STATE BOARD OF OPTOMETRY
2450 DEL PASO ROAD, SUITE 105, SACRAMENTO, CA 95834
P (916) 575-7170 F (916) 575-7292 www.optometry .ca.gov

Continuing Education Course Approval Checklist

Title: Advances in Astigmatism Management

Provider Name: USC Roski Eye Institute c/o Ms. Marithel Tesoro

☑Completed Application
Open to all Optometrists? ☑Yes ☐No
Maintain Record Agreement? ☑Yes ☐No

☑Correct Application Fee

☑Detailed Course Summary

☑Detailed Course Outline

☑PowerPoint and/or other Presentation Materials

☑Advertising (optional)

☑CV for EACH Course Instructor

☑License Verification for Each Course Instructor
Disciplinary History? ☐Yes ☑No

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CONTINUING EDUCATION COURSE APPROVAL APPLICATION

$50 Mandatory Fee

Pursuant to California Code of Regulations (CCR) § 1536, the Board will approve continuing education (CE) courses after receiving the applicable fee, the requested information below and it has been determined that the course meets criteria specified in CCR § 1536(g).

In addition to the information requested below, please attach a copy of the course schedule, a detailed course outline and presentation materials (e.g., PowerPoint presentation). Applications must be submitted 45 days prior to the course presentation date.

Please type or print clearly.

Course Title	**Course Presentation Date**
Advances in Astigmatism Management	02/13/2017

Course Provider Contact Information

Provider Name

Lina (First) Poyzner (Last) (Middle)

Provider Mailing Address

Street 1450 San Pablo St **City** Los Angeles **State** CA **Zip** 90033

Provider Email Address lina.poyzner@med.usc.edu

Will the proposed course be open to all California licensed optometrists?	☑ YES ☐ NO
Do you agree to maintain and furnish to the Board and/or attending licensee such records of course content and attendance as the Board requires, for a period of at least three years from the date of course presentation?	☑ YES ☐ NO

Course Instructor Information

Please provide the information below and attach the curriculum vitae for each instructor or lecturer involved in the course. If there are more instructors in the course, please provide the requested information on a separate sheet of paper.

Instructor Name

James (First) Randleman (Last) Bradley (Middle)

License Number 143864	**License Type** MD
Phone Number (323) 442-6383	**Email Address** lina.poyzner@med.usc.edu

I declare under penalty of perjury under the laws of the State of California that all the information submitted on this form and on any accompanying attachments submitted is true and correct.

Poyzner — ***Signature of Course Provider***

02/01/2017 — ***Date***

Advances in Astigmatism Management – 2 hours

This course will teach strategies for minimizing surgically induced astigmatism, discuss surgical options for treating astigmatism during cataract and refractive surgery (including wound construction approaches, limbal relaxing incisions, toric IOLs, and corneal refractive surgical techniques), and demonstrate methods for treating postoperative astigmatism occurring after cataract and refractive surgery. Objectives By the conclusion of this course, the participants will be able to (1) identify regular and irregular astigmatism, (2) understand surgical strategies to minimize surgically induced astigmatism and determine treatment strategies for astigmatism, including complex refractive errors and eyes not amenable to surgical treatment, and (3) employ practical strategies for determining patient goals and desires for astigmatism correction.

Surgical Management of Astigmatism in Cataract and Refractive Surgery

2 hours

1. Understanding Astigmatism
- Effect of experimental induced astigmatism on functional, conventional, and low-contrast visual acuity
- Premium IOL use
2. Case 1
3. Case 2
4. Case 3
5. Managing Astigmatism

a. Options for Astigmatism Management
   i. LASIK/ASA
   ii. Toric IOL
   iii. AK/LRI
   iv. On Axis Wound

b. Advances in Astigmatism Management
   i. Limbal Relaxing Incisions
      1. Nomograms
      2. Atomic Edge Accurate Depth Knives
   ii. Femtosecond Arcuate Incisions
   iii. Arcuate Incisions

c. Correction of Astigmatism during Cataract Surgery
   i. Toric IOLs
      1. AcrySofToric
      2. Staar Toric
      3. Trulign Toric
      4. Tecnis Toric

d. Intraoperative Devices
   i. Verion
   ii. Zeiss Lumera

e. Toric IOL Websites

f. Toric IOL Calculatos

g. Toric IOL Fixes

h. Summary

SURGICAL MANAGEMENT OF ASTIGMATISM

In

Cataract & Refractive Surgery

Presenter Introduction

- **J. Bradley Randleman, MD**
- Professor of Ophthalmology, Keck School of Medicine of USC
- Director, Cornea & Refractive Surgery Section, USC Roski Eye Institute
- Editor-in-Chief, *Journal of Refractive Surgery*

randlema@usc.edu

No Financial Disclosures

COURSE OUTLINE

- Understanding Astigmatism
- Preventing surgically-induced astigmatism
- Managing naturally occurring astigmatism
- Matching patients with lenses for optimal outcomes

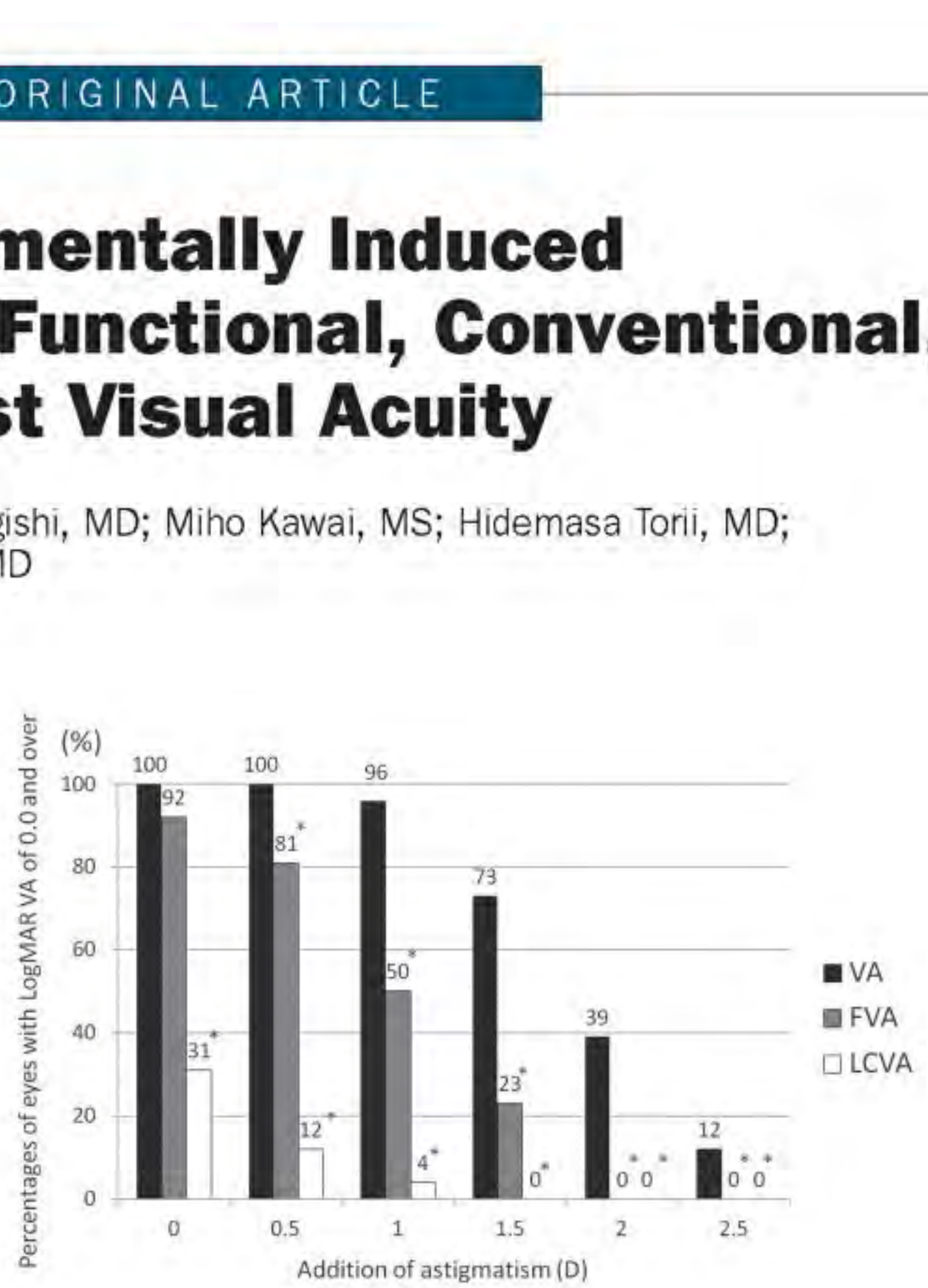
ASTIGMATISM

SINGLE MOST PERVASIVE REFRACTIVE BARRIER TO HIGH QUALITY UNCORRECTED VISUAL ACUITY

ORIGINAL ARTICLE

Effect of Experimentally Induced Astigmatism on Functional, Conventional, and Low-Contrast Visual Acuity

Kazuhiro Watanabe, MD; Kazuno Negishi, MD; Miho Kawai, MS; Hidemasa Torii, MD; Minako Kaido, MD; Kazuo Tsubota, MD



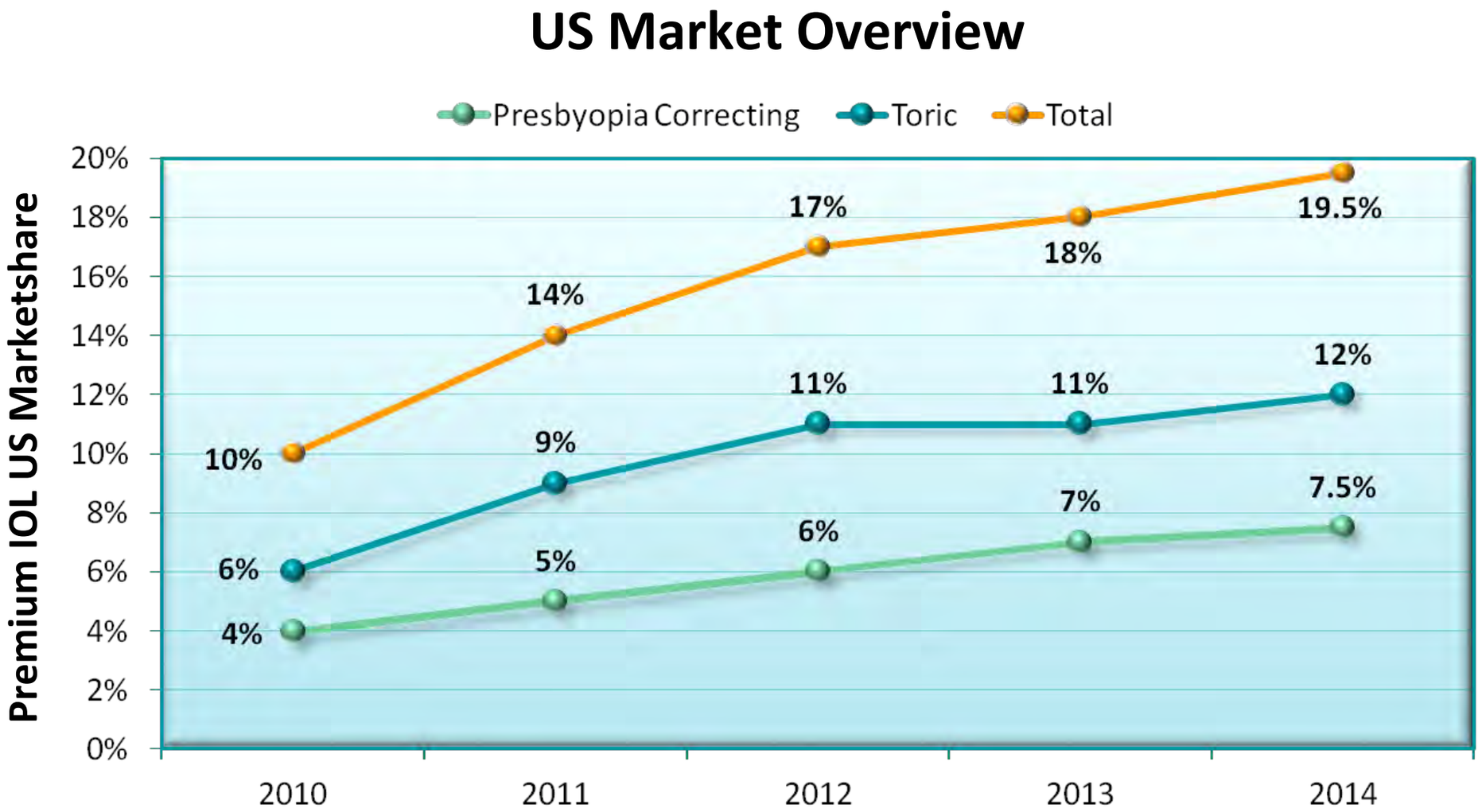
J Refract Surg. 2013; 29: 19-24.

Prevalence of Astigmatism

Astigmatism	%
≥1.5D	18%
≥1.0D	38%
≥0.75 D	53%
≥0.5D	72%

Warren Hill MD, 6000 patients

PREMIUM IOL USE



MarketScope – March 2012

CASE 1

41 y male	OD	OS
CDVA	20/50	20/50
MRx	-2.00 +1.00 x 090	-2.00 +1.00 x 090
K's	45.5/46.5 @ 090	45.5/46.5 @ 090
Exam	dense PSC	dense PSC

CASE 2

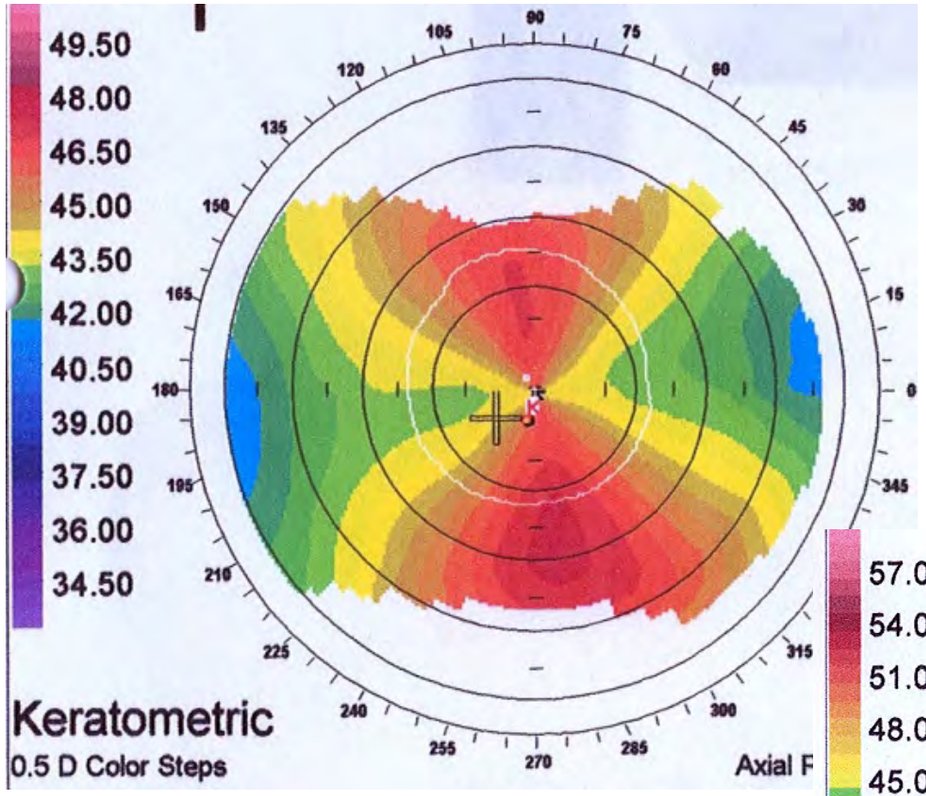
59 y female	OD	OS
MRx	-6.75 +1.75 x 120	-6.00 +1.00 x 020
CDVA	20/25	20/25
CCT	530	540

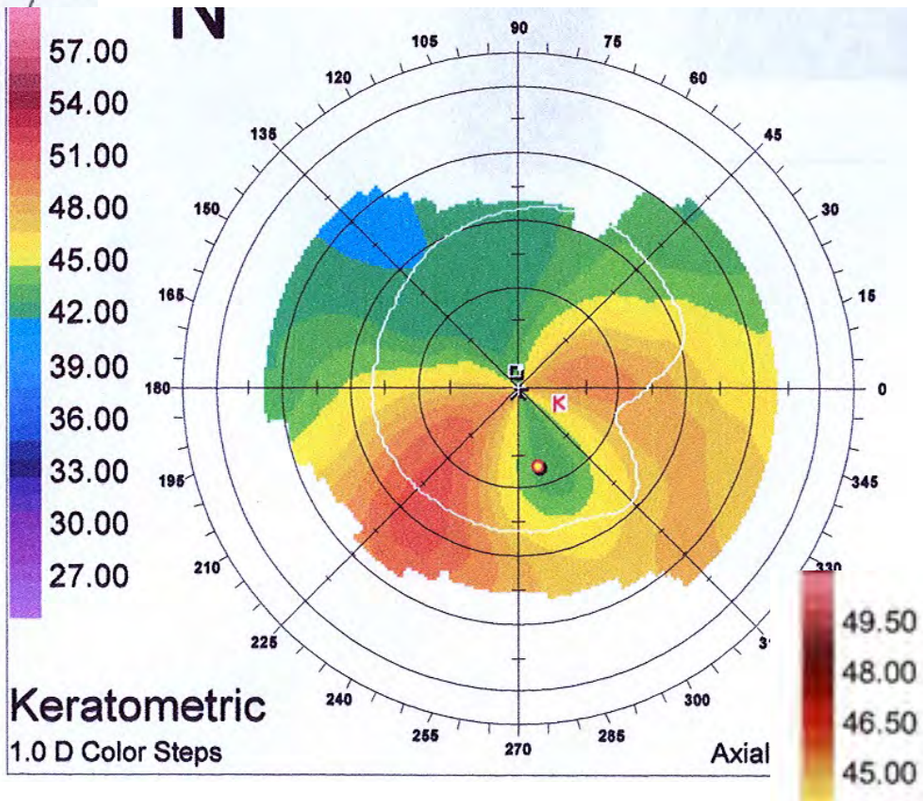
Patient has dry eyes

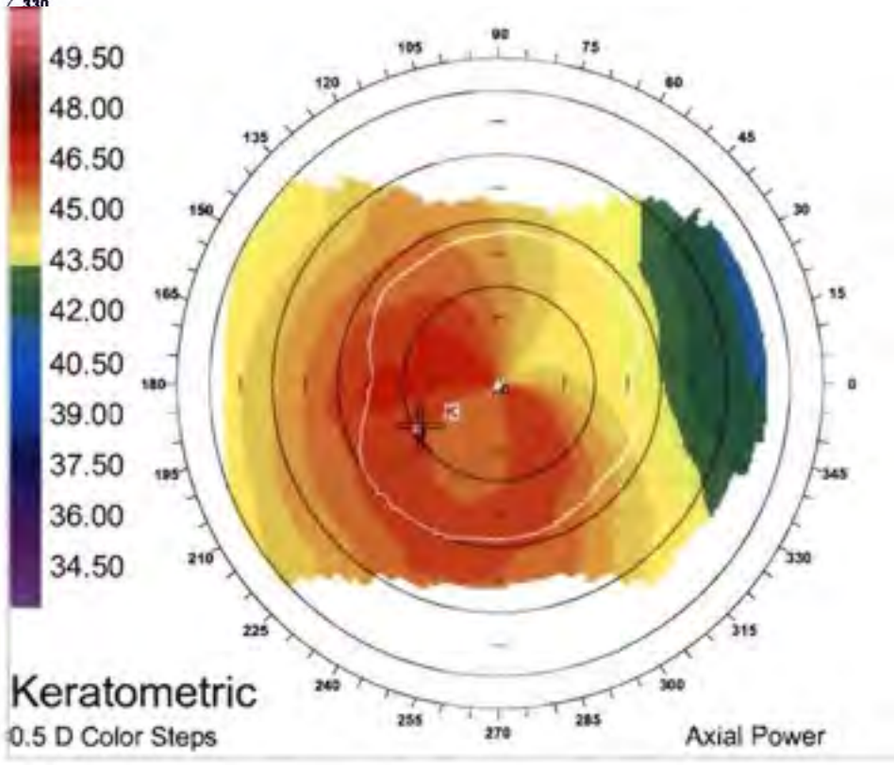
CASE 3

58 y female	OD	OS
CDVA	20/70	20/60
MRx	-2.00 +2.00 x 125	-2.00 +2.00 x 125
K's	47.0/51.0 @ 070	47.5/50.5 @ 095
Exam	2-3+ NSC	2-3+ NSC

Wants Multifocal IOLs

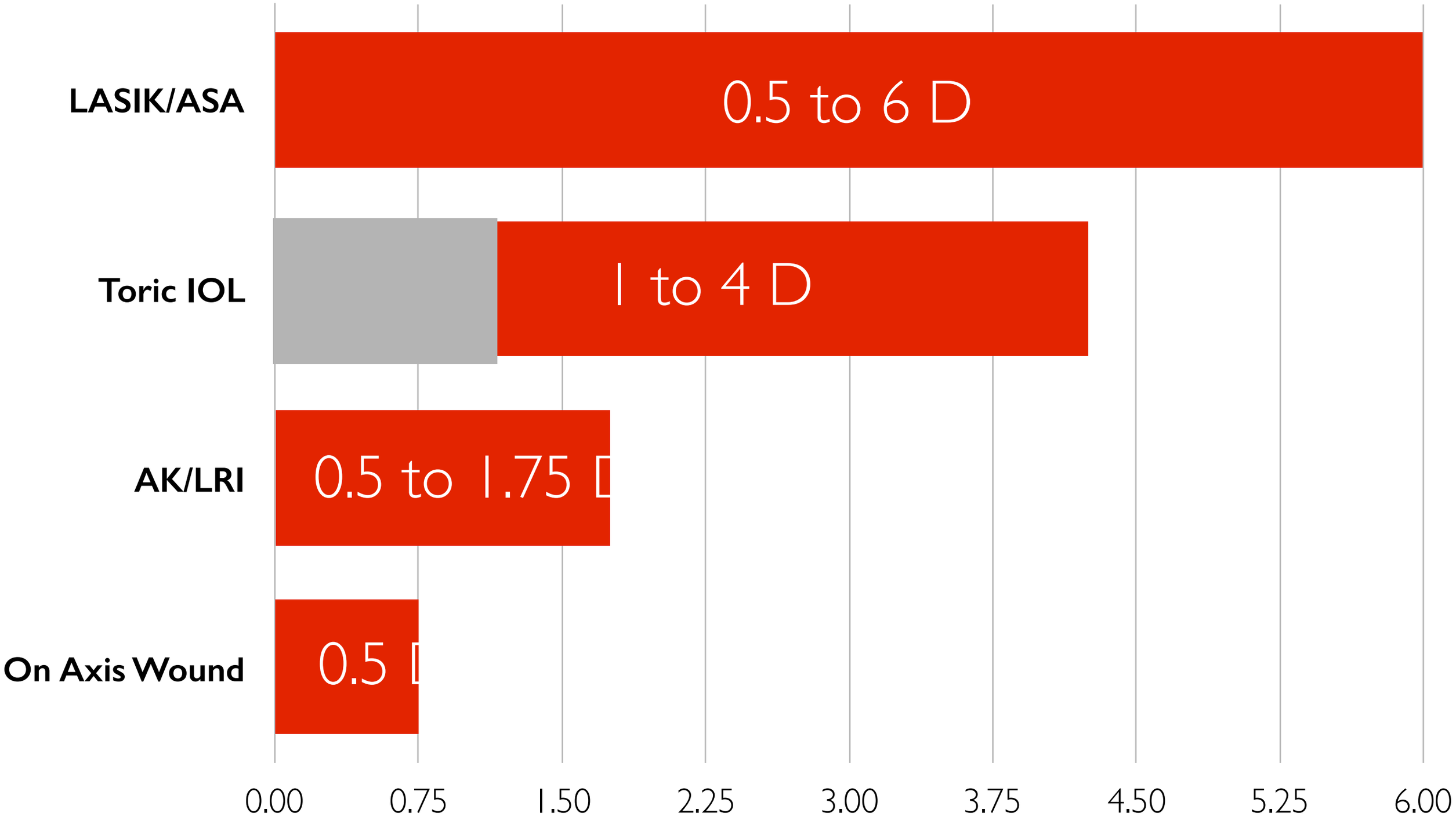

I
49.50
48.00
46.50
45.00
43.50
42.00
40.50
39.00
37.50
36.00
34.50
Keratometric
0.5 D Color Steps
Axial F


IV
57.00
54.00
51.00
48.00
45.00
42.00
39.00
36.00
33.00
30.00
27.00
Keratometric
1.0 D Color Steps
Axial


49.50
48.00
46.50
45.00
43.50
42.00
40.50
39.00
37.50
36.00
34.50
Keratometric
0.5 D Color Steps
Axial Power

MANAGING ASTIGMATISM

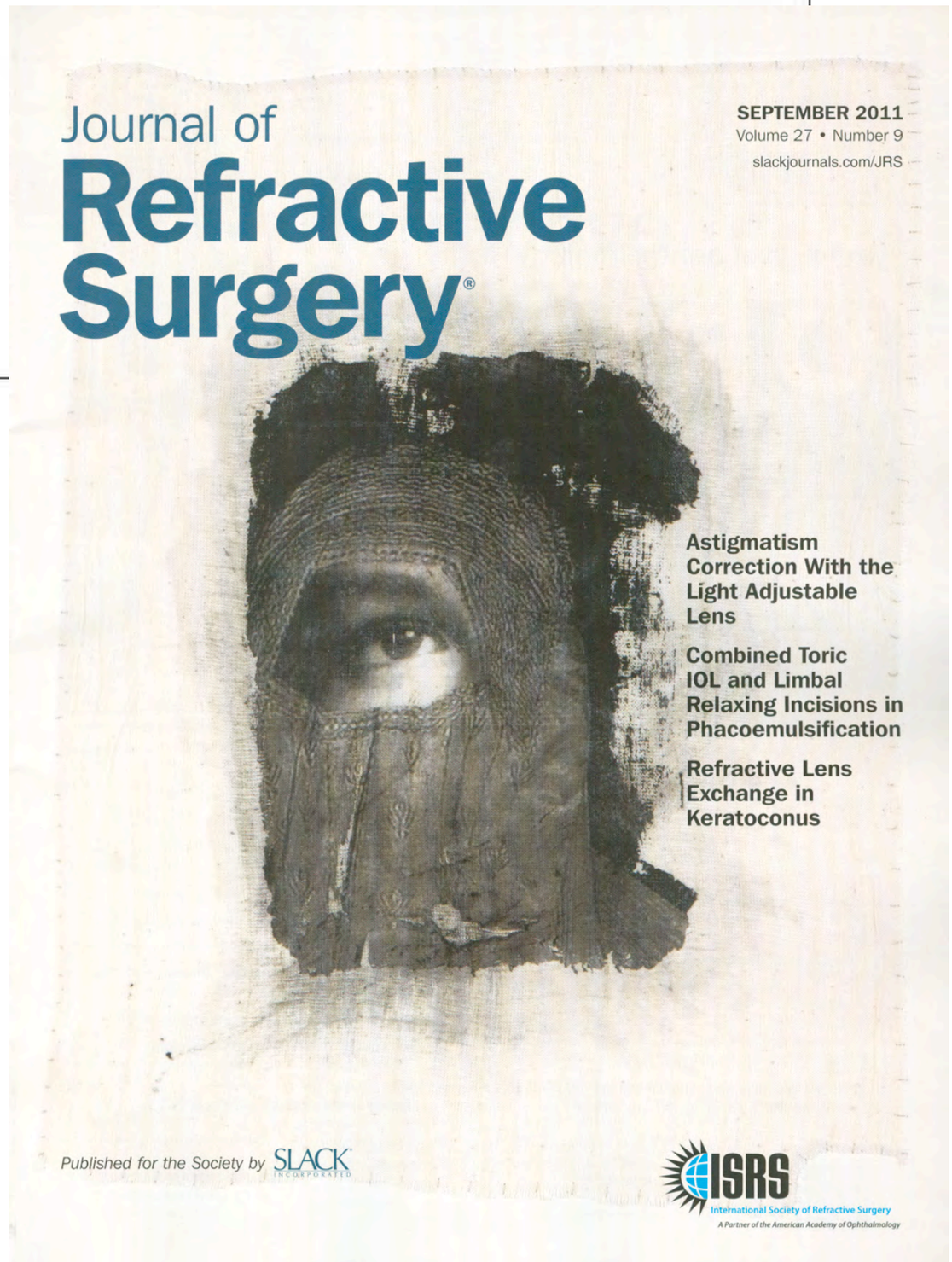
Options for Astigmatism Management



EDITORIAL

Advances in Astigmatism Management

J. Bradley Randleman, MD



J Refract Surg 2011:633-634

LIMBAL RELAXING INCISIONS

Astigmatism Management: Limbal Relaxing Incisions

- Nomograms:
  - J. Gills
  - D. Koch
  - R. Lindstrom
  - B. Wallace
  - S. Thorton
  - L. Nichamin
  - K. Miller
  - E. Donnenfeld

Donnenfeld Nomogram

- 0.50 D: 1 incision 1 and a half clock hours
- 0.75 D: 2 incisions 1 clock hour
- 1.50 D: 2 incisions 2 clock hours

- A little more for against the rule and younger patients
- A little less for older patients

Nichamin Nomogram

NOMOGRAM FOR ASTIGMATIC KERATOTOMIES WITH CLEAR CORNEAL PHAKO SURGERY

Louis D. Nichamin, MD, Laurel Eye Clinic, Brookville, PA

If astigmatic status is

1. **"spherical":** (+0.75x90 <-> +0.50x180)

Use incision design : "neutral" viz. temporal clear corneal incision, 3.5mm or less, single plane, just anterior to vascular arcade

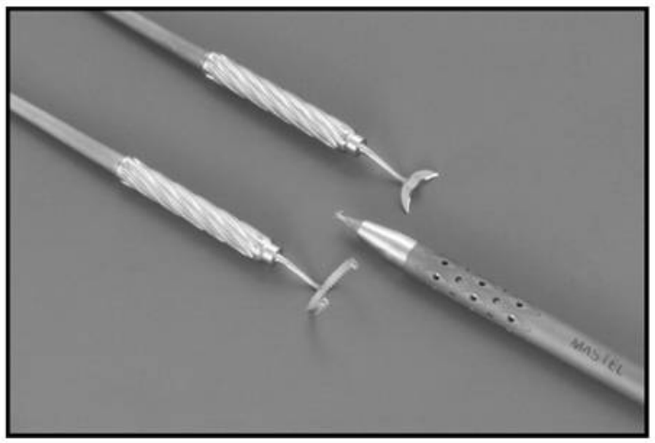
2. **"against-the-rule":** steep axis 0 - 30° / 150 - 180°

Intraoperative keratoscopy determines the exact incision location. The temporal incision is made by first creating a two-plane, grooved phako incision (600µ depth), which is then extended to the appropriate arc length at the conclusion of surgery.

Pre-op cylinder		30-40 yr	41-50 yr	51-60 yr	61-70 yr	71-80 yr	81–90 yr	> 90 yr
+0.75 to +1.25	Nasal limbal arc only						35	
	Paired limbal arcs on steep axis	55	50	45	40	35		
+1.50 to +2.0	Paired limbal arcs on steep axis	70	65	60	55	45	40	35
+2.25 to +2.75	Paired limbal arcs on steep axis	90	80	70	60	50	45	40
+3.00 to +3.75	Paired limbal arcs on steep axis	↓to 8mm; 90	↓to 8mm; 90	85	70	60	50	45
		degrees of arc to be incised						

3. **"with-the-rule":** steep axis 45 - 145°

"neutral" temporal clear corneal incision along with the following peripheral arcuate incisions



Pre-op cylinder		30-40 yr	41-50 yr	51-60 yr	61-70 yr	71-80 yr	81–90 yr	> 90 yr
+1.0 to +1.50	Paired limbal arcs on steep axis	50	45	40	35	30		
+1.75 to +2.25	Paired limbal arcs on steep axis	60	55	50	45	40	35	30
+2.50 to +3.00	Paired limbal arcs on steep axis	70	65	60	55	50	45	40
+3.25 to +3.75	Paired limbal arcs on steep axis	80	75	70	65	60	55	45
		degrees of arc to be incised						

Atomic Edge™ Accurate Depth Knives

Diamond Sharpness, Single-Use Convenience

Accurate Depth Knives for LRI and groove incisions

- Equal in performance to diamond blades
- Precise fixed blade exposure
- Brand new sterile knife with each case
- Single-use design

Atomic Edge™ Accurate Depth Knives	
Description	Item #
Accurate Depth Knife, 250 micron	370225
Accurate Depth Knife, 300 micron	370230
Accurate Depth Knife, 350 micron	370235
Accurate Depth Knife, 400 micron	370240
Accurate Depth Knife, 500 micron	370250
Accurate Depth Knife, 550 micron	370255
Accurate Depth Knife, 600 micron	370260
Accurate Depth Knife, 625 micron	370262
Accurate Depth Knife, 650 micron	370265

Also Available to Meet Your LRI Needs:	
Description	Item #
Beaver® Swivel Fixation Ring	372242
Visitec® Bonn Forceps (stainless steel)	581409
Visitec® Bonn Forceps (plastic handle)	581439

For ordering information call:
1.866.906.8080/1.781.906.8080
or visit www.beaver-visitec.com

bvi Beaver Visitec
Keeping Your Vision In Sight

AMO®
ADVANCED MEDICAL OPTICS

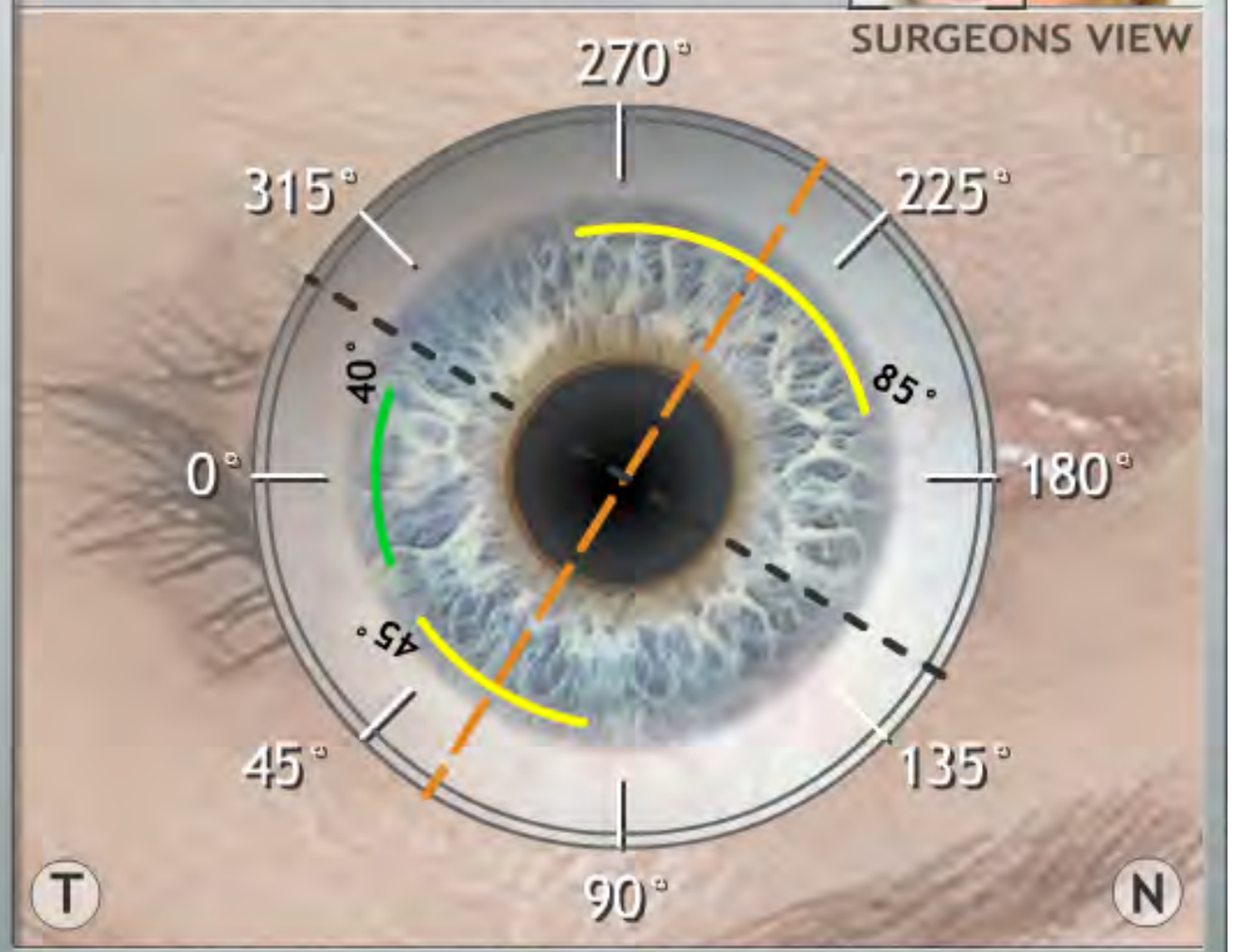
LRIcalculator.com

Patent Pending! software version 3.0

Doctors Name	Dr. Donnenfeld
Patient Name or ID	01234
Patient Age	65
Eye Selection	OS - Left Eye
Steep Meridian	45 /225
Flat Meridian	135/315
Steep K	38.00 D
Flat K	36.00 D
Preoperative Astigmatism	2.00 D
Phaco Incision	Yes
Surgically Induced Cylinder	1.00
Incision Location (IL)	0

edit print

Show scale in degrees
Show scale in clock hours (c.h.)



New-Steep K:	38.12 D	New-Flat K:	35.88 D
Astigmatism:	2.24 D	Treatment:	1.75 D
LRI-Incision(s):	2	Incision Size:	85°/2.8 c.h. | 45°/1.5 c.h.

① To fully correct all astigmatism, you may need an additional procedure.

Caption:

Phaco-Incision
LRI-Incision
Steep Axis 58 /238
Flat Axis 148/328

① This tool uses vector analysis and assumes the phaco incision will shift the Steep and Flat Meridians as shown above.

LRI Clinical Guide | About the Nomogram | Help & Tutorial | License Agreement & Privacy Policy

FEMTOSECOND ARCUATE INCISIONS

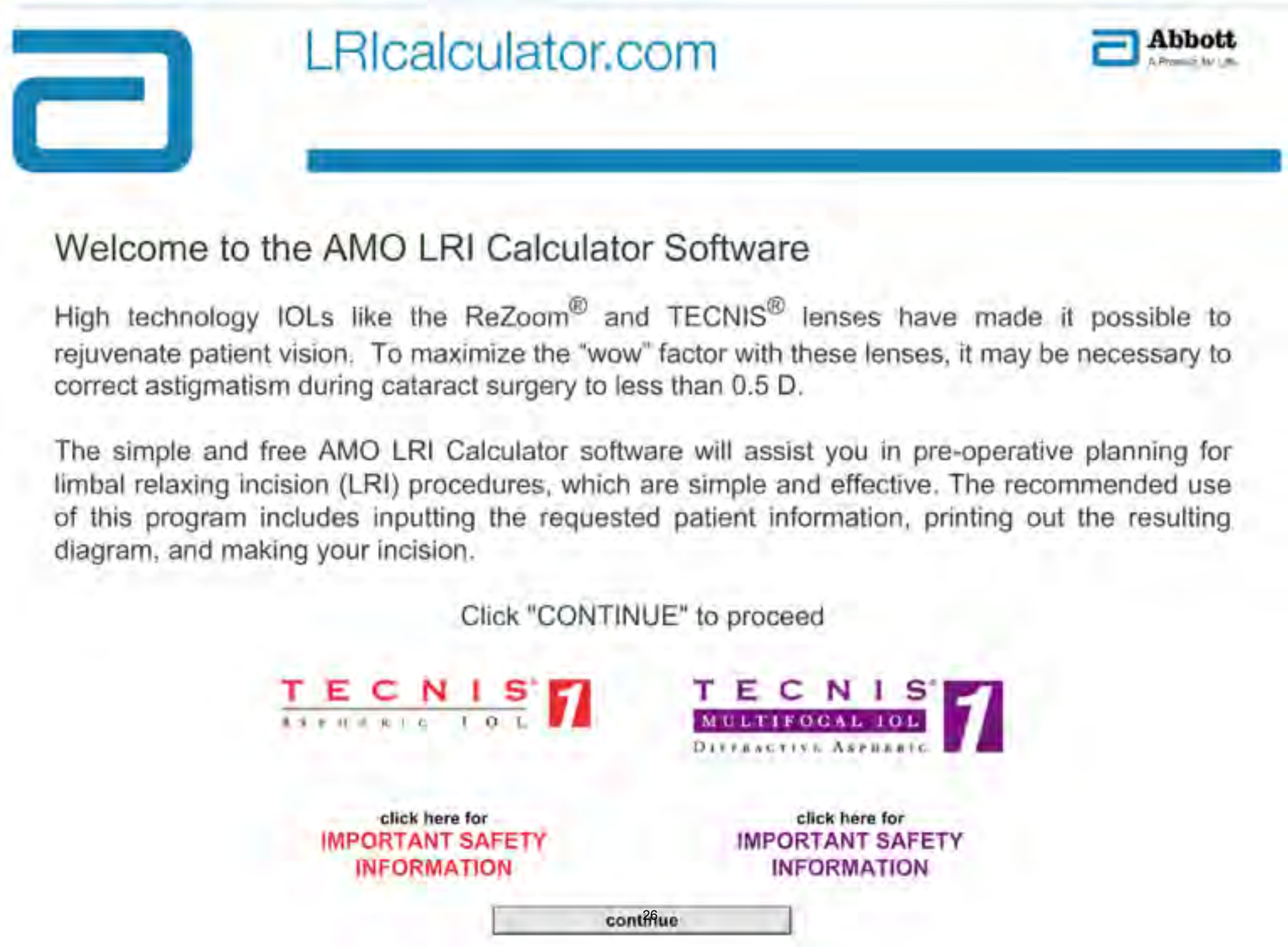
FEMTOSECOND SURGERY ARCUATE INCISION

- laserarcs.com

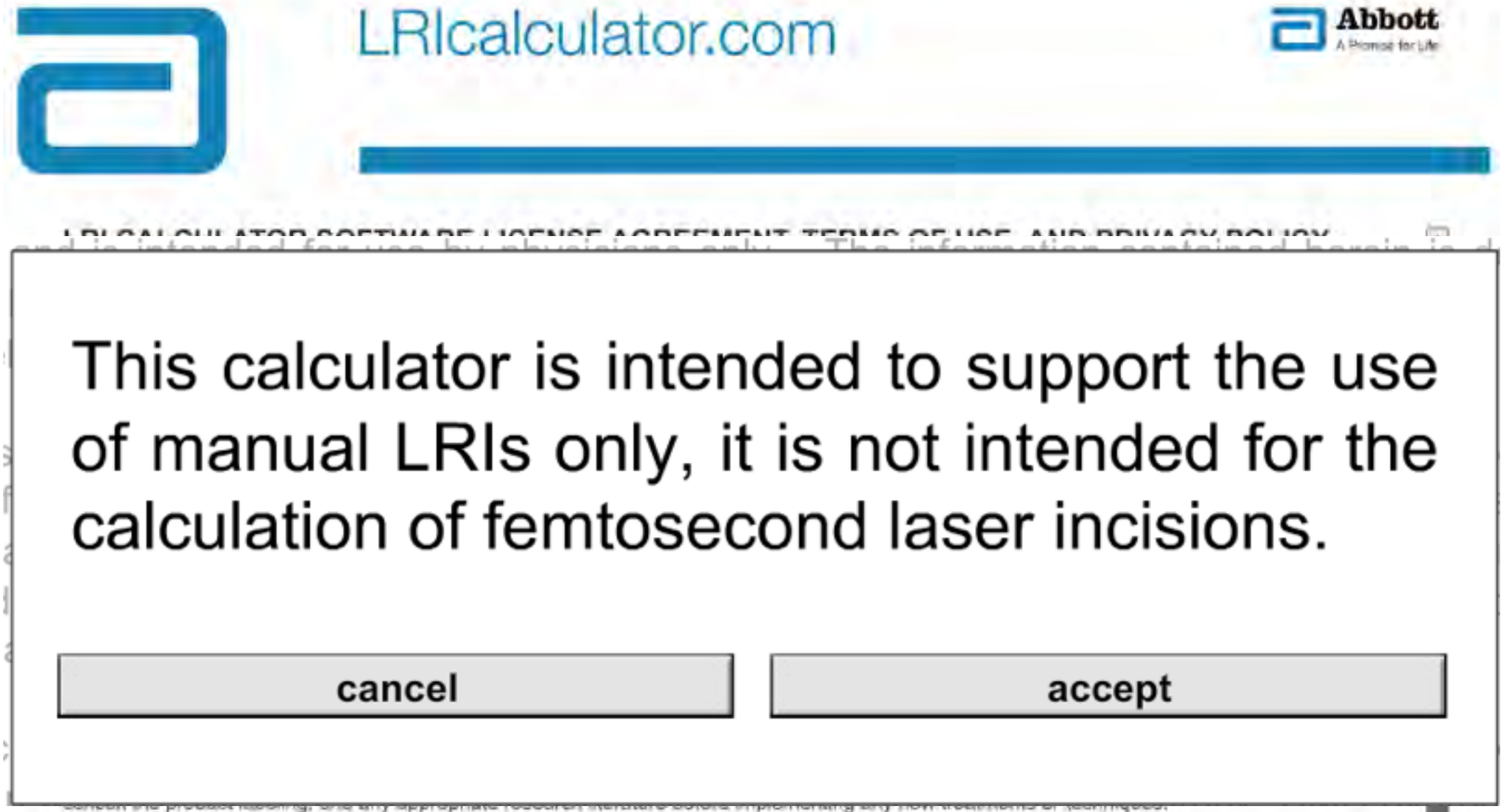
- www.lricalculator.com

- www.julianstevens.co.uk

LRI CALCULATOR (AMO)



LRI CALCULATOR (AMO)



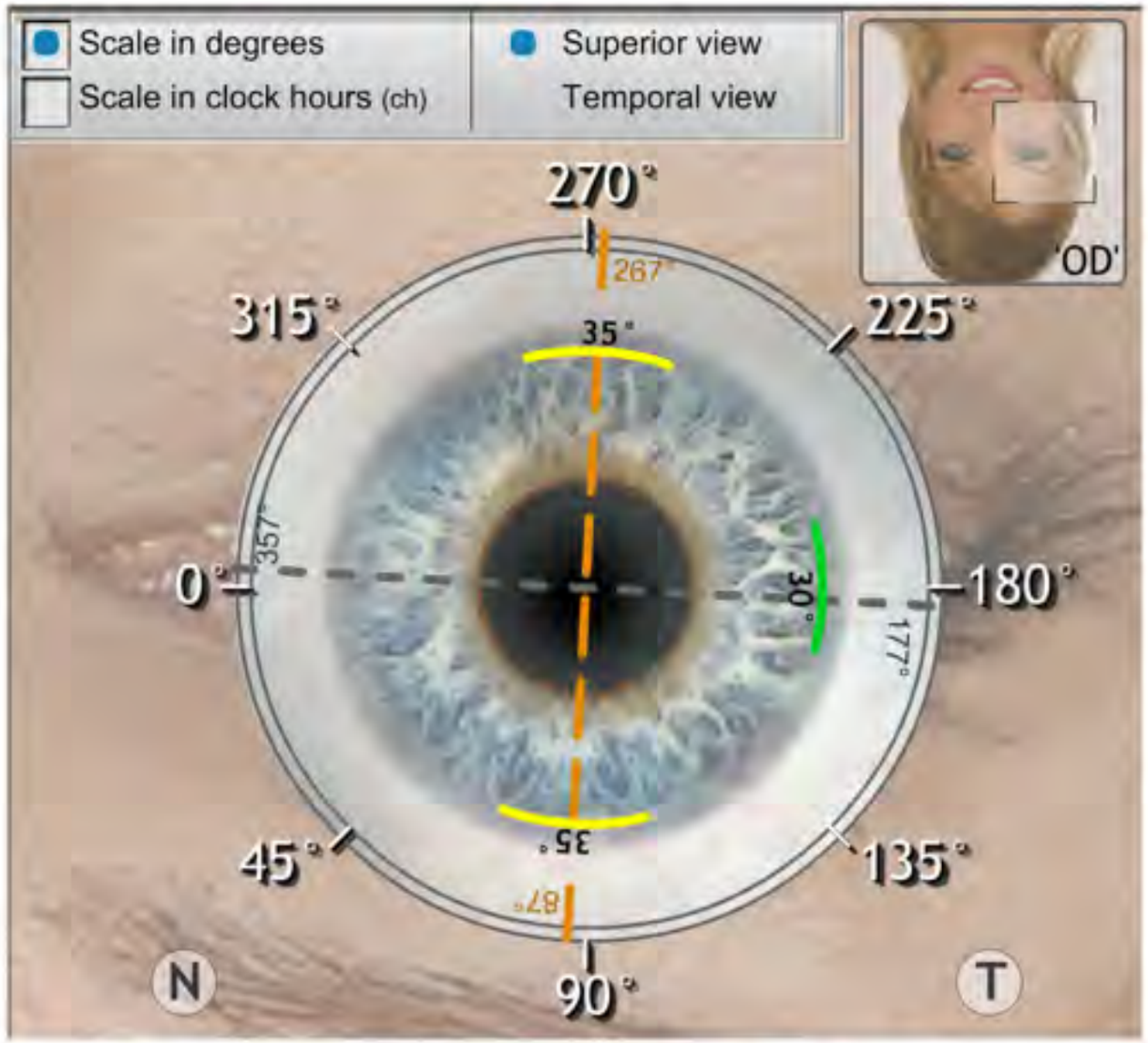
LRIcalculator.com

Abbott
A Promise for Life

LRI Clinical Guide | About the Nomograms | Help & Tutorial | License Agreement & Privacy Policy

Doctors Name	JBR
Patient Name or ID	SD
Patient Age	64
Nomogram Selection	Donnenfield Nomogram
Eye Selection	OD - Right Eye
Steep Meridian	85 /265
Flat Meridian	175 /355
Steep K	44.60 D
Flat K	44.00 D
Preoperative Astigmatism	0.60 D
Thinnest Corneal Depth	microns
Surgically Induced Cylinder	0.30 D
Incision Location (IL)	180 °

edit | print



New-Steep K:	44.75 D	New-Flat K:	43.85 D	(After Phaco)
Astigmatism:	0.90 D	Treatment:	1.00 D	
LRI-Incision(s):	2	Incision Size:	35°/1.2 c.h.	

Residual Astigmatism after LRI: -0.10 D

Phaco
LRI 69.5°-104.5° / 249.5°-284.5°
New Steep Axis 87 / 267
New Flat Axis 177 / 357

ⓘ This tool uses vector analysis and assumes the phaco incision will shift the Steep and Flat Meridians as shown above.

LenSx Procedure Form

Patient Info:

SD

Eye: OD OS

Lens: Chop Cyl Frag

Prim. Incision Pos. (dgr): 180

Prim. Incision Width (mm): 2.6

Cornea Arcuate

Number of arcs: 0 1 2

Arc Diameter (mm): 9

Arc 1 position (dgr): 87

Arc 1 angle (dgr): 25

Arc 2 angle (dgr): 25

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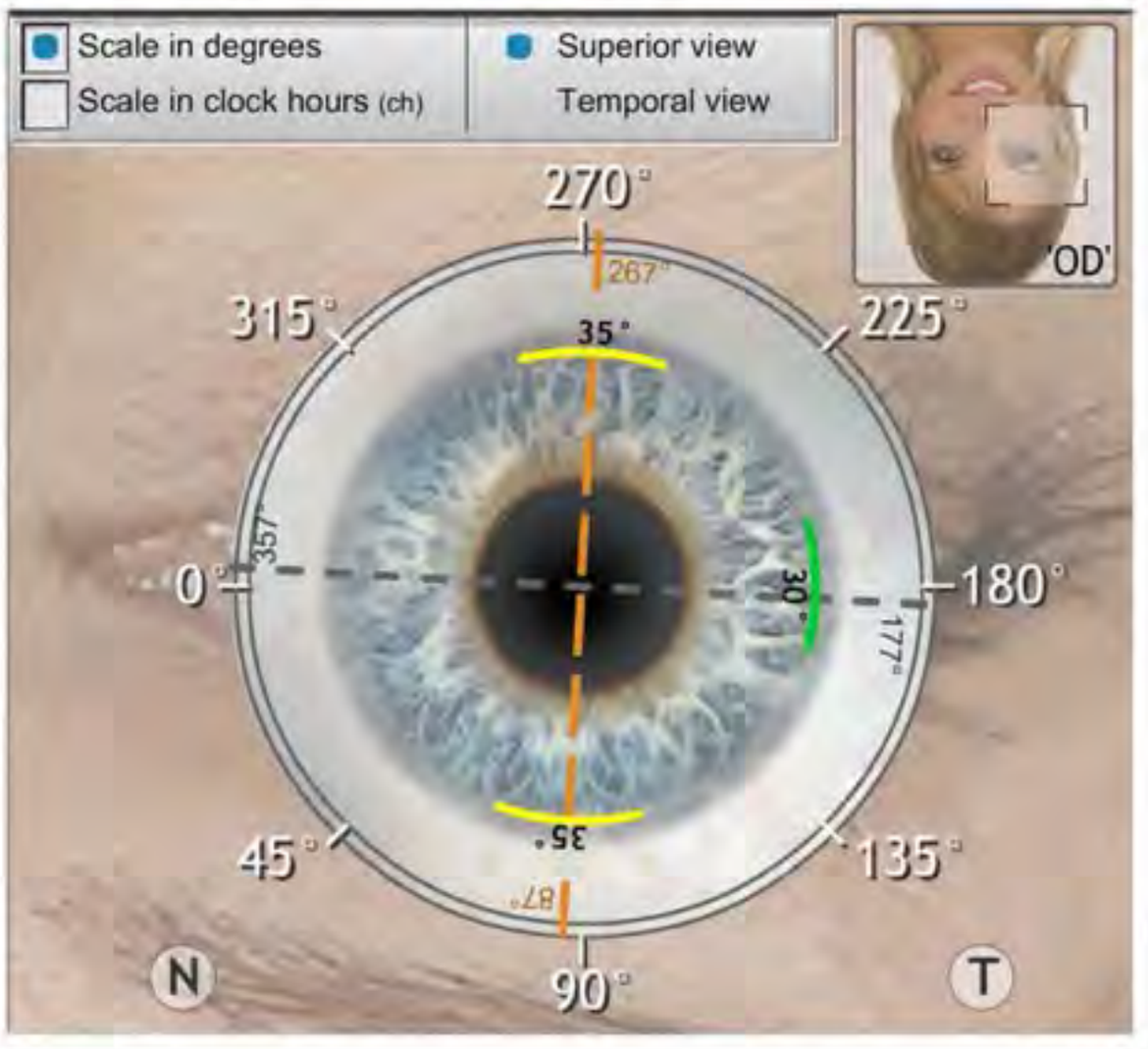
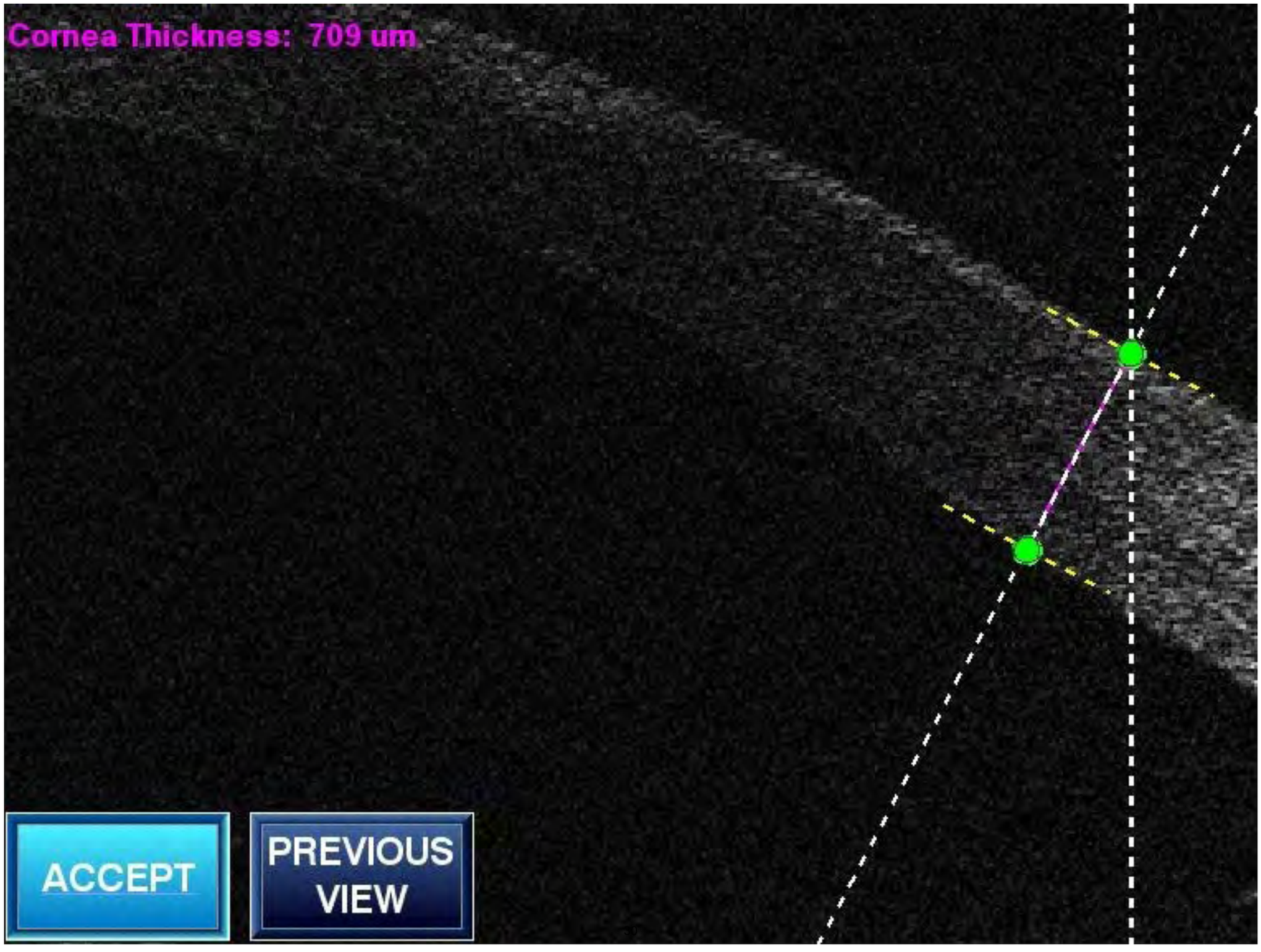


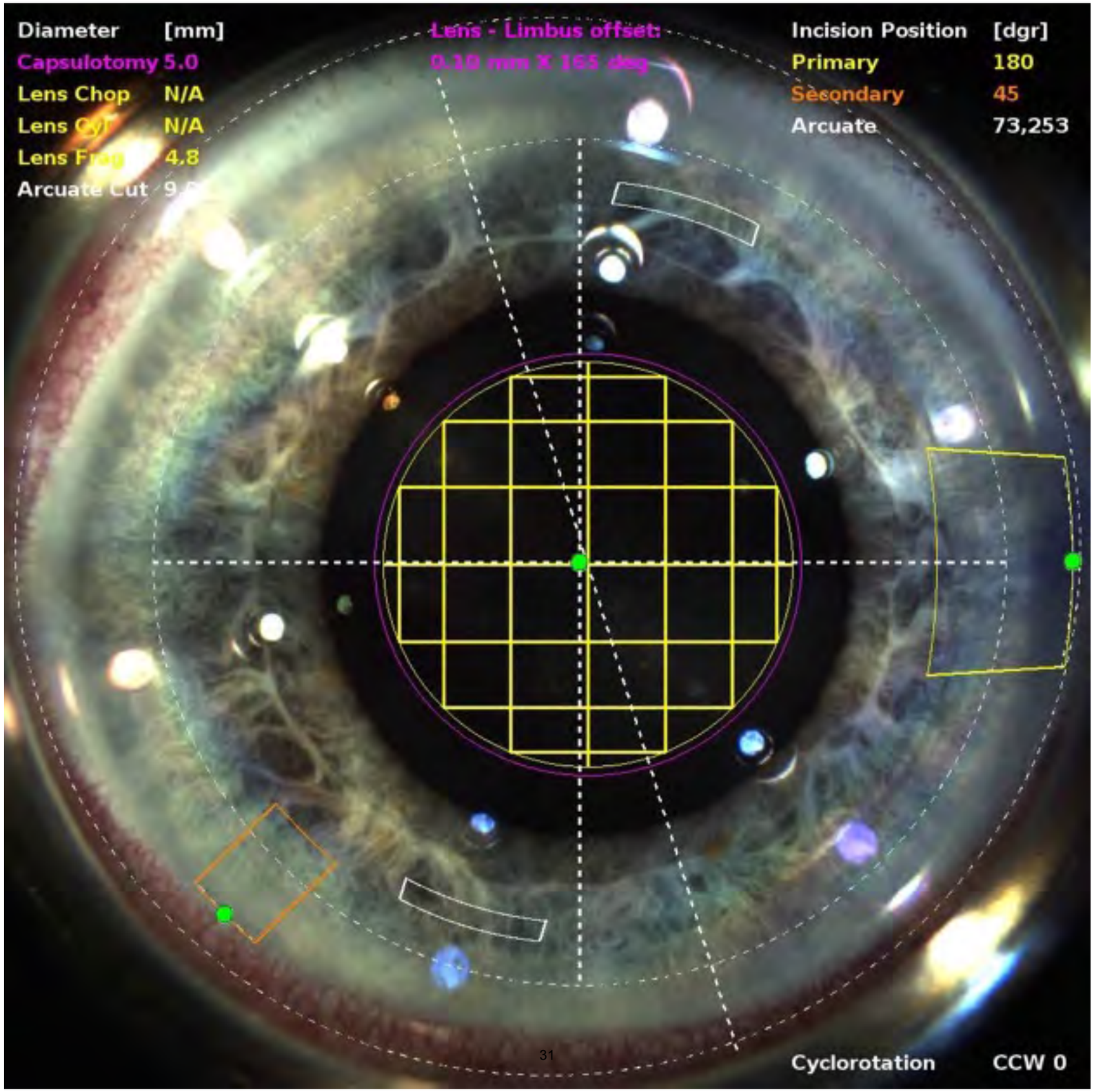
Phaco
LRI 69.5°-104.5° / 249.5°-284.5°
New Steep Axis 87 / 267
New Flat Axis 177 / 357

ⓘ This tool uses vector analysis and assumes the phaco incision will shift the Steep and Flat Meridians as shown above.

ARCUATE INCISIONS

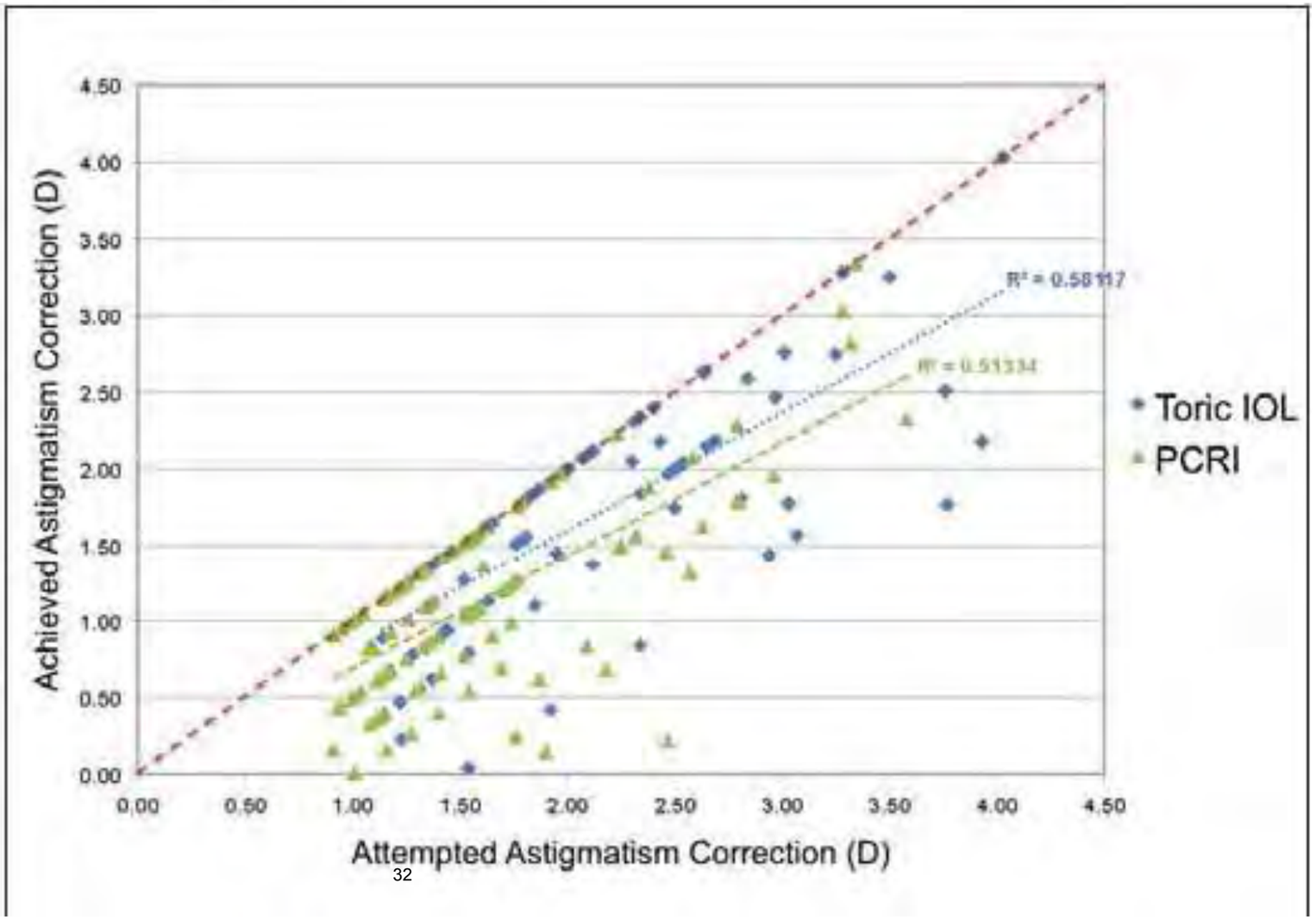


TREATMENT PATTERN

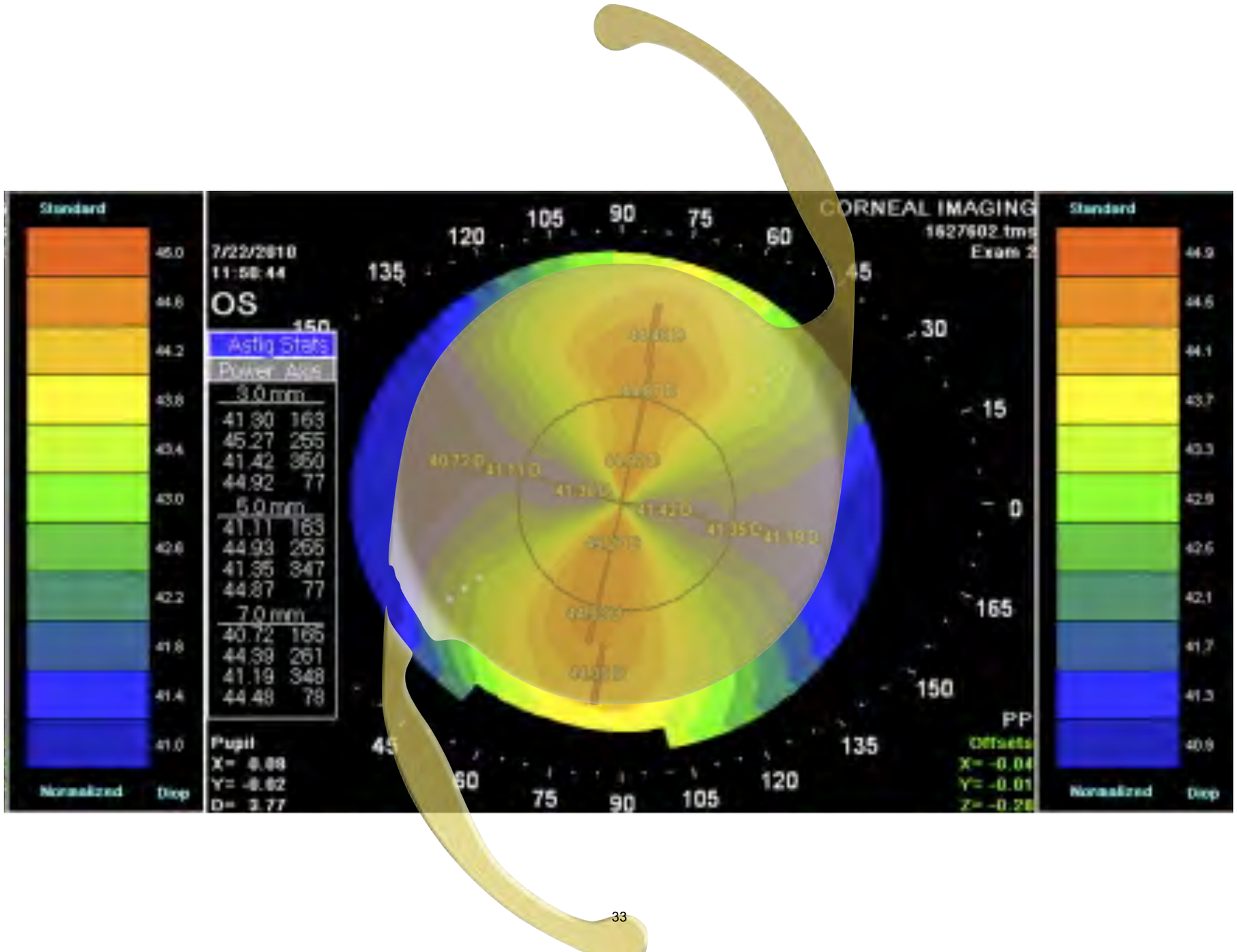


Correction of Astigmatism During Cataract Surgery: Toric Intraocular Lens Compared to Peripheral Corneal Relaxing Incisions

Jed T. Poll, MD; Li Wang, MD, PhD; Douglas D. Koch, MD; Mitchell P. Weikert, MD

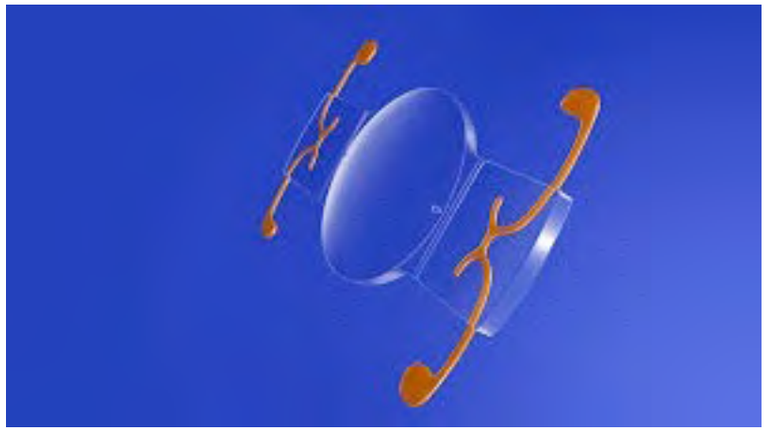


TORIC IOLS


Standard
46.0
44.8
44.2
43.8
43.4
43.0
42.6
42.2
41.8
41.4
41.0
Normalized
Diop
7/22/2010
11:58:44
OS
Astig Stats
Power Axis
3.0 mm
41.30 163
45.27 255
41.42 350
44.92 77
5.0 mm
41.11 163
44.93 255
41.35 347
44.87 77
7.0 mm
40.72 165
44.38 261
41.19 348
44.48 78
Pupil
X= 0.08
Y= -0.02
D= 3.77
CORNEAL IMAGING
1627602.tms
Exam 2
PP
Offsets
X= -0.04
Y= -0.01
Z= -0.28
Standard
44.9
44.6
44.1
43.7
43.3
42.9
42.6
42.1
41.7
41.3
40.9
Normalized
Diop

AcrySof Toric

Staar Toric

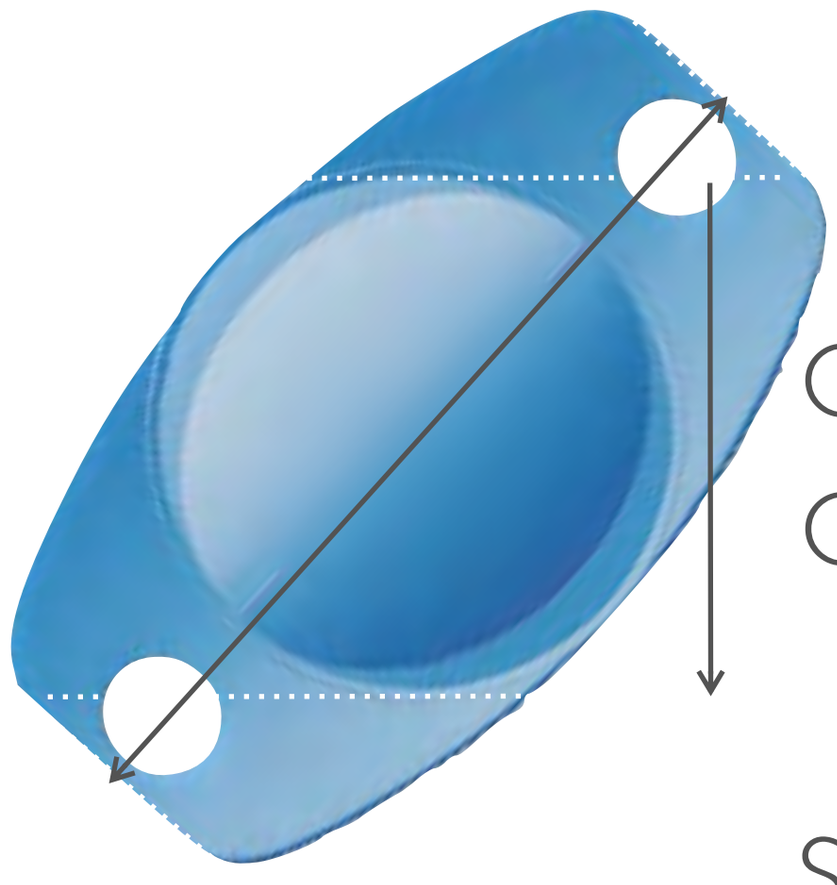


Trulign Toric

Tecnis Toric

STAAR TORIC

TL



Suggested A constant: 118.5

Optic diameter: 6.0 mm

Overall length 11.2 mm

Biconvex Toric Aspheric optic

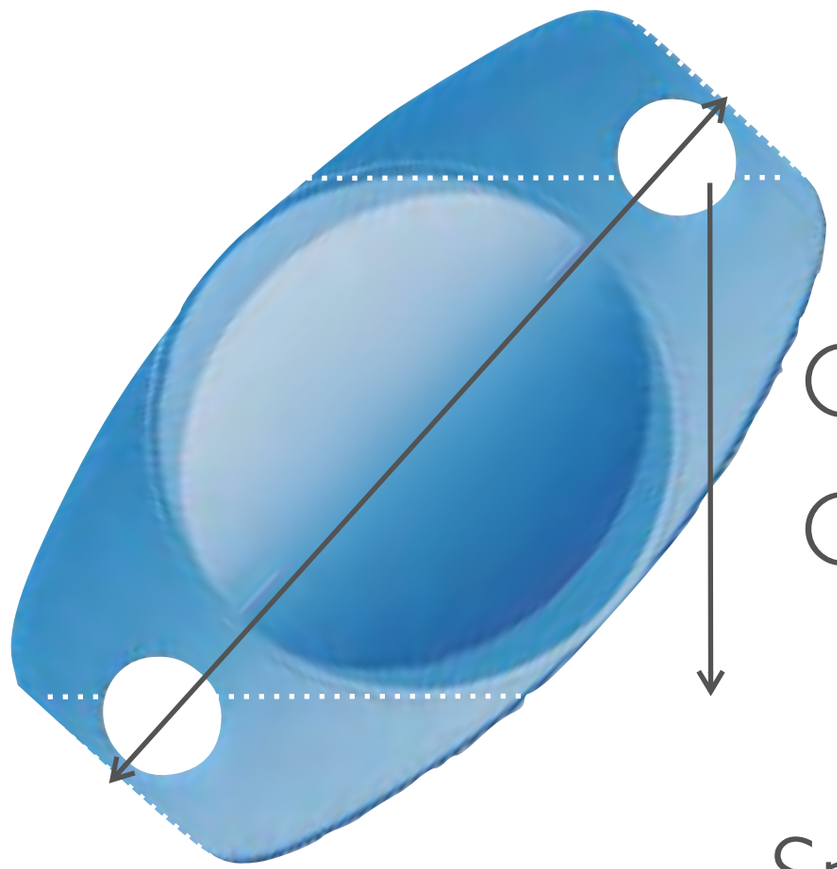
Spherical Power from +9.5 to +23.5 D

Cylindrical Power +2.0 and +3.5 D

Single plate. Silicone

STAAR TORIC

TF



Suggested A constant: 118.5

Optic diameter: 6.0 mm

Overall length 10.8 mm

Biconvex Toric Aspheric optic

Spherical Power from +24.0 to +28.5 D

Cylindrical Power +2.0 and +3.5 D

Single plate. Silicone

Power in corneal plane
Optic up:
+1.3 and +2.3 D

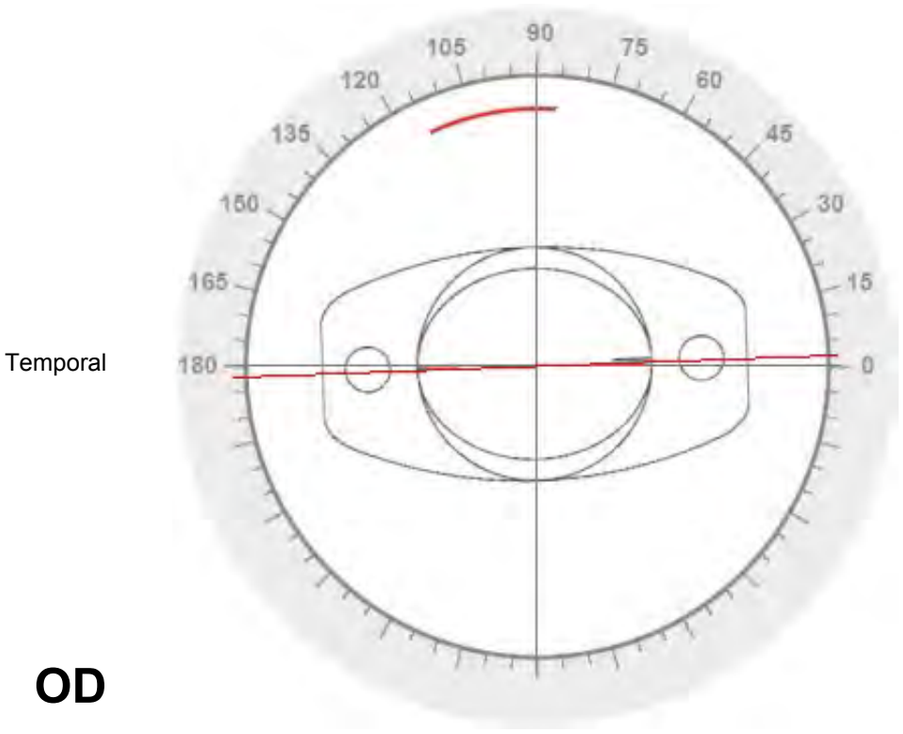
Power in corneal plane
Optic Down:
+1.2 and +2.1 D

PreVize Optimized
STAAR Toric IOL Power Calculation

PREVIZE

Version 4.1.2
Moran Research and Consulting, Inc
(c) 2003-2012. Revision 5.80

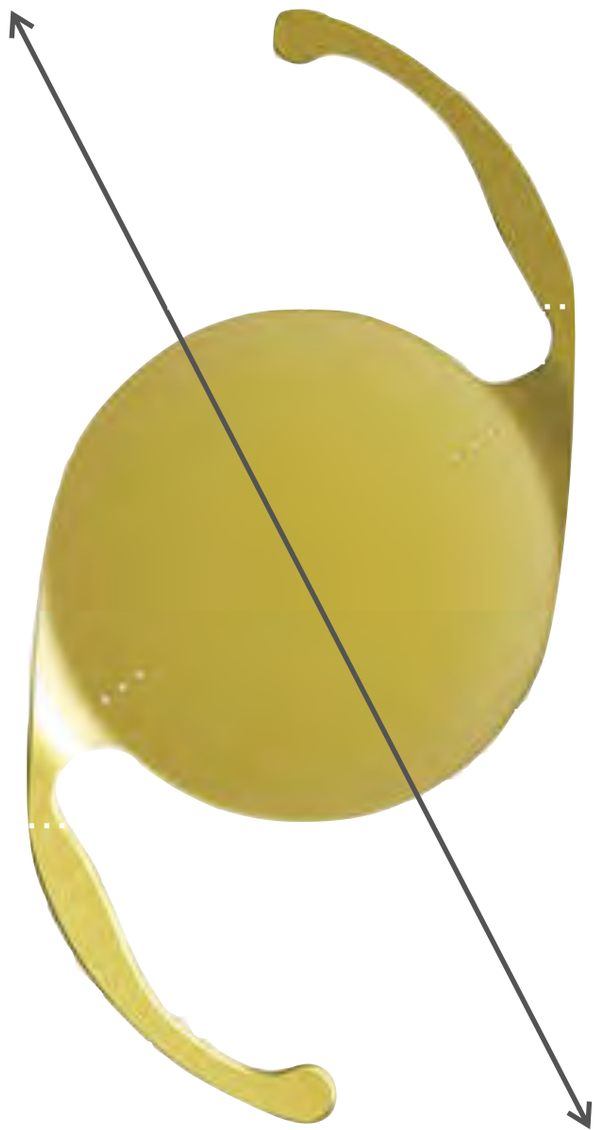
Patient Name:	Rad Brandleman	Date:	05/01/2013
Eye:	Right	Ker. Index:	1.3375
Keratometry:	43.50 @ 090, 45.50 @ 000	Vtx:	13.00 mm
Axial Length:	24.00 mm	Incision SIA:	+0.50 D
Incision:	100 Deg		



The STAAR Toric AA4203T(F/L) IOL is available in
spherical powers from 9.5 D to 28.5 D (0.5 D increments)
with toric adds of 2.0 D to 3.5 D (1.5 D increments).

Model	IOLS	IOLC	IOLA	Predicted Refraction	SE
AA-4203TL	23.0	3.50	002	+0.15 +0.68 X 002	+0.49
AA-4203TL	23.0	2.00	002	-0.23 +1.43 X 002	+0.49

Alcon AcrySoft Toric IOL



Suggested A constant: 119

Optic diameter: 6.0 mm

Overall length 13.0 mm

Biconvex Toric Aspheric optic

Spherical Power from +6.0 to +30.0 D

Different Cylindrical Powers..

Single piece. Hydrophobic Acrylic

AcrySoft Toric IOL

Power in Corneal Plane

SN60T3 1.03

SN60T4 1.55

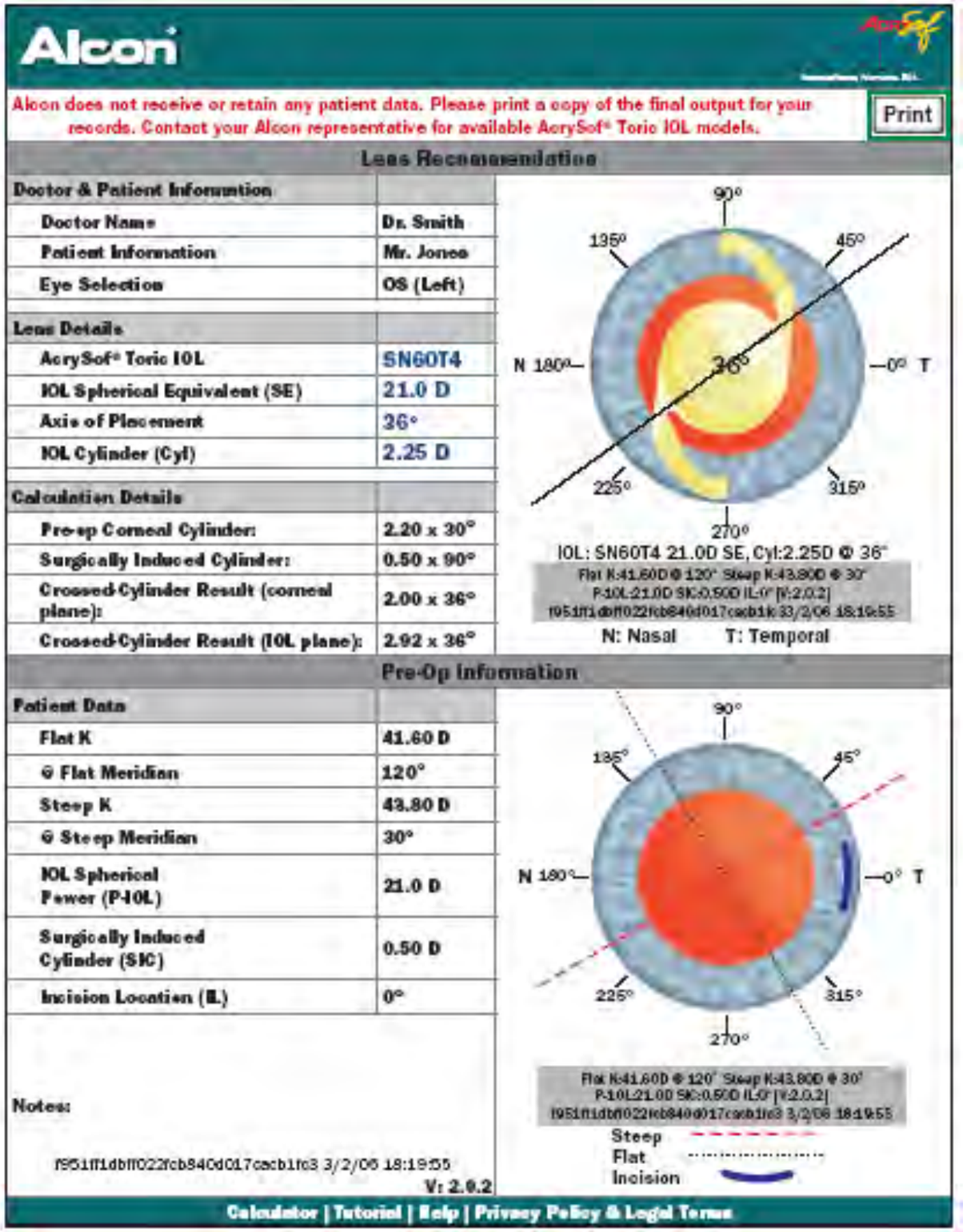
SN60T5 2.06

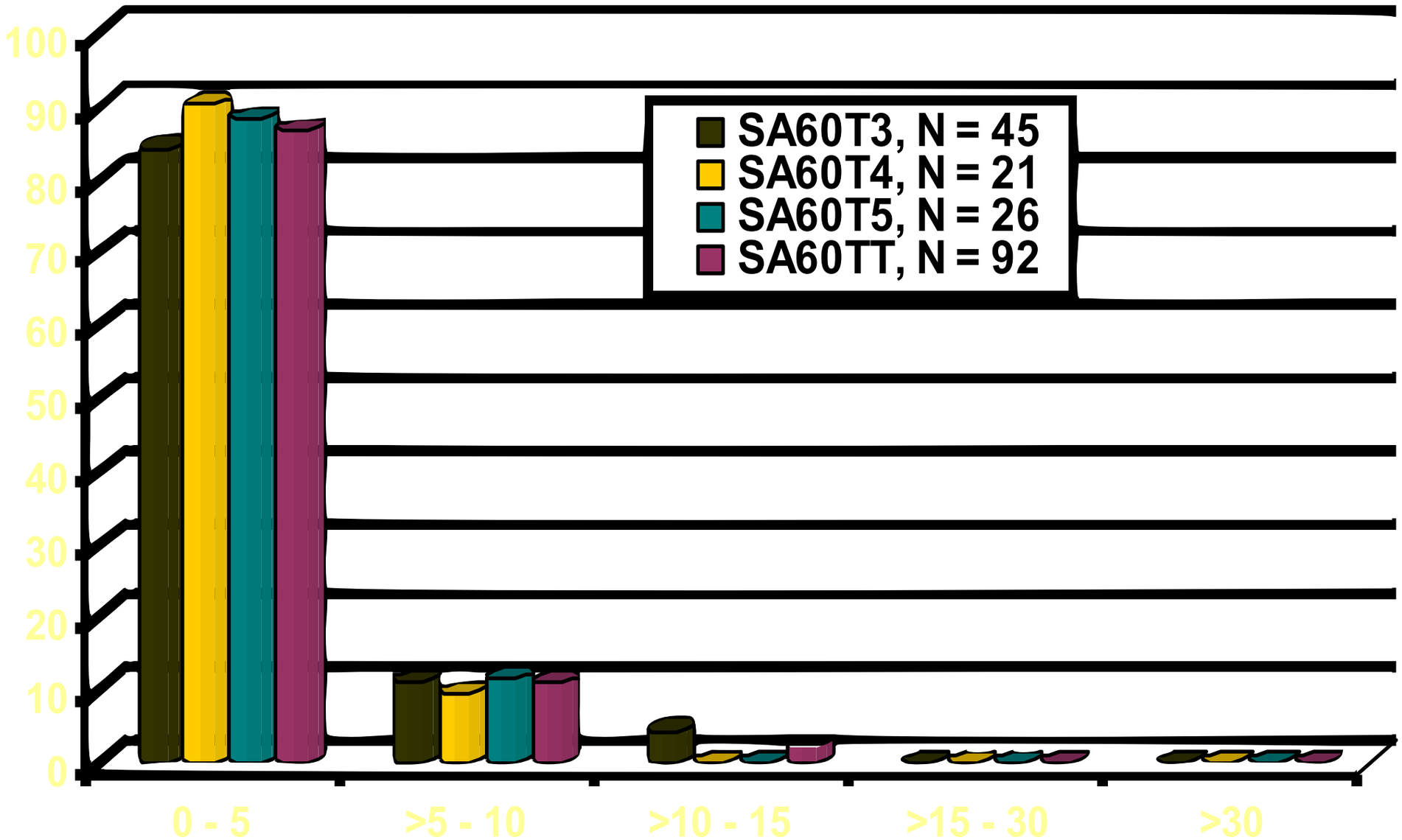
SN60T6 2.57

SN60T7 3.08

SN60T8 3.60

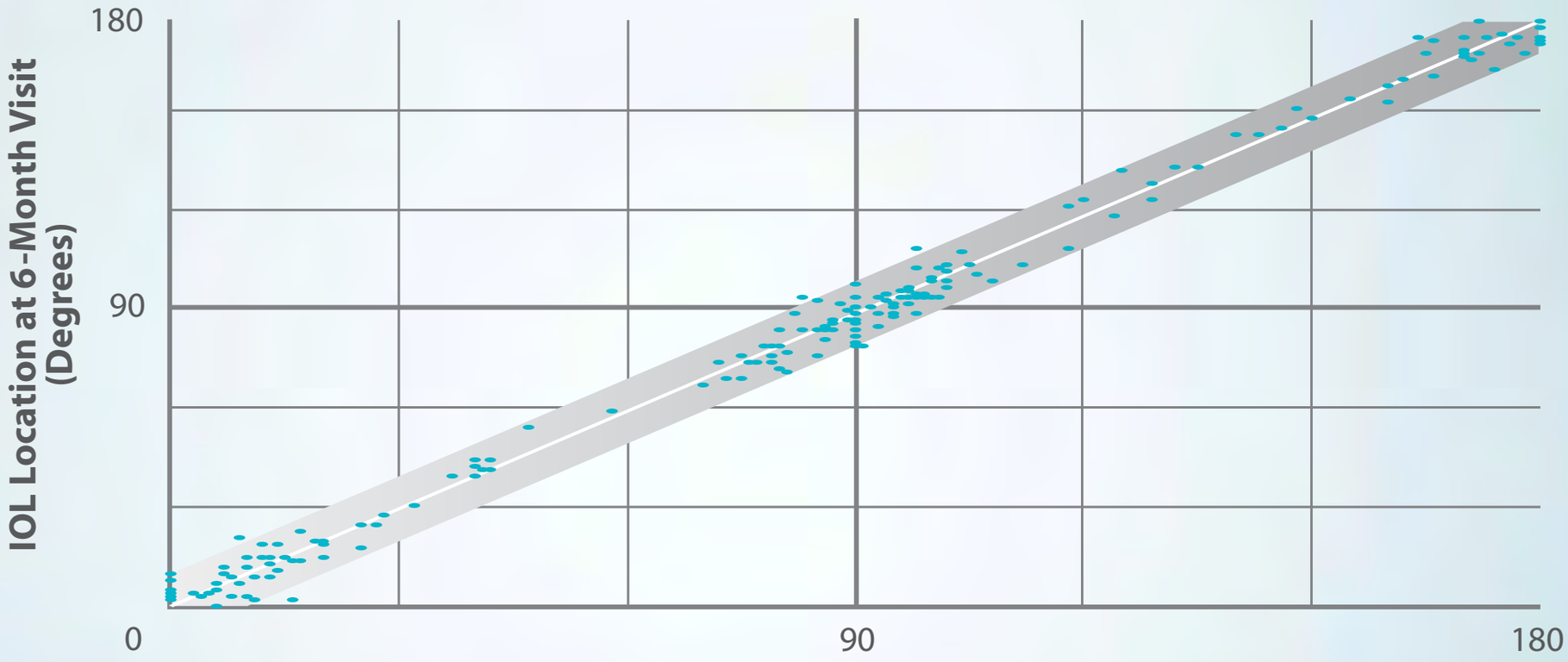
SN60T9 4.11



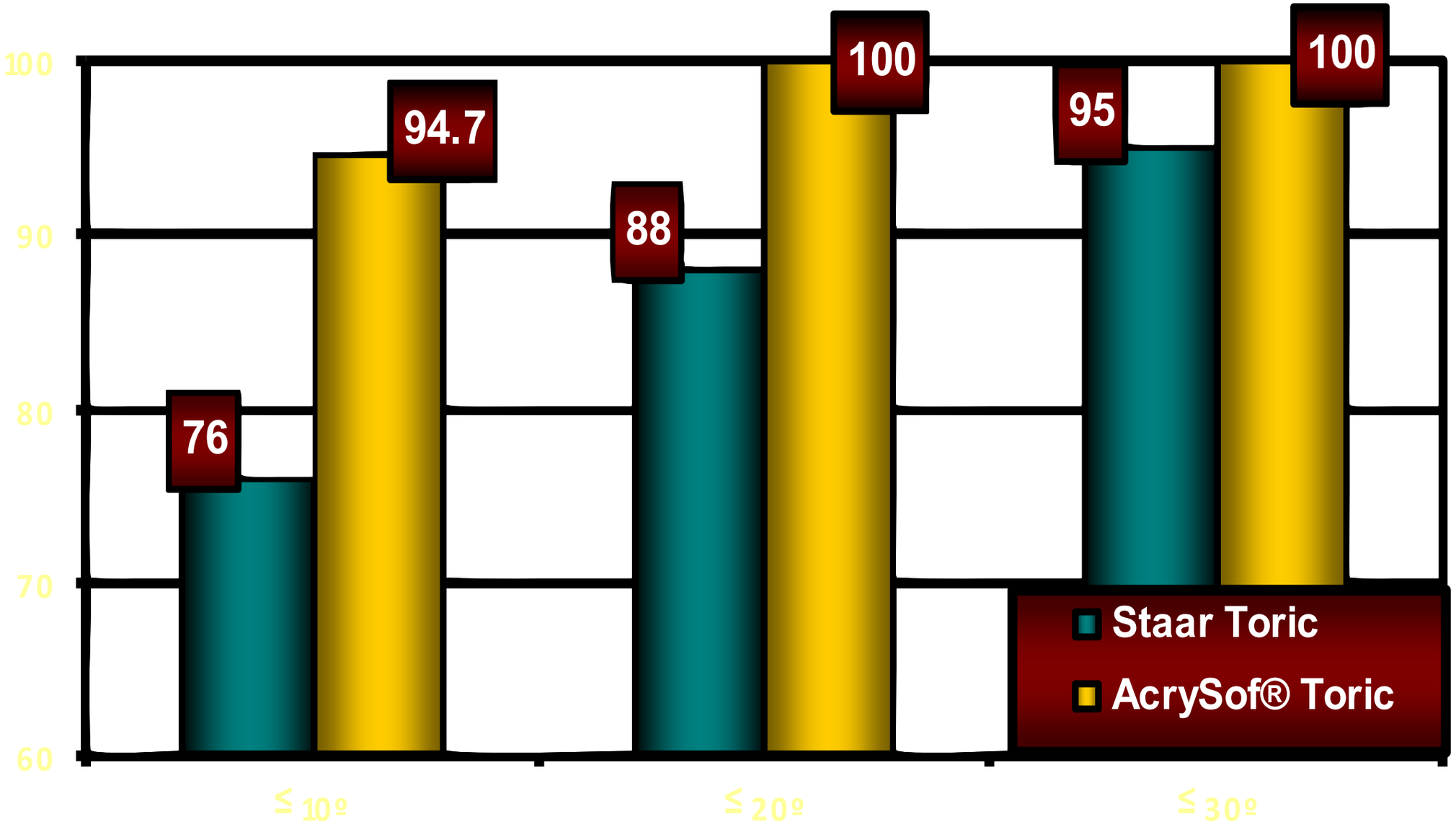

100
90
80
70
60
50
40
30
20
10
0
SA60T3, N = 45
SA60T4, N = 21
SA60T5, N = 26
SA60TT, N = 92
0 - 5
>5 - 10
>10 - 15
>15 - 30
>30
Degrees Rotation from Surgical Placement to 30 - 60 Day Visit

AcrySoft Toric IOL

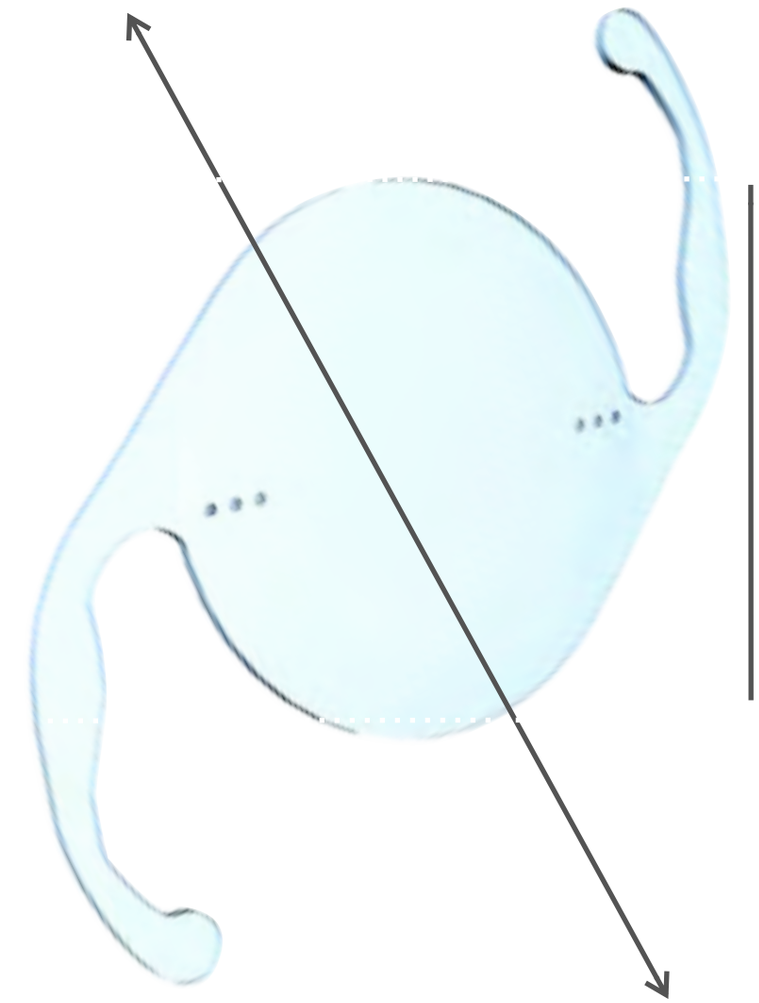
Lens Axis Orientation[1]
(Operative vs. Six Months Postoperative)



81.1% of patients were ≤5˚ of intended axis;[2] and 97.1% were ≤10˚ of intended axis.[1]


100
90
80
70
60
94.7
88
100
95
100
76
Staar Toric
AcrySof® Toric
≤ 10º
≤ 20º
≤ 30º

Abbott Tecnis Toric IOL



Suggested A constant: 118.8

Optic diameter: 6.0 mm

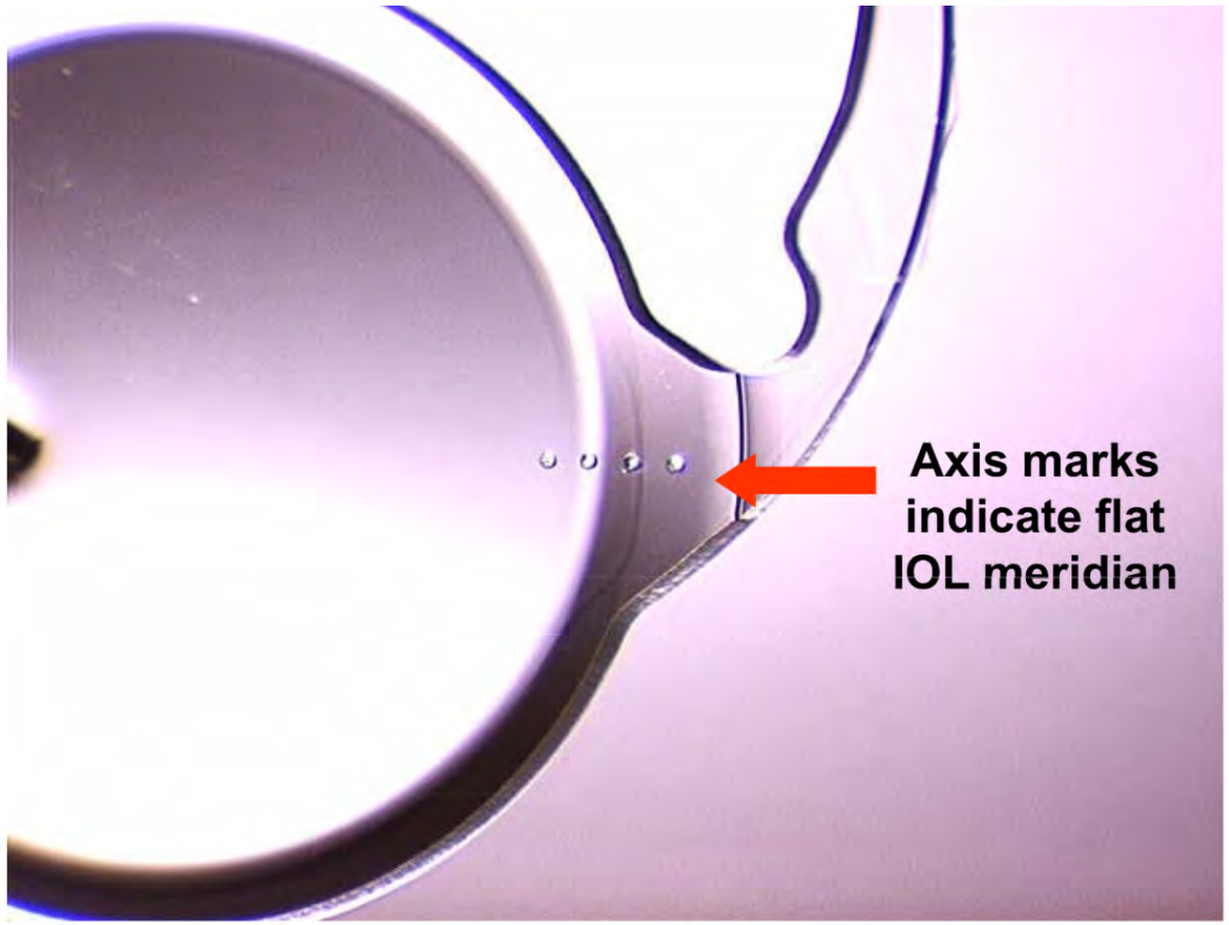
Overall length 13.0 mm

Biconvex Toric Aspheric optic

Spherical Power from +5.0 to +34.0 D

Single piece. Hydrophobic Acrylic

TECNIS TORIC IOL

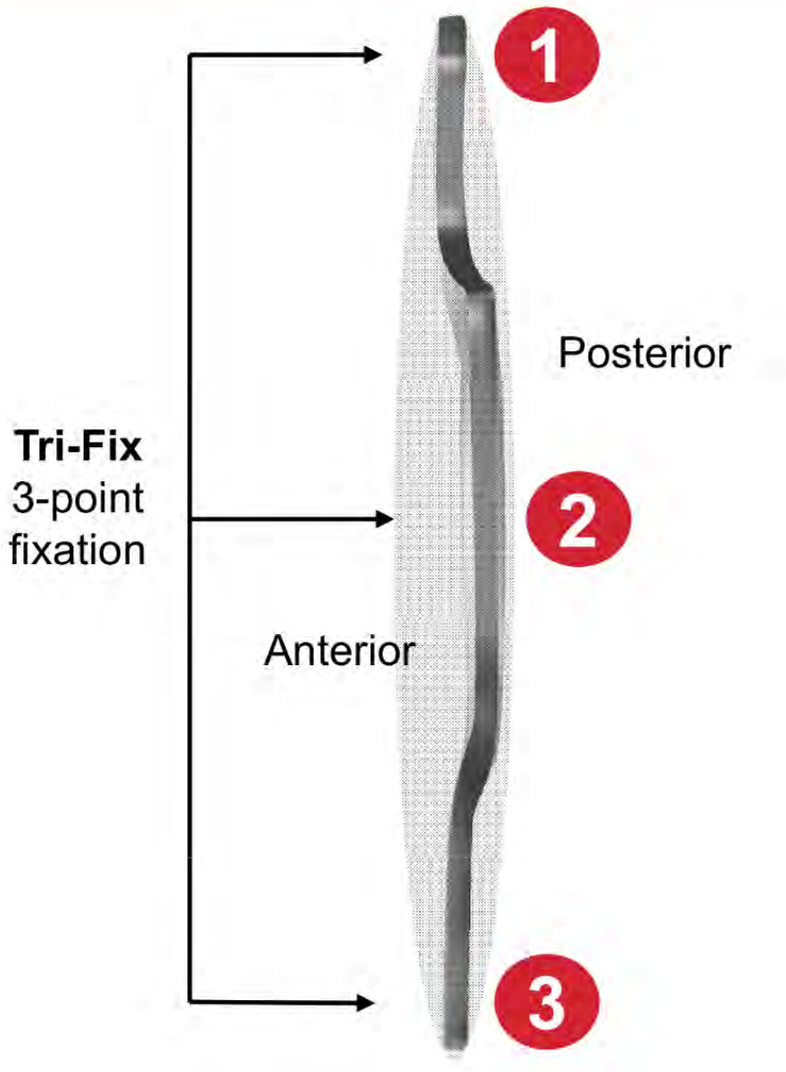


Align the marks with the steep corneal meridian

TECNIS TORIC IOL

- 3-point fixation provides:
  - Constant capsular contact
  - Additional stability over traditional single-piece lenses

- Offset haptic design enables the lens to adhere to the posterior capsule



Tecnis Toric IOL

Power in Corneal Plane

ZCT150	1.03
ZCT225	1.54
ZCT300	2.06
ZCT400	2.74
ZCT450	3.08
ZCT525	3.60
ZCT600	4.11

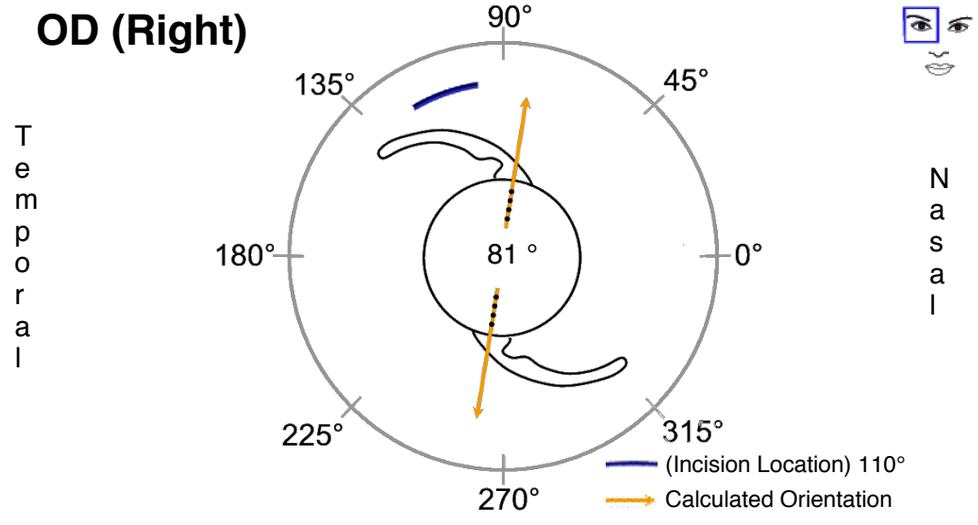
TECNIS® TORIC ASPHERIC IOL — TORIC

Abbott — A Promise for Life

Return To Calculator

Surgeon Name	Patient Information	Date	Patient Age
Claudia Perez	Rad Brandleman	02.05.2013	43

OD (Right)



IOL Details		Residual Refraction	
IOL Model	Orientation	Cylinder	Axis
ZCT225	81 °	+0,04 D	81°

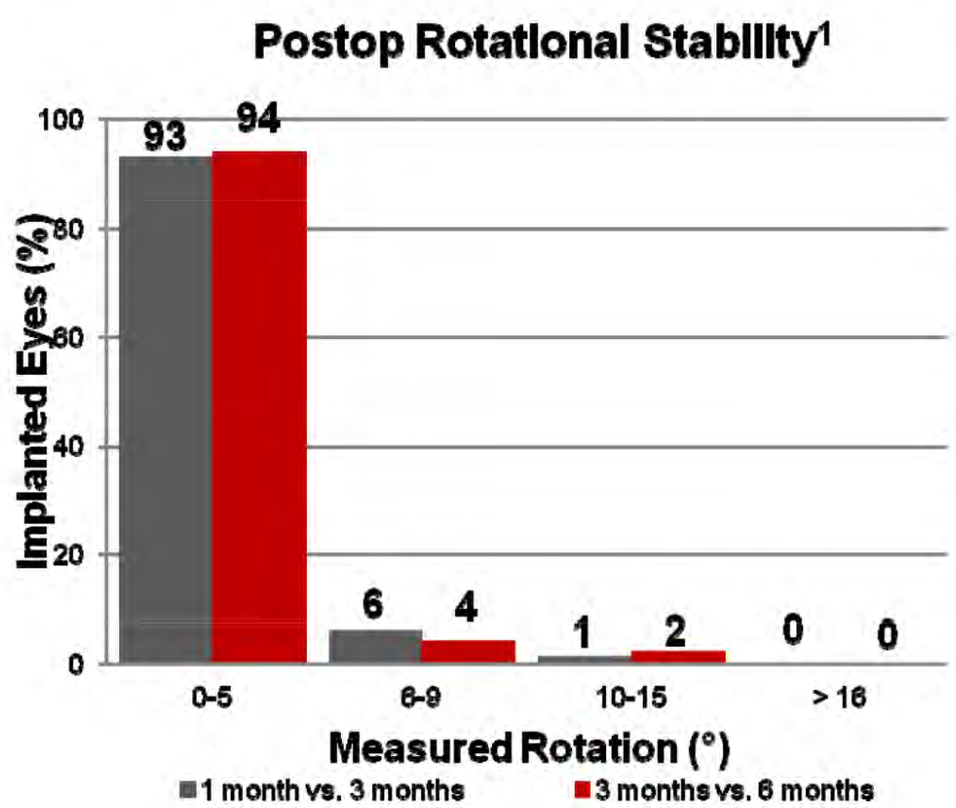
Calculation Details		
SE IOL power	K Index	Refractive Cylinder Convention
+22,50	1,3315	Plus

Keratometry and Biometry					
Flat K1 @ Axis	Steep K2 @ Axis	SIA @ Axis	AxL Length	Biometry Method	A-constant
43,00@180°	45,00@90°	0,75@110°	24,5	Optical	119,30

IOL Details		Residual Astigmatism	
IOL Model	Orientation	Cylinder	Axis
ZCT150	81 °	+0,58 D	81 °
ZCT225	81 °	+0,04 D	81 °
ZCT300	81 °	+0,49 D	171 °

TECNIS TORIC IOL

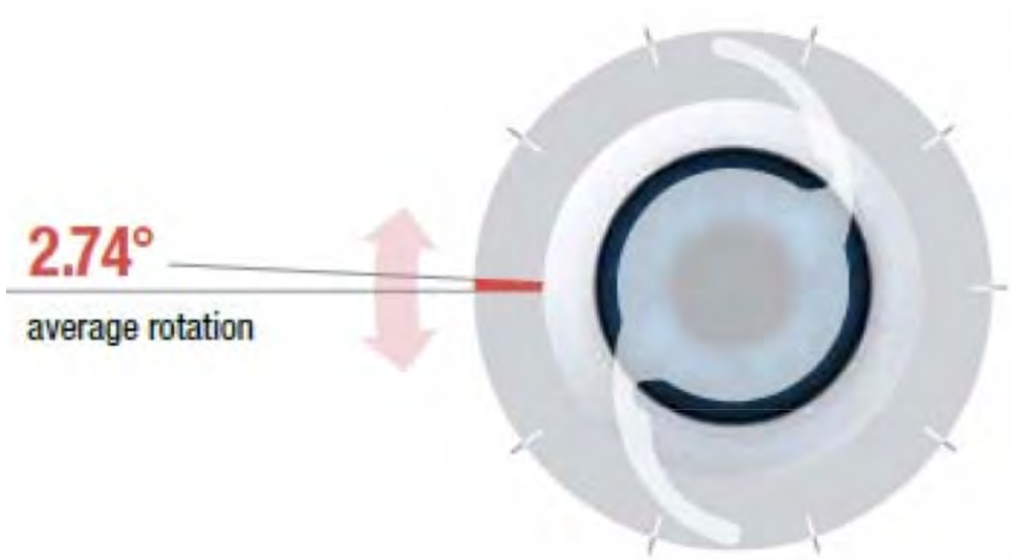
94% of eyes implanted with **TECNIS®** Toric IOLs had a change in axis of ≤5° between two consecutive visits approximately three months apart[1]



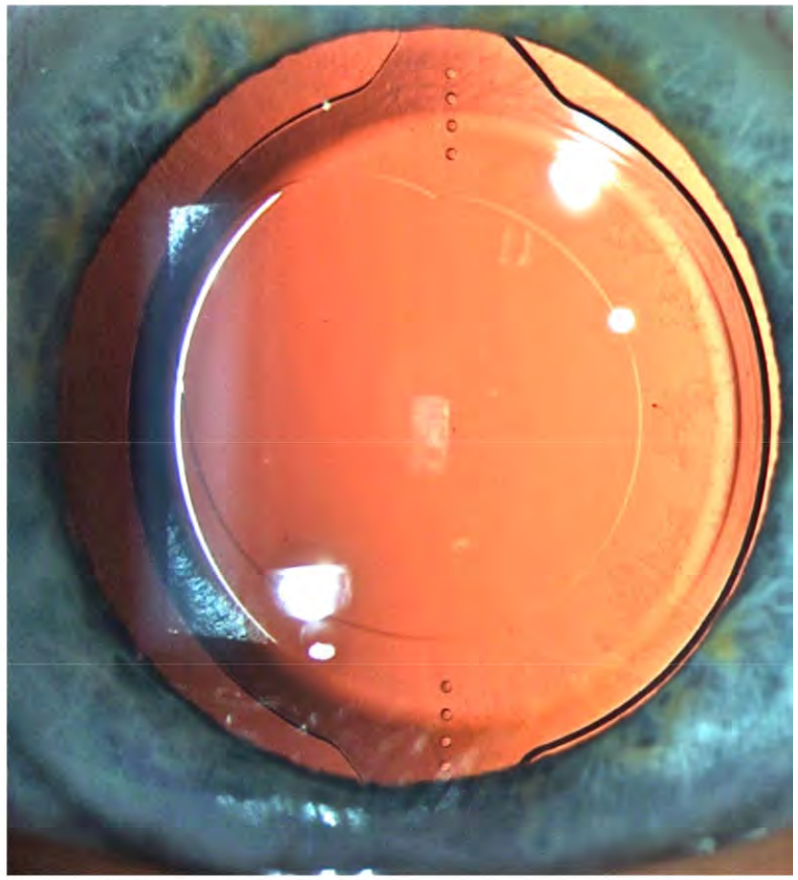
1. TECNIS Toric IOL Foldable Posterior Chamber Intraocular Lenses [package insert]. Santa Ana, Calif: Abbott Medical Optics Inc.

TECNIS TORIC IOL

Mean axial rotation between baseline and six months was 2.74°[1]



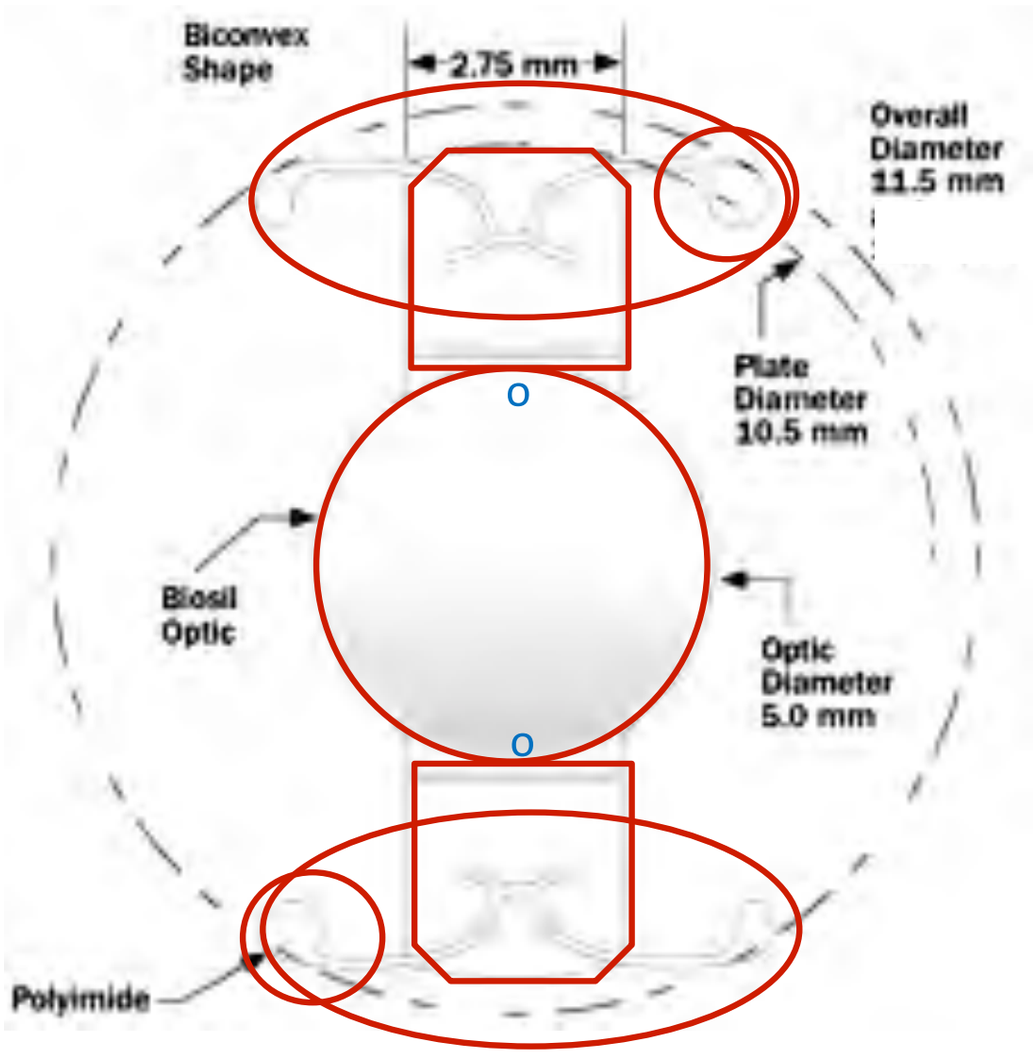
Mean Axis Change Between Baseline and Six Months[1]



1. TECNIS Toric IOL Foldable Posterior Chamber Intraocular Lenses [package insert]. Santa Ana, Calif: Abbott Medical Optics Inc.

B&L TRULIGN IOL

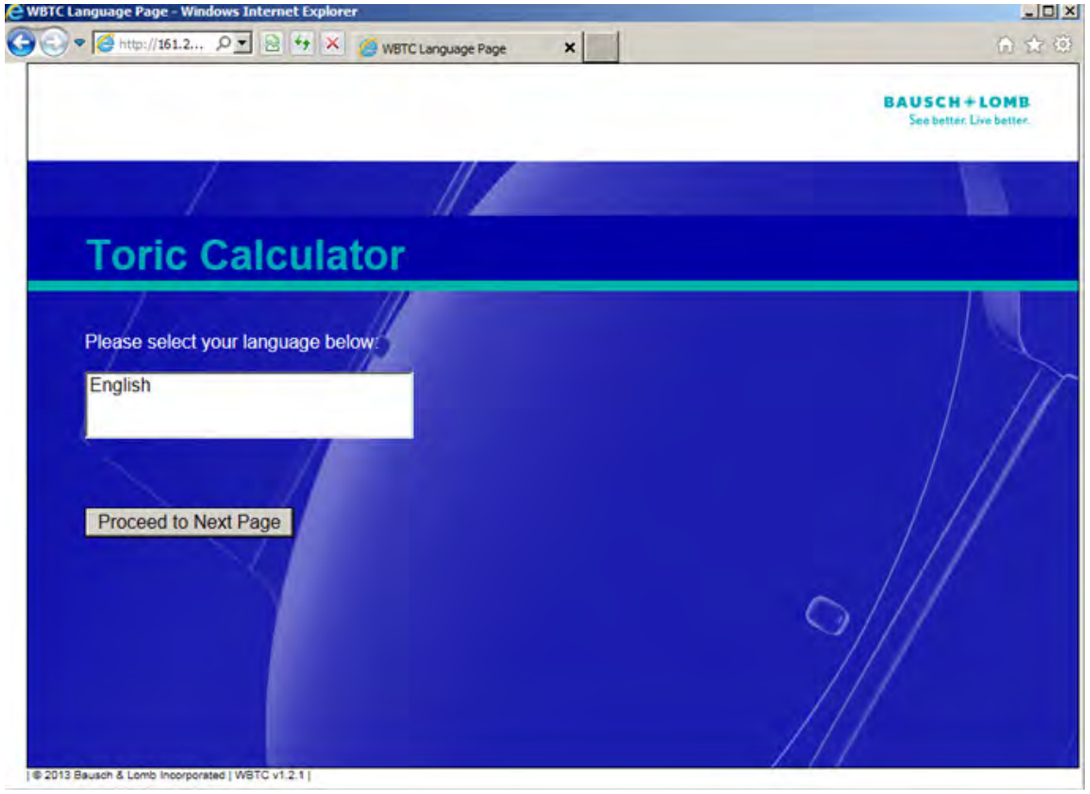
- 5.0-mm optic body
- Biconvex shape
- Rectangular hinged haptics
- Approved Dioptric power range from +4.00 to +33.00 D
- Cylinder powers 1.25, 2.00, and 2.75 D
- Round-to-the-right asymmetric polyimide loops



TRULIGN IOL

Toric Targeting

- The online TRULIGN™ Toric IOL Calculator will calculate toric IOL cylinder power and placement orientation, in order to best correct post-op refractive astigmatism



TRULIGN IOL

Model		Recommended Starting A-constant	Recommended Starting ACD	Overall Diameter	Available Now Diopter Power
TRULIGN™ Toric IOL	BL1UT	119.1*	5.61 mm*	11.5 mm	17.0 to 25.0 D in 0.50 D steps

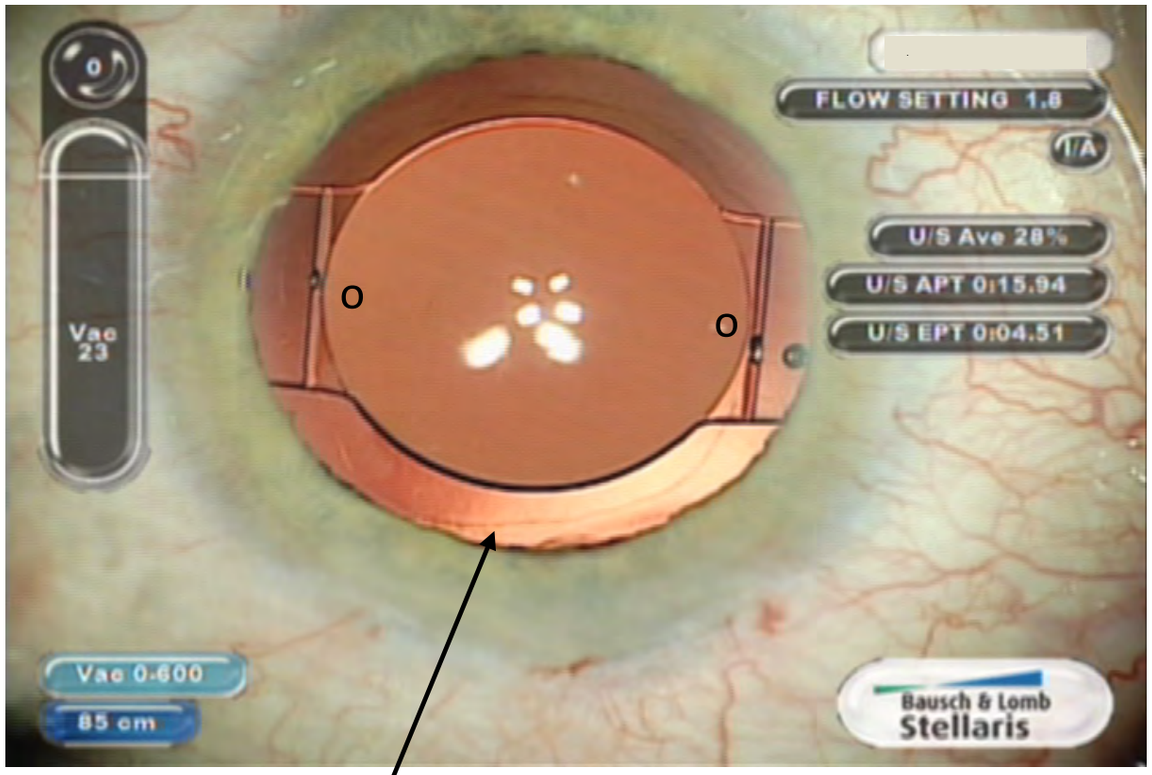
Cylinder powers–IOL plane	**1.25, 2.00, 2.75 D**
Cylinder powers–corneal plane	**0.83, 1.33, 1.83 D**
Optic body diameter	**5.0 mm**
Anterior surface	**Aspheric with axis marks**
Posterior surface	**Aspheric toric (cyl at 1.25, 2.00, 2.75 D)**
Material–body and plates	**Silicone with enhanced UV protection; 10% UV cutoff at 400 nm**
Material–loop (haptics)	**Polyimide**
Refractive index at 35° C	**1.43**
Edge design	**360° posterior square edge**
Delivery system	**Crystalsert® IOL Delivery System**

The Bausch + Lomb TRULIGN Toric posterior chamber IOL is a modified plate haptic lens with hinges across the plates adjacent to the optic. Axis marks on the anterior surface denote the flat meridian of the lens.

***A-constant and ACD are estimates only. It is recommended that each surgeon develop his or her own values.**

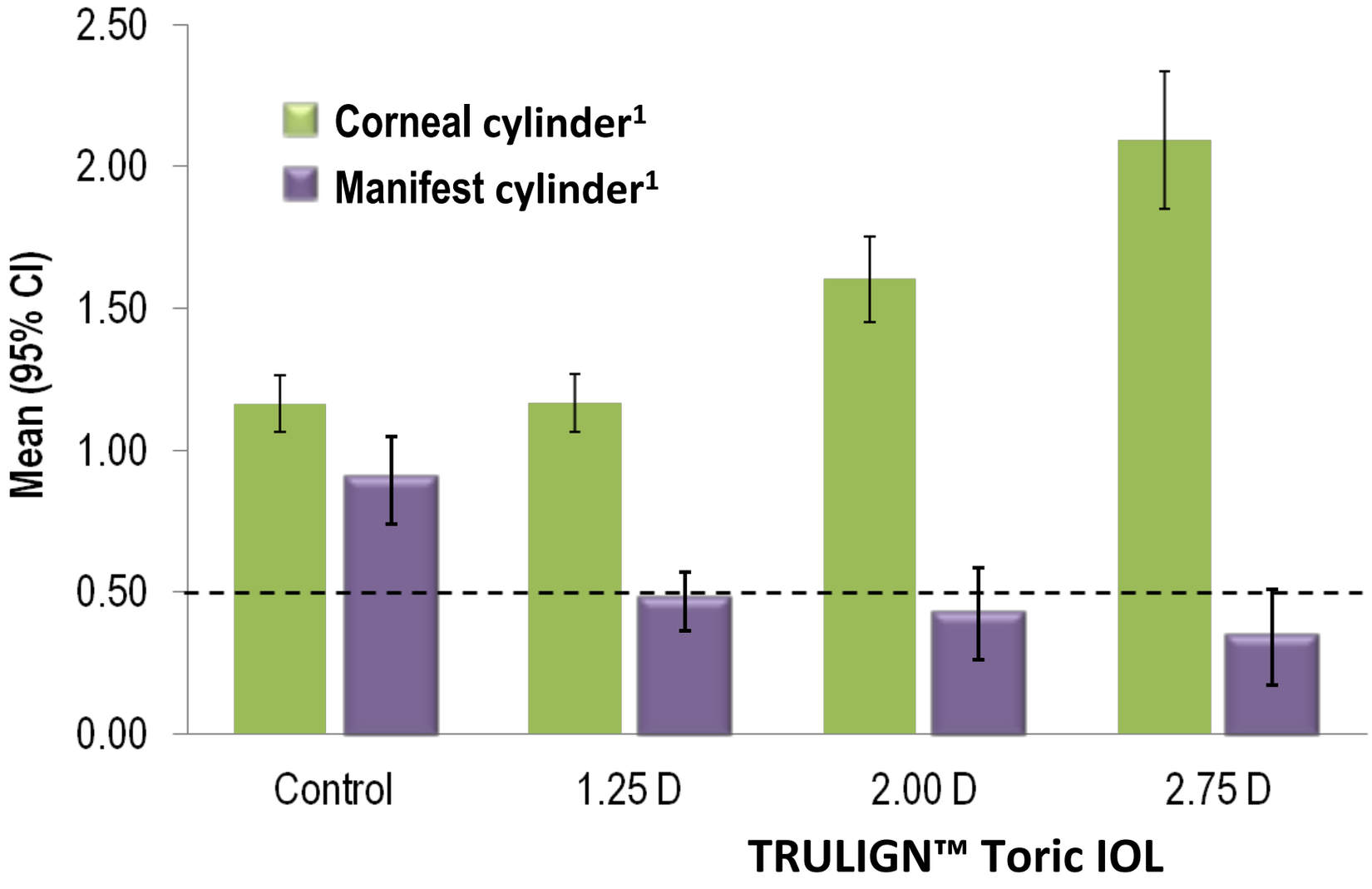
TRULIGN IOL

Create a symmetrical capsulorhexis of 5.5 to 6.0 mm



5.5- to 6.0-mm capsulorhexis–bigger than the optic and hinge, allowing free movement of the lens

TRULIGN IOL

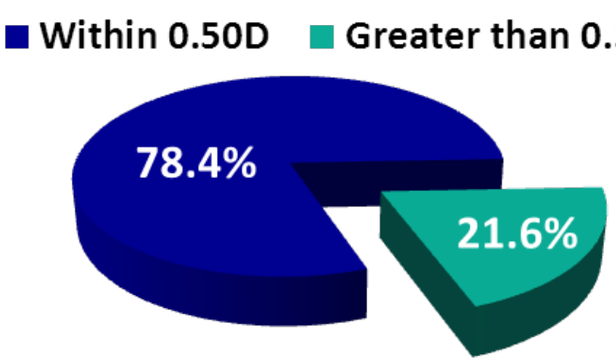


1.Data on file, Bausch & Lomb Incorporated. Study 650.

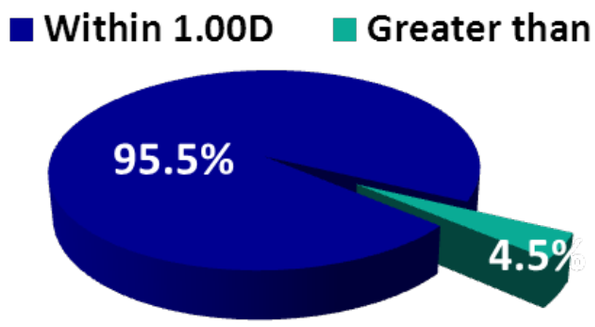
TRULIGN IOL

Cylinder correction accuracy. Results at 4 to 6 months.[1]

	Control IOL	Toric IOL			
		1.25 D	2.00 D	2.75 D	All Toric
Within 0.50 D of intended, %	44.1	79.7	79.5	71.4	**78.4**
Within 1.00 D of intended, %	72.1	96.0	92.3	100.0	**95.5**



All Toric



1.Data on file, Bausch & Lomb Incorporated. Study 650.

TRULIGN IOL

	Uncorrected Distance VA[1*]	**Uncorrected Intermediate VA**[1*]
≥ 20/25	72.4%	86.6%
≥ 20/32	86.6%	94.1%
≥ 20/40	97.8%	97.8%

***TRULIGN Toric IOL effectiveness cohort. Results at 4 to 6 months.**

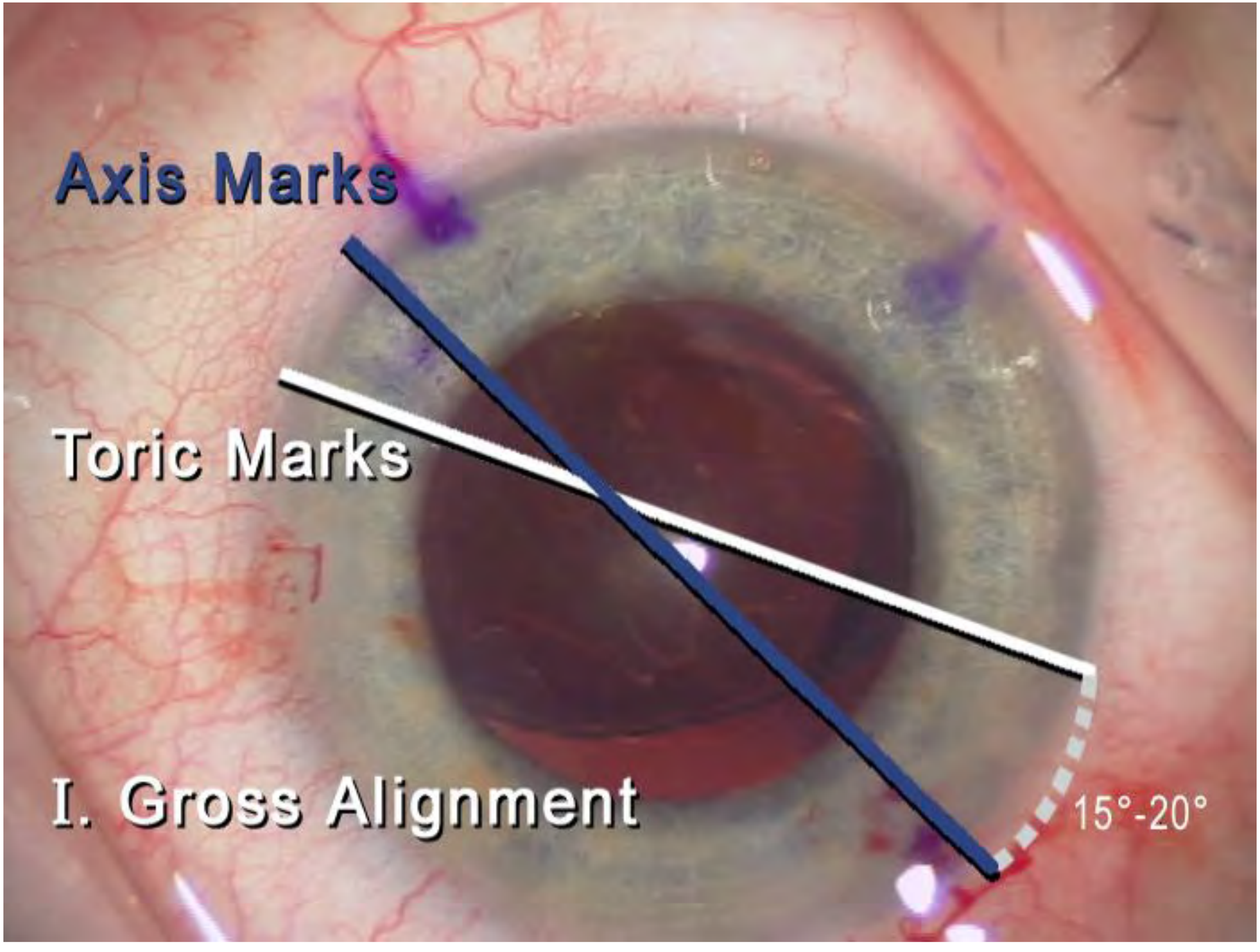
1.Data on file, Bausch & Lomb Incorporated. Study 650.

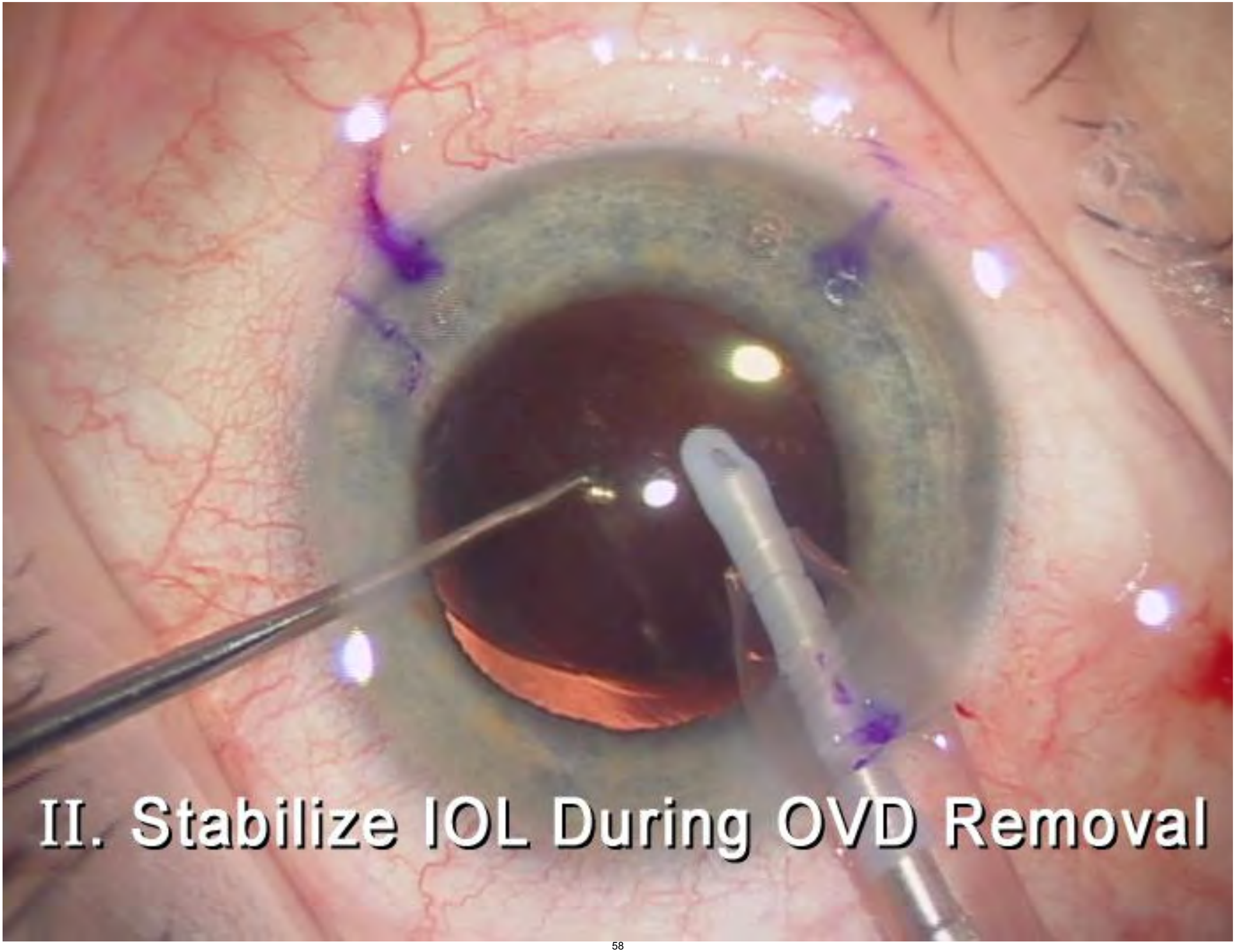
Reference Marks

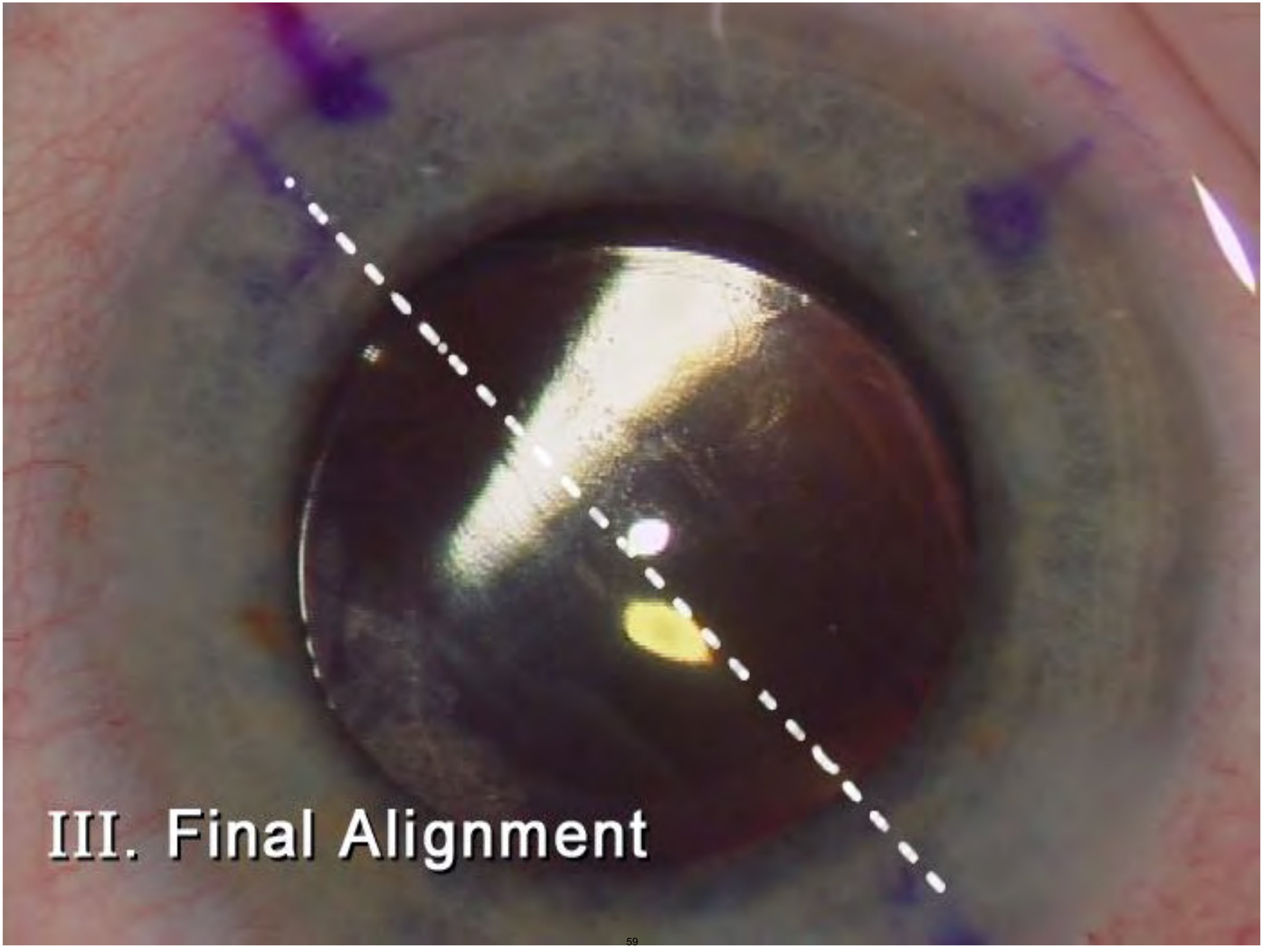
Toric Reference Marker

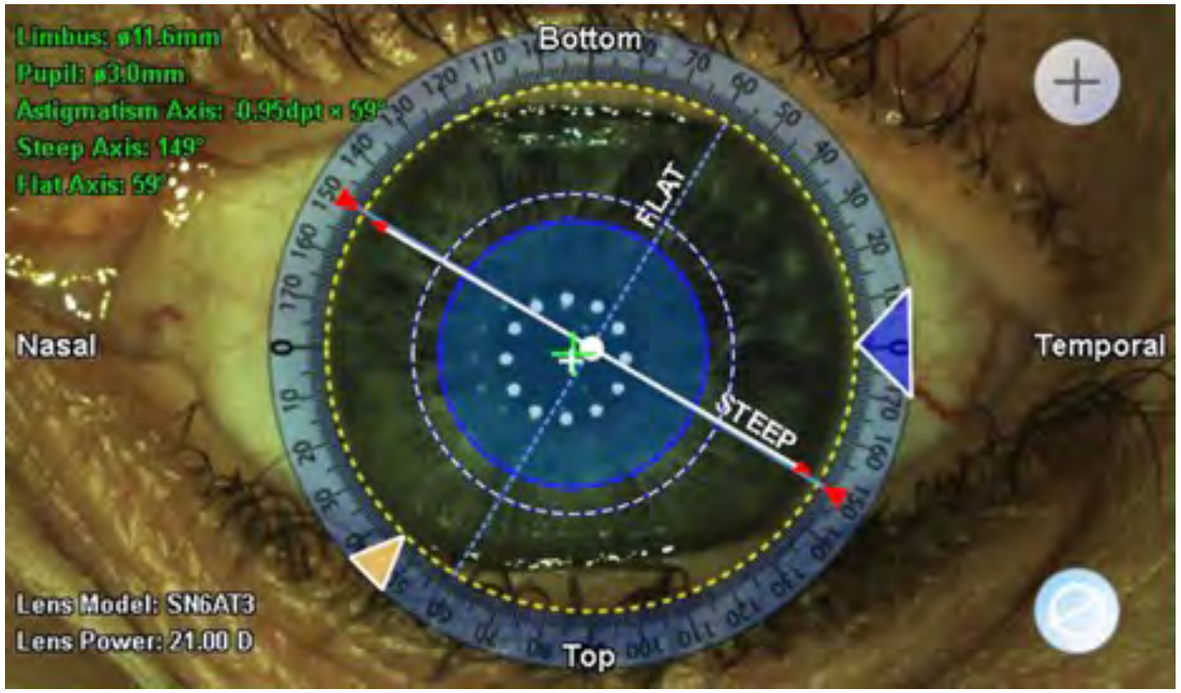
Axis Marks

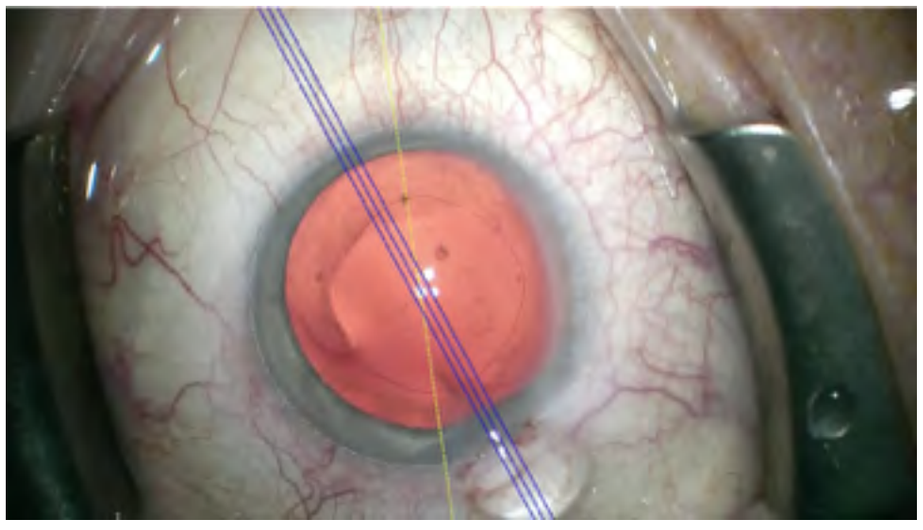
Toric Axis Marker

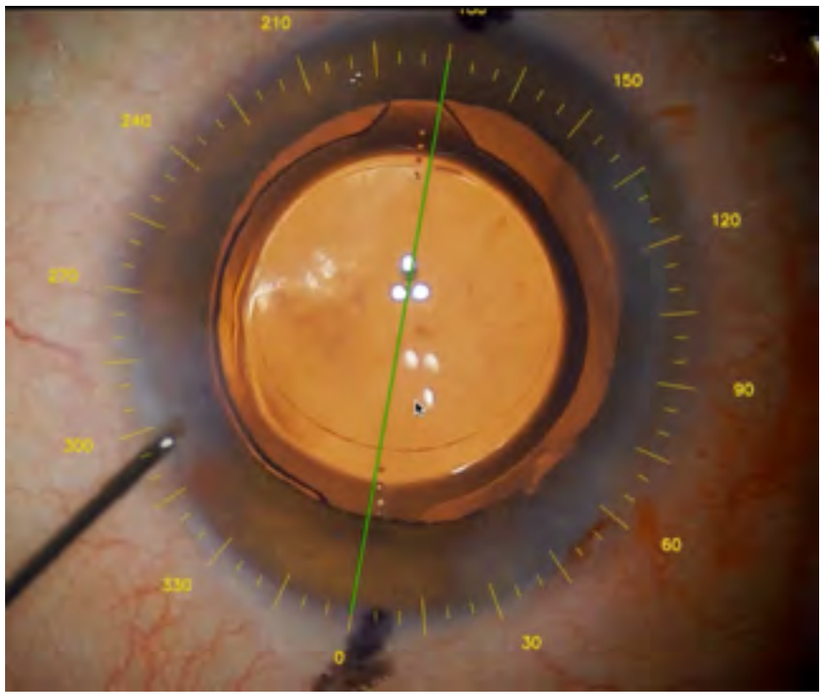

Axis Marks
Toric Marks
I. Gross Alignment
15°-20°


II. Stabilize IOL During OVD Removal


III. Final Alignment







INTRAOPERATIVE DEVICES

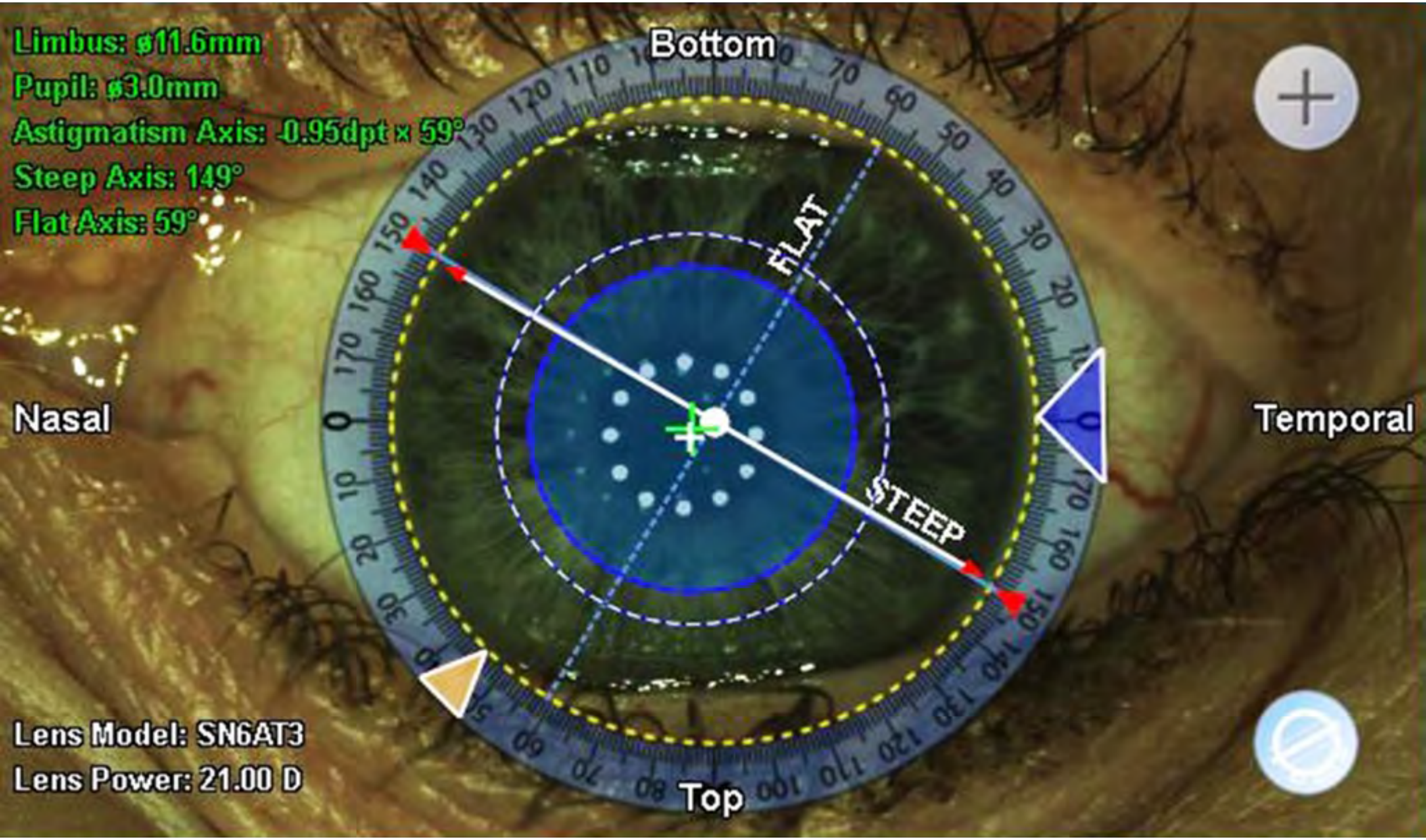
REVIEW

Intraocular lens alignment methods

Praneetha Thulasi[a], *Sumitra S. Khandelwal*[b], *and J. Bradley Randleman*[a,c]

Curr Opin Ophthalmol 2015, 26:000–000

VERION

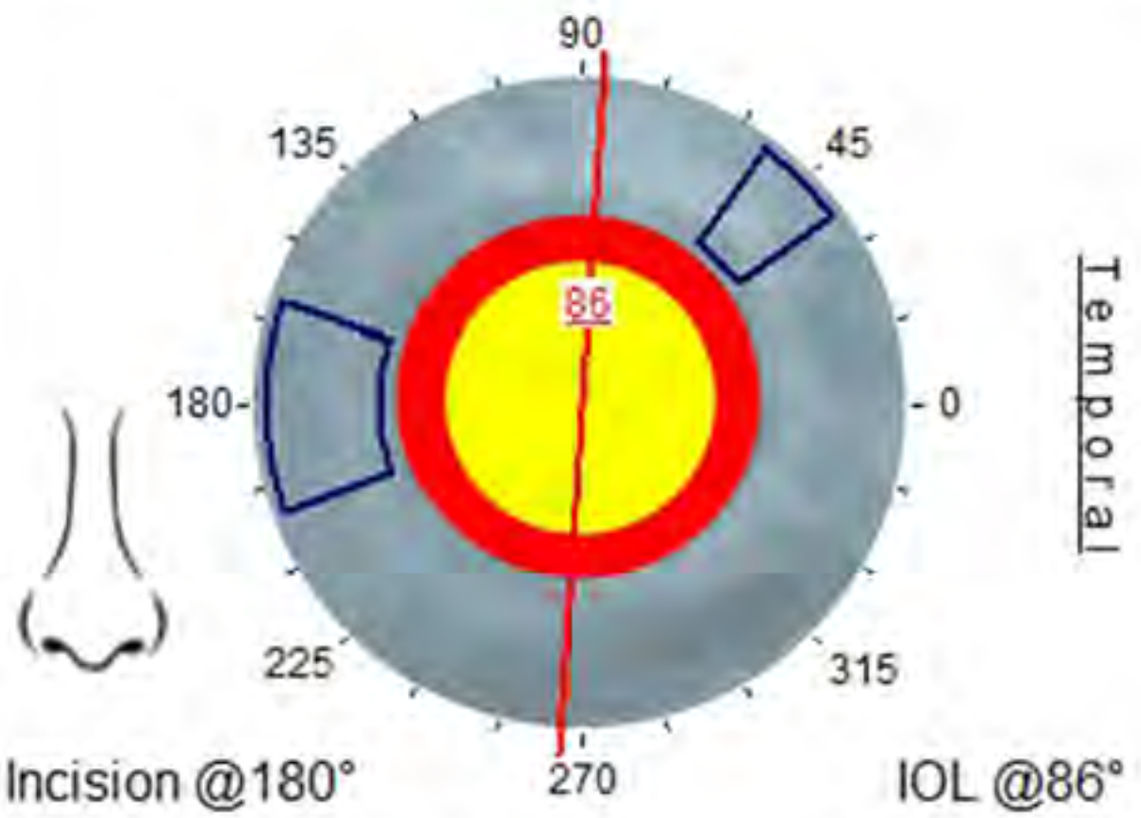

Limbus: ø11.6mm
Pupil: ø3.0mm
Astigmatism Axis: -0.95dpt x 59°
Steep Axis: 149°
Flat Axis: 59°
Bottom
FLAT
STEEP
Nasal
Temporal
Top
Lens Model: SN6AT3
Lens Power: 21.00 D

Alcon SN6AT6
Procedure: LenSx
SRG ACD(Opt): 5.670

IOL SEQ	SEQ Ref.
18.00	- 1.44
18.50	- 1.78
18.83	- 2.00
19.00	**- 2.11**
19.50	- 2.45

Formula	**Holladay II**
Incision	**180°**
SIA	**0.25D**
Post SIA Astigm	**2.51 @86°**
IOL Placement Axis	**86°**
IOL Ideal Toricity	**3.86D @IOL**
Res. Refraction	**-2.15 +0.07D x86°**

Lens	Res. Refraction
SN6AT3 (1.50D @IOL)	-2.91 +1.59 D x 86°
SN6AT4 (2.25D @IOL)	-2.65 +1.08 D x 86°
SN6AT5 (3.00D @IOL)	-2.40 +0.58 D x 86°
SN6AT6 (3.75D @IOL)	**-2.15 +0.07 D x 86°**
SN6AT7 (4.50D @IOL)	-2.33 +0.44 D x 176°
SN6AT8 (5.25D @IOL)	-2.59 +0.95 D x 176°
SN6AT9 (6.00D @IOL)	-2.84 +1.45 D x 176°



Pri Inc.: **2.4mm @180°** Sec Inc.: **1.0mm @45°**
RI1: RI2:
RI Depth: Diam:

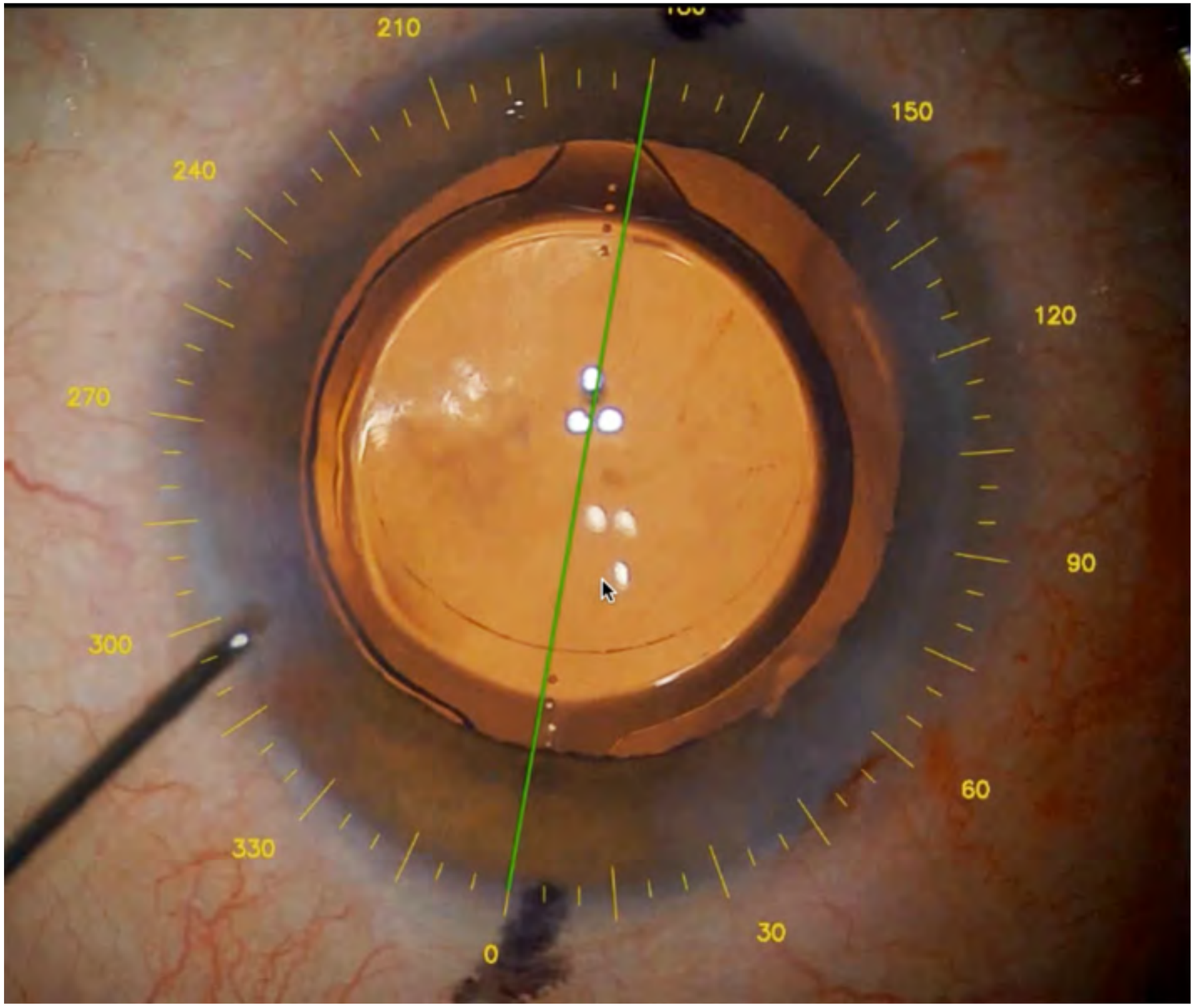
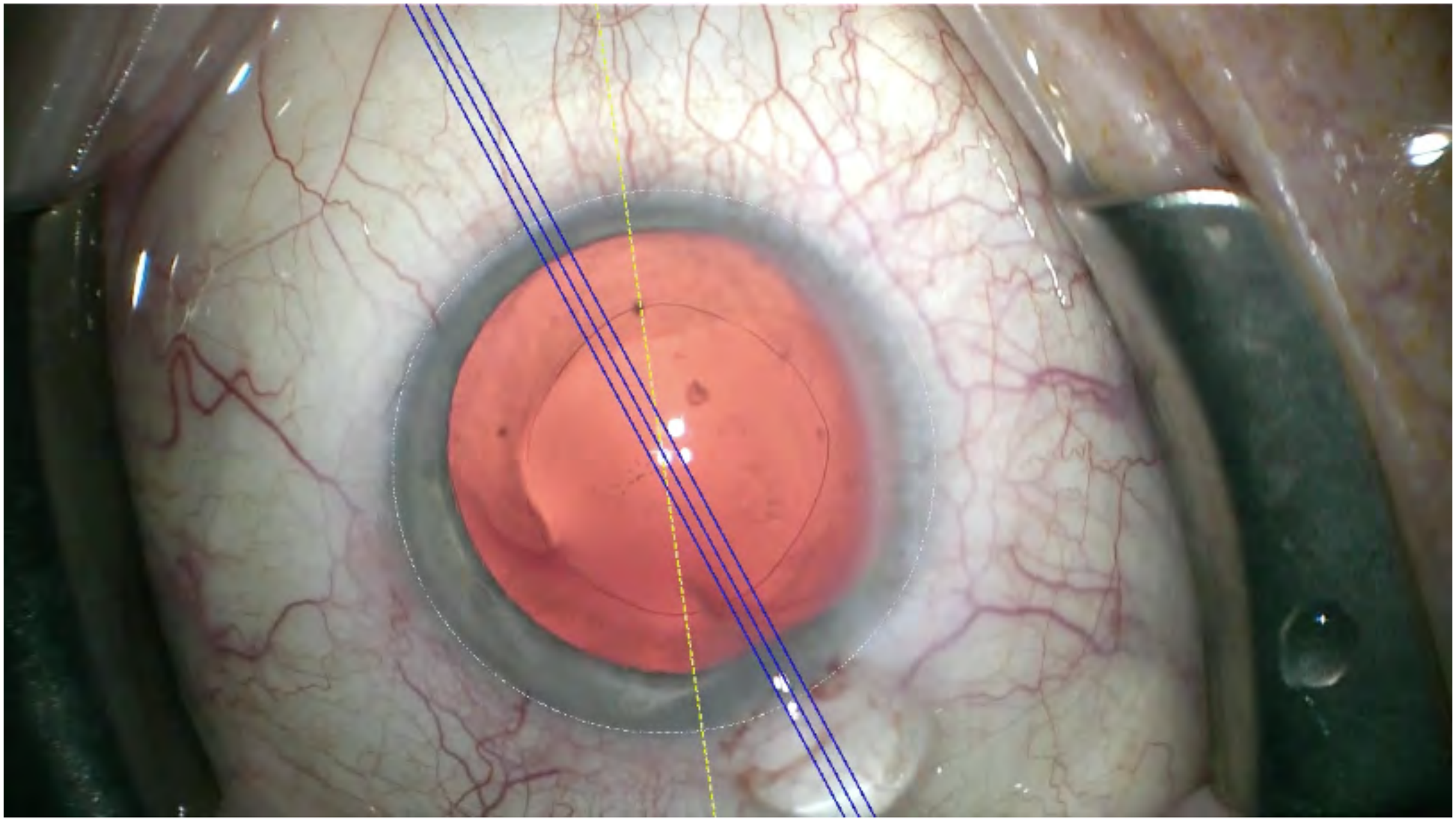


FIGURE 3. The True Vision (True Vision Systems) intraoperative digital overlay to assist with intraoperative toric IOL alignment.

ZEISS LUMERA



TORIC IOL WEBSITES

- acrysoftoriccalculator.com
- tecnistoriciol.com/tecnis-toric-iol-calculator
- trulign.toriccalculator.com
- astigmatismfix.com

TORIC IOL CALCULATORS

Correcting astigmatism with toric intraocular lenses: Effect of posterior corneal astigmatism

Douglas D. Koch, MD, Richard B. Jenkins, MD, Mitchell P. Weikert, MD, Elizabeth Yeu, MD, Li Wang, MD, PhD

J Cataract Refract Surg 2013; 39:1803–1809

Table 3. Baylor toric IOL nomogram (target range up to 0.40 D WTR). Values in the table are the vector sum of the anterior corneal and surgically induced astigmatism. Examples: (1) If the cornea has 3.70 D WTR and surgically induced astigmatism is 0.20 D WTR, use the value of 3.9 D to select IOL toricity. (2) If the cornea has 1.90 D ATR and surgically induced astigmatism is 0.20 D WTR, use the value of 1.70 D to select IOL toricity.

Effective IOL Cylinder Power at Corneal Plane (D)	WTR (D)	ATR (D)
0.00	≤1.69 (PCRI if >1.00)	<0.39
1.00	1.70–2.19	0.40*–0.79
1.50	2.20–2.69	0.80–1.29
2.00	2.70–3.19	1.30–1.79
2.50	3.20–3.79	1.80–2.29
3.00	3.80–4.39	2.30–2.79
3.50	4.40–4.99	2.80–3.29
4.00	5.00–	3.30–3.79

ATR = against the rule; IOL = intraocular lens; PCRI = peripheral corneal relaxing incision; WTR = with the rule
*Especially if spectacles have more ATR

Reduce toric IOL choice for WTR

Increase toric IOL choice for ATR

TORIC IOL CALCULATORS

- Manufacturer calculators
- Holladay
- Barrett

Patient 1

T5

ACRYSOF IQ TORIC ASTIGMATISM IOL

Alcon CE

Alcon does not receive or retain any patient data. Please print a copy of the final output for your records. Contact your Alcon representative for available AcrySof® IQ Toric IOL models and diopter ranges.

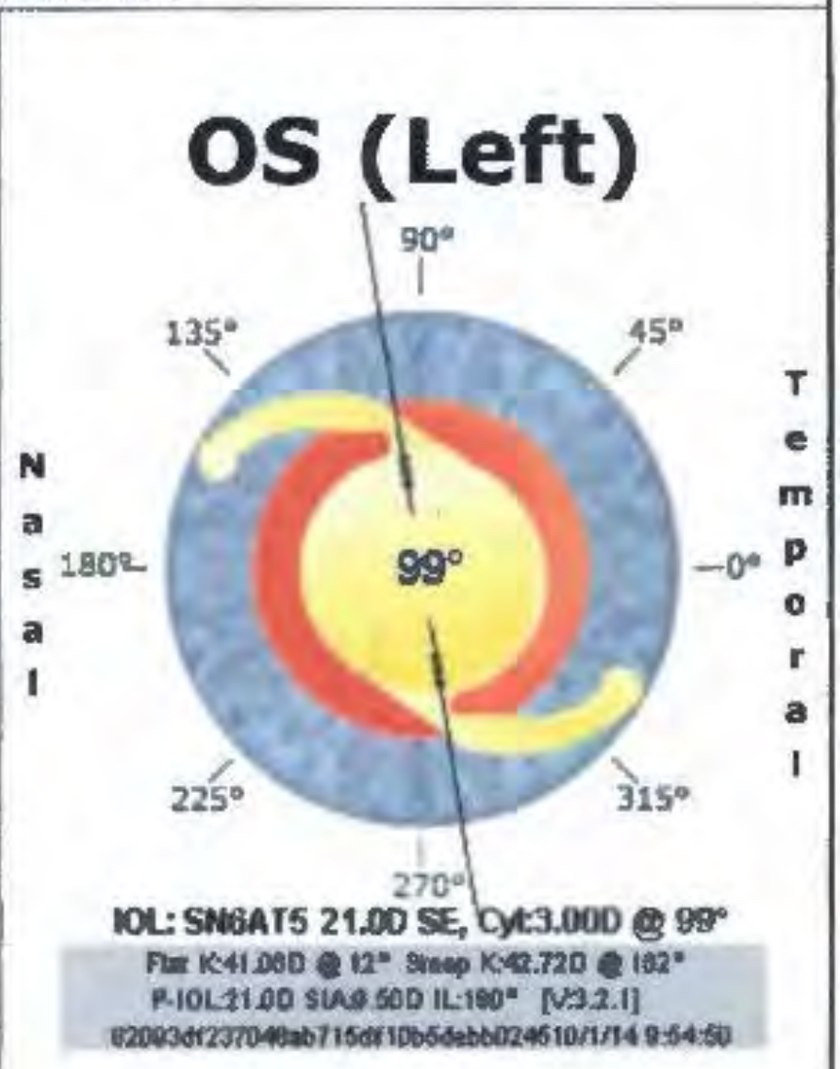
Print

Lens Recommendation

Surgeon & Patient Information	
Surgeon Name	
Patient Name	
Additional Patient Information *(I.D., Case, etc.)*	

Lens Details	
AcrySof® IQ Toric IOL	SN6AT5
IOL Spherical Equivalent (SE)	21.0 D
Axis of Placement	99°
Cylinder Power (IOL Plane)	3.00 D
Cylinder Power (Corneal Plane)	2.06 D

Calculation Details	
Pre-Op Corneal Astigmatism:	1.66 D X 102°
Surgically Induced Astigmatism:	0.50 D X 90°
Crossed-Cylinder Result (corneal plane):	2.13 D X 99°
Anticipated Residual Astigmatism:	0.07 D X 99°



Patient 1

T4

BARRETT TORIC CALCULATOR K Index 1.3375 ® K Index 1.332 © +ve Cylinder ® -ve Cylinder ©

Patient Data Toric IOL Calculator Guide

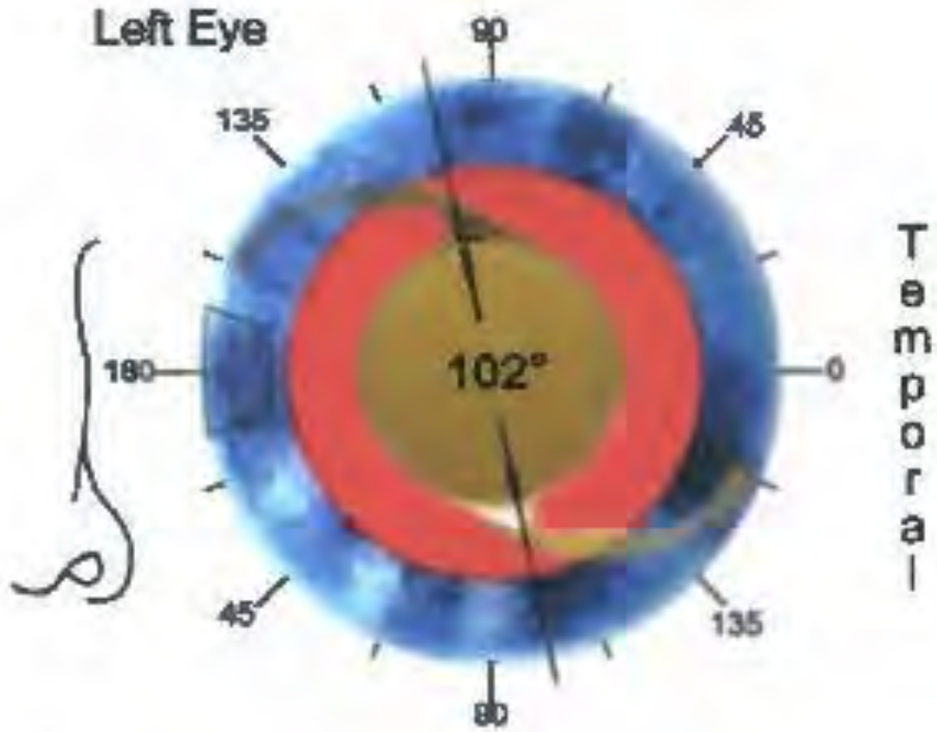
Flat K: 41.06@ 12 Steep K: 42.72@ 102

A Constant/LF: 119.2 / 1.99 AL: 25.91 ACD: 3.59

Induced Astigmatism (SIA): .8 D @ 180 Degrees

IOL Power	Toric Power	Refraction - (S.E.Q.)
21.5 (Biconvex)	T4	-3.92 S.E.
21.0 (Biconvex)	**T4**	**-3.54 S.E.**
20.5 (Biconvex)	T4	-3.15 S.E.

Toric Power	IOL Cylinder	Residual Astigmatism
T3	1.5	0.62 Cyl Axis 102
T4	**2.25**	**0.12 Cyl Axis 102**
T5	3	0.39 Cyl Axis 12



Recommended IOL: 21 D T4 Axis 102

Cylinder Power: IOL Plane 2.25 D – Corneal Plane 1.52 D

Target Refraction:

-3.59 sph. / 0.12 cyl Axis 102 Degrees

Patient 1

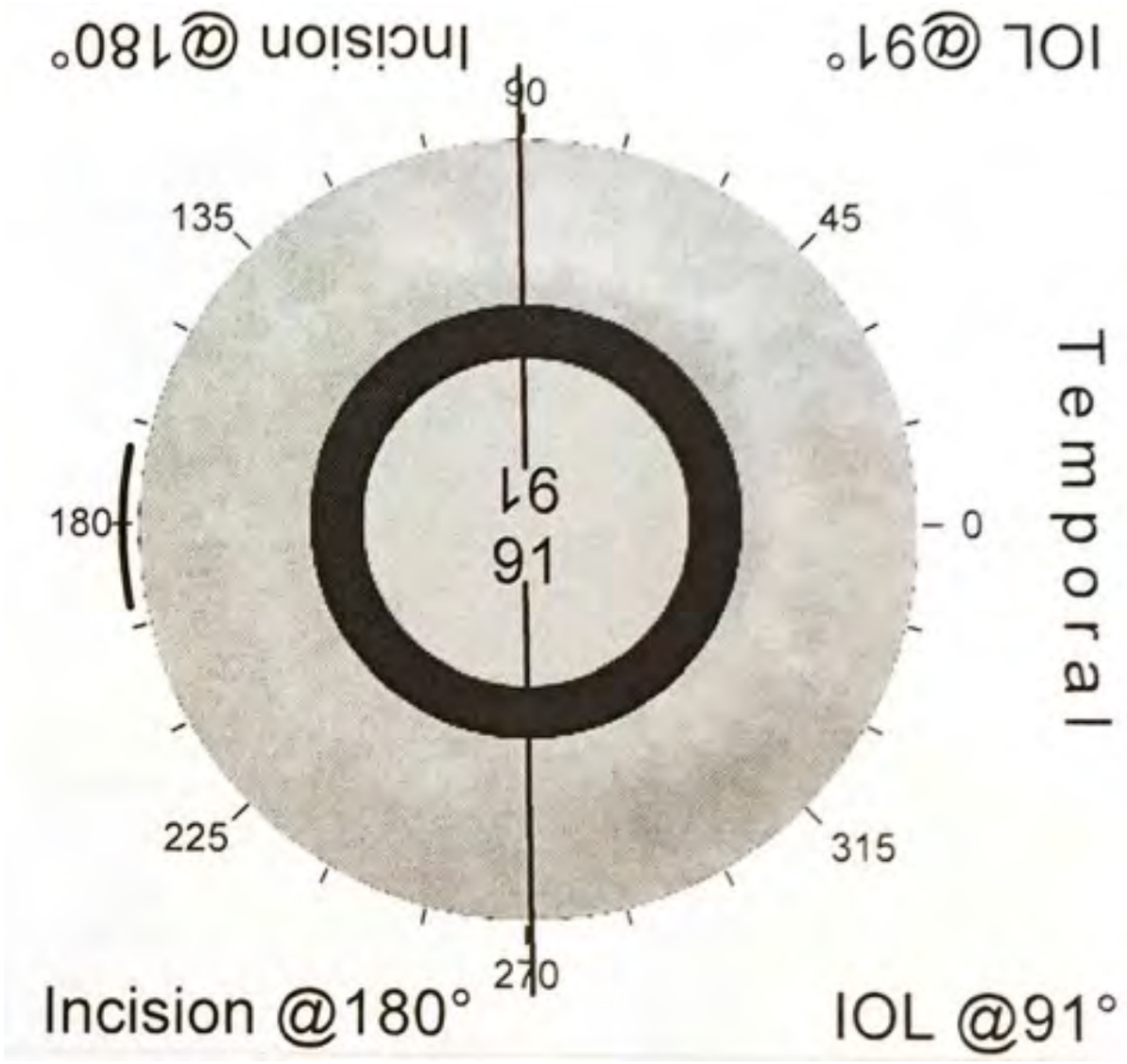
T5

Alcon SN6ATx
Procedure: Std Phaco
SRG Entrd ACD(Opt): 5.67

IOL	Ref.
12.50	0.38
13.00	**0.07**
13.11	0.00
13.50	- 0.25
14.00	- 0.57

Formula: **Holladay II**
Incision : **180°**
SIA: **0.50D**
IOL Placement Axis : **86°**
IOL Ideal Toricity : **2.99D @IOL**
Res. Refraction : **+0.06 +0.02 D x 86°**

Lens	Res. Refraction
SN6AT2 (1.00D @IOL)	-0.57 +1.28 D x 86°
SN6AT3 (1.50D @IOL)	-0.41 +0.97 D x 86°
SN6AT4 (2.25D @IOL)	-0.18 +0.50 D x 86°
SN6AT5 (3.00D @IOL)	**+0.06 +0.02 D x 86°**
SN6AT6 (3.75D @IOL)	-0.16 +0.45 D x 176°
SN6AT7 (4.50D @IOL)	-0.39 +0.93 D x 176°
SN6AT8 (5.25D @IOL)	-0.63 +1.40 D x 176°
SN6AT9 (6.00D @IOL)	-0.87 +1.87 D x 176°



Patient 2

T8

ACRYSOF IQ TORIC ASTIGMATISM IOL

Alcon CE

Alcon does not receive or retain any patient data. Please print a copy of the final output for your records. Contact your Alcon representative for available AcrySof® IQ Toric IOL models and diopter ranges.

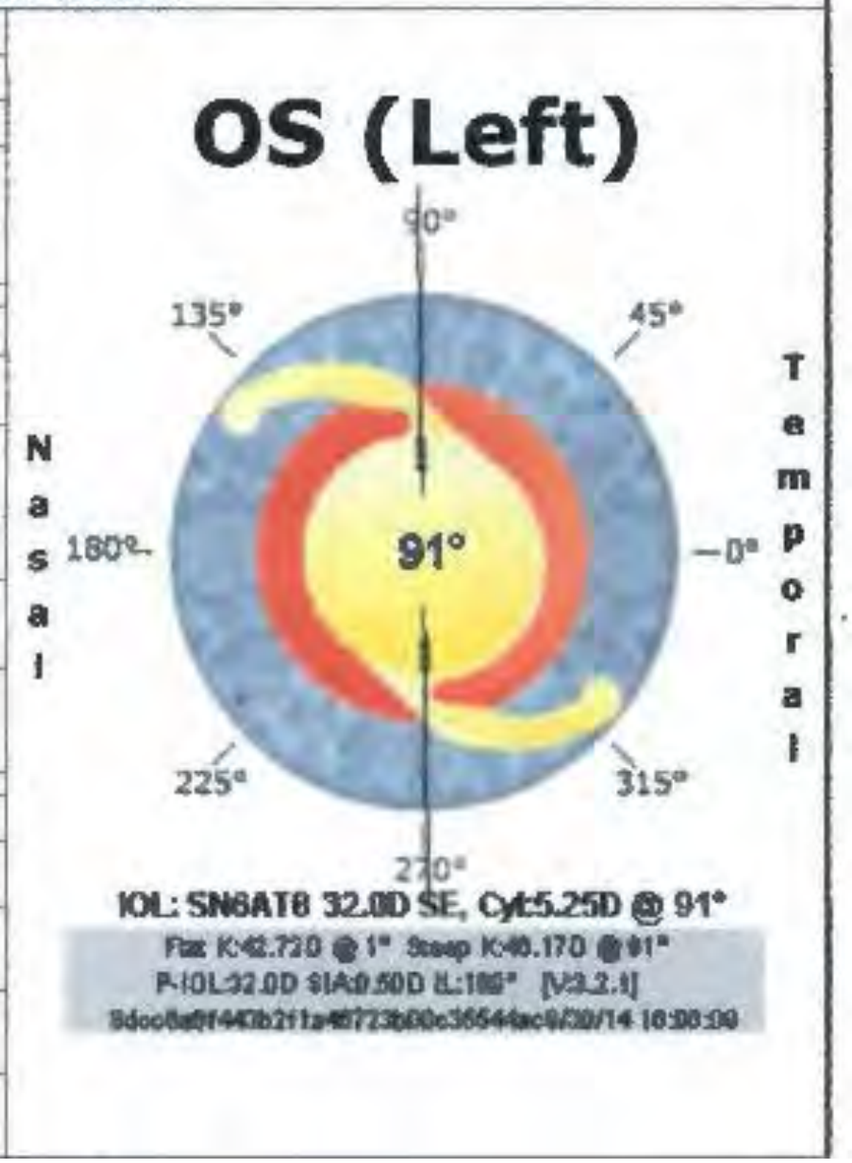
Print

Lens Recommendation

Surgeon & Patient Information	
Surgeon Name	
Patient Name	
Additional Patient Information *(I.D., Case, etc.)*	

Lens Details	
AcrySof® IQ Toric IOL	SN6AT8
IOL Spherical Equivalent (SE)	32.0 D
Axis of Placement	91°
Cylinder Power (IOL Plane)	5.25 D
Cylinder Power (Corneal Plane)	3.60 D

Calculation Details	
Pre-Op Corneal Astigmatism:	3.45 D X 91°
Surgically Induced Astigmatism:	0.50 D X 90°
Crossed-Cylinder Result (corneal plane):	3.95 D X 91°
Anticipated Residual Astigmatism:	0.35 D X 91°



Patient 2

T6

BARRETT TORIC CALCULATOR K Index 1.3375 @ K Index 1.332 @ +VE Cylinder @ -VE Cylinder @

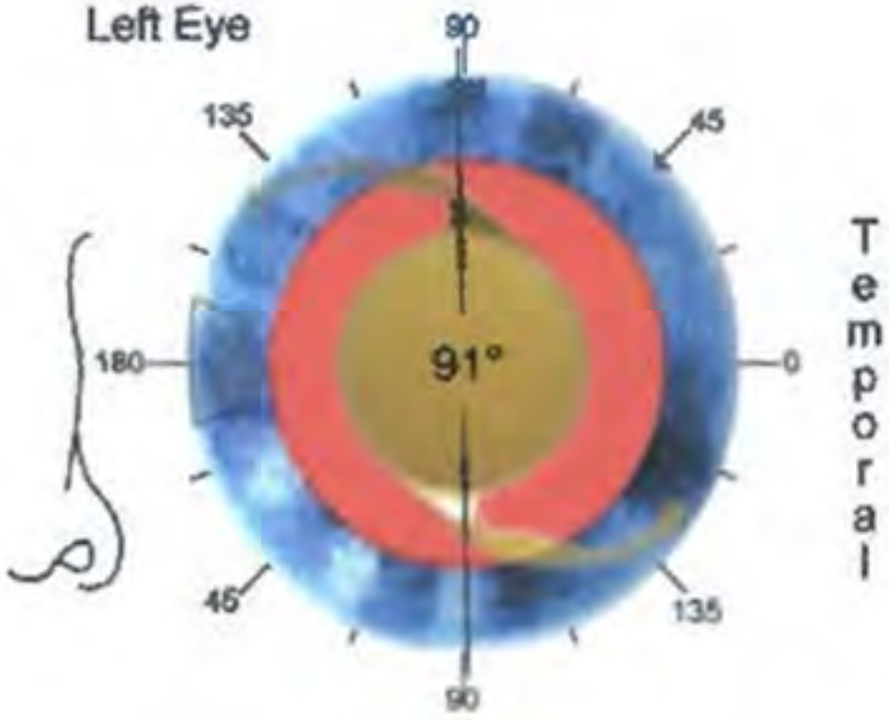
Patient Data Toric IOL Calculator Guide

Flat K: 42.72@ 1 Steep K: 46.17@ 91

A Constant/LF: 119.2 / 1.99 AL: 20.82 ACD: 3.26

Induced Astigmatism (SIA): .5 D @ 180 Degrees

IOL Power	Toric Power	Refraction - (S.E.Q.)
32.5 (Biconvex)	T6	-1.04 S.E.
32.0 (Biconvex)	**T6**	**-0.67 S.E.**
31.5 (Biconvex)	T6	-0.29 S.E.



Toric Power	IOL Cylinder	Residual Astigmatism
T5	3	0.90 Cyl Axis 91
T6	**3.75**	**0.39 Cyl Axis 91**
T7	4.5	0.12 Cyl Axis 1

Recommended IOL: 32 D T6 Axis 91

Cylinder Power: IOL Plane 3.75 D ~ Corneal Plane 2.64 D

Target Refraction:

-0.66 sph. / 0.39 cyl Axis 91 Degrees

Patient 2

T9

Alcon SN6ATx
Procedure: Std Phaco
SRG Entrd ACD(Opt): 5.67

IOL	Ref.
30.00	1.02
31.00	0.35
31.76	- 0.17
32.00	**- 0.34**
33.00	- 1.04

Formula: **Holladay II**
Incision: **180°**
SIA: **0.50D**
IOL Placement Axis: **91°**
IOL Ideal Toricity: **5.67D @IOL**
Res. Refraction: **-0.45 +0.23 D x 1°**

Lens	Res. Refraction
SN6AT2 (1.00D @IOL)	-1.96 +3.25 D x 91°
SN6AT3 (1.50D @IOL)	-1.79 +2.91 D x 91°
SN6AT4 (2.25D @IOL)	-1.53 +2.39 D x 91°
SN6AT5 (3.00D @IOL)	-1.27 +1.86 D x 91°
SN6AT6 (3.75D @IOL)	-1.01 +1.34 D x 91°
SN6AT7 (4.50D @IOL)	-0.75 +0.82 D x 91°
SN6AT8 (5.25D @IOL)	-0.49 +0.30 D x 91°
SN6AT9 (6.00D @IOL)	**-0.45 +0.23 D x 1°**

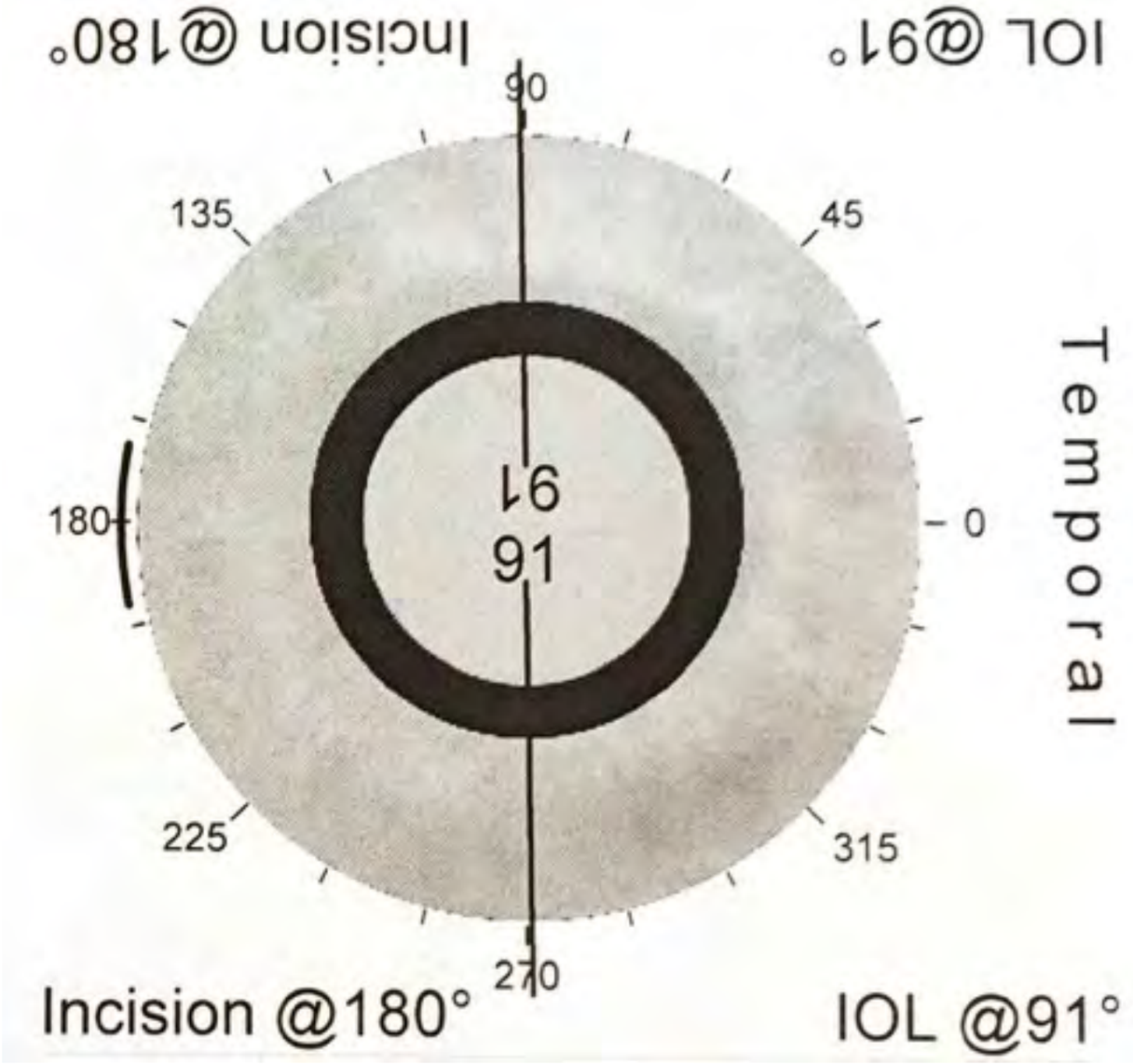
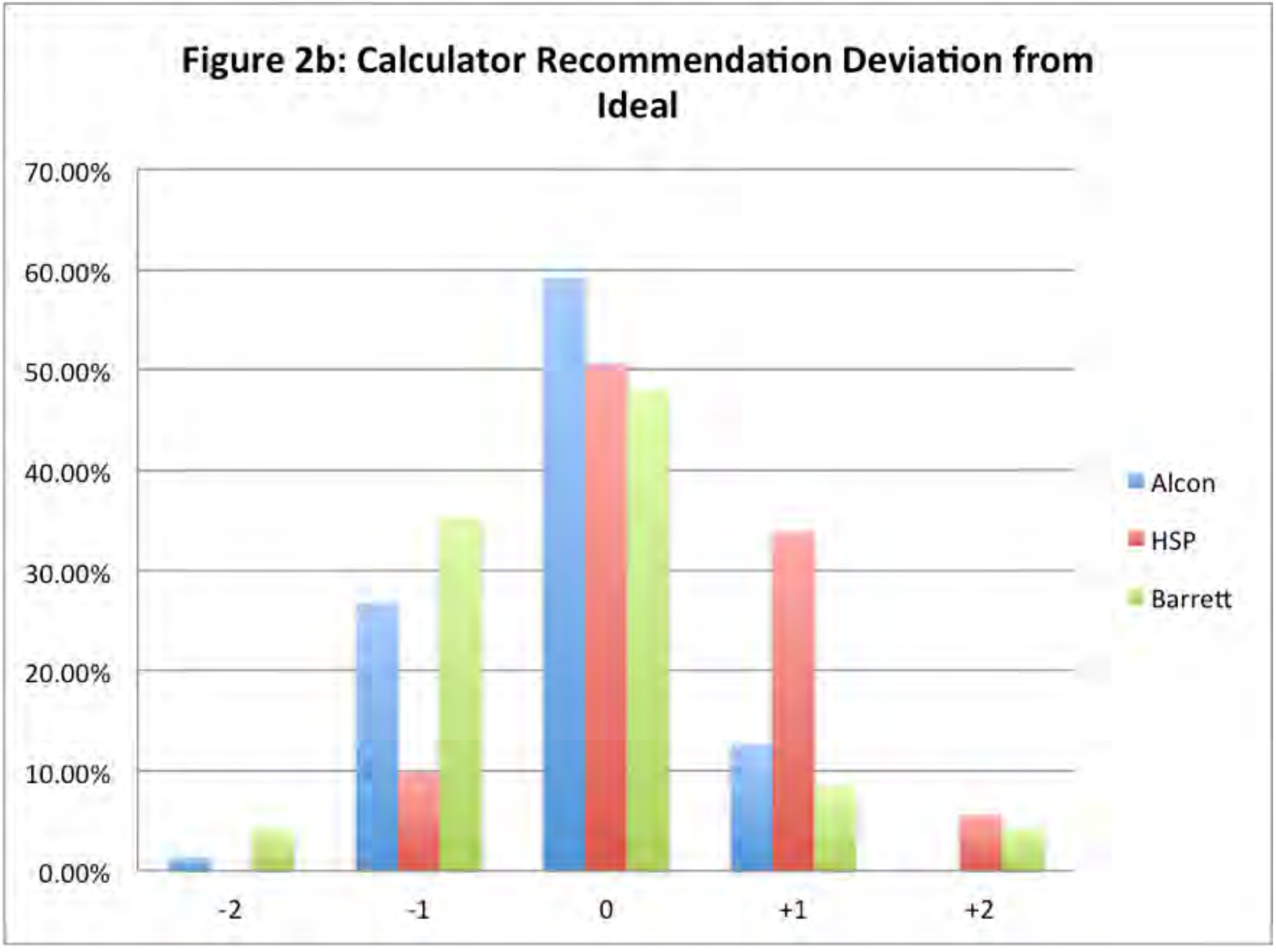
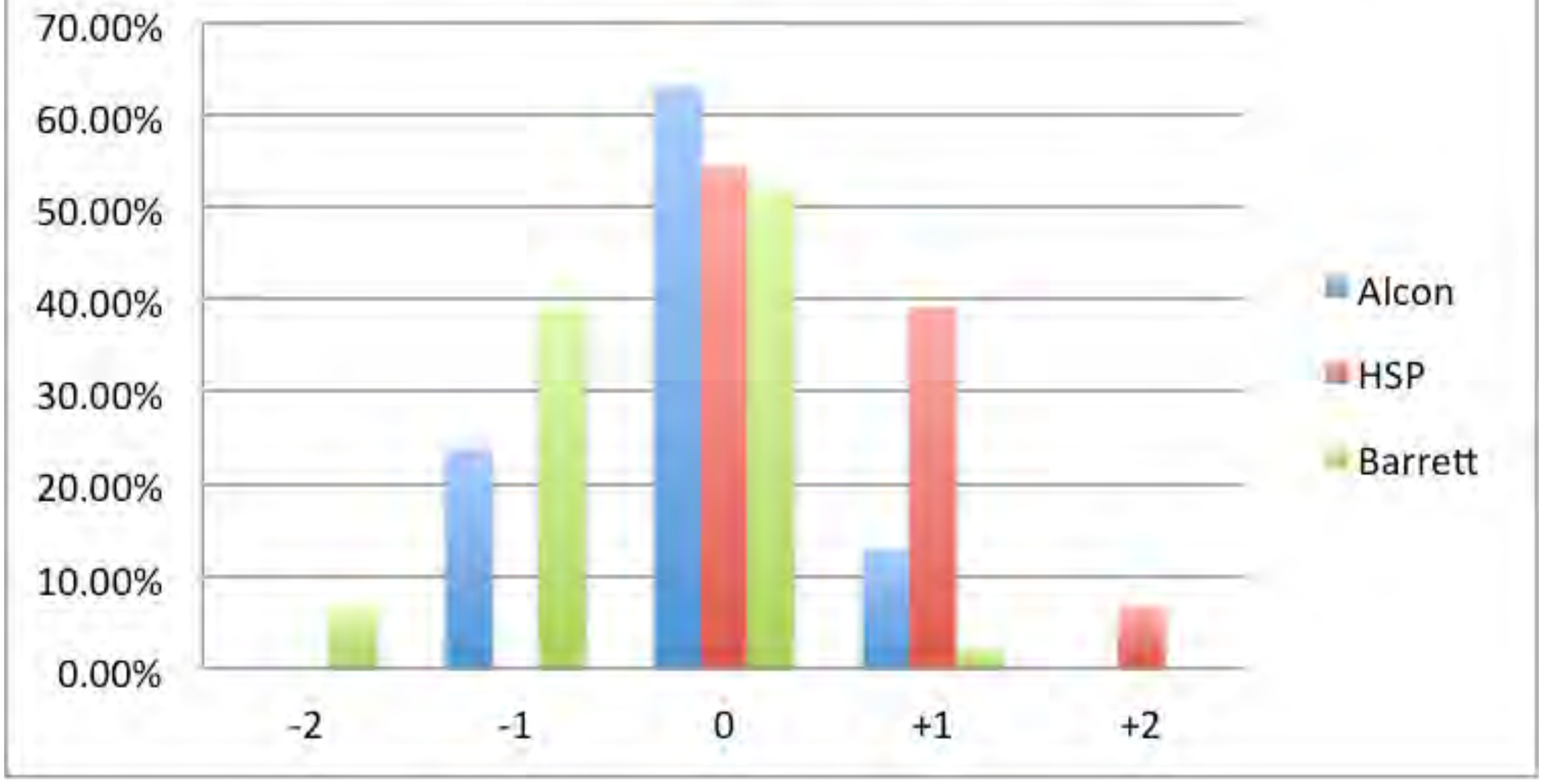


Figure 2b: Calculator Recommendation Deviation from Ideal

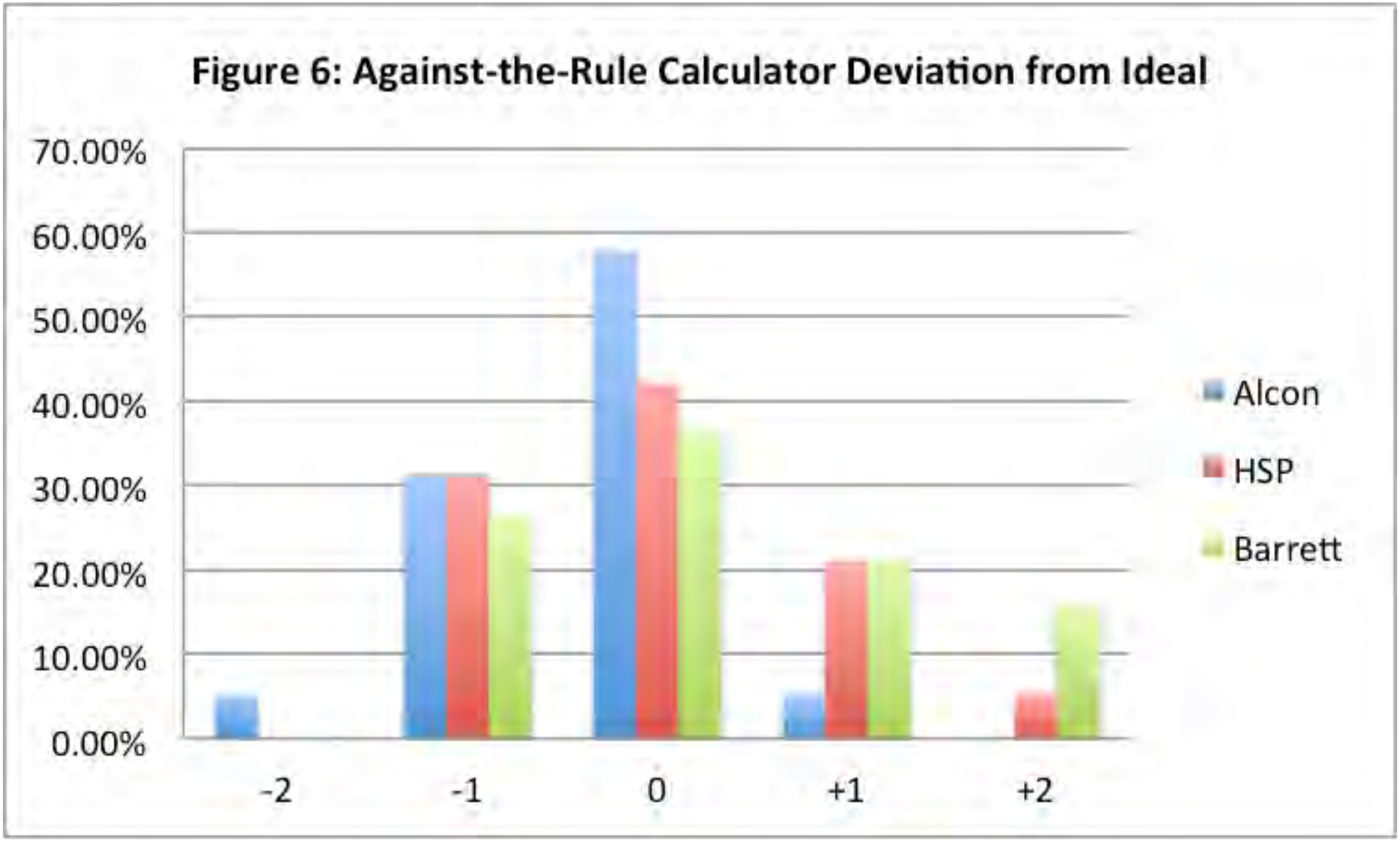


Lockwood & Randleman, 2014 ISRS/AAO E-poster RP30040879

Figure 5: With-the-Rule Calculator Deviation from Ideal

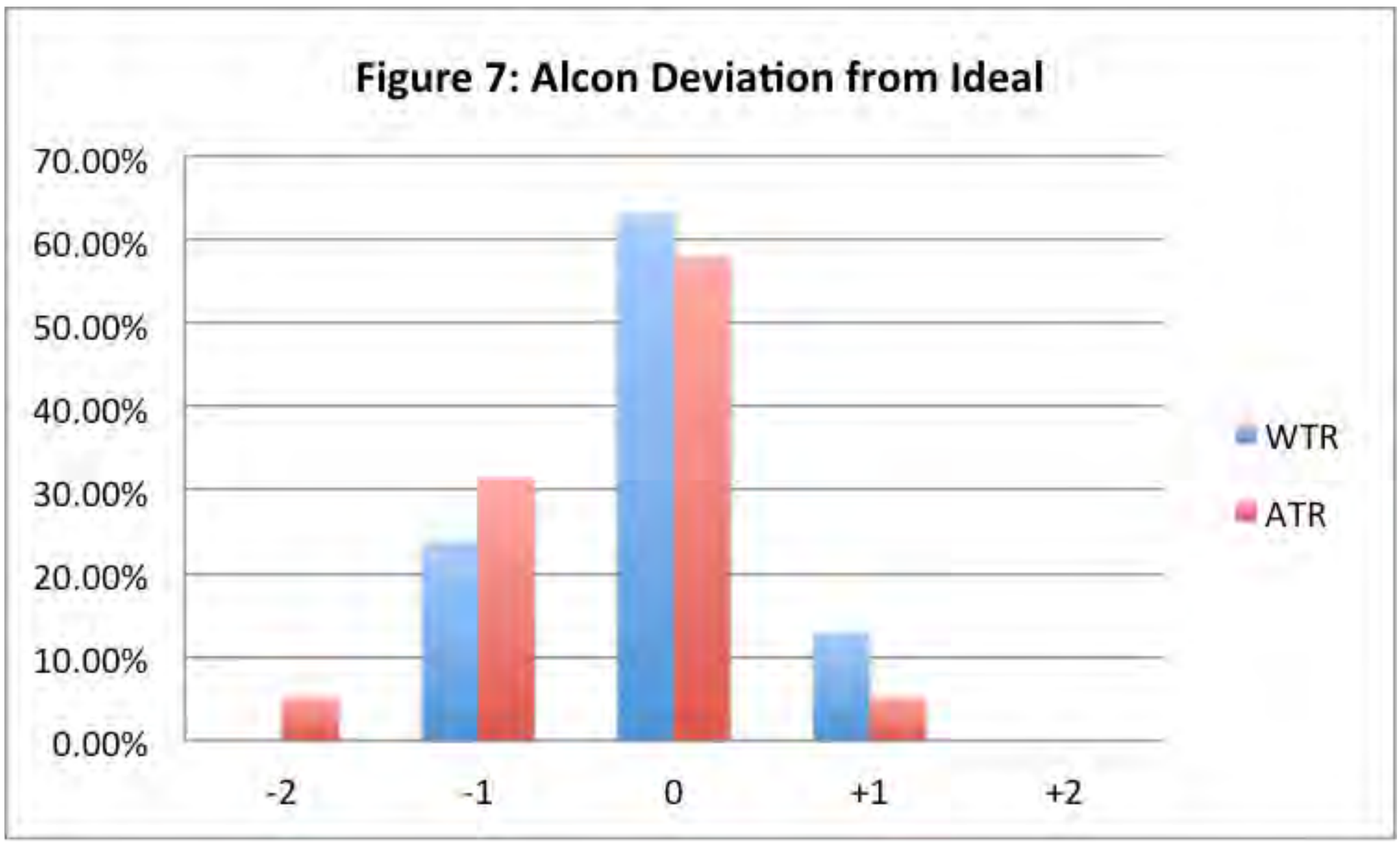


Lockwood & Randleman, 2014 ISRS/AAO E-poster RP30040879



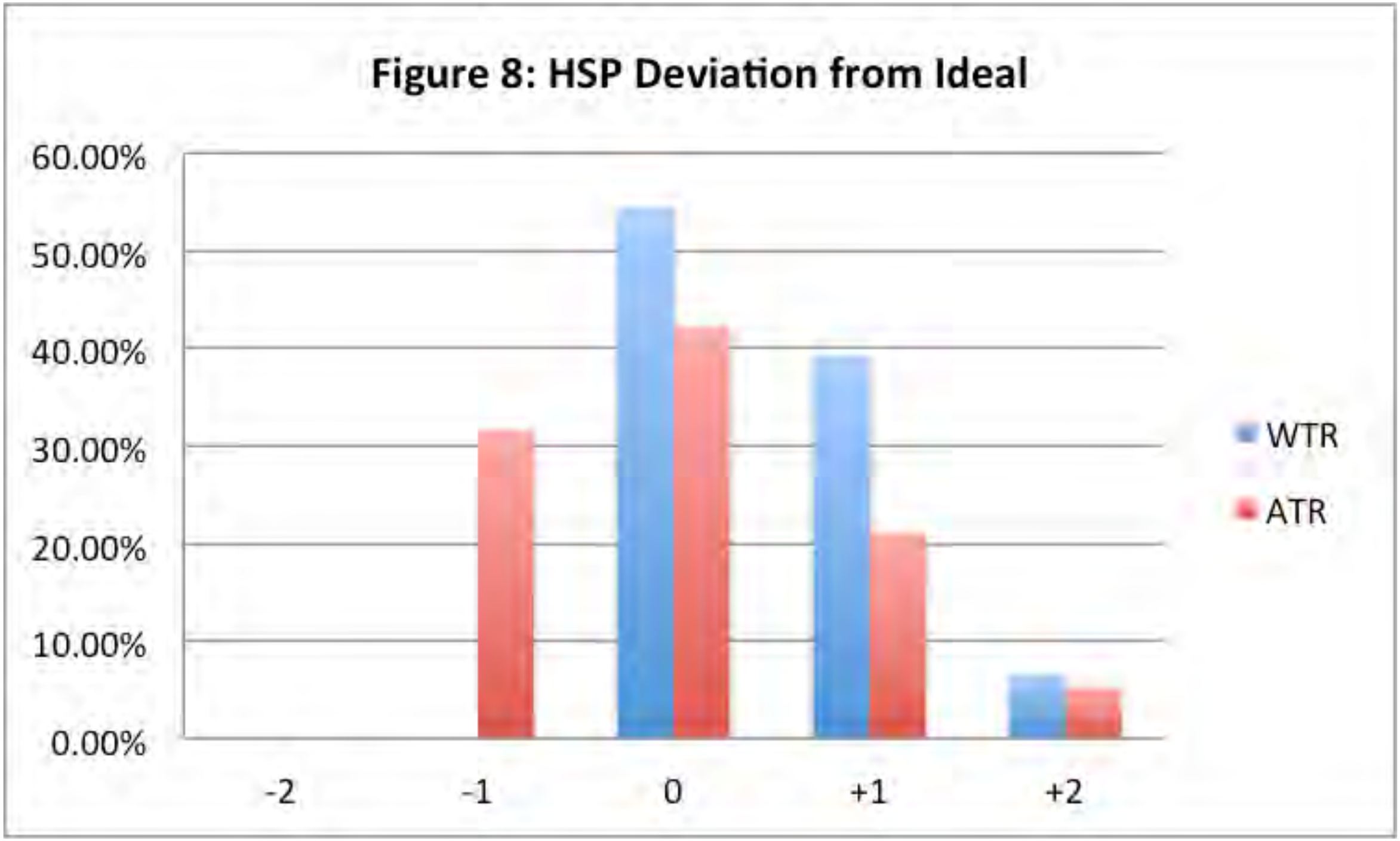
Lockwood & Randleman, 2014 ISRS/AAO E-poster RP30040879

Figure 7: Alcon Deviation from Ideal

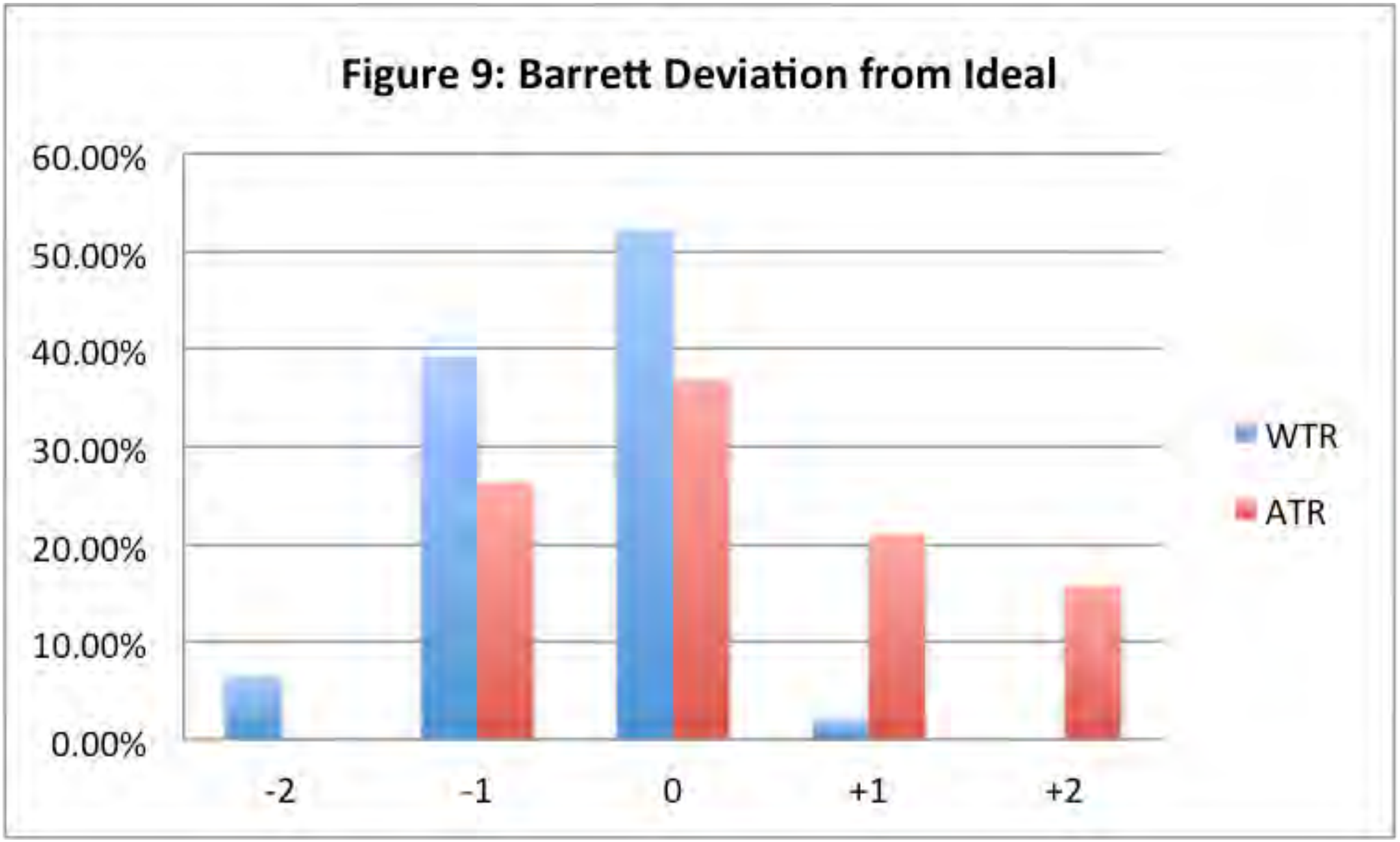


Lockwood & Randleman, 2014 ISRS/AAO E-poster RP30040879

Figure 8: HSP Deviation from Ideal



Lockwood & Randleman, 2014 ISRS/AAO E-poster RP30040879



Lockwood & Randleman, 2014 ISRS/AAO E-poster RP30040879

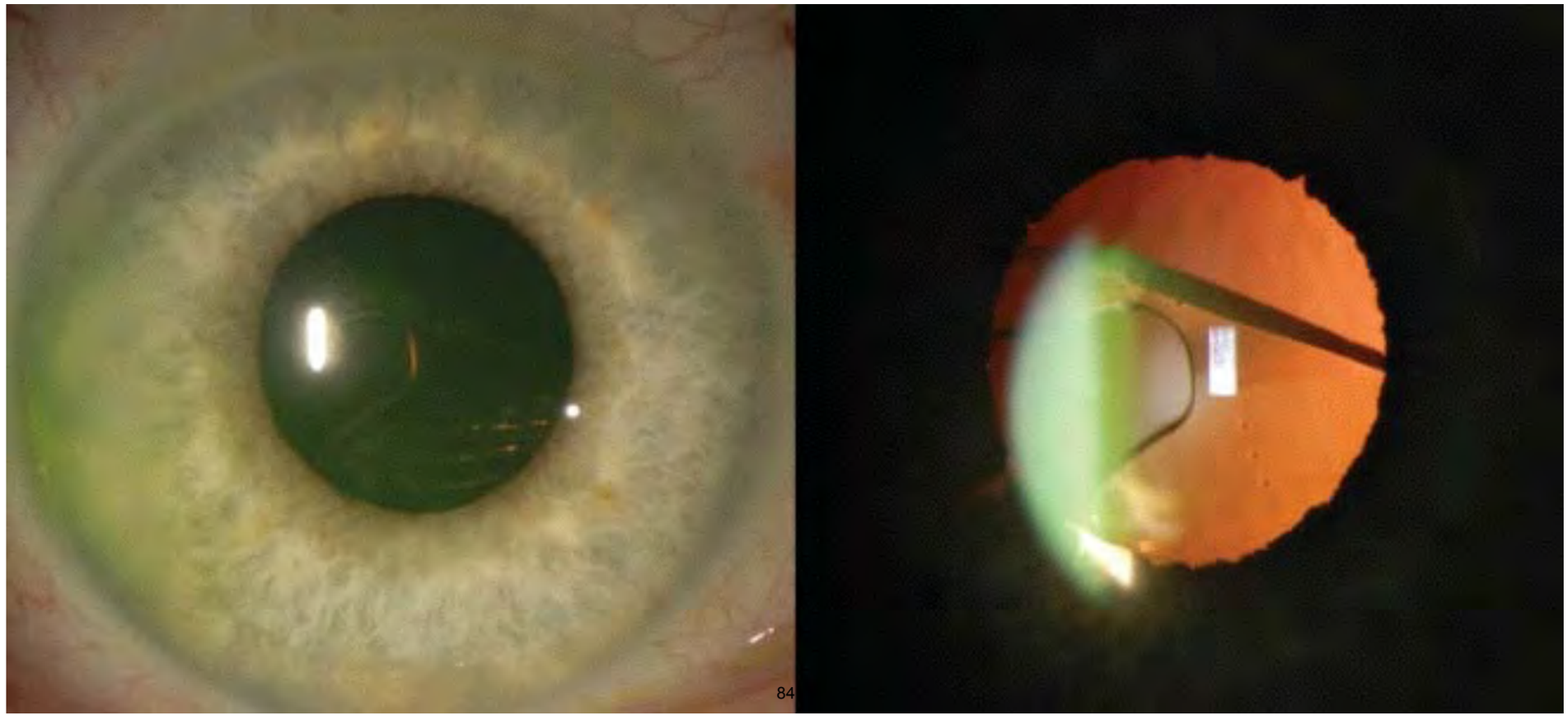
TORIC IOL FIXES

Scleral Fixation of a One-Piece Toric Intraocular Lens

Matthew E. Emanuel, MD; J. Bradley Randleman, MD; Samuel Masket, MD

[J Refract Surg 2013;29:140-142.]

VIDEO

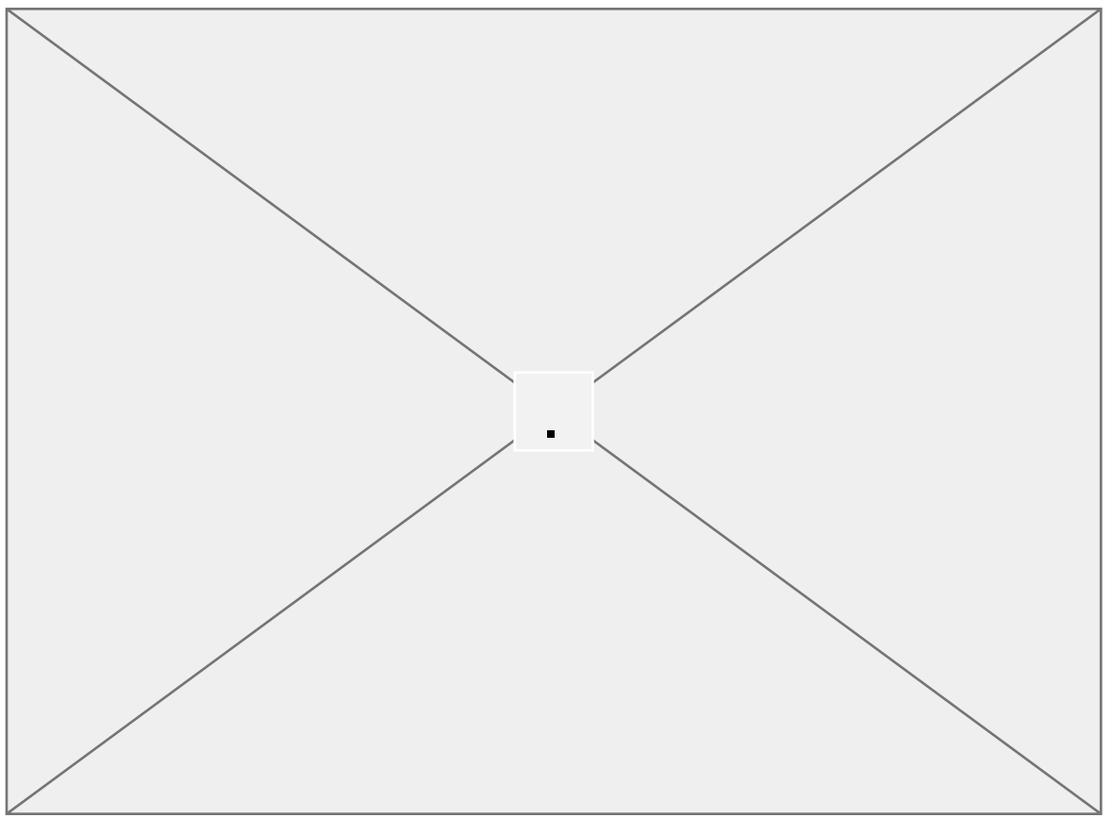


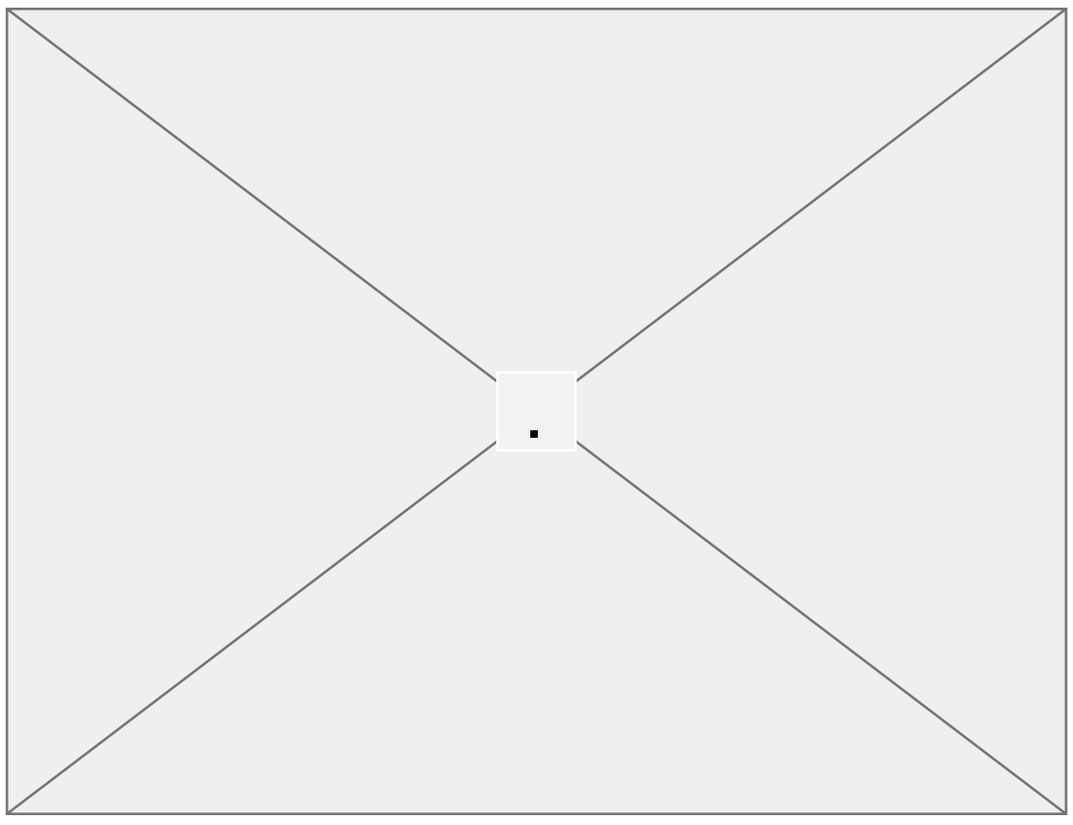
CASE REPORT

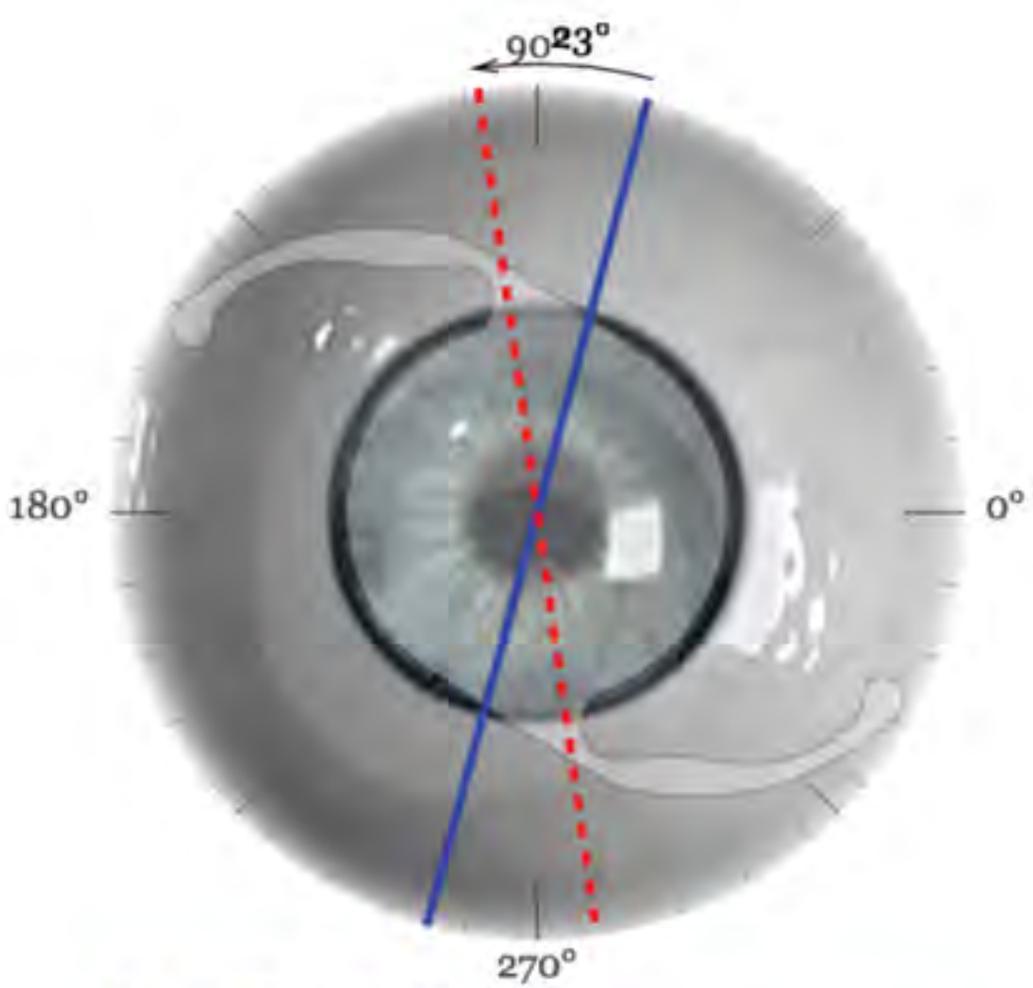
Toric intraocular lens rotation to optimize refractive outcome despite appropriate intraoperative positioning

James C. Lockwood, BA, J. Bradley Randleman, MD

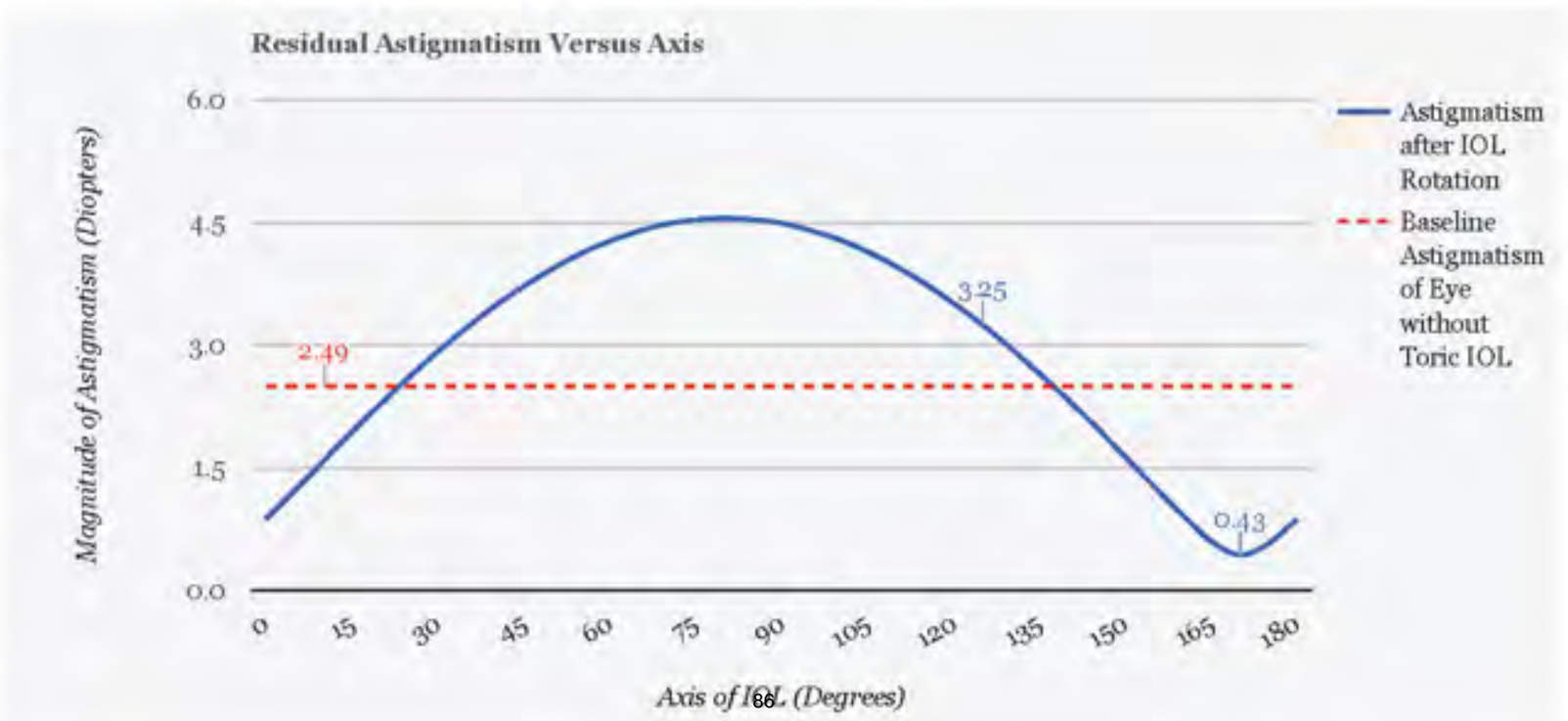
J Cataract Refract Surg 2015; 41:878–883







Rotating the Toric IOL 157° Clockwise should minimize the astigmatism.

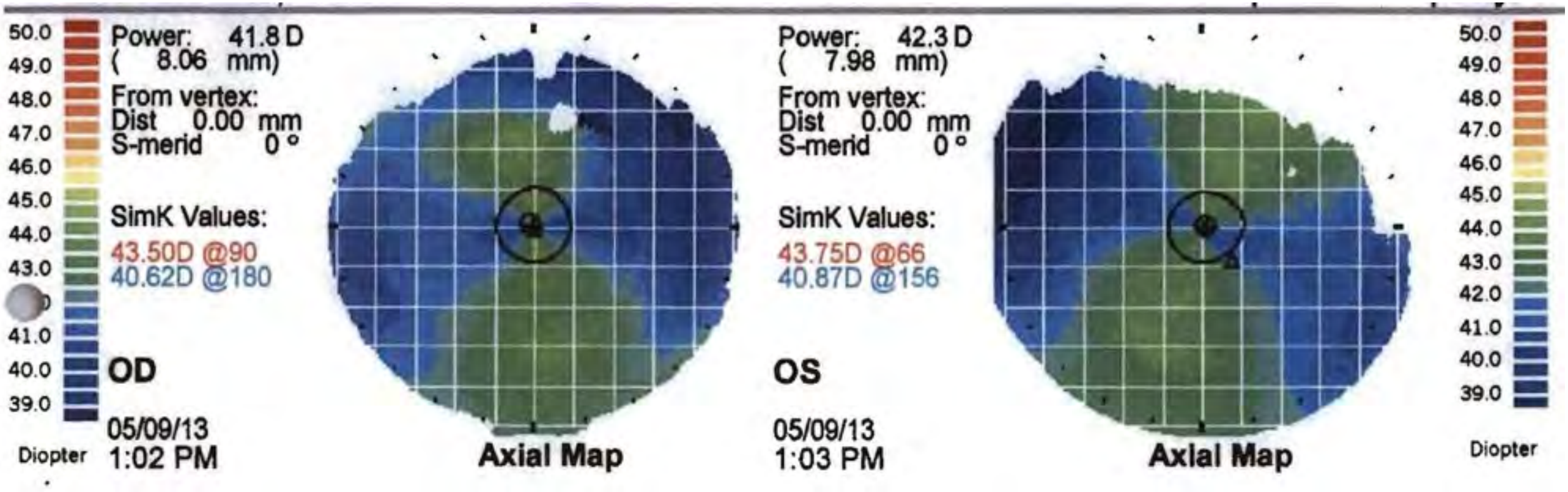


CASE 4

72 y male	OD	OS
CDVA	20/20	20/25
MRx	-0.25 +2.25 x 150	plano
K's	47.0/51.0 @ 070	47.5/50.5 @ 095
Exam	Toric PCIOL @ 075	Toric PCIOL

SN6AT7 OD

CASE 4



CCT 540 OU

Berdahl & Hardten Toric IOL Calculator

Instructions:

1. Enter manifest refraction in **plus power**
2. Enter the magnitude and axis of the patient's current Toric IOL (or choose from the list on the right)
3. Hit Calculate

Patient Eye

◯ Left Eye ◉ Right Eye

Current Refraction

Sphere	Cylinder (Plus Power)	Axis (Degrees)
0.25	2.25	149

Toric Lens

Magnitude of Astigmatism	Axis (Degrees)
3.08	075

☑ I Agree to the Terms and Conditions

For best results, IE 9, Chrome, Firefox, or Safari are recommended.

Calculate

Model	Cylinder Power at Corneal Plane
Alcon	
◯ SN6AT3	1.03
◯ SN6AT4	1.55
◯ SN6AT5	2.06
◯ SN6AT6	2.57
◉ SN6AT7	3.08
◯ SN6AT8	3.60
◯ SN6AT9	4.11
Staar	
◯ Staar 2.0	1.30
◯ Staar 3.5	2.30
Tecnis Toric	
◯ ZCT150	1.03
◯ ZCT225	1.55
◯ ZCT300	2.06
◯ ZCT400	2.74
B & L Trulign	
◯ BL1UT125	0.83
◯ BL1UT200	1.33
◯ BL1UT275	1.83

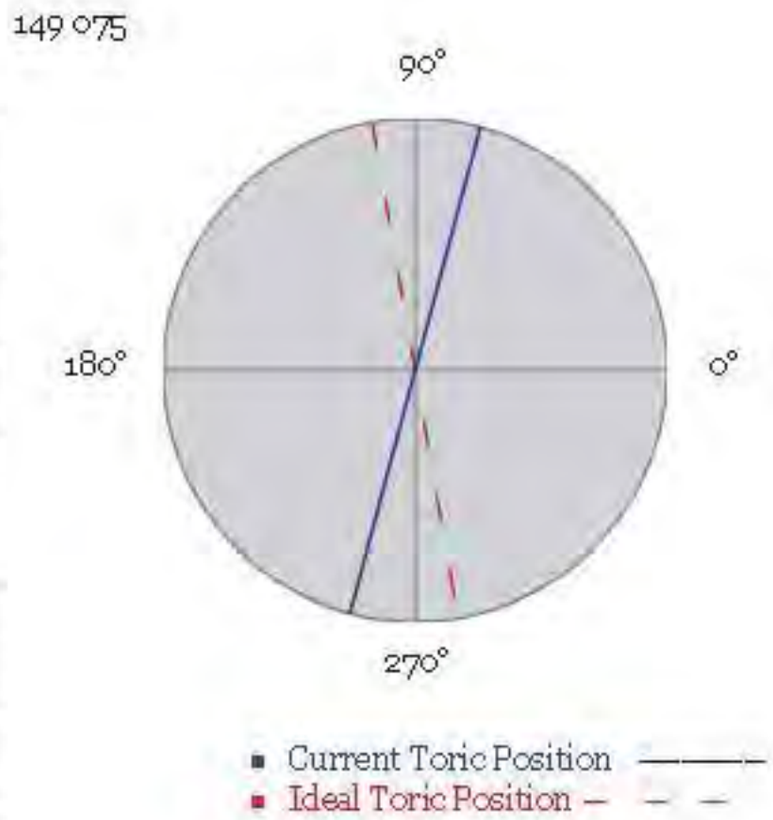
Patient Eye: Right Eye

Entered Data

	Sphere	Cylinder (plus power)	Axis (Deg)
Current Refraction	0.25	2.25	149
Toric Lens		3.08	075

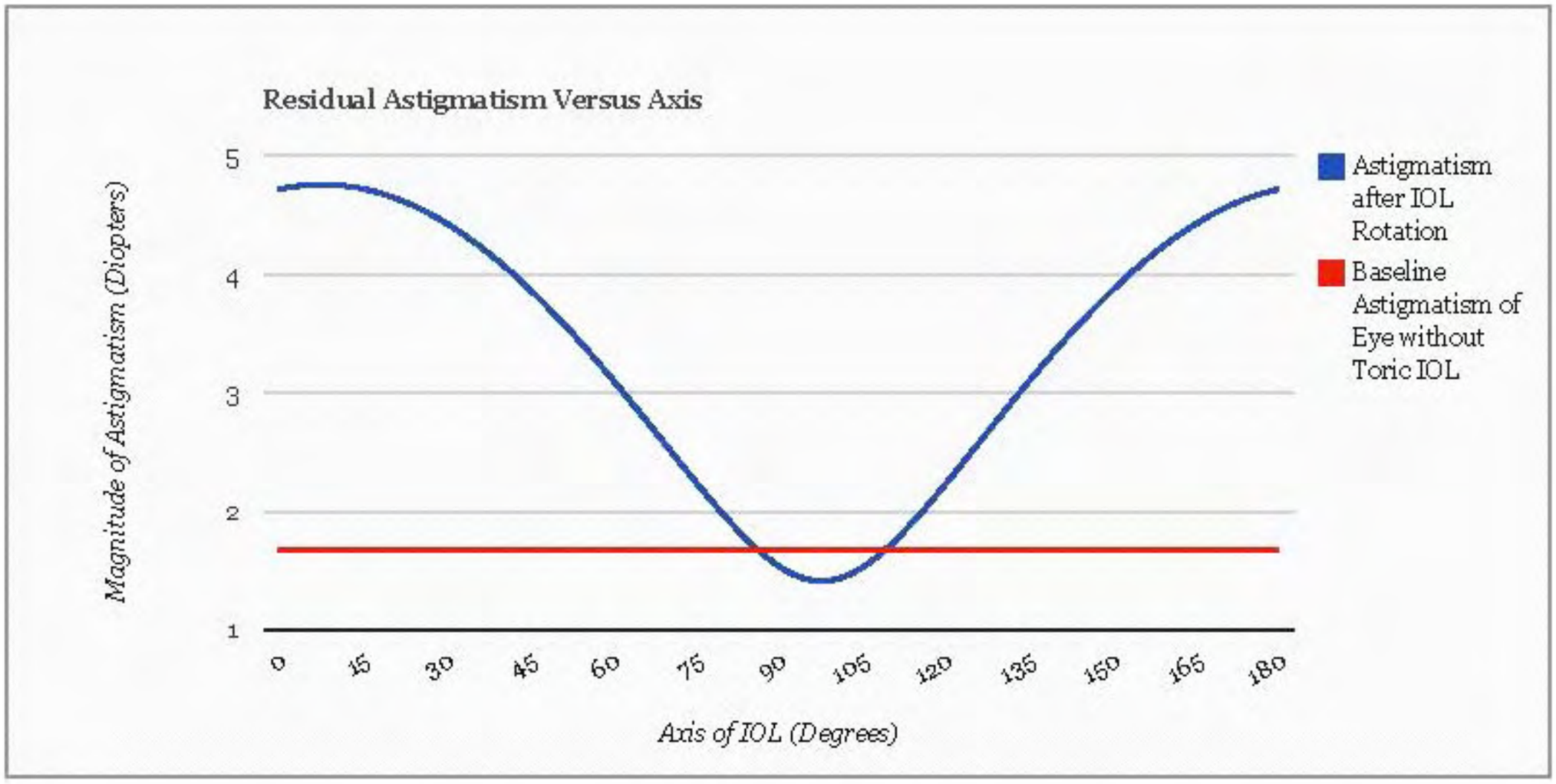
Calculated Results

	Sphere	Cylinder (plus power)	Axis (Deg)
Ideal Position of the Toric		3.08	100
Expected Residual Refraction	0.66	1.42	13



Rotating the Toric IOL 155° Clockwise should minimize the astigmatism.

OPTIONS?



LASIK OD

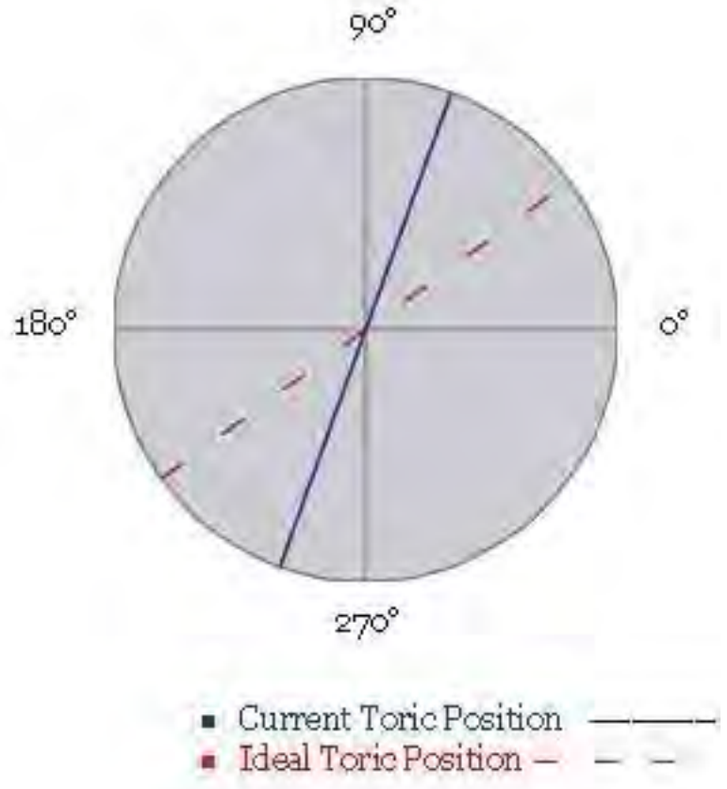
CASE 5

Entered Data

	Sphere	Cylinder (plus power)	Axis (Deg)
Current Refraction	-1.25	1.50	179.8
Toric Lens		1.55	070

Calculated Results

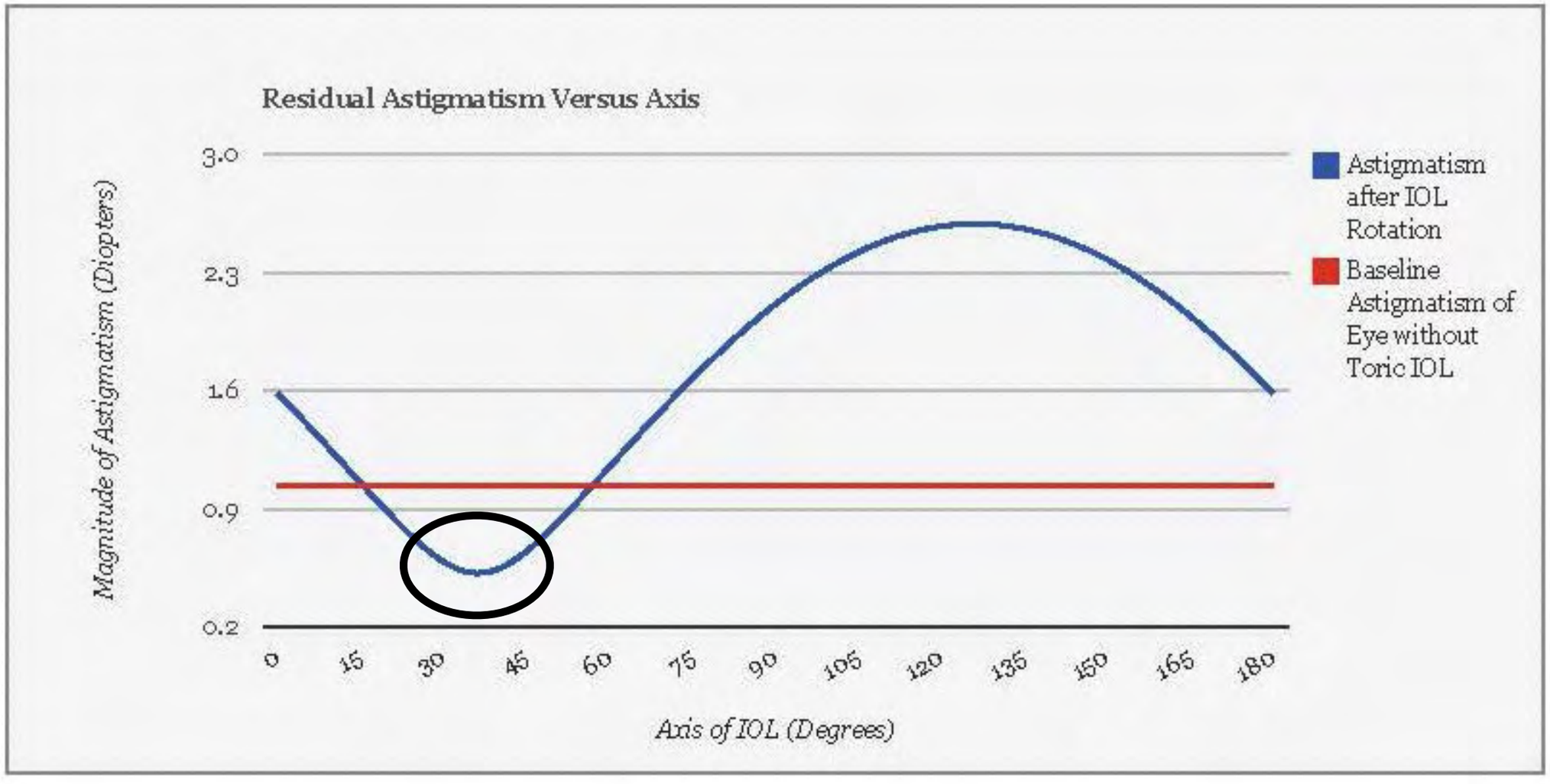
	Sphere	Cylinder (plus power)	Axis (Deg)
Ideal Position of the Toric		1.55	36
Expected Residual Refraction	-0.76	0.52	126



Rotating the Toric IOL 34° Clockwise should minimize the astigmatism.

+1.5D Induced

OPTIONS?



ROTATE

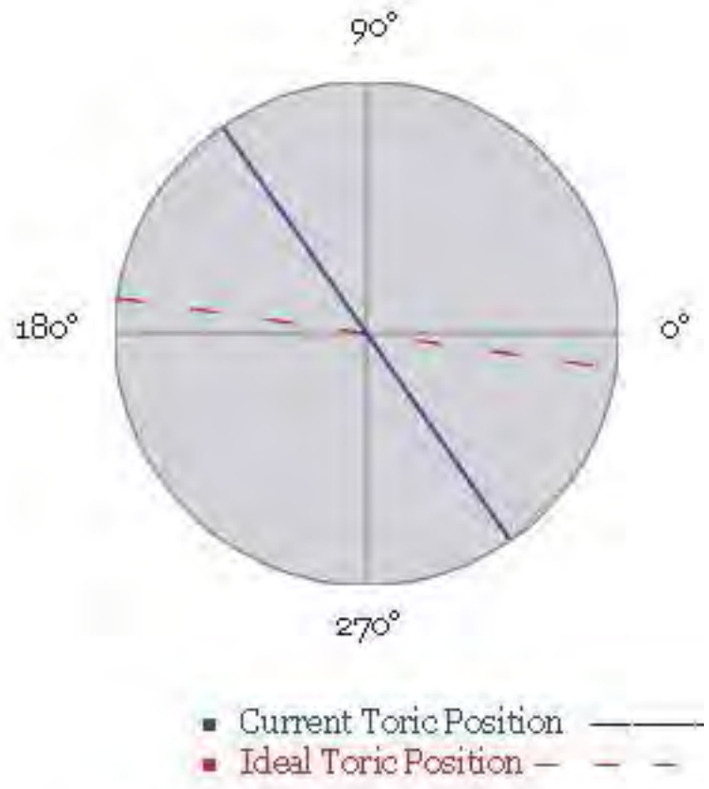
CASE 6

Entered Data

	Sphere	Cylinder (plus power)	Axis (Deg)
Current Refraction	-3.00	3.25	012
Toric Lens		2.06	125

Calculated Results

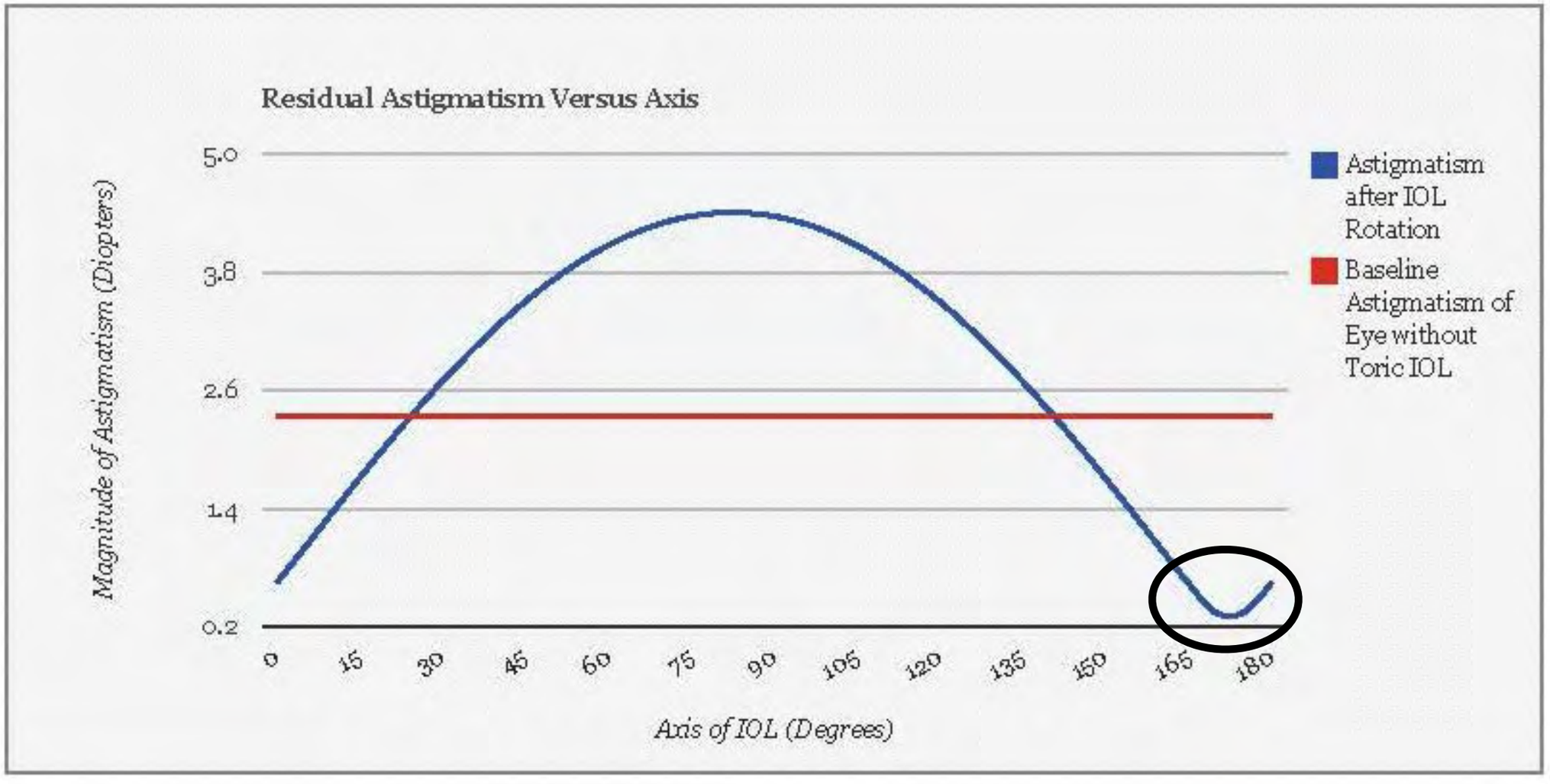
	Sphere	Cylinder (plus power)	Axis (Deg)
Ideal Position of the Toric		2.06	172
Expected Residual Refraction	-152	0.28	176



Rotating the Toric IOL 133° Clockwise should minimize the astigmatism.

+3D Induced

OPTIONS?



ROTATE

FUTURE CONSIDERATIONS

- Better IOL calculators
- Account for & measure posterior astigmatism (Doug Koch)
- Improved intraoperative marking
- Intraoperative aberrometry for IOL power & positioning

ASTIGMATISM COURSE SUMMARY

- Astigmatism remains significant barrier to uncorrected acuity
- Astigmatism management critical for cataract surgery success
- Variety of Astigmatism management strategies available
- Topographic analysis essential for all premium IOL options

ASTIGMATISM COURSE SUMMARY

- Premium IOL utilization increasing
- Multiple toric IOL options exist
- Toric Multifocal IOL coming soon (to US)
- New methods may improve toric IOL outcomes

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J. Bradley Randleman, MD

Professor of Ophthalmology, Director, Cornea, External Disease, and Refractive Surgery Service

J. Bradley Randleman, MD is one of the nation's top corneal researchers and surgeons and an expert on everything from LASIK to the latest FDA approved treatments for corneal cross-linking surgery.

Alena Reznik, MD

Assistant Professor of Clinical Ophthalmology

Dr. Reznik specializes in early detection and treatment of glaucoma and cataracts as well as novel surgical techniques for advanced cases. Her research interests are minimally invasive glaucoma surgery and new approaches to eye emergencies. She is a principal investigator on clinical trials for glaucoma medications and surgical devices.

Damien C. Rodger, MD, PhD

Assistant Professor of Clinical Ophthalmology

Dr. Rodger's clinical interests include diabetic retinopathy, macular degeneration, medical retina, retinal detachment, uveitis and vitreoretinal surgery.He has conducted research on the design, fabrication, and testing of high-density microtechnologies for retinal and spinal cord prostheses, and has been instrumental in the development of other novel bioMEMS.

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Time: 7:00pm
Location:
Maggiano's Little Italy at The Grove
189 The Grove Dr. Suite Z80
Los Angeles, CA 9036
RSVP: Lina Poyzner at
lina.poyzner@med.usc.edu

Program:

Glaucoma (Optic Nerve Cupping), presented by Dr. Reznik — 1 Hour

Retina (OCT Reading and OCT Enigmas), presented by Dr. Rodger — 30 min.

Cornea (Cross Linking), presented by Dr. Randleman — 30 min.

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USC Roski Eye Institute
625 S. Fair Oaks Avenue, Suite 400
Pasadena, CA 91105
626 796-0293

Arcadia Clinic
USC Roski Eye Institute
65 N. First Avenue, Suite 101
Arcadia, CA 91006
626 446 2122

CURRICULUM VITAE

JAMES BRADLEY RANDLEMAN

NOVEMBER 1, 2016

PERSONAL INFORMATION:

Work

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Los Angeles, CA, 90033
Phone: 323-442-6425
Fax: 323-442-6412
Work Email: randlema@usc.edu

Home

5550 Wilshire Blvd
Apt 334
Los Angeles, CA, 90036
Citizenship: United States

EDUCATION AND PROFESSIONAL APPOINTMENTS

EDUCATION:

1988-1992	Bachelor of Arts, Biology-Psychology Major*, Columbia College at Columbia University, New York City, New York*
1992-1994	Graduate Studies, Biology/Chemistry, *Sam Houston State University* Huntsville, Texas
1994-1998	Doctor of Medicine, *Texas Tech University School of Medicine* Lubbock, Texas

POST-GRADUATE TRAINING:

1998-1999	Transitional Year Residency (Internship), *Atlanta Medical Center*, Atlanta, Georgia
1999-2002	Residency in Ophthalmology, *Emory University School of Medicine, Department of Ophthalmology*, Atlanta, Georgia
2001-2002	Chief Resident, Ophthalmology, *Emory University School of Medicine, Department of Ophthalmology*, Atlanta, Georgia
2003-2004	Fellow, Cornea, External Disease, & Refractive Surgery Emory University School Of Medicine, Department of Ophthalmology Atlanta, Georgia

Continuing Professional Development Activities:

2007	Junior Faculty Development Course, Emory University, School of Medicine
2009	Leadership Development Program, American Academy of Ophthalmology

HONORS, AWARDS:

1989-1992	Columbia College Achievement Scholarship
1992	Bronze Crown Award for Excellence in Student Leadership, Columbia College
1992	Dean's List, Columbia College
1994	Beta Beta National Honor Society, Sam Houston State University
1996	Endowment Scholarship for Leadership and Academic Excellence, Texas Tech School of Medicine
1997	Junior Alpha Omega Alpha Medical Honor Society, Texas Tech SOM

1998	Merck Pharmaceuticals Quest for Excellence Award, Texas Tech SOM
2001	Outstanding Teaching Resident Award, Emory University
2004	Claes Dohlman Fellow Society (Outstanding Corneal Fellow in Nation)
2006	Best Poster, American Academy of Ophthalmology
2007	Best Paper (Refractive), American Academy of Ophthalmology Annual Meeting
2007	Best Paper of Session, American Society of Cataract and Refractive Surgery
2007	Secretariat Award, American Academy of Ophthalmology
2008	Best Paper of Session, American Society of Cataract and Refractive Surgery
2008	Achievement Award, American Academy of Ophthalmology
2010	Best Paper of Session, American Society of Cataract and Refractive Surgery
2010	Premier Surgeon P250 – selected as inaugural member as leading innovator in the field of premium IOL implant surgery
2010	Binkhorst Young Ophthalmologist Award, American Society of Cataract and Refractive Surgery
2011	Leading Ophthalmologists in America, named by Becker's ASC Review
2011-present	America's Top Doctors (Ophthalmology), Castle Connolly, Ltd.
2011	Kritzinger Memorial Award, International Society of Refractive Surgery
2012	*US News & World Reports* Top Ophthalmologists
2014	Senior Achievement Award, American Academy of Ophthalmology
2015	John H. and Helen S. Hughes Professorship in Ophthalmology, Emory University
2015	Recognition Award (Inaugural Award), International Society of Refractive Surgery
2016	Premier Surgeon 300 – leading innovator in premium refractive surgery, Ocular Surgery News
2016	Jose Ignacio Barraquer Award. Brazilian Society of Cataract and Refractive Surgery
2016	Atlanta's Best Doctors, Atlanta Magazine
2016	International Gold Medal, Indian Intraocular Implant & Refractive Society
2016	Founder's Award, International Society of Refractive Surgery

ACADEMIC APPOINTMENTS (CURRENT):

2016-Present: Professor of Clinical Ophthalmology, Keck School of Medicine of USC, Los Angeles, CA

ACADEMIC APPOINTMENTS (PREVIOUS):

2002-2003 Clinical Instructor & Chief Resident, Department of Ophthalmology,

Emory University, Atlanta, GA

2004-2008 Assistant Professor of Ophthalmology, Emory Eye Center, Emory University, Cornea, External Disease, & Refractive Surgery Section

2008-2012 Associate Professor of Ophthalmology, Emory Eye Center, Emory University, Cornea, External Disease, & Refractive Surgery Section

2012-2016 Professor of Ophthalmology, Emory University School of Medicine, Atlanta, GA

2015-2016 John H. and Helen S. Hughes Professorship in Ophthalmology, Emory University School of Medicine, Atlanta, GA, USA

ADMINISTRATIVE APPOINTMENTS (CURRENT):

2016-present: Director, Cornea & Refractive Surgery Service, USC Roski Eye Institute, Los Angeles, CA

2016-present: Medical Director, Keck Medical Center of USC, Beverly Hills, CA

ADMINISTRATIVE APPOINTMENTS (PREVIOUS):

2002-2004 Assistant Residency Program Director, Department of Ophthalmology, Emory University School of Medicine, Atlanta, GA

2007-2012 Director, Cornea, External Disease, & Refractive Surgery Fellowship, Department of Ophthalmology, Emory University School of Medicine, Atlanta, GA

2010-2012 Interim Director, Cornea, External Disease, & Refractive Surgery Service, Emory Eye Center, Emory University School of Medicine, Atlanta, GA

2012-2016 Director, Cornea, External Disease, & Refractive Surgery Service, Emory Eye Center, Emory University School of Medicine, Atlanta, GA

Licensures / Boards:

Georgia, issued 1999
California, issued 2016

Specialty Boards:

American Board of Ophthalmology 2005 (recertification completed 2015)

TEACHING

DIDACTIC TEACHING:

Institution

1992-1994 Teaching Assistant, Introductory Biology, Sam Houston State University

1995-1997 Teaching Assistant, Gross Anatomy, Texas Tech University School of Medicine

2007-2016 Lecturer, Biology of the Eye Course, Emory University. 2-3 lecture hours/year
Topics: Cataract Surgery, Red eye, and Refractive Surgery

2015 Manuscript Writing. Junior Faculty Development Course, Emory University School of Medicine

Ophthalmology Residency:

2003-2016 Lecturer for the Residency Training Program, Emory University
Department of Ophthalmology
Topics: Blepharitis, *Corneal Surface Issues: Lumps, Bumps, Spots & Dots*, Chemical Injuries, Ectatic Corneal Disease, Penetrating Keratoplasty: Indications & Surgical technique, Penetrating Keratoplasty: Outcomes/complications, Refractive Surgical Screening, Refractive Surgical techniques: LASIK, PRK, & Phakic IOLs, Refractive Surgery Complications, Corneal Topography: Basic & Advanced, Corneal Cross-Linking, Femtosecond-assisted Cataract Surgery, IOL Repositions & Exchanges, IOL Selection
Frequency: 12 hour long lectures per year

CME COURSES DEVELOPED

National/International

Administrative Positions:

2007-2010	Program Committee, American Society of Cataract and Refractive Surgery
2008	Program Planning Committee, ASCRS 2008 Winter Update Meeting
2008	Organizer, Southeastern Cataract, Cornea, and Refractive Surgery Conference
2012-2014	Co-Chair, International Congress of Corneal Cross-Linking
2016	Co-Chair, Corneal Cross-Linking Experts Meeting

Sessions as chair:

2008-2010	Chair, Young Physicians and Residents Symposium: Challenging Video Cases for the Young Surgeon, American Society of Cataract and Refractive Surgery Annual Meeting
2010	Symposium Chair, World Ophthalmology Congress Refractive Surgery Subspecialty Day, Berlin Germany
2010	Symposium Chair, World Ophthalmology Congress, Berlin Germany
2011	Symposium Chair, ISRS/Pan American Society of Ophthalmology Annual Meeting, Buenos Aires, Argentina
2011	Session Chair, ASCRS Cornea Day, San Diego, CA
2012	Co-Chair & Faculty, ISRS/AAO Symposium: Introduction to Refractive Surgery for Residents, AAO Annual Meeting, Chicago, IL
2013	Chair, ISRS Symposium, ESCRS Annual Meeting, Amsterdam, Netherlands
2011-present	Session Chair, The Journal of Refractive Surgery's Hot, Hotter, Hottest Session. ISRS/AAO Refractive Surgery Subspecialty Day, ISRS/AAO Annual Meeting
2016	Planning Committee & Session Chair, Course on Advanced Cornea Surgery (CoACS). Emory University School of Medicine. Atlanta, GA
2016	Symposium Co-Chair, SYM 43 Therapeutic & Refractive Cross-Linking, American Academy of Ophthalmology Annual Meeting, Chicago, IL

Formal Courses Given for CME

2005	Instructor, Clinical Applications of Corneal Confocal Microscopy, American Academy of Ophthalmology Annual Meeting, Chicago, IL
2005	Senior Instructor, Surgical and Nonsurgical Management of Refractive Error, & Irregular Astigmatism, and Ectasia after Corneal Refractive Surgery, American Academy of Ophthalmology Annual Meeting, Chicago, IL
2005	Senior Instructor, Introduction to the Alphacor Keratoprosthesis, American Academy of Ophthalmology Annual Meeting, Chicago, IL
2007	Instructor, Symposium 507: Important Current Issues for Refractive Surgeons, American Academy of Ophthalmology Annual Meeting, New Orleans, LA, 2007
2007-present	Senior Instructor, AAO Course: Advanced Corneal Topographic Analysis, American Academy of Ophthalmology Annual Meeting
2007-present	Senior Instructor AAO Course: Surgical Management of Astigmatism in Cataract and Refractive Surgery, American Academy of Ophthalmology Annual Meeting
2008-2014	Faculty, Identifying Risk Factors for Ectasia: Practical Approach, American Society of Cataract and Refractive Surgery Annual Meeting
2008-2011	Faculty, Corneal Evaluation of the Refractive Surgery Patient, American Society of Cataract and Refractive Surgery Annual Meeting
2008	Instructor, AAO LAB229B-Laser Refractive Surgery for Ophthalmology Residents. American Academy of Ophthalmology Annual Meeting
2008	Instructor, AAO Course 190-LEO Clinical Update Course on Refractive Surgery. American Academy of Ophthalmology Annual Meeting
2009	Instructor, Course 207, Risk Factors, Diagnosis, and Treatment of Refractive Surgical Complications, AAO Annual Meeting, San Francisco, CA
2009	Senior Instructor, Course B135, Refractive Surgery Roundtable: Ectasia, How to Prevent it, AAO Annual Meeting, San Francisco, CA
2010	Senior Instructor, Controversies in Topographic Evaluation Course. American Society of Cataract and Refractive Surgery Annual Meeting, Boston, MA
2010	Senior Instructor, Pushing the Envelope in Refractive Surgery: BCSC 13 Course, American Academy of Ophthalmology Annual Meeting, Chicago, IL
2011-present	Moderator: ISRS/AAO Subspecialty Day Meeting. The Journal of Refractive Surgery's Hot, Hotter, Hottest: Late Breaking News Session
2011	Faculty, ASCRS Symposium: Cataract Surgery and the Compromised Cornea. ASCRS Annual Meeting, San Diego, CA
2012	Faculty, ASCRS Symposium: Controversies in Cataract and Refractive Surgery. ASCRS Annual Meeting, Chicago, IL
2012	Faculty, ASCRS Symposium: Cornea Clinical Committee Highlights. ASCRS Annual Meeting, Chicago, IL
2012	Faculty, ASCRS Course: Interactive Video Dialog on the Complicated Cataract. ASCRS

	Annual Meeting, Chicago, IL
2012	Senior Instructor, ASCRS Course: Phaco Flip: Underutilized Technique that Every Cataract Surgeon Should Know. ASCRS Annual Meeting, Chicago, IL
2013-2014	Faculty, ARVO Course: Predicting, Measuring and Treating Changes in Corneal Biomechanics
2014	Faculty, ASCRS Course: Early Detection and Management of Keratoconus Including Collagen Crosslinking. ASCRS Annual Meeting
2014-present	Faculty, Current State of CXL (Corneal Collagen Cross-Linking): Controversies & Recommendations, ESCRS Annual Meeting
2014-present	Instructor, Course 314 - Danger Zone: Refractive Surgery Nightmares and Worst-Case Scenarios AAO Annual Meeting, Chicago, IL
2015-present	Senior Instructor, ASCRS Course: ASCRS Course: Bring Your Own Topography. ASCRS Annual Meeting, San Diego, CA
2015-present	Senior Instructor, AAO Course: Corneal Cross-linking: Basic and Advanced Indications, American Academy of Ophthalmology Annual Meeting
2015-present	Faculty, AAO Course: Therapeutic Corneal Refractive Surgery, American Academy of Ophthalmology Annual Meeting
2016	Faculty, Toric IOLs Made Simple. European Society of Cataract & refractive Surgery Annual Meeting, Copenhagen Denmark
2016	Instructor Course 689 - Toric IOLs 2016: Choice, Alignment, Results, and Management of Complications, American Academy of Ophthalmology Annual Meeting, Chicago, IL

UNDERGRADUATE, GRADUATE AND MEDICAL STUDENT (OR OTHER) MENTORSHIP:

2005	Foster JB	Medical Student	Intraocular Lens Power Calculations after LASIK
2007	Hu MH	Medical Student	High Order Aberration Changes after Wavefront-Optimized PRK and LASIK
2007	White AJ	Medical Student	Incidence and Risk Factors for Enhancement after Wavefront-Optimized PRK & LASIK
2012	Nunnery, EW	Medical Student	Corneal Biomechanical Evaluation of Refractive Surgical Candidates
2014	Lockwood, J	Medical Student	IOL Calculations for Toric IOLs and post-LASIK

POSTGRADUATE MENTORSHIP:

Cornea Fellowship Training:

1. Andreea Partal, M.D. (2005), University of Tennessee, Memphis, TN
2. Chris Banning, M.D. (2006), Private practice, Kansas City, KS
3. Michael McMann, M.D. (2006), Private practice, Ewa Beach, HI
4. Ajit Nemi, M.D., (2007), Private practice, Atlanta, GA
5. Terrence Doherty, M.D. (2007), Private practice, Nashville, TN
6. Evan S. Loft, M.D. (2008), Private practice, Atlanta, GA

7. Gaston Lacayo, M.D. (2008), Rush University Medical Center, Chicago, IL
8. Olivia A. Lee, M.D. (2009), Private practice, Austin, TX
9. Maria A. Woodward, M.D. (2009), University of Michigan, Ann Arbor, MI
10. Seema Patel, M.D. (2010), Private practice, New Jersey
11. Tyler A. Hall, M.D. (2010), University of Alabama Birmingham, Birmingham, AL
12. Yuri McKee, M.D. (2011), Private practice, Mesa AZ
13. Rupa D. Shah, M.D. (2011), Case Western Reserve University, Cleveland, OH
14. Trent Albright, M.D. (2012), Private practice, Columbus, OH
15. Jennifer G. Bromley, M.D. (2012), Private practice, Savannah, GA
16. Claudia Perez-Straziota, M.D. (2013), USC Roski Eye Institute, Los Angeles, CA
17. Maulik Zaveri, M.D. (2013), Private practice, San Diego, CA
18. Sonia Belliapa, M.D. (2014), Private practice, New Jersey
19. Samir Vira, M.D. (2014), Private Practice, Atlanta, GA
20. John Welling, M.D. (2015), International Corneal fellowship, Salt Lake City UT
21. David Sackel, M.D. (2015), Private practice, Atlanta, GA
22. Ilyse Habermna, M.D. (2016), NYU School of Medicine, NY, NY
23. Anam Qureshi, M.D. (2016), NYU School of Medicine, NY, NY

RESIDENCY PROGRAM:

2000-2003:
Nick Anderson, M.D.; Doug Blackmon, M.D.; Sue Hewitt, M.D.; Saxon Moss, M.D.;
Cathy Reed, M.D.

2001-2004:
Claxton Baer, M.D.; Daniel Chang, M.D.; Eric Gershenbaum, M.D.; Sean Pieramici, M.D.; Jennifer Scruggs, M.D.

2002-2005:
Chris Banning, M.D.; Kevin Barber, M.D.; Chris Bergstrom, M.D.; Hunter Cherwek, M.D.; Keith Shuler, M.D.

2003-2006:
Steve Bailey, M.D.; Blaine Cribbs, M.D.; Wayne Lo, M.D.; Mark Spirn, M.D.;
Leiv Takle, M.D.

2004-2007:
John Davies, M.D.; Evan Loft, M.D.; Kristina Price, M.D.; Adrienne Ruth, M.D.;
Brian Schwent, M.D.

2005-2008:
Emily Graubart, M.D.; Paral Khator, M.D.; Phoebe Lenhart, M.D.; Paul Pruett, M.D.; Jeremy Wolfe, M.D.; Maria Woodward, M.D.

2006-2009:
Michele Crosby, M.D., Valerie Elmalem, M.D., Nelam Gor, M.D., Gene Lee, M.D., Purnima Patel, M.D., Grace Prakalapakorn, M.D.

2007-2010:
Alok Bansal, M.D., Bonnie Germain, M.D., Carolyn Hebson, M.D., David Paine, M.D., John Payne, M.D., Krishna Sanka, M.D.

2008-2011:
Jennifer Bromley, M.D., Vishak John, M.D., Johnstone Kim, M.D., Gene Lee, M.D., Lyndon Lee, M.D., Pryanka Sood, M.D.

2009-2012:
Jeremy Jones, M.D., Cecilia Jung, M.D., Sumitra Khandelwal, M.D., Philip Laird, M.D., Claudia Perez-Straziota, M.D., Johua Robinson, M.D.

2010-2013:
Matthew Emanuel, M.D., Lawson Grumbine, M.D., Neil Palejawala, M.D., David Risner, M.D., Gagan Sawahany, M.D., Paul Walia, M.D.

2011-2014:
Jihan Akthar, M.D., Felicia Fountain, M.D., Vincent Ho, M.D., Luke Peterson, M.D., Jim Sargent, M.D., Chris Stelton, M.D.

2012-2015:
Abdulah Jeroudi, M.D., Jennifer Kim, M.D., Jessica Shantha, M.D., Michael Shumski, M.D., Heather Weissman, M.D., Monica Zhang, M.D.

2013-2016: Andrew Anzeljc, M.D., Daniel Connor, M.D., Caroline Cromelin, M.D., Joshua Levinson, M.D., William Pierce, M.D., Praneetha Thulasi, M.D.

INTERNATIONAL FELLOWS:

2007-2008	Claudia Perez-Straziota, MD, Venezuela
2010-2011	Karolinne Maia Rocha, MD, PhD, Brazil
2014-2015	Sang Woo Kim, M.D., South Korea
2015-2106	Alvaro Broncano Fidalgo, M.D., Spain

SERVICE

DEPARTMENT SERVICE:

1999-2000	Resident Representative, Applicant Interview Committee
2001-2002	GME Representative for Academic Affairs, Emory University Department of Ophthalmology
2001-2009	Residency Education Committee, Emory University Department of Ophthalmology
2002-2011	Resident Application Interview Committee, Emory University Department of Ophthalmology
2004-2005	Chair, Service Committee, Emory University Department of Ophthalmology Academic Retreat
2005-2012	Medical Students Education Committee, Emory University Department of Ophthalmology
2005-2015	Research Advisory Committee, Emory University Department of Ophthalmology
2005-2016	Director of Resident Research, Emory University Department of Ophthalmology
2009-2016	Faculty Development and Mentoring Committee, Emory University Department of Ophthalmology
2010-2016	Executive Committee, Emory University Department of Ophthalmology

MEDICAL SCHOOL SERVICE:

1998	Student Representative, Education Planning Committee Curriculum Subcommittee, Texas Tech School of Medicine, Lubbock, TX
2007-2016	ASC Peer Review Member, Emory University
2016-present	Mentoring and Career Advancement Task Force, Keck School of Medicine of USC
2016-present	Clinical Strategy Design Team, Keck School of Medicine of USC

HOSPITAL OR MEDICAL GROUP SERVICE:

2007	Georgia Society of Ophthalmology Representative, Medicare Carrier Advisory Committee
2007	Chairman, Third Party Payer Committee, Georgia Society of Ophthalmology
2007-2008	Member, Georgia Society of Ophthalmology Council

PROFESSIONAL SERVICE:

2004-2006	Young Physicians and Residents Clinical Committee, American Society of Cataract and Refractive Surgery
2005-2007	Refractive Surgery Management Specialty Information Team Clinical Committee, American Academy of Ophthalmology
2007-2010	COMPASS Panel for Refractive Management/Intervention, American Academy of Ophthalmology
2007-2009	Executive Editor, Management of LASIK and PRK Complications Online Course, American Academy of Ophthalmology
2007-2009	Integrated Eyecare Taskforce, American Society of Cataract and Refractive Surgery
2007-2010	Chairman, Young Physicians and Residents Clinical Committee, American Society of Cataract and Refractive Surgery
2009-2014	Writing Committee, BSCS Section 13: Refractive Surgery, American Academy of Ophthalmology
2010-2011	Advisory Member, Young Physicians and Residents Clinical Committee, American Society of Cataract and Refractive Surgery
2010-2012	Member, Cornea Clinical Committee, American Society of Cataract and Refractive Surgery
2011-present	Member, International Society of Refractive Surgery (ISRS) International Meetings Committee
2011-present	Member (Ex-Oficio), International Society of Refractive Surgery (ISRS) Executive Committee
2011-present	Chair, Editorial Board, Journal of Refractive Surgery

CONSULTANTSHIPS AND ADVISORY BOARDS:

2014-present	Scientific Advisory Board, OptoQuest
2016-present	Medical Advisory Board, EMAgine

PROFESSIONAL SOCIETY MEMBERSHIPS:

1994-2000	American Medical Association
1999-2001	American College of Surgeons
1999-present	International Society of Refractive Surgery
1999-present	American Society of Cataract and Refractive Surgeons
1999-present	American Academy of Ophthalmology
1999-2010	Georgia Society of Ophthalmology
2003-present	Cornea Society (Member with Thesis, 2007-present)
2009-present	Pan American Society of Ophthalmology
2016-Present	Los Angeles County Society of Ophthalmology

RESEARCH AND SCHOLARSHIP

EDITORSHIPS AND EDITORIAL BOARDS:

2007-2010	Alternate Editor, The American Academy of Ophthalmology Ophthalmic News & Education (ONE) Network, Refractive Management & Intervention Section
2008-2011	Associate Editor, Journal of Refractive Surgery
2008-2011	Associate Editor, Journal of Cataract and Refractive Surgery
2011-present	Editor-In-Chief, Journal of Refractive Surgery
2014-present	International Editorial Board Member, Revista Mexicana de Oftalmologia (Mexican Journal of Ophthalmology)
2014-present	Editorial Board Member, EyeNet, American Academy of Ophthalmology

MANUSCRIPT REVIEW:

Year-Year	*Journal*
2002-present	*Cornea*
2003-present	*American Journal of Ophthalmology*
2003-present	*Journal of Cataract and Refractive Surgery*
2003-present	*Ophthalmology*
2005-present	*Eye*
2006-present	*Journal of Refractive Surgery*
2006-present	*Canadian Journal of Ophthalmology*
2006-present	*Archives of Ophthalmology*
2006-present	*Ophthalmic Surgery & Lasers*
2008-present	*British Journal of Ophthalmolog*
2011-present	*European Journal of Ophthalmology*

MAJOR AREAS OF RESEARCH INTEREST

My primary research focus is the measurement and management of corneal biomechanics. This manifests itself clinically in corneal refractive surgery screening protocols and management of keratoconus an related ectatic corneal diseases, especially with corneal cross-linking, and the identification, management, and prevention of complications after refractive surgery. A second clinical focus is maximizing refractive outcomes after cataract and IOL surgery, with particular emphasis on management of astigmatism.

GRANT SUPPORT - CURRENT:

GRANT SUPPORT - PAST:

Investigator status: Principal investigator
Funding source/type: Avedro, Inc.
Title: A Multi-Center, Randomized, Placebo-Controlled Evaluation of the Safety and Efficacy of the KXL System with VibeX (Riboflavin Ophthalmic Solution) for Corneal Collagen Cross-Linking in Eyes with Keratoconus (KXL-001)
Amount: TBD
Year(s): 2013-2016

Investigator status: Principal investigator
Funding source/type: JAEB
Title: Corneal Donor Study
Amount: $17,171 (to date)
Year(s): 8/1/1999 - 7/31/2013

Investigator status: Sub investigator
Funding source/type: VisionCare Ophthalmic Technologies, Ltd., (industry)
Title: Five Year Follow-up of IMT-002 Patients: A Long Term Monitoring Study of IMT-002 Patients
Amount: $28,245 (total for follow-up study)
Year(s): 3/21/2011- 3/21/2015

Investigator status: Secondary Investigator
Funding source/type: Ophtec USA, Inc. (industry)
Title: Clinical Study of OPHTEC Model 311 Iris Reconstruction Lens for the Treatment of Visual Disturbances From Partial or Total Absence of the Human Iris
Amount: $7,000
Year(s): 2007-2016

Investigator status: Principal investigator
Funding source/type: Clinic Research Consultants
Title: Topography Guided LASIK using the Allegretto Wave Eye Q 400 Excimer Laser System the Treatment of Manifest and Cornea based Myopic and Hyperopic Optical Errors
Amount: $ 16,700
Year(s): 1/27/10-12/31/10

Investigator status: Principal co-investigator
Funding source/type: Peschke Meditrade GmbH, Switzerland
Title: Safety and Effectiveness of the UV-X System for Corneal Collagen Cross-Linking in Eyes with Corneal Ectasia after Refractive Surgery (UVX-002)
Year(s): 2007-2010

Investigator status: Principal co-investigator
Funding source/type: R. Doyle Stulting, M.D., Ph.D.
Title: Safety and Effectiveness of the UV-X System for Corneal Collagen Cross-Linking in Eyes with Progressive Keratoconus (UVX-001)

Year(s): 2007-2010

Investigator status: Principal Investigator
Funding source/type: Lux Biosciences, Inc. (industry)
Title: Corneal Allograft Rejection Study LX201-01**:** A Multi-center, Placebo-Controlled, Randomized, Parallel-Group Dose Ranging Study to Assess the Efficacy and Safety of LX201 for Prevention of Corneal Allograft Rejection Episodes and Graft Failure Following Penetrating Keratoplasty with LX201 Implantation in Subjects Who Are at Increased Immunological Risk
Amount: $130,000
Year(s): 2007-2010

Investigator status: Secondary Investigator
Funding source/type: Lux Biosciences, Inc. (industry)
Title: Corneal Allograft Rejection Study LX201-02: A Multi-Center, Dose-Ranging Study to Assess the Efficacy and Safety of LX201 for the Prevention of Corneal Allograft Rejection in Patients Who Have Experienced a Rejection Episode Following Corneal Transplantation
Amount: $120,000
Y*ear(s):* 2007-2010

Investigator status: Principal Investigator
Funding source/type: American Society of Cataract and Refractive Surgery Foundation Grant ($5000), RPB Departmental Research Grant ($3000)
Title: Analysis of Quantitative Corneal Stromal Cohesive Tensile Strength
Amount: $8,000
Year(s): 2007-2009

Investigator status: Principal Investigator,
Funding source/type: Ophtec USA, Inc. (industry)
Title: US Clinical Investigation of the Artisan Myopia Lens for the Correction of High Myopia, USFDA – Industry Sponsored Clinical Trial
Amount: $7,000
Year(s): 2005-2007.

Investigator status: Co-Principal Investigator and Faculty Advisor
Funding source/type: Research to Prevent Blindness, Departmental Research Grant
Title: The effect of microkeratome oscillation rates and head-advance speeds on the quality of human LASIK interface surfaces
Amount: $3,000
Year(s): 2006-2007

Protocols Approved for Human Investigation:

2006-2014	Visual outcomes after wavefront- optimized surface ablation Emory IRB00045849
2007-2010	A Multi-Center, Placebo-Controlled, Randomized, Parallel-Group, Dose-Ranging Study to Assess the Efficacy and Safety of LX201 Implantation for the Prevention of Corneal Allograft Rejection Episodes or Graft Failure in Subjects Who Have Experienced One or More Rejection Episodes Following Penetrating Keratoplasty. Emory IRB00004418
2007-2010	A Multi-center, Placebo-Controlled, Randomized, Parallel-Group Dose Ranging Study to Assess the Efficacy and Safety of LX201 for Prevention of Corneal Allograft Rejection Episodes and Graft Failure Following Penetrating

	Keratoplasty with LX201 Implantation in Subjects Who Are at Increased Immunological Risk Emory IRB00003500
2008-2010	Safety and Effectiveness of the UV-X System for Corneal Collagen Cross-Linking in Eyes with Corneal Ectasia or Progressive Keratoconus Emory IRB00005828
2009-2010	Safety Profiles of Conventional Monofocal Intraocular Lenses (IOLs) and Multifocal IOLs Emory IRB00022314
2010-2014	The Cornea Donor Study Emory IRB00024924
2010-2011	Accuracy of intraocular lens power prediction using the Haigis, Hoffer Q, Holladay 1, Holladay 2, and SRK/T formulas Emory IRB00012667
2013-2016	Management of intraocular complications associated with anterior and posterior scleritis Emory IRB00047692
2013-2016	Advanced Corneal Biomechanical Evaluation in Refractive Surgical Patients Emory IRB00061671
2013-2016	Pediatric Corneal Topography: Imaging for Early Detection of Keratoconus Emory IRB00062526
2014-2016	Intraocular Lenses Power Calculations in Challenging Cases Emory IRB00072092

INVITED LECTURES, SYMPOSIA, KEYNOTE ADDRESSES

2009	Invited Speaker, Vanderbilt Eye Institute Comprehensive Ophthalmology: Pearls XII Course, Nashville TN
2010	Invited Speaker, University of Florida College of Medicine, Refractive Surgery Pearls for Practice Course
2010	Invited Speaker, Egyptian Society of Cataract and Refractive Surgery Annual Meeting
2010	Invited Speaker, Colombian Society of Ophthalmology International Ophthalmology Congress, Bogota Colombia
2010	Invited Speaker, Atlantic Eye Symposium, Halifax Nova Scotia
2011	Invited Speaker, Bascom Palmer Eye Institute Cataract & Refractive Surgery Congress, Miami, FL
2011	Invited Speaker, Canadian Ophthalmology Society (COS) Annual meeting, Vancouver. BC
2012	Invited Speaker, Refractive.online & SICSSO International Congress, Rome, Italy
2012	Invited Speaker, 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, Riyadh KSA

2013 Invited Speaker, Lo Mejor en Cornea, March 21-23, 2013, Mexico City, DF

2013 Invited Speaker, Athens/ISRS Refractive Surgery Course, Athens Greece,

2013 Invited Speaker, University of Sao Paolo 16th Annual Ophthalmology Congress, Sao Paolo, Brazil

2013 Visiting Professor, Wills Eye Hospital, Philadelphia, PA

2014 Keynote Speaker, Bascom Palmer Eye Institute Cataract and Refractive Surgery Congress, Miami FL

2014 Invited Speaker, New Orleans Academy of Ophthalmology, New Orleans LA

2014 Invited Speaker, 20th Annual White Nights International Ophthalmology Congress, St. Petersburg, Russia

2014 Invited Speaker, 20th Annual Cornea & Refractive Surgery International Course, Riviera Nayarit, Mexico

2014 Invited Speaker, Chilean Congress of Ophthalmology, Vina del Mar, Chile

2014 Visiting Professor, SUNY Downstate Ophthalmology Department, Brooklyn, NY

2015 Invited Speaker, Nashville Academy of Ophthalmology Meeting, Nashville, TN

2015 Invited Speaker, Les Entretiens Ophtalmologiques de l'Université de Montréal 2015 (EOUM), Montreal, Quebec

2015 Drouilhet Visiting Professor, UT Houston Department of Ophthalmology, Houston, TX

2015 Keynote Speaker, Congresso Brasileiro Oftamologia, Florianopolis, Brazil

2015 Keynote Speaker, Nebraska Academy of Eye Physicians and Surgeons Fall Scientific Meeting, Omaha, NE

2015 Keynote Speaker, Apectasias Inaugural Meeting on Corneal Ectasia. Mexico City (Coyoacán), DF

2016 Keynote Speaker, SUNY Downstate Medical Center Current Concepts in Ophthalmology, Atlantic City, NJ

2016 Guest of Honor, New England Ophthalmological Society Meeting, Boston MA

2016 Keynote Speaker, Duke Eye Center Controversies in Cornea and Cataract Surgery, Durham, NC

2016 Jose Ignacio Barraquer Lecture. Brazilian Society of Cataract and Refractive Surgery XIV International Congress of Cataract and Refractive Surgery, São Paulo, Brazil

2016 Invited Speaker, USC Roski Eye Institute 41st Anniversary Symposium, Los Angeles CA

2016 Invited Speaker, Annual Conference of Indian Intraocular Implant & Refractive Society, Chennai, India

INVITED GRAND ROUNDS, CME LECTURES

Invitations to National or International Conferences:

2005 Faculty, ASCRS Summer Refractive Congress, American Society of Cataract and Refractive Surgery, Seattle WA

2005 Faculty, Turkish Ophthalmology Society National Meeting, Antalya, Turkey

2005-2011 Faculty, Southeastern Cataract, Cornea, and Refractive Surgery Conference

2007 Faculty, ASCRS Summer Refractive Congress, American Society of Cataract and Refractive Surgery, San Diego CA

2007 Faculty, Cornea Subspecialty Day, American Academy of Ophthalmology Annual Meeting, New Orleans, LA

2008 Faculty, ASCRS 2008 Winter Update Meeting. Riviera Maya, MX

2008 Faculty, Understanding, Preventing, and Treating Post-LASIK Corneal Ectasia, 2008 World Ophthalmology Congress, Hong Kong

2008 Faculty, Cornea Society Symposium, Hot Topics in Cornea and External Disease, American Society of Cataract and Refractive Surgery Annual Meeting, Chicago, IL

2008 Faculty, Management of High Risk Corneal Grafts and Current Trends in Eye Banking, 2008 World Ophthalmology Congress, Hong Kong

2008 Faculty, AAO Refractive Surgery Subspecialty Day

2009 Faculty, ASCRS 2009 Winter Update Meeting, Riviera Maya, Mexico

2009 Faculty, ESCRS Winter Refractive Meeting, Basics Optics Course, Rome Italy

2009 Faculty, Cleveland Clinic Innovations in Ophthalmology Course, Key Largo, FL

2009 Faculty, Cornea Day. Medical/Surgical Corneal Conditions and Controversies in Cataract Surgery ASCRS Annual Meeting, San Francisco CA

2009 Faculty, AAO Refractive Surgery Subspecialty Day, San Francisco CA

2009 Faculty, AAO Annual Meeting, San Francisco, CA

2010 Faculty, AAO Refractive Surgery Subspecialty Day, Chicago, IL

2010 Faculty, AAO Annual Meeting, Chicago, IL

2011 Faculty, 6th International Congress of Collagen Cross-Linking, Milan, Italy

2011 Faculty, ISRS/SOE Corneal Collagen Cross-linking Symposium, European Society of Ophthalmology (SOE) Biennial Meeting, Geneva, Switzerland

2011 Faculty, ASCRS Symposium: Cornea Clinical Committee Highlights Session. ASCRS Annual Meeting, San Diego, CA

2011 Faculty, ISRS Symposium, European Society of Cataract & Refractive Surgery, Vienna Austria

2011 Faculty, Eurokeratoconus Annual Meeting, Bordeaux, France

2011 Faculty, ISRS/AAO Refractive Surgery Subspecialty Day, Orlando, FL

2011 Faculty, AAO Annual Meeting, Orlando, FL

2012 Faculty, Hawaiian Eye Meeting, Maui, HI

2012 Faculty, ASCRS Cornea Day. ASCRS Cornea Day Annual Meeting, Chicago, IL

2012 Faculty, ISRS/AAO Refractive Surgery Subspecialty Day, ISRS/AAO Annual Meeting, Chicago, IL

2012 Faculty, 8th International Congress of Corneal Cross-Linking, Geneva, Switzerland

2013 Faculty, Hawaiian Eye Meeting, Hawaii, HI

2013 Faculty, OSN New York, New York City NY

2013 Faculty, ISRS/AAO Refractive Surgery Subspecialty Day, ISRS/AAO Annual Meeting, New Orleans, LA

2013 Faculty, 9th International Congress of Corneal Cross-Linking, Dublin, Ireland

2014 Faculty, International Society of Refractive Surgery (ISRS) Tokyo Summit

2014 Faculty, World Ophthalmology Congress (WOC), Tokyo Japan

2014 Faculty, ISRS Symposium: Three Big Debates & Controversies in Corneal Refractive Surgery, ESCRS Annual Meeting, London, UK

2015 Faculty, World Cornea Congress VII, San Diego, CA

2015 Faculty, Eucornea Meeting, Barcelona Spain

2015 Faculty, 11th International Congress of Corneal Cross-Linking, Boston, MA

2016 Faculty, WOC Symposium: World Forum of Ophthalmological Journal Editors, World Ophthalmology Congress, Guadalajara, MX

2016 Faculty, WOC Symposium: Pearls & Pitfalls for Selecting and Implanting Refractive IOLs, World Ophthalmology Congress, Guadalajara, MX

2016 Faculty, WOC Symposium: Clinical Decision-making with Cataract Complications, World Ophthalmology Congress, Guadalajara, MX

2016 Faculty, Aspen Corneal Society Annual Meeting, Aspen CO

2016 Faculty, ASCRS Cornea Day. ASCRS Annual Meeting, New Orleans, LA

2016 Faculty, Los Angeles County Optometric Society LACOS Meeting, Los Angeles, CA

2016 Faculty, ISRS/AAO Refractive Surgery Subspecialty Day, ISRS/AAO Annual Meeting, Chicago, IL

2016 Faculty, AAO Annual Meeting, Chicago, IL

Invited Presentations at National or International Conferences:

1. Adenovirus Reactivation after LASIK. Southeastern Cataract, Cornea, and Refractive Surgery Conference, Durham, NC, March 2004
2. Management of Corneal Ectasia after LASIK. Southeastern Cataract, Cornea, and Refractive Surgery Conference, Charleston, SC, March 2005
3. Why I Chose Academic Medicine. Young Physicians and Residents Clinical Committee Job Fair Didactic Session, American Society of Cataract and Refractive Surgery, Washington D.C., April 2005
4. Evidence of Alphacor Biointegration. Alphacor User's Meeting, Washington D.C., April 17, 2005
5. Intacs for Keratoconus. Georgia Society of Ophthalmology Annual Meeting, Sea Island, GA, July 29, 2005.
6. Intacs for Corneal Ectasia after LASIK. ASCRS Summer Refractive Congress, Seattle WA, August 2005
7. IOL Calculations after Refractive Surgery. ASCRS Summer Refractive Congress, Seattle WA, August 2005
8. Corneal Ectasia after LASIK. Turkish Ophthalmology Society National Meeting, Antalya Turkey, September 2005
9. Cataract Surgery in the Era of LASIK. American Academy of Ophthalmology/Turkish Ophthalmology Society Joint Panel, Turkish Ophthalmology Society National Meeting, Antalya Turkey, September 2005
10. Advances in Cataract Surgical Techniques, Materials, and Intraocular Lenses. American Academy of Ophthalmology/Turkish Ophthalmology Society Joint Panel, Turkish Ophthalmology Society National Meeting, Antalya Turkey, September 2005
11. Why I Chose Academic Medicine. Young Physicians and Re Young Physicians and Residents Clinical Committee Job Fair Didactic Session, American Society of Cataract and Refractive Surgery, San Francisco, CA, March 2006
12. Lens Based Refractive Surgery Challenging Cases. Young Physicians and Residents Clinical Committee Symposium, American Society of Cataract and Refractive Surgery, San Francisco, CA, March 2006
13. Bilateral Infectious Keratitis after PRK. Southeastern Cataract, Cornea, and Refractive Surgery Conference, Atlanta, GA, April 2006
14. The Surgical Management of Astigmatism. The Dulaney Foundation CPE Cornea Fellows Program. Dallas, TX, September 2006
15. Endothelial Keratoplasty. The Dulaney Foundation CPE Cornea Fellows Program. Dallas, TX, September 2006
16. Delayed Dislocated LASIK Flap Management. Southeastern Cataract, Cornea, and Refractive Surgery Conference, Miami, FL February 2007
17. Management of the Malfeasant IOL. Southeastern Cataract, Cornea, and Refractive Surgery Conference, Miami, FL February 2007
18. Management of Corneal Ectasia after LASIK. Cornea Day, San Diego, CA, May 2007
19. Management of the Refractive Surgery Patient with Previous Refractive Surgery. American Society of Cataract and Refractive Surgery, San Diego, CA, May 2007
20. Results of LASIK Survey to Residents and Young Physicians. American Society of Cataract and Refractive Surgery, San Diego, CA, May 2007
21. The Risks vs. Benefits of Performing PRK for FFKC. International Congress on Advanced Surface Ablation & SBK. Ft. Lauderdale FL, 2007
22. Quantitative Analysis of Corneal Stromal Cohesive Tensile Strength and its Relevance to Refractive Surgery. International Congress on Advanced Surface Ablation & SBK. Ft. Lauderdale FL, 2007

23. Is This Topography Abnormal? ASCRS Summer Refractive Congress, San Diego CA, August 2007
24. Is this Patient at Risk for Ectasia? ASCRS Summer Refractive Congress, San Diego CA, August 2007
25. Penetrating Keratoplasty and Ectasia Management, Cornea Subspecialty Day, American Academy of Ophthalmology Annual Meeting, New Orleans, LA, 2007
26. Validation of the Ectasia Risk Score System, Refractive Surgery Subspecialty Day, American Academy of Ophthalmology Annual Meeting, New Orleans, LA, 2007
27. Ectasia is not Preventable. Symposium 507: Important Current Issues for Refractive Surgeons, American Academy of Ophthalmology Annual Meeting, New Orleans, LA, 2007
28. Diagnosis and Management of Ectasia after LASIK. Association of Technical Personnel in Ophthalmology (ATPO) Annual Meeting, New Orleans, LA, 2007
29. Challenging Cases In keratorefractive Surgery. ASCRS 2008 Winter Update Meeting, Riviera Maya, Mexico
30. Collagen Cross Linking. ASCRS 2008 Winter Update Meeting, Riviera Maya, Mexico
31. SBK vs. Surface Ablation vs. LASIK. ASCRS 2008 Winter Update Meeting, Riviera Maya, Mexico
32. Screening Strategies for Identifying High Risk Patients. 2008 World Ophthalmology Congress, Hong Kong, July 2008
33. Pediatric Keratoplasty: Indications and Prognosis. 2008 World Ophthalmology Congress, Hong Kong, July 2008
34. Diagnosis and Management of Corneal Ectasia after LASIK. 2008 National Medical Association Scientific Assembly Atlanta, Georgia, July 2008.
35. Phakic Intraocular Lens Implantation in Forme Fruste Keratoconus. Southeastern Cataract, Cornea, and Refractive Surgery Conference, Asheville, NC, September 2008.
36. The Latest on Risk Factors for Ectasia. Refractive Surgery Subspecialty Day, American Academy of Ophthalmology Annual Meeting, Atlanta, GA, 2008
37. Expert Discussant 1: Ectasia: Refractive Surgery Subspecialty Day, American Academy of Ophthalmology Annual Meeting, Atlanta, GA, 2008
38. Keratorefractive Surgery: When PRK & When LASIK? ASCRS 2009 Winter Update Meeting, Riviera Maya, Mexico
39. Evaluating the Cornea with Scheimpflug Imaging. ESCRS 2009 Winter Refractive Meeting, Basics Optics Course, Rome
40. Infectious Keratitis after Refractive Surgery: Current Trends. Cleveland Clinic Innovations in Ophthalmology Course, Key Largo FL
41. Corneal Biomechanics and Implications for Refractive Surgery. Cleveland Clinic Innovations in Ophthalmology Course, Key Largo FL
42. Corneal Topographic Evaluation: Efficacy, Reproducibility, and Inter-observer Agreement. Cleveland Clinic Innovations in Ophthalmology Course, Key Largo FL
43. Refractive Surgical Screening: The Ectasia Risk Scoring System. Cleveland Clinic Innovations in Ophthalmology Course, Key Largo FL
44. Infectious Keratitis after Refractive Surgery: Where are we in 2009? Vanderbilt Eye Institute Comprehensive Ophthalmology: Pearls XII Course, Nashville TN
45. Advanced Topographic Evaluation of the Refractive Surgical Patient. Vanderbilt Eye Institute Comprehensive Ophthalmology: Pearls XII Course, Nashville TN
46. Corneal Ectasia after LASIK: Diagnosis & Management. U. of Florida Refractive Pearls for practice, 2010
47. Infectious Keratitis after Refractive Surgery. U. of Florida Refractive Pearls for practice, 2010

48. LASIK Flap Complications: Recognition & Management. U. of Florida Refractive Pearls for practice, 2010
49. Advanced Topographic Evaluation of the Refractive Surgical Patient. U. of Florida Refractive Pearls for practice, 2010
50. Astigmatism Management in Cataract & Refractive Surgery. Egyptian Society of Cataract & Refractive Surgery Annual Meeting, Cairo Egypt, 2010
51. Refractive Surgical Decision Making: When PRK and When LASIK? Egyptian Society of Cataract & Refractive Surgery Annual Meeting, Cairo Egypt, 2010
52. LASIK Flap Complications: Recognition & Management. Egyptian Society of Cataract & Refractive Surgery Annual Meeting, Cairo Egypt, 2010
53. Advanced Topographic Evaluation of the Refractive Surgical Patient. Egyptian Society of Cataract & Refractive Surgery Annual Meeting, Cairo Egypt, 2010
54. Corneal Ectasia after LASIK: Diagnosis & Management. Egyptian Society of Cataract & Refractive Surgery Annual Meeting, Cairo Egypt, 2010
55. Subjective Topographic Pattern Correlations Between Scanning Slit-Beam Topography and Scheimpflug Images. ASCRS Annual Meeting, Boston, MA, April 2010 (**2010 ASCRS Foundation Binkhorst Young Ophthalmologist Award Paper**)
56. Ectasia. World Ophthalmology Congress Refractive Surgery Subspecialty Day, Berlin, Germany, June 2010
57. Ectasia: Diagnosis & Treatment. World Ophthalmology Congress, Berlin, Germany, June 2010
58. Corneal Ectasia after LASIK: Diagnosis & Management. Colombian Society of Ophthalmology International Ophthalmology Congress, Bogota Colombia, August 2010
59. Advanced Topographic Evaluation for the Refractive Surgical Patient. Colombian Society of Ophthalmology International Ophthalmology Congress, Bogota Colombia, August 2010
60. Management of Malpositioned Intraocular Lenses. Colombian Society of Ophthalmology International Ophthalmology Congress, Bogota Colombia, August 2010
61. Astigmatism Management in Cataract & Refractive Surgery. Colombian Society of Ophthalmology International Ophthalmology Congress, Bogota Colombia, August 2010
62. Surprises and Solutions After Refractive Surgery. Atlantic Eye Symposium, Halifax Nova Scotia, September 2010
63. PRK vs. LASIK: How to Choose. Atlantic Eye Symposium, Halifax Nova Scotia, September 2010
64. Corneal Ectasia: Pathophysiology and Risk Factors. Atlantic Eye Symposium, Halifax Nova Scotia, September 2010
65. Status of Collagen Cross-linking in the United States: Studies vs. Approval Process. AAO Refractive Surgery Subspecialty Day Meeting, Chicago, IL October 2010
66. Flap Thickness in Eyes with Post-LASIK Ectasia. OSN New York 2010. November 2010
67. CXL for Post-LASIK Ectasia. 6th International Congress of Collagen Cross Linking, Milan Italy, January 2011
68. Corneal Ectasia Post-Refractive Surgery: Diagnosis & Treatment. Bascom Palmer Eye Institute Cataract & Refractive Surgery Congress, Miami, FL, February 2011
69. Prevention and Management of LASIK Flap Complications. Bascom Palmer Eye Institute Cataract & Refractive Surgery Congress, Miami, FL, February 2011
70. Topographic Evaluation and Surgical Screening of the Refractive Surgery Patient. Bascom Palmer Eye Institute Cataract & Refractive Surgery Congress, Miami, FL, February 2011
71. Case Studies in Corneal Topography. ASCRS Annual Meeting, San Diego, CA, March 2011

72. Astigmatism Management in the Post-Refractive Surgery Cornea. ASCRS Annual Meeting, San Diego, CA, March 2011
73. Collagen Cross Linking for Ectasia after LASIK. European Society of Ophthalmology (SOE) Biennial Meeting, Geneva Switzerland, June 2011
74. IOL Fixation Options When the Capsule is Compromised. Canadian Ophthalmology Society (COS) Annual meeting, Vancouver. BC, June 2011
75. IOL Cutting Instruments. Canadian Ophthalmology Society (COS) Annual meeting, Vancouver. BC, June 2011
76. Advanced Topographic Analysis for Cataract and refractive Surgeons. Canadian Ophthalmology Society (COS) Annual meeting, Vancouver. BC, June 2011
77. Astigmatism Management after Refractive Surgery. Pan American Society of Ophthalmology Annual Meeting, Buenos Aires, Argentina, July 2011
78. The Verysyse Phakic IOL. Pan American Society of Ophthalmology Annual Meeting, Buenos Aires, Argentina, July 2011
79. Risk Factors for Ectasia: Are thin Cornea at Increased Risk for Post-LASIK Ectasia? ISRS Symposium at the European Society of Cataract & Refractive Surgery, Vienna Austria, September 2011
80. Changes in Ocular Response Analysis (ORA) after Cross Linking for Keratoconus and Ectasia after LASIK. Eurokeratoconus Annual meeting, Bordeaux, France, September 2011
81. Keratoconus & Ectasia: Screening & Procedure Selection. Given during AAO Course #420: Modern Trends in Diagnosis and Management. AAO Annual Meeting, Orlando, FL, October 2011
82. Battle of the Bulge: We Can Predict Ectasia. ISRS/AAO Refractive Surgery Subspecialty Day Meeting, Orlando, FL, October 2011
83. Update on Cross Linking for Keratoconus and Ectasia. OSN New York 2011, November 2011
84. Update on Cross Linking for Keratoconus and Ectasia. Hawaiian Eye 2012, Maui, January 2012
85. Riboflavin Crosslinking for Infectious Keratitis. ASCRS Cornea Day Annual Meeting, Chicago, IL, March 2012
86. The Role of the Ectasia Risk Score System. ASCRS Annual Meeting, Chicago, IL, April 2012
87. Predicting Ectasia Risk. ASCRS Annual Meeting, Chicago, IL, April 2012
88. The Taming of the Tumultuous Toric. ASCRS Annual Meeting, Chicago, IL, April 2012
89. Treatment Algorithm for the Dissatisfied Premium IOL Patient. Refractive.online & SICCSO International Congress, Rome, Italy, June 2012
90. Topographic Evaluation. ISRS/AAO Symposium 53: Introduction to Refractive Surgery for Residents, AAO Annual Meeting, Chicago, IL
91. Surgical Management of Astigmatism. 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, December 1-3, 2012, Riyadh, KSA
92. Managing Patients Dissatisfied with Multifocal IOLs. 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, December 1-3, 2012, Riyadh, KSA
93. IOL selection & Implantation; My 5 Best Tips. 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, December 1-3, 2012, Riyadh, KSA

94. LASIK Interface Disorders: Diagnosis and Management. 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, December 1-3, 2012, Riyadh, KSA

95. Refractive Surgery Screening. 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, December 1-3, 2012, Riyadh, KSA

96. Topography, Tomography & Aberrometry for the Refractive Surgeon. 3rd ISRS /Magrabi Meeting & Saudi Ophthalmological Society, December 1-3, 2012, Riyadh, KSA

97. Finding a Consensus on Reporting CXL Outcomes: Epithelial Mapping. 8th International Congress of Corneal Cross-Linking, December 7-8 2012, Geneva, Switzerland

98. Corneal Topography and the ERSS score, An Update. 8th International Congress of Corneal Cross-Linking, December 7-8 2012, Geneva, Switzerland

99. Collagen Cross-Linking: Current Status. Hawaiian Eye 2013, Hawaii's Big Island, HI, January 2013

100. LASIK Interface Disorders: Etiology and Management. Hawaiian Eye 2013, Hawaii's Big Island, HI, January 2013

101. Utilizing the ERSS for Refractive Surgical Screening. Lo Mejor en Cornea, March 21-23, 2013, Mexico City, DF

102. Choosing the Appropriate IOL after Corneal Refractive Surgery. Lo Mejor en Cornea, March 21-23, 2013, Mexico City, DF

103. Managing Corneal Ectasia after LASIK. Lo Mejor en Cornea, March 21-23, 2013, Mexico City, DF

104. Fundamentals of Corneal Topography & Tomography Evaluation. Lo Mejor en Cornea, March 21-23, 2013, Mexico City, DF

105. Corneal Topography to Detect Biomechanical Changes. Predicting, Measuring and Treating Changes in Corneal Biomechanics Course. ARVO, Seattle, WA, 2013

106. Correlation of corneal imaging in keratoconus suspect diagnosis. Athens/ISRS Refractive Surgery Course, Athens Greece, September 2013

107. Utilizing the ERSS for refractive Surgical Screening. Athens/ISRS Refractive Surgery Course, Athens Greece, September 2013

108. Toric, Multifocal, and Accommodating IOLs. ISRS/AAO Symposium 02: Introduction to Refractive Surgery for Residents, AAO Annual Meeting, New Orleans, LA, November 2013

109. Future Trends in Refractive Surgery. University of Sao Paolo 16th Annual Ophthalmology Congress, Sao Paolo, Brazil, November 2013

110. Utilizing the ERSS for Refractive Surgical Screening. University of Sao Paolo 16th Annual Ophthalmology Congress, Sao Paolo, Brazil, November 2013

111. Keratoconus; What is Progression? 9th International Congress of Corneal Cross-Linking, Dublin, Ireland, December 2013

112. Corneal Topography and the ERSS. 9th International Congress of Corneal Cross-Linking, Dublin, Ireland, December 2013

113. The Ectasia Risk Score System. Wills Eye Hospital, Philadelphia, PA, December 11, 2013

114. Corneal Topography: Wills Eye Hospital, Philadelphia, PA, December 11, 2013

115. Refractive Surgery: Patient Evaluation. Wills Eye Hospital, Philadelphia, PA, December 11, 2013

116. LASIK interface disorders. Bascom Palmer Eye Institute Cataract and Refractive Surgery Congress 2014. Miami, FL, February 21, 2014

117. LASIK vs. PRK - when to choose which procedure. Bascom Palmer Eye Institute Cataract and Refractive Surgery Congress 2014. Miami, FL, February 21, 2014

118. Corneal topography & tomography for refractive and cataract surgeons. Bascom Palmer Eye Institute Cataract and Refractive Surgery Congress 2014. Miami, FL, February 21, 2014

119. Preoperative evaluation for LASIK & PRK. Bascom Palmer Eye Institute Cataract and Refractive Surgery Congress 2014. Miami, FL, February 21, 2014

120. Choosing the appropriate IOL after corneal refractive surgery New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

121. Managing Patients Dissatisfied with Multifocal IOLs. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

122. Keys to success with New Technology IOLS. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

123. LASIK Interface Disorders: Etiology and Management. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

124. The Role of Ectasia Risk Score System. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

125. Fundamentals of Corneal Topography and Tomography Evaluation. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

126. Surgical Management of Astigmatism. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

127. Collagen cross-linking complications and their management. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

128. Managing Cataract Surgery Complications. New Orleans Academy of Ophthalmology, New Orleans LA, March 2014

129. CXL for Infectious Keratitis (PACK-CXL). ISRS Tokyo Summit, April 1 2014

130. LASIK, Ectasia, and Phakic IOLs. ISRS Tokyo Summit, April 1 2014

131. Advanced Tomography & Topography Evaluation, World Ophthalmology Congress, Tokyo, Japan, April 2014

132. Corneal topography to measure the therapeutic success of CXL. ARVO Annual Meeting Education Course, Orlando, FL, May 3, 2014

133. LASIK interface disorders: Etiology and management. 20th Annual White Nights International Ophthalmology Congress, St. Petersburg, Russia, May 26, 2014

134. Choosing the appropriate IOL after corneal refractive surgery. 20th Annual White Nights International Ophthalmology Congress, St. Petersburg, Russia, May 26, 2014

135. Management of Corneal Ectasias. 20th Annual White Nights International Ophthalmology Congress, St.

Petersburg, Russia, May 27, 2014

136. Managing patients dissatisfied with multifocal IOLs. 20th Annual White Nights International Ophthalmology Congress, St. Petersburg, Russia, May 27, 2014

137. Managing Presbyopia-Correcting IOL Dissatisfaction. 20th Annual Cornea & Refractive Surgery International Course, Riviera Nayarit, Mexico, September 10-12, 2014

138. Ectasia Management. 20th Annual Cornea & Refractive Surgery International Course, Riviera Nayarit, Mexico, September 10-12, 2014

139. LASIK Interface Disorders. 20th Annual Cornea & Refractive Surgery International Course, Riviera Nayarit, Mexico, September 10-12, 2014

140. CXL Treatment Modifications: Fluence, Irradiation Profiles, and The Role of the Epithelium. ESCRS Annual Meeting, September 13-17, 2014, London, UK

141. Topographic and Tomography Evaluation. ISRS/AAO Symposium 02: Introduction to Refractive Surgery for Residents. AAO Annual Meeting. Chicago, IL October 2014

142. Interactive Corneal Refractive Surgery Consultations. ISRS/AAO Annual Meeting. Chicago, IL October 2014

143. Laser Vision Correction Enhancements. ISRS/AAO Annual Meeting. Chicago, IL October 2014

144. Flap & Interface Complications. AAO Annual Meeting. Chicago, IL October 2014

145. Phakic IOL Exchange. ISRS/AAO Annual Meeting. Chicago, IL October 2014 Topography and Tomography evaluation for Cataract and Refractive Surgeons. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

146. Managing Patient Dissatisfaction after Presbyopia-Correcting IOL Implantation. SUNY Downstate Ophthalmology Department, Brooklyn, NY, November 2014

147. Case Studies in Refractive Surgery. SUNY Downstate Ophthalmology Department, Brooklyn, NY, November 2014

148. The Role of Ectasia Risk Score System in Refractive Surgery Screening. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

149. CXL for infectious Keratitis. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

150. Future Trends in Refractive Surgery. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

151. LASIK Interface Disorders: Etiology and Management. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

152. CXL: Complications and their management. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

153. CXL: Indications and Outcomes. Chilean Congress of Ophthalmology, Vina del Mar, Chile, November 2014

154. Corneal Cross-Linking: Current Status. Nashville Academy of Ophthalmology Meeting, Nashville, TN, January 2015

155. IOL Repositioning & Exchange Techniques. Les Entretiens Ophtalmologiques de l'Université de

Montréal 2015 (EOUM), Montreal, Quebec. May 2015

156. Therapeutic Refractive Surgery. Les Entretiens Ophtalmologiques de l'Université de Montréal 2015 (EOUM), Montreal, Quebec. May 2015

157. Advanced Topography and Tomography Evaluation. Les Entretiens Ophtalmologiques de l'Université de Montréal 2015 (EOUM), Montreal, Quebec. May 2015

158. Measuring the Success of Corneal Cross-Linking. Les Entretiens Ophtalmologiques de l'Université de Montréal 2015 (EOUM), Montreal, Quebec. May 2015

159. The Fragility of Knowledge. Drouilhet Visiting Professor Lecture, UT Houston Department of Ophthalmology, Houston, TX, June 2015

160. The Fragility of Knowledge. Congresso Brasileiro Oftamologia, Florianopolis, Brazil, September 2015

161. Measuring Treatment Success after Corneal Cross Linking (CXL). Congresso Brasileiro Oftamologia, Florianopolis, Brazil, September 2015

162. Therapeutic Refractive Surgery. Congresso Brasileiro Oftamologia, Florianopolis, Brazil, September 2015

163. LASIK vs. PRK: When to Choose Each Procedure. Congresso Brasileiro Oftamologia, Florianopolis, Brazil, September 2015

164. Post Refractive Surgery Corneal Ectasia. 6th Annual Eucornea Congress, Barcelona Spain, September 2015

165. CXL Treatment Modifications: Accelerated protocols and Controversies in Measuring Therapeutic Effects after CXL. ESCRS Annual Meeting, September 5-9, 2014, Barcelona, SP

166. Corneal Collagen Cross-Linking. Nebraska Academy of Eye Physicians and Surgeons Fall Scientific Meeting, October 2, 2015, Omaha, NE

167. Corneal Topography & Tomography for the Ectatic Cornea. Nebraska Academy of Eye Physicians and Surgeons Fall Scientific Meeting, October 2, 2015, Omaha, NE

168. Risk Score System for Keratoconus Screening. Apectasias Inaugural Meeting on Corneal Ectasia. Mexico City (Coyoacán), DF, October 2015

169. ORA in Keratoconus. Apectasias Inaugural Meeting on Corneal Ectasia. Mexico City (Coyoacán), DF, October 2015

170. Crosslinking Complications. Apectasias Inaugural Meeting on Corneal Ectasia. Mexico City (Coyoacán), DF, October 2015

171. Topographic and Tomography Evaluation. ISRS/AAO Symposium 03: Introduction to Refractive Surgery for Residents. AAO Annual Meeting. Las Vegas, NV, November, 2015

172. Advanced Technology IOL: Patient Selection. ISRS/AAO Symposium 03: Introduction to Refractive Surgery for Residents. AAO Annual Meeting. Las Vegas, NV, November, 2015

173. How well are we doing at measuring topographic changes after CXL? 11th International Congress Corneal Cross-Linking, Boston, MA, December 5, 2015

174. Optimizing IOL Surgery Using Advanced Optics. SUNY Downstate Medical Center Current Concepts in Ophthalmology, Atlantic City, NJ, January 9, 2016

175. Refractive Surgery Complications. SUNY Downstate Medical Center Current Concepts in Ophthalmology, Atlantic City, NJ, January 9, 2016

176. Publishing a Scientific Paper: Tables, Graphs, and Figures. World Ophthalmology Congress, Guadalajara, MX, February 8, 2016

177. Publishing a Scientific Paper: Choosing the Correct Journal. World Ophthalmology Congress, Guadalajara, MX, February 8, 2016

178. LASIK Interface Disorders: Etiology & Management. Aspen Corneal Society Annual Meeting, Aspen CO, February 14, 2016

179. Role of Tomography in Keratoconus Evaluation: Fact & Fancy. Aspen Corneal Society Annual Meeting, Aspen CO, February 14, 2016

180. Collagen Crosslinking: What's Out There and What's Approved Where. Course on Advanced Cornea Surgery (CoACS). Emory University School of Medicine. Atlanta, GA, March 5, 2016

181. Cross-Linking Techniques: Step-by-Step. Course on Advanced Cornea Surgery (CoACS). Emory University School of Medicine. Atlanta, GA, March 5, 2016

182. The fragility of Knowledge. New England Ophthalmological Society Meeting, Boston MA, March 11, 2016

183. Preventing Ectasia through Better Screening. New England Ophthalmological Society Meeting, Boston MA, March 11, 2016

184. Collagen Cross-linking to Treat and Prevent Ectasia. New England Ophthalmological Society Meeting, Boston MA, March 11, 2016

185. How to Avoid Ectasia: Refractive Surgery Screening Advances. Duke Eye Center Controversies in Cornea and Cataract Surgery, Durham, NC, April 23, 2016

186. LASIK Interface Disorders: Etiology & Management. Duke Eye Center Controversies in Cornea and Cataract Surgery, Durham, NC, April 23, 2016

187. Therapeutic Refractive Surgery. Duke Eye Center Controversies in Cornea and Cataract Surgery, Durham, NC, April 23, 2016

188. Post-LASIK Ectasia. ASCRS Cornea Day. ASCRS Cornea Day Annual Meeting, New Orleans, LA May 6, 2016

189. Grading/Scoring Ectasia Risk. ASCRS Annual Meeting, New Orleans, LA, May 9, 2016

190. Flap Amputation for Therapeutic Refractive Surgery Cases. ASCRS Annual Meeting, New Orleans, LA, May 9, 2016

191. How I see the ectasia risk factors. Brazilian Society of Cataract and Refractive Surgery XIV International Congress of Cataract and Refractive Surgery, São Paulo, Brazil, June 2, 2016

192. Refractive cataract surgery. Brazilian Society of Cataract and Refractive Surgery XIV International Congress of Cataract and Refractive Surgery, São Paulo, Brazil, June 2, 2016

193. Weighting ectasia risk factors. Brazilian Society of Cataract and Refractive Surgery XIV International Congress of Cataract and Refractive Surgery, São Paulo, Brazil, June 3, 2016

194. IOL repositioning and exchange techniques. Brazilian Society of Cataract and Refractive Surgery XIV International Congress of Cataract and Refractive Surgery, São Paulo, Brazil, June 4, 2016

195. Refractive Cataract Surgery. USC Roski Eye Institute 41st Anniversary Symposium, Los Angeles CA, June 17, 2016

196. The Fragility of Knowledge. USC Roski Eye Institute 41st Anniversary Symposium, Los Angeles CA, June 17, 2016

197. Screening for Ectasia Risk. Annual Conference of Indian Intraocular Implant & Refractive Society, July 2-3, 2016, Chennai, India

198. IOL Removal – Do's & Dont's. Annual Conference of Indian Intraocular Implant & Refractive Society, July 2-3, 2016, Chennai, India

199. Refractive Surgery Case Evaluations. Los Angeles County Optometric Society LACOS Meeting, July 10, 2016, Los Angles, CA

200. Evaluation & Management of Toric IOL Outcomes. European Society of Cataract & Refractive Surgery Annual Meeting, September 10, 2016, Copenhagen, Denmark

201. New Indications for Corneal Cross-Linking. European Society of Cataract & Refractive Surgery Annual Meeting, September 11, 2016, Copenhagen, Denmark

202. Red flags in topography and tomography. ISRS Symposium at the European Society of Cataract & Refractive Surgery Annual Meeting, September 13, 2016, Copenhagen, Denmark

PUBLICATIONS:

REFEREED JOURNAL ARTICLES:

1. **Randleman JB**, Loupe DN, Song CD, Waring GO 3rd, Stulting RD. Intraocular lens power calculations after laser in situ keratomileusis. Cornea. 2002 Nov;21(8):751-5.

2. **Randleman JB**, Russell B, Ward MA, Thompson KP, Stulting RD. Risk factors and prognosis for corneal ectasia after LASIK. Ophthalmology. 2003 Feb;110(2):267-75.

3. **Randleman JB**, Ward MA, Stulting RD. Visual rehabilitation after severe alkali injury with piggyback hyper O2 contact lenses. Cornea. 2003 Mar;22(2):181-3.

4. **Randleman JB**, Song CD, Palay DA. Indications for and outcomes of penetrating keratoplasty performed by resident surgeons. Am J Ophthalmol. 2003 Jul;136(1):68-75.

5. **Randleman JB**, Srivastava SK, Aaron MM. Phacoemulsification with topical anesthesia performed by resident surgeons. J Cataract Refract Surg. 2004 Jan;30(1):149-54.

6. **Randleman JB**, Thompson KP, Staver PR. Wavefront aberrations from corneal ectasia after laser in situ keratomileusis demonstrated by InterWave aberrometry. J Refract Surg. 2004 Mar-Apr;20(2):170-5.

7. **Randleman JB**, Hewitt SM, Stulting RD. Delayed reactivation of presumed adenoviral subepithelial infiltrates after laser in situ keratomileusis. Cornea. 2004 Apr;23(3):302-5.

8. Stulting RD, **Randleman JB**, Couser JM, Thompson KP. The epidemiology of diffuse lamellar keratitis. Cornea. 2004 Oct;23(7):680-8. PubMed PMID: 15448493.

9. **Randleman JB**, Hewitt SM, Lynn MJ, Stulting RD. A comparison of 2 methods for estimating residual stromal bed thickness before repeat LASIK. Ophthalmology. 2005 Jan;112(1):98-103.

10. Gallardo MJ, **Randleman JB**, Price KM, Johnson DA, Acosta S, Grossniklaus HE, Stulting RD. Ocular argyrosis after long-term self-application of eyelash tint. Am J Ophthalmol. 2006 Jan;141(1):198-200.

11. **Randleman JB**, Stulting RD. Prevention and treatment of corneal graft rejection: current practice patterns (2004). Cornea. 2006 Apr;25(3):286-90.

12. **Randleman JB**, Dawson DG, Larson PM, Russell B, Edelhauser HF. Chronic pain after Intacs implantation. J Cataract Refract Surg. 2006 May;32(5):875-8.

13. Banning CS, Kim WC, Randleman JB, Kim EK, Stulting RD. Exacerbation of Avellino corneal dystrophy after LASIK in North America. Cornea. 2006 May;25(4):482-4.

14. Klein SR, Epstein RJ, **Randleman JB**, Stulting RD. Corneal ectasia after laser in situ keratomileusis in patients without apparent preoperative risk factors. Cornea. 2006 May;25(4):388-403.

15. **Randleman JB**, Banning CS, Stulting RD. Persistent epithelial ingrowth. Ophthalmology. 2006 Aug;113(8):1468.e1-3.

16. **Randleman JB**, Caster AI, Banning CS, Stulting RD. Corneal ectasia after photorefractive keratectomy. J Cataract Refract Surg. 2006 Aug;32(8):1395-8.

17. Banning CS, Larson PM, **Randleman JB**. Outcome of LASIK in fleck corneal dystrophy. Cornea. 2006 Dec;25(10):1262-4.

18. **Randleman JB**, Banning CS, Stulting RD. Corneal ectasia after hyperopic LASIK. J Refract Surg. 2007 Jan;23(1):98-102.

19. Woodward M, **Randleman JB**, Larson PM. In vivo confocal microscopy of polymorphic amyloid degeneration and posterior crocodile shagreen. Cornea. 2007 Jan;26(1):98-101.

20. Woodward M, **Randleman JB**. Bilateral methicillin-resistant Staphylococcus aureus keratitis after photorefractive keratectomy. J Cataract Refract Surg. 2007 Feb;33(2):316-9.

21. **Randleman JB**, Loft ES, Banning CS, Lynn MJ, Stulting RD. Outcomes of wavefront-optimized surface ablation. Ophthalmology. 2007 May;114(5):983-8. Epub 2007 Mar 6.

22. **Randleman JB**, Wolfe JD, Woodward M, Lynn MJ, Cherwek DH, Srivastava SK. The resident surgeon phacoemulsification learning curve. Arch Ophthalmol. 2007 Sep;125(9):1215-9.

23. **Randleman JB**, Lynn MJ, Banning CS, Stulting RD. Risk factors for epithelial defect formation during laser in situ keratomileusis. J Cataract Refract Surg. 2007 Oct;33(10):1738-43.

24. **Randleman JB**, Foster JB, Loupe DN, Song CD, Stulting RD. Intraocular lens power calculations after refractive surgery: consensus-K technique. J Cataract Refract Surg. 2007 Nov;33(11):1892-8.

25. **Randleman JB**, Dawson DG, Grossniklaus HE, McCarey BE, Edelhauser HF. Depth-dependent cohesive tensile strength in human donor corneas: implications for refractive surgery. J Refract Surg. 2008 Jan;24(1):S85-9.

26. **Randleman JB**, Woodward M, Lynn MJ, Stulting RD. Risk assessment for ectasia after corneal refractive surgery. Ophthalmology. 2008 Jan;115(1):37-50. Epub 2007 Jul 12.

27. Nemi A, Bahadur RP, **Randleman JB**. Traumatic epithelial downgrowth after radial keratotomy. J Cataract Refract Surg. 2008 Feb;34(2):327-9.

28. Ruth AL, Lynn MJ, **Randleman JB**, Stulting RD. Blade source effect on laser in situ keratomileusis flap thickness with the Amadeus I microkeratome. J Cataract Refract Surg. 2008 Mar;34(3):407-10.

29. Woodward MA, **Randleman JB**, Russell B, Lynn MJ, Ward MA, Stulting RD. Visual rehabilitation and outcomes for ectasia after corneal refractive surgery. J Cataract Refract Surg. 2008 Mar;34(3):383-8.

30. Davies JB, **Randleman JB**. Successful delayed surgical revision of a dislocated LASIK flap. Ophthalmic Surg Lasers Imaging. 2008 May-Jun;39(3):221-4.

31. **Randleman JB**, Trattler WB, Stulting RD. Validation of the Ectasia Risk Score System for preoperative laser in situ keratomileusis screening. Am J Ophthalmol. 2008 May;145(5):813-8.

32. Lenhart PD, **Randleman JB**, Grossniklaus HE, Stulting RD. Confocal microscopic diagnosis of epithelial downgrowth. Cornea. 2008 Dec;27(10):1138-41.

33. Dawson DG, **Randleman JB**, Grossniklaus HE, O'Brien TP, Dubovy SR, Schmack I, Stulting RD, Edelhauser HF. Corneal ectasia after excimer laser keratorefractive surgery: histopathology, ultrastructure, and pathophysiology. Ophthalmology. 2008 Dec;115(12):2181-2191.e1.

34. Bansal AS, **Randleman JB**. Corneal ectasia after LASIK in a patient with superior pellucid marginal degeneration. J Refract Surg. 2009 Feb;25(2):172-4.

35. **Randleman JB**, Perez-Straziota CE, Hu MH, White AJ, Loft ES, Stulting RD. Higher-order aberrations after wavefront-optimized photorefractive keratectomy and laser in situ keratomileusis. J Cataract Refract Surg. 2009 Feb;35(2):260-4.

36. Perez-Straziota CE, **Randleman JB**, Stulting RD. Objective and subjective preoperative refraction techniques for wavefront-optimized and wavefront-guided laser in situ keratomileusis. J Cataract Refract Surg. 2009 Feb;35(2):256-9.

37. **Randleman JB**, White AJ Jr, Lynn MJ, Hu MH, Stulting RD. Incidence, outcomes, and risk factors for retreatment after wavefront-optimized ablations with PRK and LASIK. J Refract Surg. 2009 Mar;25(3):273-6.

38. Woodward MA, **Randleman JB**, Stulting RD. Dissatisfaction after multifocal intraocular lens implantation. J Cataract Refract Surg. 2009 Jun;35(6):992-7.

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4. Diffuse Lamellar Keratitis: Etiology and Outcomes. ARVO, Fort Lauderdale, FL, May 2003
5. Risk Factors for Corneal Ectasia after LASIK. AAO Annual Meeting, Anaheim, CA, November 2003
6. Residual Stromal Bed Estimations Prior to Repeat LASIK. ASCRS Annual Meeting, San Diego, CA, May 2004
7. Visual Outcomes After PRK with the Wavelight Allegretto Wave Excimer Laser. ASCRS Annual Meeting, Washington D.C., April 2005
8. IOL Power Calculations after LASIK, ASCRS Annual Meeting, San Francisco, CA, March 2006
9. Stratified Risk Factors for Corneal Ectasia after LASIK. ASCRS Annual Meeting, San Diego, CA, May 2007 (**Best Paper of Session**)
10. Risk Assessment for Ectasia After LASIK, AAO Annual Meeting, New Orleans, LA, 2007 (**Best Paper of Session**)
11. Comparison of Depth-Dependent Cohesive Tensile Strength in Human Donor and Keratoconic Corneas. ASCRS Annual Meeting, Chicago, IL, April 2008 (**Best Paper of Session**)
12. Evaluation of Orbscan II Indices for Refractive Surgery Screening. ASCRS Annual Meeting, San Francisco CA, April 2009
13. Flap Thickness in Eyes with Post-LASIK Ectasia. ESCRS Annual Meeting, Barcelona Spain, September 2009
14. Flap Thickness in Eyes with Post-LASIK Ectasia. ASCRS Annual Meeting, Boston, MA, April 2010 (**Best Paper of Session**)
15. Correlation of Topographic Patterns Analysis and ORA Biomechanical Keratoconus Probability Risk Score. ESCRS Annual Meeting, Paris France, September 2010
16. Analysis of Thin Microkeratome Flap Architecture Using Fourier-Domain Ocular Coherence Tomography. ESCRS Annual Meeting, Paris France, September 2010
17. Early Results of Corneal Collagen Cross Linking for Corneal Ectasia After LASIK. ASCRS Annual Meeting, San Diego, CA, March 2011
18. Twelve-month results of Corneal Collagen Cross-Linking for Keratoconus and Ectasia after LASIK. ESCRS Annual Meeting, Vienna Austria, September 2011
19. Interim Results of Corneal Collagen Cross Linking for Corneal Ectasia after LASIK. ASCRS Annual Meeting, Chicago, IL, April 2012
20. Epithelial Remodeling after Corneal Collagen Cross-linking Evaluated by Spectral-domain OCT. 8th International Congress of Corneal Cross-Linking, December 7-8 2012, Geneva, Switzerland
21. Evaluating Agreement of Refractive Surgery Screening Systems. ASCRS Annual Meeting, San Francisco, CA, April 2013
22. Comparison of Relational Corneal Thickness Measurements Obtained With Spectral Domain OCT of Topographically Normal and Suspicious Eyes. ASCRS Annual Meeting, Boston MA April 2014
23. Evaluation of Role of Age, Residual Stromal Bed, and Percent Tissue Altered in Ectasia Risk Assessment for Patients With Normal Preoperative Topography. ASCRS Annual Meeting, April 2015, San Diego, CA.
24. REF03: Scheimpflug Analysis of Patients With Highly Asymmetric Keratoconus. ISRS/AAO Subspecialty Day Meeting, Las Vegas, NV, November 13, 2015
25. PA051: Scheimpflug Analysis of Patients With Highly Asymmetric Keratoconus. AAO Annual Meeting. Las Vegas, NV, November 16, 2015 (**Best Paper of Session**)

26. Epithelial Remodeling after Accelerated Cross-Linking. 11th International Congress Corneal Cross-Linking, Boston, MA, December 4, 2015

27. Scheimpflug Analysis of Patients with Highly Asymmetric Keratoconus. ASCRS Annual Meeting, New Orleans, LA, May 8, 2016

28. Epithelial Remodeling after Accelerated Cross-Linking. European Society of Cataract & Refractive Surgery Annual Meeting, Copenhagen, Denmark, September 11, 2016

29. Brillouin Microscopic Imaging to Detect Biomechanical Changes After LASIK Combined With Accelerated Corneal Crosslinking. ISRS/AAO Subspecialty Day Meeting, Chicago, IL, October 14, 2016

Published Abstracts:

1. **Randleman JB**, Russell B, Ward MA, Thompson KP, Stulting RD. Risk Factors and Prognosis for Corneal Ectasia after LASIK. Invest Ophthalmol Vis Sci. 2002; 43: ARVO E-Abstract 2098
2. **Randleman JB**, Couser JM, Thompson KP, Stulting RD. Diffuse Lamellar Keratitis: Etiology and Outcomes. Invest Ophthalmol Vis Sci. 2003; 44: ARVO E-Abstract 2668
3. **Randleman JB**, Hewitt SM, Lynn MJ, Thompson KP, Stulting RD Calculating Residual Stromal Bed Thickness After Repeat LASIK. American Academy of Ophthalmology, Annual Meeting, Anaheim, CA, November 2003
4. **Randleman JB**, Loft ES, Banning CS, Vrochopoulos K, Stulting RD. High Order Wavefront Aberration Changes after Wavefront-optimized LASIK. Invest Ophthalmol Vis Sci. 2005; 46: ARVO E-Abstract 843
5. Banning CS, Loft ES, **Randleman JB**, Stulting RD. Visual Recovery After Photorefractive Keratectomy. Invest Ophthalmol Vis Sci. 2005; 46: ARVO E-Abstract 4349
6. Loft ES, Banning CS, **Randleman JB**, Stulting RD Early visual recovery after photorefractive keratectomy. Invest Ophthalmol Vis Sci. 2005; 46: ARVO E-Abstract 4384
7. McMann MA, **Randleman JB**, Banning CS, Stulting RD. Outcome of PRK in eyes with previous RK. ASCRS Annual Meeting 2006: P204
8. Foster JB, **Randleman JB**, Loupe DN, Song CD, Stulting RD Refractive Outcomes After Various Refractive Surgeries and Subsequent Phaco/IOL Implantation. Invest Ophthalmol Vis Sci. 2006; 47: ARVO E-Abstract 529
9. Loft ES, **Randleman JB**, Banning CS, Stulting RD. The Effect of Microkeratome Parameter Adjustment On Interface Quality. Invest Ophthalmol Vis Sci. 2006; 46: ARVO E-Abstract 3613
10. Foster JB, **Randleman JB**, Loupe DN, Song CD, Stulting RD. IOL Power Calculations After LASIK: The Consensus K Method. American Academy of Ophthalmology, Annual Meeting, Las Vegas, NV, November 2006 (**Best poster)**
11. Loft ES, **Randleman JB**, Banning CS, Lynn MJ, Stulting RD. Visual outcomes after wavefront-optimized surface ablation. American Academy of Ophthalmology, Annual Meeting, Las Vegas, NV, November 2006
12. Dawson DG, O'Brien TP, Dubovy SR, **Randleman JB**, Grossniklaus HE, Edelhauser HF, McCarey BE. Post-LASIK Ectasia: Histopathology, Ultrastructure, and Corneal Physiology from Human Corneal Buttons and Eye Bank Donors. American Academy of Ophthalmology, Annual Meeting, Las Vegas, NV, November 2006
13. Nemi A, **Randleman JB**. Comparison of epi-LASIK and PRK in treatment of myopia. ASCRS Annual Meeting 2007: P305
14. Loft ES, Banning CS, **Randleman JB**. High order aberrations after wavefront-optimized surface ablation and LASIK. ASCRS Annual Meeting, San Diego, CA May 2007

15. Woodward M, **Randleman JB**. Outcomes and methods of visual correction of corneal ectasia after LASIK. ASCRS Annual Meeting, San Diego, CA May 2007
16. Woodward M, Larson P, **Randleman JB**. Confocal Microscopy Findings in Keratoectasia after Laser In Situ Keratomileusis. Invest Ophthalmol Vis Sci. 2007; 47: ARVO E-Abstract 5351
17. Dawson DG, O'Brien TP, Dubovy SR, **Randleman JB**, McCarey BE, Grossniklaus HE, Edelhauser HF. Post-Lasik Ectasia: Histopathology, Ultrastructure, and Corneal Physiology. Invest Ophthalmol Vis Sci. 2007; 47: ARVO E-Abstract 3513
18. Stulting Rd, **Randleman JB**. Incidence of Ectasia. Refractive Surgery Subspecialty Day, American Academy of Ophthalmology Annual Meeting, New Orleans, LA, 2007
19. Woodward MA, Dawson DG, **Randleman JB**. Decreased Posterior Keratocyte Density in Post-LASIK Ectasia Corneas. American Academy of Ophthalmology Annual Meeting, New Orleans, LA 2007
20. Perez-Straziota CE, **Randleman JB**. Comparison of Manifest Refraction, Wavescan, and OPD in Determining Postoperative Refractive Outcomes After LASIK with the Visx Star S4 Excimer Laser. ASCRS Annual Meeting, Chicago IL, April 2008
21. White AJ, **Randleman JB**. Incidence and Risk Factors for Enhancement After Wavefront-Optimized Advanced Surface Ablation and LASIK. ASCRS Annual Meeting, Chicago IL, April 2008
22. Woodward MA, **Randleman JB**, Stulting RD. Reasons for Patient Dissatisfaction After Multifocal Intraocular Lens Implantation. Invest Ophthalmol Vis Sci. 2008; 48: ARVO E-Abstract 5282
23. White AJ, **Randleman JB.** Incidence and Risk Factors for Enhancement After Wavefront-Optimized PRK and LASIK. Invest Ophthalmol Vis Sci. 2008; 48: ARVO E-Abstract 2928
24. Perez-Straziota CE, **Randleman JB**, Stulting RD. Visual Outcomes With Wavefront-Guided and Wavefront-Optimized LASIK**.** Invest Ophthalmol Vis Sci. 2008; 48: ARVO E-Abstract 2913
25. Sanka RK, Loft ES, **Randleman JB.** Effect of Varying Microkeratome Parameters on LASIK Interface Surfaces. ASCRS Annual Meeting, San Francisco CA, April 2009 (**Best Paper of Session**)
26. Bansal A, Doherty T, **Randleman JB**, Stulting RD. Influence of Flap Thickness on Visual and Refractive Outcomes in LASIK. ASCRS Annual Meeting, San Francisco CA, April 2009
27. Woodward MA, **Randleman JB**, Stulting RD. Reasons for Patient Dissatisfaction After Multifocal IOL Implantation. ASCRS Annual Meeting, San Francisco CA, April 2009 (**Best Paper of Session**)
28. Hebson CB, Loft ES, Woodward MA, **Randleman JB**, Stulting RD. Functional Near Visual Acuity (Pseudoaccommodation) with AcrySof SN60WF Monofocal IOL. ASCRS Annual Meeting, San Francisco CA, April 2009
29. Patel PS, Russel B, Ward MA, **Randleman JB** Contact Lens Management After Intacs Implantation. ASCRS Annual Meeting, San Francisco CA, April 2009
30. Perez-Straziota CE, **Randleman JB** Monovision Success with the Allegretto Excimer Laser. ASCRS Annual Meeting, San Francisco CA, April 2009
31. Lee OA, **Randleman JB.** Incidence and Risk Factors for Night Vision Disturbances with the Allegretto Wave Excimer Laser. ASCRS Annual Meeting, San Francisco CA, April 2009
32. Woodward MA, Rocha KM, **Randleman JB**, Stulting RD. Ocular Response Analyzer Evaluations after CXL for Corneal Ectasia. ASCRS Annual Meeting, Boston MA April 2010 (**Best paper of Session**)
33. Rocha KM, **Randleman JB**, Stulting RD. Analysis of Thin Microkeratome Flap Architecture Using Fourier-Domain Optical Coherence Tomography. ASCRS Annual Meeting, Boston, MA, April 2010
34. Rocha KM, **Randleman JB**, Stulting RD. Correlation of Topographic Patterns Analysis and Ocular Response Biomechanical Keratoconus Probability Risk Score. ASCRS Annual Meeting, Boston, MA, April 2010
35. Perez-Straziota CE, **Randleman JB**, Stulting RD. Influence of Nomogram Adjustments on Wavefront-Optimized LASIK Outcomes. ASCRS Annual Meeting, Boston, MA, April 2010
36. Hebson C, **Randleman JB**, Woodward MA, Rocha KM. A Comparison of Ocular Response Analyzer,

Orbscan II, and Pentacam for Pre-Operative Refractive Surgery Screening Invest. Ophthalmol. Vis. Sci.. 2010; 51(13):4202.

37. Rocha, KM, **Randleman, JB**, Stulting, RD. Fourier Domain OCT Analysis of Tissue Remodeling in Corneal Collagen Crosslinking. AAO Refractive Surgery Subspecialty Day, Chicago, IL October 2010
38. Woodward MA, Hebson CB, Rocha KM, **Randleman JB**. Comparison of Ocular Response Analyzer, Scanning-Slit Topographer, and Scheimpflug Corneal Topographer for Preoperative Refractive Surgery Screening. ASCRS Annual Meeting, San Diego, CA, March 2011
39. Sood P, **Randleman JB**. Correlation of Manual and Automated Keratometry Measurements. ASCRS Annual Meeting, San Diego, CA, March 2011
40. Perez-Straziota CE, **Randleman JB**. Comparison of Central and Peripheral Corneal Thickness Measurements with Ultrasound, Scanning-Slit Tomography, Scheimpflug, and Fourier Domain OCT. ASCRS Annual Meeting, San Diego, CA, March 2011
41. Subramanyam S, **Randleman JB**, Stulting RD. Comparison of Collagen Crosslinking in Keratoconus and Ectasia After LASIK. ASCRS Annual Meeting, San Diego, CA, March 2011
42. Rocha KM, **Randleman JB**, Stulting RD. Fourier Domain OCT Analysis of Tissue Remodeling in Corneal Collagen Crosslinking. ASCRS Annual Meeting, San Diego, CA, March 2011
43. Yeu E, Reeves SW, **Randleman JB**. Residency Surgical Training Experience in Advanced Cataract Surgery Techniques, Premium IOLs, and Corneal Refractive Surgery: Survey of Residents, Fellows, and Young Physicians. ASCRS Annual Meeting, San Diego, CA, March 2011
44. Rahman HT, Srivastava SK, Bergstrom CS, Scott M, **Randleman JB**, Kim JY, Waltuck J, Yeh S. Posterior Segment Manifestations of Scleritis: Etiology, Associated Conditions, and Treatment Invest. Ophthalmol. Vis. Sci. 2011; 52(14):2725.
45. Shah RD, **Randleman JB**. Spontaneous Corneal Clearance After Descemet Stripping. Invest. Ophthalmol. Vis. Sci. 2011; 52(14):6451.
46. Khandelwal, SS, **Randleman, JB**, Stulting, RD. Corneal Collagen Cross Linking for Keratoconus and Ectasia. AAO Annual meeting, Orlando, FL October 2011
47. Shah RD, **Randleman, JB**. Clinical Outcomes and Predictors of Success in Management of Acanthamoeba Keratitis at Emory University. ASCRS Annual Meeting, Chicago, IL, April 2012
48. Akhtar, J, **Randleman, JB**. Comparison of Scheimpflug Corneal Topographer (Standard) and Scheimpflug Corneal Topographer HR Indices Before and After LASIK. ASCRS Annual Meeting, Chicago, IL, April 2012
49. Perez-Straziota CE, **Randleman, JB**. Early Regional Changes Corneal Stromal Thickness after Collagen Cross Linking. ASCRS Annual Meeting, Chicago, IL, April 2012 (**Best Paper of Session**)
50. Khandelwal, SS, **Randleman, JB**. Change in Scheimpflug Indices Following Corneal Collagen Cross Linking for Keratoconus and Ectasia after LASIK. ASCRS Annual Meeting, Chicago, IL, April 2012
51. Nunnery EW, **Randleman JB** et al. Correlation Between Pentacam HR Belin/Ambrosio Display Score and Ocular Response Analyzer Keratoconus Match Score Index. ISRS/AAO Annual Meeting, Chicago, IL, November 2012
52. Akhtar J, **Randleman JB** et al. Differences in Corneal Thickness, Keratometric, and Keratoconic Indices Between Scheimpflug Devices. ISRS/AAO Annual Meeting, Chicago, IL, November 2012
53. Rocha KM, **Randleman JB** et al. Spectral Domain OCT Analysis of Corneal Architecture and Epithelial Thickness Profile in Corneal Collagen Crosslinking. ISRS/AAO Annual Meeting, Chicago, IL, November 2012
54. Khandelwal, SS, **Randleman, JB** et al. Outcomes of Corneal Collagen Crosslinking for Treatment of Keratoconus and Ectasia After LASIK. ISRS/AAO Annual Meeting, Chicago, IL, November 2012

55. Zaveri M, **Randleman, JB**. Wavefront-Optimized PRK After LASIK. ASCRS Annual Meeting, San Francisco, CA, April 2013

56. Perez-Straziota CE, **Randleman, JB**. Flap Thickness Architecture Comparison of Femtosecond and Microkeratome Flaps. ASCRS Annual Meeting, San Francisco, CA, April 2013

57. Weisman HM, **Randleman JB.** RP30037075 - Evaluating the Correlation and Agreement Between 2 Refractive Surgery Screening Technologies. ISRS/AAO Annual Meeting, New Orleans, LA, November 2013

58. Perez-Straziota CE, **Randleman, JB**. Comparison of Keratometry Measurements with Scheimpflug, Placido Disc, and Manual Keratometry in Patients with Normal and Suspicious Topography. ASCRS Annual Meeting, Boston MA April 2014 (**Best paper of Session**)

59. Weissman HM, **Randleman JB**. Correlation of Scheimpflug and Ocular Coherence Tomography Relational Thickness Metrics in Refractive Surgery Patients. ASCRS Annual Meeting, Boston MA April 2014

60. Santhiago MR, David Smadja D, Mello GH, **Randleman JB**. Role of Percentage of Tissue Altered as Risk Factor for Ectasia After LASIK in Eyes with Normal Preoperative Topography. ASCRS Annual Meeting, Boston MA April 2014 (**Best paper of Session**)

61. Hallahan KM, Rocha KM, Sinha Roy A, **Randleman JB**, Stulting RD, Dupps WJ. Effects of corneal collagen crosslinking on Ocular Response Analyzer Waveform-derived variables in keratoconus and post-LASIK ectasia. Invest. Ophthalmol. Vis. Sci. 2014; 55(13):3722.

62. Santhiago MR, Smadja D, Gomes B, Wilson SE, Mello G, Monteiro MLR, **Randleman JB**. Role of Percentage of Tissue Altered (PTA) as a risk factor in eyes with Normal preoperative topography that developed Ectasia after LASIK. Invest. Ophthalmol. Vis. Sci. 2014; 55(13):1548.

63. Lockwood J, **Randleman JB**. RP30040879 - Comparison of Alcon and Holladay Toric IOL Calculator Recommendations in Patients with Toric IOL Implantation. ISRS/AAO Annual Meeting. Chicago, IL, October 2014

64. Akhtar J, **Randleman JB**, Lynn MJ, Ambrosio R Jr, Dupps WJ Jr., Krueger RR, Klyce SD. RP30040733 - Comparison of Objective and Subjective Refractive Surgery Screening Parameters Between Regular and High-Resolution Scheimpflug Imaging Devices. ISRS/AAO Annual Meeting. Chicago, IL, October 2014

65. Nunnery EW, Weissman HM, **Randleman JB.** PO217 - Evaluation of an OCT-Based Keratoconus Risk Scoring System. AAO Annual Meeting, Chicago, IL October 2014

66. Santhiago MR, David Smadja D, Mello GH, **Randleman JB**. PO210 - Role of Percentage of Tissue Altered as a Risk Factor for Ectasia after LASIK. AAO Annual Meeting, Chicago, IL October 2014

67. Weissman HM, **Randleman JB.** Comparing OCT Relational Thickness Metrics of Normal and Suspect Eyes. ASCRS Annual Meeting, San Diego, CA, April 2015

68. Lockwood JC, **Randleman JB.** Comparison of 3 Toric IOL Calculators in Patients with Toric IOL Implantation. ASCRS Annual Meeting, San Diego, CA, April 2015

69. Welling J. **Randleman JB.** Wavefront-Optimized PRK After LASIK Compared with Primary PRK. ASCRS Annual Meeting, San Diego, CA, April 2015

70. Perez-Straziota CE, **Randleman JB.** Comparison of Central and Peripheral Corneal Thickness Measurements with Scanning-Slit, Scheimpflug, and Fourier-Domain Ocular Coherence Tomography. ASCRS Annual Meeting, San Diego, CA, April 2015

71. Kim J, **Randleman JB.** Accuracy of IOL Calculations in Post Corneal Refractive–Surgery Eyes. ASCRS

Annual Meeting, San Diego, CA, April 2015

72. Kim SW, Weissman, HM, **Randleman JB**. Scheimpflug Analysis of Patients with Highly Asymmetric Keratoconus. ASCRS Annual Meeting, San Diego, CA, April 2015

73. Dupps WJ, Vahdati A, Mysore N, Seven I, Krueger RR, **Randleman JB**. Computational Modeling of Unilateral Ectasia after LASIK and PRK Invest. Ophthalmol. Vis. Sci.. 2015;56(7):1111.

74. Perez-Straziota CE, Lockwood JC, **Randleman JB**. Comparison of Toric IOL Outcomes and Calculator Recommendations in Patients with Toric IOL Implantation After Manual or Femtosecond-Assisted Cataract Surgery. ASCRS Annual Meeting, New Orleans, LA, May 2016 (**Best paper of Session**)

75. Haberman I. **Randleman JB**. Epithelial Remodeling After Accelerated CXL. ASCRS Annual Meeting, New Orleans, LA, May 2016

76. Qureshi A, **Randleman JB**. Efficacy and Safety of a Femtosecond Laser in LASIK Flap Creation. ASCRS Annual Meeting, New Orleans, LA, May 2016