The Premium IOL Patient Journey Important Keys to Success

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Financial Disclosures

Alcon Laboratories: Consultant/Research
Allotex: Consultant/Advisor
Allergan: Consultant/Research
AcuFocus: Consultant/Research
Avsi: Consultant/Research
Bausch Lomb: Consultant/Advisor/Research
BVI Consultant/Advisor/Research
Carl Zeiss Meditec: Consultant/Research
Equinox: Consultant/Investor
Euclid Systems: Consultant/Advisor
Novartis Pharmaceuticals: Research
Vivor AG: Advisor/Research
Keratonics/Advisor/Consultant
Johnson and Johnson: Consultant/Research
Oculeve: Consultant/Advisor, Equity Owner
OPHTEC: Consultant/Advisor/Research
Precision Lens: Consultant/Advisor
Treehouse Eyes: Consultant/Investor
Tarsus Rx: Consultant
EyeBrain Medical Inc: Equity Owner
Imprimis: Consultant/Advisor
Mynosys: Consultant/Advisor/Research
EyeGate Pharmaeuticals: Consultant/Research
RxSight: Consultant/Research
TearClear: Consultant/Advisor, Equity Owner

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Novartis Pharmaceuticals: Research
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EyeGate Pharmaeuticals: Consultant/Research
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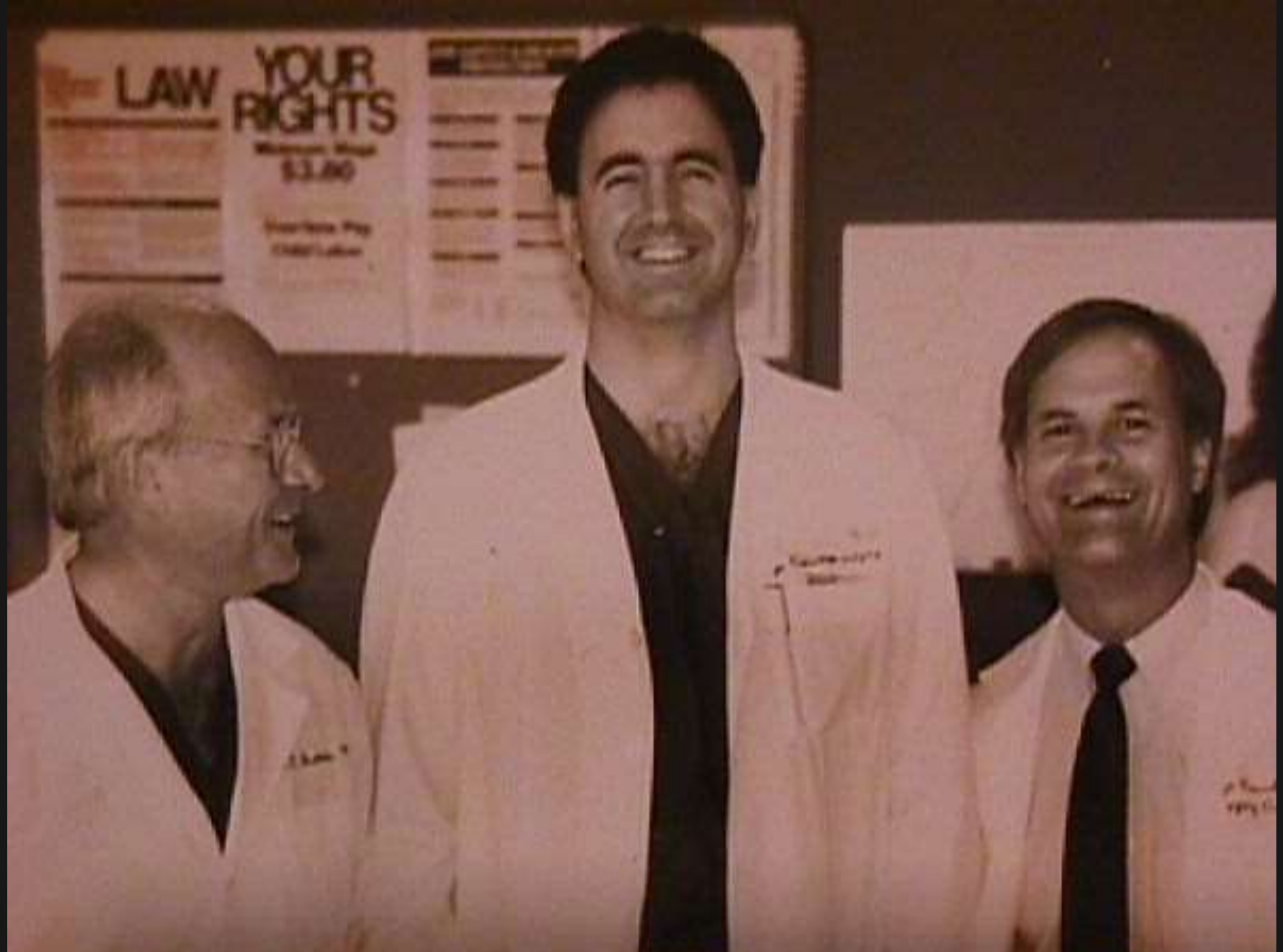

LAW
YOUR RIGHTS



Over 80 FDA Monitored Trials

- PRK
- PTK
- LASIK
- Phakic IOL’s
- Corneal Inlays
- Collagen Crosslinking
- SMILE
- Light Adjustable Lens
- Multifocal IOL’s




Insurance
Patient Pay

The Comprehensive Refractive Cataract Surgeon 2020

Traditional and Refractive Cataract Surgery

Why?

Our #1 Goal in Cataract Surgery

- Make the patient happy

What type of cataract surgery would this patient want…

What type of cataract surgery would this patient want…if they had my knowledge and experience?

Important Cause of Un-Happy Patients

- Same approach for every patient
- Ignores: Different patients have different goals

Patient Centered Approach

Options

- Lost Lens Function Replacement

clarity	reading

Patient Centered Approach

Options

- Lost Lens Function Replacement
- How to Handle Residual Refractive Error

clarity	reading
glasses	no glasses

Patient Centered Approach

Options

- Lost Lens Function Replacement
- How to Handle Residual Refractive Error

clarity	reading
glasses	no glasses

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Plano

- Traditional-Glasses
- Advanced-PRK, LASIK, or AK (Corneal Adjustable)

  -Light Adjustable Lens (Optic Adjustable)

Glasses vs No Glasses

- How do you want to visually function comfortably

the majority of your day?

Patient Centered Approach

Traditional Cataract Surgery

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Patient Centered Approach

Traditional Cataract Surgery

Night time glare

Decreased image quality in low light

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Patient Centered Approach

Traditional Cataract Surgery

Glasses

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Patient Centered Approach

Advanced Cataract Surgery

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Patient Centered Approach

Advanced Cataract Surgery

Night time glare

Decreased image quality in low light

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Patient Centered Approach

Advanced Cataract Surgery

Laser Fine Tune

Postop

UCVA: 20/20-1 Mrx: +.25 - .75 X 180

Patient Centered Approach

Options

- Lost Lens Function Replacement
- How to Handle Residual Refractive Error

clarity	reading
glasses	no glasses

99.2%

99.2%*

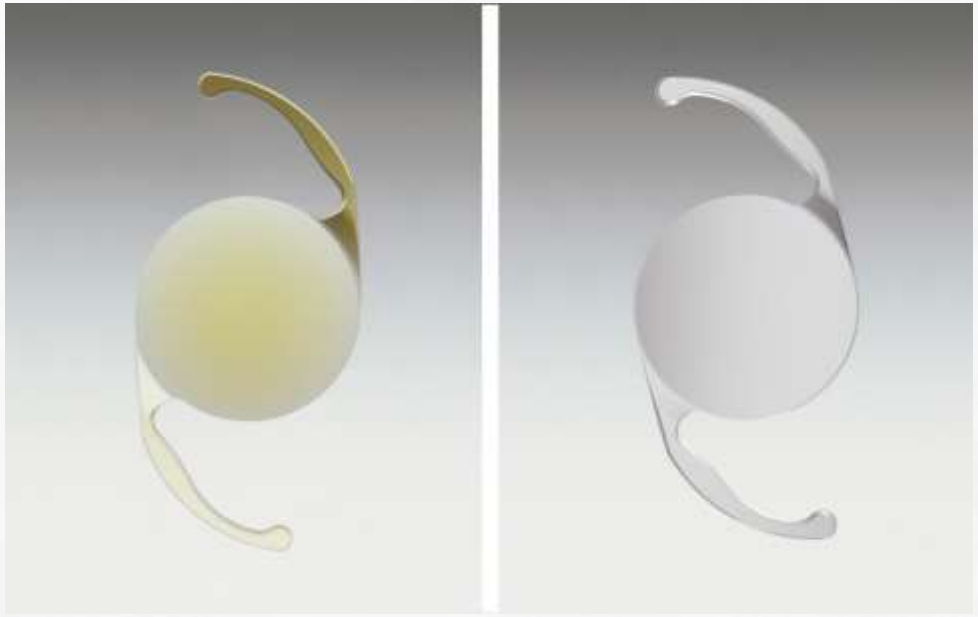
- The % of PanOptix patients in the FDA monitored trial on our county's first Trifocal who said "I would do the same implant again"



*
**n=127
‡Response to the following question on IOLSAT questionnaire (Ver. 1.0, Dec. 20, 2018) at 6 months post-op: "Given your vision today, if you had to do it all over, would you have the same lenses implanted again?"

89.0%

- The % of Monofocal Control patients in the FDA monitored trial on our county's first Trifocal who said "I would do the same



Would I do the same implant again?

99.2% vs **89.0%**



Tri-focal



Mono-focal

Patient Centered Approach

Options

- Lost Lens Function Replacement
- How to Handle Residual Refractive Error

clarity	reading
	no glasses

Advanced Cataract Surgery:

- Trifocal
- Light Adjustable Lens

Trifocal IOL

Presbyopia Patients Demand Solutions to Meet Their Full Visual Range Lifestyle



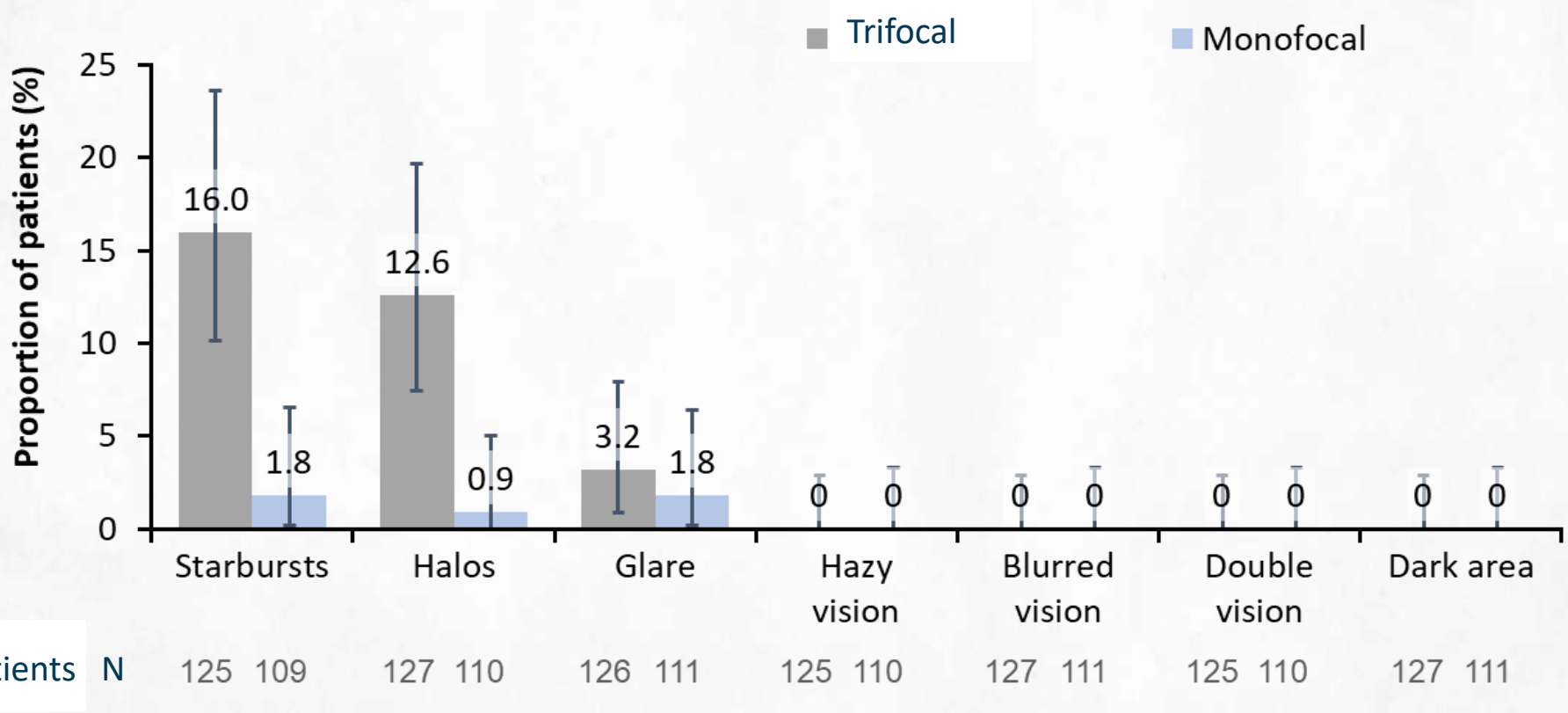




- Visual quality in the intermediate range is critical with increasing digital device usage
- Bifocal technology provides only distance, and near or intermediate vision ranges (depending on the Add)
- Trifocal technology allows for 3 distinct foci that can provide the full range of vision from near through intermediate to distance

Severe Visual Disturbances on QUVID

Safety-analysis set; first eye, at 6 months post-op

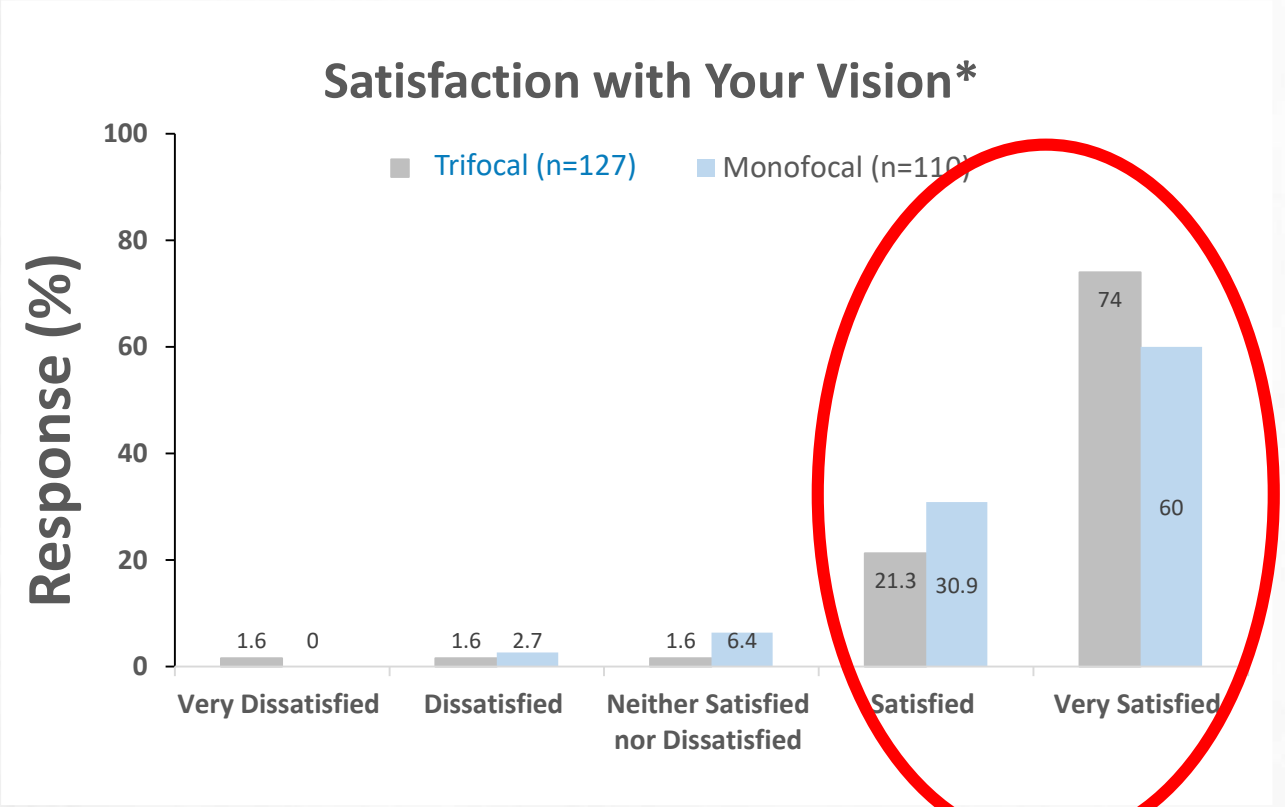


The observed rates of starbursts and halos were higher in the Trifocal IOL group than the Monofocal IOL group

Percentage calculated as (n/N)*100; Severe visual disturbance defined as patient responding "Severe" on QUVID. Error bars represent 95% CI

Patient Satisfaction

All-implanted analysis set; at 6 months post-op



	Response	Trifocal n (%)	Monofocal n (%)
	Total	127	111
Would you have the same lens implanted again?	No	1 (0.8)	14 (12.6)
	Yes	126 (99.2)	97 (87.4)
	Total	127	110
Would you recommend the lenses you had implanted to your family or friends?	No	2 (1.6)	5 (4.5)
	Yes	125 (98.4)	105 (95.5)

* Response to question: in the past 7 days, how satisfied were you with your vision?

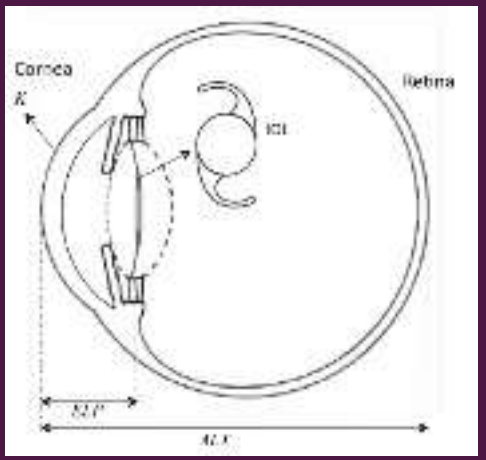
Post-Cataract Surgery

Refractive Error

Cataract Surgery Outcomes

Challenge to consistently achieve great results

- 2016 toric meta-analysis[1]: ~65% of eyes achieve 20/25 or better
- Limited by ability to predict the post-operative eye



Error Source	Contribution*
Post-op IOL Position	35%
Post-Op Corneal Power	15%
Axial Length	17%

1. Line Kessel, MD, PhD, Et Al. Toric Intraocular Lenses in the Correction of Astigmatism During Cataract Surgery – A Systematic Review and Meta-Analysis Ophthalmology 2016 Feb;123(2):275-86

* Norrby, S. Sources of error in intraocular lens power calculation. JCRS 2008: 368-76

All Implants are Adjustable

At the plant

The power of adjustability

inside the eye

Light Adjustable Lenses

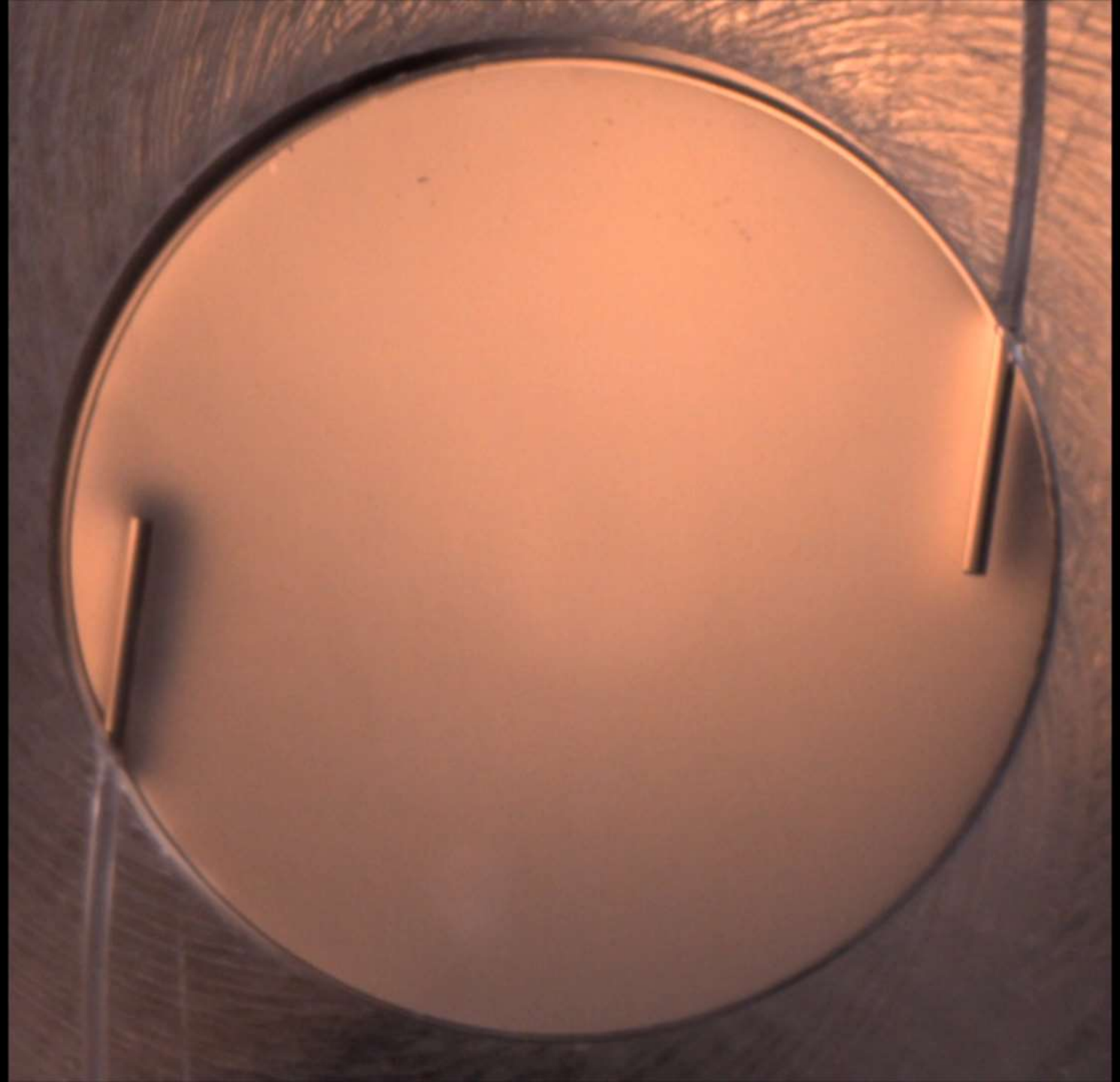


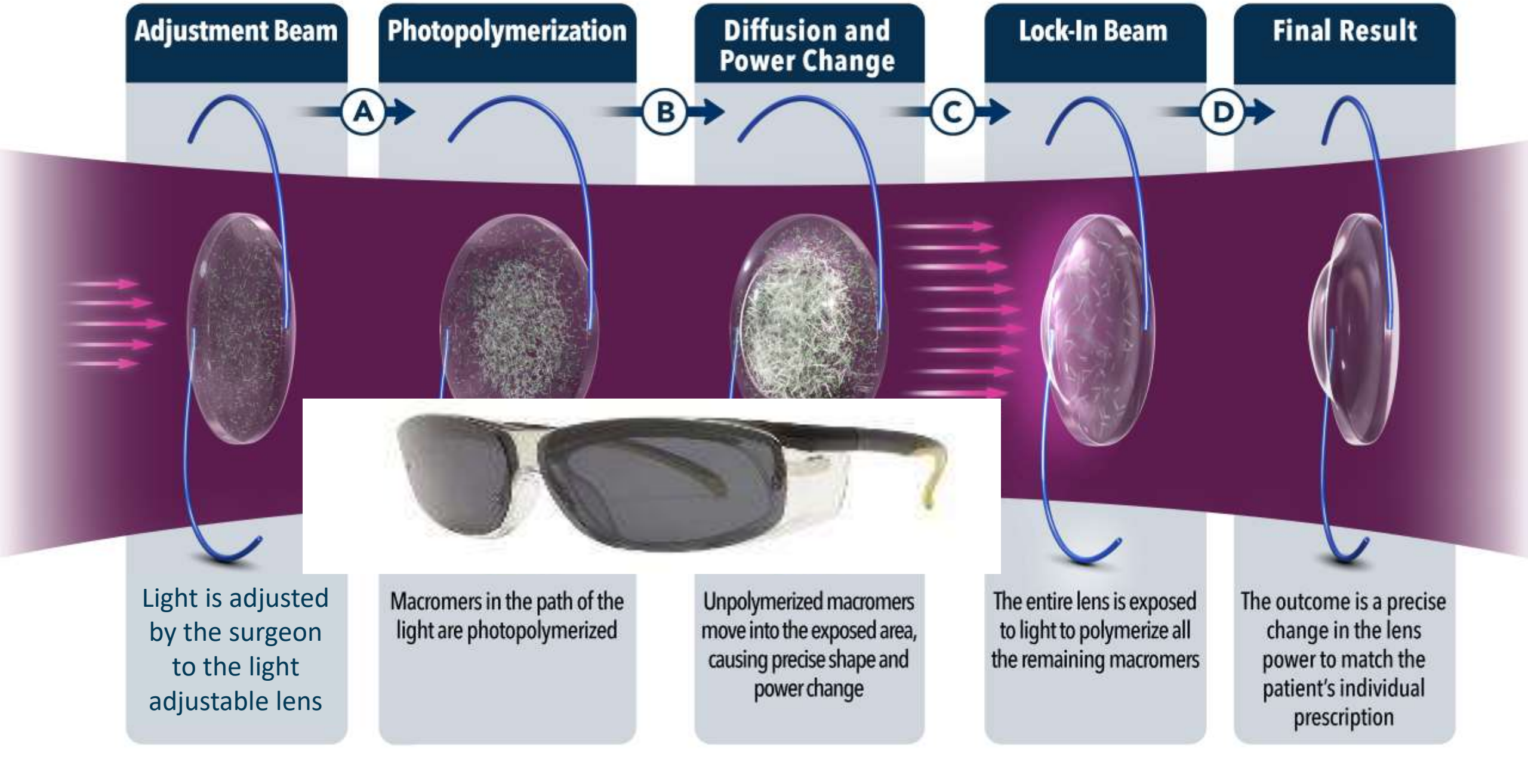
UV photosensitive IOL

Post-op adjustment range (any combination):

-2 to +2 diopters (sphere)

0.75 to 2 diopters (cylinder)

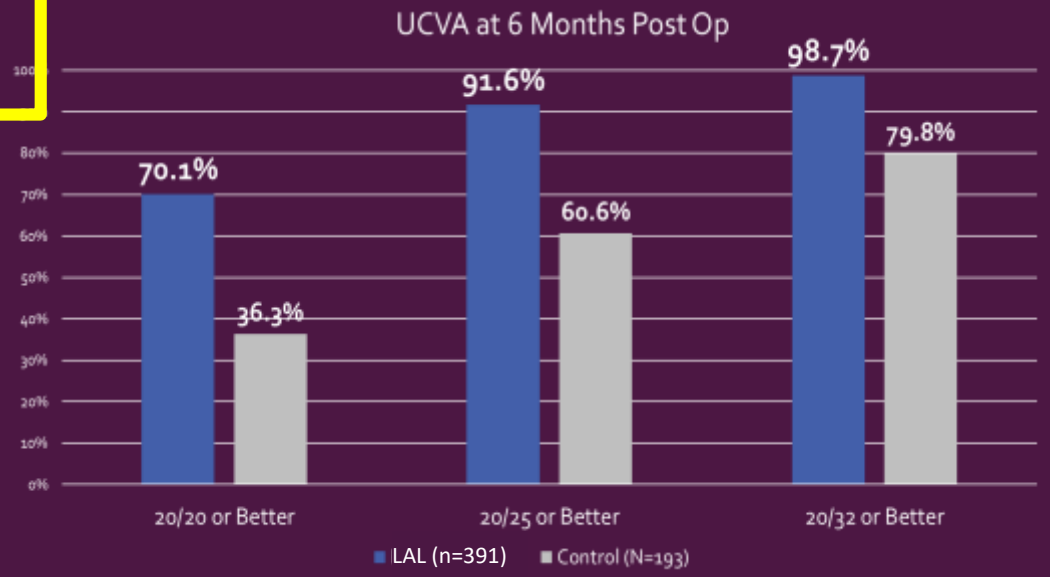



Adjustment Beam
Photopolymerization
Diffusion and Power Change
Lock-In Beam
Final Result
A
B
C
D
Light is adjusted by the surgeon to the light adjustable lens
Macromers in the path of the light are photopolymerized
Unpolymerized macromers move into the exposed area, causing precise shape and power change
The entire lens is exposed to light to polymerize all the remaining macromers
The outcome is a precise change in the lens power to match the patient's individual prescription

US FDA Study Results

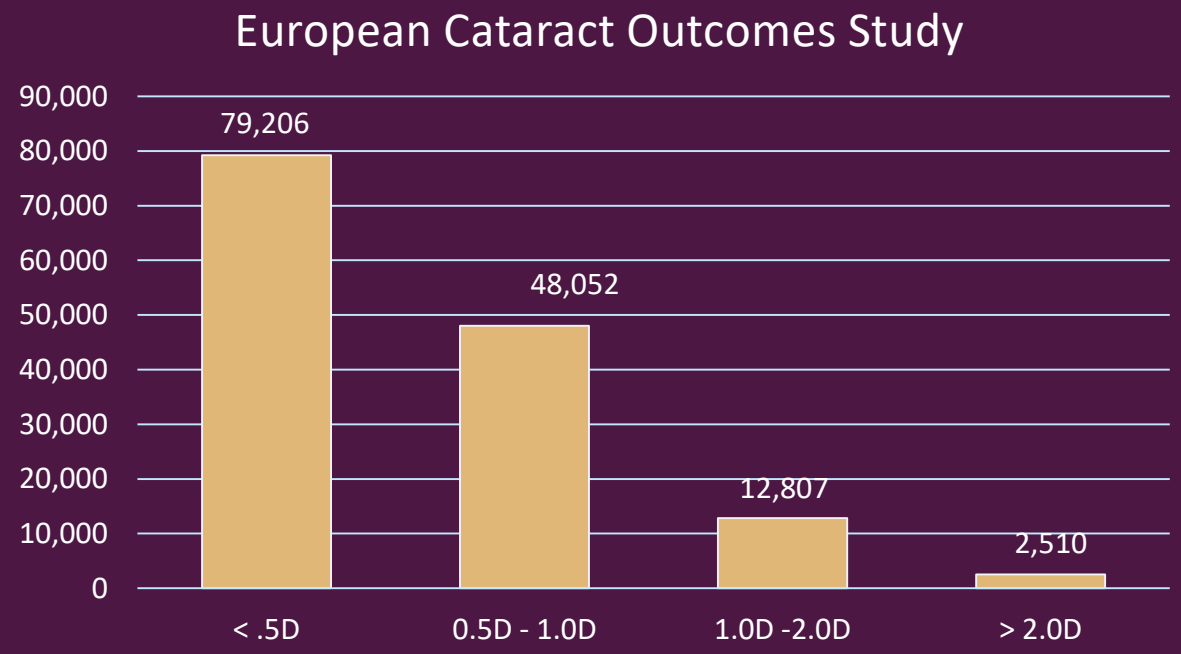
- LAL eyes achieved UCVA of **20/20 or better** at 6 months postoperatively at approximately **2x the rate** of patients receiving a monofocal lens
- **91.8% of LAL eyes achieved result within 0.50 D** of target MRSE (similar to LASIK results)
- **Superior Quality of Vision** at all measures compared to control lens:
  - Including BCVA, Vision Rating, Driving Difficulty, Dim Light Conditions, Glare, Halos, and all measures of Contrast Sensitivity

U.S. FDA Clinical Study
Prospective Randomized Study
N=391 (eyes) LAL ; N=193 (eyes) Control Monofocal
17 U.S. Sites
Phaco and Implantation of LAL -Correction of +/- 2 D sphere & 0.75-2.0 D cylinder
6 Month Outcomes



US FDA Study Results

- In the largest-ever study of 143,000 patients in Europe, **nearly 45%** were left with refractive error ≥0.5 diopters



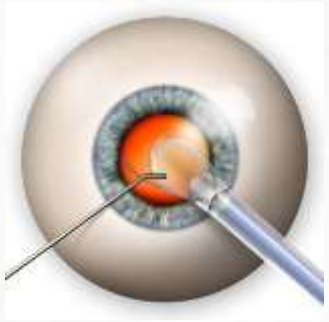
6X Reduction With LAL!

- In LAL PMA **only 8.2% had** ≥0.5 diopter error

Light Adjustable Lens Process



Standard cataract implant procedure



1-7-21 days

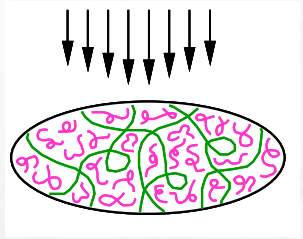
Residual refractive error is determined using standard phoropter



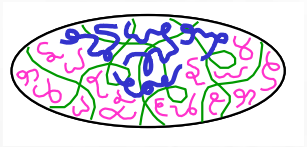
Refractive error is entered into Light Delivery Device



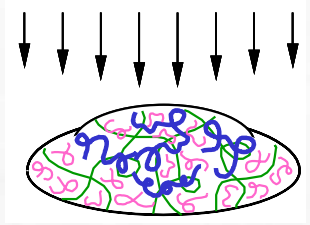
Desired light profile delivered by machine



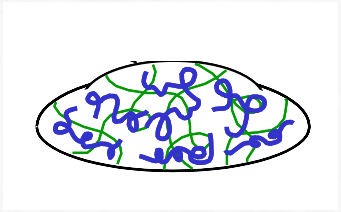
Light exposure



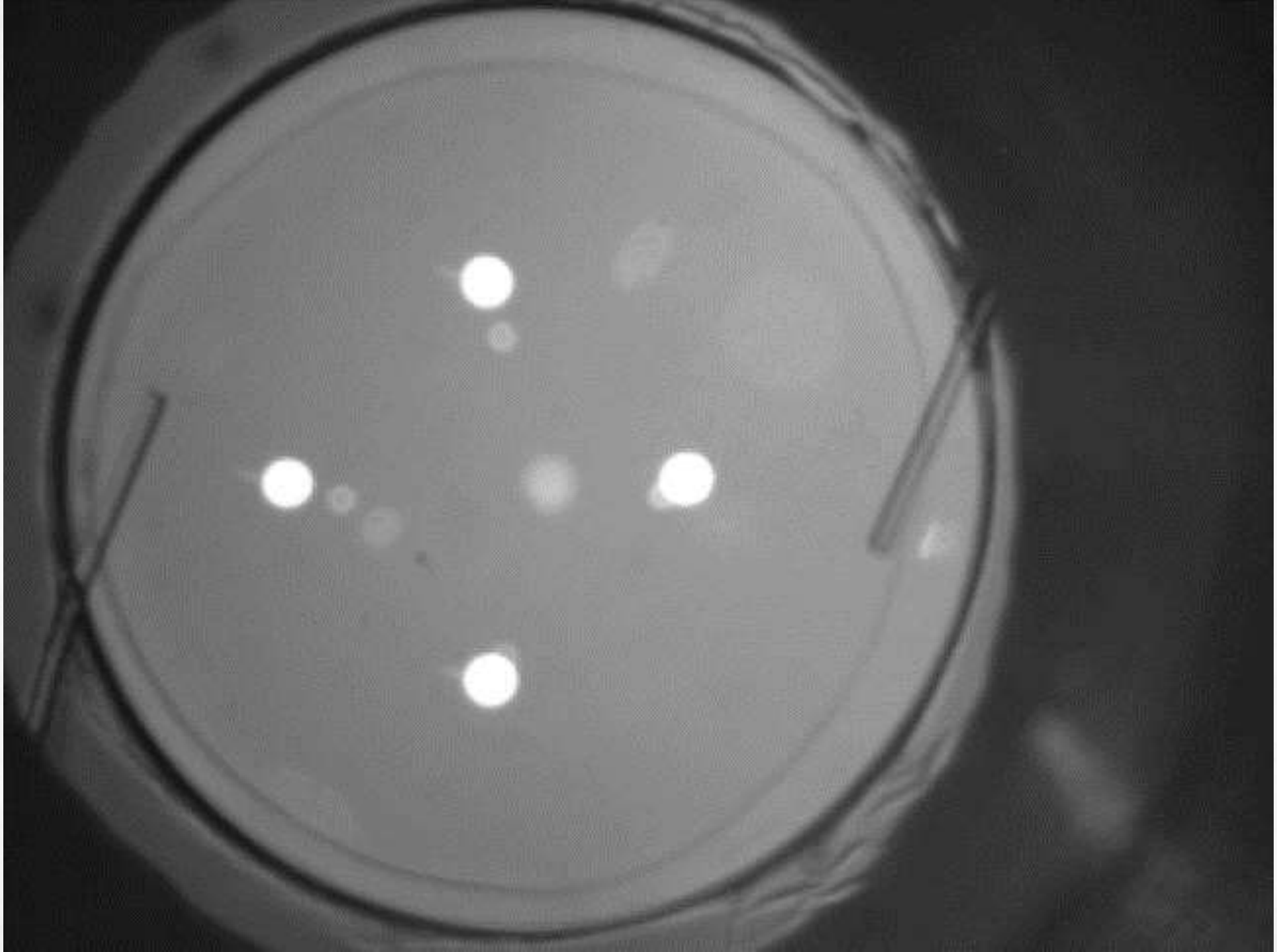
Poylmerization



Modified Shape



Lockin



Interactive Post-Op Process

- First Ever “Patient Trial’ of final outcome
- Patient previews different refractions
- Refraction optimized after healing is complete and ocular media clear
- Increase Optometric (OD) engagement



Adjustable Monovision

Surgery

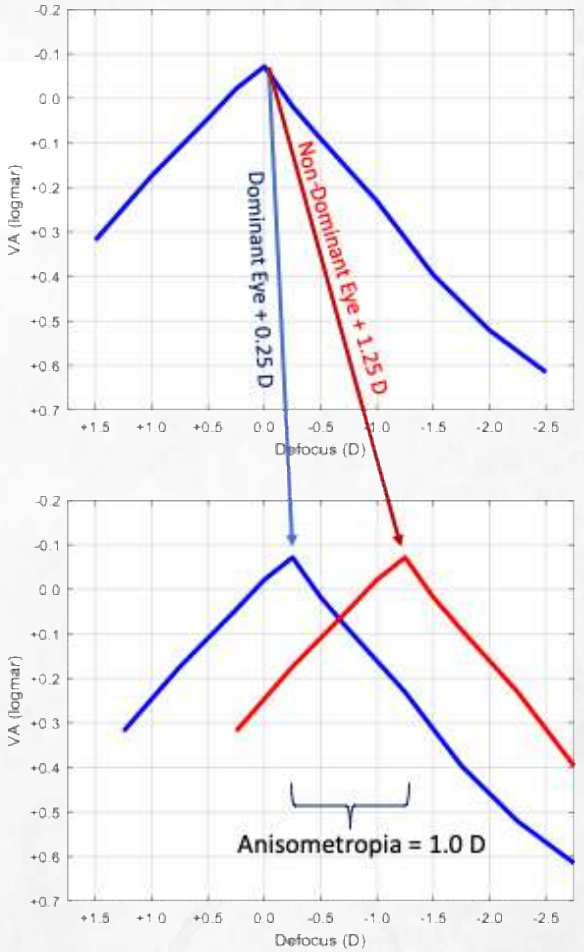
- Bilateral LAL implantation

Pre-Adjustment

- Ocular dominance and anisometropia tolerance re-evaluated after cataract removal and before LDD adjustments

Adjustments

- Binocular vision can be optimized by adjusting distance and near sphere targets
- Potential to reverse if not satisfied



Improved Toric Accuracy

- **LAL will provide superior reduction in astigmatism**
  - No corneal marking
  - No unpredictable toric rotation
  - Treats corneal and surgically induced astigmatism postoperatively
  - Spherical correction for free!

Post Corneal Refractive Eyes

- **Post-LASIK population is increasingly entering the age range for cataract surgery**
- **Refractive results in this group are inferior to those in non-LASIK eyes because of:**
  - Inaccuracy in determining the total corneal refractive power due to reshaped cornea
- **LAL should dramatically improve results in this group due to post-operative adjustability**

FDA IDE study currently fully enrolled to evaluate the LAL these challenging eyes

62 y.o. female
1/11/19 Refractive Consult

	OD	OS
• 2006 Hyperopic LASIK	+3.00	+4.00
• 2008 Lift flap and laser	+1.00-.50 X 166	+1.00
• 2010 AK OD Lift and laser OS	+.50-1.00 X 166	+1.00

62 y.o. female
1/11/19 Refractive Consult

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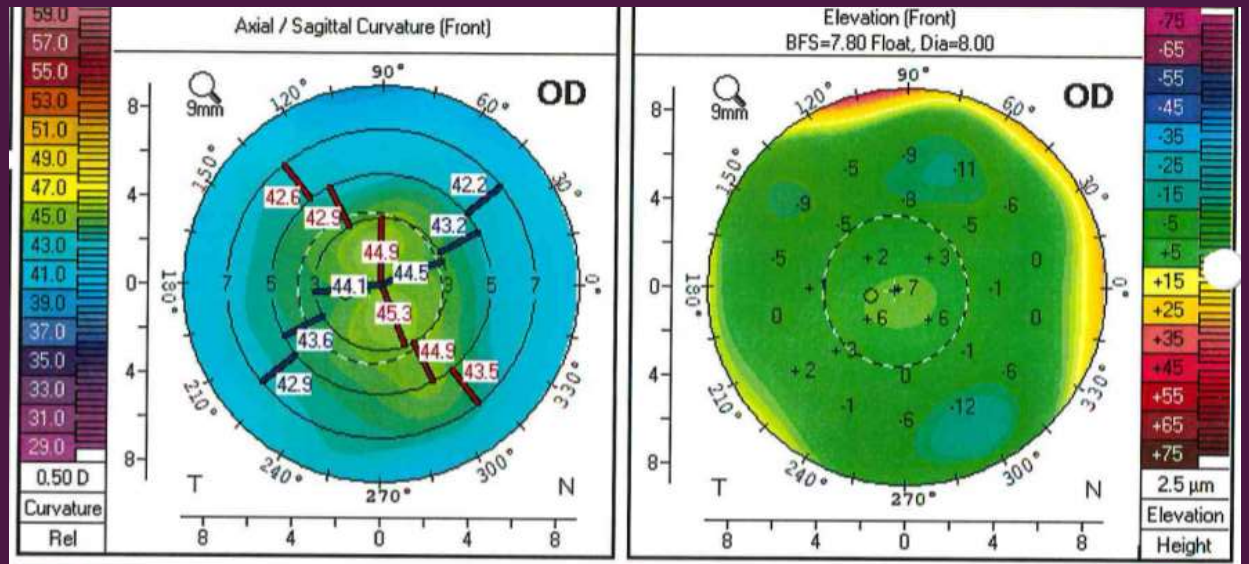
• 2010 AK OD Lift and laser OS	+.50-1.00 X 166	+1.00

Exam 1/11/19

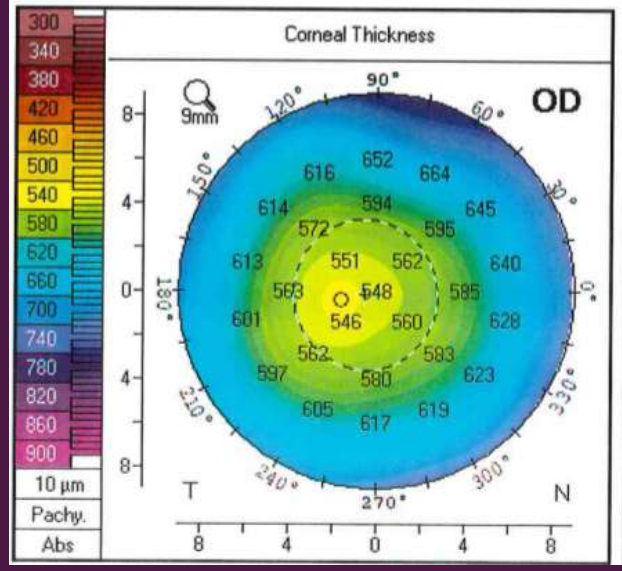
UCVA:	OD: 20/30-2	OS: 20/30-2
MRx:	+.75-50x 150 20/25-2	+1.00 20/25-2
BAT:	20/60	20/60

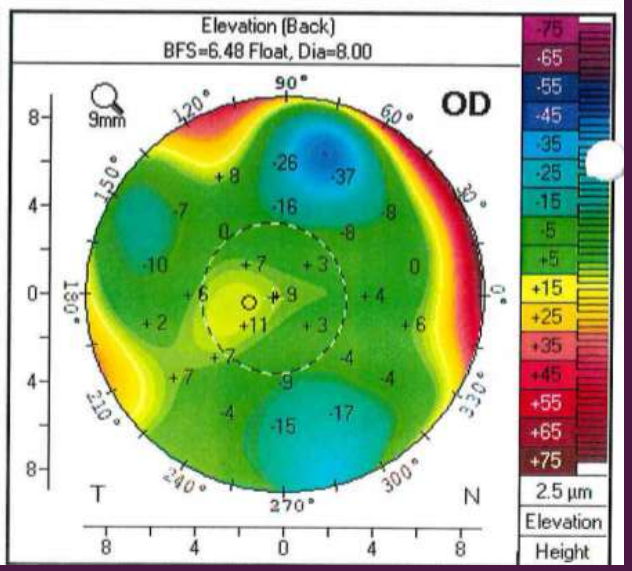
Dx: NS cataracts OU

Wants multifocal implants


Axial / Sagittal Curvature (Front)
OD
9mm
42.6
42.9
42.2
43.2
44.9
44.5
44.1
45.3
43.6
44.9
43.5
42.9
59.0
57.0
55.0
53.0
51.0
49.0
47.0
45.0
43.0
41.0
39.0
37.0
35.0
33.0
31.0
29.0
0.50 D
Curvature
Rel
T
N

Elevation (Front)
BFS=7.80 Float, Dia=8.00
OD
9mm
-75
-65
-55
-45
-35
-25
-15
-5
+5
+15
+25
+35
+45
+55
+65
+75
2.5 µm
Elevation
Height
T
N


Corneal Thickness
OD
9mm
300
340
380
420
460
500
540
580
620
660
700
740
780
820
860
900
10 µm
Pachy.
Abs
T
N


Elevation (Back)
BFS=6.48 Float, Dia=8.00
OD
9mm
-75
-65
-55
-45
-35
-25
-15
-5
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+15
+25
+35
+45
+55
+65
+75
2.5 µm
Elevation
Height
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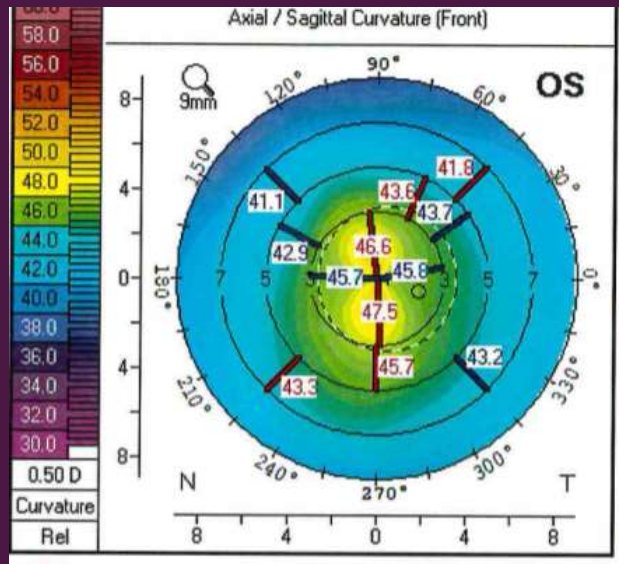
Axial / Sagittal Curvature (Front)
OS
9mm
41.1
41.8
43.6
43.7
42.9
46.6
45.7
45.8
47.5
45.7
43.3
43.2
58.0
56.0
54.0
52.0
50.0
48.0
46.0
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32.0
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Curvature
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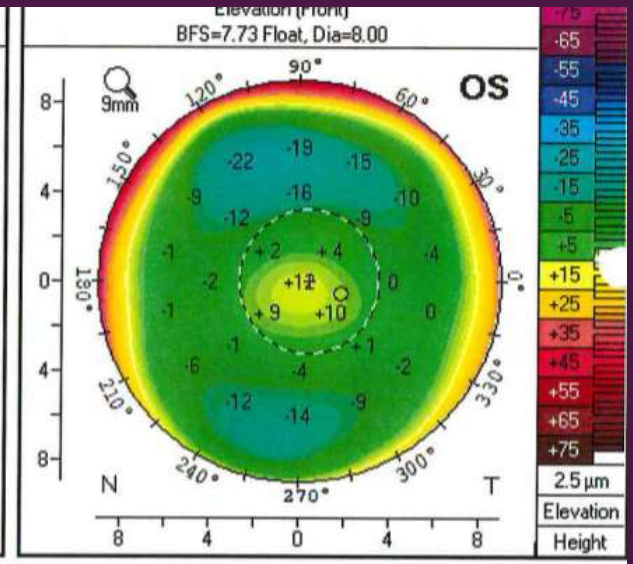
Elevation (Front)
BFS=7.73 Float, Dia=8.00
OS
9mm
-75
-65
-55
-45
-35
-25
-15
-5
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+15
+25
+35
+45
+55
+65
+75
2.5 µm
Elevation
Height
N
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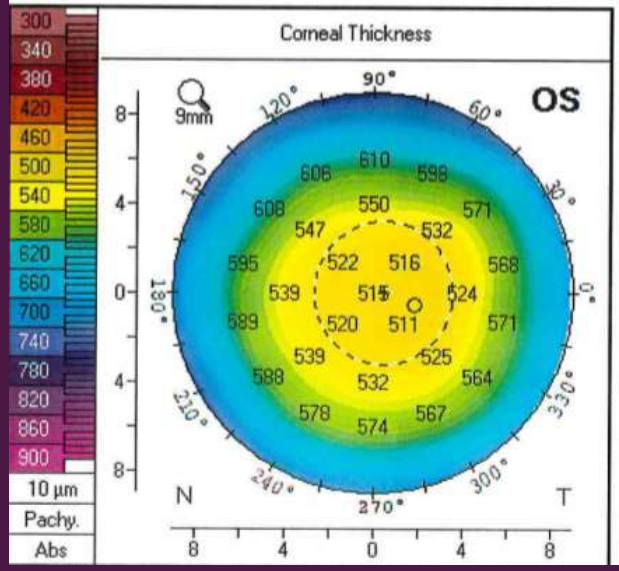
Corneal Thickness
OS
9mm
300
340
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Pachy.
Abs
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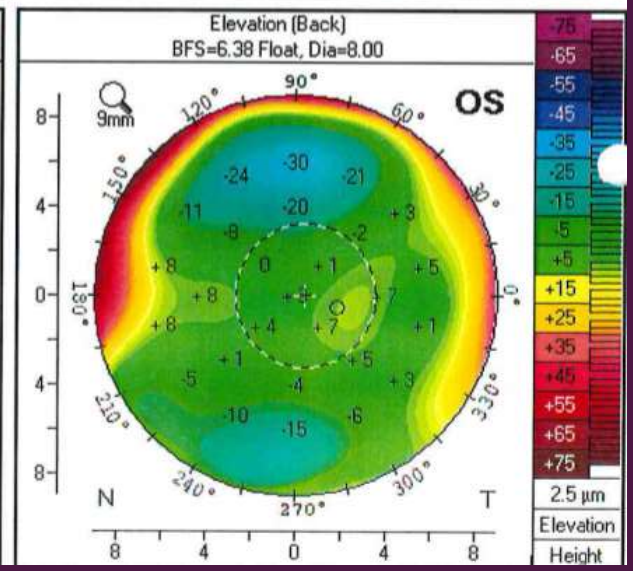
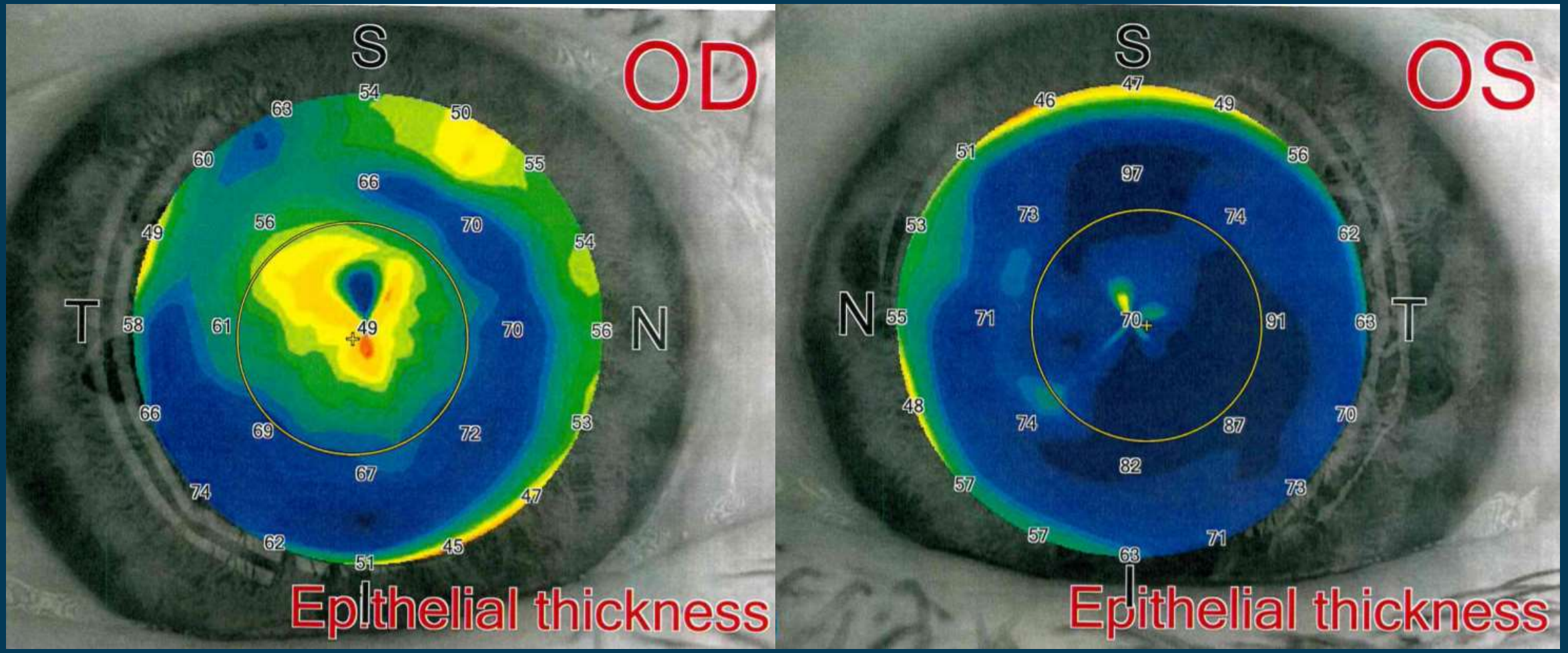
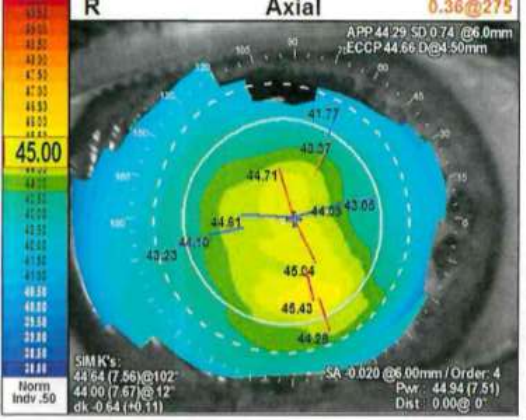
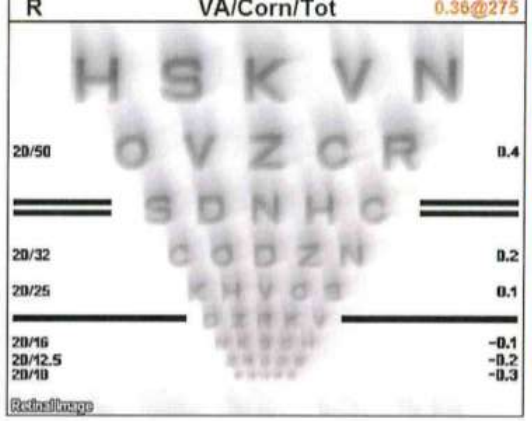
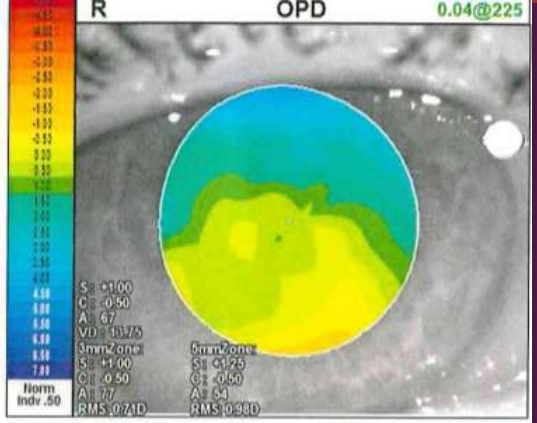

Elevation (Back)
BFS=6.38 Float, Dia=8.00
OS
9mm
-75
-65
-55
-45
-35
-25
-15
-5
+5
+15
+25
+35
+45
+55
+65
+75
2.5 µm
Elevation
Height
N
T

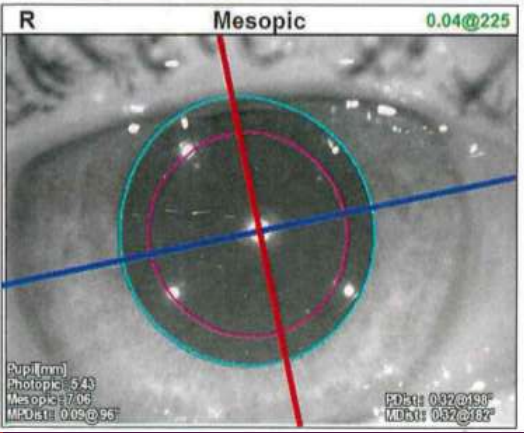
Epithelial Thickness Map

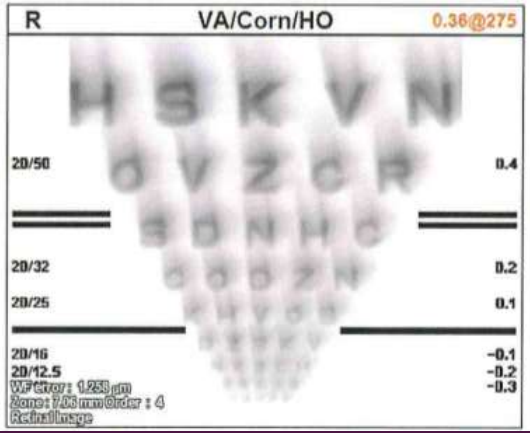












HOA [μm]: Cornea@7.06mm R
Total, Internal@7.06mm / Order = 4

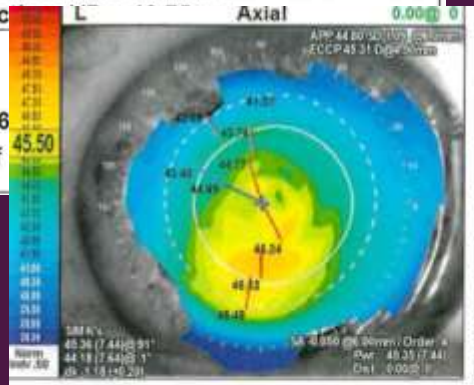
	T.Sph	T.Coma	T.Tre	HO
Total:	0.258	0.999	0.564	1.19
Cornea:	0.052	1.042	0.660	1.258
Internal:	0.202	0.198	0.112	0.346

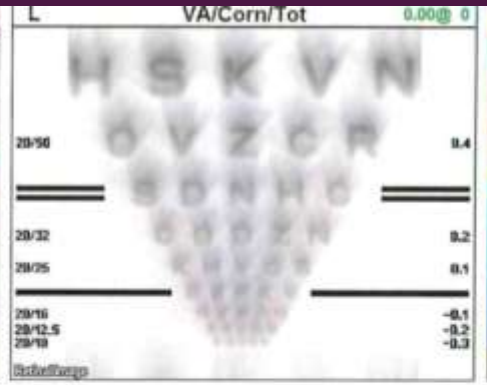
Refrac

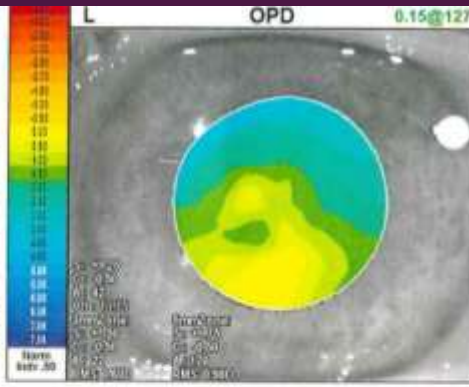
REF

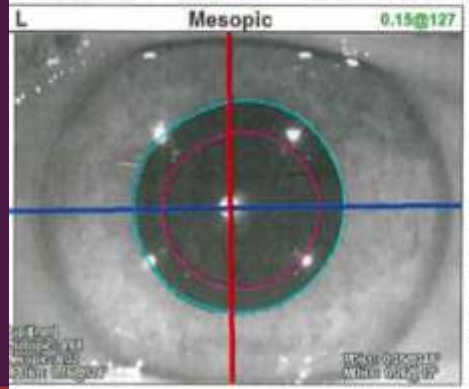
WF@6

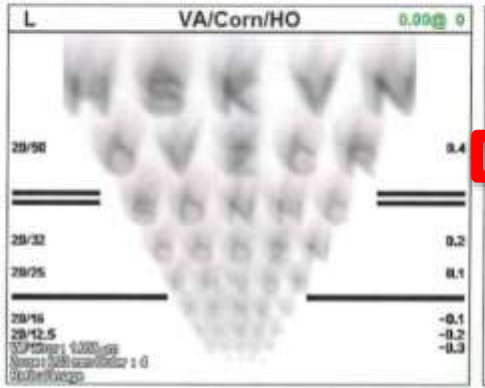
Diff









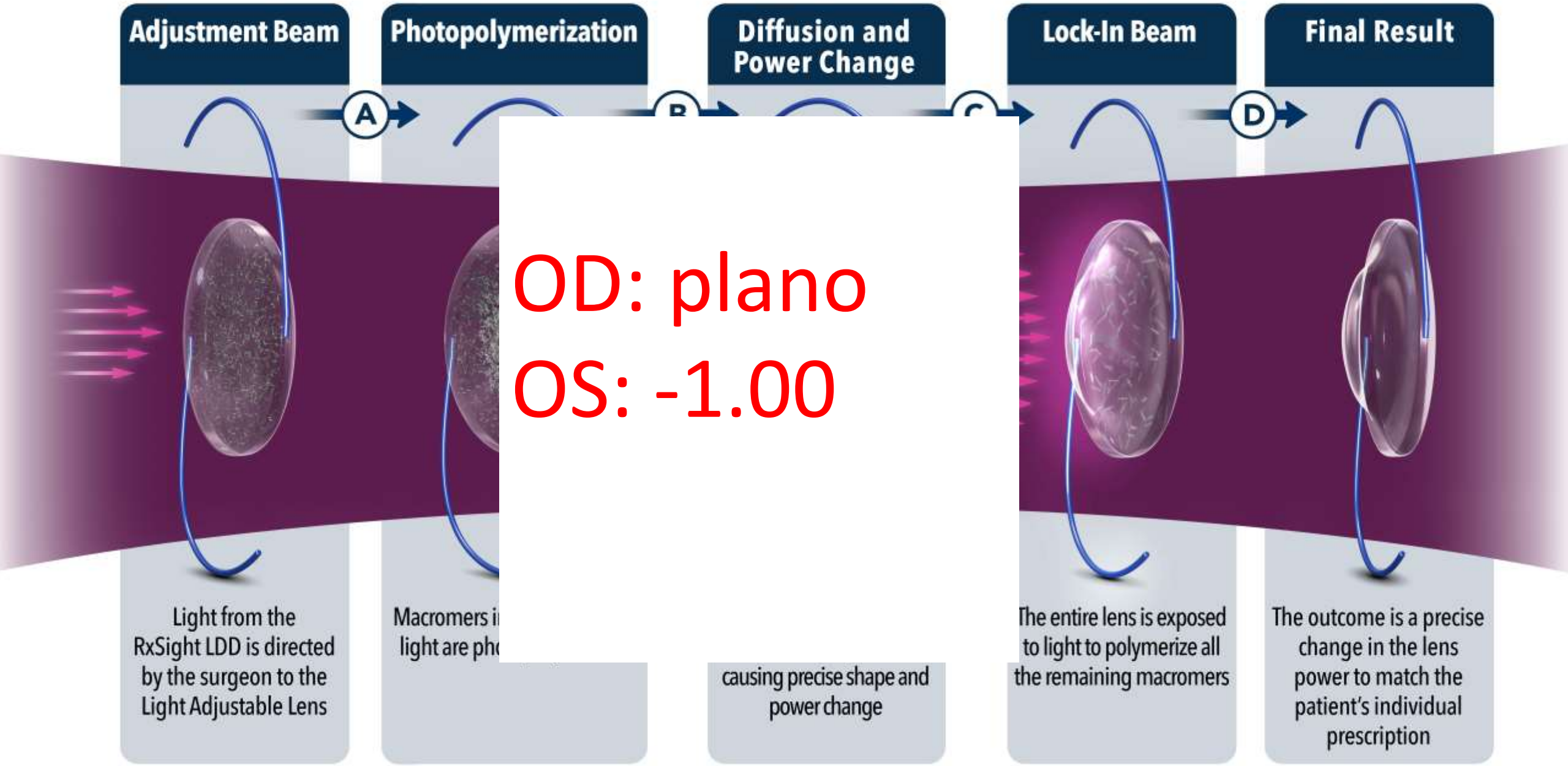


HOA [μm]: Cornea@6.33mm L
Total, Internal@6.33mm / Order = 4

	T.Sph	T.Coma	T.Tre	HO
Total:	0.201	0.723	0.246	0.81
Cornea:	0.094	1.022	0.139	1.058
Internal:	0.137	0.349	0.367	0.552

Refraction: VD = 13.75mm

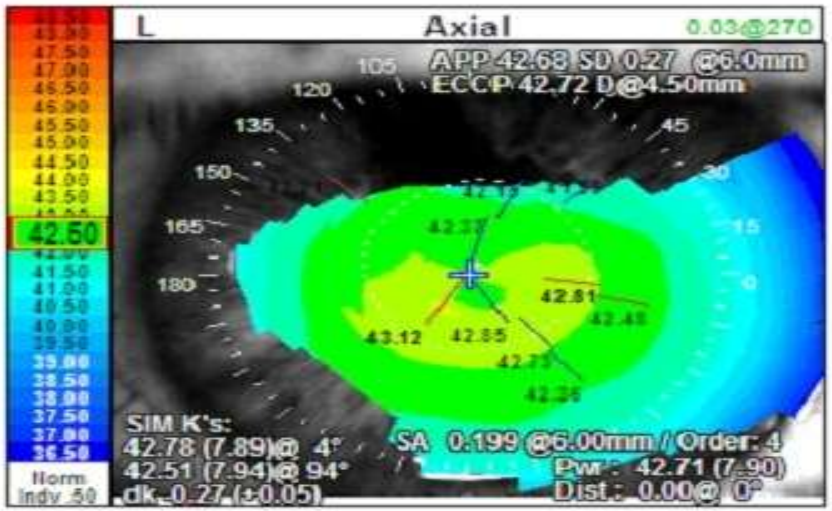
	Sph	Cyl	Axis	RMS
REF	+1.25	-0.50	42	
WF@6.00	+1.75	-0.50	18	0.73D
Diff	+0.50	0.00	-24	

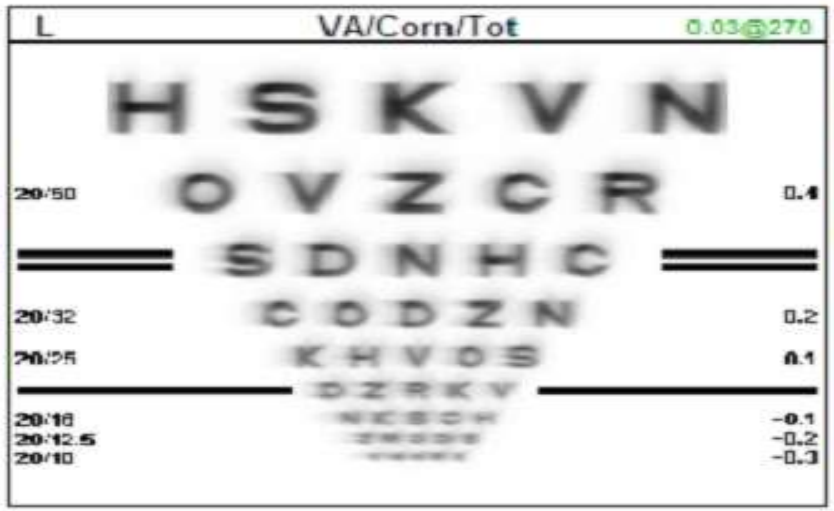


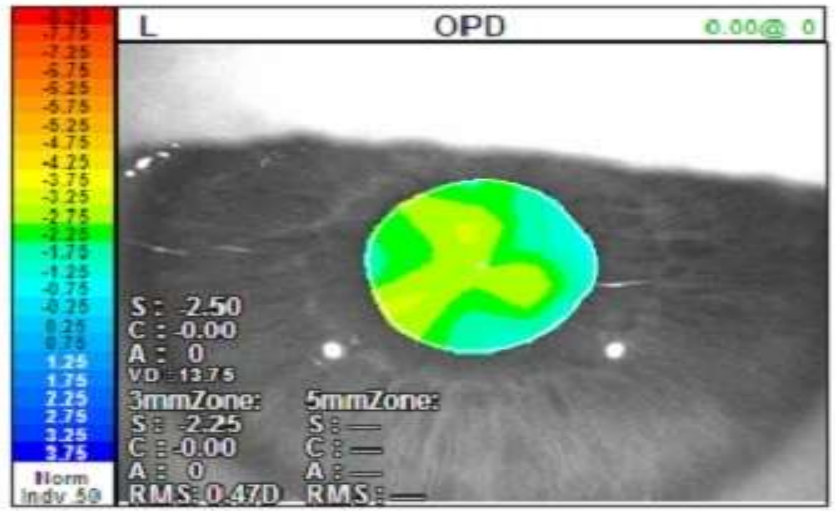
OD: plano

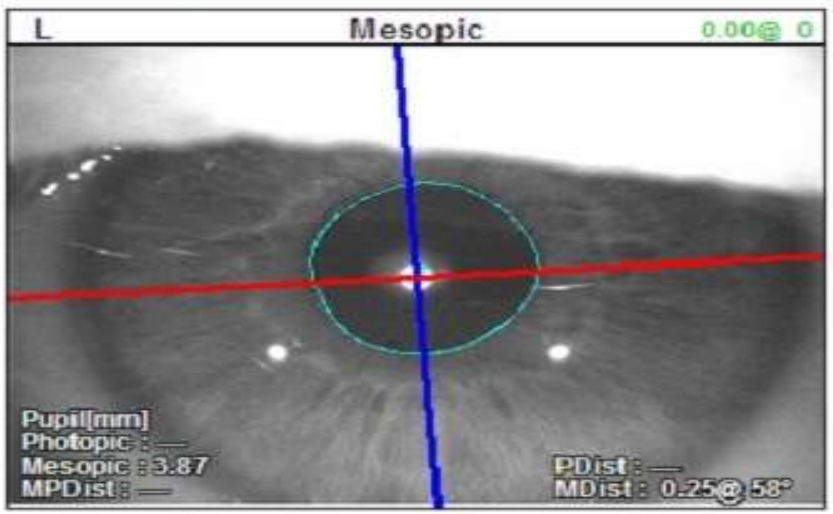
OS: -1.00

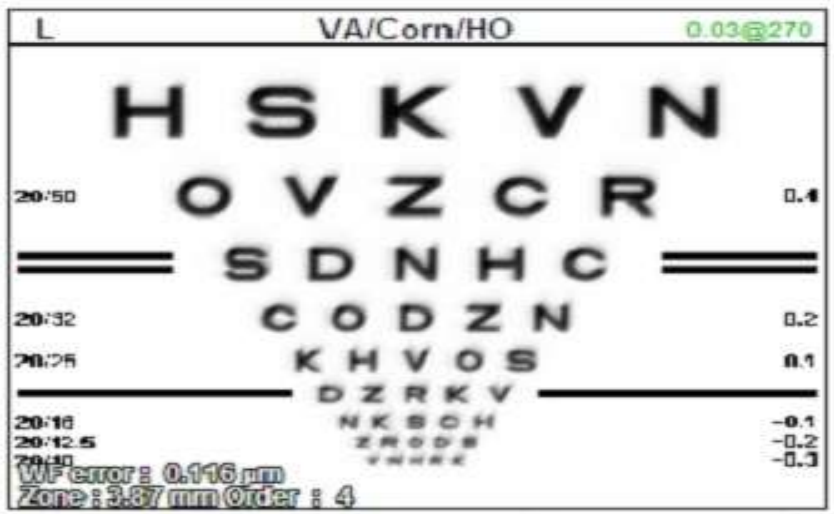
NIDEK						VTV Cataract Summary	09/08/2016 15:10 Ver.1.14.01
ID	1403640		DOB	08/26/1958	Physician		
Name	[redacted]				Technician		
ExamNo	1	Date	09/08/2016 10:45	Comment		Diagnosis	











HOA [µm]: Cornea@3.87mm L

Total, Internal@3.87mm / Order = 4

	T.Sph	T.Coma	T.Tre	HO
Total:	0.064	0.080	0.310	0.328
Cornea:	0.040	0.070	0.080	0.116
Internal:	[illegible]	[illegible]	[illegible]	[illegible]

Refraction: VD = 13.75mm

	Sph	Cyl	Axis	RMS
REF	-2.50	-0.00	0	
WF@3.87	-2.25	-0.25	99	0.33D
Diff	+0.25	-0.25	---	

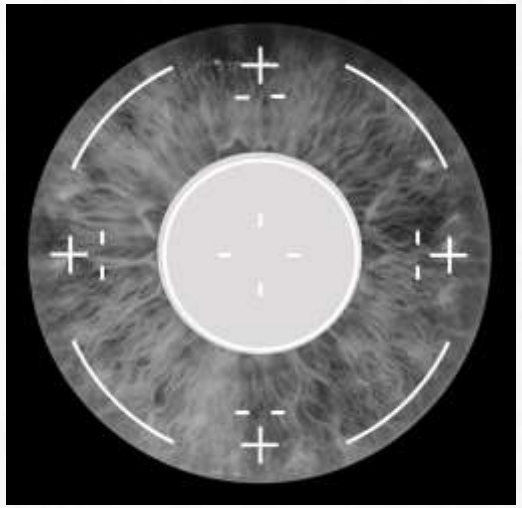
Exam	SPH	CYL	AXIS	SimK Steep	SimK Flat	dK	e(Q)	SA@6.0mm	Pupil
1 L	-2.50	0.00	0	42.78(7.89)@ 4	42.51(7.94)@ 94	-0.27(+0.05)	0.34(-0.12)	C -0.35 C+0.20	---- 3.87

Cornea Index: n=1.3375 (Ax,Ins), n=1.3760 (Ref,I.OPD) Qm:6.0mm λ:587.6nm

Extended Depth of Focus

Surgery

- Bilateral LAL implantation with post-operative emmetropic target OU

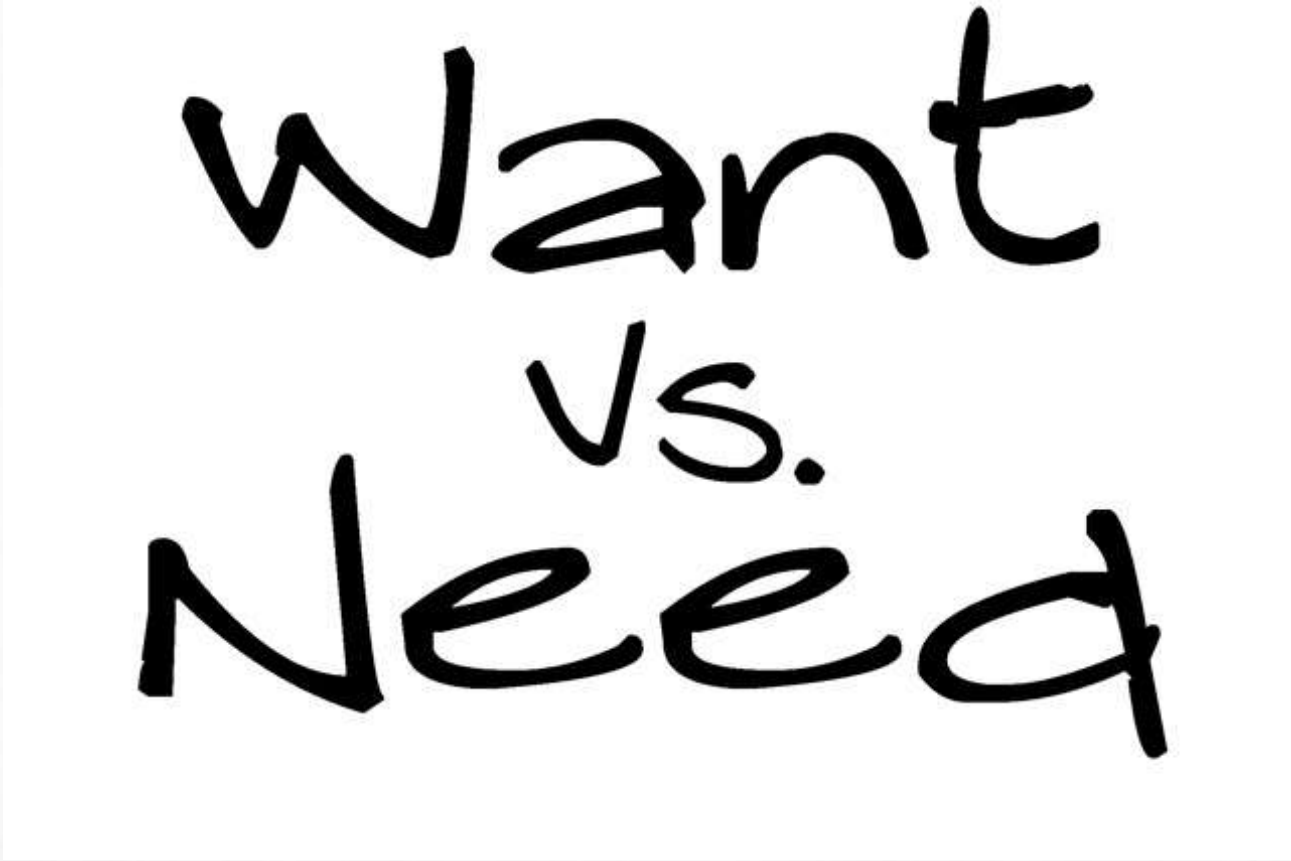


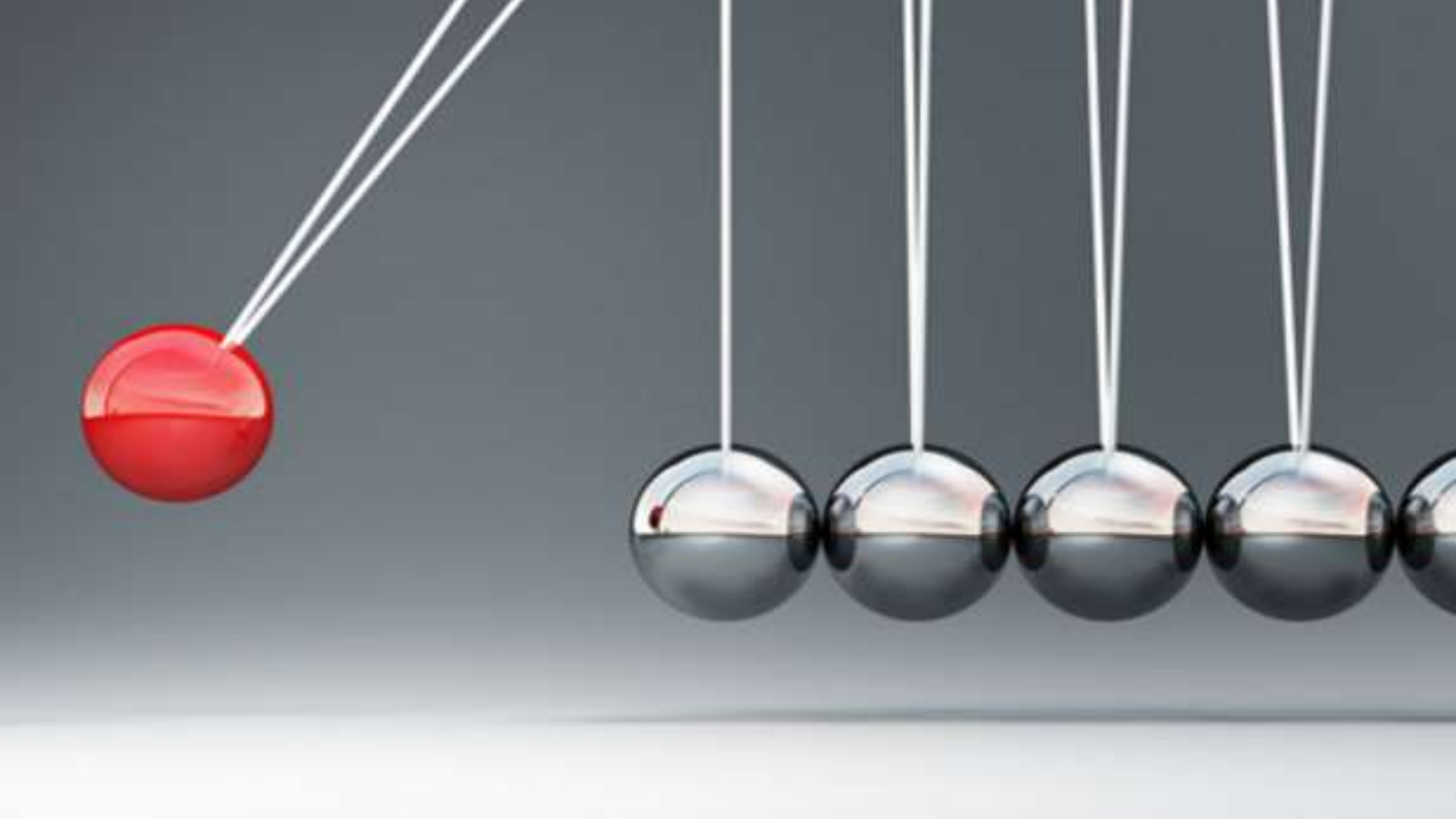
Advantages

- Full cylinder and residual cylinder correction OU enhances UCVA and reduces dysphotopsias
- Centration on undilated pupil overcomes one of drawbacks of traditional multifocal IOLs (susceptibility to IOL decentration)
- Small diameter of the EDF light treatment preserves both UCDVA and BCDVA
- No splitting of light, so minimal, to no loss of contrast

Caution: EDF is Investigational in the U.S. Limited by Federal Law to investigational use.

How?


Want
vs.
Need

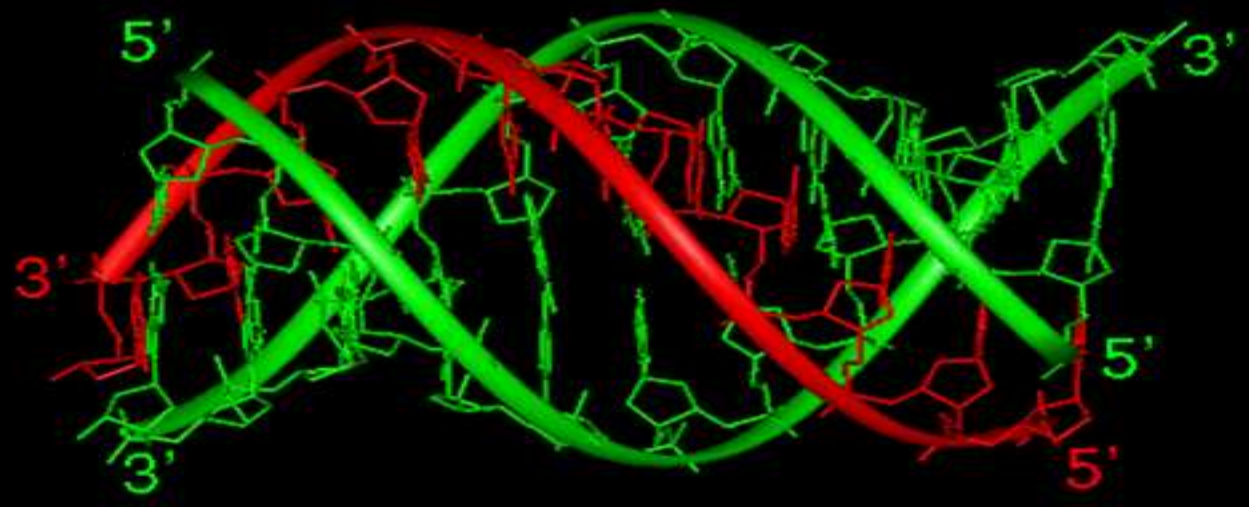


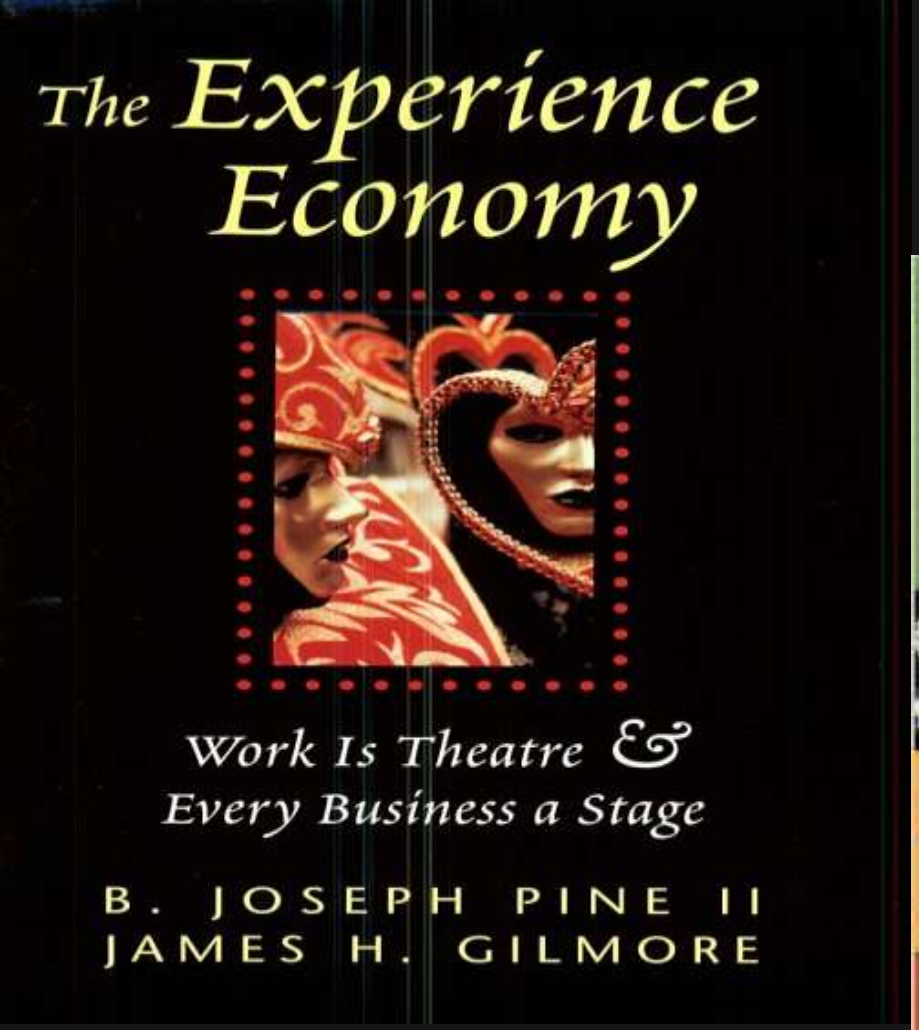


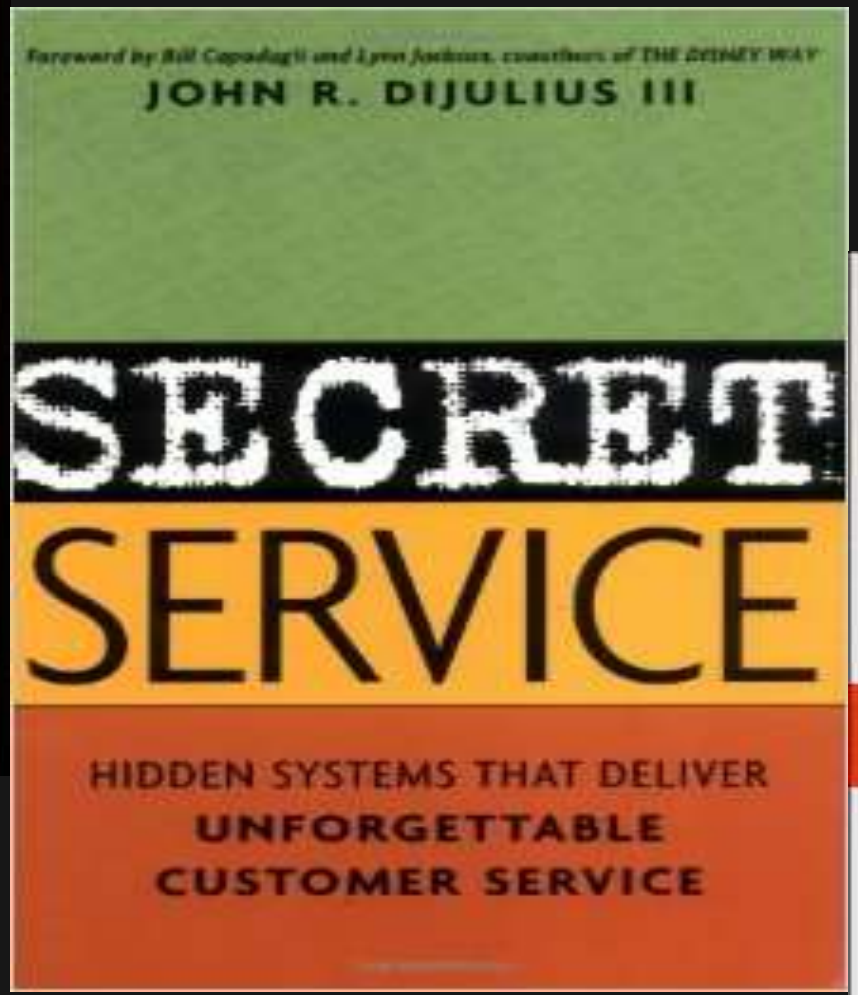
"The doctor will see you now."

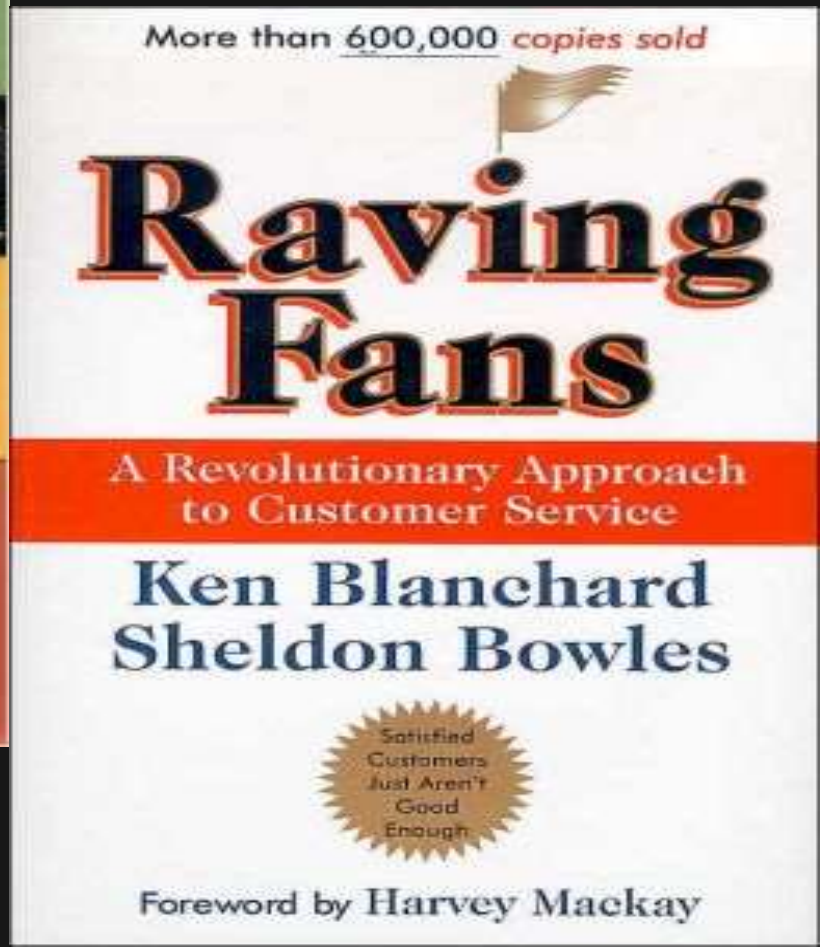


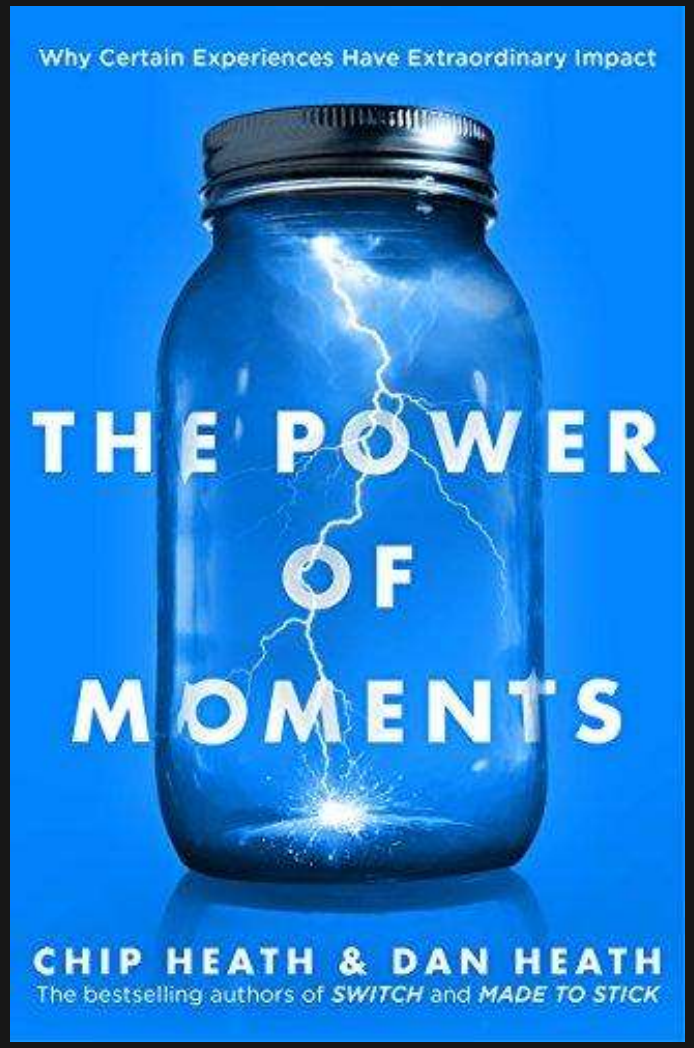


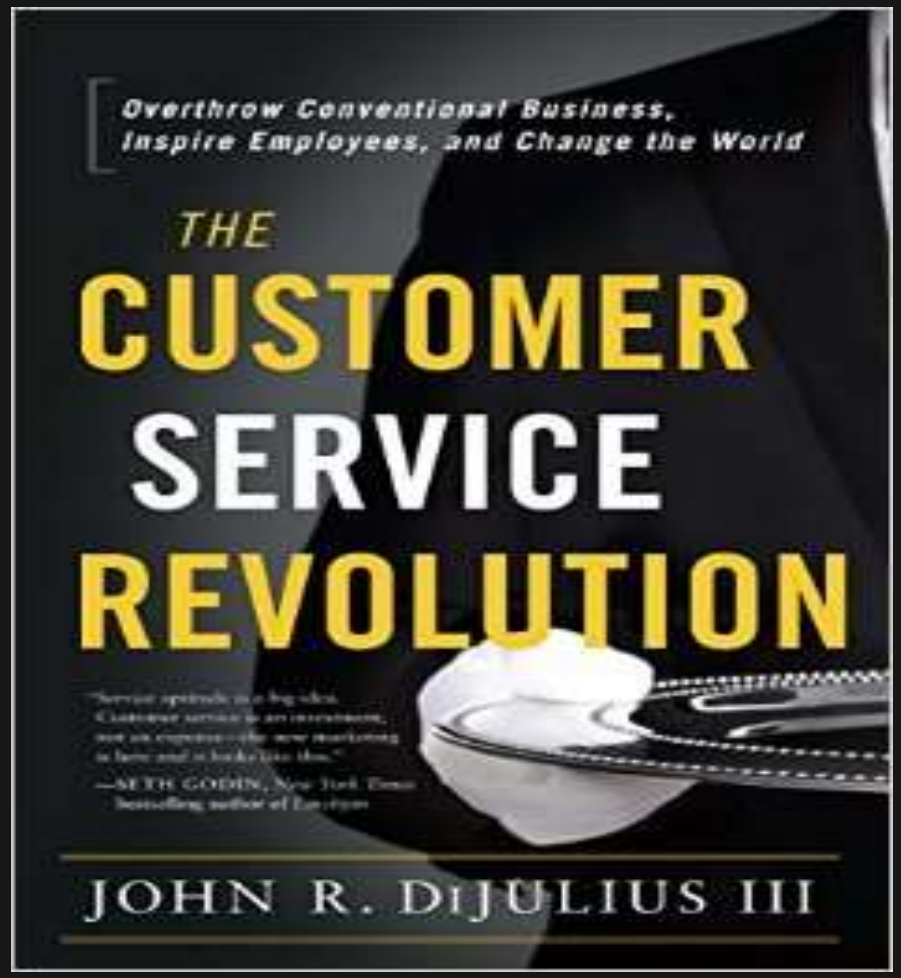

5'
3'
3'
3'
5'
5'

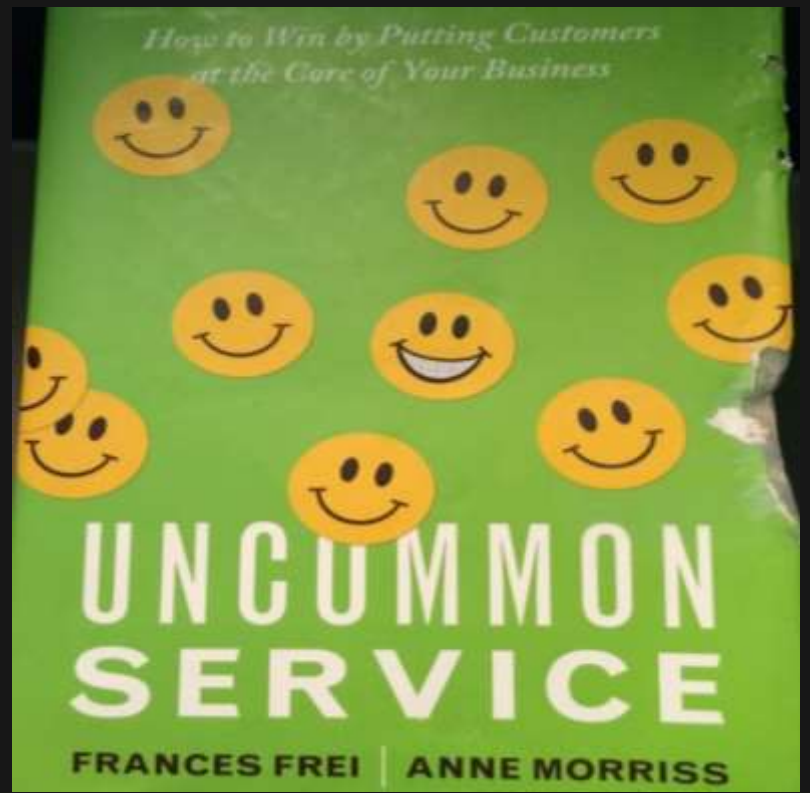

The Experience Economy
Work Is Theatre & Every Business a Stage
B. JOSEPH PINE II
JAMES H. GILMORE


Foreword by Bill Capodagli and Lynn Jackson, coauthors of THE DISNEY WAY
JOHN R. DIJULIUS III
SECRET
SERVICE
HIDDEN SYSTEMS THAT DELIVER
UNFORGETTABLE
CUSTOMER SERVICE

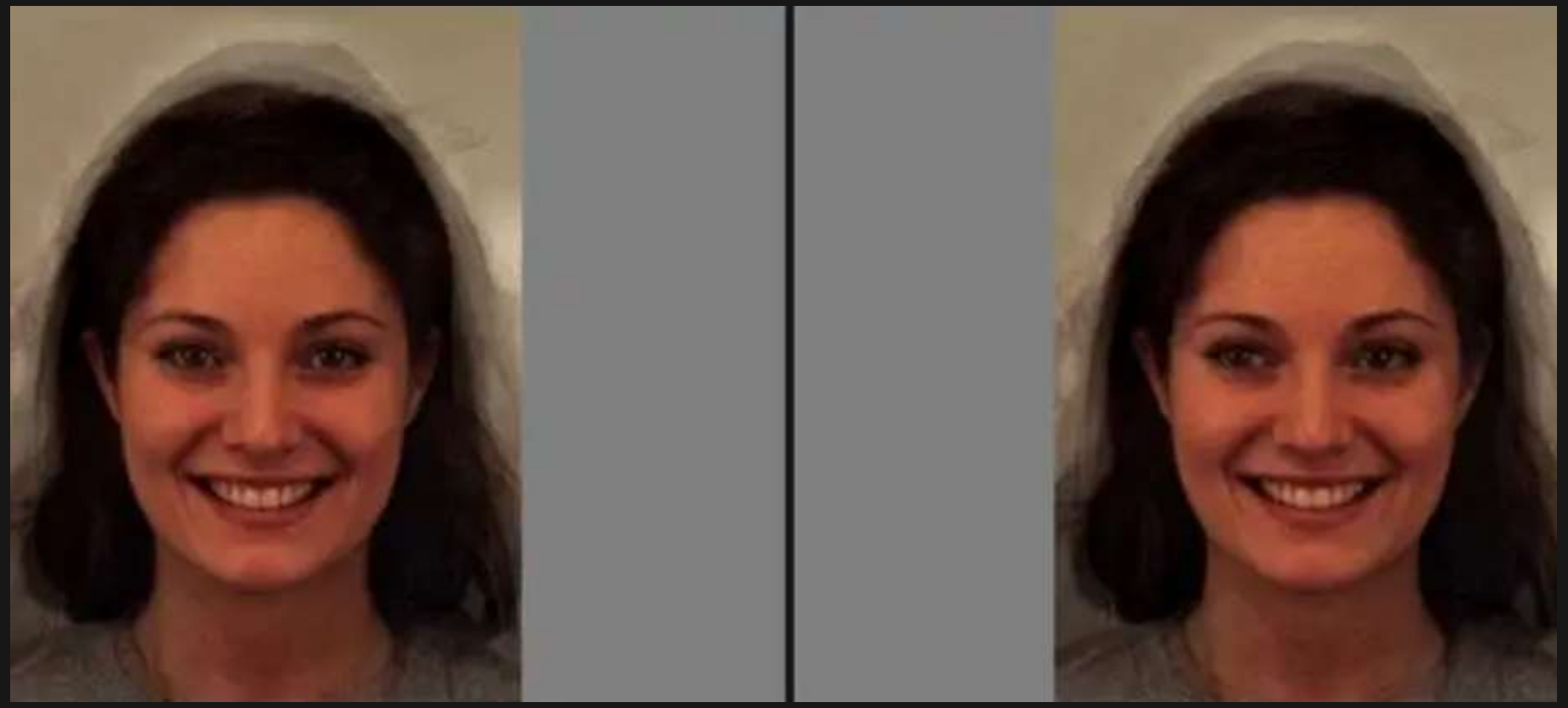

More than 600,000 copies sold
Raving Fans
A Revolutionary Approach to Customer Service
Ken Blanchard
Sheldon Bowles
Satisfied Customers Just Aren't Good Enough
Foreword by Harvey Mackay

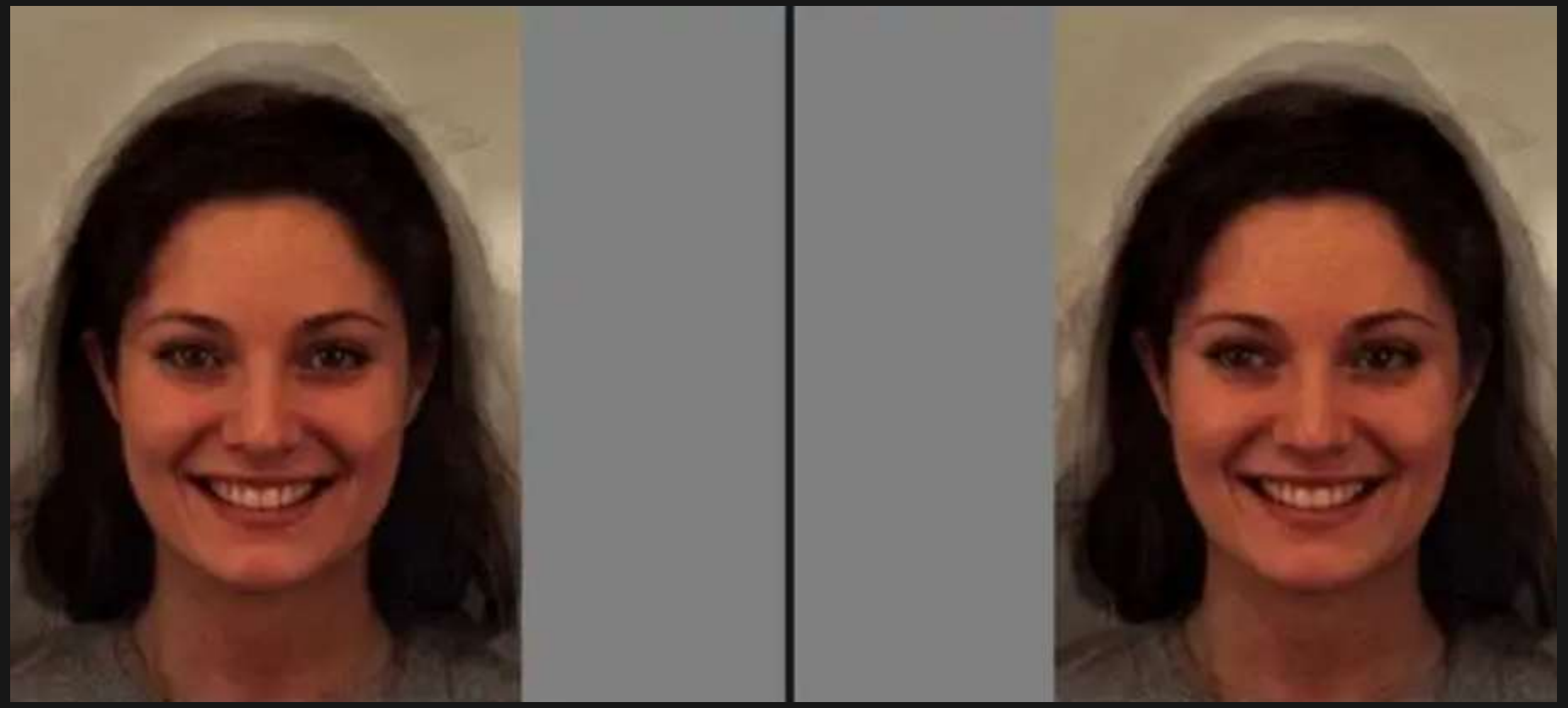

Why Certain Experiences Have Extraordinary Impact
THE POWER OF MOMENTS
CHIP HEATH & DAN HEATH
The bestselling authors of SWITCH and MADE TO STICK


Overthrow Conventional Business, Inspire Employees, and Change the World
THE CUSTOMER SERVICE REVOLUTION
JOHN R. DiJULIUS III


How to Win by Putting Customers at the Core of Your Business
UNCOMMON SERVICE
FRANCES FREI | ANNE MORRISS

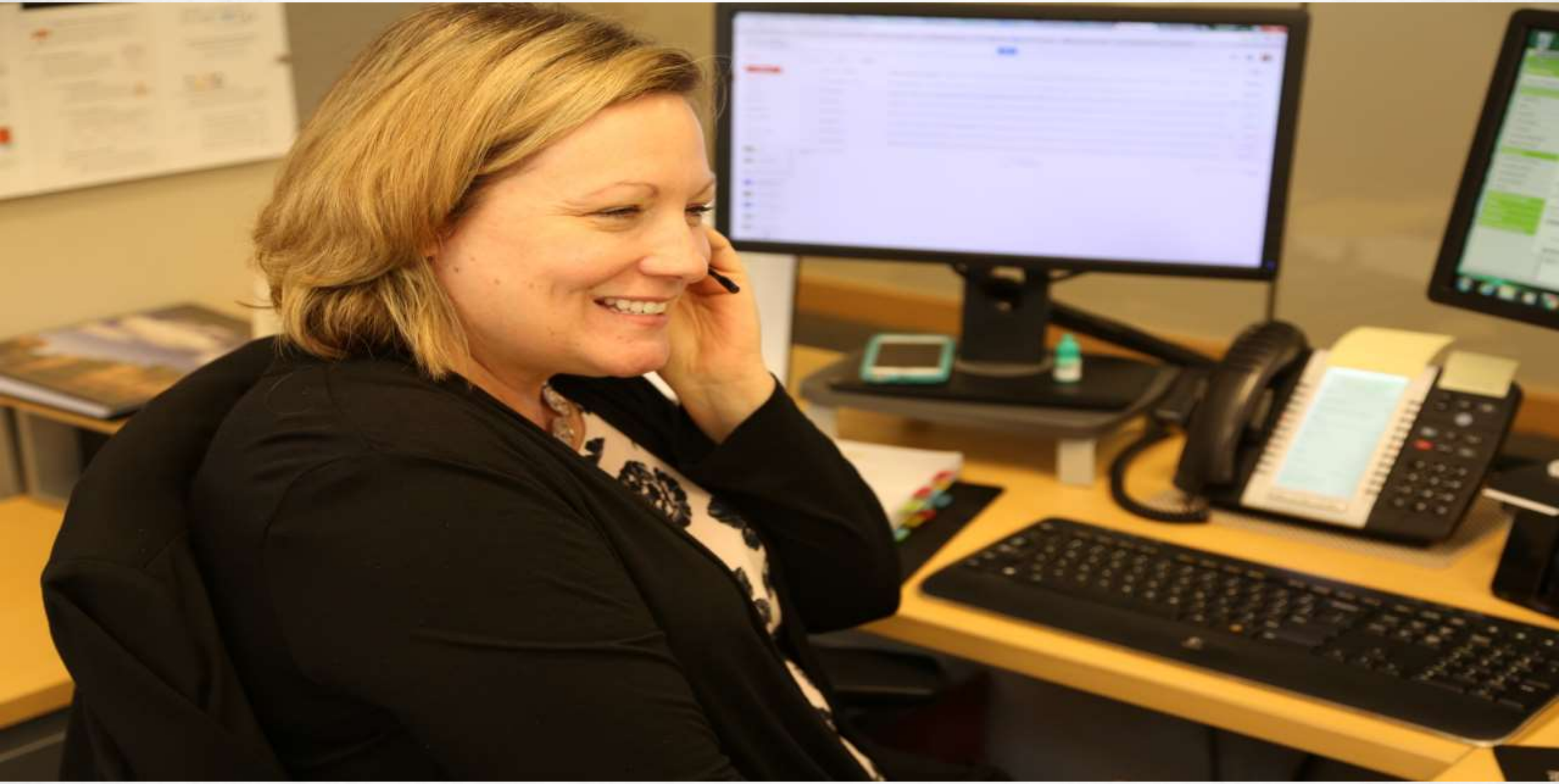
Which face looks more attractive?



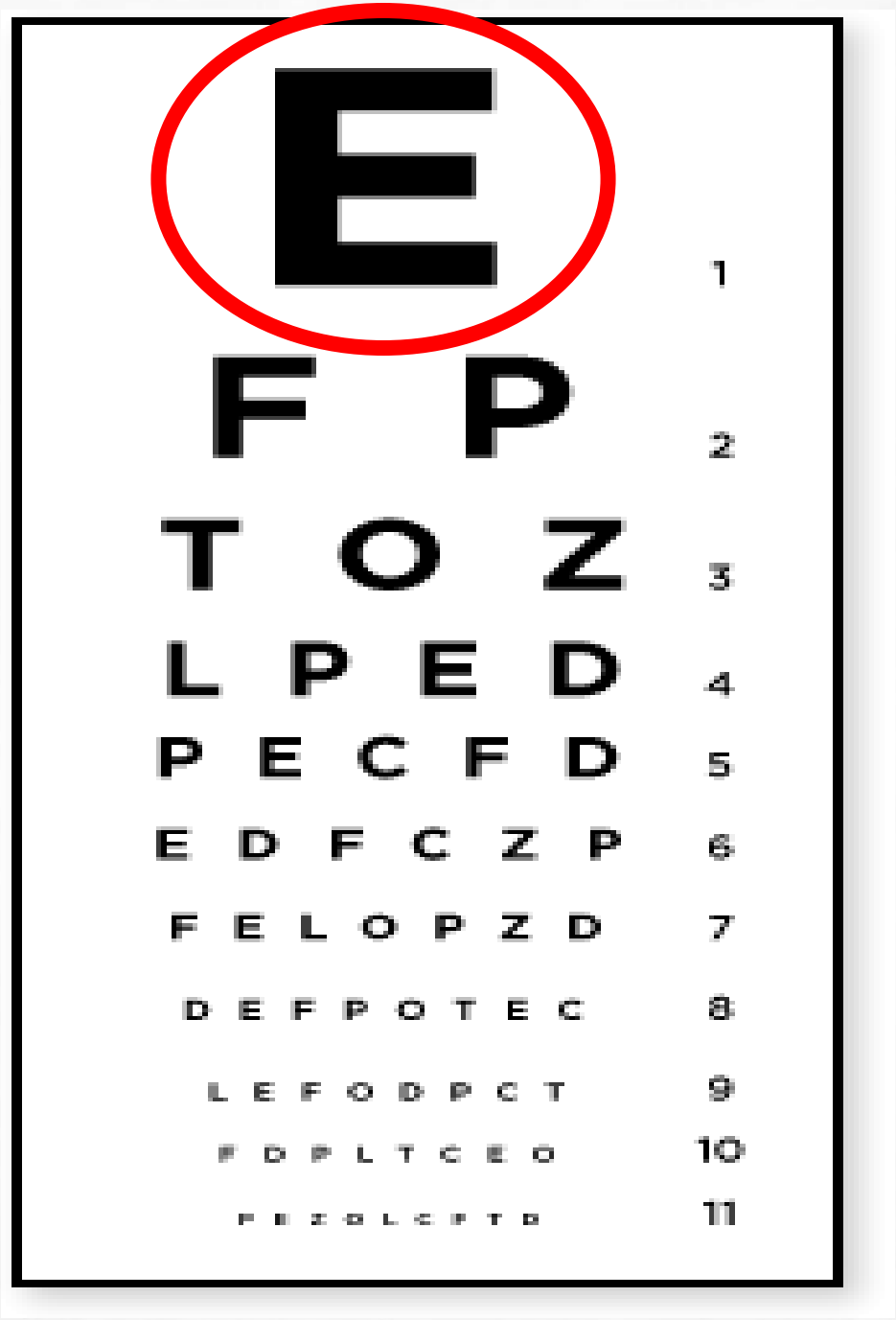


https://www.newscientist.com/article/dn12886-eye-contact-and-a-smile-will-win-you-a-mate





The Science of **Nice**


E
1
F P
2
T O Z
3
L P E D
4
P E C F D
5
E D F C Z P
6
F E L O P Z D
7
D E F P O T E C
8
L E F O D P C T
9
F D P L T C E O
10
F E Z O L C F T D
11



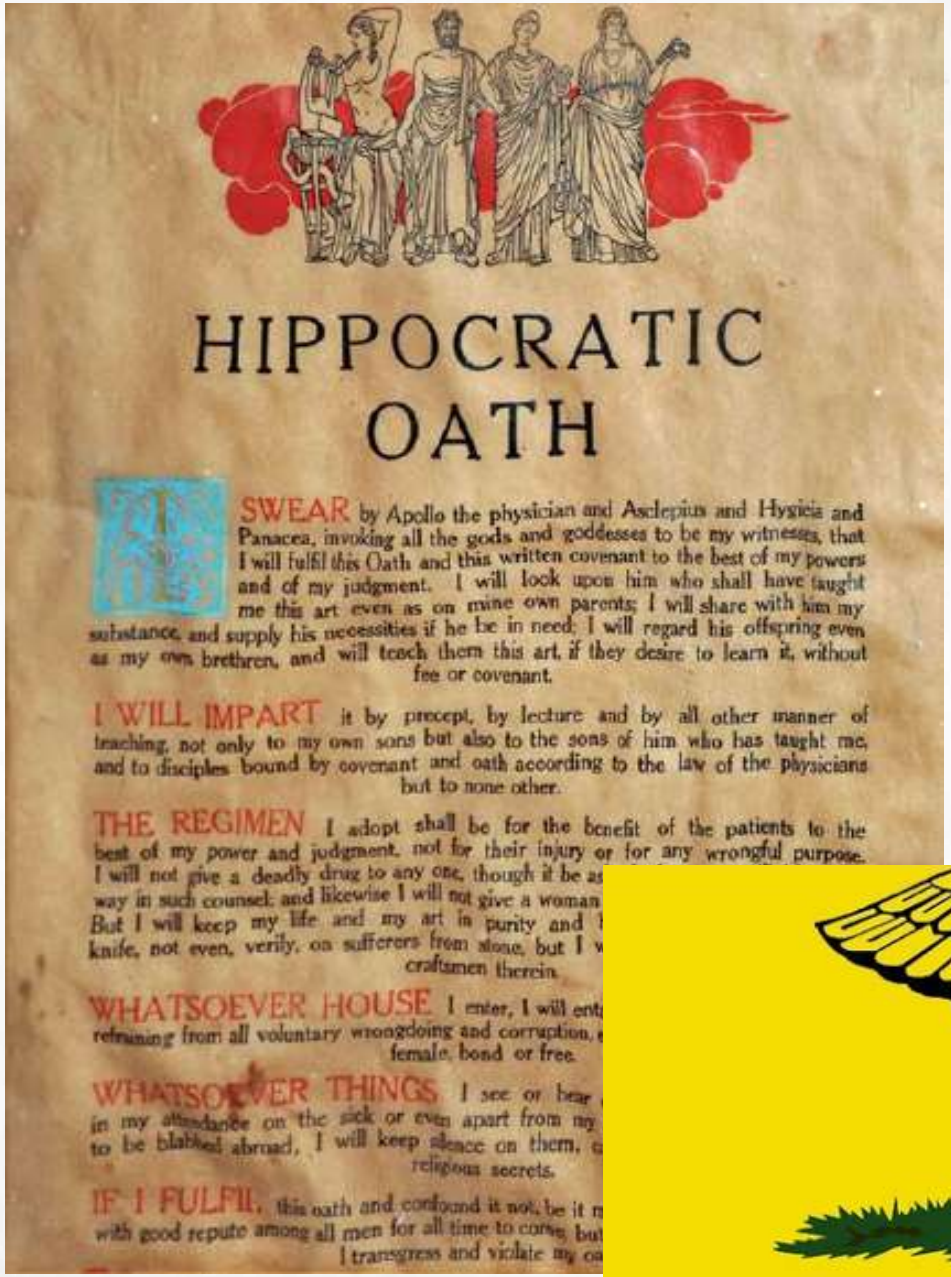
The People Experience

The Key to Thriving in Modern Day Practice



Team Comes First

- Patients Come Second



HIPPOCRATIC OATH

I SWEAR by Apollo the physician and Asclepius and Hygieia and Panacea, invoking all the gods and goddesses to be my witnesses, that I will fulfil this Oath and this written covenant to the best of my powers and of my judgment. I will look upon him who shall have taught me this art even as on mine own parents; I will share with him my substance, and supply his necessities if he be in need; I will regard his offspring even as my own brethren, and will teach them this art, if they desire to learn it, without fee or covenant.

I WILL IMPART it by precept, by lecture and by all other manner of teaching, not only to my own sons but also to the sons of him who has taught me, and to disciples bound by covenant and oath according to the law of the physicians but to none other.

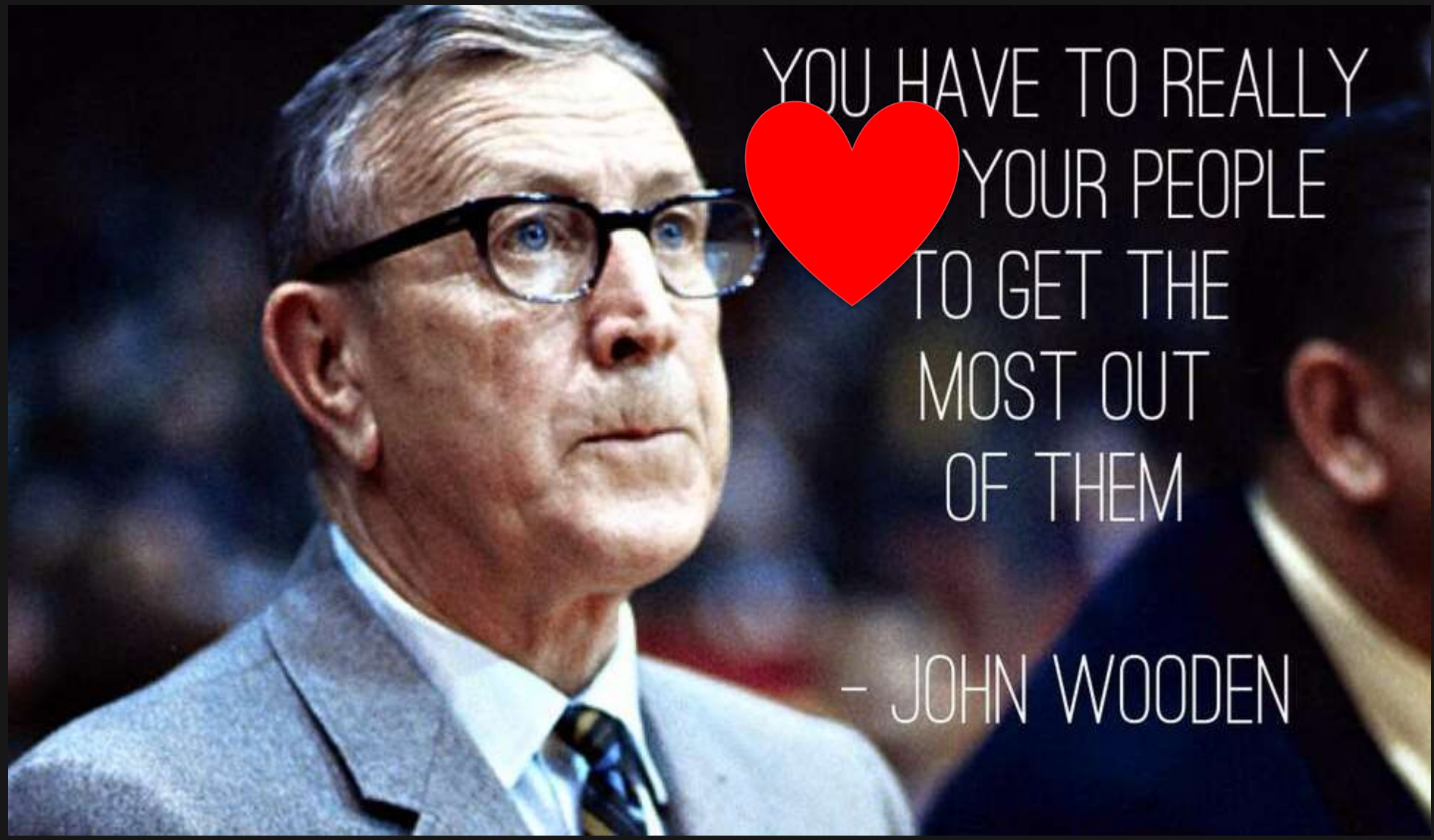
THE REGIMEN I adopt shall be for the benefit of the patients to the best of my power and judgment, not for their injury or for any wrongful purpose. I will not give a deadly drug to any one, though it be as
way in such counsel; and likewise I will not give a woman
But I will keep my life and my art in purity and
knife, not even, verily, on sufferers from stone, but I
craftsmen therein.

WHATSOEVER HOUSE I enter, I will ent
refraining from all voluntary wrongdoing and corruption,
female, bond or free.

WHATSOEVER THINGS I see or hear
in my attendance on the sick or even apart from my
to be blabbed abroad, I will keep silence on them,
religious secrets.

IF I FULFIL this oath and confound it not, be it
with good repute among all men for all time to come; but
I transgress and violate my o




YOU HAVE TO REALLY
YOUR PEOPLE
TO GET THE
MOST OUT
OF THEM
– JOHN WOODEN


14:25



I Care So Much About My Co-Worker That:



I Care So Much About My Co-Worker That:

• I am kind to them.	Yes	No
• I think of them as work family	Yes	No
• I care about what they care about (example: their family)	Yes	No
• Every day when I first see them I say hi and smile with eye contact…and mean it.	Yes	No
• I interview others thinking about their influence on them	Yes	No
• When I am deciding to close the clinic for a holiday I am thinking of their joy and not my cost.	Yes	No



I Care So Much About My Co-Worker That:

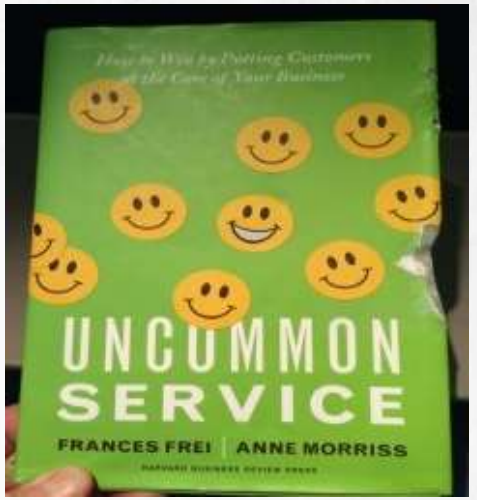
- When they make an honest mistake I accept their apology and don't lose my temper — Yes — No
- If I lose my temper I don't feel right until I apologize — Yes — No
- When they stop by the office to introduce their loved one or child I drop everything to talk and meet them — Yes — No
- When I hear something nice about them I tell them. — Yes — No
- I encourage them when they seem down. — Yes — No



I Care So Much About My Co-Worker That:

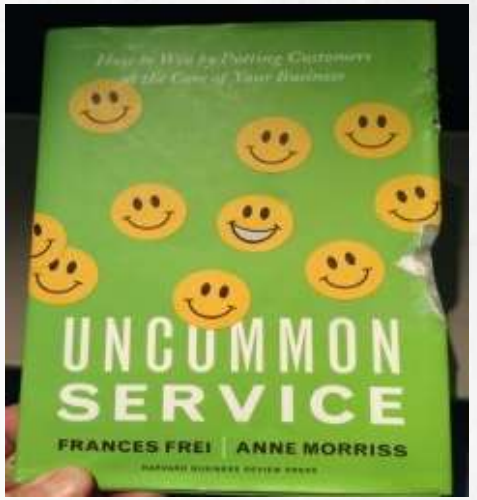
- When they make an honest mistake I accept their apology and don't lose my temper — Yes — No
- If I lose my temper I don't feel right until I apologize — Yes — No
- When they stop by the office to introduce their loved one or child I drop everything to talk and meet them — Yes — No
- When I hear something nice about them I tell them. — Yes — No
- I encourage them when they seem down. — Yes — No
- If my team answers these questions for me they would say I treat these situations like I say I do. — Yes — No

Improving the Customer Experience



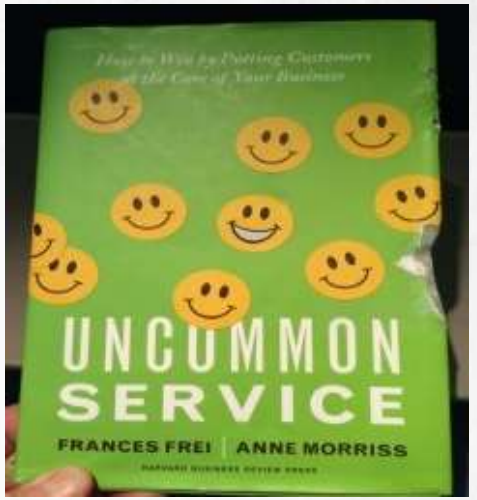
- You need to know what your customer values

Improving the Customer Experience



- You need to know what your customer values
- You need to know what your customer expects

Improving the Customer Experience

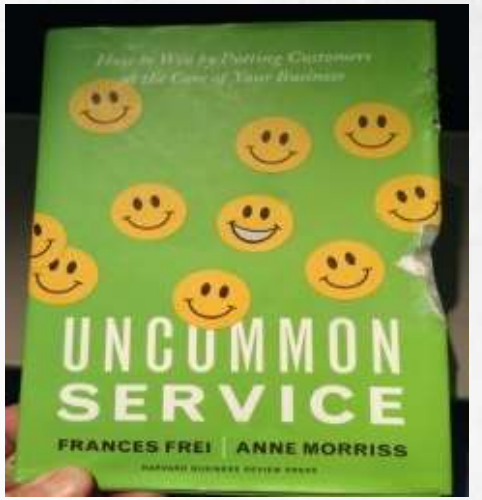


- You need to know what your customer values

Motivator

- You need to know what your customer expects

Improving the Customer Experience



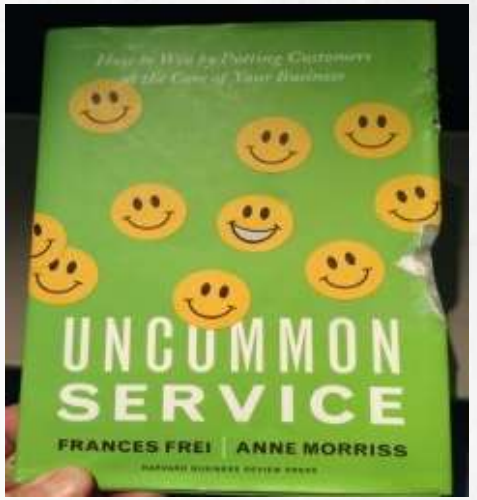
- You need to know <u>what your customer values</u>

<u>Motivator</u>

- You need to know <u>what your customer expects</u>

<u>Hygiene Factor</u>

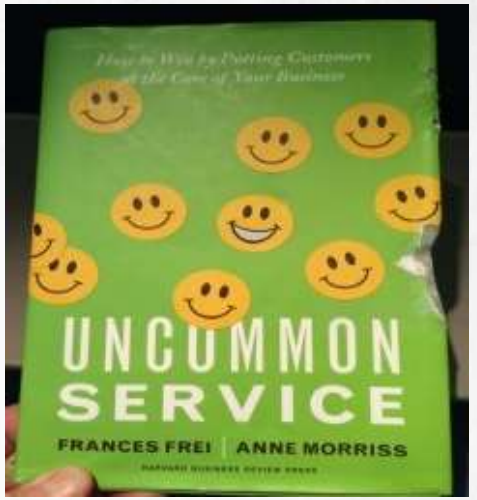
Improving the Customer Experience



Hygiene Factors

Motivators

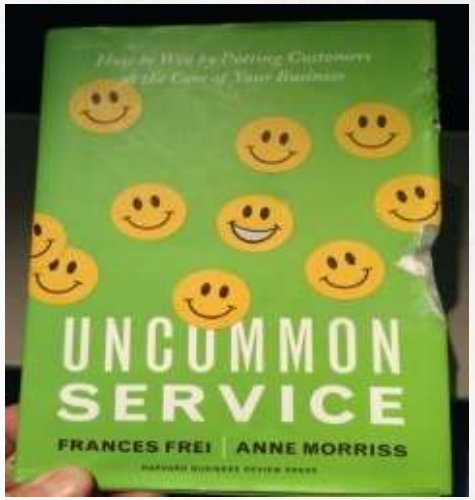
Improving the Customer Experience



Hygiene Factors

- Technology
- Talent
- Experience

Improving the Customer Experience



Hygiene Factors

- Technology
- Talent
- Experience

Motivators

- How I made them see
- How your staff treats them
- How you treat them
- Patient call backs by surgeon
- Thank you notes

How you made them **feel**




What Technology For My Eye?


What Vision Do You Want?


12
1
2
3
4
5
6
7
8
9
10
11

“what type of cataract surgery would this patient want if they knew what I knew?”



A Refractive Surgery Mindset

Do you need a laser to do premium IOL’s?

What You Tell Your Patient

Pre-experience Expecations

Multiple Steps-Plus Time

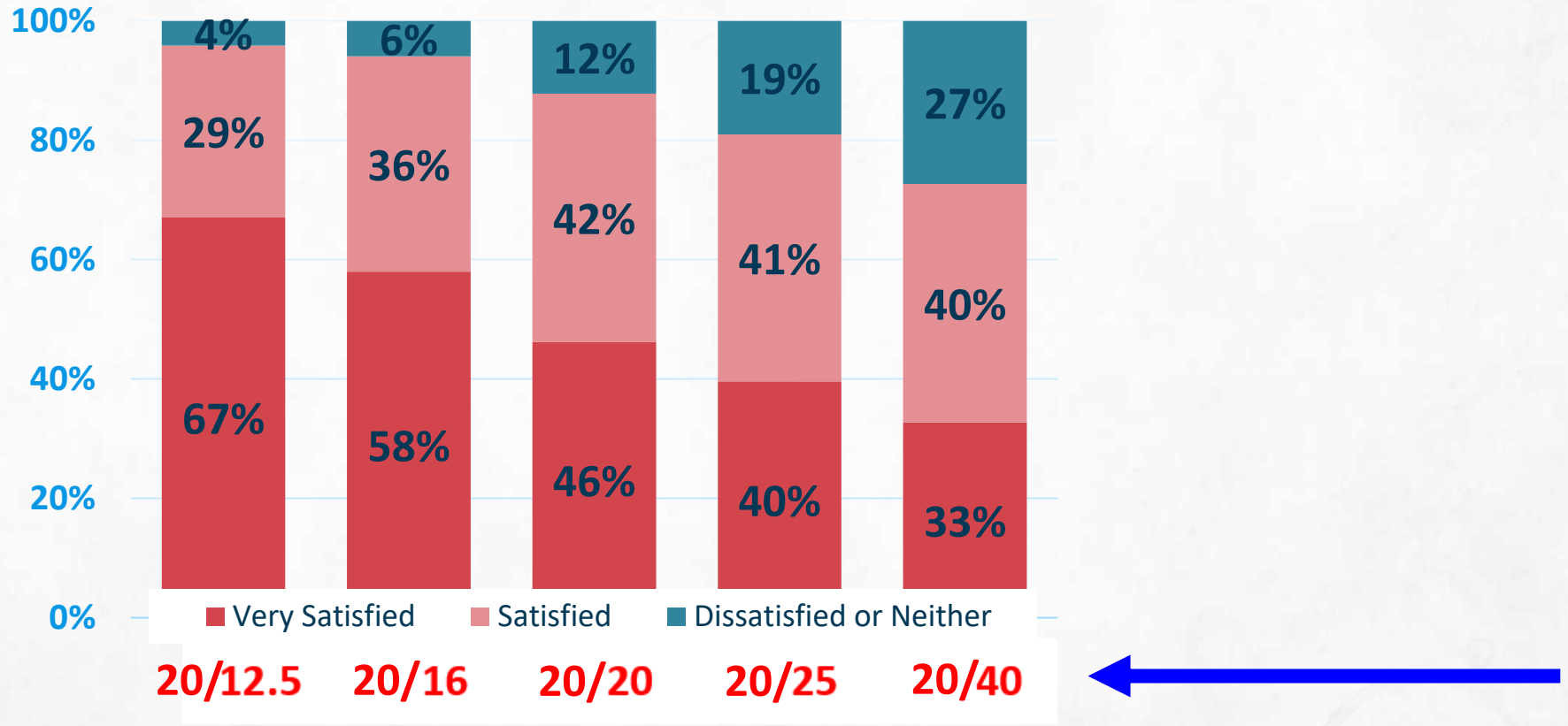
1. Advanced implant
2. Laser fine tune
3. YAG Laser capsulotomy

Sometimes 20/20 is Not Enough

- Small corrections matter…show them…they can decide
- Dry eye matters
- Surface irregularities matter
- Gas perm over-refraction

The Accuracy of Fine Tunes

Lessons from LASIK: UCVA Drives Satisfaction



- Schallhorn, AECOS 2016

Multiple Steps-Plus Time

- Advanced implant
- Laser fine tune
- YAG Laser capsulotomy

Not a lot different than traditional

Multiple Steps-Plus Time

- Advanced implant
- Laser fine tune
- YAG Laser capsulotomy

Neural adaptation starts after 20/20 achieved

Multiple Steps-Plus Time

1. Advanced implant
2. Laser fine tune
3. YAG Laser capsulotomy

3 Steps

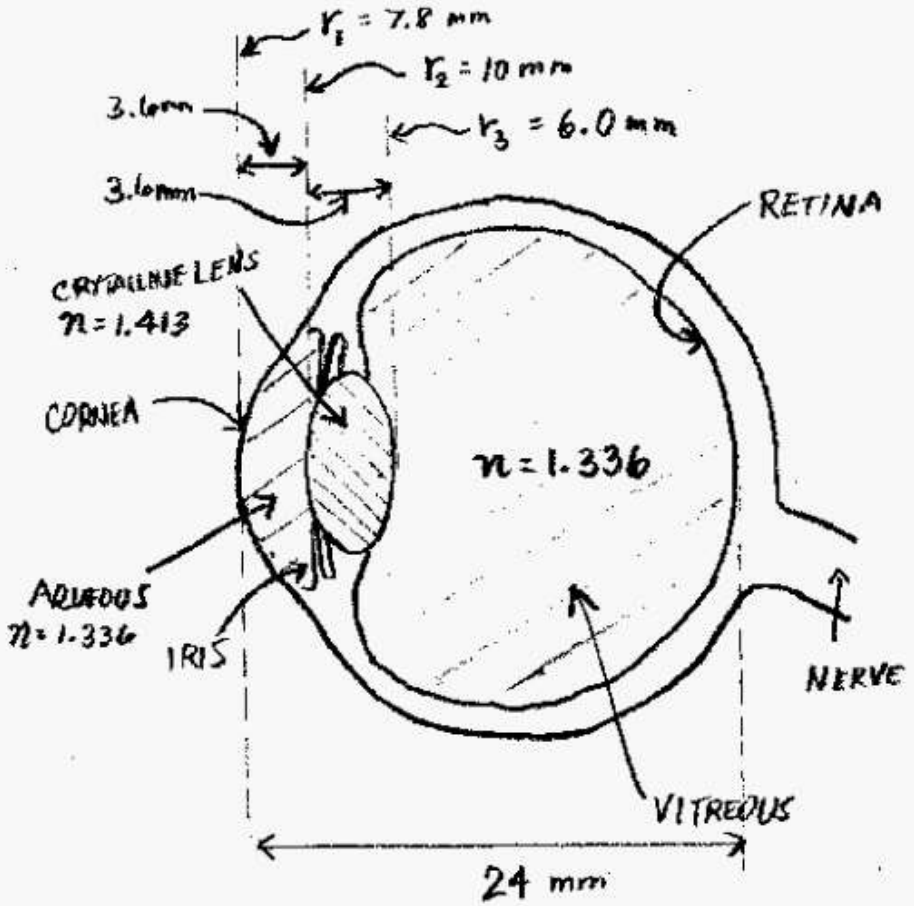
+

1 Year

Neural adaptation

Comprehensive Refractive Surgery 2020

- Cornea
- Phakic IOL
- Crystalline Lens





Low Light Image Quality

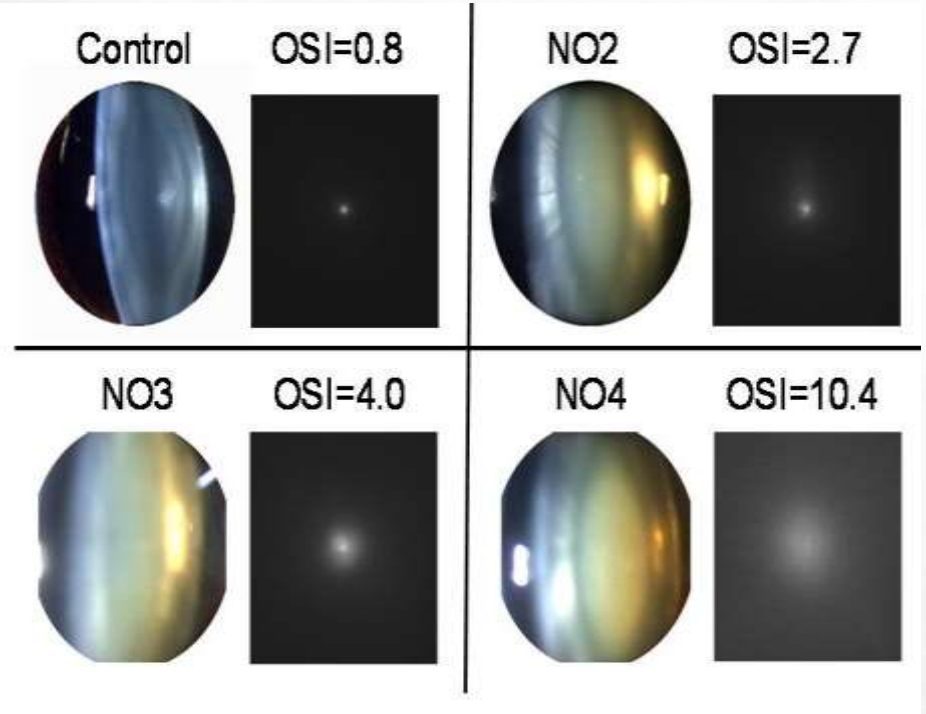


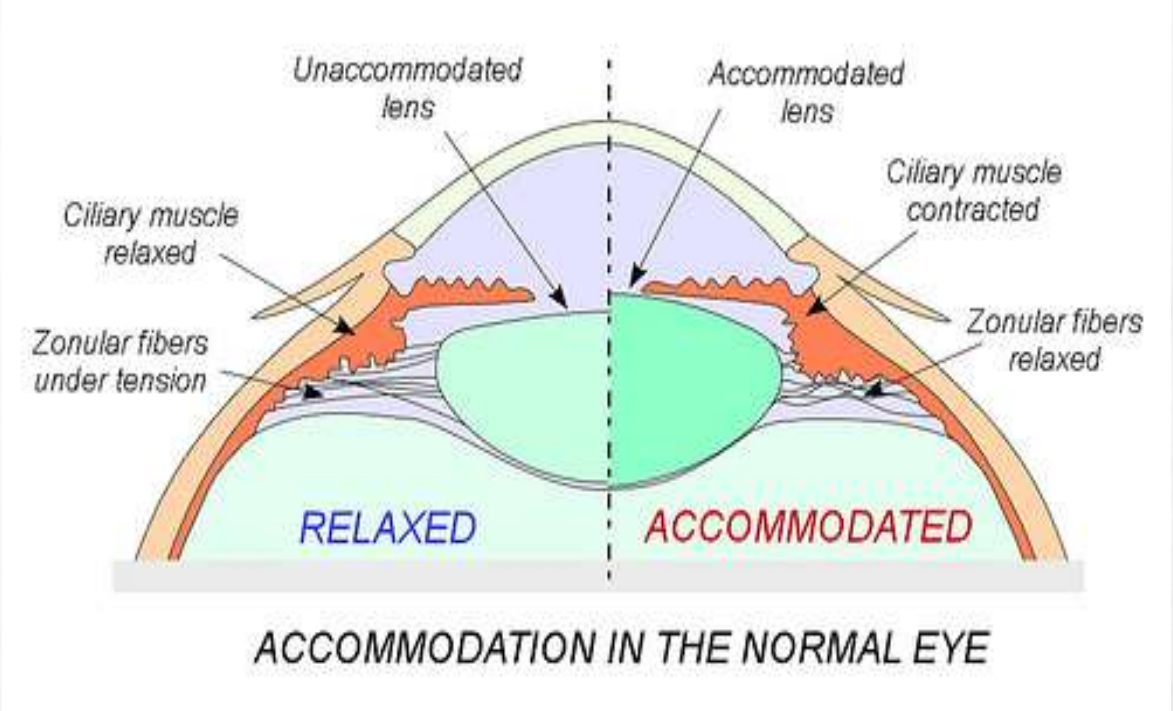


Diagnosis of Early Cataract

Lens Functions and “The Talk”

Clarity and Accommodation





ACCOMMODATION IN THE NORMAL EYE

47 year old female…Nuclear Cataracts

- OD: -0.75-.50 X 166 20/20-3 BAT: 20/100
- OS: -1.00-.75 X75 20/25 BAT: 20/100
- Ok with bifocals… “worn them since age 40…”

47 year old female…Nuclear Cataracts

- OD: -0.75-.50 X 166 20/20-3 BAT: 20/100
- OS: -1.00-.75 X75 20/25 BAT: 20/100
- Ok with bifocals… “worn them since age 40…”

- Cataract surgery aspheric Monofocal implants OU (Tecnis ZCBOO)
- 3 months Post Op:
  - OD: -.75-.25X170 20/20
  - OS: -.50-.50X79 20/20

“Why didn’t you talk me into that fancy implant?”



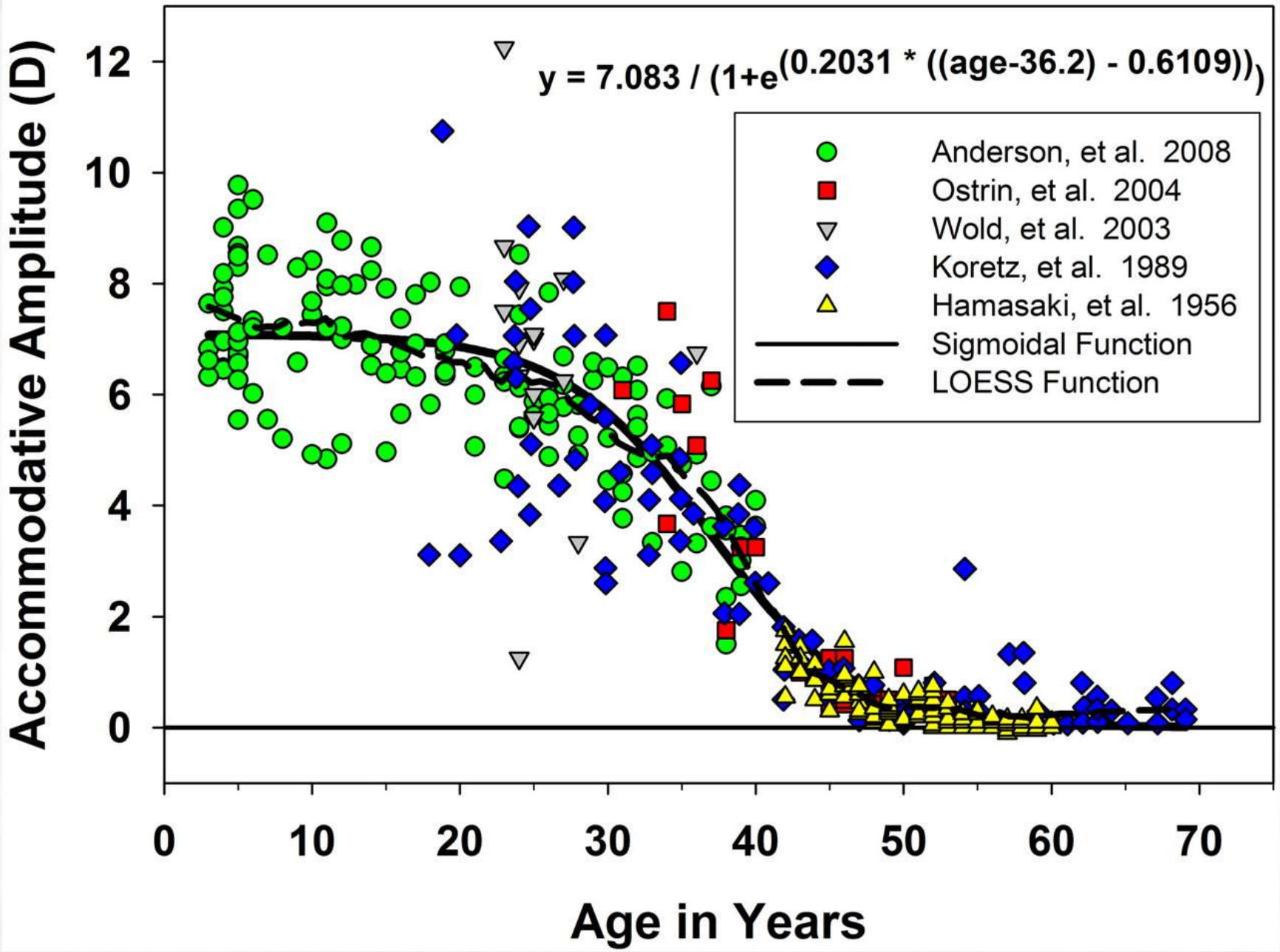
Do any of you talk about early cataracts helping patients with reading range?

Age-Related Changes in **Ocular Aberrations** and the Yamagata Study (Funagata).

Namba H, Kawasaki R, Sugano A, Murakami T, Nishitsuka K, Kato T, Kayama T, Yamashita H.
Cornea. 2017 Nov;36 Suppl 1:S34-S40.

Study of ocular aberrations with age.

Athaide HV, Campos M, Costa C.
Arq Bras Oftalmol. 2009 Sep-Oct;72(5):**617-21**.


y = 7.083 / (1+e(0.2031 * ((age-36.2) - 0.6109)))
Anderson, et al. 2008
Ostrin, et al. 2004
Wold, et al. 2003
Koretz, et al. 1989
Hamasaki, et al. 1956
Sigmoidal Function
LOESS Function
Accommodative Amplitude (D)
0
2
4
6
8
10
12
0
10
20
30
40
50
60
70
Age in Years

61 year old male

- Truck driver
- Vision not too bad…some night time glare…examining doctor said he didn't pass his driving test
- OD: -1.25 20/25 BAT: 20/50
- OS: -1.25 20/25-1 BAT: 20/50

61 year old male

- Truck driver
- Vision not too bad…some night time glare…examining doctor said he didn't pass his driving test
- OD: UCVA: Distance: 20/60 Near: J1 Mrx: -1.25 20/25 BAT: 20/50
- OS: UCVA: Distance: 20/60 Near: J1 Mrx: -1.25 20/25-1 BAT: 20/50
- Cataract surgery aspheric Monofocal implant (Tecnis ZCBOO)
- Post Op:
  - OD: -1.25-.25X180 20/20
  - OS: -1.25 20/20

Very Upset with "Loss of Near Vision"


Clarity
Near

Enhancement Decisions

- **Challenging**

56 yo Caucasian Female…Consult

- Cataract Consult 2018
- “Can’t get a clear image at distance or near with glasses or contacts”
- **OD: -4.25-.25x12** 20/25 BAT:20/50
- **OS: -4.75-.75x159** 20/25-2 BAT:20/50
- She doesn’t want monovision and wants the reading range of a multifocal but worried about night time glare.

56 yo Caucasian Female…Exam

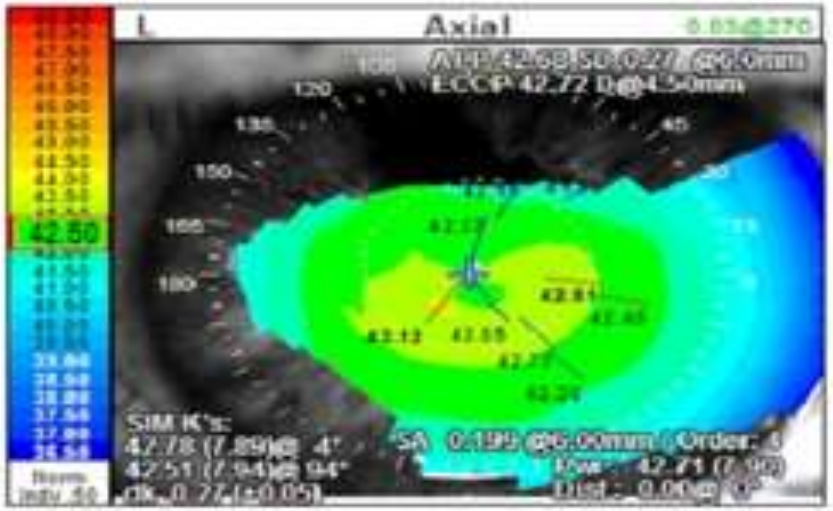
- OD Dominant
- Tear Lab:
  - OD: 312
  - OS: 315
- Slit Lamp Exam:
  - Lower permanent plugs OU
  - Pushed on lids and some MGD
  - Corneas: clear, no stain
  - Discussed Lipiflow

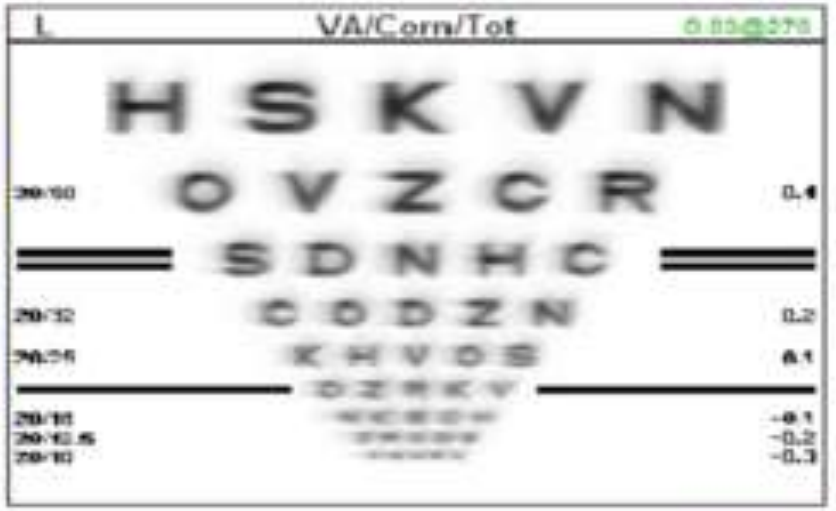
NIDEK

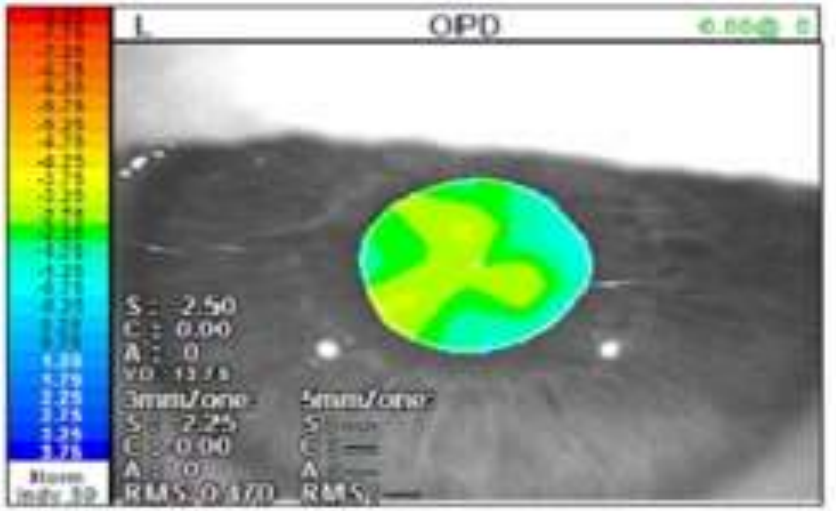
VTV Cataract Summary

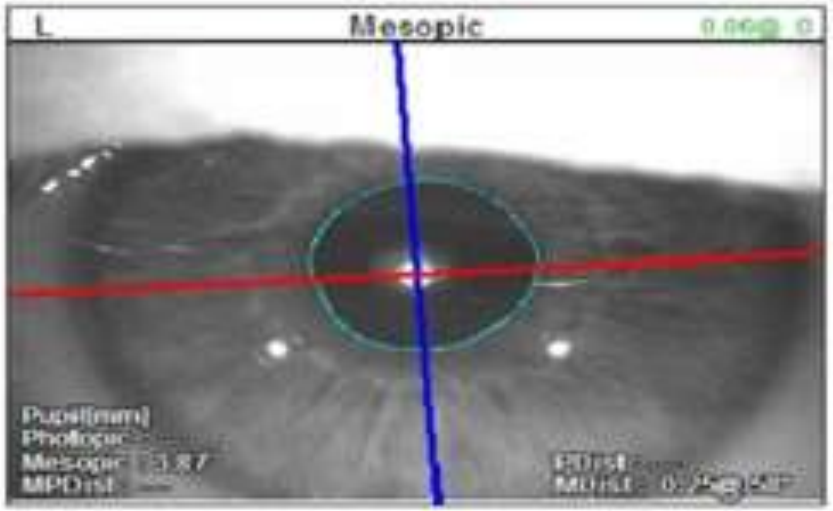
09/08/2016 15:10

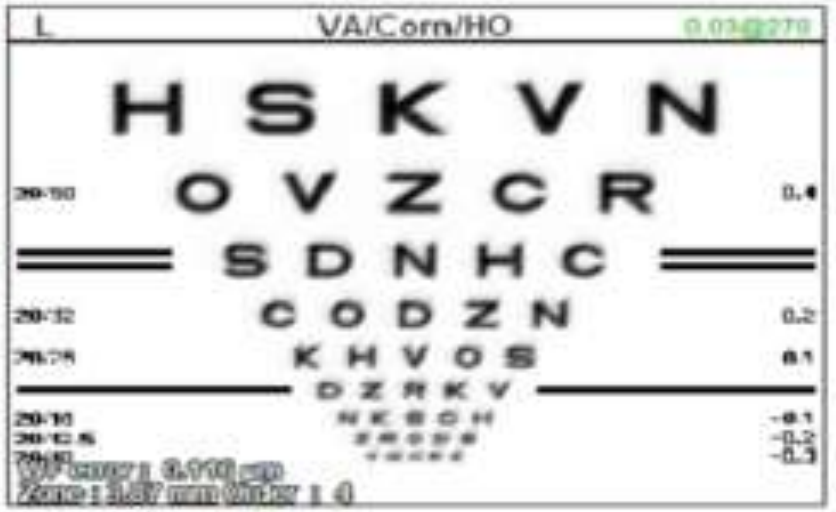
Ver.1.14.01











HOA [μm]: Cornea@3.87mm L

Total, Internal@3.87mm / Order = 4

	T.Sph	T.Coma	T.Tre	HO
Cornea:	0.040	0.070	0.080	0.116
Internal:	0.108	0.142	0.296	0.346

Refraction: VD = 13.75mm

	Sph	Cyl	Axis	RMS
REF	-2.50	-0.00	0	
WF@3.87	-2.25	-0.25	99	0.33D
Diff	+0.25	-0.25	---	

Exam	SPH	CYL	AXIS	Simk Steep	Simk Flat	sK	e(C)	SA@6.0mm	Pupil
1 L	-2.50	0.00	0	42.78(7.89@ 4	42.51(7.94@ 94	-0.27(+0.05)	0.34(-0.12)	O -0.35 C+0.20	— 3.87

Cornea Index: n=1.3375 (Axial), n=1.3750 (Ref./ OPD) Qm:6.2mm λ:587.6nm

56 yo Caucasian Female

- Cataract Surg. 11/13/18 & 11/20/18 Ref goal
  - OD: Symfony ZXROO. -.25
  - OS: Tecnis Multifocal ZKBOO. Plano

Called at on
"Thank you
blurry and r
Call ended g



* Three Month Postop (even though co-managed 100 miles away)
  - OD: 20/25-2. J8
  - OS: 20/20 J2
  - OD: +.75-.75x115. 20/15
  - OS: +.50-.25x90. 20/15

"Near not good enough…distance a bit fuzzy"

56 yo Caucasian Female

- Cataract Surg. 11/13/18 & 11/20/18 Ref goal
  - OD: Symfony ZXROO. -.25
  - OS: Tecnis Multifocal ZKBOO. Plano

- Three Month Postop (even though co-managed 100 miles away)
  - OD: 20/25-2. J8
  - OS: 20/20 J2
  - OD: +.75-.75x115. 20/15
  - OS: +.50-.25x90. 20/15

Ultimately wanted <u>both eyes enhanced</u> even though we did just OD first…Because of image quality and feeling near still not that good after enhancing just OD.

Drifted away for a year

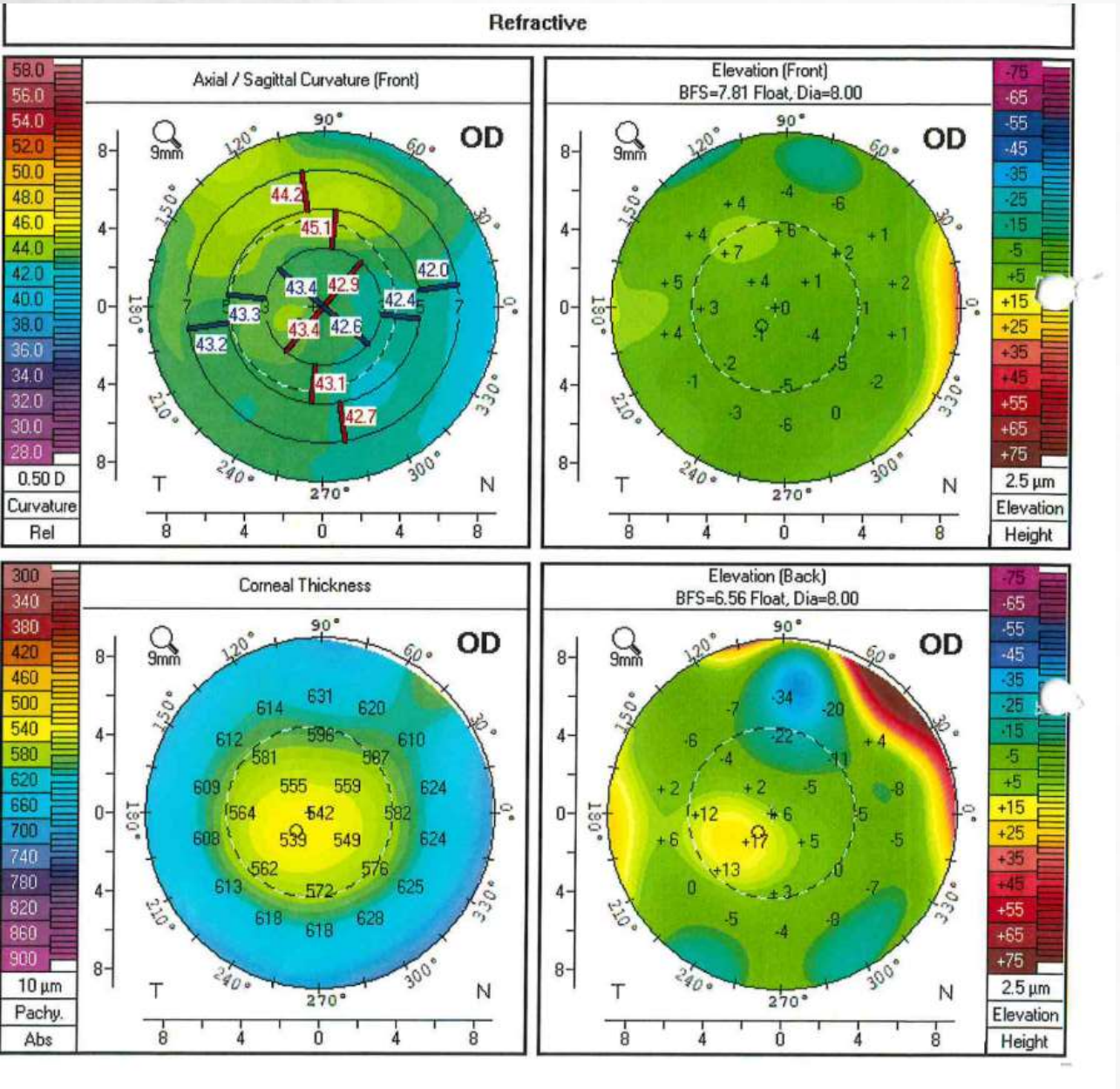
56 yo Caucasian Female

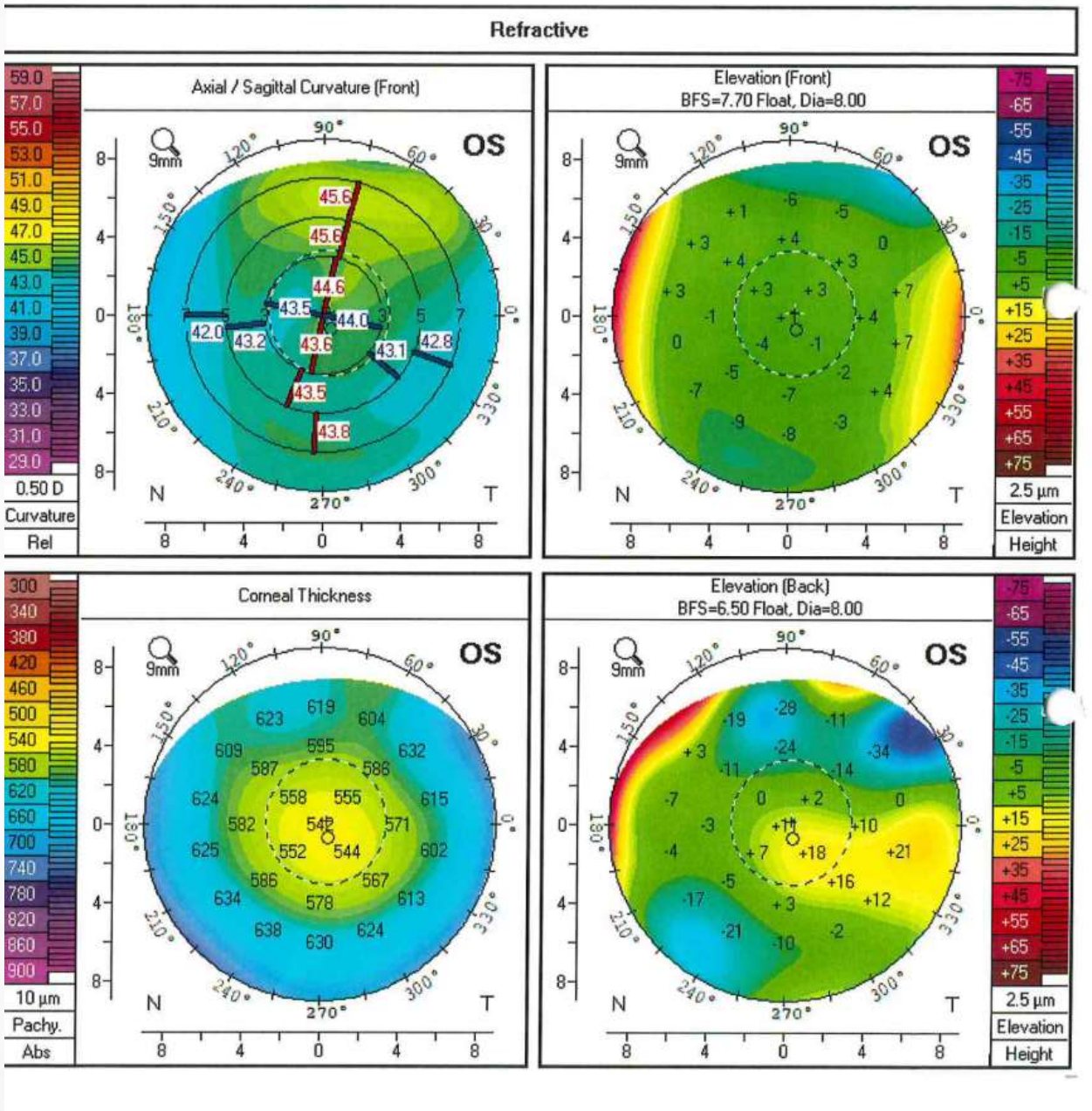


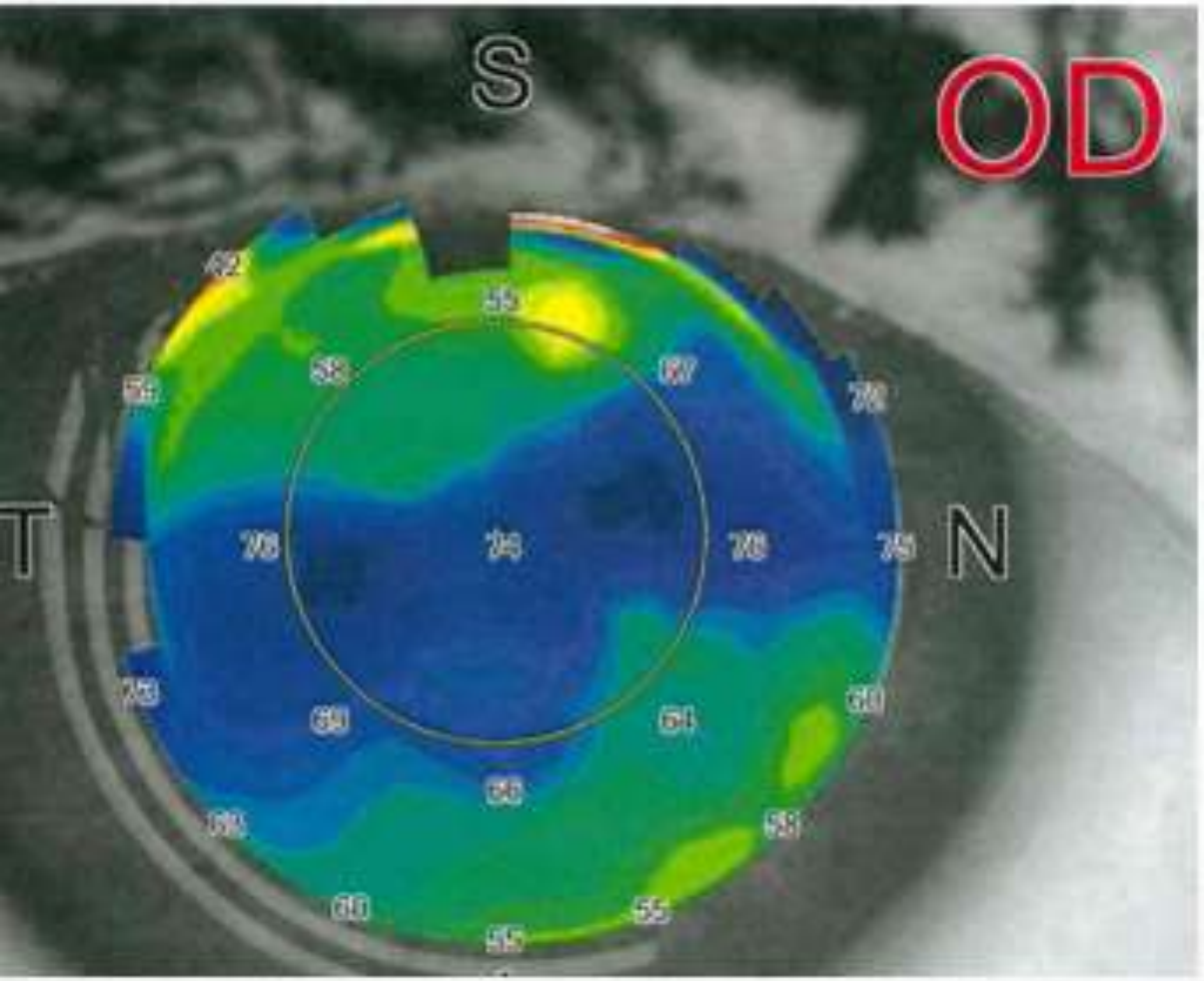
- 11/26/19
- Not happy. Can't see numbers and can't see computer
  +2.00 readers

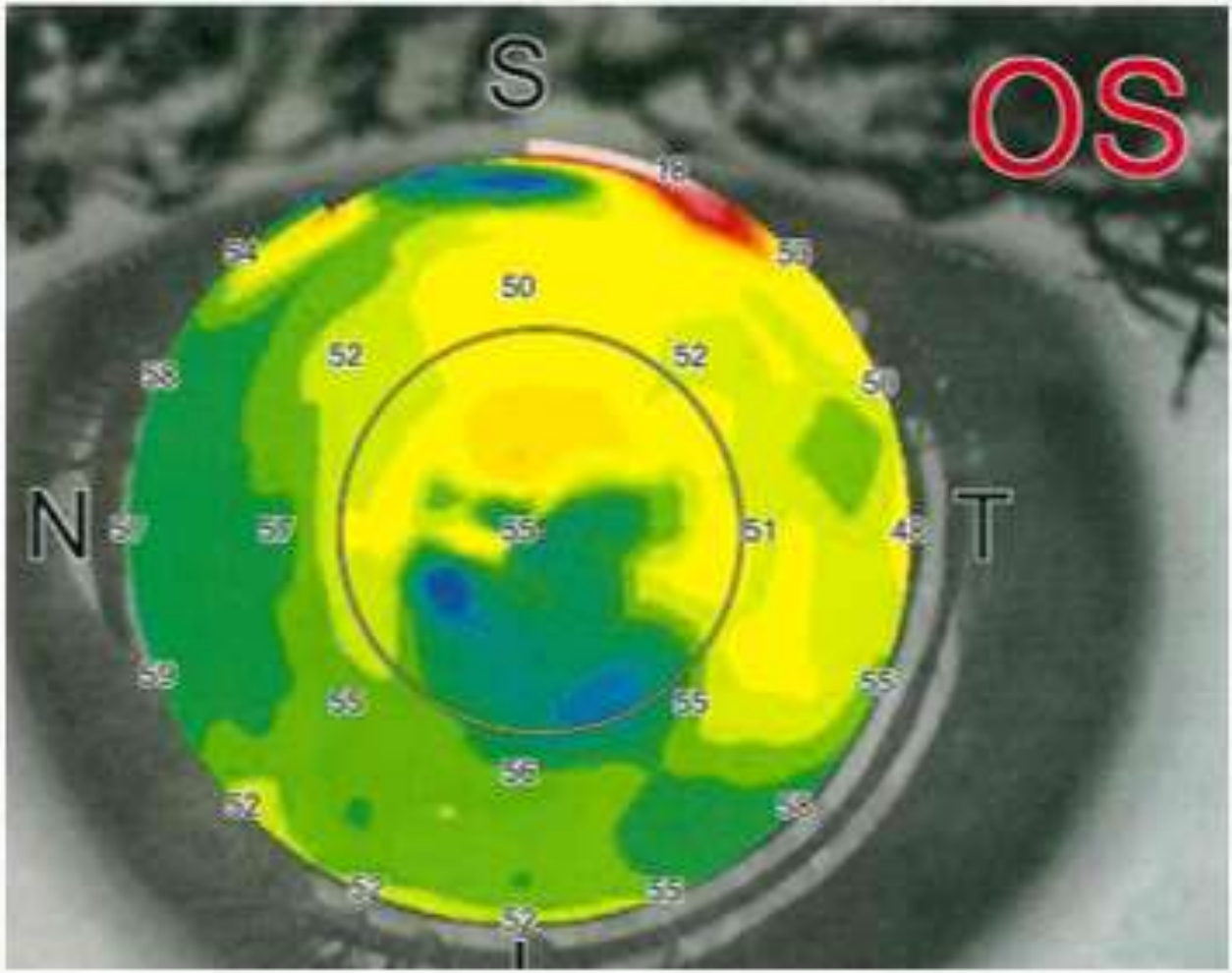
- Exam:
- OD: 20/30 J12 +.25-.50x16 20/30-2
- OS: 20/25 J8 +.25 20/25-2
- Slit lamp looks quite good
- Does have upper plugs now also
- She is super frustrated.

Gas Permeable
Contact Lens
Over-refraction
OD: 20/20 Crisp
OS: 20/20 Crisp


Refractive
Axial / Sagittal Curvature (Front)
OD
9mm
44.2
45.1
42.0
43.4
42.9
42.4
43.3
43.4
42.6
43.2
43.1
42.7
0.50 D
Curvature
Rel
Elevation (Front)
BFS=7.81 Float, Dia=8.00
OD
9mm
2.5 µm
Elevation
Height
Corneal Thickness
OD
9mm
10 µm
Pachy.
Abs
Elevation (Back)
BFS=6.56 Float, Dia=8.00
OD
9mm
2.5 µm
Elevation
Height


Refractive
Axial / Sagittal Curvature (Front)
OS
9mm
45.6
45.6
44.6
43.5
44.0
42.0
43.2
43.6
43.1
42.8
43.5
43.8
0.50 D
Curvature
Rel
Elevation (Front)
BFS=7.70 Float, Dia=8.00
OS
9mm
2.5 µm
Elevation
Height
Corneal Thickness
OS
9mm
10 µm
Pachy.
Abs
Elevation (Back)
BFS=6.50 Float, Dia=8.00
OS
9mm
2.5 µm
Elevation
Height


S
OD
T
N


S
OS
N
T
I

56 yo Caucasian Female



- 11/26/19
- Not happy. Can't see numbers and can't see computer
  +2.00 readers

- Exam:
- OD: 20/30 J12 +.25-.50x16. 20/30-2
- OS: 20/25 J8 +.25 20/25-2
- Slit lamp looks quite good
- Does have upper plugs now also
- She is super frustrated.

PTK OU

OD: 20/20 Crisp	J3
OS: 20/20 Crisp	J2
OU:20/15 Crisp	J1

Sometimes 20/20 is Not Enough

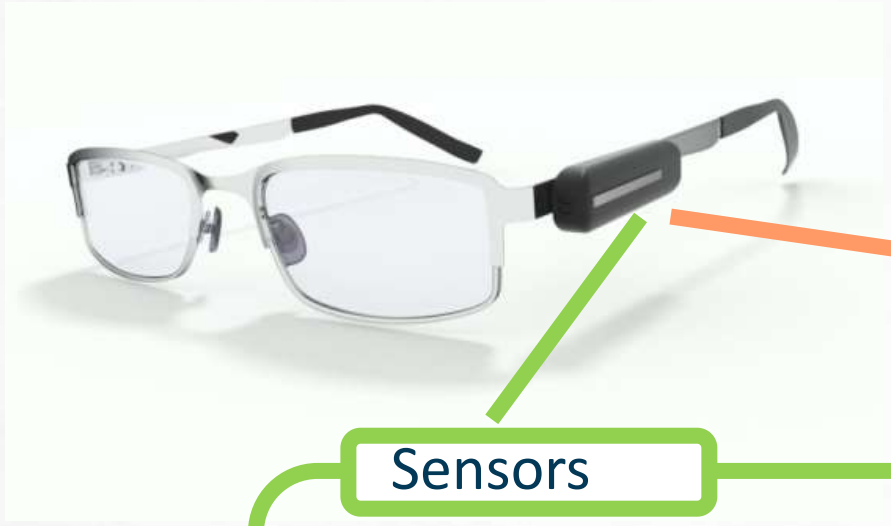
- Small corrections matter…show them…they can decide
- Dry eye matters
- Surface irregularities matter

Gas permeable contact lens over-refraction

A lot of Information…Repeat…Keep In Touch



Visual Lifestyle Monitor



Interface

Low-energy Bluetooth

Button

Buzzer

Indicator

Sensors

Distance

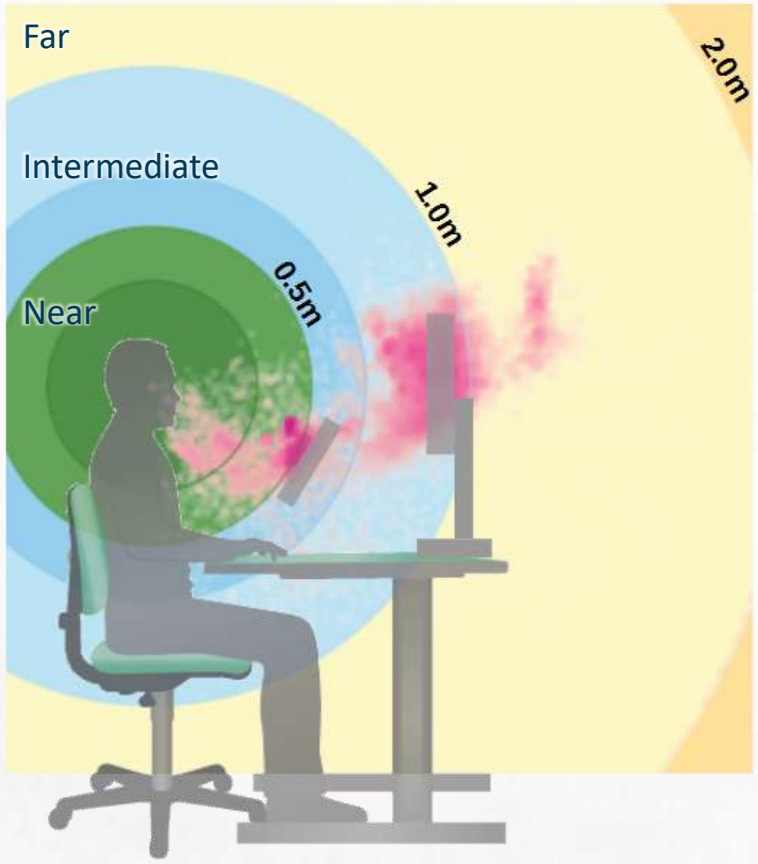
Ambient light and color

Accelerometer (Head motion)

Gyroscope (Head positioning)

Magnetometer

Distance and Temporal Report

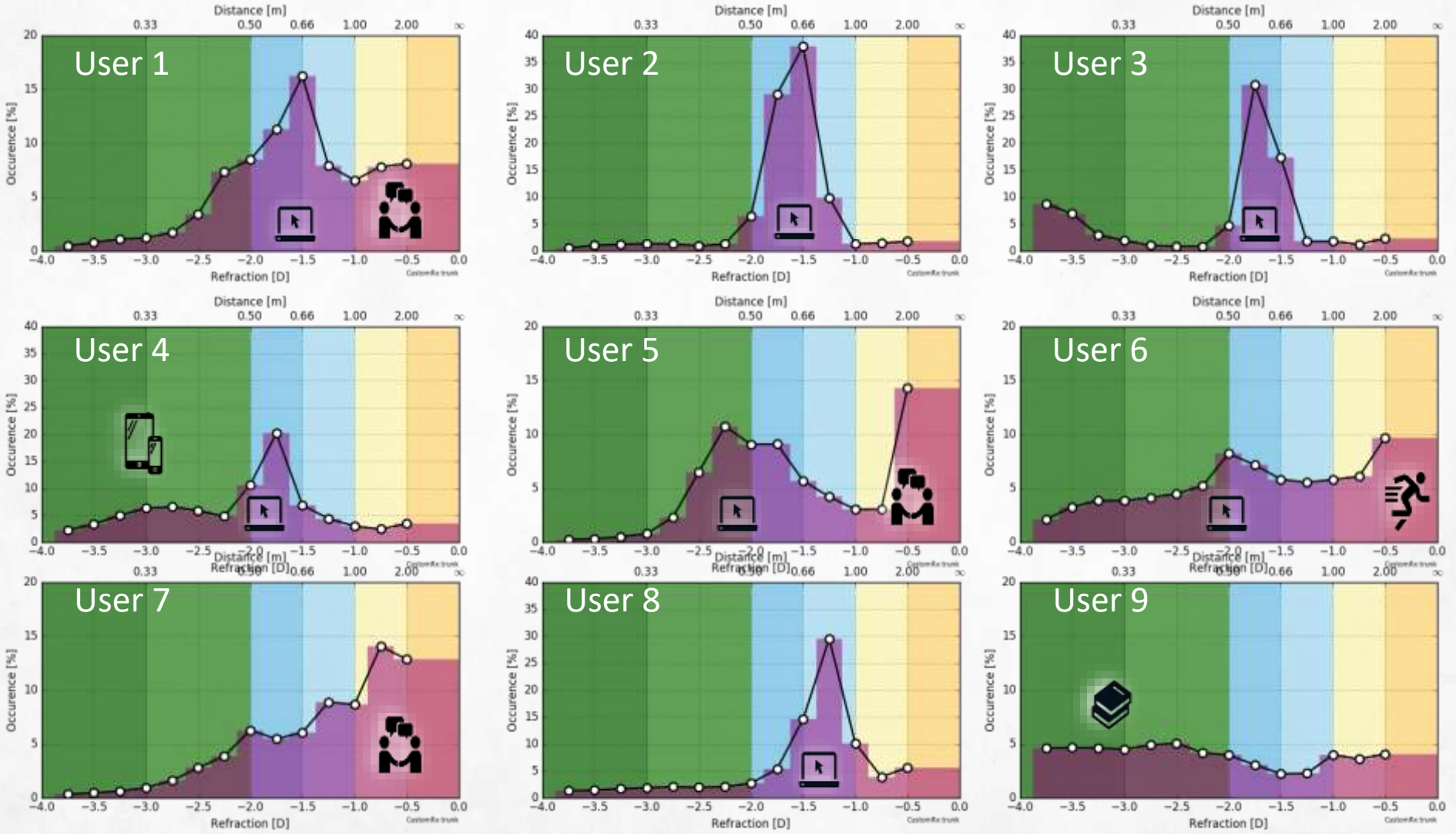


Office equipment is shown for illustrative purpose only

Measurements can be mapped on two-dimensional distribution of viewing distances

Example shows the distribution of typical vision needs in the office

Different User Profiles



Do you talk about **Neural Adaptation** after cataract surgery?

- Quick phase seconds-minutes
- Longer phase months-year







Multiple Steps-Plus Time

1. Advanced implant
2. Laser fine tune
3. YAG Laser capsulotomy

3 Steps

+

1 Year

Neural adaptation

65th Rochester Ophthalmology Conference

The Premium IOL Patient Journey

Important Keys to Success

Thank You!

Vance Thompson, MD
Founder, Vance Thompson Vision
Professor of Ophthalmology, University of South Dakota, Sanford School of Medicine
Sioux Falls, South Dakota, USA