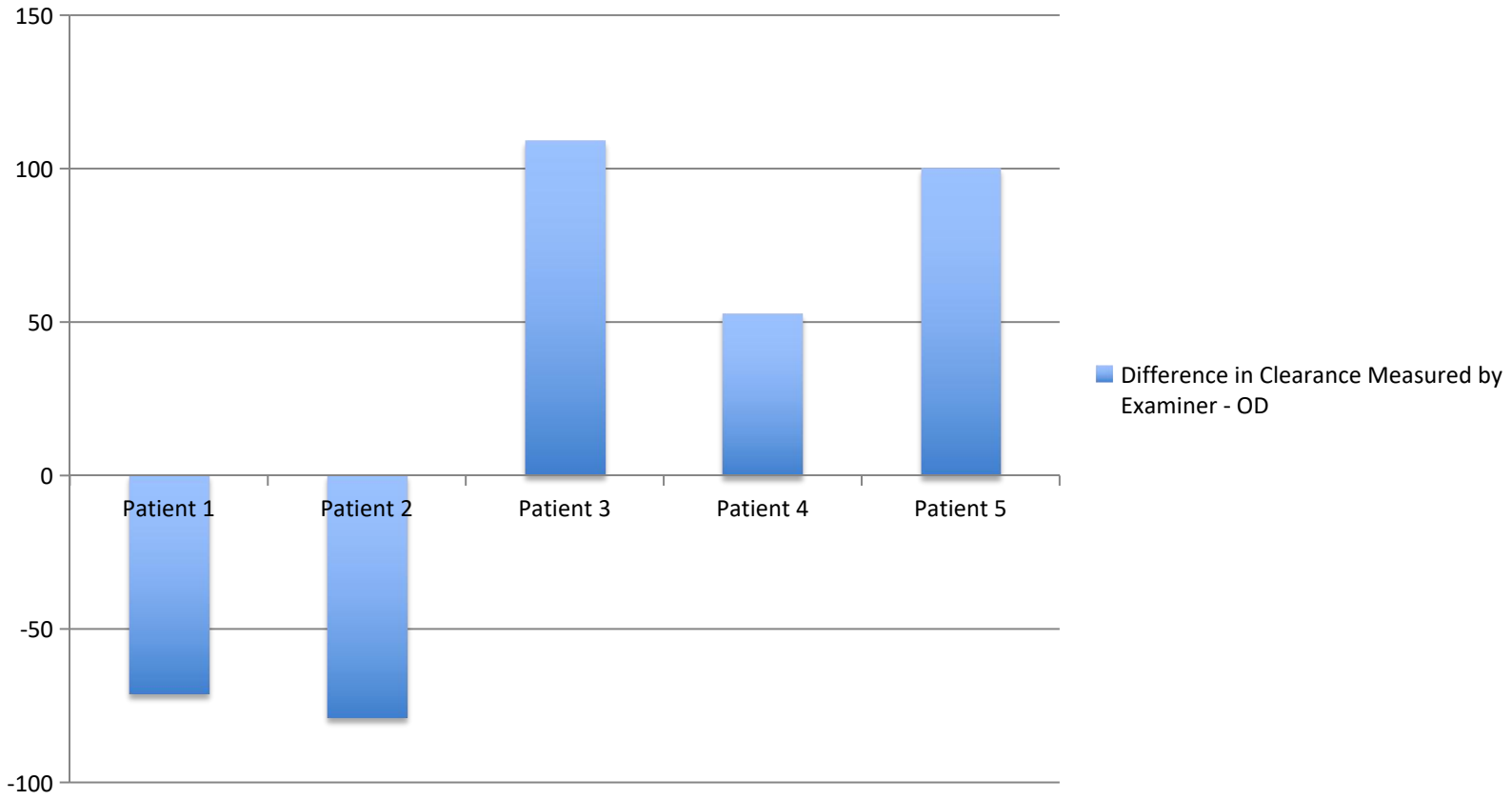
Discussion

Central corneal clearance during scleral lens fitting is an important component of the scleral lens fitting process. In this study an examiner's estimation of CCC was compared with anterior segment OCT measurements and it was found that there was a significant difference between the two. This paper supports the use of higher level technologies in order to help the scleral lens fitter more accurately determine CCC in order to optimize the success when fitting patients with this type of lens.

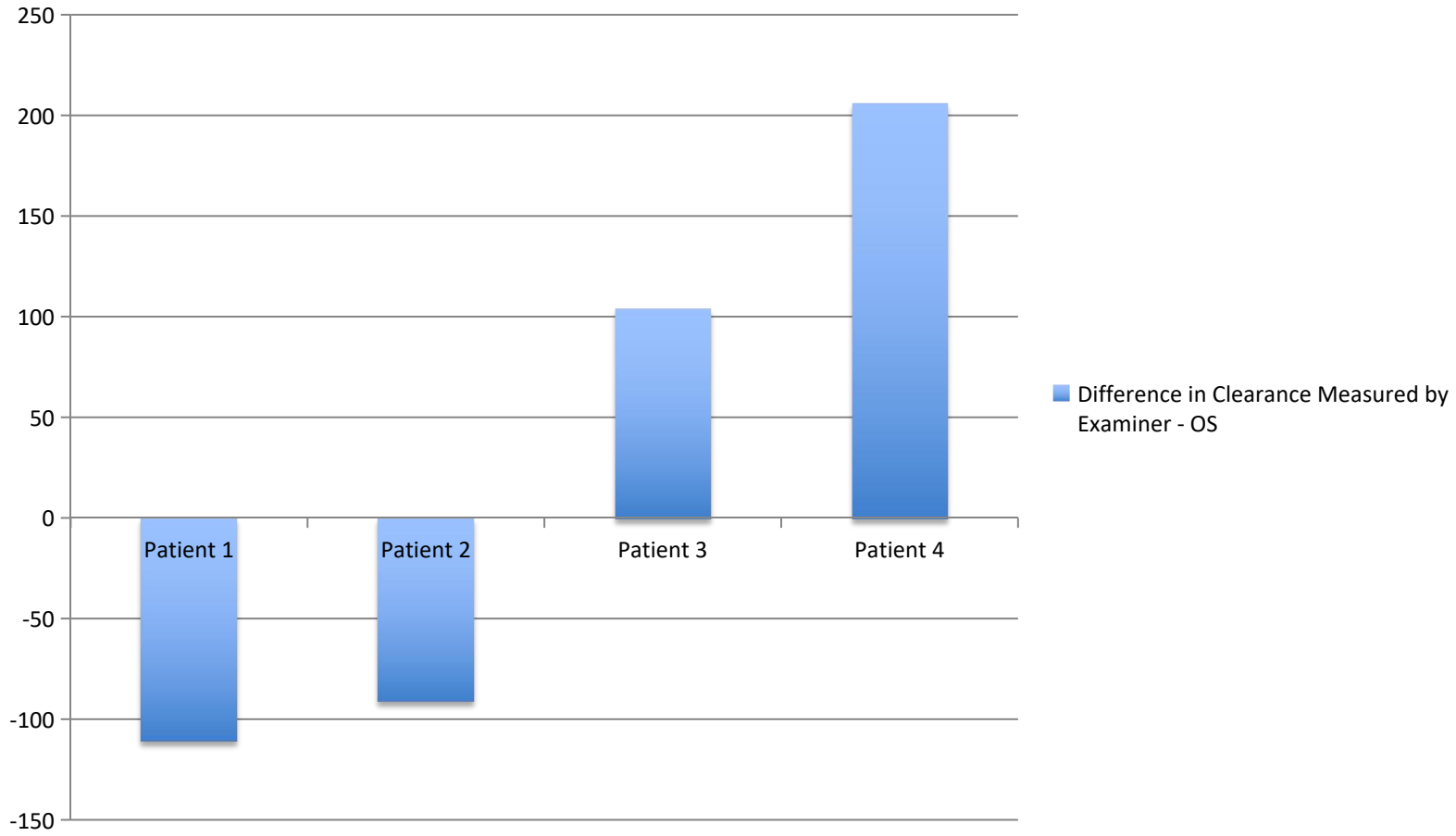
Special Thanks

To Optovue for providing the research funding for this poster.

Difference in Clearance Measured by Examiner - OD



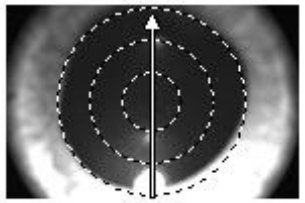
Difference in Clearance Measured by Examiner - OS

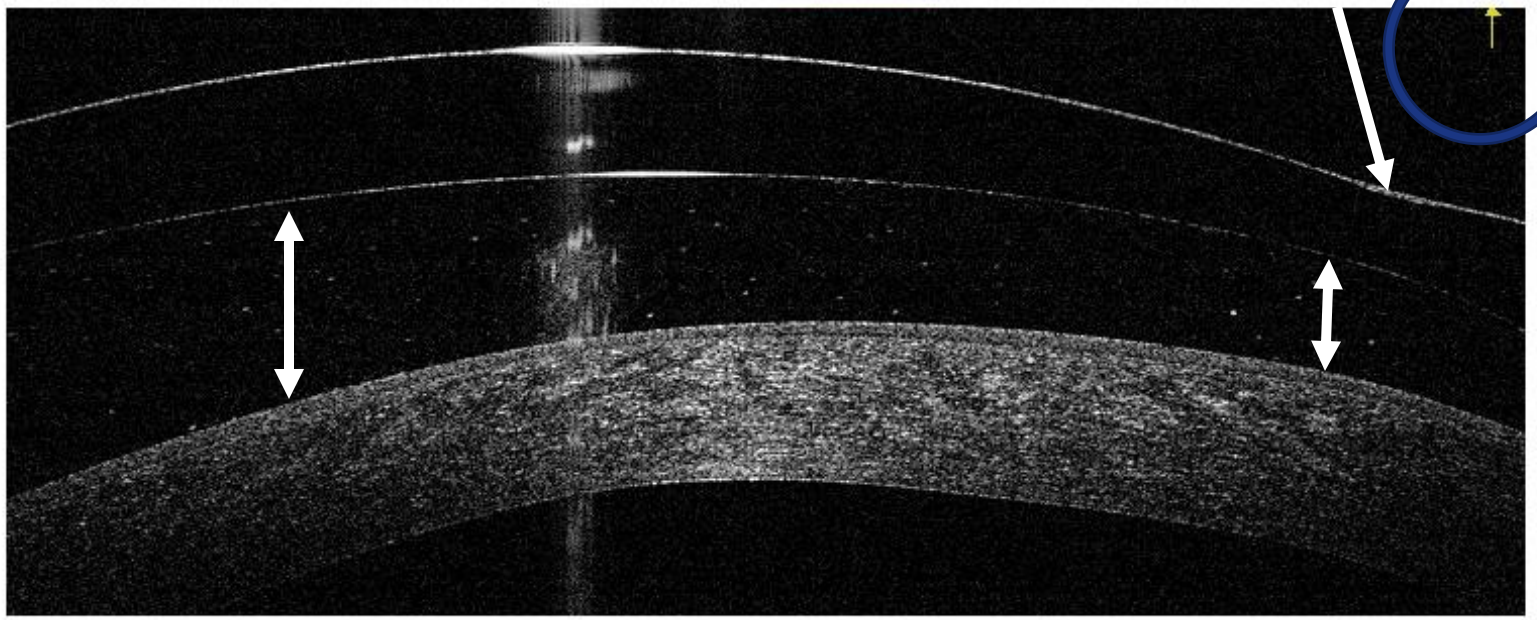


Cornea Pachymetry

Scan Quality Index Good 45

Left / OS





Pachymetry

Pachymetry statistics within central 5 mm

SN-IT(2-5mm):	N/A	S-I(2-5mm):	N/A
Min:	N/A	Location Y:	N/A
Min-Median:	N/A	Min-Max:	N/A

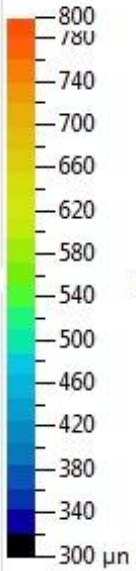
Min thickness (x, y) mm, mm shown as *

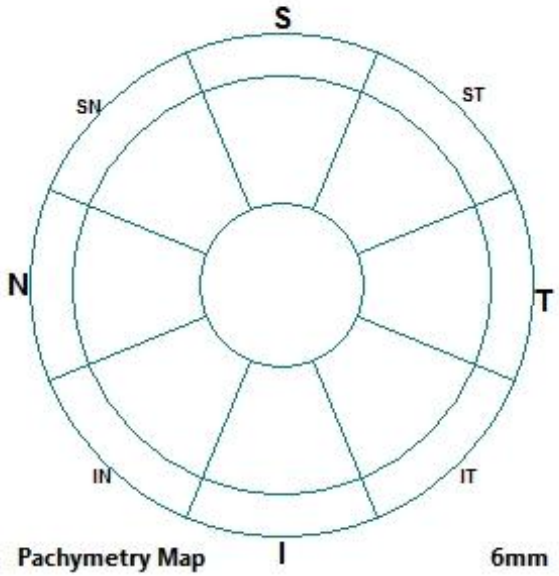
Epithelium

Epithelium statistics within central 5 mm

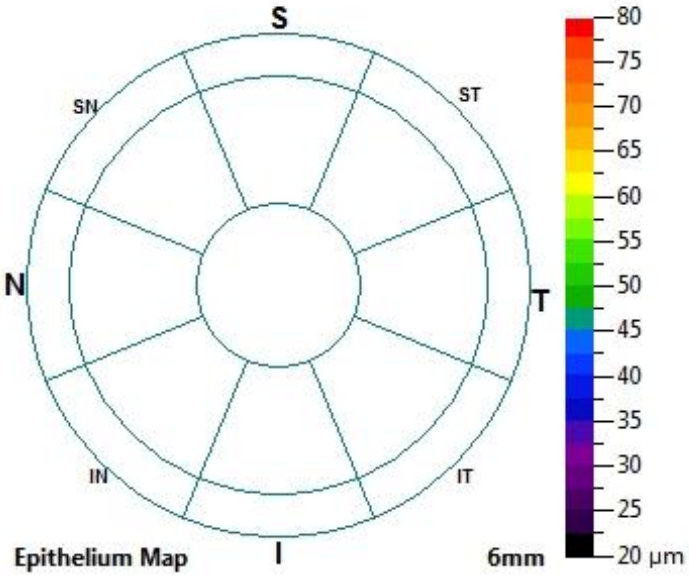
S (2-5mm)	N/A	I (2-5mm)	N/A
Min:	N/A	Max:	N/A
Std Dev:	N/A	Min-Max:	N/A

Min/Max thickness indicated as */+





Stroma Map



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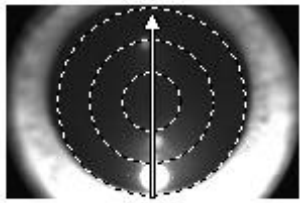
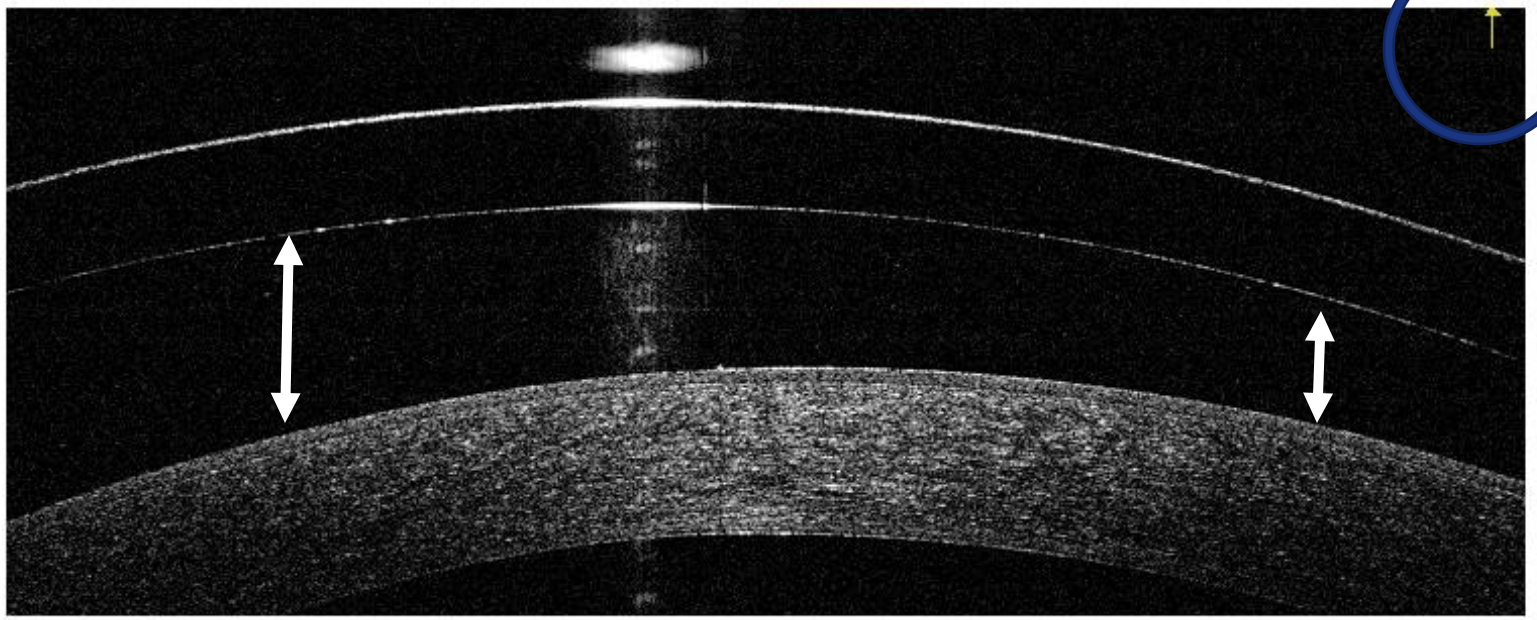
Cornea Pachymetry

Scan Quality Index Good 48

Right / OD





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Pachymetry statistics within central 5 mm

SN-IT(2-5mm):	N/A	S-I(2-5mm):	N/A
Min:	N/A	Location Y:	N/A
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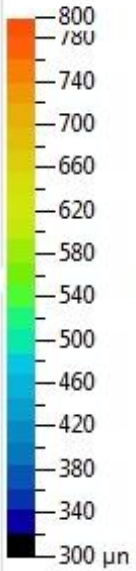
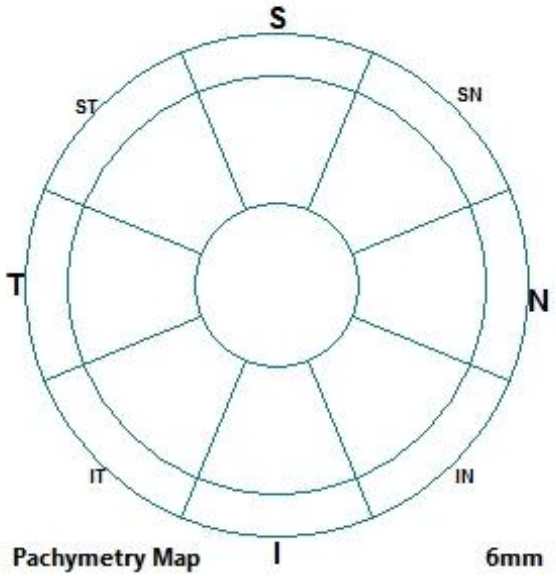
Epithelium

Epithelium statistics within central 5 mm

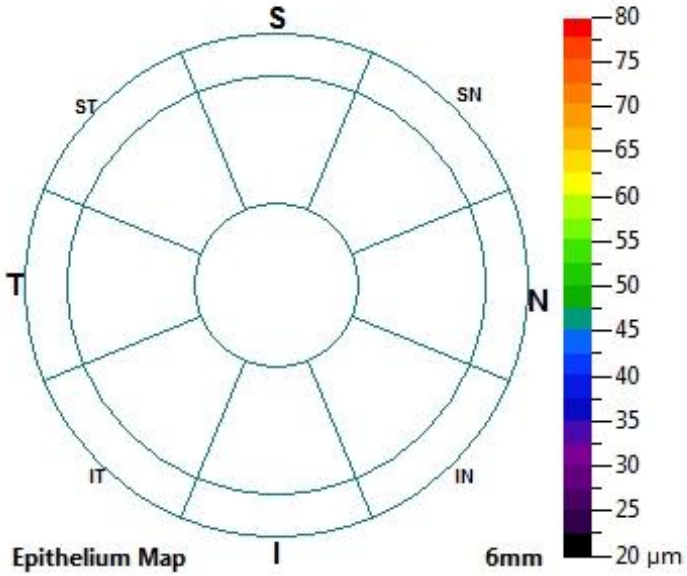
S (2-5mm)	N/A	I (2-5mm)	N/A
Min:	N/A	Max:	N/A
Std Dev:	N/A	Min-Max:	N/A

Min/Max thickness indicated as */+





Stroma Map



Print | Change Analysis | OU Report | Comment

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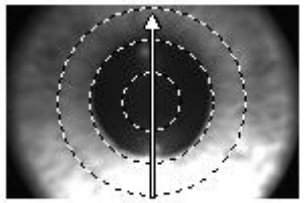
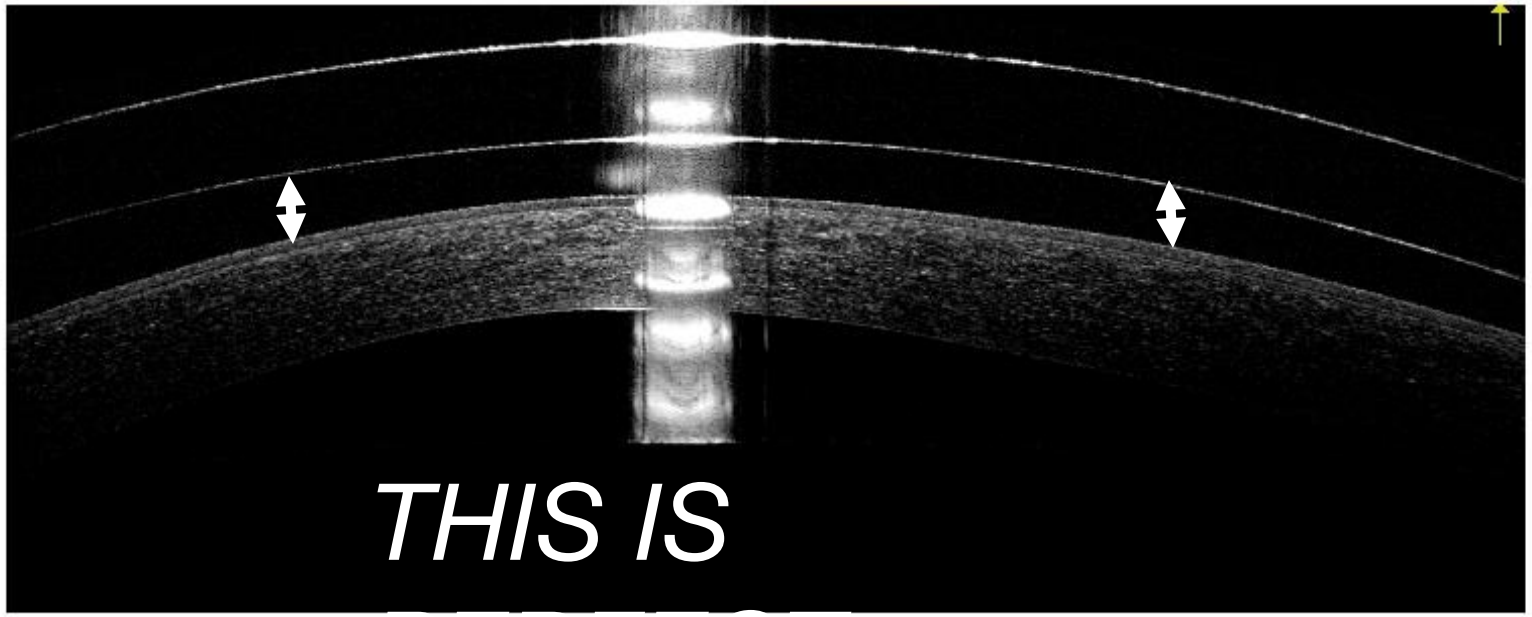
Cornea Pachymetry

Scan Quality Index Good 44

Right / OD





Pachymetry

Pachymetry statistics within central 5 mm

SN-IT(2-5mm):	90	S-I(2-5mm):	9
Min:	333	Location Y:	-996
Min-Median:	-195	Min-Max:	-388

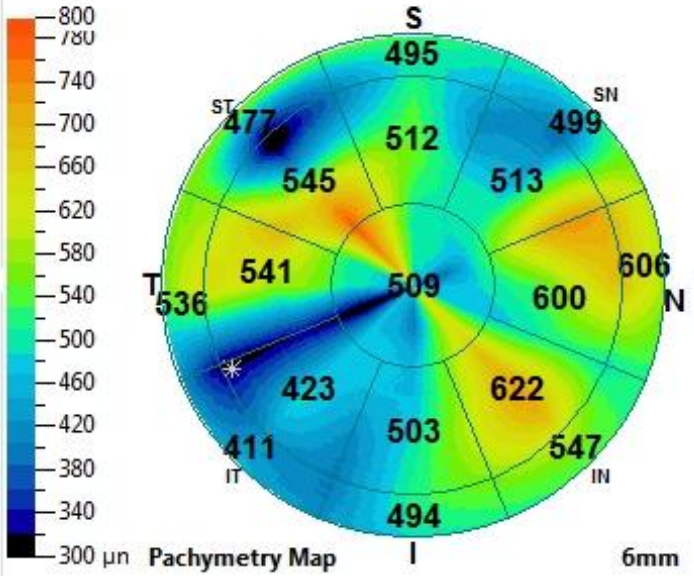
Min thickness (x, y) -2.162mm, -0.996mm shown as *

Epithelium

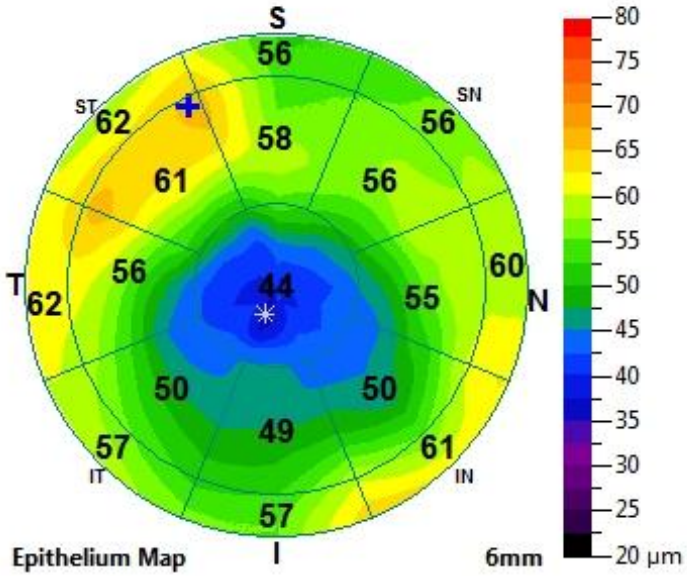
Epithelium statistics within central 5 mm

S (2-5mm)	58	I (2-5mm)	49
Min:	39	Max:	65
Std Dev:	6.7	Min-Max:	-26

Min/Max thickness indicated as */+



Stroma Map



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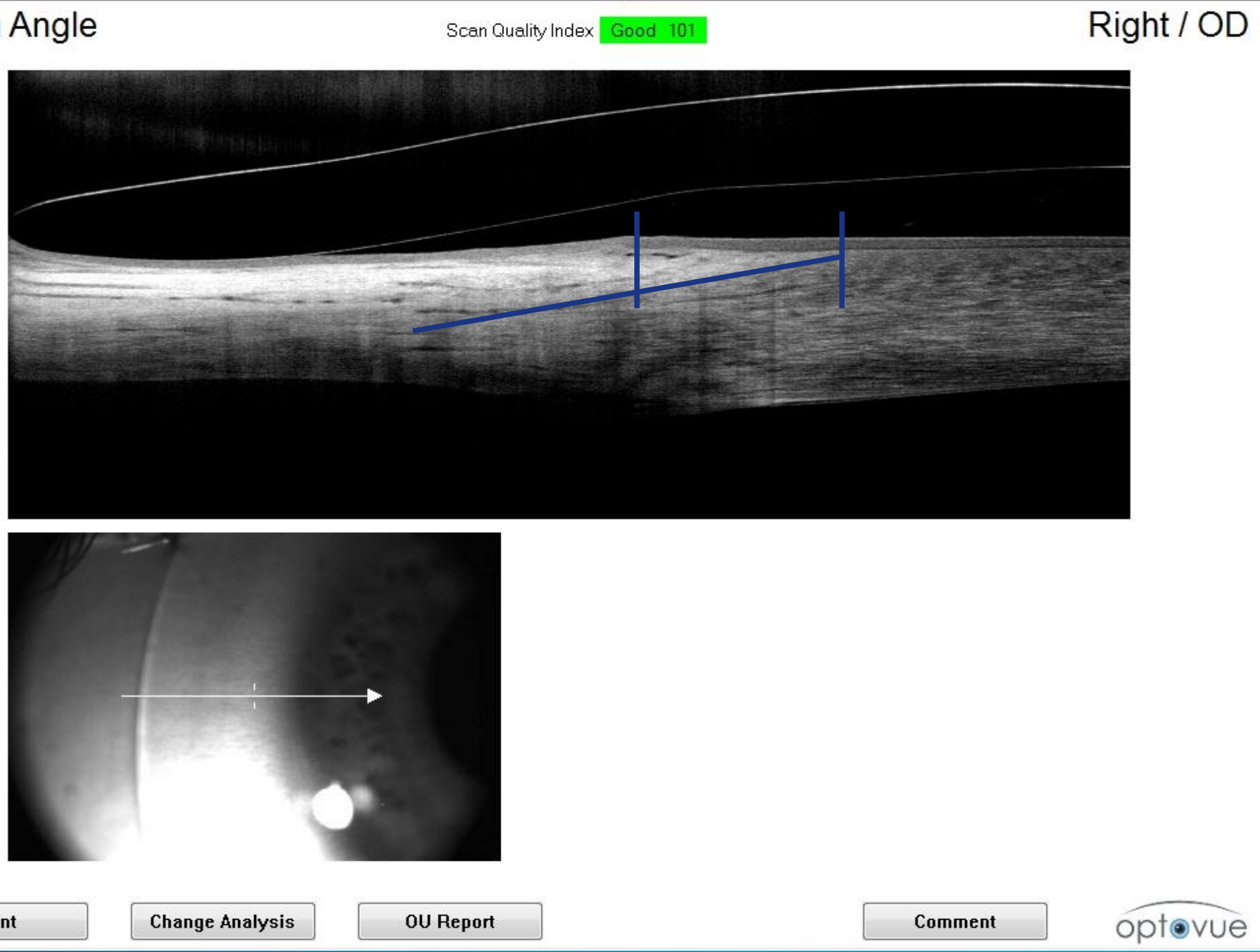
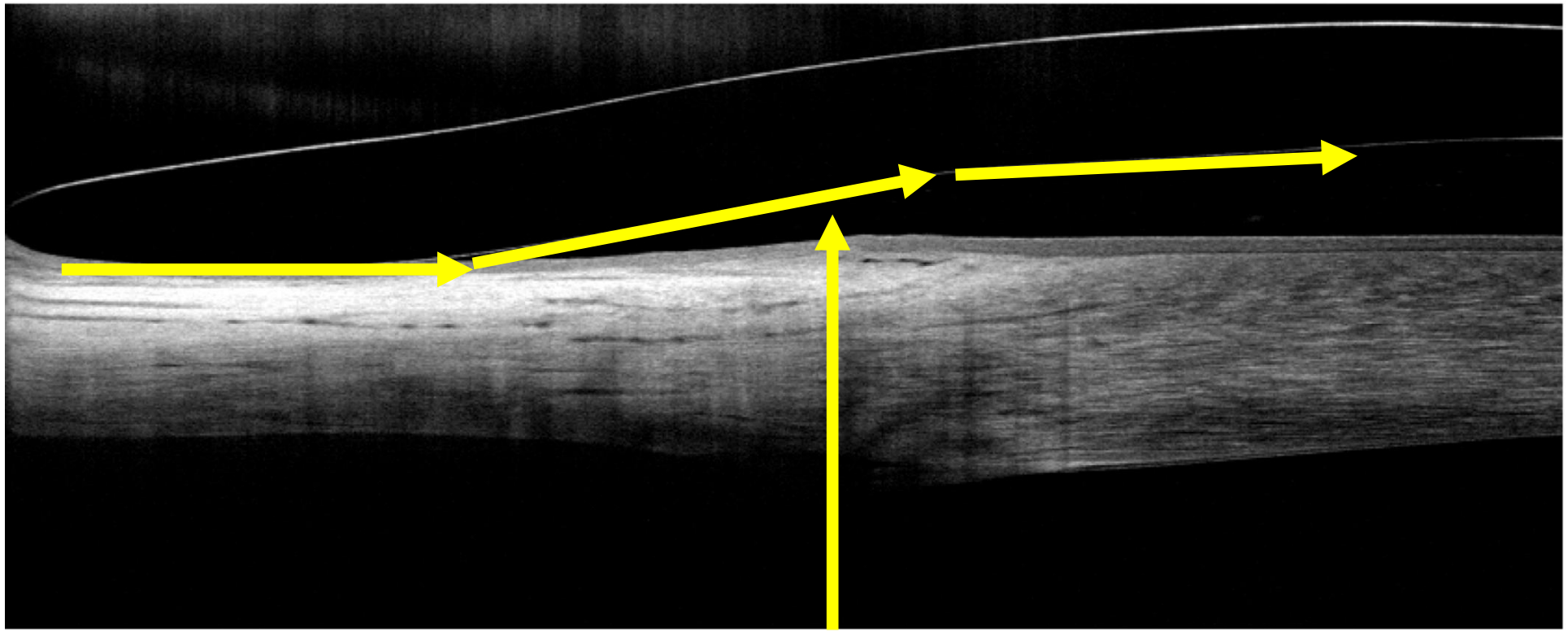
Post LASIK LCZ



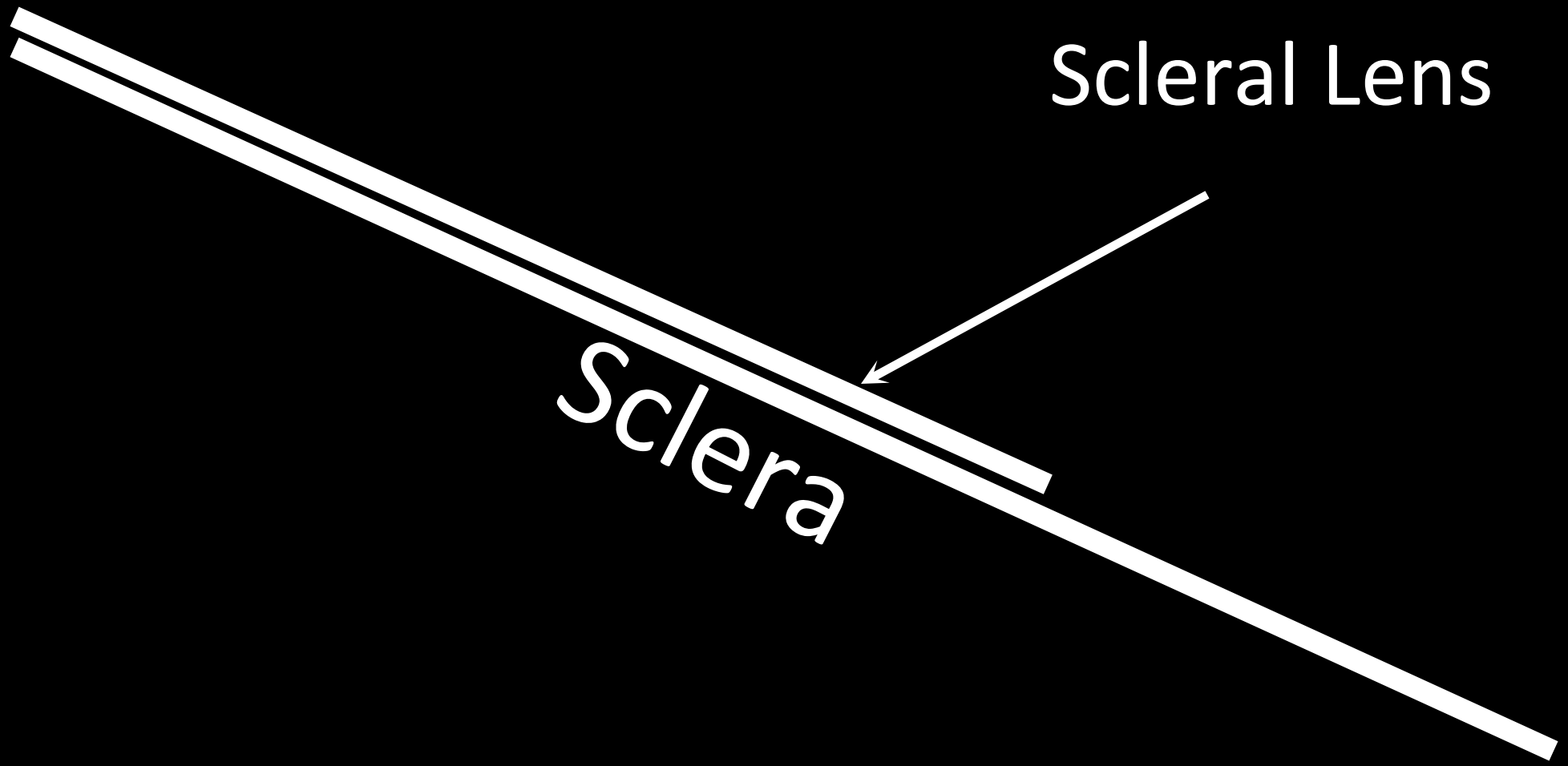


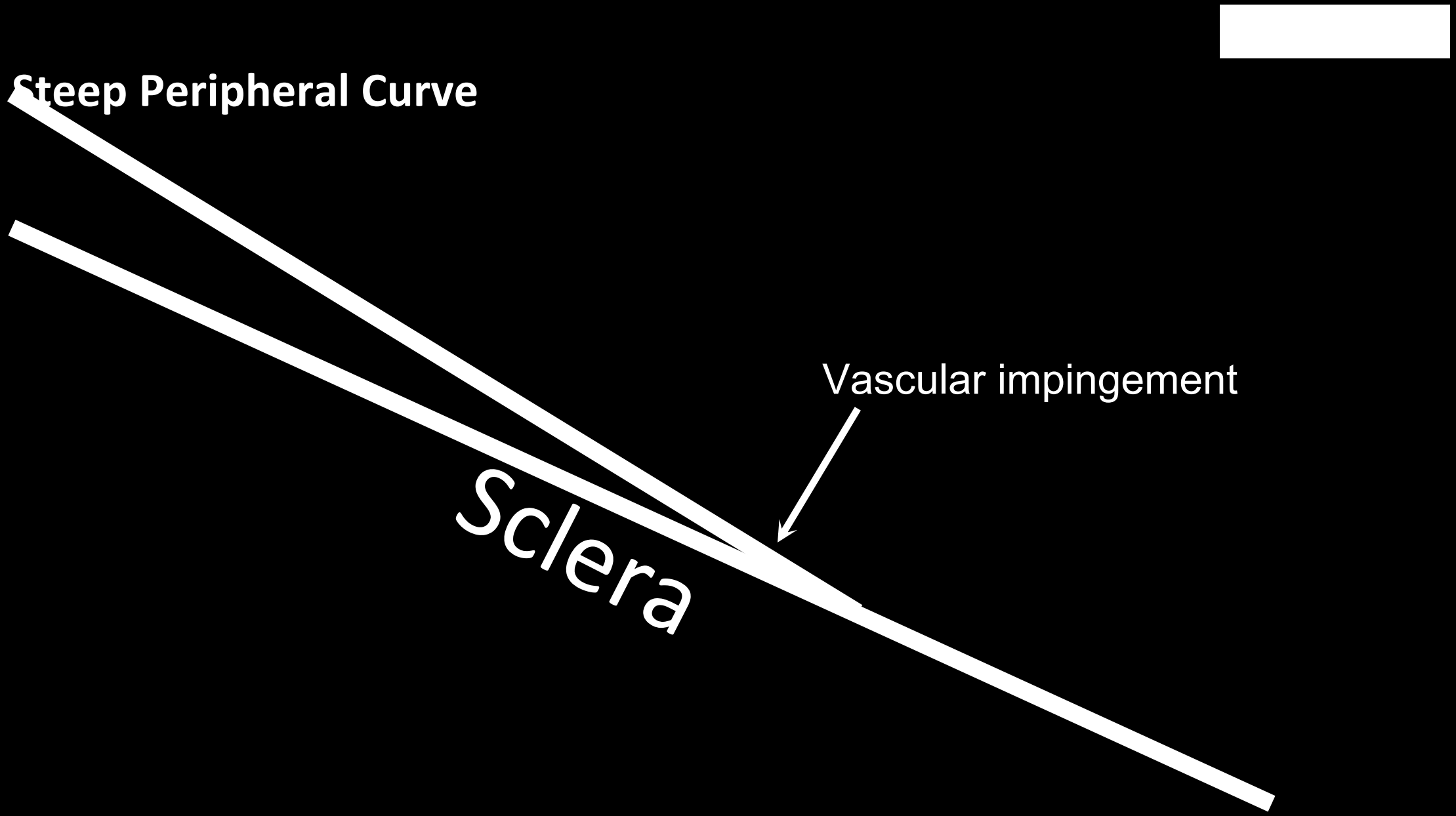
Assures limbal clearance

Scleral Landing Zone

- Ideal relationship is for the peripheral portion of the scleral lens to sit tangentially on the conjunctiva
- Any steeper or flatter relationship will be a suboptimal fit

Ideal fit

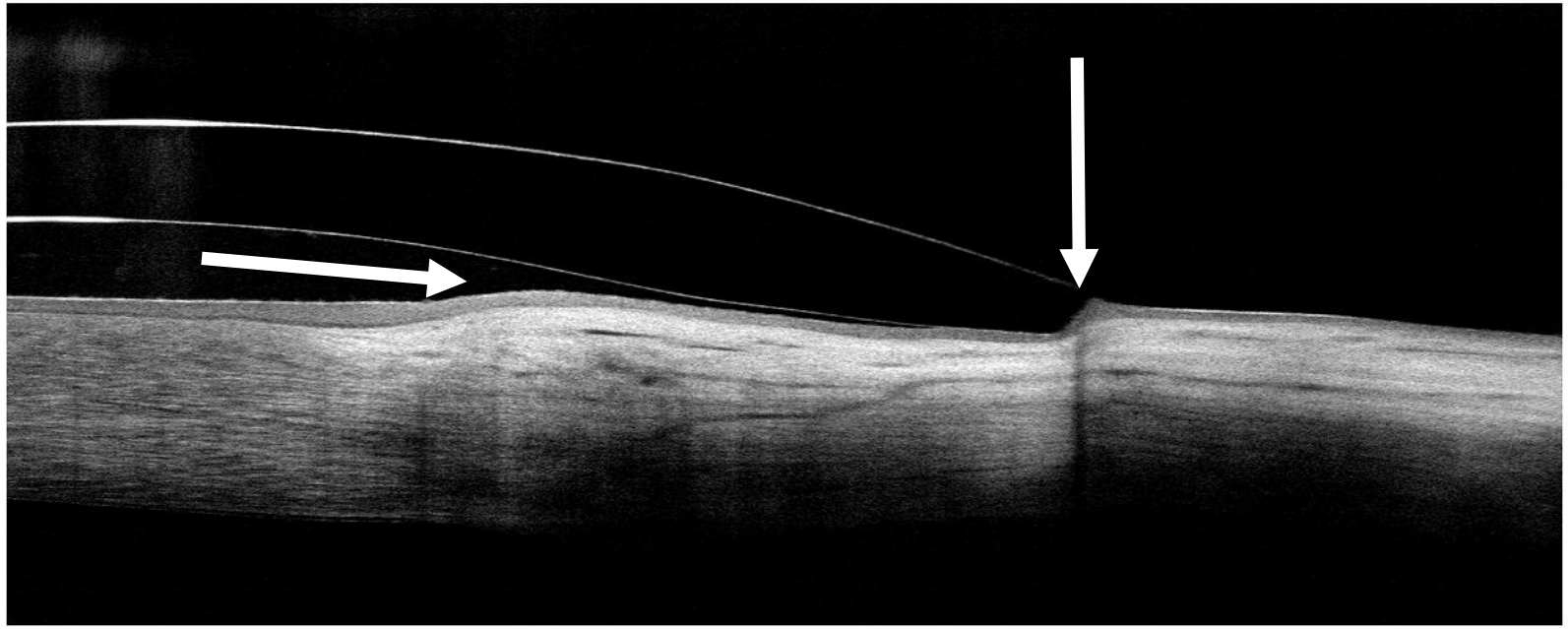



Steep Peripheral Curve
Vascular impingement
Sclera

Cornea Angle

Scan Quality Index Good 92

Left / OS



Print | Change Analysis | OU Report | Comment

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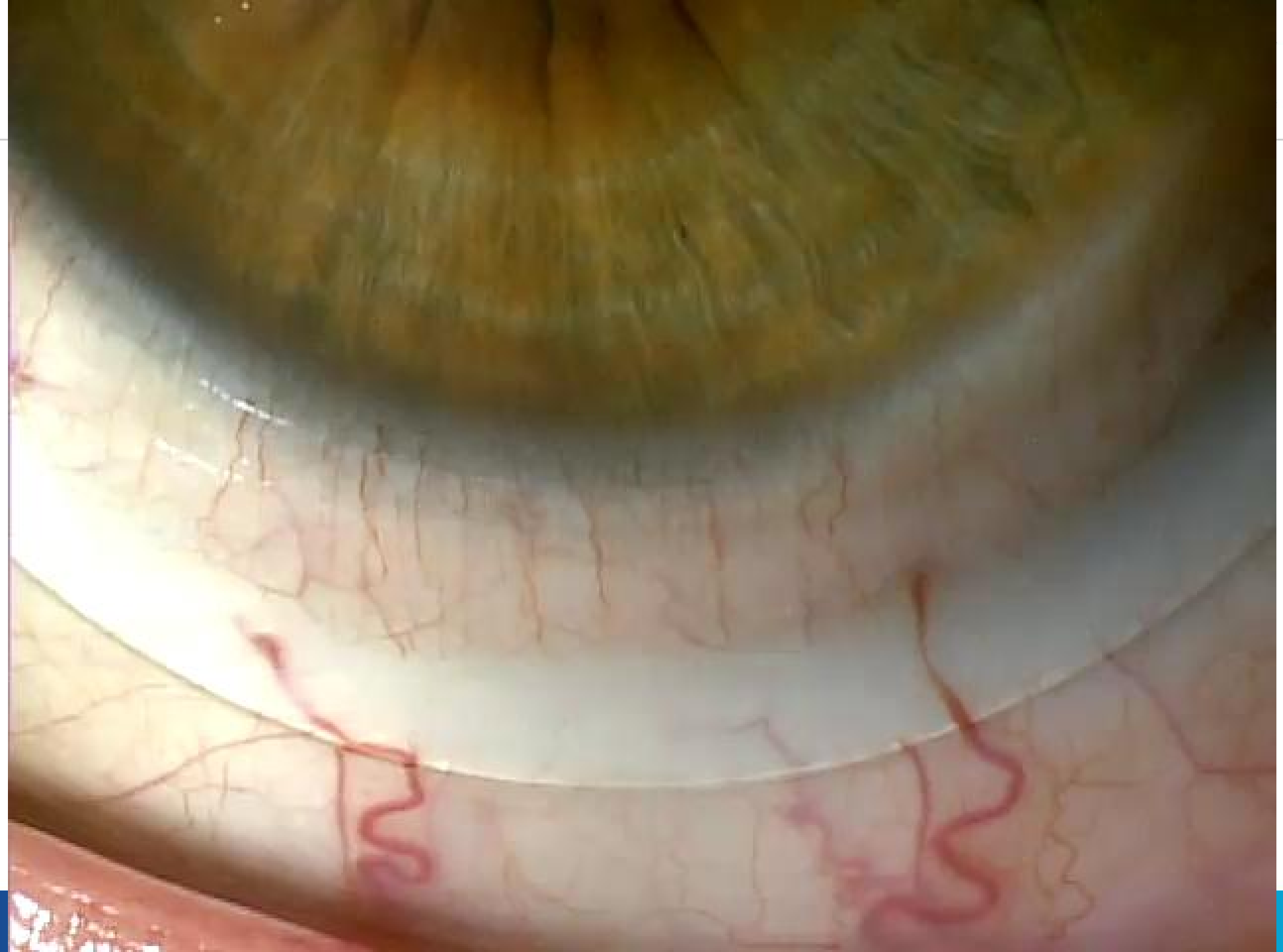
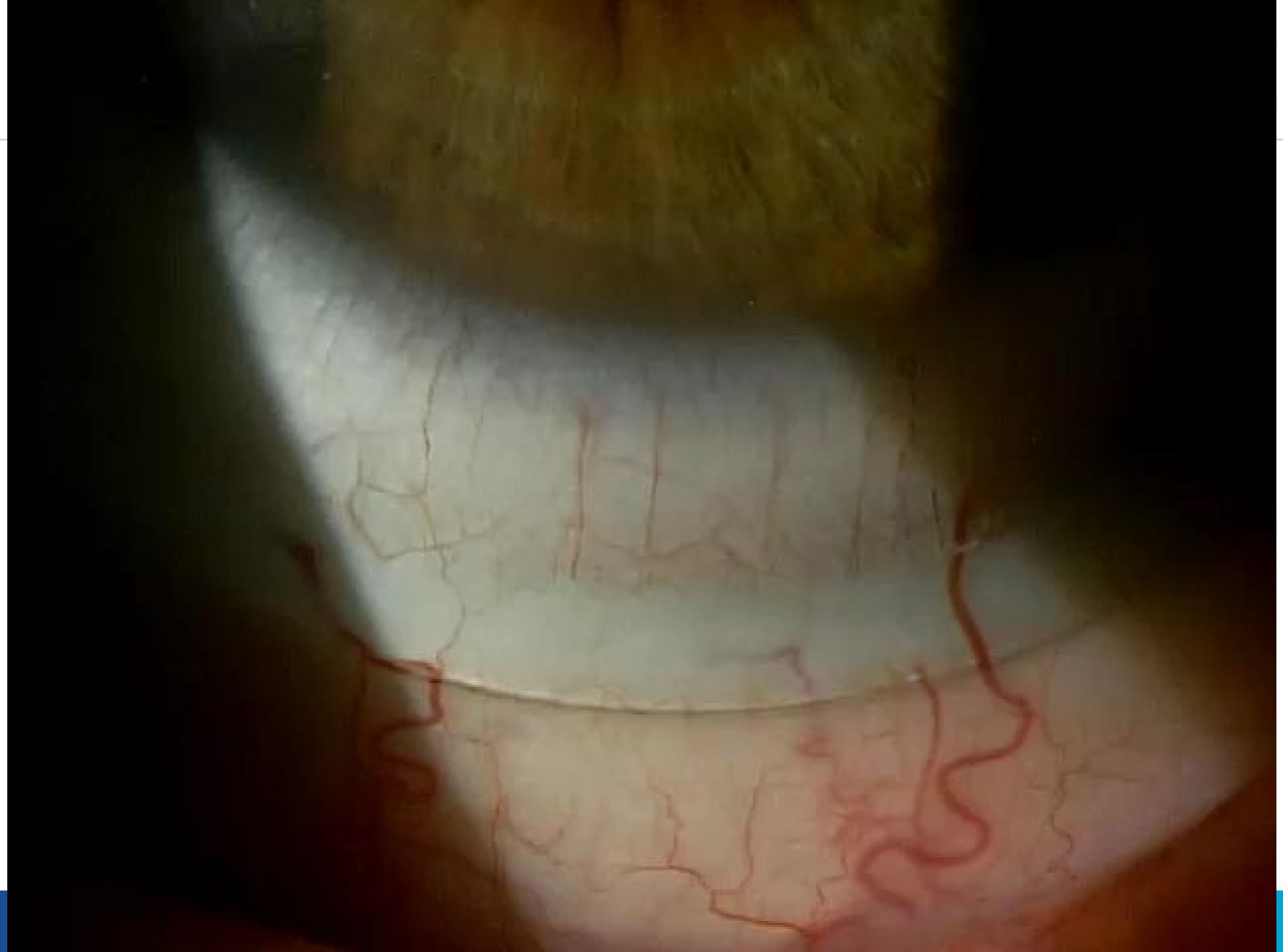
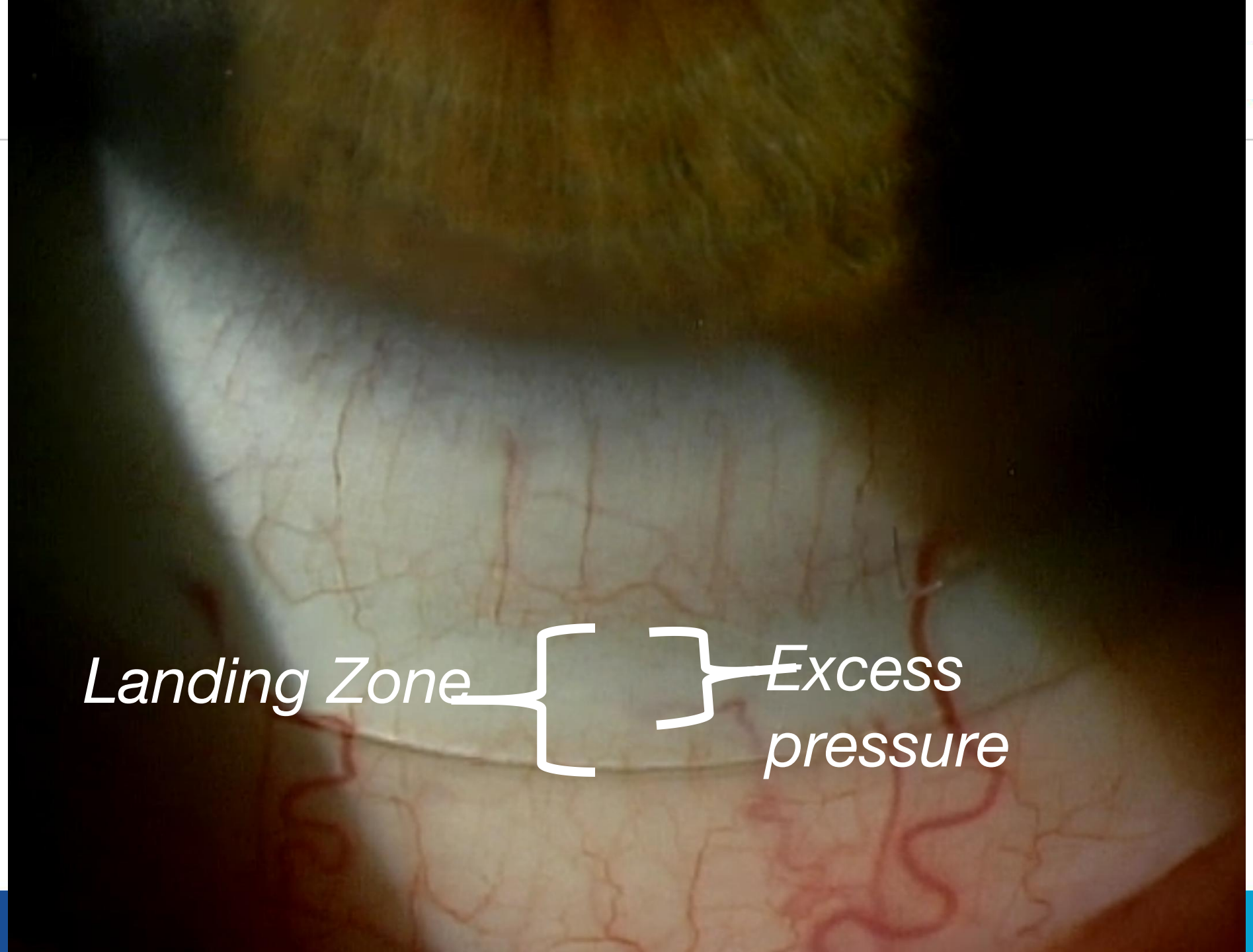
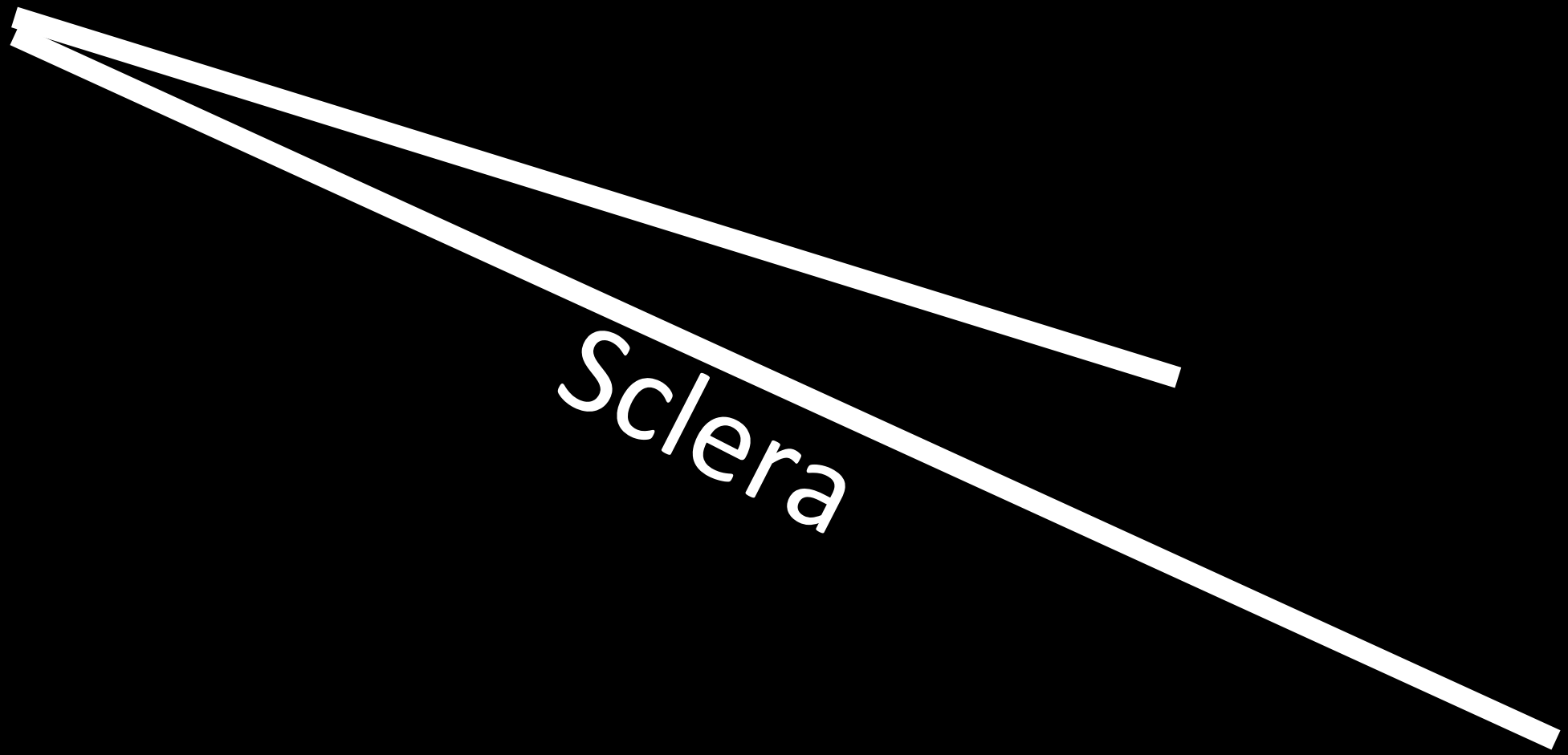





Landing Zone
Excess pressure

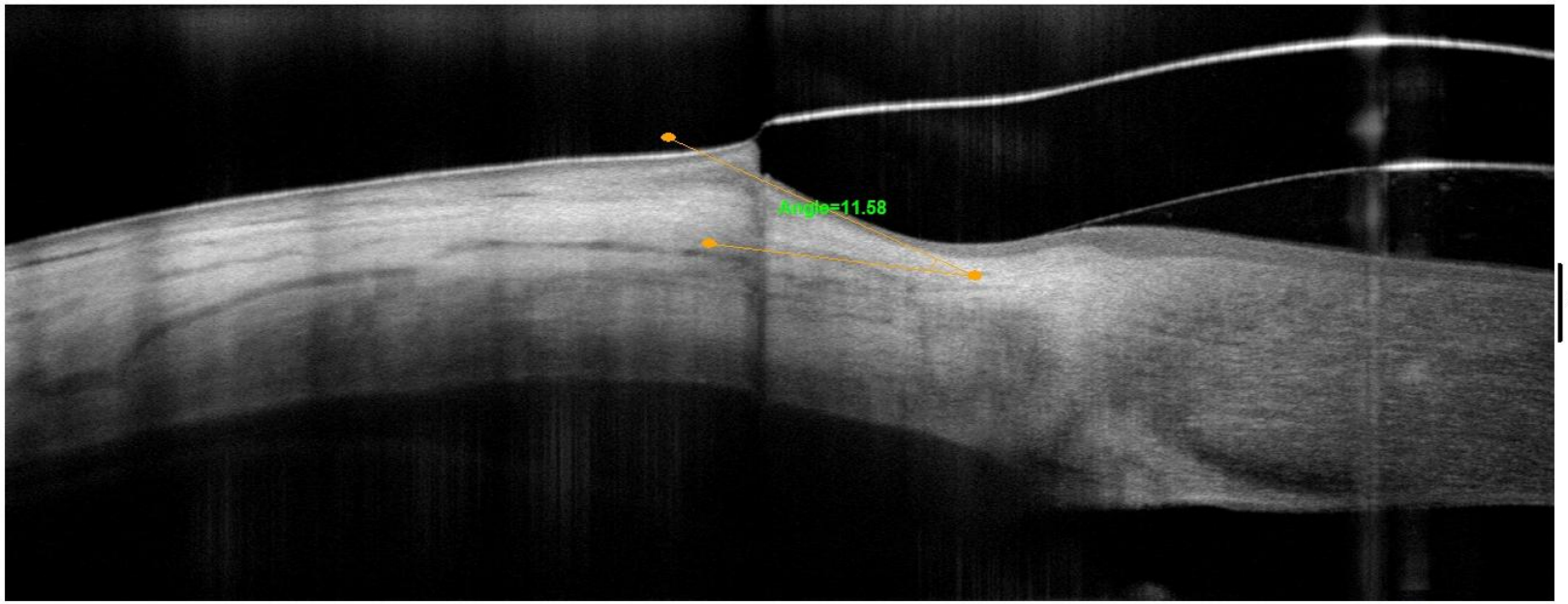
Flat Peripheral Curve



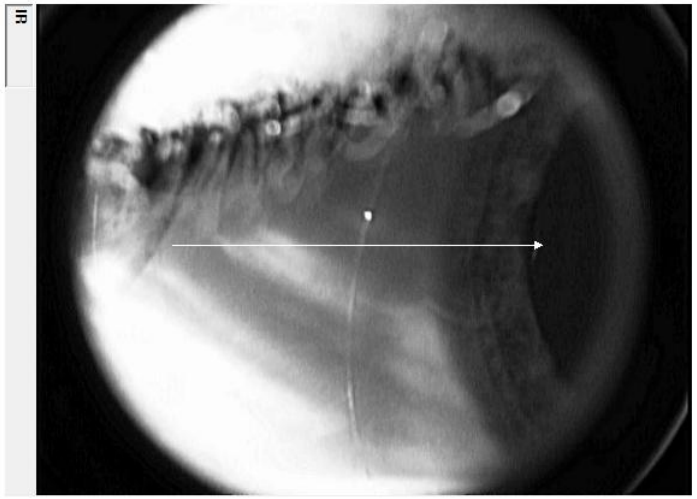
Cornea Line

Signal Strength Index 99

Right / OD



8.00mm Scan Length



Print

Comparison

Comment

OPTOVUE

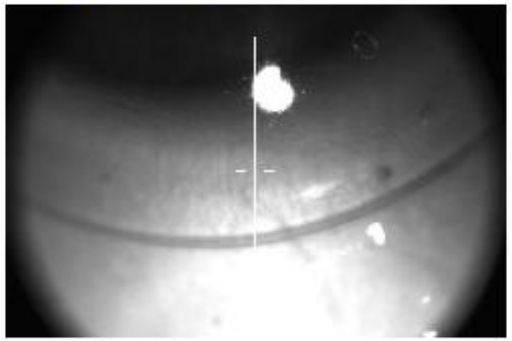

Cornea Line
Signal Strength Index 83
Right / OD
250µm
8.00mm Scan Length
IR
Print
Comparison
Comment
OPTOVUE

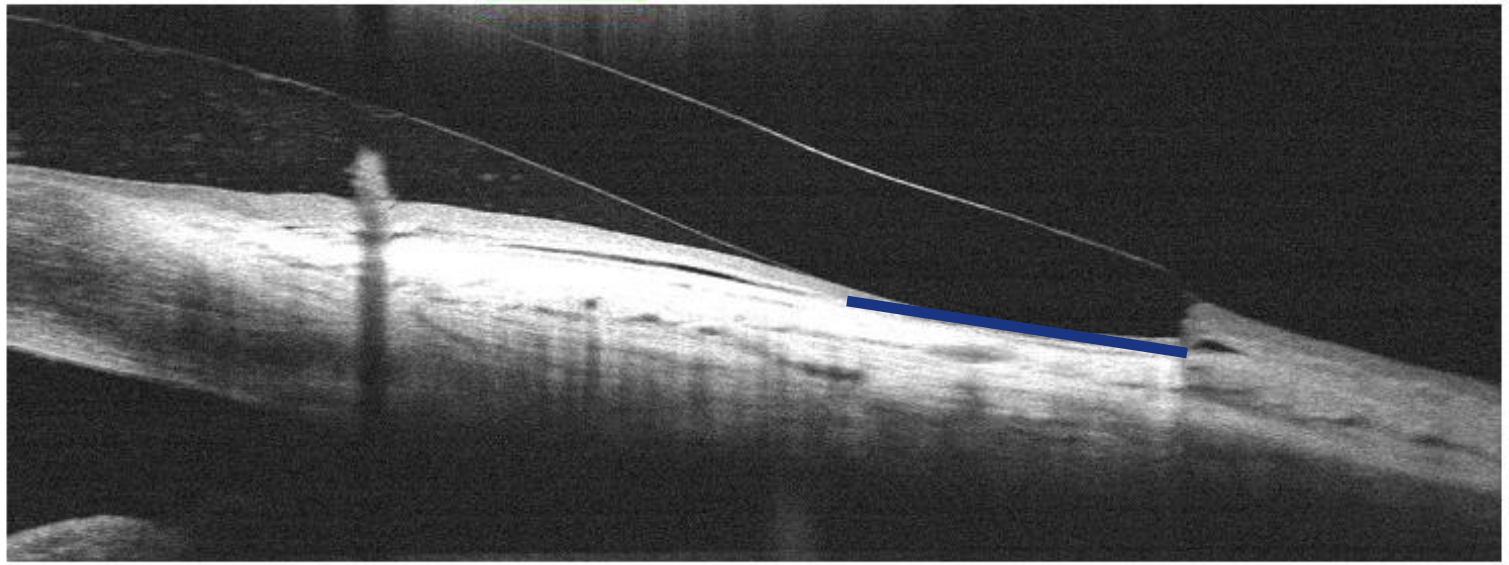
Cornea Angle OU Report

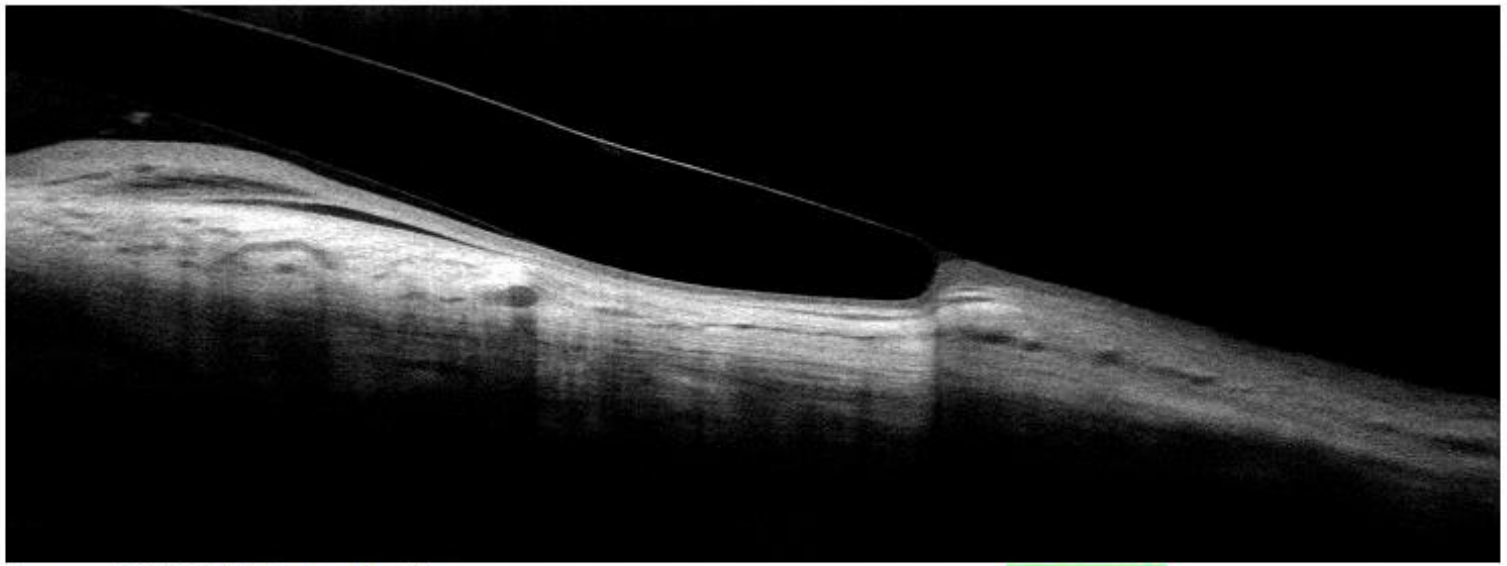
Scan 12/30/2019 15:45:13

Scan Quality Index Good 75

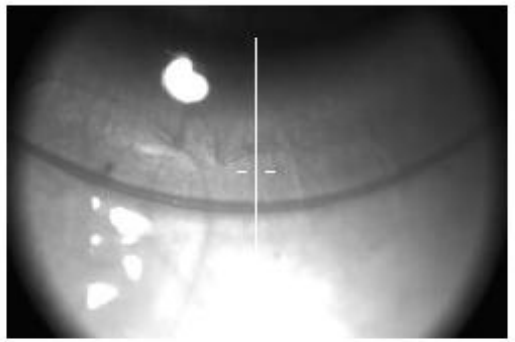
Right / OD







Left / OS



Scan 12/30/2019 15:48:39

Scan Quality Index Good 77

Print | Change Analysis

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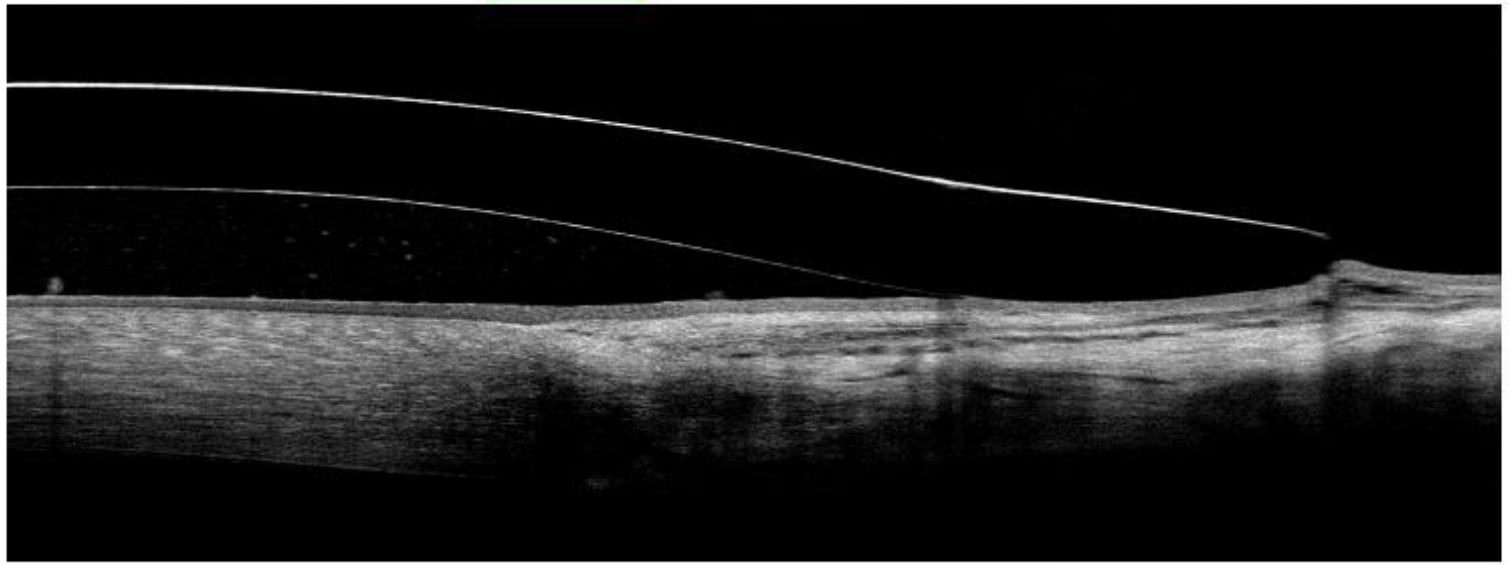
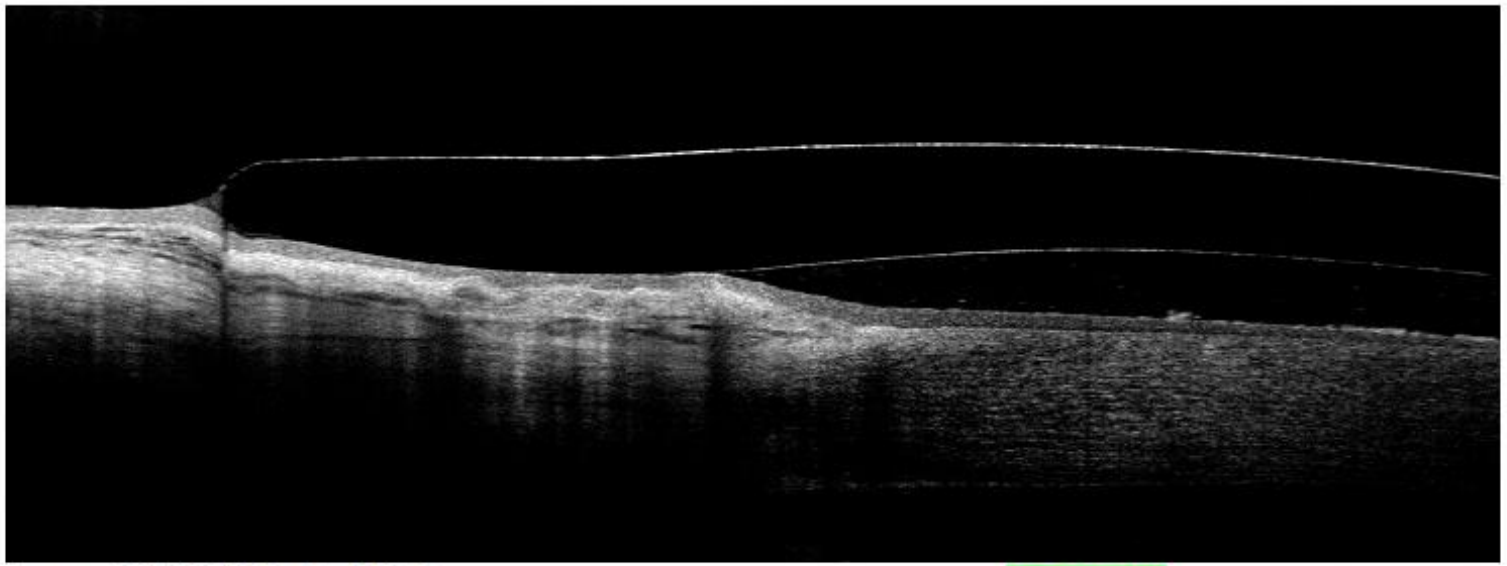
Cornea Angle OU Report

Scan 12/30/2019 15:43:05

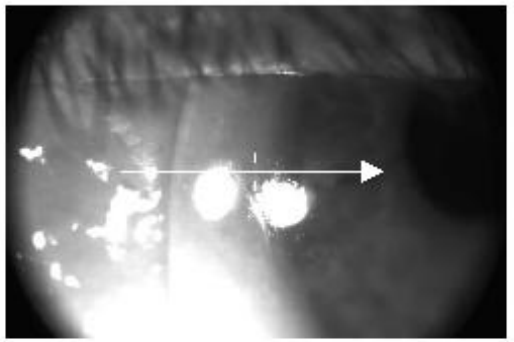
Scan Quality Index Good 69

Right / OD





Left / OS



Scan 12/30/2019 15:45:55

Scan Quality Index Good 60

Print | Change Analysis

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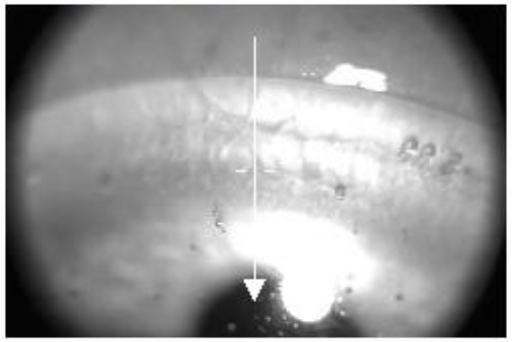
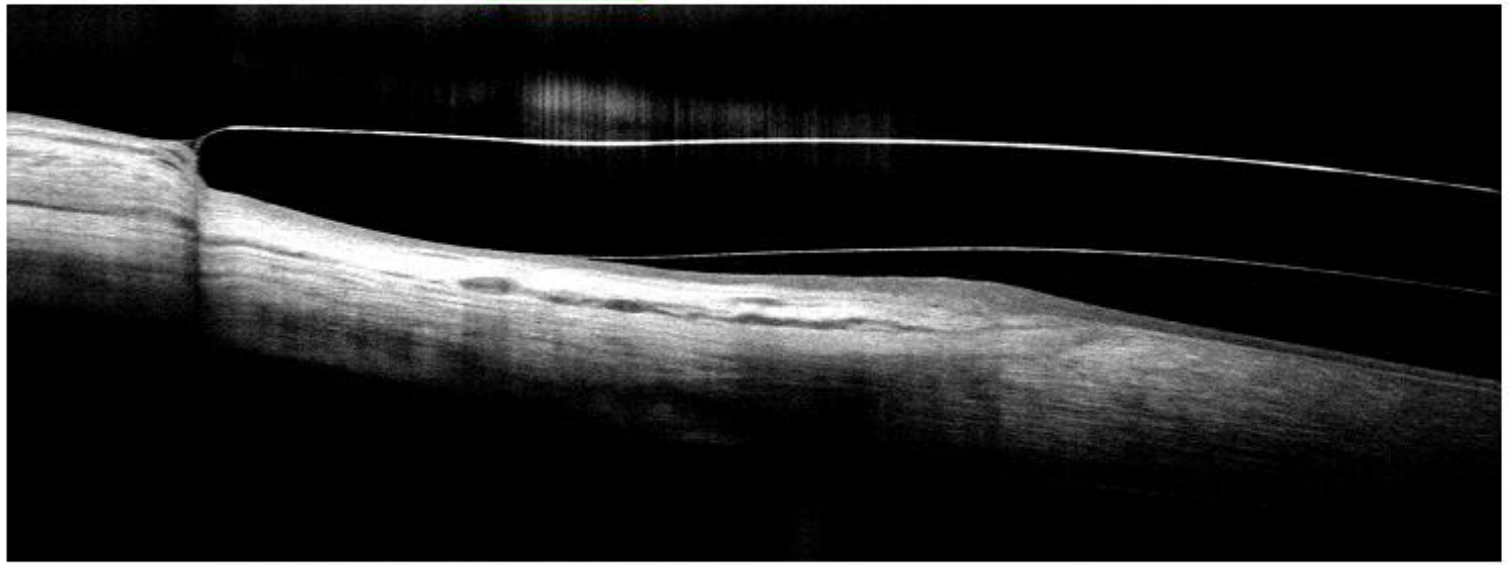
Cornea Angle OU Report

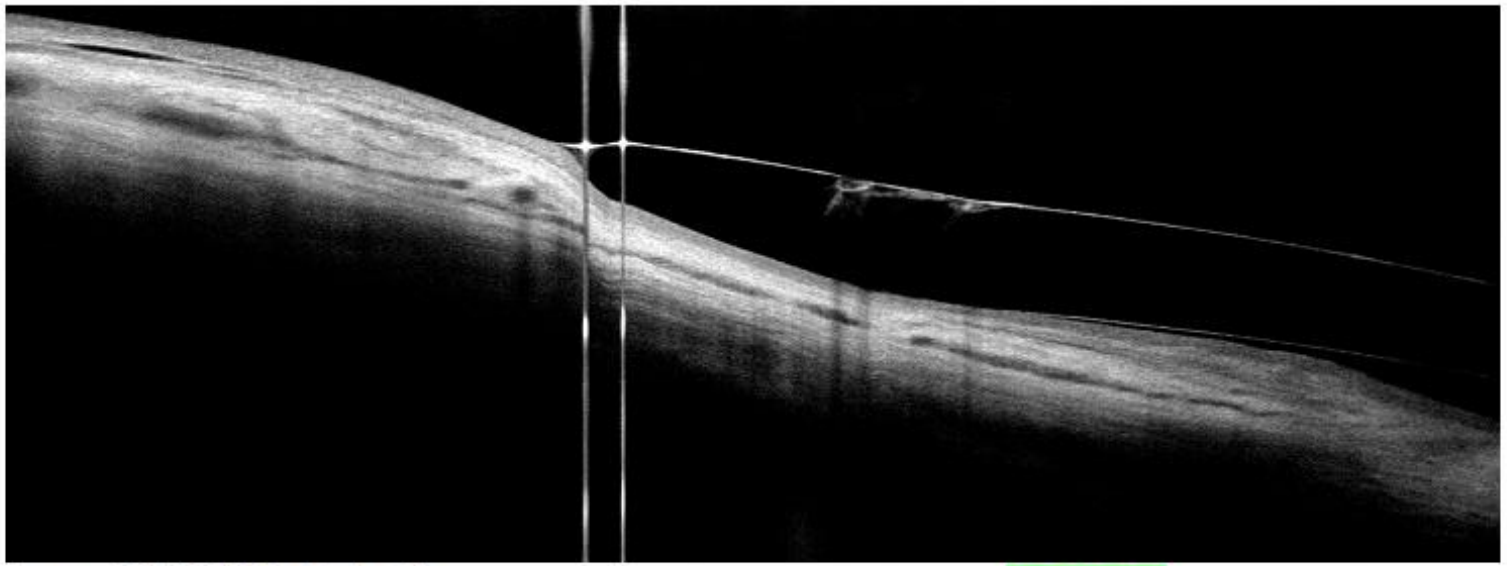
Scan 12/30/2019 15:44:28

Scan Quality Index Good 89

Right / OD







Left / OS

Scan 12/30/2019 15:47:23

Scan Quality Index Good 83

Print | Change Analysis

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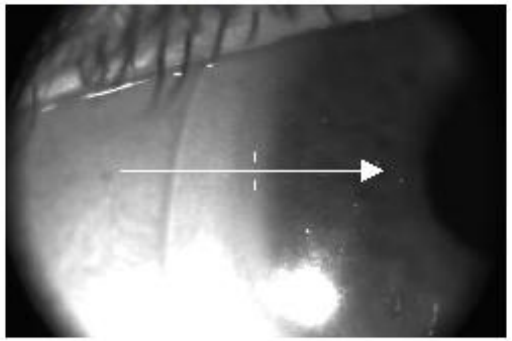
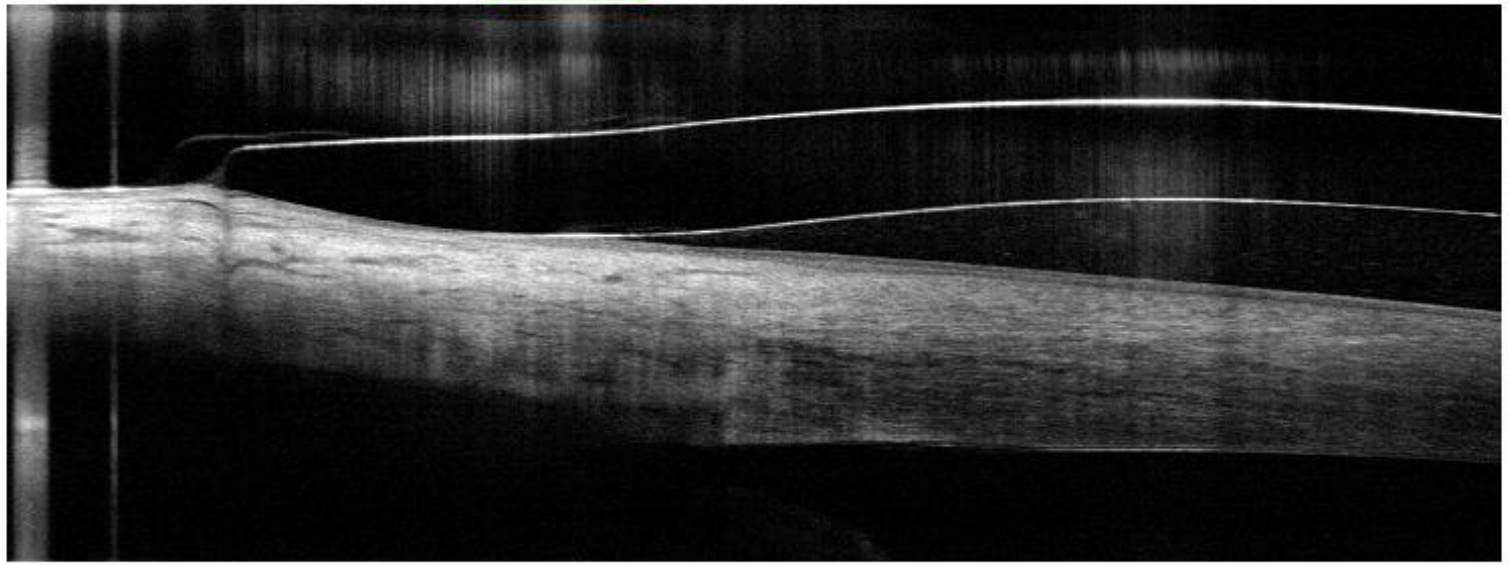
Cornea Angle OU Report

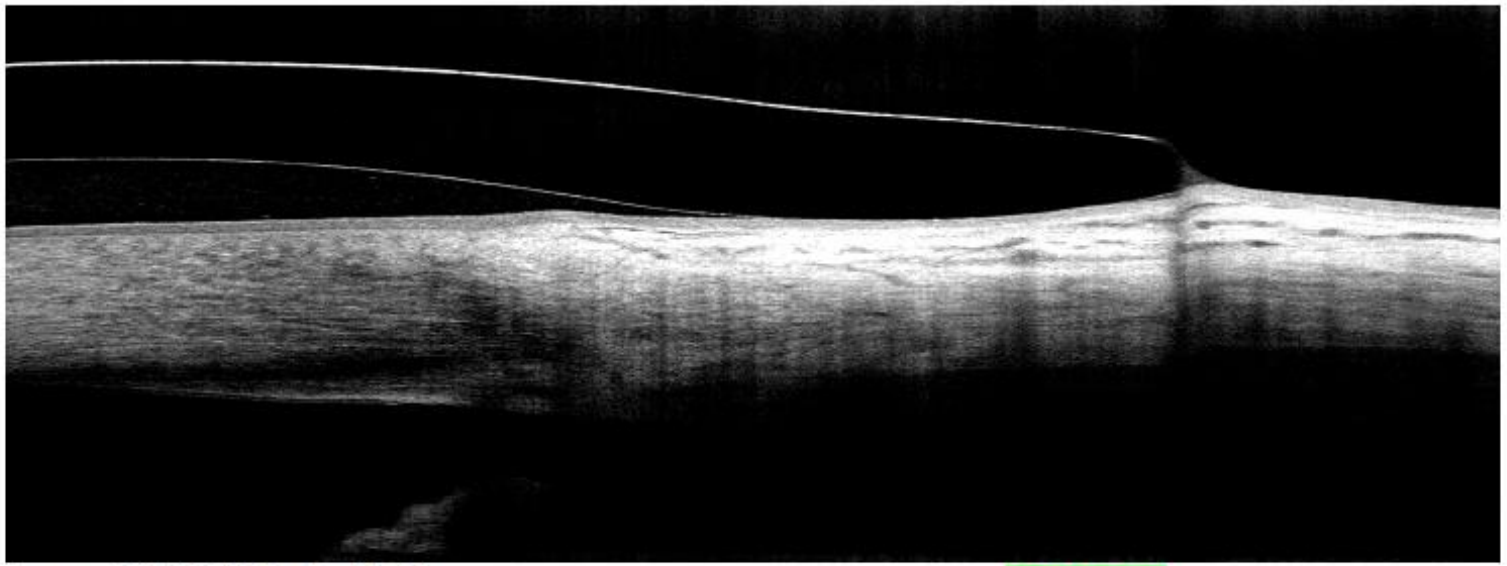
Scan 12/30/2019 15:42:10

Scan Quality Index Good 92

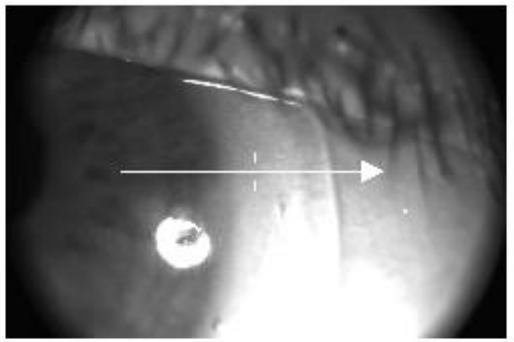
Right / OD







Left / OS



Scan 12/30/2019 15:46:40

Scan Quality Index Good 102

Print | Change Analysis

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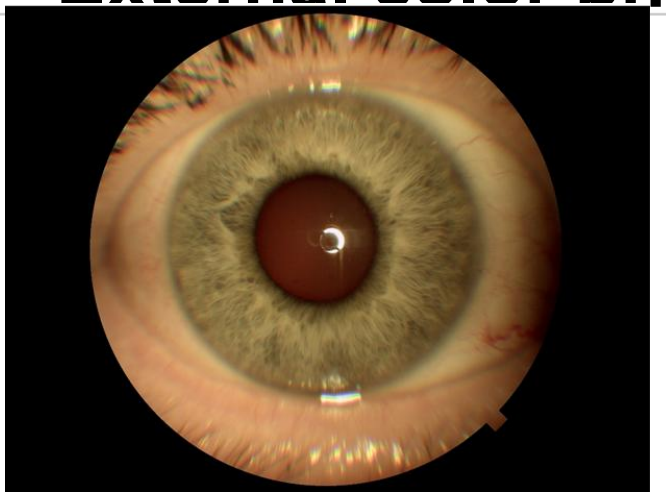
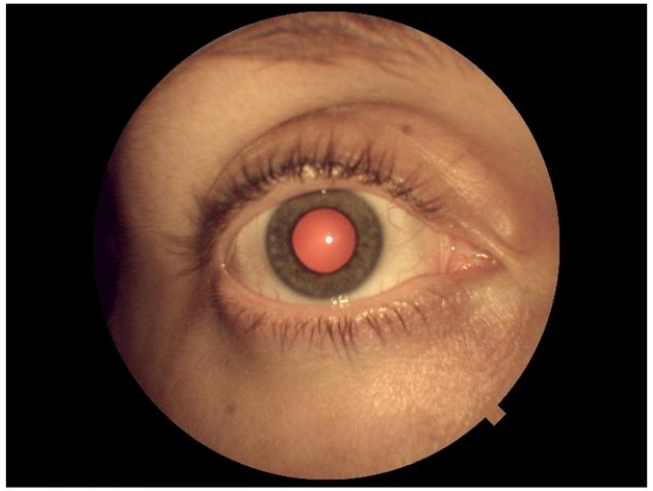
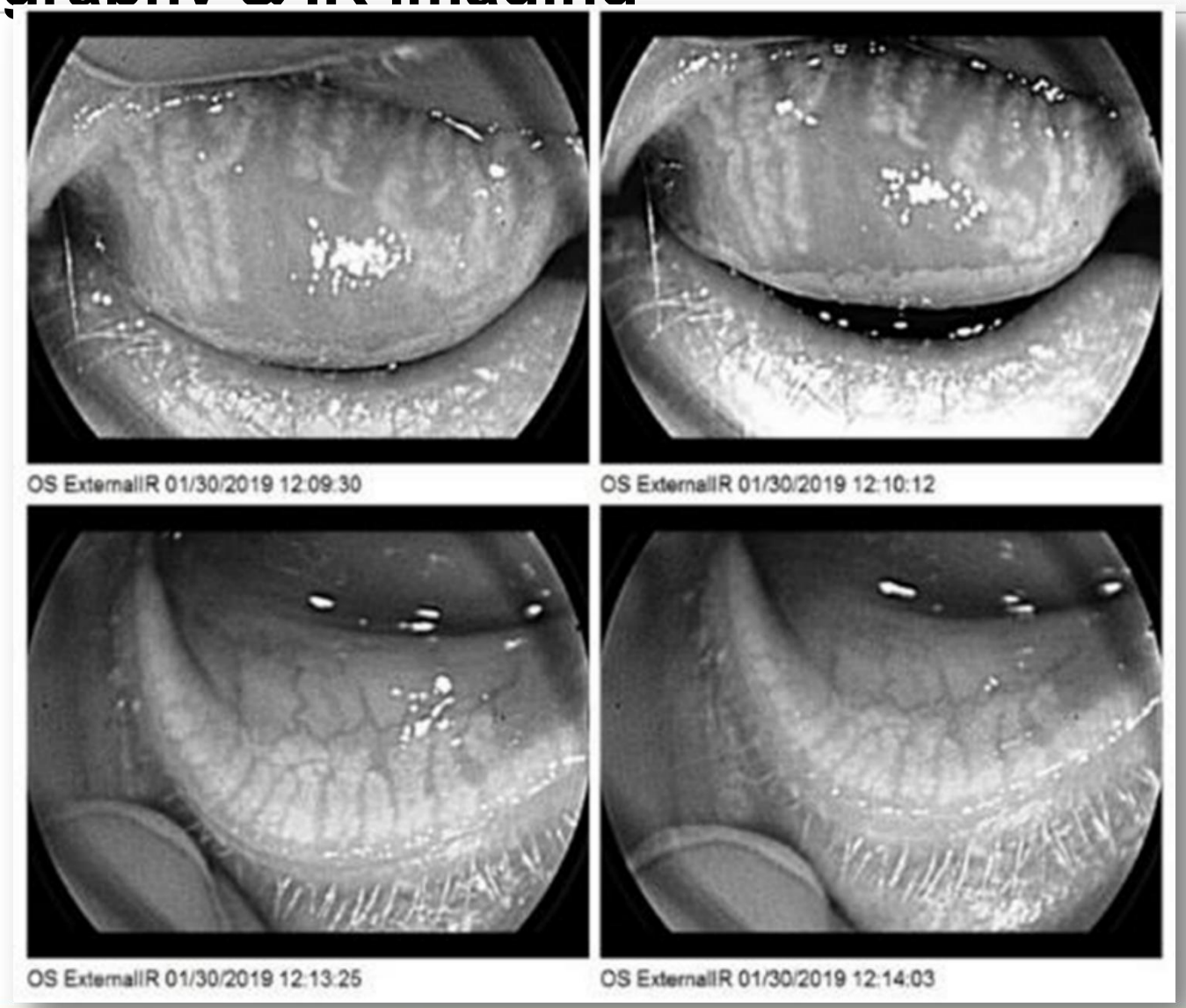
External color photography & IR imaging



External Color Photograph

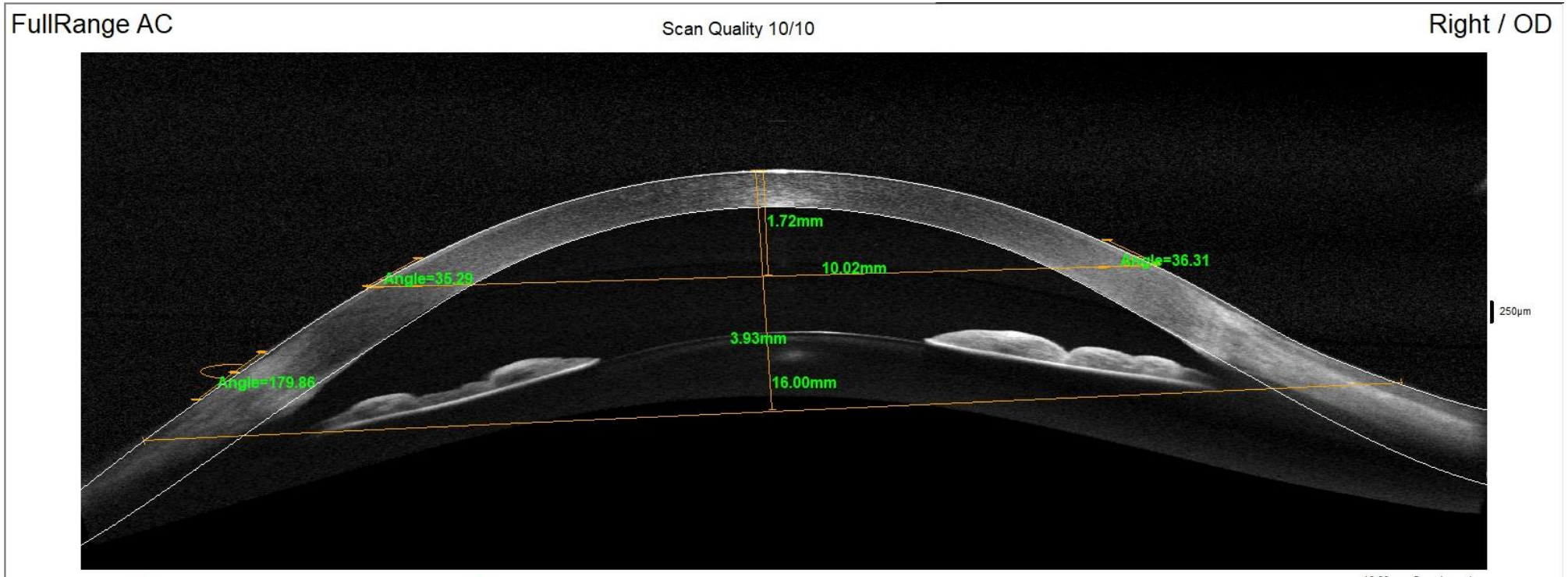


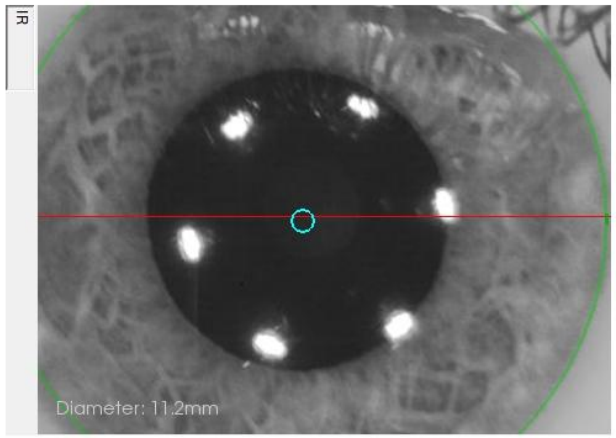
External Color Photograph with Red Reflex



Structural measurement 16mm Chord

Structural measurement to assist in lens selection

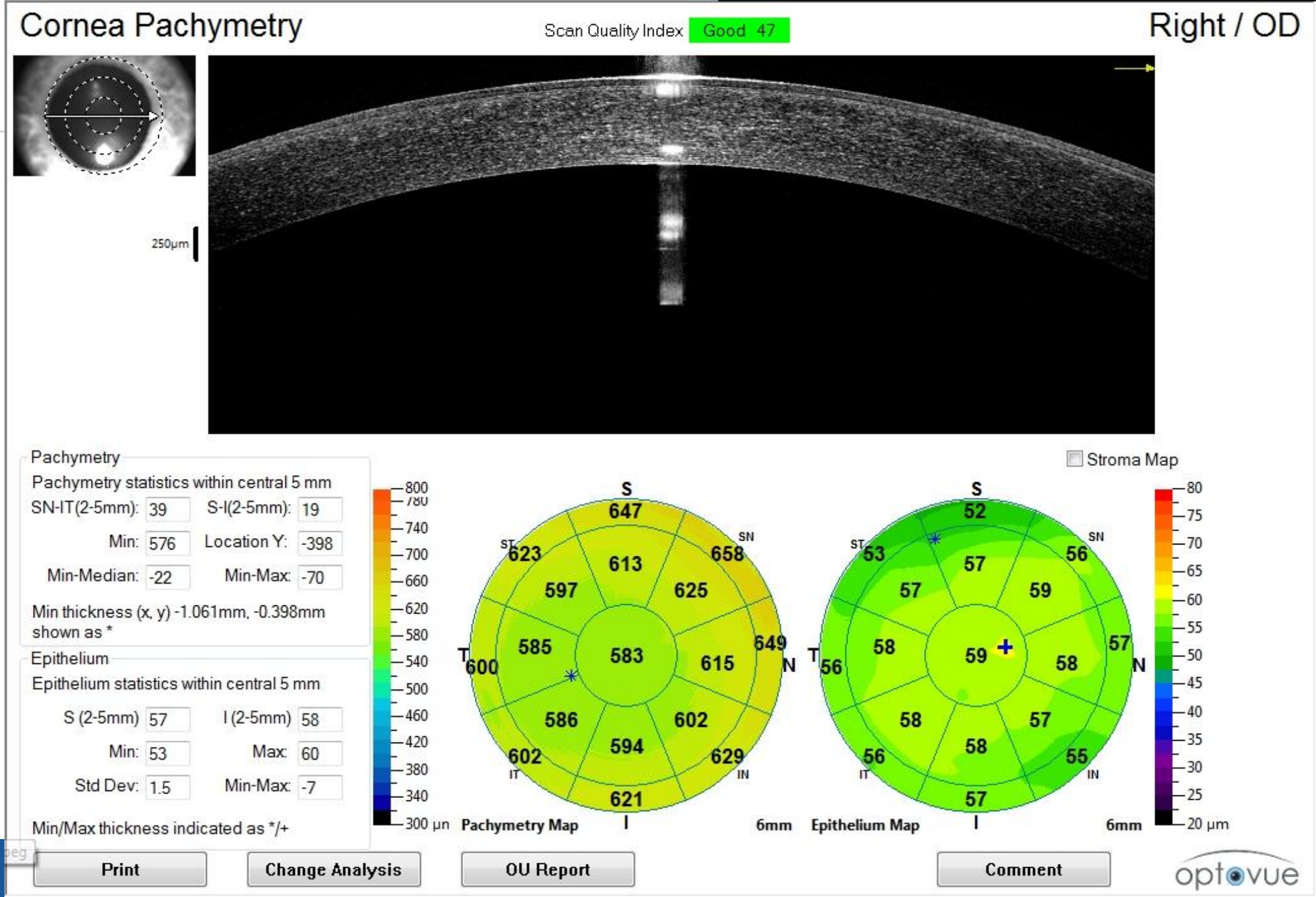




WTW or pupil width

10mm Chord, 16 mm Chord with Sagittal depths
1.72mm
3.93mm

What is ETM?


Cornea Pachymetry
Scan Quality Index Good 47
Right / OD
250µm
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): 39
S-I(2-5mm): 19
Min: 576
Location Y: -398
Min-Median: -22
Min-Max: -70
Min thickness (x, y) -1.061mm, -0.398mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 57
I (2-5mm) 58
Min: 53
Max: 60
Std Dev: 1.5
Min-Max: -7
Min/Max thickness indicated as */+
800 740 700 660 620 580 540 500 460 420 380 340 300 µn
S 647 ST 623 SN 658 T 600 585 613 583 625 649 N 597 615 586 602 602 IT 594 629 IN 621 I
Pachymetry Map
6mm
Stroma Map
S 52 ST 53 SN 56 T 56 58 57 59 57 N 57 58 58 56 IT 58 55 IN 57 I
Epithelium Map
6mm
80 75 70 65 60 55 50 45 40 35 30 25 20 µm
Print
Change Analysis
OU Report
Comment
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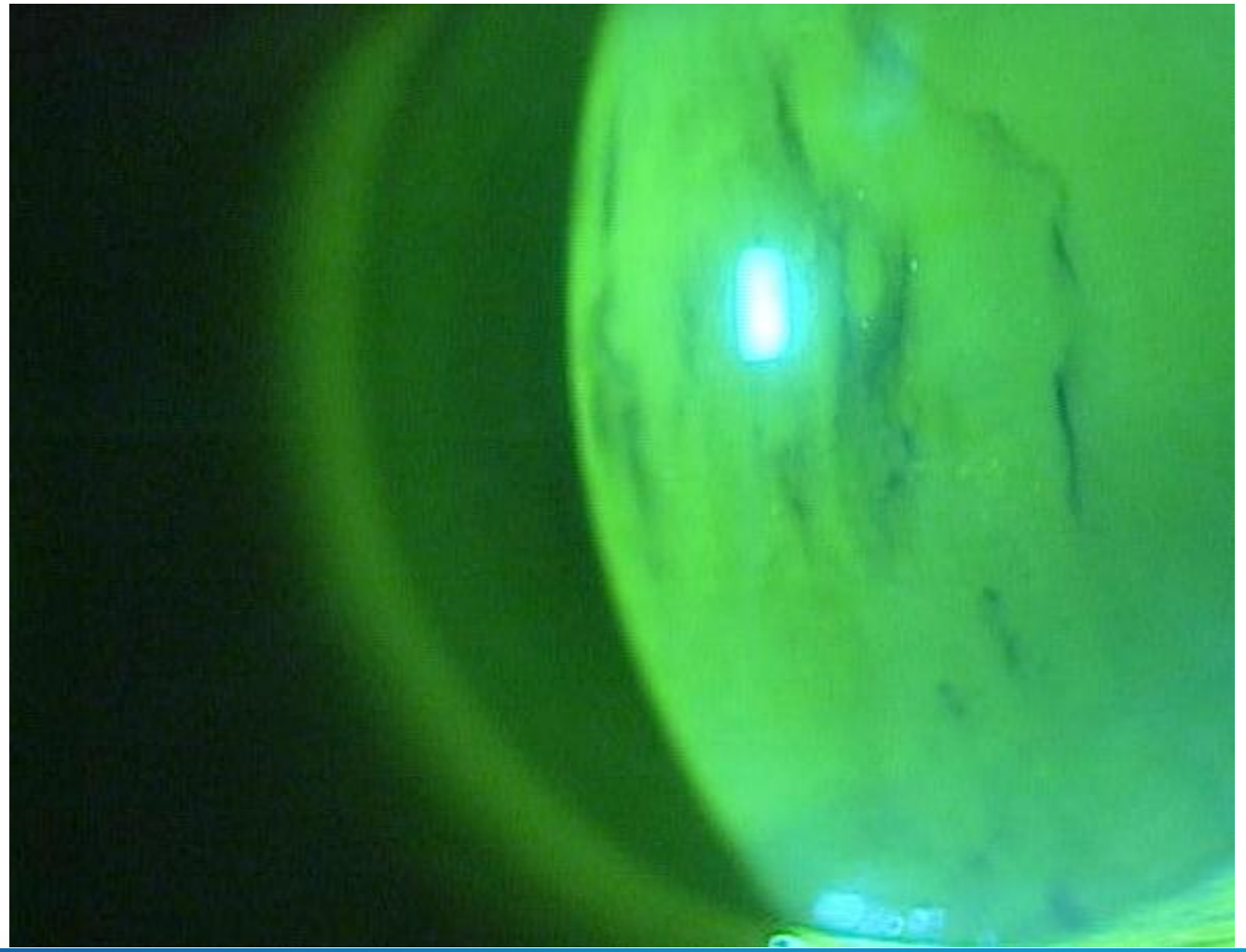
Dry Eye



Assessment of Corneal Epithelial Thickness in Dry Eye Patients

Xinhan Cui*, Jiaxu Hong†, Fei Wang*, Sophie X. Deng†, Yujing Yang*, Xiaoyu Zhu*, Dan Wu*, Yujin Zhao*, and Jianjiang Xu†

ABSTRACT

Purpose. To investigate the features of corneal epithelial thickness topography with Fourier-domain optical coherence tomography (OCT) in dry eye patients.

Methods. In this cross-sectional study, 100 symptomatic dry eye patients and 35 normal subjects were enrolled. All participants answered the ocular surface disease index questionnaire and were subjected to OCT, corneal fluorescein staining, tear breakup time, Schirmer 1 test without anesthetic (S1t), and meibomian morphology. Several epithelium statistics for each eye, including central, superior, inferior, minimum, maximum, minimum − maximum, and map standard deviation, were averaged. Correlations of epithelial thickness with the symptoms of dry eye were calculated.

Results. The mean (±SD) central, superior, and inferior corneal epithelial thickness was 53.57 (±3.31) μm, 52.00 (±3.39) μm, and 53.03 (±3.67) μm in normal eyes and 52.71 (±2.83) μm, 50.58 (±3.44) μm, and 52.53 (±3.36) μm in dry eyes, respectively. The superior corneal epithelium was thinner in dry eye patients compared with normal subjects ($p = 0.037$), whereas central and inferior epithelium were not statistically different. In the dry eye group, patients with higher severity grades had thinner superior ($p = 0.017$) and minimum ($p < 0.001$) epithelial thickness, more wide range ($p = 0.032$), and greater deviation ($p = 0.003$). The average central epithelial thickness had no correlation with tear breakup time, S1t, or the severity of meibomian glands, whereas average superior epithelial thickness positively correlated with S1t ($r = 0.238$, $p = 0.017$).

Conclusions. Fourier-domain OCT demonstrated that the thickness map of the dry eye corneal epithelium was thinner than normal eyes in the superior region. In more severe dry eye disease patients, the superior and minimum epithelium was much thinner, with a greater range of map standard deviation.

(Optom Vis Sci 2014;91:1446–1454)

Results—The mean (±SD) central, superior, and inferior corneal epithelial thickness was 53.57 (±3.31) μm, 52.00 (±3.39) μm, and 53.03 (±3.67) μm in normal eyes and 52.71 (±2.83) μm, 50.58 (±3.44) μm, and 52.53 (±3.36) μm in dry eyes, respectively. The superior corneal epithelium was thinner in dry eye patients compared with normal subjects (p=0.037),whereas central and inferior epithelium were not statistically different. In the dry eye group, patients with higher severity grades had thinner superior ($p = 0.017$) and minimum ($p < 0.001$) epithelial thickness, more wide range ($p = 0.032$), and greater deviation ($p = 0.003$). The average central epithelial thickness had no correlation with tear breakup time, S1t, or the severity of meibomian glands, whereas average superior epithelial thickness positively correlated with S1t ($r = 0.238$, $p = 0.017$).

Shanghai Medicine, Fudan University, Shanghai, China (XZ)

In Vivo 3-Dimensional Corneal Epithelial Thickness Mapping as an Indicator of Dry Eye: Preliminary Clinical Assessment

• CONCLUSIONS: This study, based on very user-friendly, novel AS-OCT imaging, indicates increased epithelial thickness in dry eyes. The ease of use and the improved predictability offered by AS-OCT epithelial imaging may be a significant clinical advantage. Augmented epithelial thickness in the suspect cases may be employed as an objective clinical indicator of dry eye. (Am J Ophthalmol 2013;■:■–■. © 2013 by Elsevier Inc. All rights reserved.)

DRY EYE IS A MULTIFACTORIAL DISEASE OF THE tears and ocular surface that results in symptoms of discomfort, visual disturbance, and tear film

Accepted for publication Aug 29, 2013.

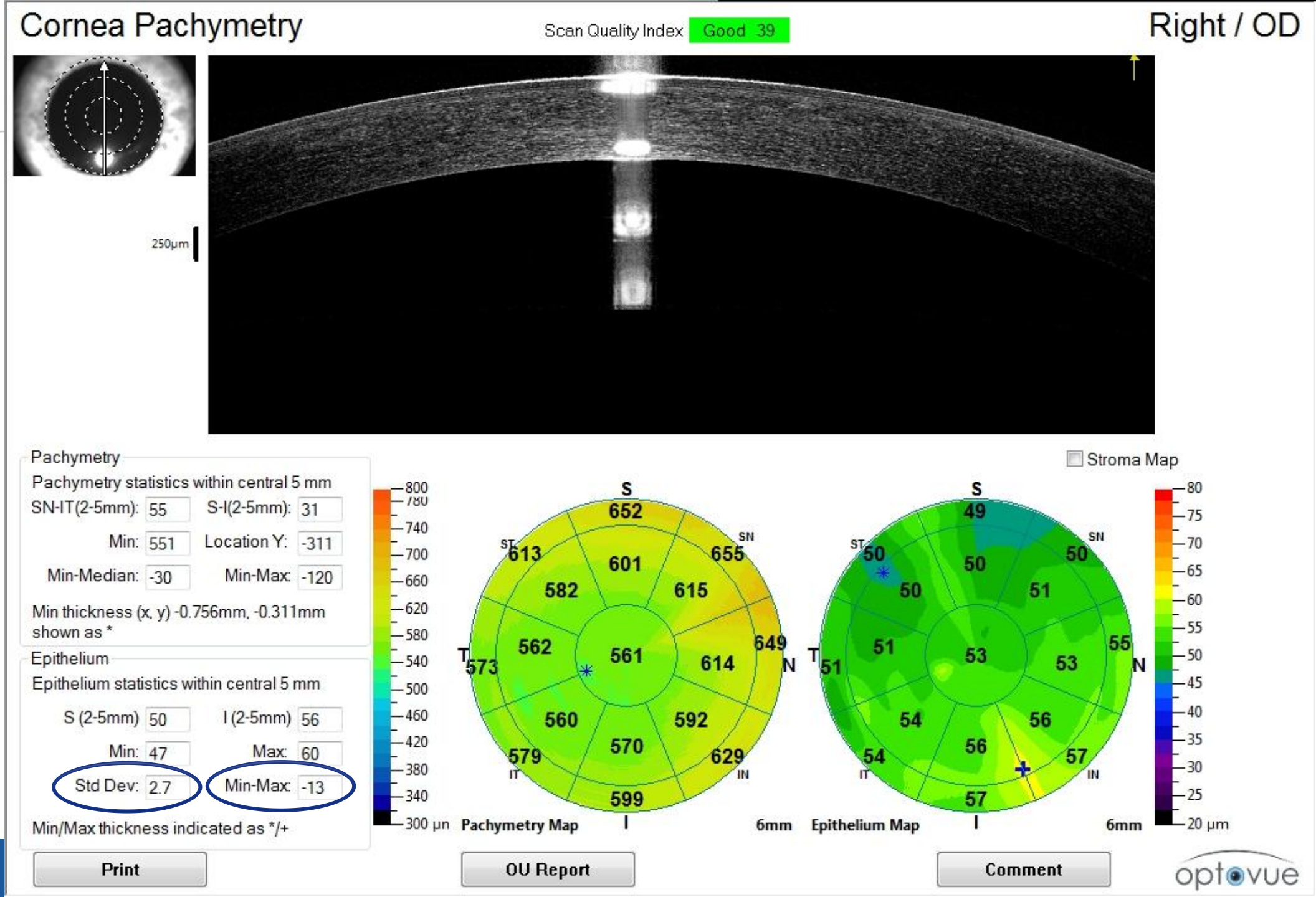
From Laservision.gr Eye Institute, Athens, Greece (A.J.K., G.A.); and New York University Medical School, New York, New York (A.J.K.).
Inquiries to Anastasios John Kanellopoulos, Clinical Professor of Ophthalmology, NYU Medical School, New York, NY/Laservision.gr Eye Institute, 17 Tsocha Street, Athens Greece, 11521; e-mail: ajk@brilliantvision.com

MATERIALS AND METHODS

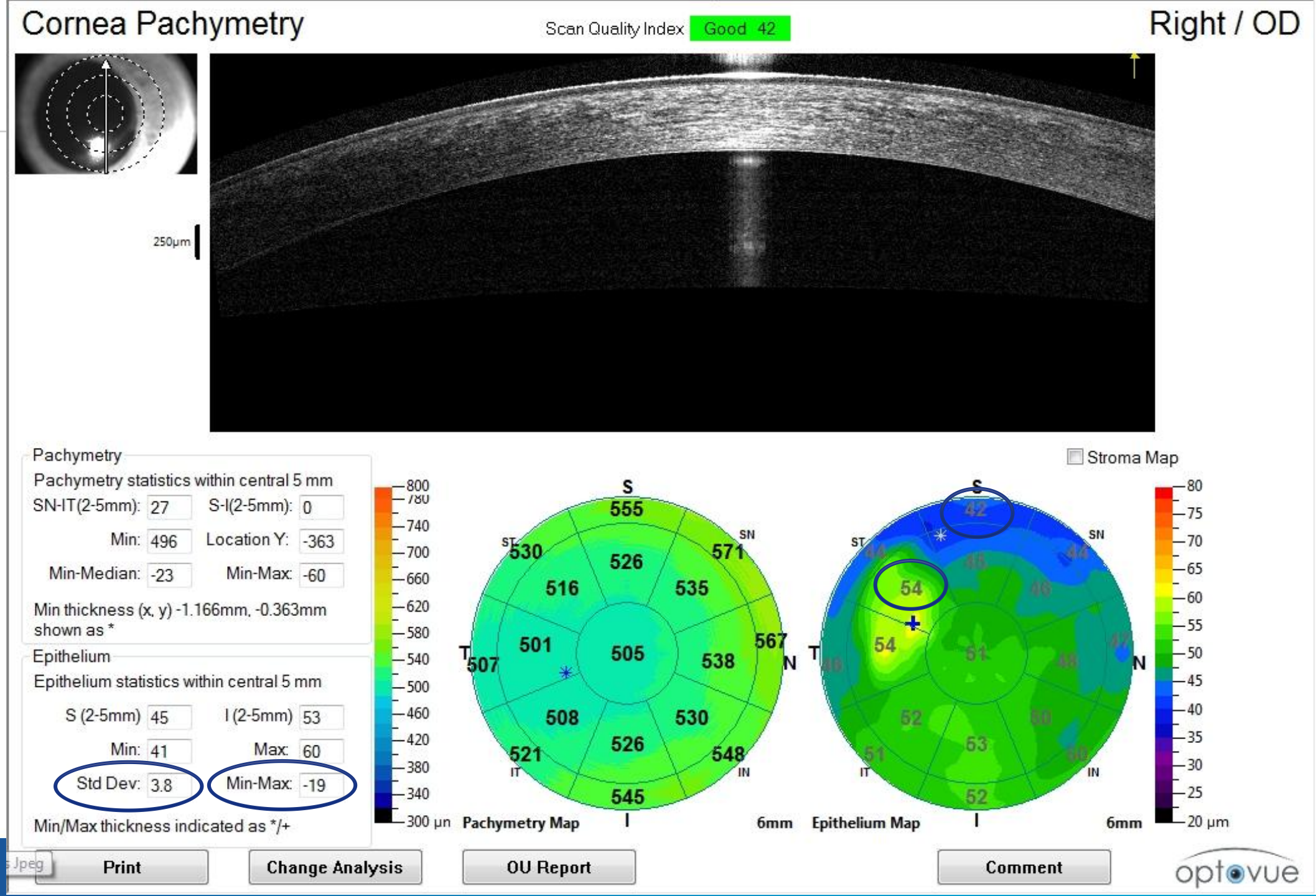
THIS OBSERVATIONAL, RETROSPECTIVE CASE-CONTROL study received approval by the Ethics Committee of our Institution (LaserVision.gr Eye Institute), and was adherent to the tenets of the Declaration of Helsinki. Written informed consent was obtained from each subject

0002-9394/$36.00
http://dx.doi.org/10.1016/j.ajo.2013.08.025

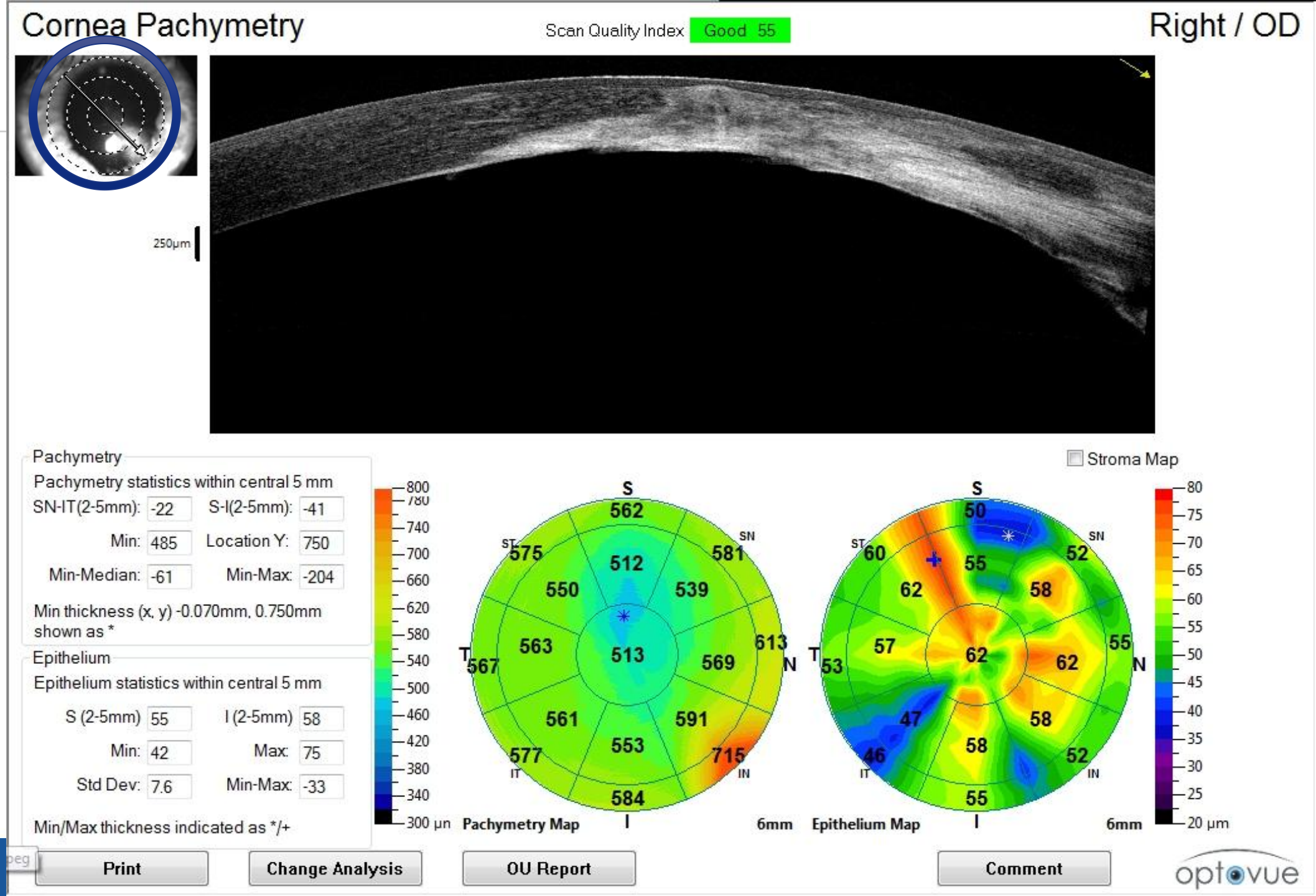
Dry Eye


Cornea Pachymetry
Scan Quality Index Good 39
Right / OD
250µm
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): 55
S-I(2-5mm): 31
Min: 551
Location Y: -311
Min-Median: -30
Min-Max: -120
Min thickness (x, y) -0.756mm, -0.311mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 50
I (2-5mm) 56
Min: 47
Max: 60
Std Dev: 2.7
Min-Max: -13
Min/Max thickness indicated as */+
800
740
700
660
620
580
540
500
460
420
380
340
300 µn
S
652
ST
613
SN
655
601
582
615
T
562
561
649
573
614
N
560
592
570
579
629
IT
IN
599
I
Pachymetry Map
6mm
Stroma Map
S
49
ST
50
SN
50
50
50
51
T
51
51
53
55
53
N
54
56
56
54
57
IT
IN
57
I
Epithelium Map
6mm
80
75
70
65
60
55
50
45
40
35
30
25
20 µm
Print
OU Report
Comment
optovue

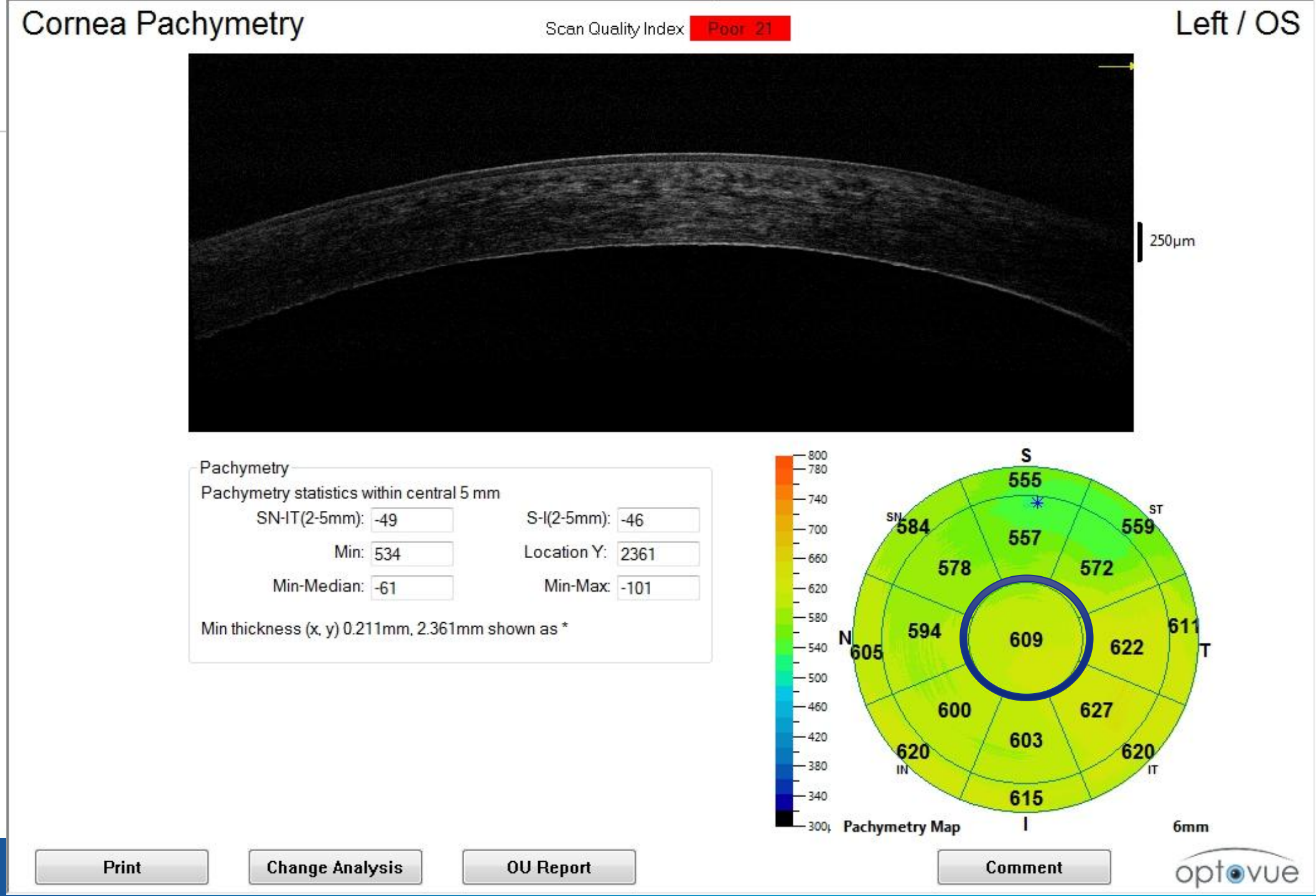
Dry Eye


Cornea Pachymetry
Scan Quality Index Good 42
Right / OD
250µm
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): 27
S-I(2-5mm): 0
Min: 496
Location Y: -363
Min-Median: -23
Min-Max: -60
Min thickness (x, y) -1.166mm, -0.363mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 45
I (2-5mm) 53
Min: 41
Max: 60
Std Dev: 3.8
Min-Max: -19
Min/Max thickness indicated as */+
800 740 700 660 620 580 540 500 460 420 380 340 300 µm
S 555 SN 571 ST 530 526 516 535 T 507 501 505 538 567 N 508 530 526 521 548 IT IN 545 I
Pachymetry Map
6mm
Stroma Map
S 42 SN ST 54 T 54 51 N IT IN 52 63 52 I
Epithelium Map
6mm
80 75 70 65 60 55 50 45 40 35 30 25 20 µm
Print
Change Analysis
OU Report
Comment
optovue

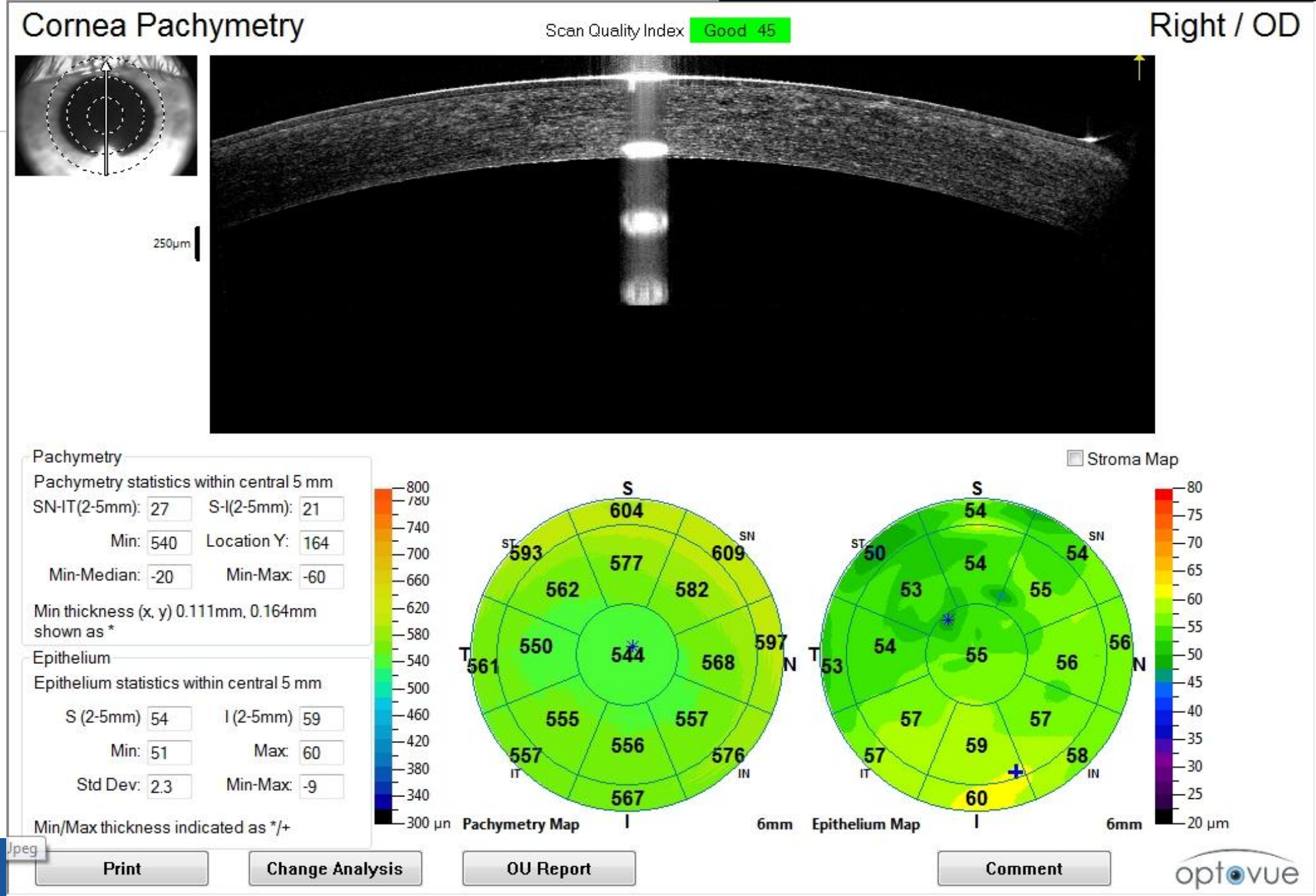
Corneal Injury

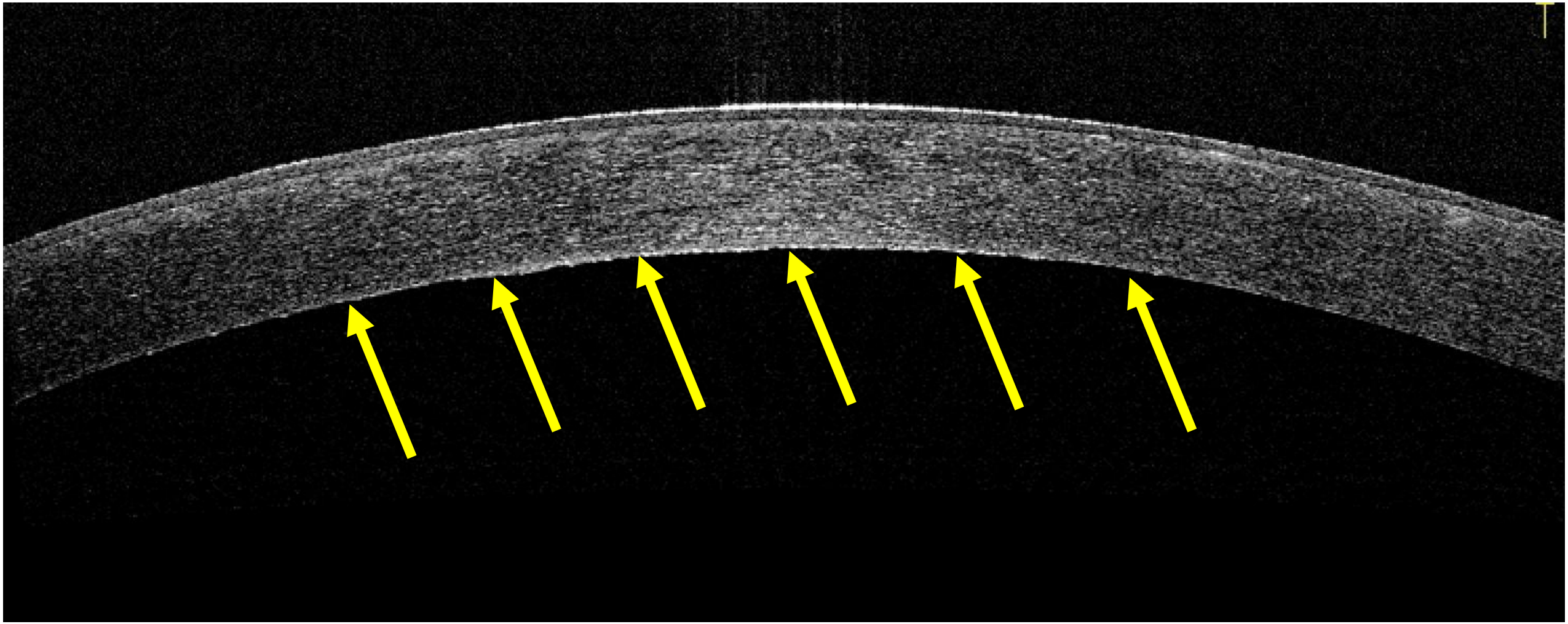


Fuch's Endothelial Dystrophy

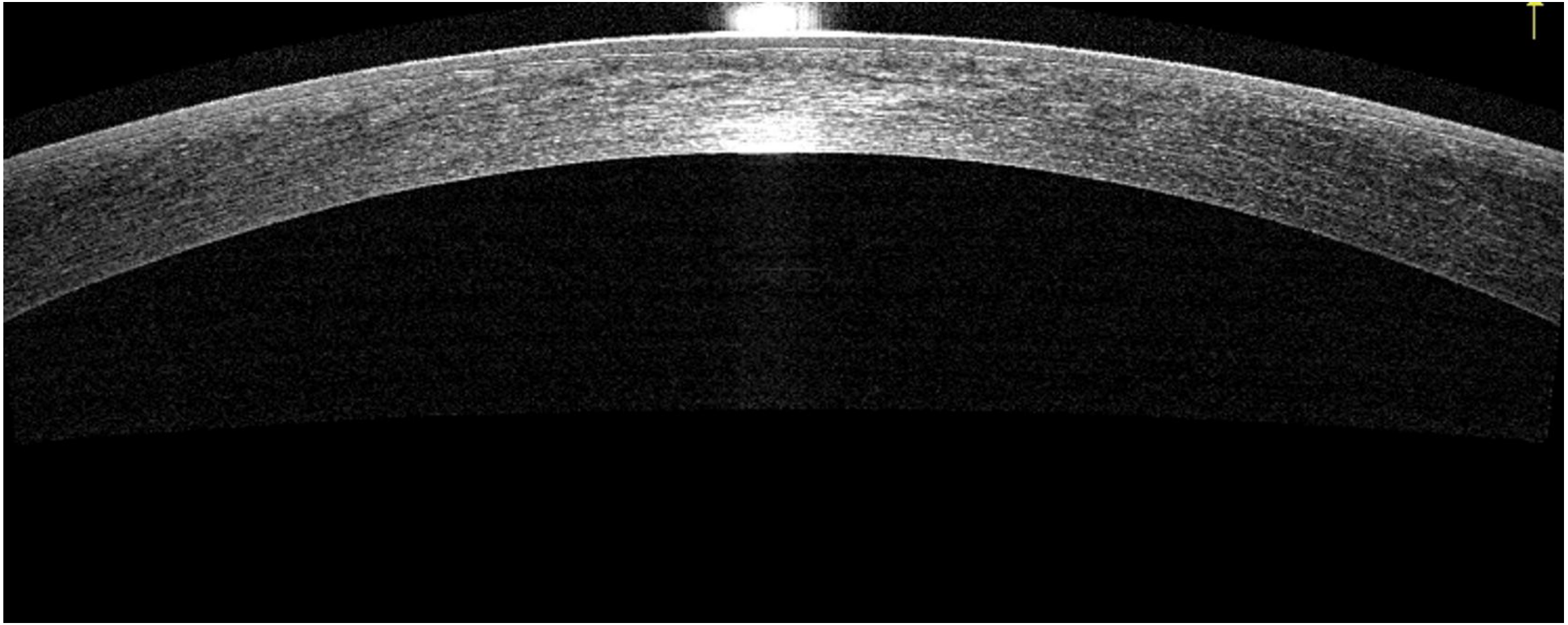


Fuch's Endothelial Dystrophy

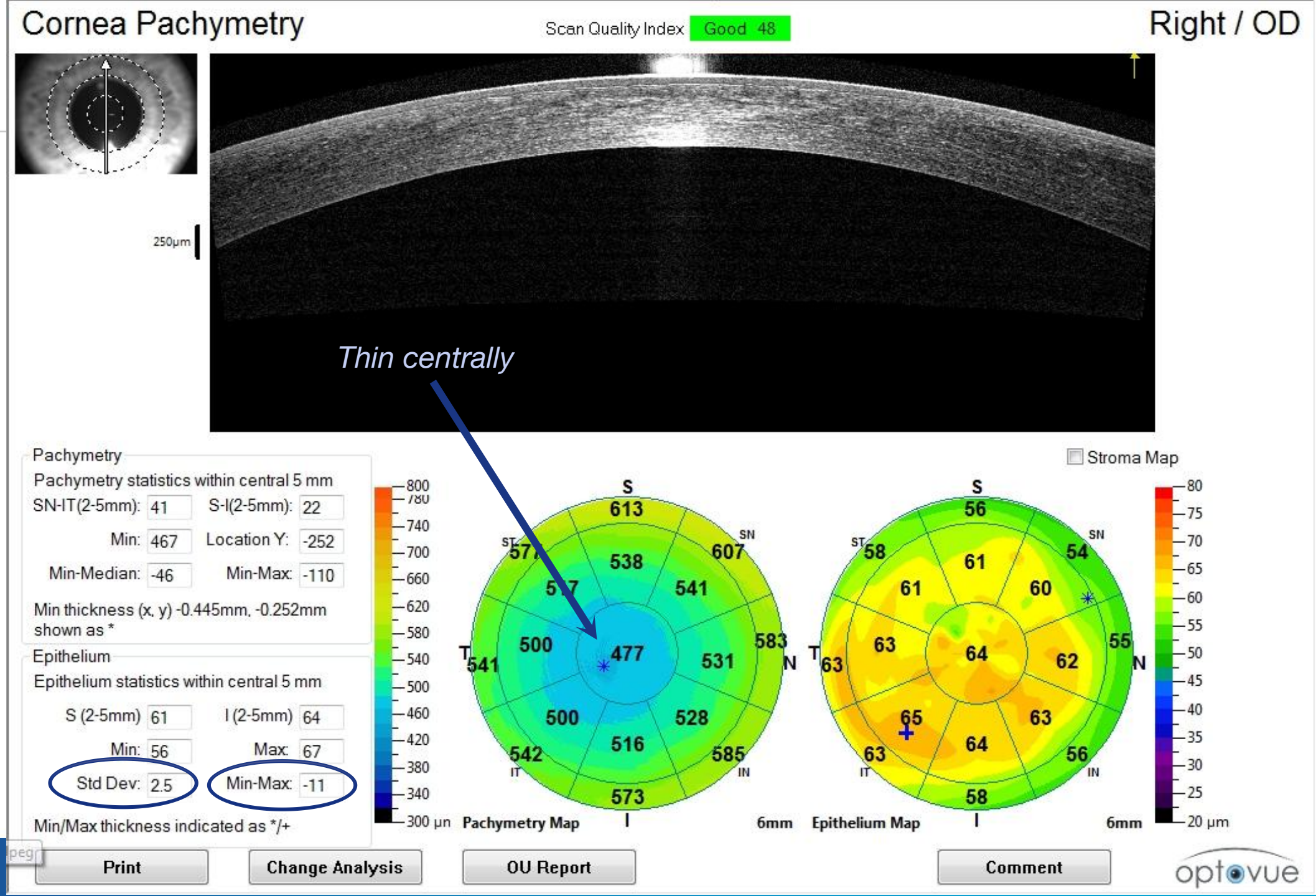




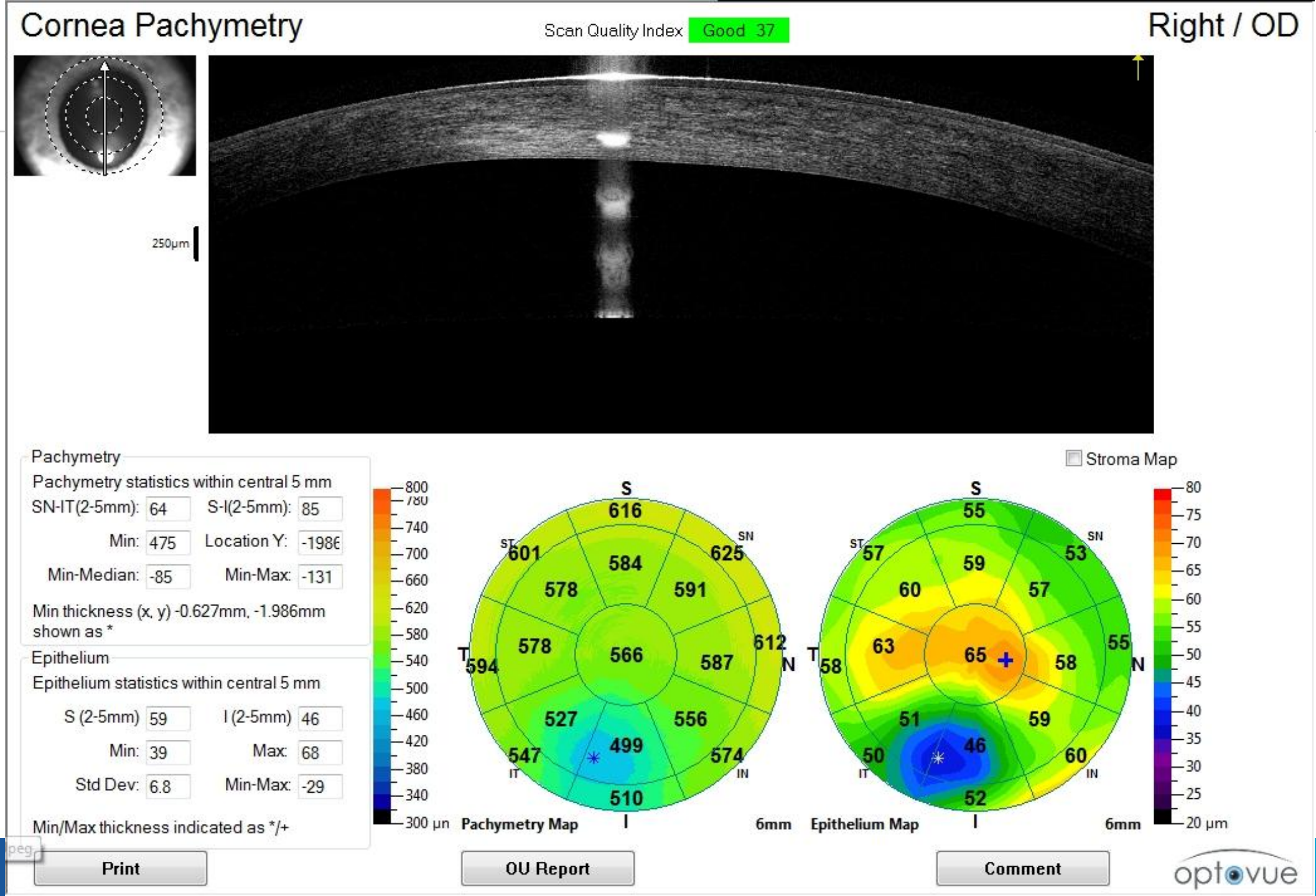
Normal Endothelium



Post LASIK

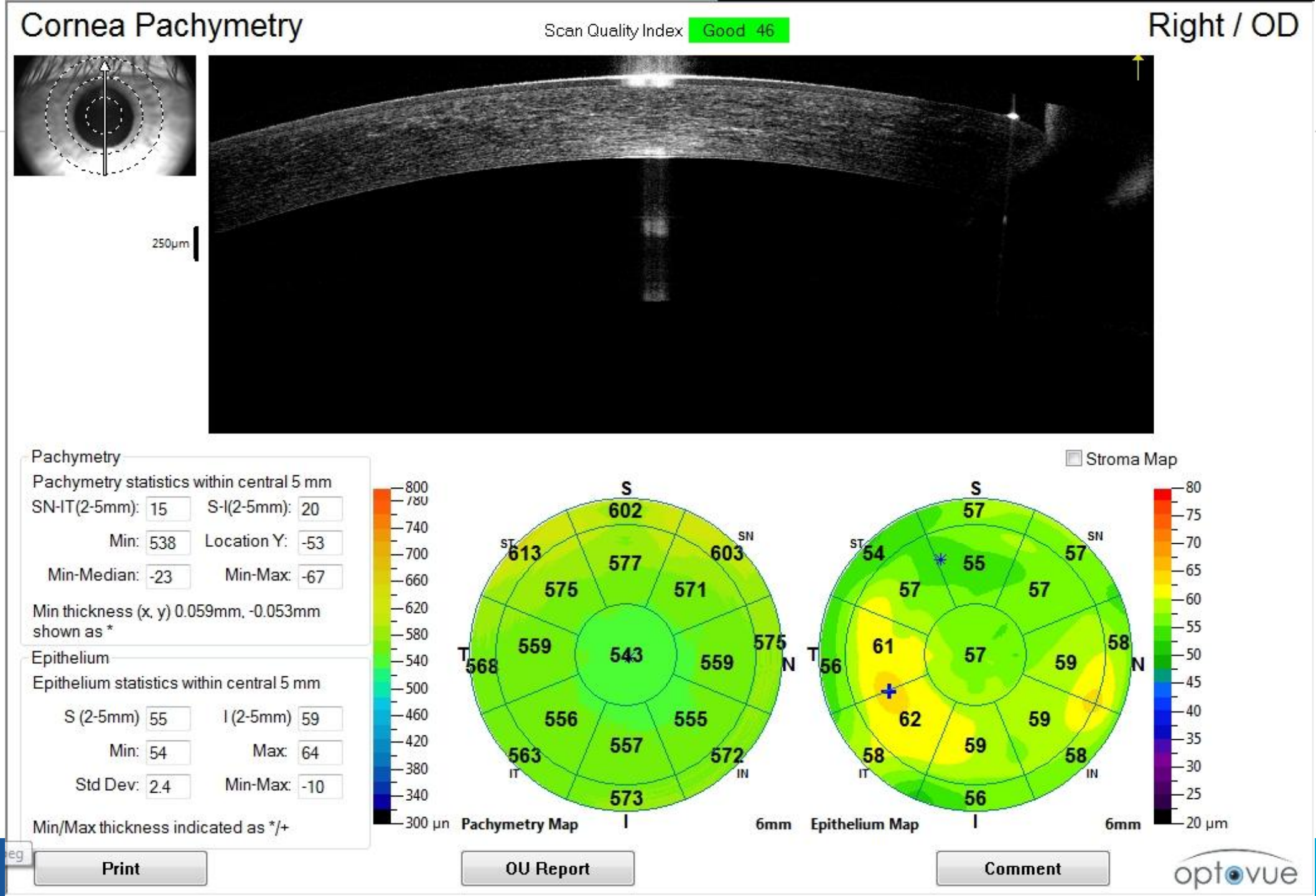

Cornea Pachymetry
Scan Quality Index Good 48
Right / OD
250µm
Thin centrally
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): 41
S-I(2-5mm): 22
Min: 467
Location Y: -252
Min-Median: -46
Min-Max: -110
Min thickness (x, y) -0.445mm, -0.252mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 61
I (2-5mm) 64
Min: 56
Max: 67
Std Dev: 2.5
Min-Max: -11
Min/Max thickness indicated as */+
800 740 700 660 620 580 540 500 460 420 380 340 300 µm
Pachymetry Map
6mm
Stroma Map
Epithelium Map
6mm
80 75 70 65 60 55 50 45 40 35 30 25 20 µm
Print
Change Analysis
OU Report
Comment
optovue

Post LASIK ectasia



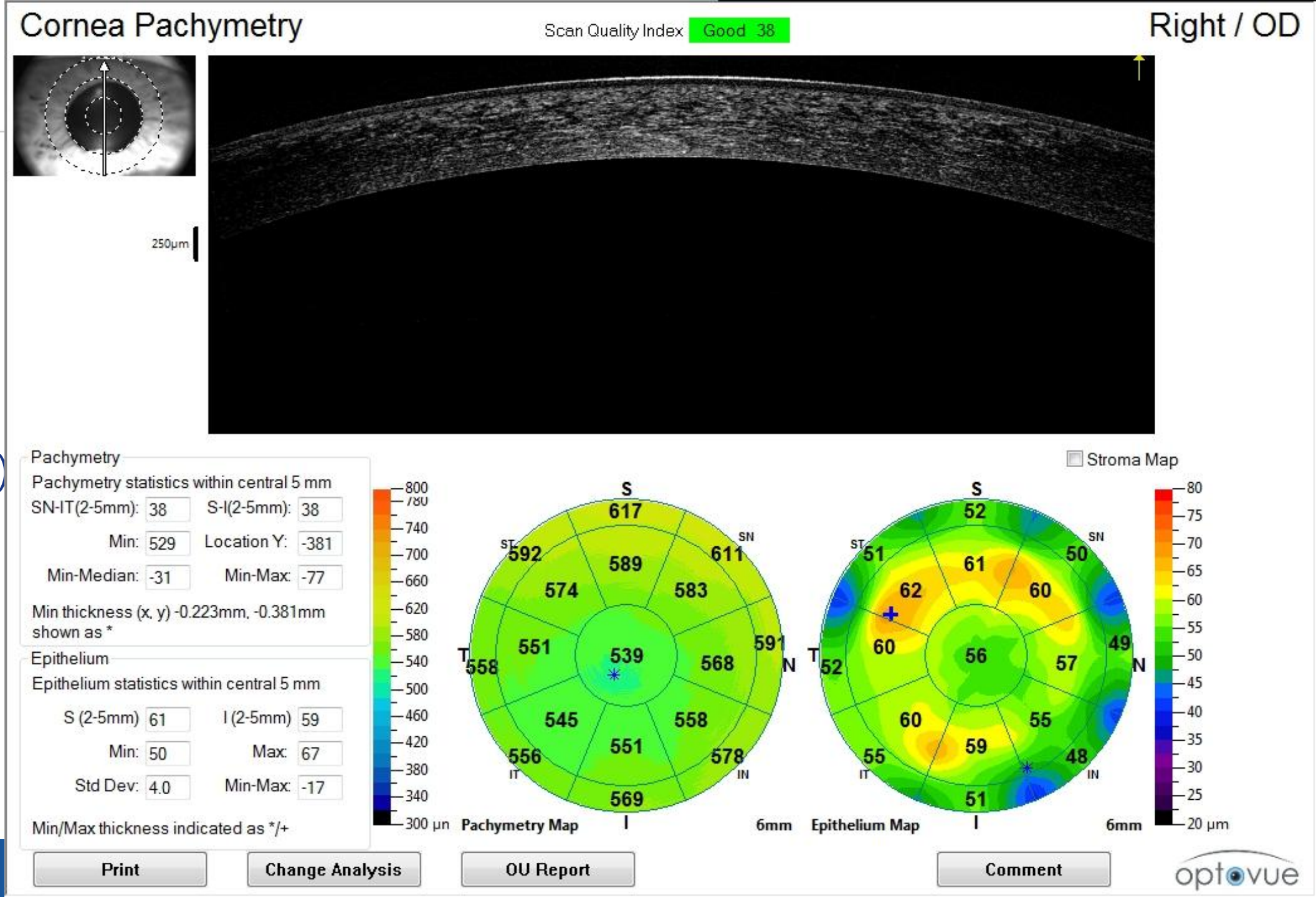
Radial Keratotomy

Radial
Keratotomy (Good vision)



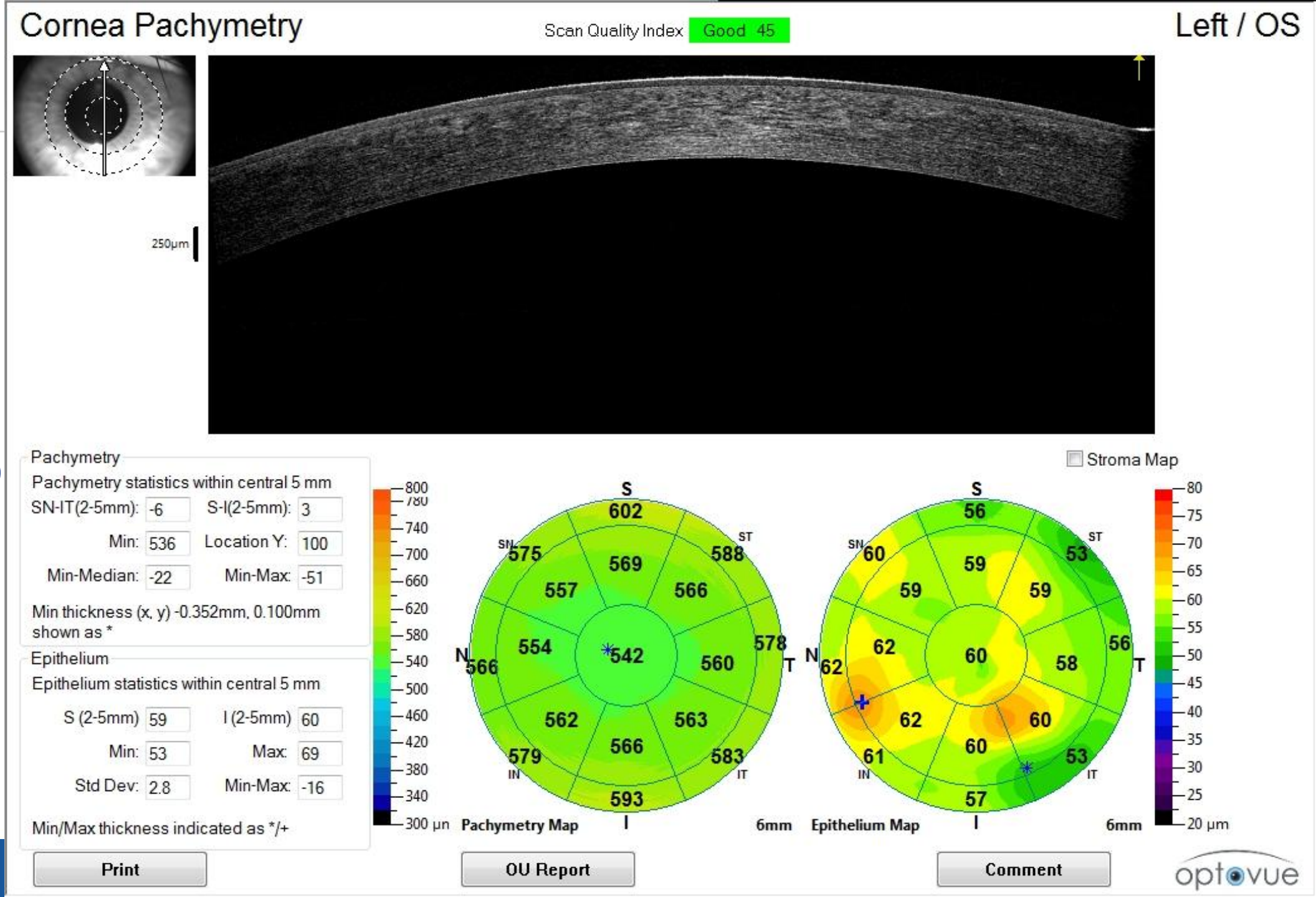
Radial

Keratotomy (Slightly reduced vision)



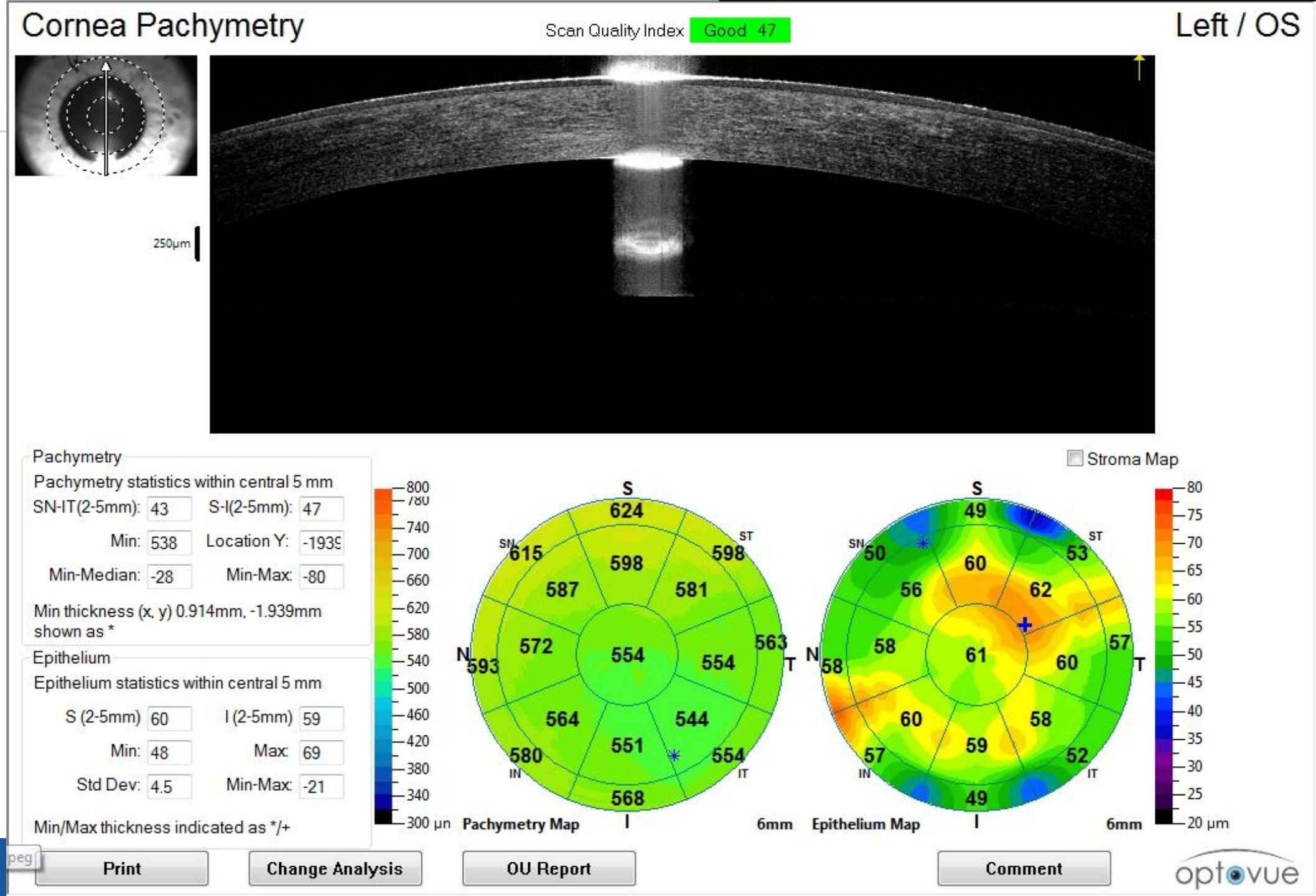
Radial

Keratotomy (Slightly reduced vision)



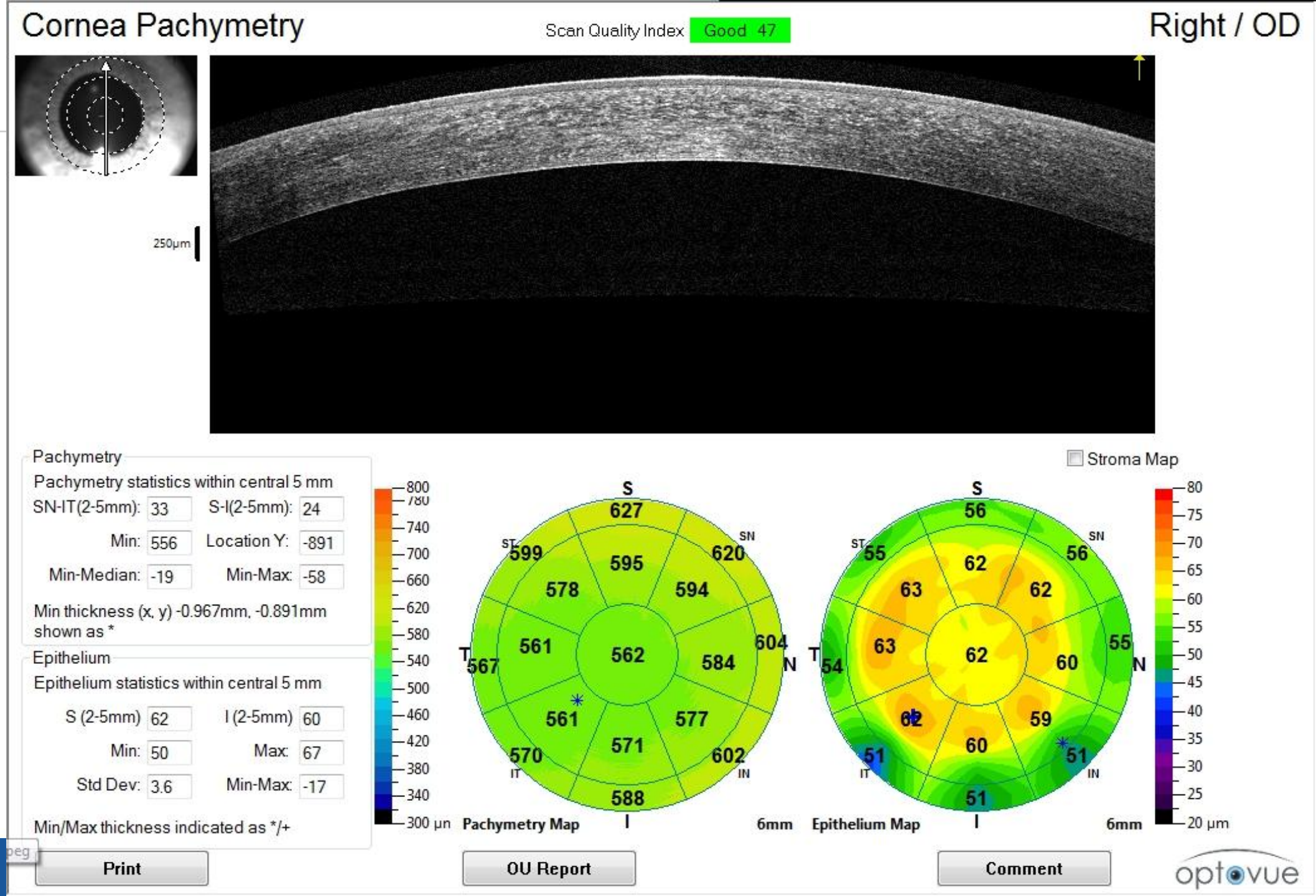
Radial

Keratotomy (more visual complaints)



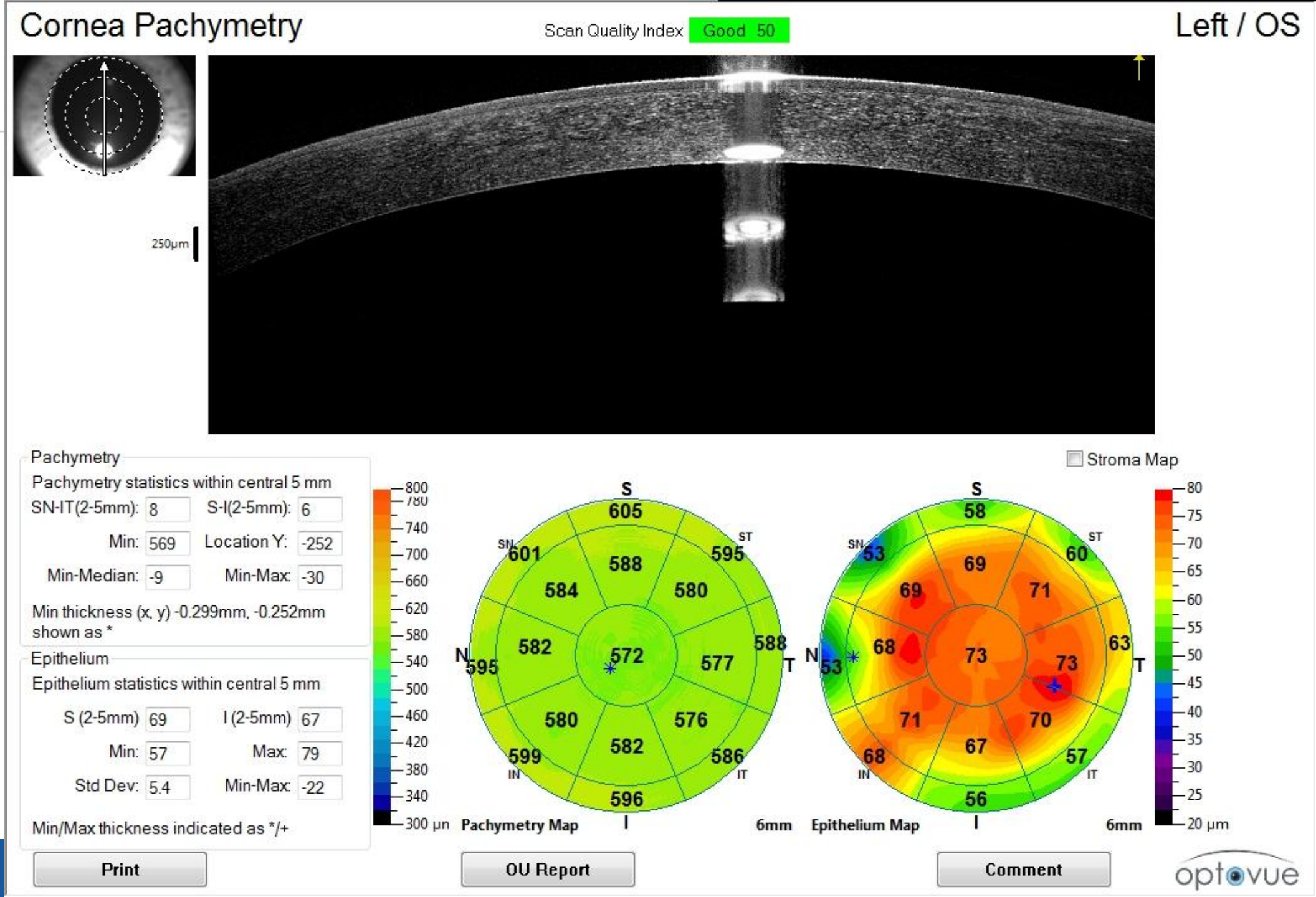
Radial

Keratotomy (significant visual complaints)

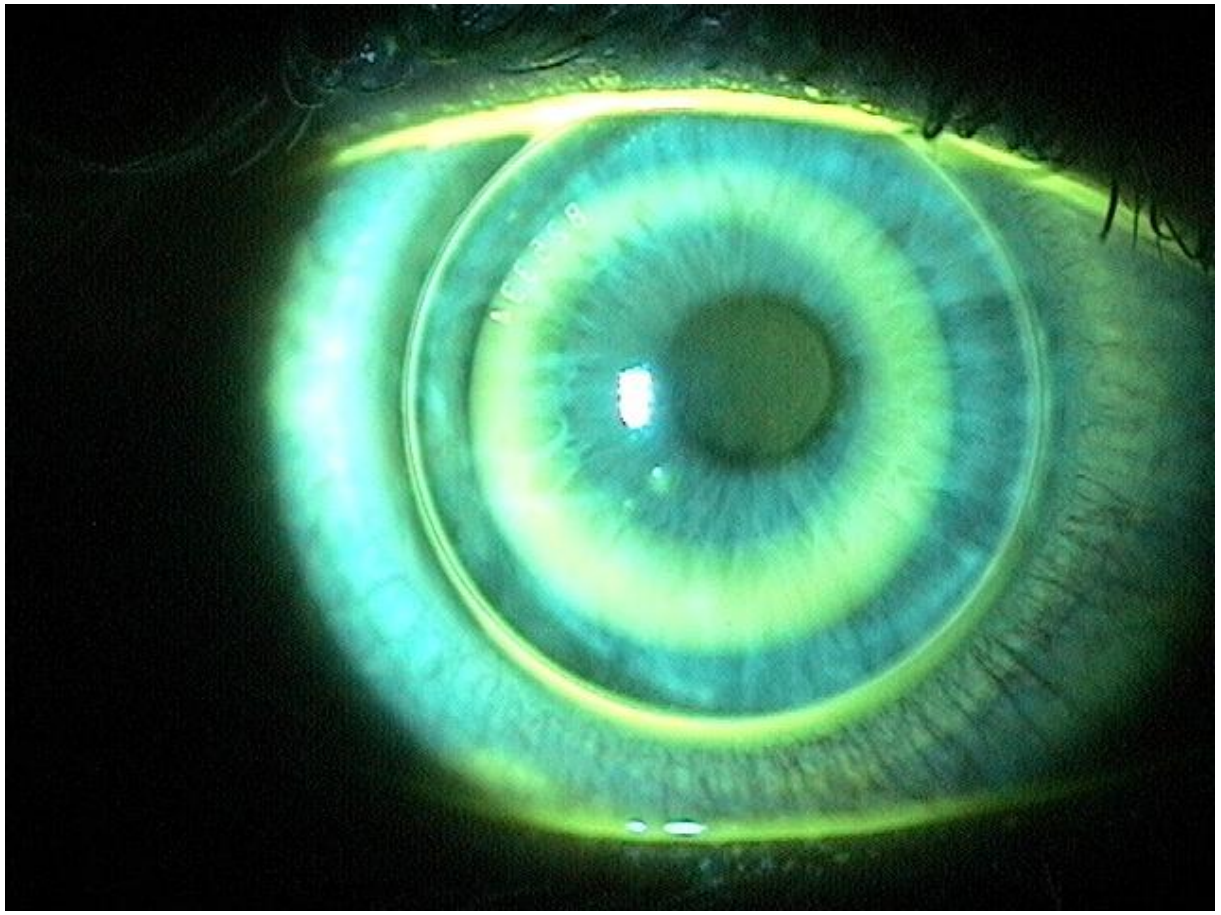


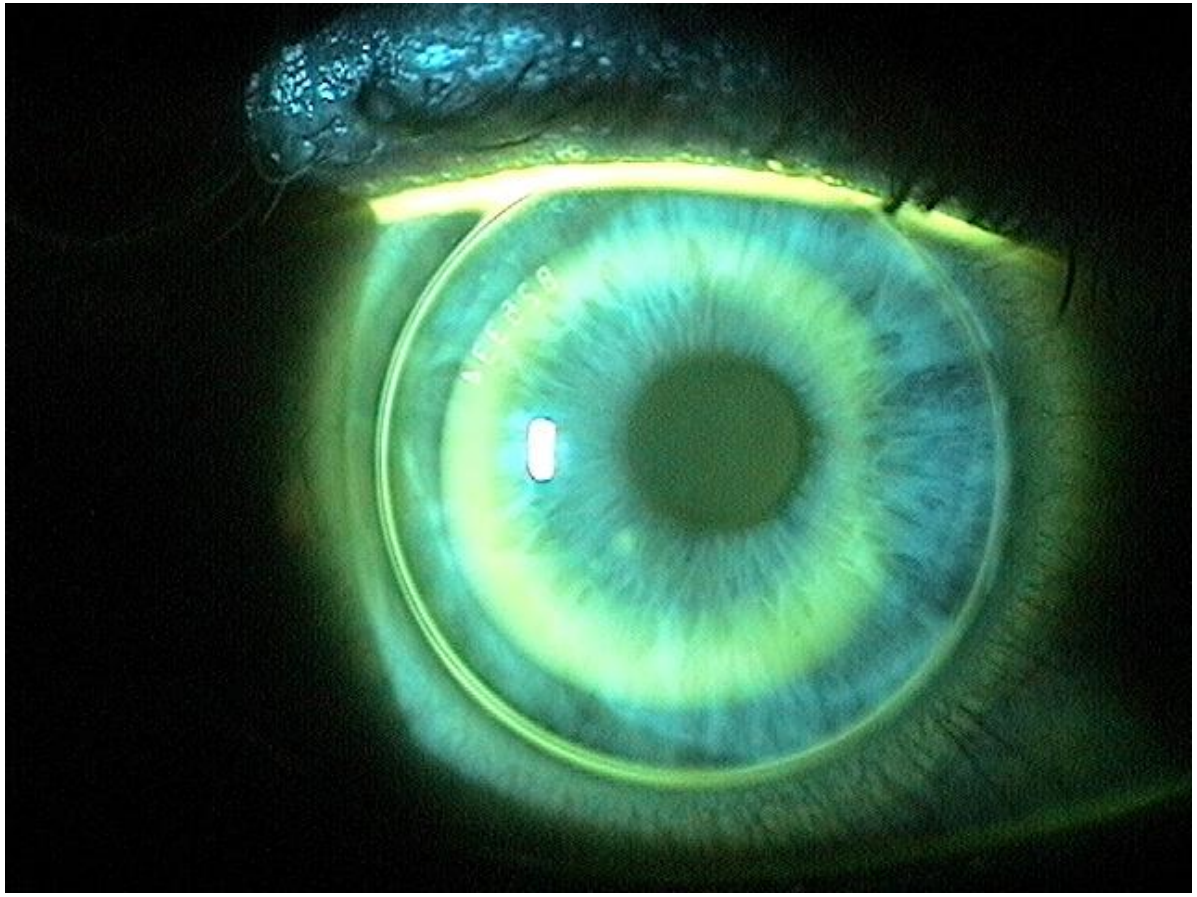
Radial

Keratotomy (significant visual complaints)

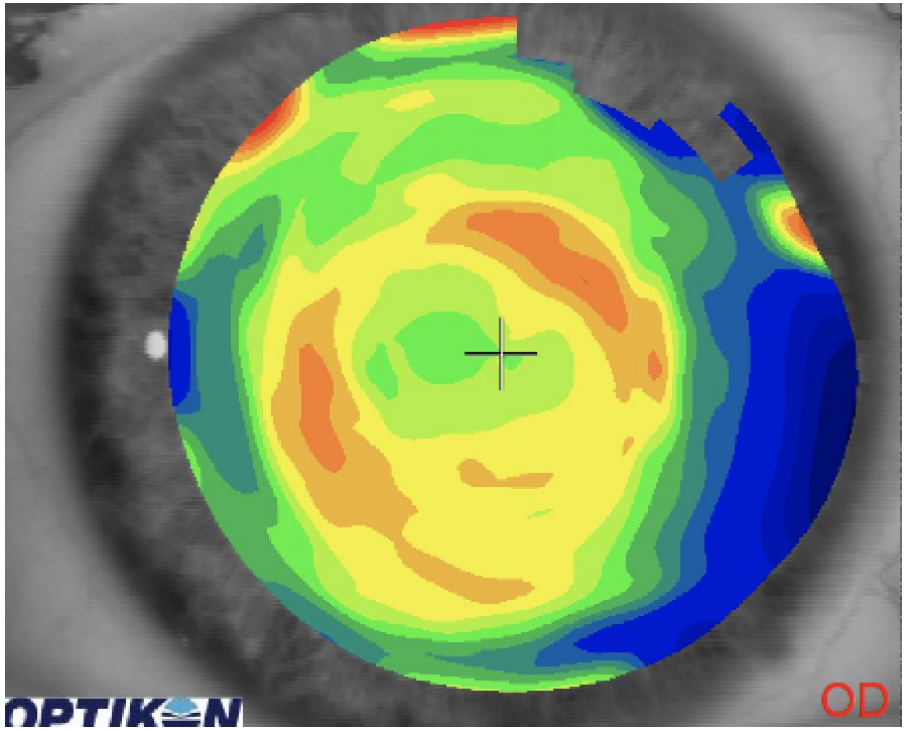


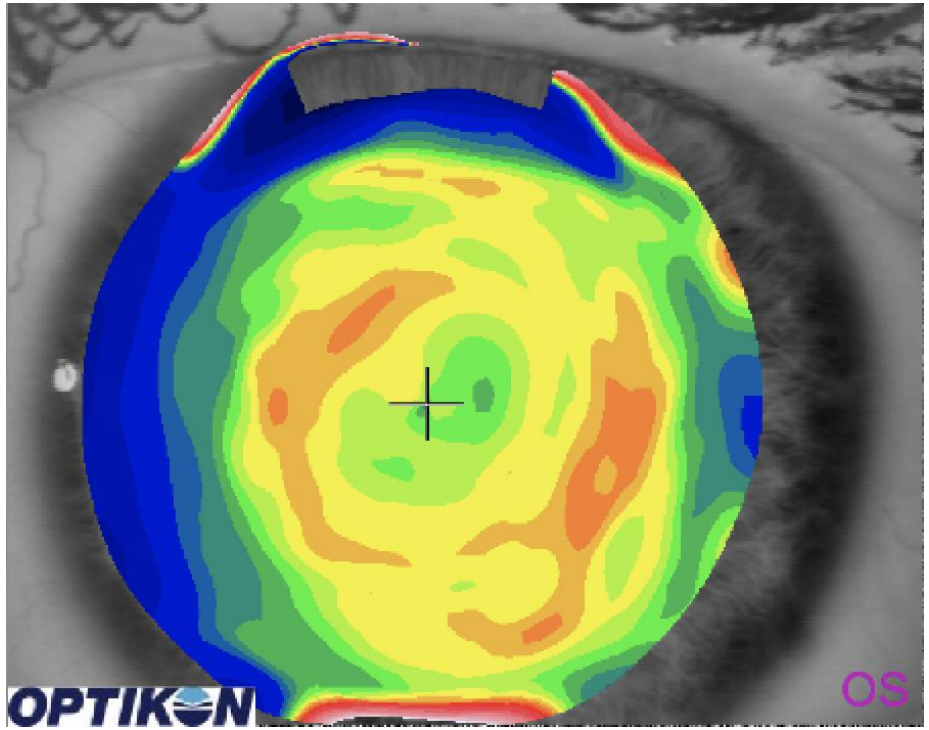
Orthokeratology





Orthokeratology





Pupil size

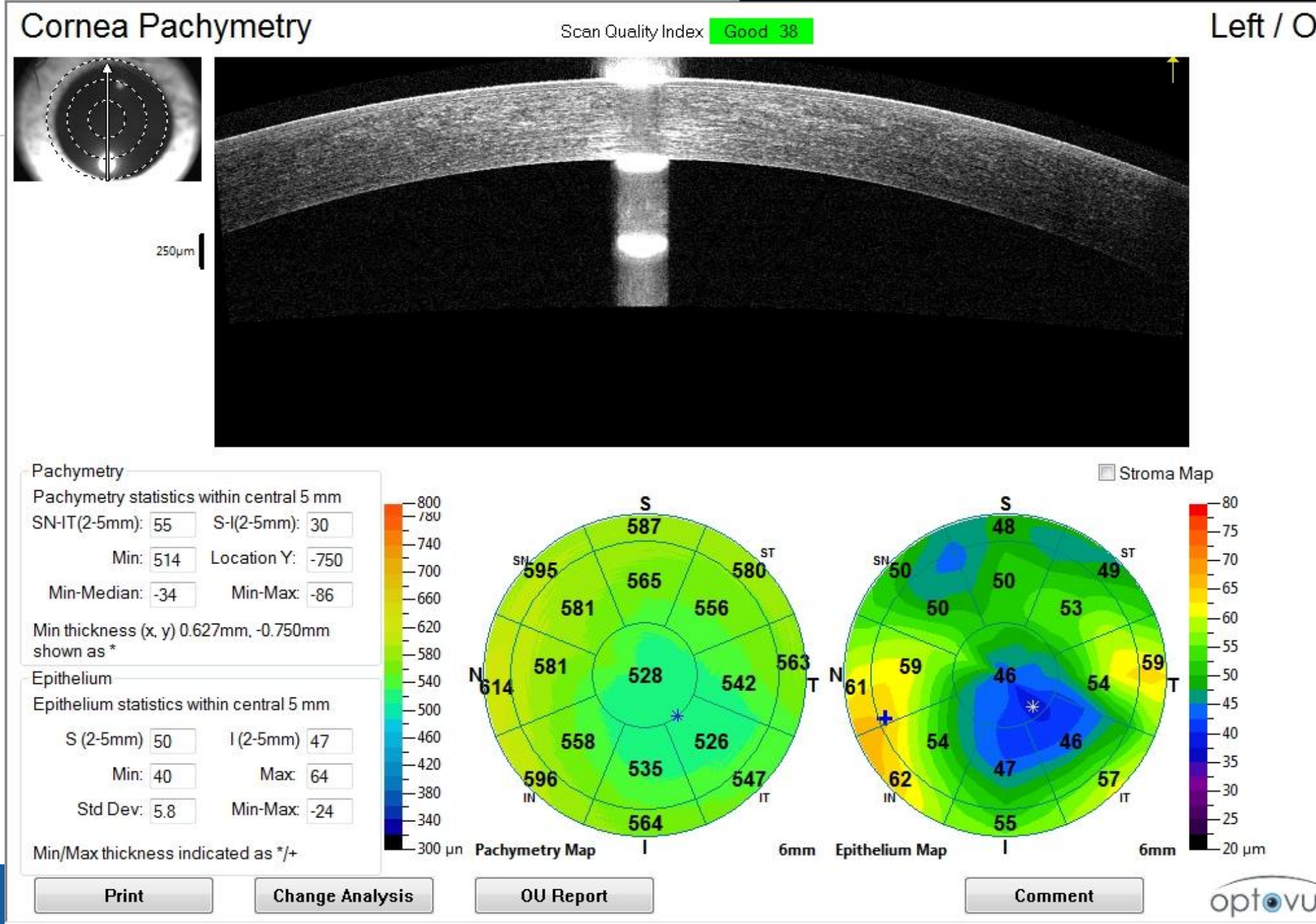

ALLERGAN
Alphagan P
(brimonidine tartrate ophthalmic solution) 0.15%
P
5 mL
Alphagan P
5 mL


ALLERGAN
Alphagan P
P
10 mL
Alphagan P
10 mL

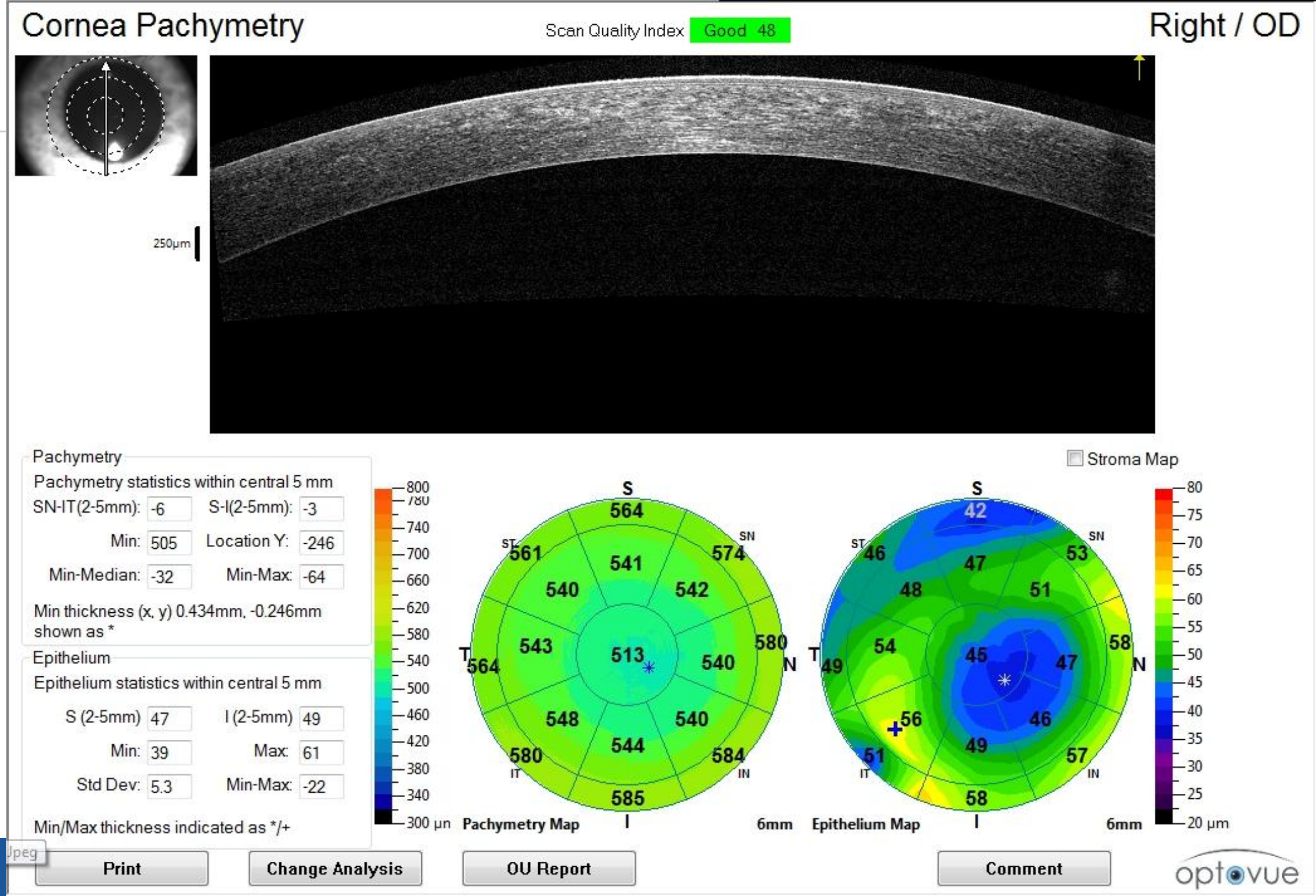

BAUSCH+LOMB
NEW PRODUCT
LUMIFY™
BRIMONIDINE TARTRATE
OPHTHALMIC SOLUTION 0.025%
REDNESS RELIEVER EYE DROPS
• Works in 1 minute
• Lasts up to 8 hours
Sterile
0.25 FL OZ (7.5 mL)

BAUSCH+LOMB
LUMIFY

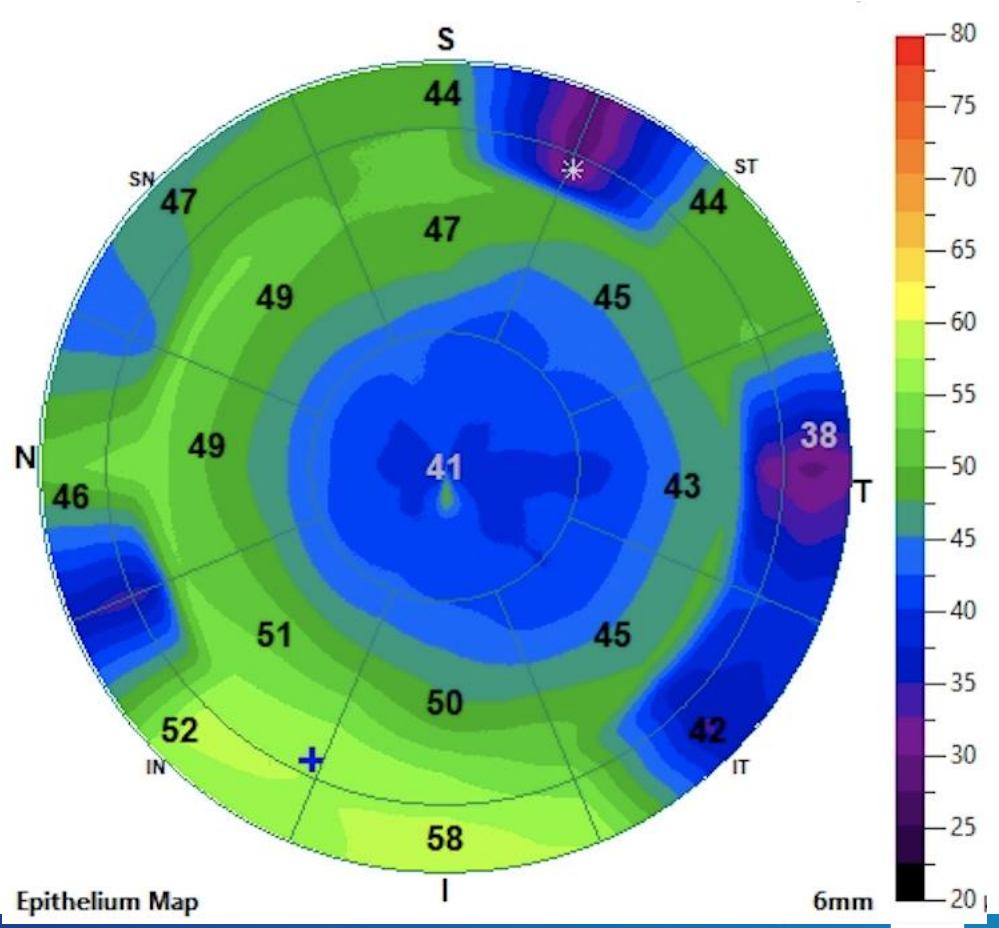
Ortho K

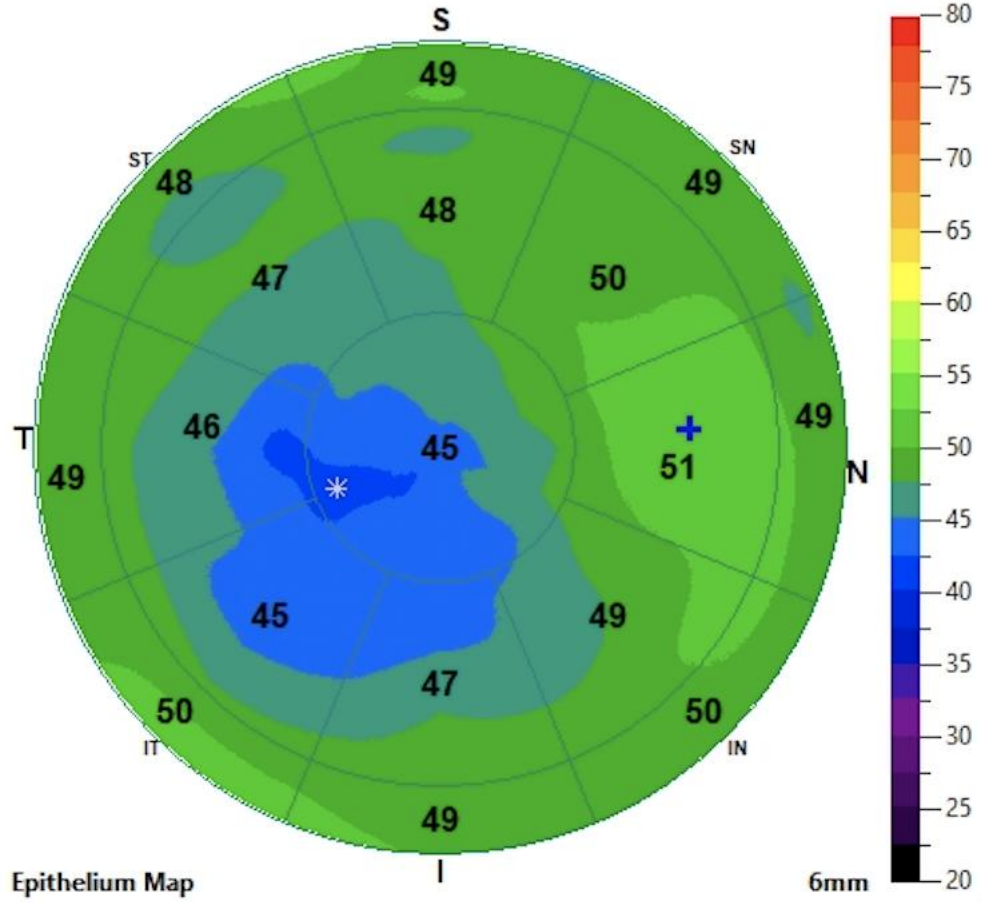

Cornea Pachymetry
Scan Quality Index Good 38
Left / O
250µm
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): 55
S-I(2-5mm): 30
Min: 514
Location Y: -750
Min-Median: -34
Min-Max: -86
Min thickness (x, y) 0.627mm, -0.750mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 50
I (2-5mm) 47
Min: 40
Max: 64
Std Dev: 5.8
Min-Max: -24
Min/Max thickness indicated as */+
800
740
700
660
620
580
540
500
460
420
380
340
300 µn
S
587
565
580
SN
595
ST
581
556
581
528
563
542
N
614
T
558
526
596
535
547
IN
IT
564
I
Pachymetry Map
6mm
Stroma Map
S
48
50
50
49
SN
50
ST
53
59
59
N
61
46
54
T
54
46
47
62
57
IN
IT
55
I
Epithelium Map
6mm
80
75
70
65
60
55
50
45
40
35
30
25
20 µm
Print
Change Analysis
OU Report
Comment
optovu

Ortho K

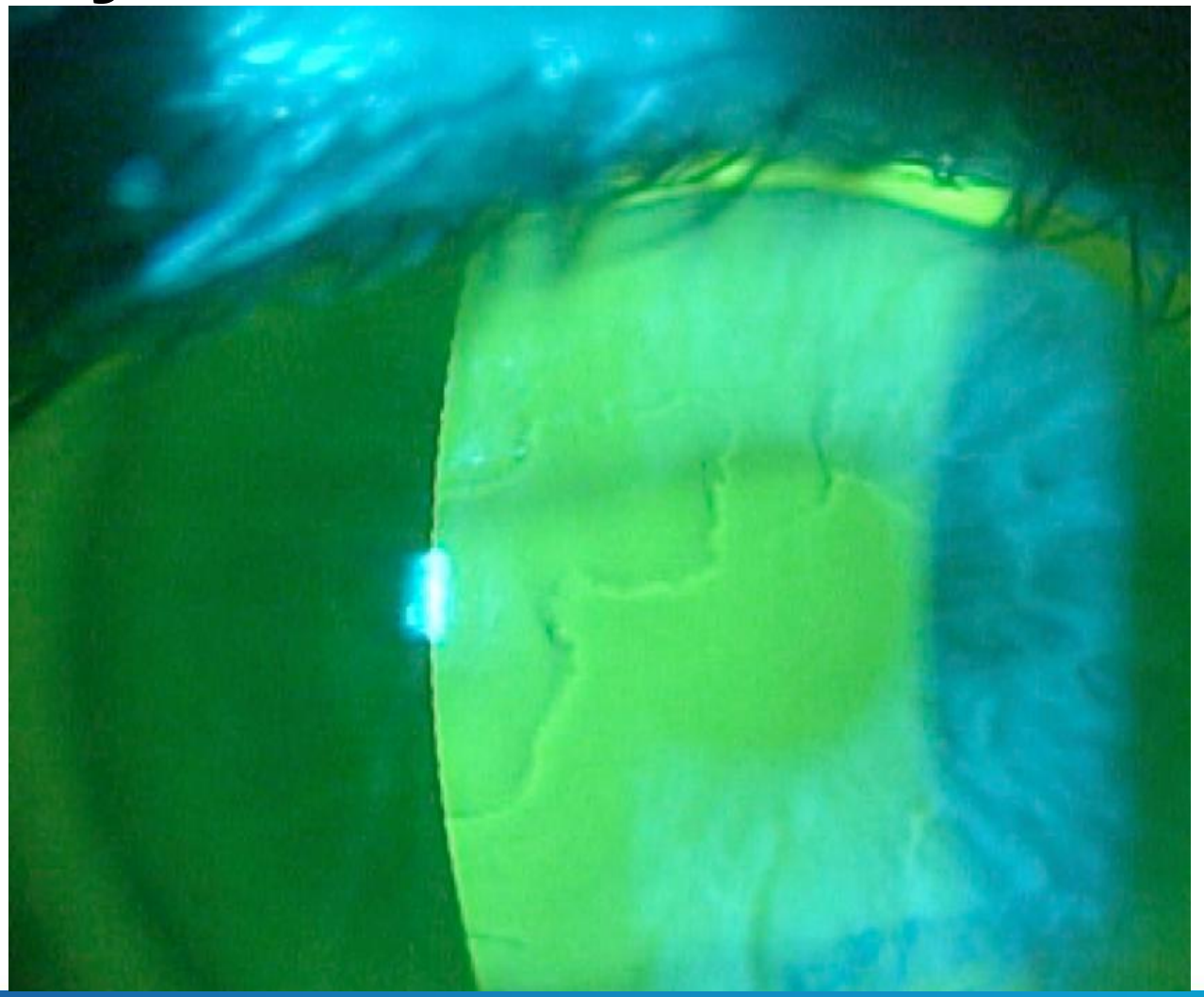

Cornea Pachymetry
Scan Quality Index Good 48
Right / OD
250µm
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): -6
S-I(2-5mm): -3
Min: 505
Location Y: -246
Min-Median: -32
Min-Max: -64
Min thickness (x, y) 0.434mm, -0.246mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 47
I (2-5mm) 49
Min: 39
Max: 61
Std Dev: 5.3
Min-Max: -22
Min/Max thickness indicated as */+
800 780 740 700 660 620 580 540 500 460 420 380 340 300 µn
S 564 ST 561 SN 574 T 564 541 540 542 543 513 540 580 N 548 544 540 580 IT 584 IN 585 I
Pachymetry Map
6mm
Stroma Map
S 42 ST 46 SN 53 T 49 47 48 51 54 45 47 58 N 56 46 49 51 IT 57 IN 58 I
Epithelium Map
6mm
80 75 70 65 60 55 50 45 40 35 30 25 20 µm
Print
Change Analysis
OU Report
Comment
optovue

Anterior Segment OCT for Orthokeratology

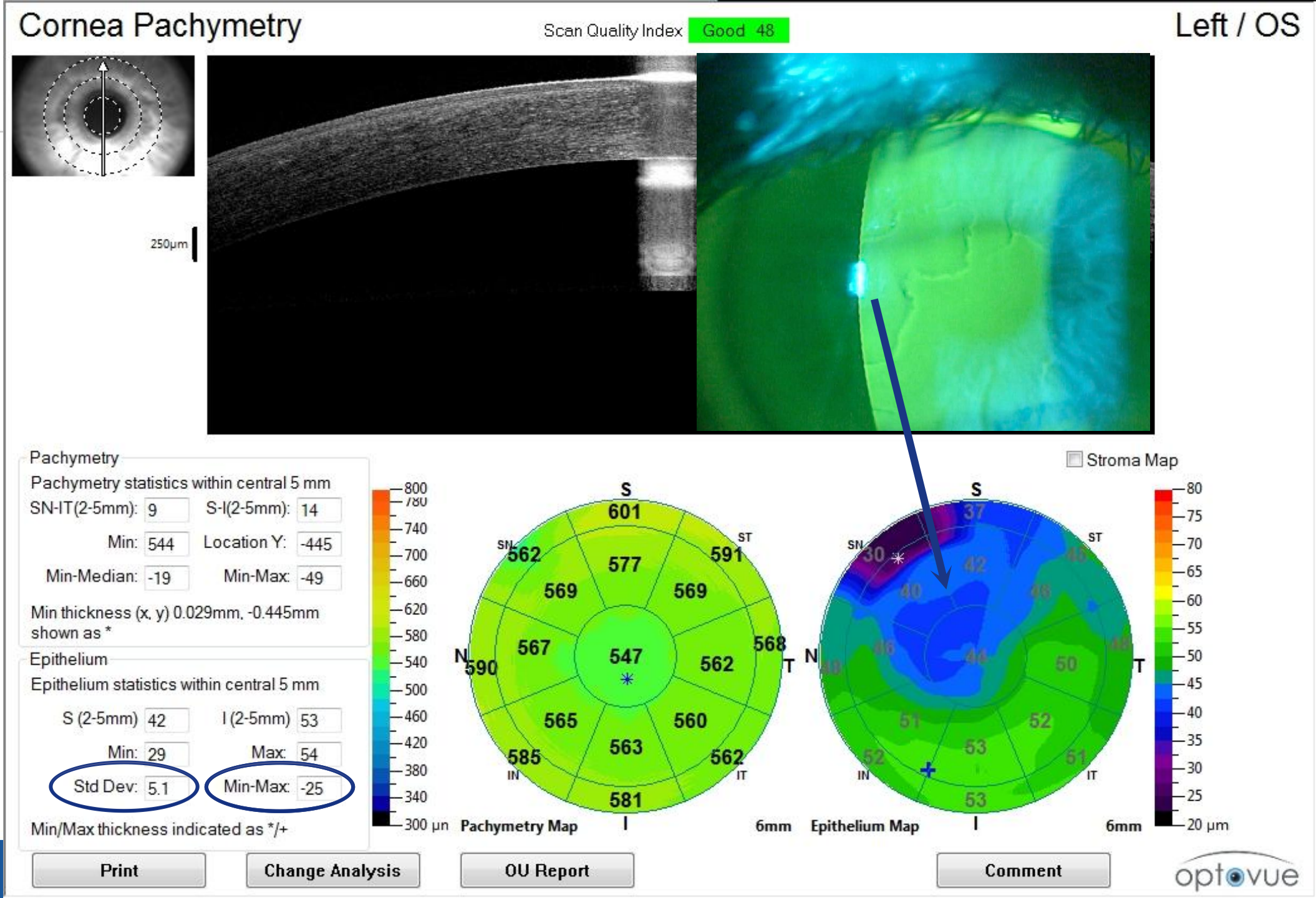




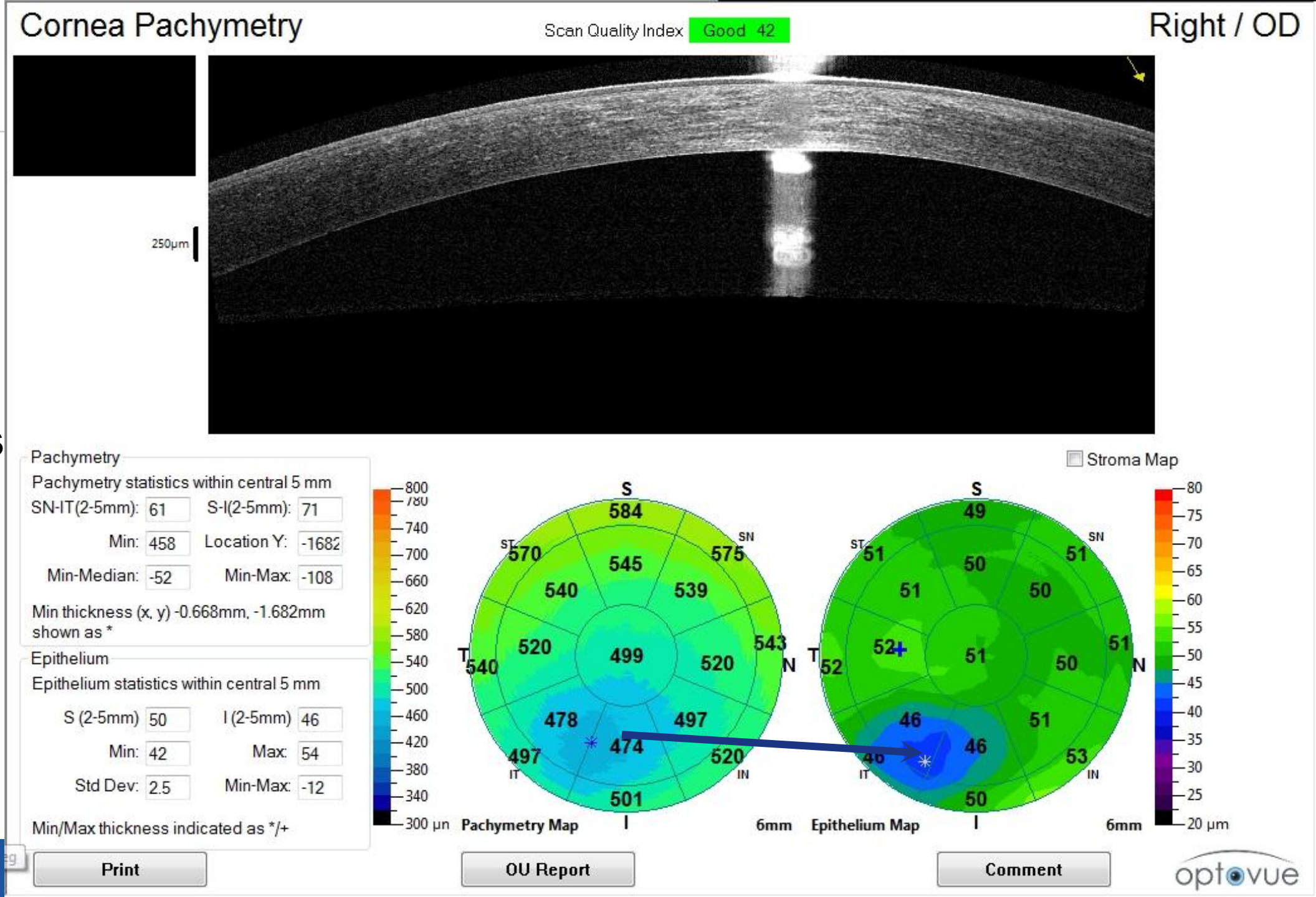
Epithelial Basement Membrane Dystrophy



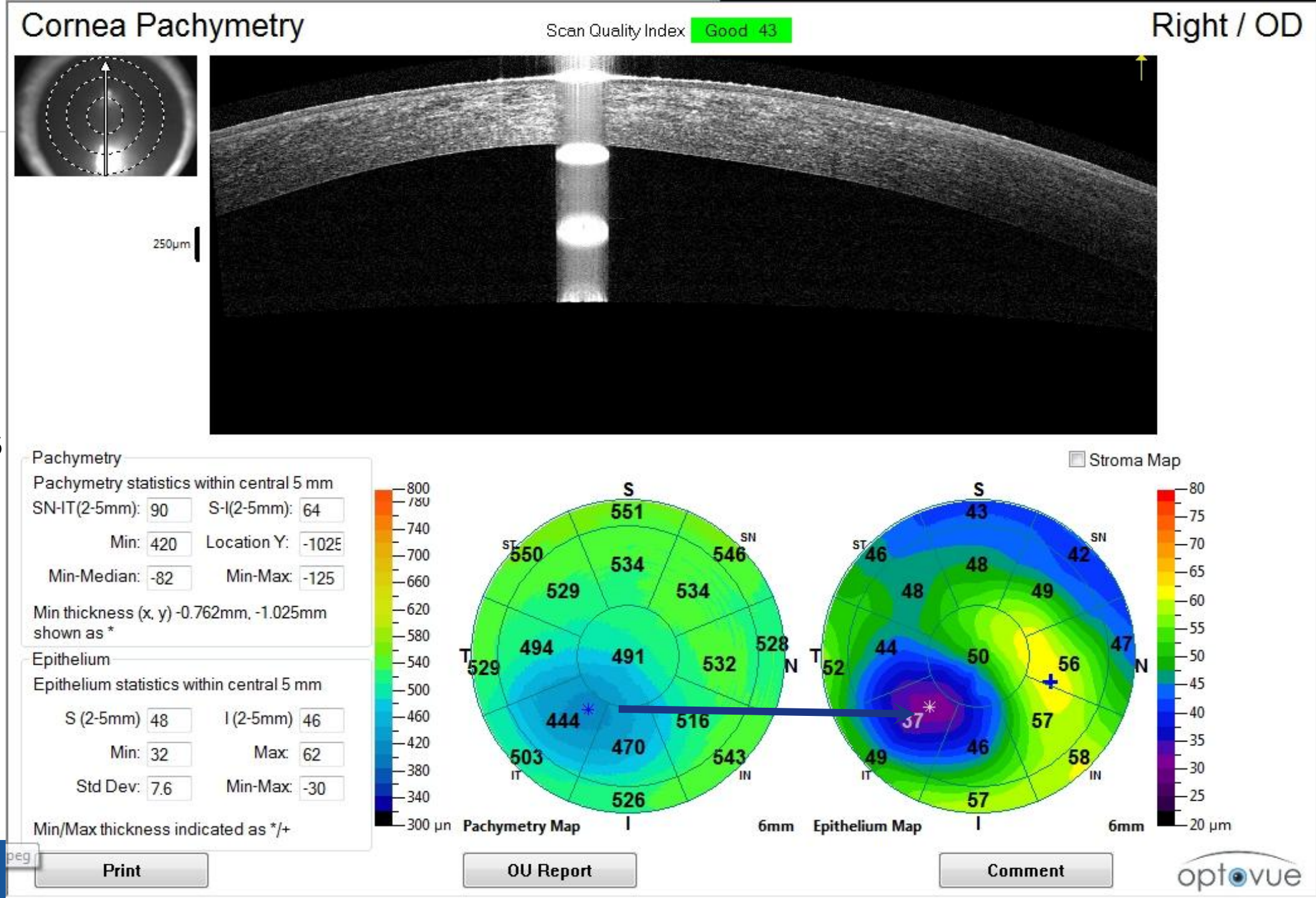
EBMD


Cornea Pachymetry
Scan Quality Index Good 48
Left / OS
250µm
Pachymetry
Pachymetry statistics within central 5 mm
SN-IT(2-5mm): 9
S-I(2-5mm): 14
Min: 544
Location Y: -445
Min-Median: -19
Min-Max: -49
Min thickness (x, y) 0.029mm, -0.445mm shown as *
Epithelium
Epithelium statistics within central 5 mm
S (2-5mm) 42
I (2-5mm) 53
Min: 29
Max: 54
Std Dev: 5.1
Min-Max: -25
Min/Max thickness indicated as */+
800 740 700 660 620 580 540 500 460 420 380 340 300 µn
S 601 ST 591 SN 562 577 569 569 N 590 567 547 568 562 T 565 560 563 585 562 IN IT 581 I
Pachymetry Map
6mm
Stroma Map
80 75 70 65 60 55 50 45 40 35 30 25 20 µm
Epithelium Map
6mm
Print
Change Analysis
OU Report
Comment
optovue

Keratoconus



Keratoconus



Thank You!

mile.brujic75@gmail.com

Thank you! Please join us for our next COPE event

Date: April 12, 2023
Time: 5:30 PM - 6:30 PM PST

Date: April 16, 2023
Time: 8:00 AM - 3:00 PM PST