

Cataract Surgery Clinical Pearls:

Managing Expectations &
Lifestyle Considerations
for Your Patients

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EYE INSTITUTE

TORONTO | OTTAWA

Meet the Speakers



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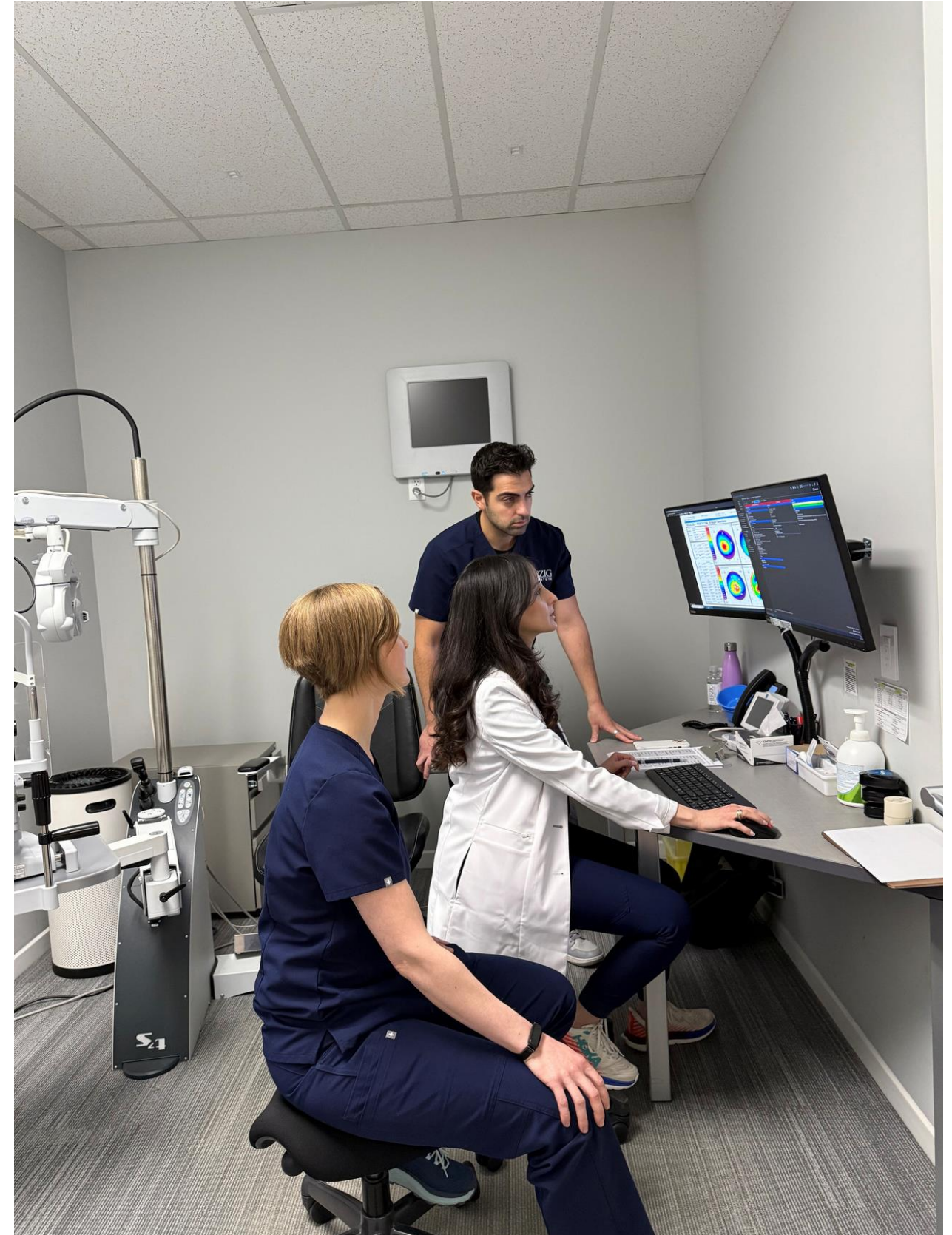


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Toronto

Cataract Surgery

Quick Facts

- Most common surgery in medicine
- Tremendous technological advances
- Surgical techniques
- Intraocular lens choices
- High success rate >99%
- Low complication rate <1%



Cataract Surgery

Goals

Traditional Goal

- Restore the clarity of vision

Modern Goal

- Restore clarity of vision
- Correct refractive error
- Offer freedom from glasses & contact lenses



Cataract Surgery

Patient Goals

Lifestyle Considerations

What is the Refractive Goal?

Reliance on near vision?



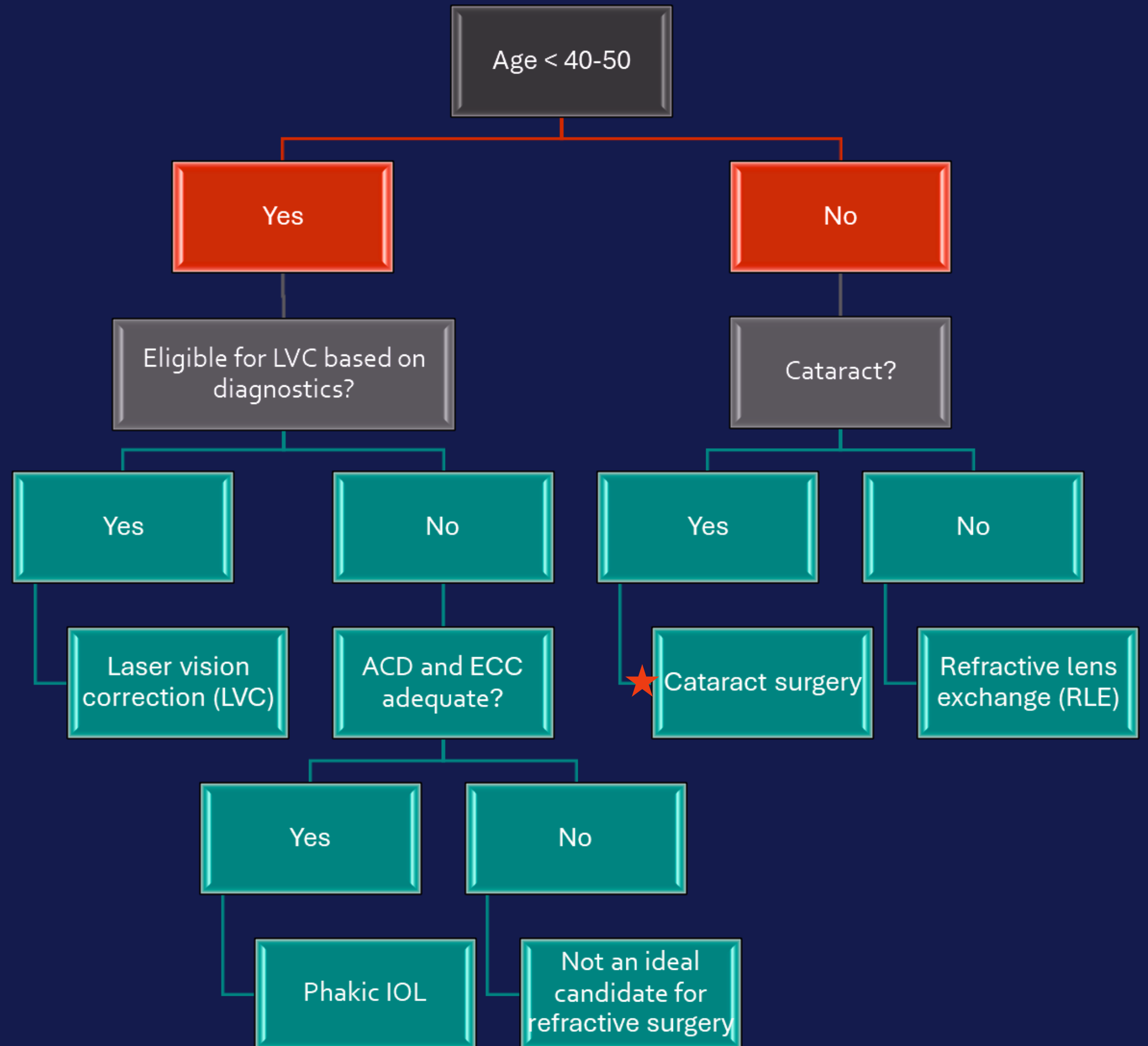
Pre-existing myopia?
Monovision?

Night driving important?

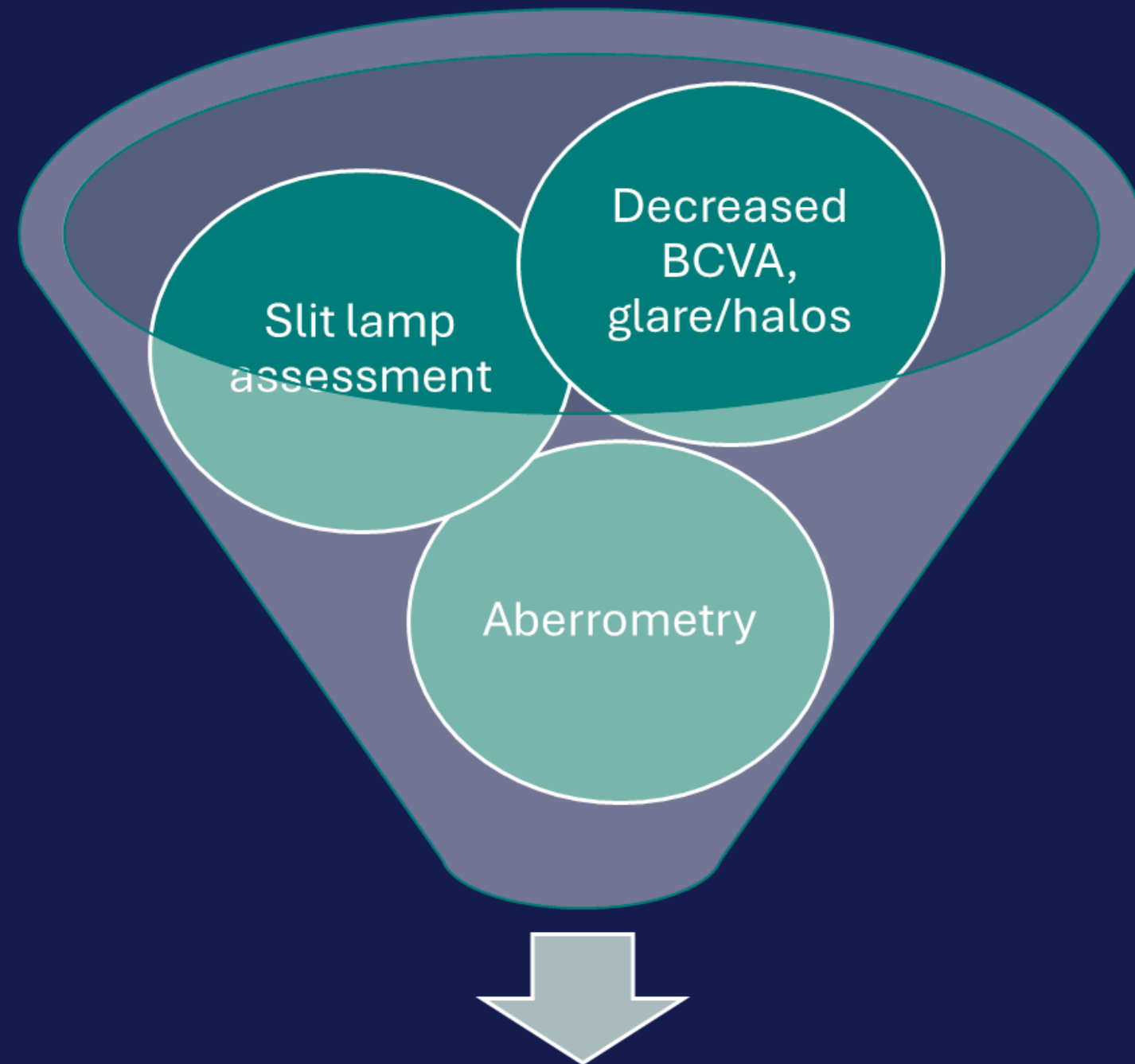
Outdoor activities?

Desire for spectacle independence?

Mindset of Refractive Surgeon



Mindset of Refractive Surgeon



Does the patient have a visually significant cataract?

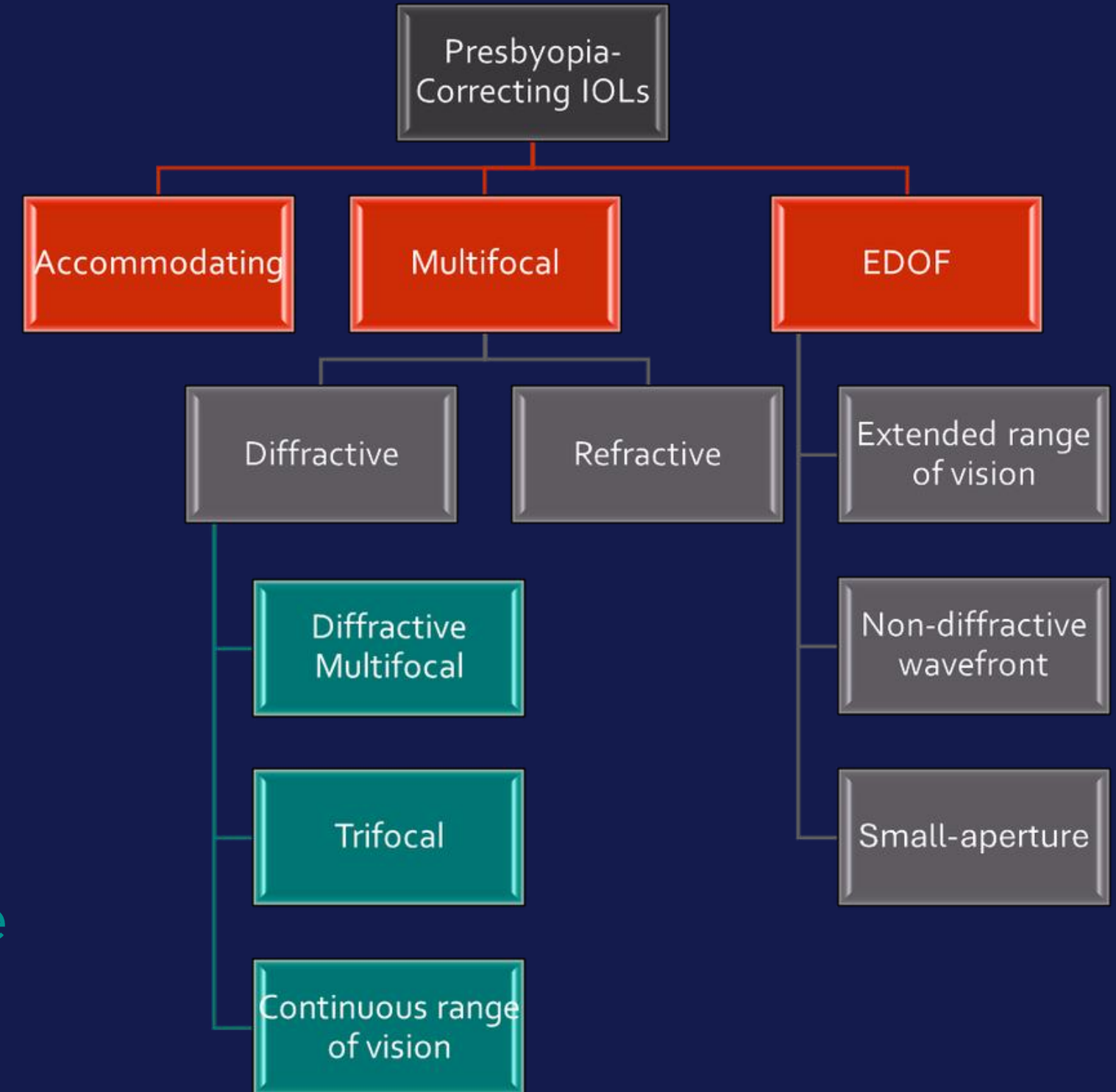
Mindset of Refractive Surgeon

Monofocal

Refractive /
Monofocal +

Consider:

- Visual goals
- Ocular health
- Glaucoma
- Retinal disease
- Amblyopia
- Measurements
- Angle alpha
- Spherical aberration



Refractive Cataract Surgery

Diagnostics

- Topography
 - HOAs, dry eye
- Tomography (Pentacam)
- Anterion
 - Uses SS-OCT
- Biometry
 - Lenstar, Anterion and Pentacam AXL
 - Use the best IOL formulas
- iTrace
 - Combines WF Aberrometry and Topography



Refractive Cataract Surgery

Diagnostics

- Scheimpflug technology
- Biomechanical evaluation of cornea
- Ray-tracing aberrometry
- Hartmann-Shack aberrometry
 - Device also provides autorefractometry and pupillometry
- Optical biometry (optical low coherence reflectometry)
- Optical coherence tomography
- Specular microscopy



Refractive Cataract Surgery

FLACS

- Intrastromal AKs
- Toric IOL alignment
- Lens fragmentation
 - Hard nuclei, Fuch's dystrophy, PXF

Intraoperative Aberrometry (ORA)

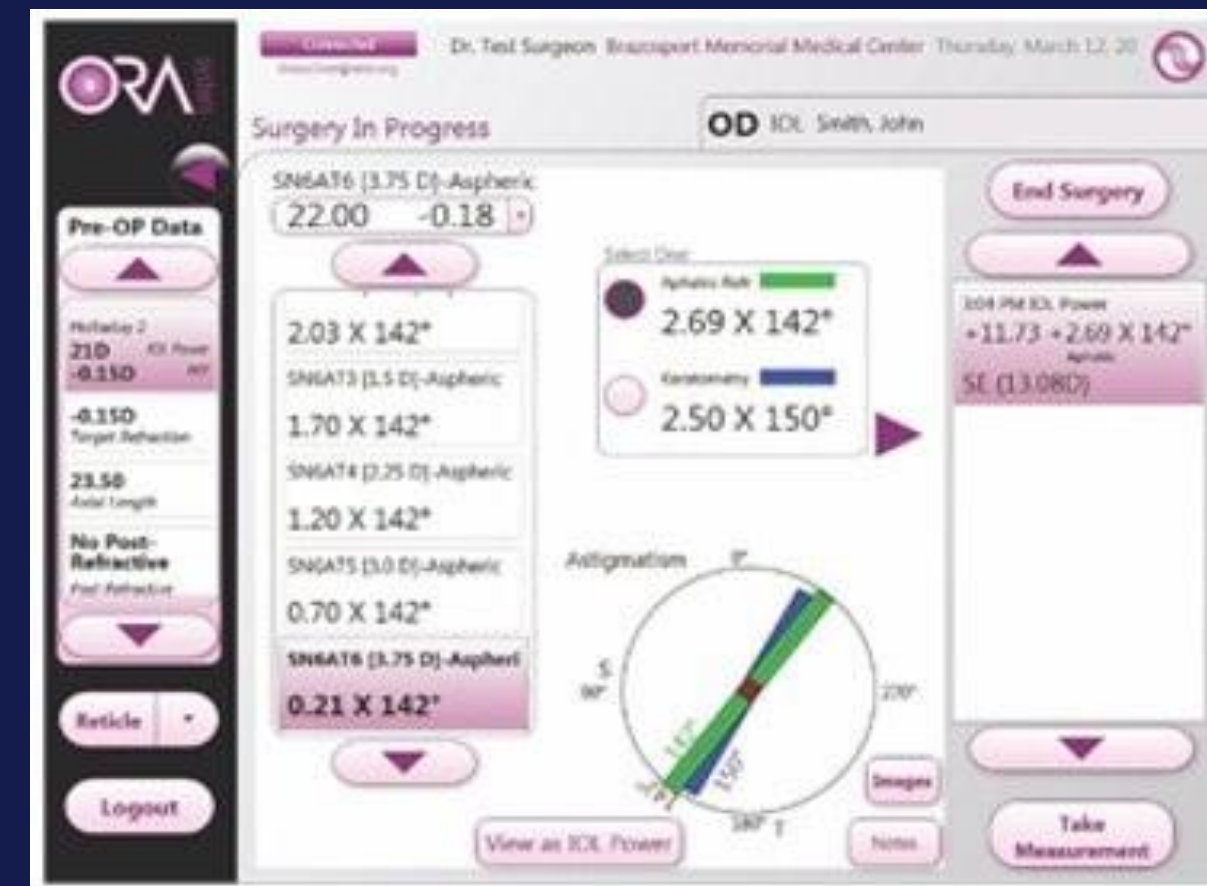
Enhancement procedures

- LVC
- Piggyback IOLs
- IOL exchange



ORA™ System: Optiwave Refractive Analysis

- ORA provides real-time intraoperative IOL power verification
- Outcomes within $\pm 0.50D$:
 - >90% with ORA
 - ~75% without ORA
- ODs can participate in ORA Data Collection Program, through post-op data submission



Catalys[®] Precision Laser System

Femtosecond laser coupled with OCT technology allowing for precise execution of:

- Capsulotomy
- Lens segmentation and softening
- Accurate incisions
 - Useful for treatment of astigmatism <1.0D where toric IOL is not indicated
- Cataract incisions



Advanced IOL Options

Tecnis



Synergy



Mplus



AcrySof



enVista



PanOptix



Eyhance



FineVision



Symphony



Vivity



Comfort



IC8



AT LISA Tri



RayOne Galaxy



PureSee



PanOptix Pro



EMV



LAL



Tecnis Toric



PanOptix Toric



Symphony Toric



AcrySof Toric



Vivity Toric



Our Approach to Precision Refractive Cataract surgery

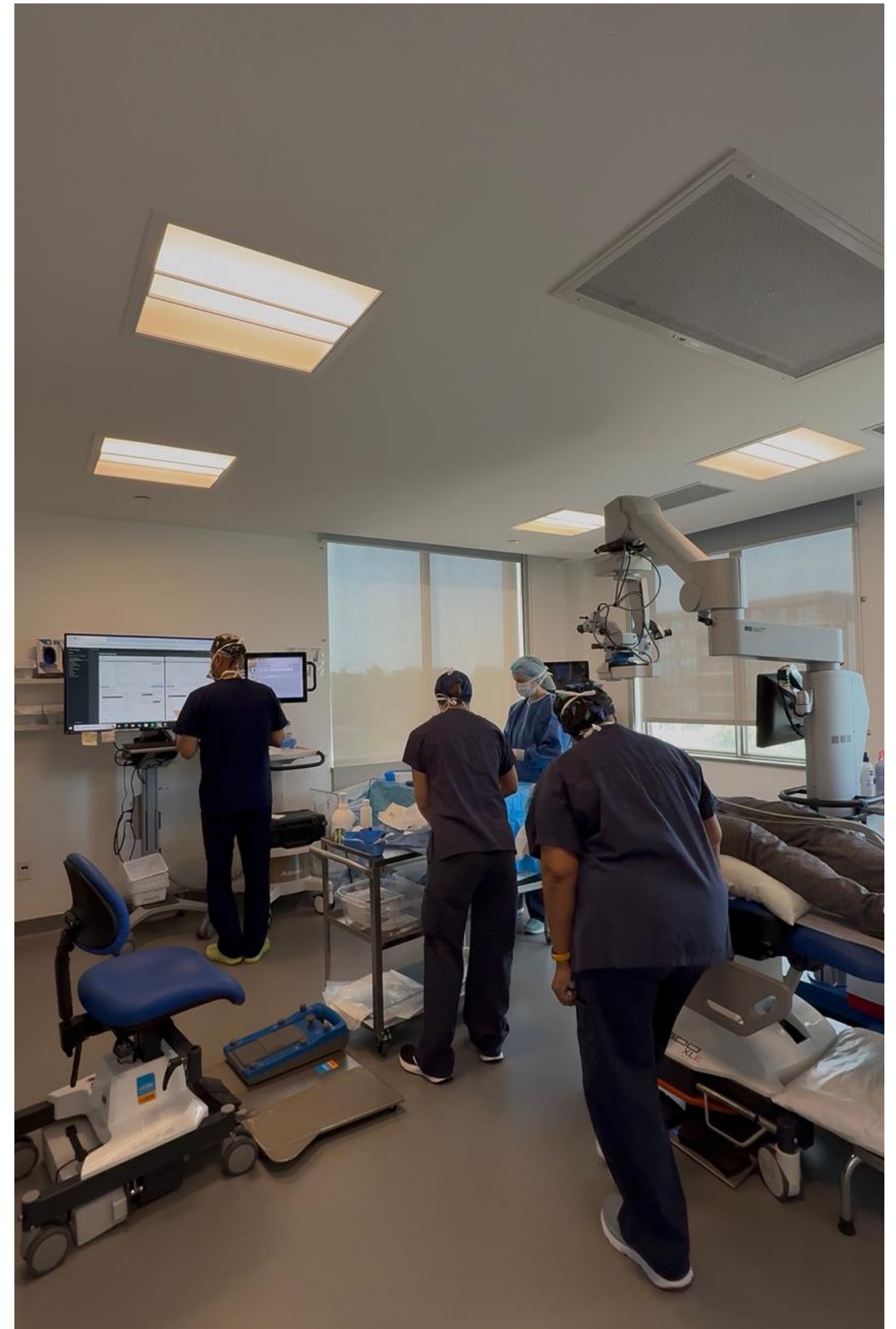
Patient wants DV, INV and NV but doesn't want the risk of night driving issues

- TECNIS Eyhance™
 - Best night vision with no loss of contrast
 - Requires mini-MV for good NV

Patient wants best NV and not concerned re night vision

- Galaxy IOL
 - Best continuous NV and INV with no gaps

Some patients prefer DV only, MV or NV OU



Monofocal Lenses

Quick Facts

- Most commonly implanted lens
- Single point of focus
- Non-toric and toric versions available
- Can choose between distance, intermediate, or near
- Most choose distance correction
- Usually requires some postoperative spectacle correction
- Monovision/blended vision is possible
 - Good option for those with natural monovision or previously tried monovision
 - Preop monovision CL trial is helpful



Toric Lenses

Quick Facts

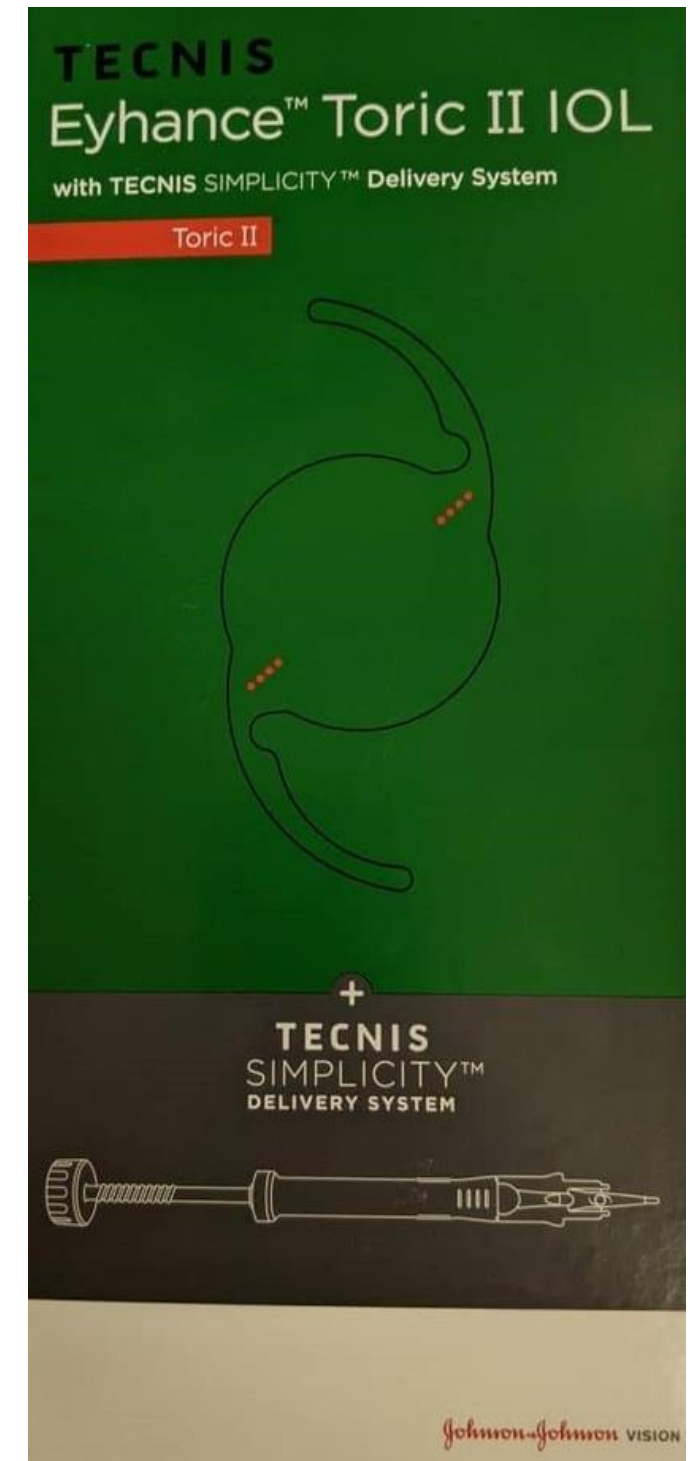
- TORIC IOL's correct regular astigmatism at the lenticular plane
- May not be suitable for irregular astigmatism (i.e. advanced keratoconus) or zonulopathy (e.g. PXF, ocular trauma)
- Reduces dependency on glasses even for spherical equivalence
- Some IOL's correct as low as 0.5D of cyl



Monofocal+

“New” Lens Category

- TECNIS Eyhance™ lens (J&J) – 1st lens in the category
 - Slightly extends depth of focus over traditional monofocal lens
- Increased steepness in central 2mm zone – blends to periphery
 - +0.50 ‘add’
- Allows for distance and “arms-length” intermediate vision
- May be suitable in LVC patients or other ocular comorbidities
- May use for blended vision
 - Aim -0.50 to -1.25 in non-dominant
- Low side effect profile



Multifocal Lenses

Quick Facts

- Seeks to provide good continuous range of vision (far to near)
- Both diffractive and refractive lens designs exist
- Greatly reduces the need for glasses
- Special zones for power at different ranges



RayOne Galaxy

Lens Spotlight

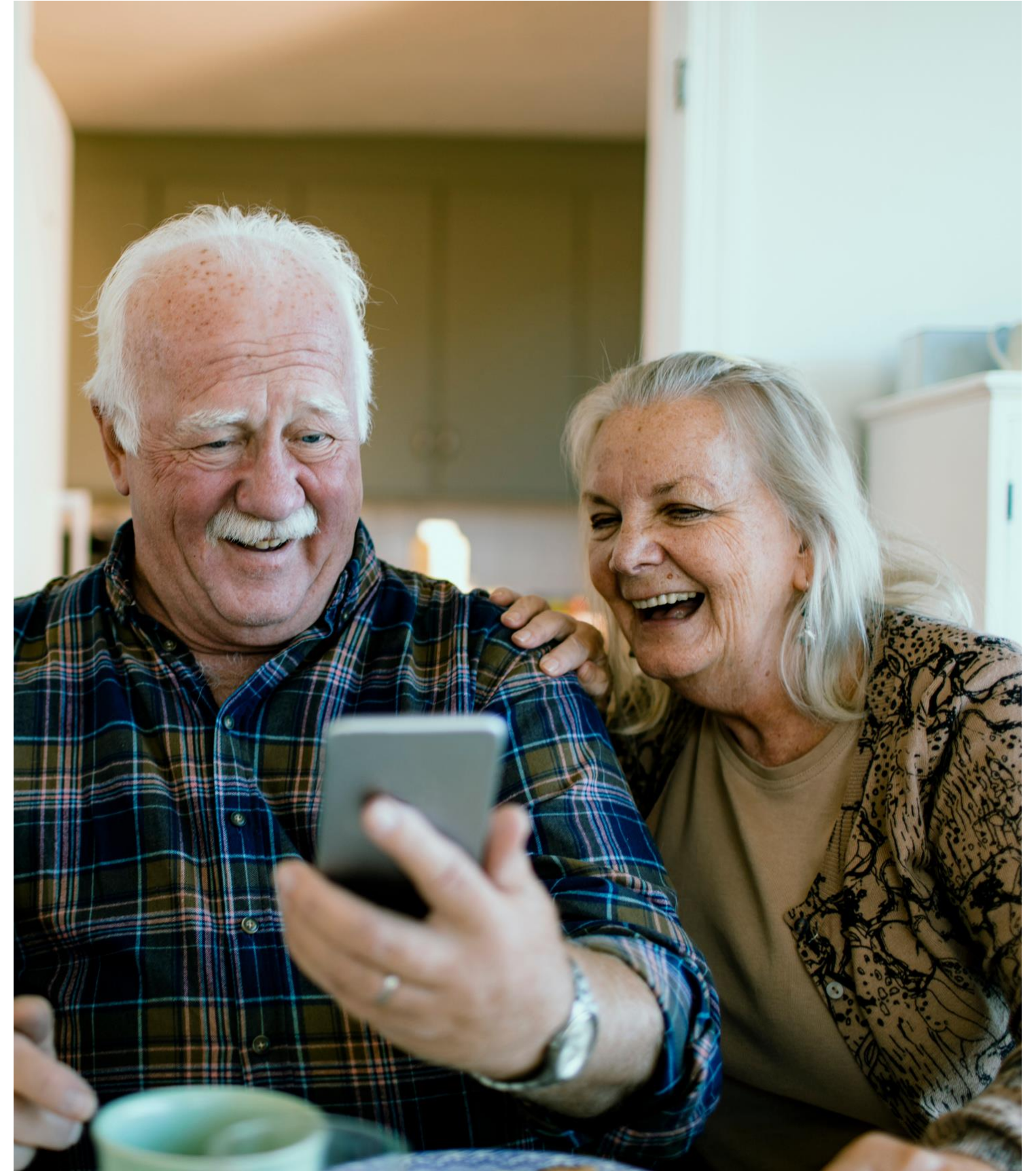
- Advanced spiral optic IOL designed to precisely manage incoming light, supporting distance, intermediate, and near vision with reduced reliance on glasses
- Sends 100% of available light to the retina, helping maintain brightness even in low-light conditions
- Designed to significantly reduce halos and glare, particularly for night driving, compared to some advanced IOLs
- Broader functional vision range supporting everyday activities such as driving, computer use, cooking, reading, and mobile device use
- Alternative to monofocal IOLs for patients seeking greater spectacle independence



Refractive Cataract Surgery

More than just Multifocal IOLs

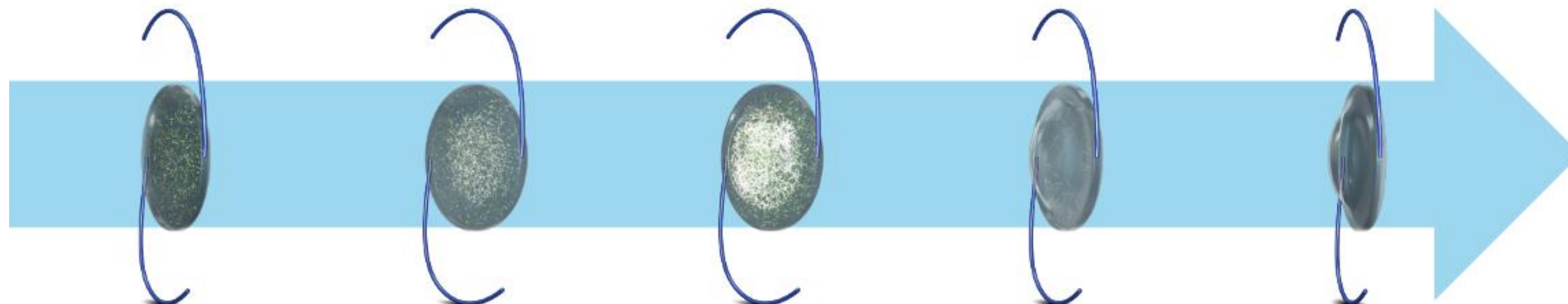
- Pre-op needs/goals assessment
- Enhanced diagnostics
- Intraoperative aberrometry
- FLACS
- Post-op enhancement



RxSight Light Adjustable Lens™ (LAL®)

Fixed vs. Adjustable Lenses

- All other IOLs (monofocal, toric, trifocal) are FIXED lenses
- The RxSight Light Adjustable Lens™ (LAL®) is the first and only lens ADJUSTABLE after cataract surgery.
- Adjustable monofocal technology reduced possibility of issues with glare and halos.
- Post-surgical lens adjustment is similar to a glasses or contacts fitting process.



RxSight Light Adjustable Lens™ (LAL®)

Newest IOL Technology

- Prescription can be changed AFTER cataract surgery
- Changes shape in response to UV light, allows for fine tuning of prescription
- Starting 3-4 weeks following cataract surgery, UV treatments applied
- Continues for 3-5 treatments until prescription on target, then lock it in





Light treatments are
painless, non-invasive, and
take approximately 90
seconds.

INITIAL

at least 17 days after surgery

SECONDARY

at least 3 days after first

ADDITIONAL

at least 3 days after each prior

Case Studies

Case #1: 56-year-old male

Ocular History: wears soft contact lenses, has some dry eye in mornings, (+) ocular allergies

Medical History: (+) migraines, Meds: sumatriptan, aimovig

Occupation: historian

Hobbies: reading, running

Motivation: practical implications of travel, media appearances

How many hours per day do you spend:

- Driving: ½ hour
- On Computer: 2 hours
- Reading books/phone: 4 hours

Preferences:

- I want to wear glasses as little as possible
- Night vision is extremely important to me, and I require the best night vision possible

Case #1: Diagnostics

MRx: OD -6.00-0.50x140 20/20

OS -5.75-0.50x075 20/20

Dominance: OD (but does NOT like +1.50 OS, blurry vision and worries about triggering migraine)

IOP: OD 15

OS 15

Pachymetry: OD 569um

OS 568um

Pupil Size: DARK OD 5.35

OS 5.38

Anterior Chamber Depth (ACD): OD 2.73

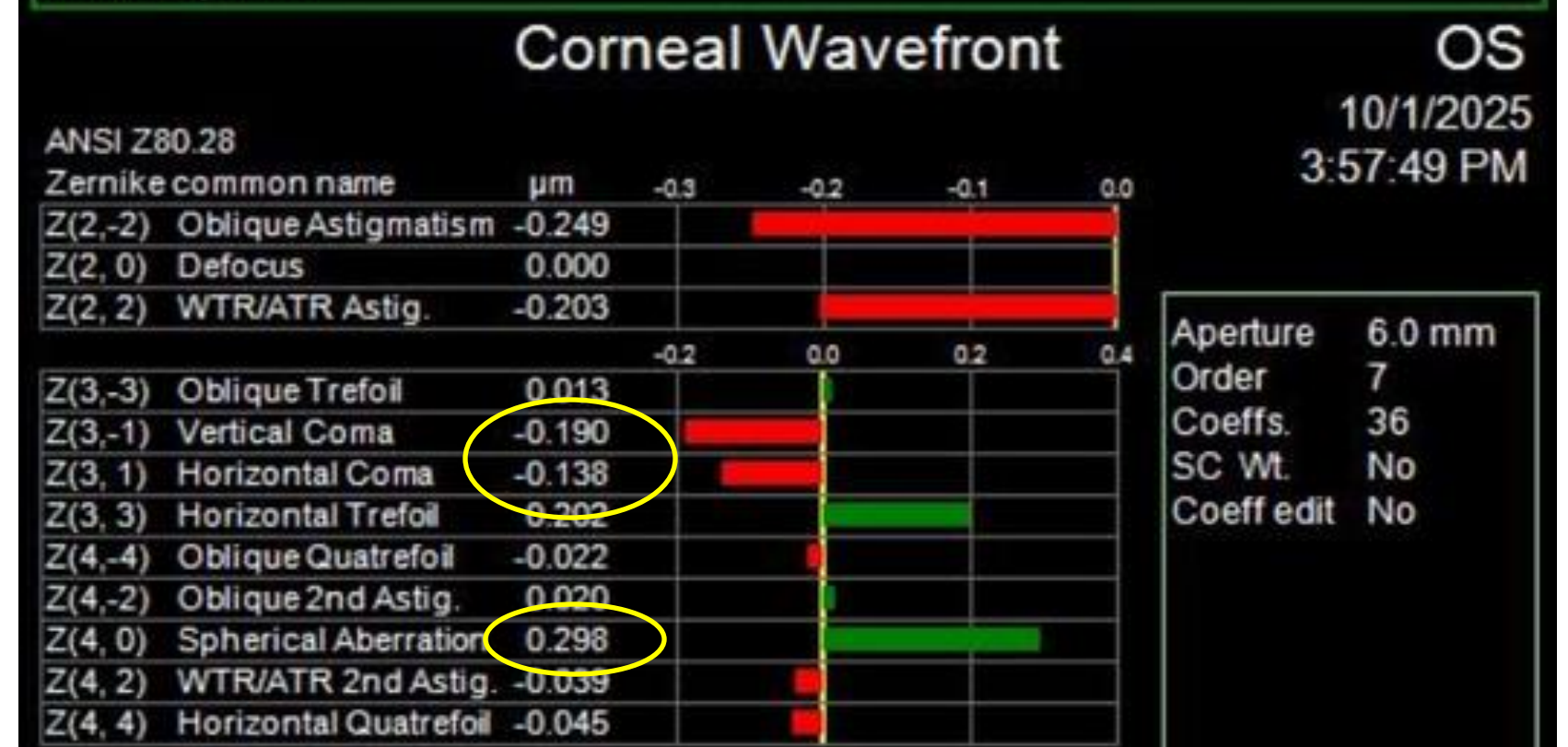
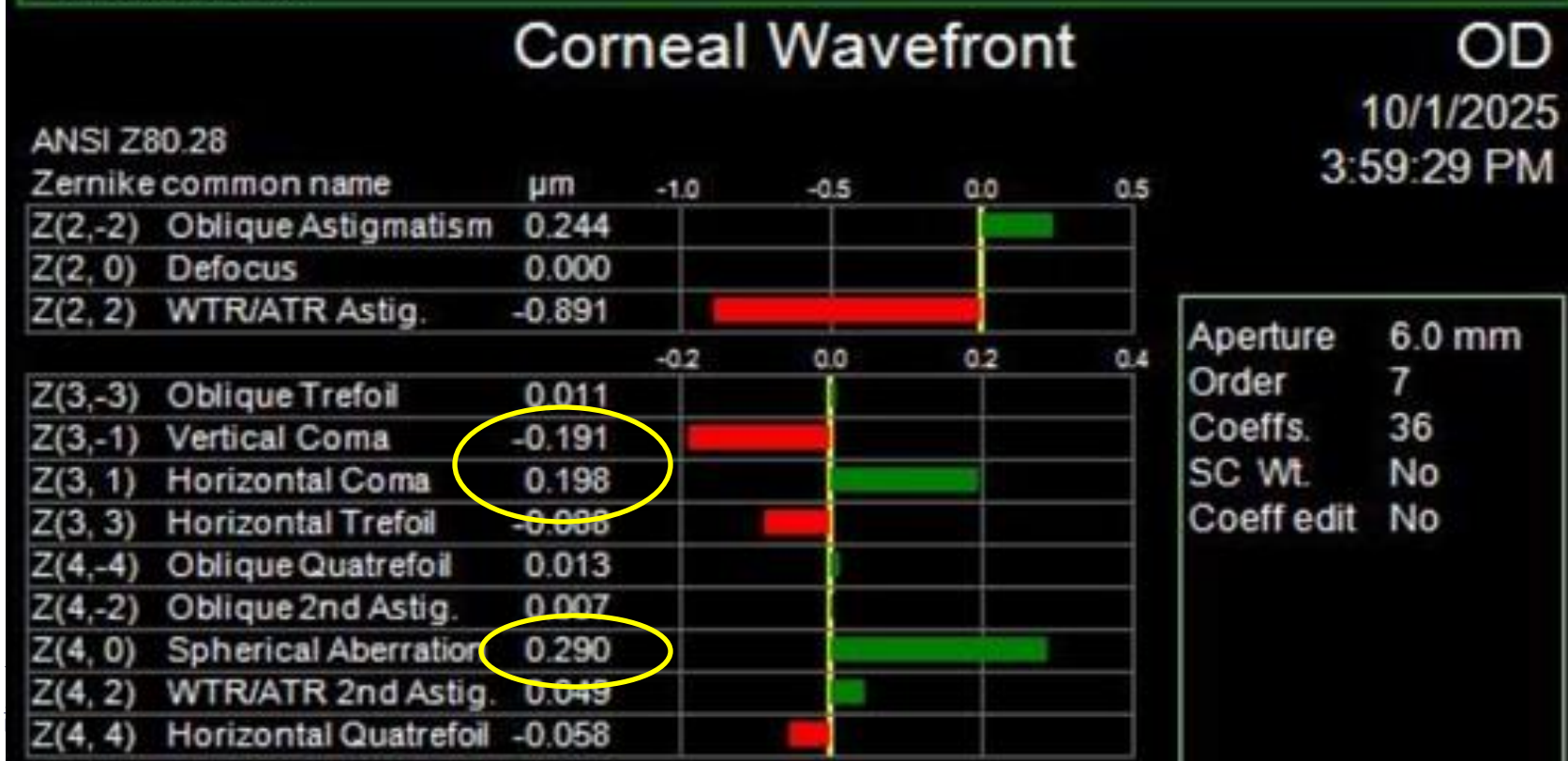
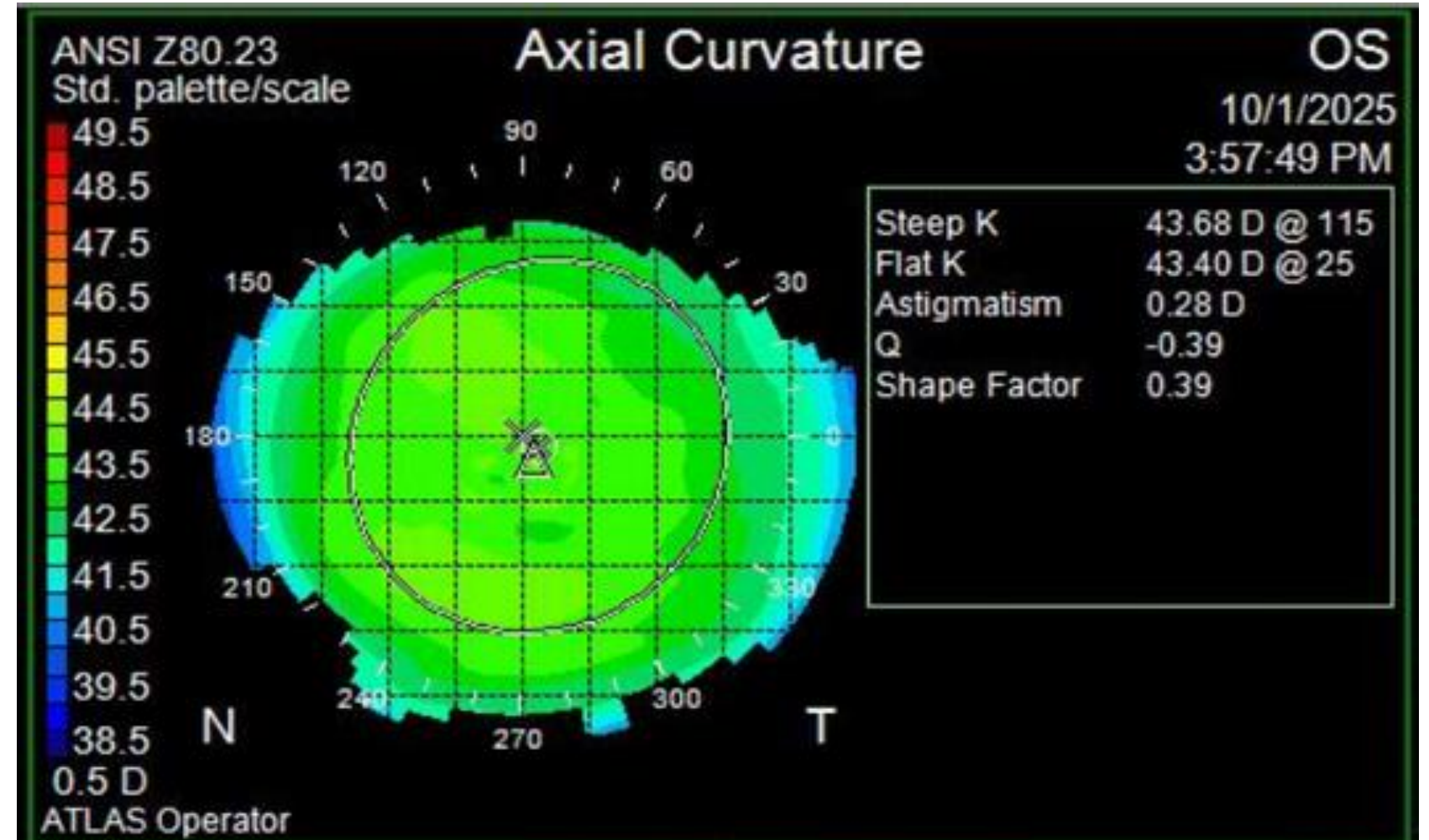
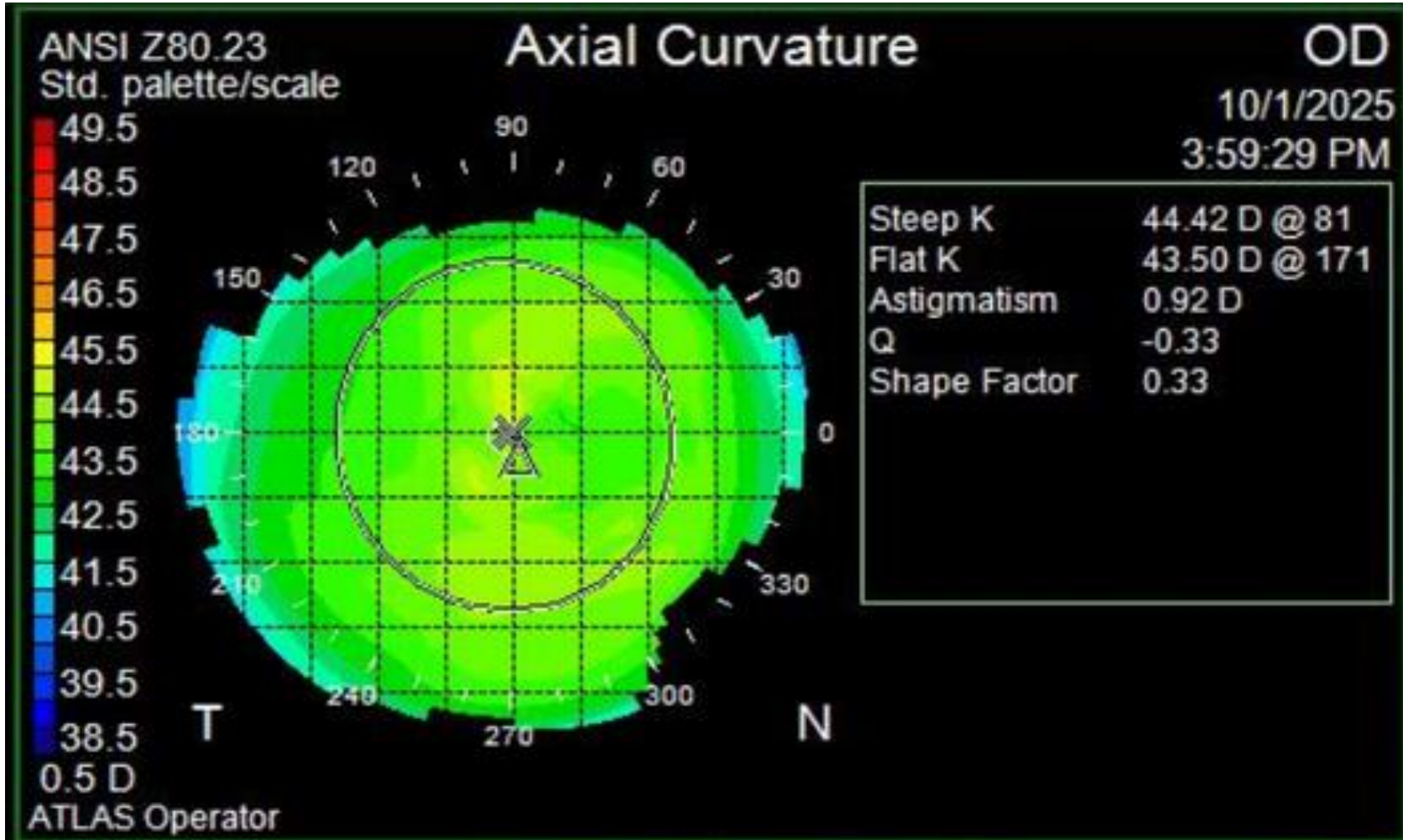
OS 2.68

Slit Lamp: OD cortical lens changes

OS clear

C/D OD 0.10 OS 0.10

Case #1: Diagnostics



Case #1: The Plan

Recommend RLE/MFIOL OU

- Discussed glare/haloes
- Refer to Retinal Specialist for pre-op screening (received prophylactic laser around lattice OS)

Case #1: 1 month Post-Op (RLE/MFIOL OU)

CC: vision is great! Intermittent FB sensation

UCDVA: 20/20 OD/OS/OU

UCNVA: J1- OD/OS/OU at 40cm, J1 OU at 60cm

MRx: OD +0.25-0.50x030: OS Plano sphere

IOP: OD 16; OS 17

Slit Lamp: unremarkable OU

Case #2: 59-year-old female

Ocular History: LASIK OU 28 years ago

Occupation: Healthcare provider

Hobbies: travel, hiking, cycling, food, wine

Motivation: constant progressive blurry vision, now need glasses to see faces and plate clearly

How many hours per day do you spend:

- Driving: 1-3
- On Computer: 1-3
- Reading books/phone: 1-3

Preferences:

- I want to wear glasses as little as possible
- Night vision is extremely important to me, and I require the best night vision possible

Case #2: Diagnostics

MRx: OD +0.75-1.00x005 20/30+

OS +1.25-0.25x045 20/25

Dominance: OD x 2, accepted +1.25

OS with no issues

IOP: OD 14

OS 15

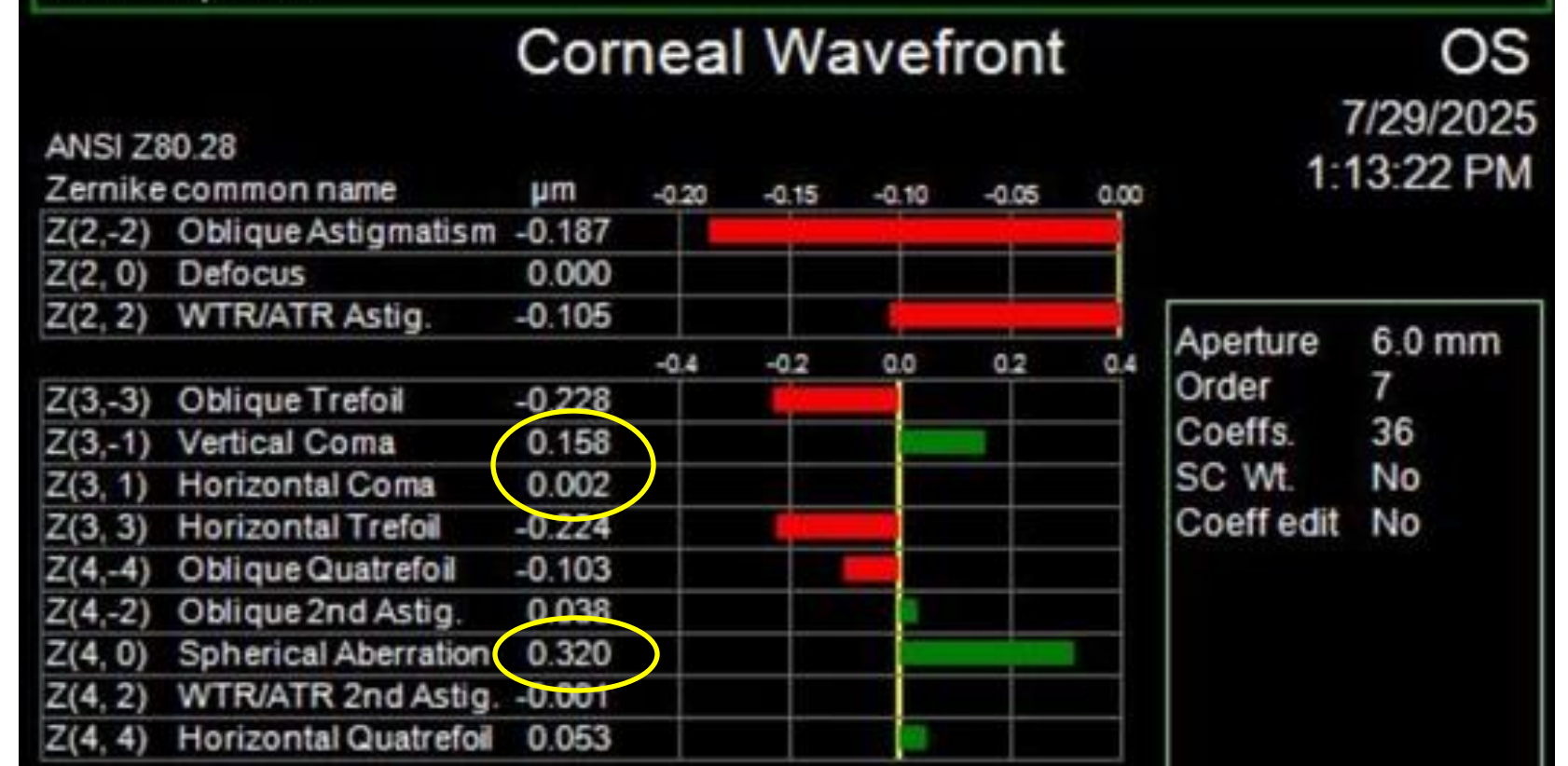
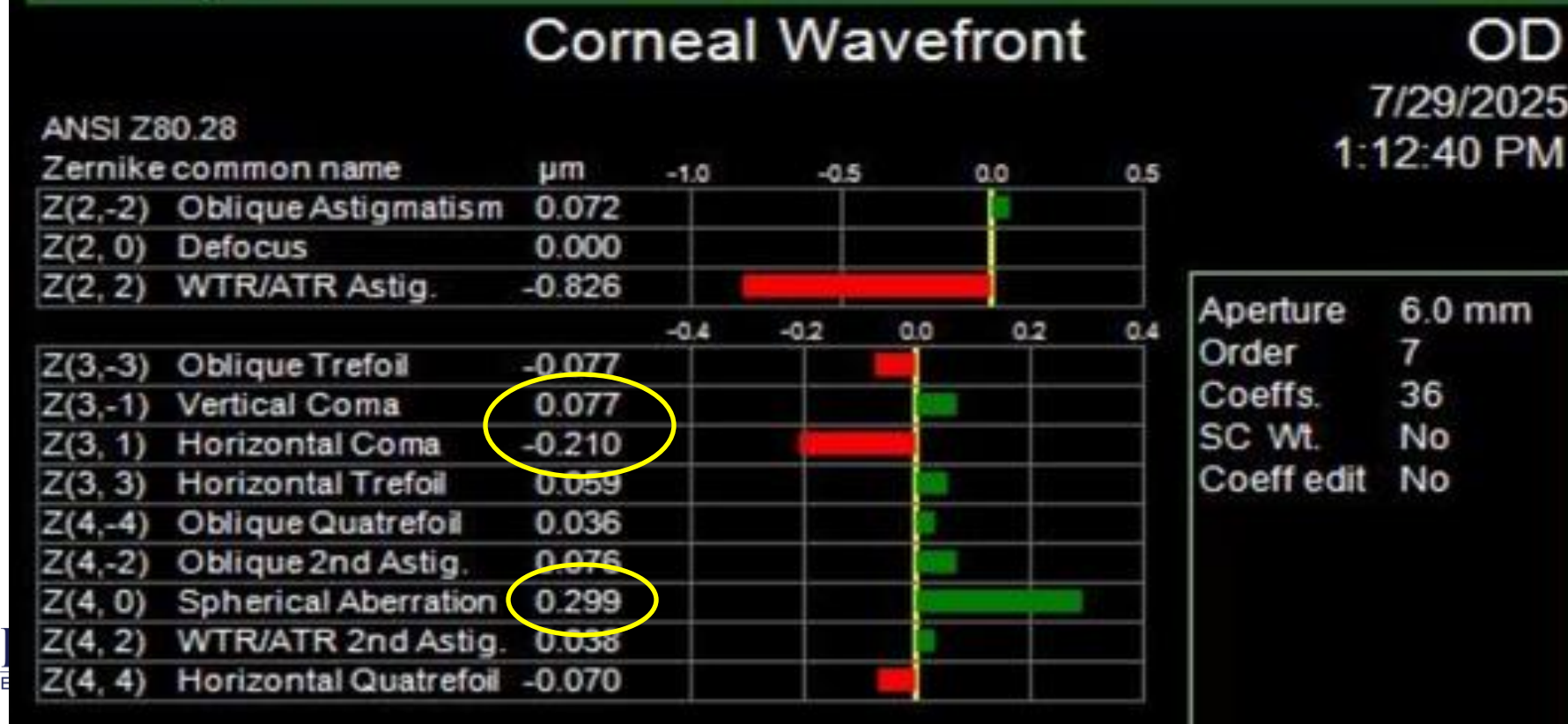
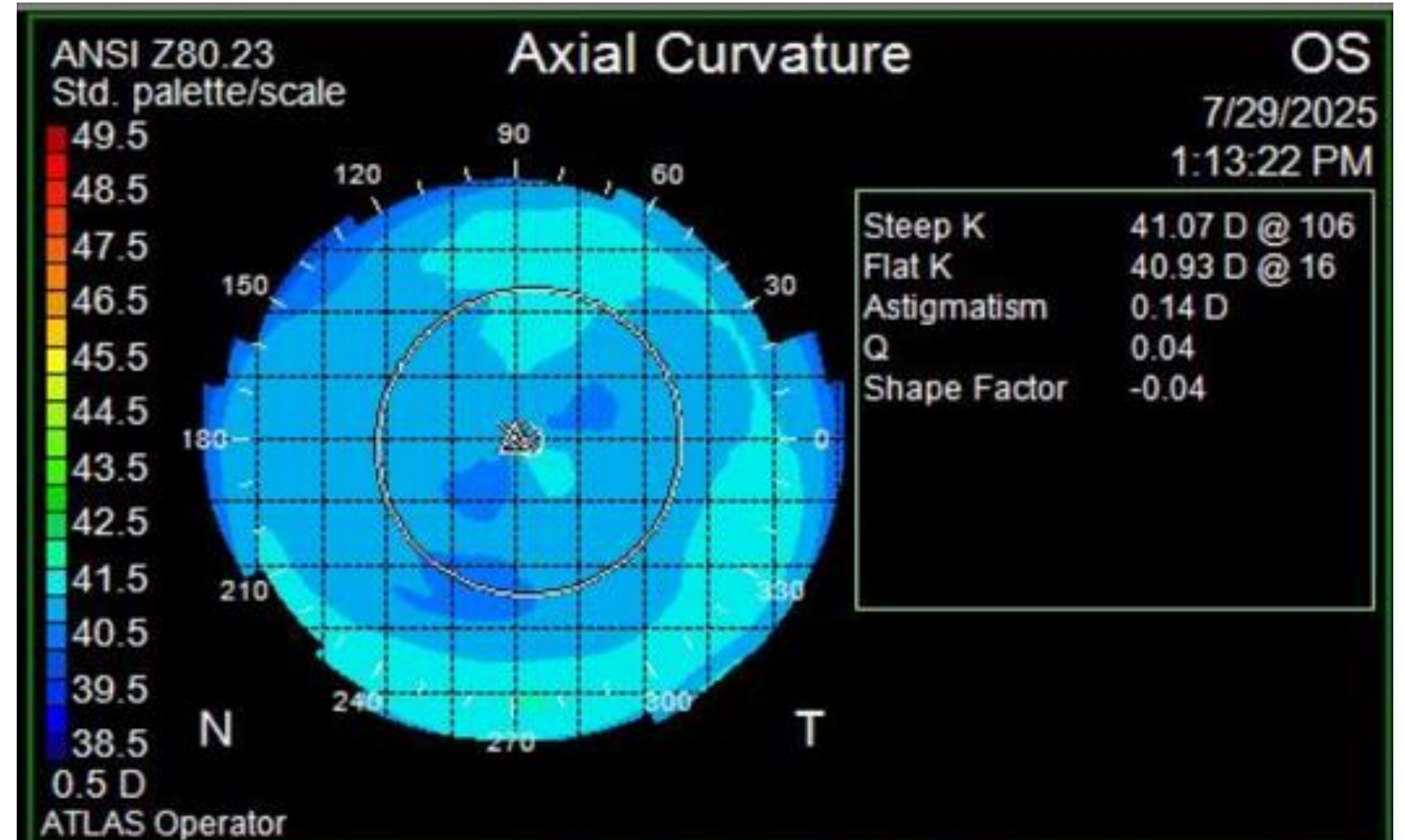
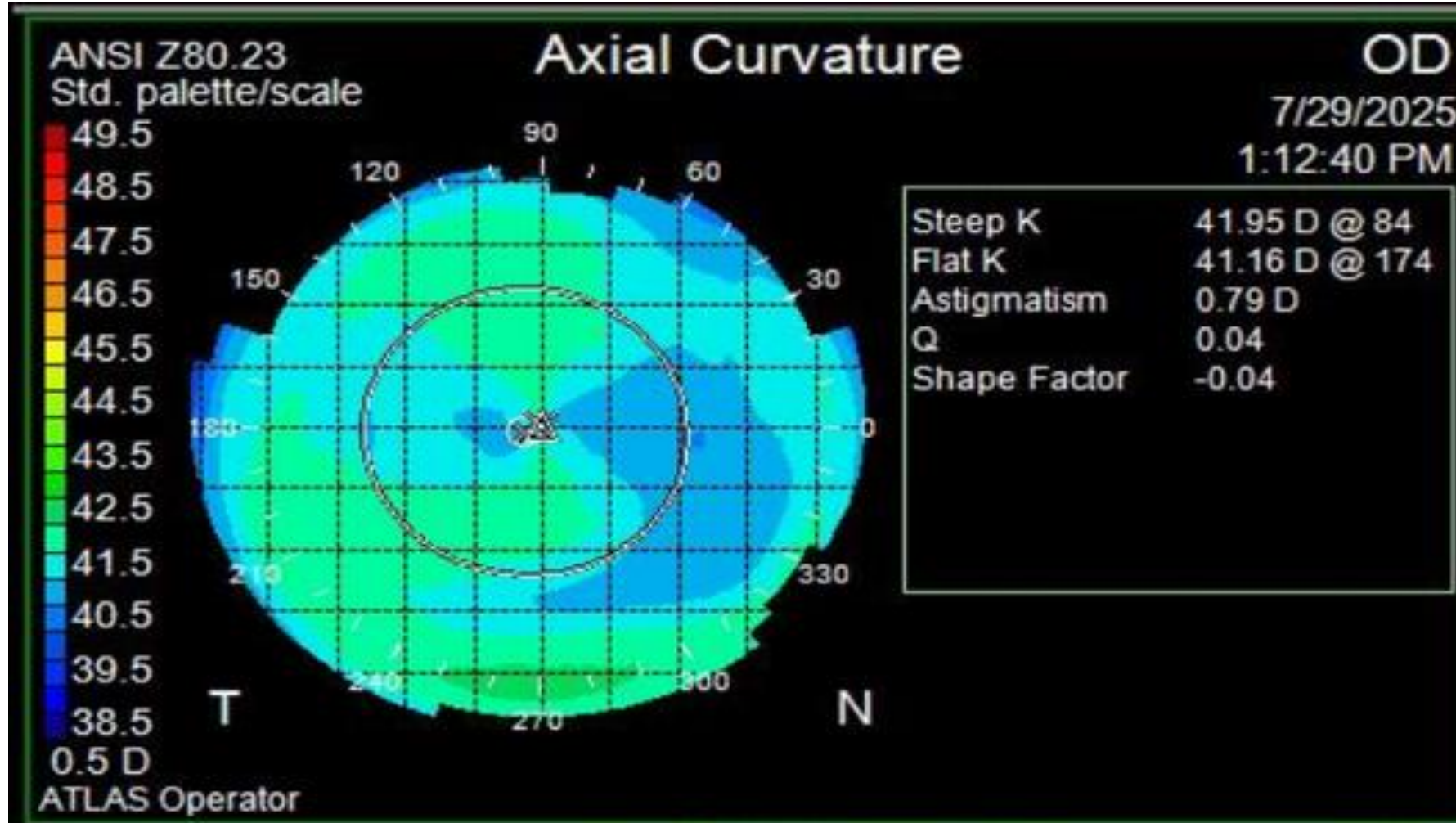
Pupil Size: DARK OD 5.86

OS 5.72

Slit Lamp: LASIK flap intact OU; OD Gr 2- CC

OS Gr 2- NS and PSC

Case #2: Diagnostics



Case #2: The Plan

Plan: Discussed phaco/Blended vision with Monofocal+ or LAL

- Discussed multiple LAL appointments and UV protection
- Discussed dry eye management prior to surgery

Case #2: 3 month Post-Op (phaco/LAL OU - MMV OS)

CC: Happy with vision after Lock-In #2

Had delayed Adj #3 re: intermediate difficulties, decided to reduce OS Rx from -1.50 to -1.00

UCDVA: OD 20/15; OS 20/25+2; OU 20/15

UCNVA: OD J10; OS J3; OU J3 (20/30 or 0.6M)

MRx: OD +0.25sph; OS -1.00 20/15

IOP: OD 11; OS 11

Slit Lamp: no significant findings

Customized Care

01.

Don't just treat
the cataract...
treat the patient

02.

Understand the
patient's life
activities

03.

Understand the
patient's goals

Manage Expectations

01.

There is no
perfect IOL

02.

Understand the
patient's optical
potential

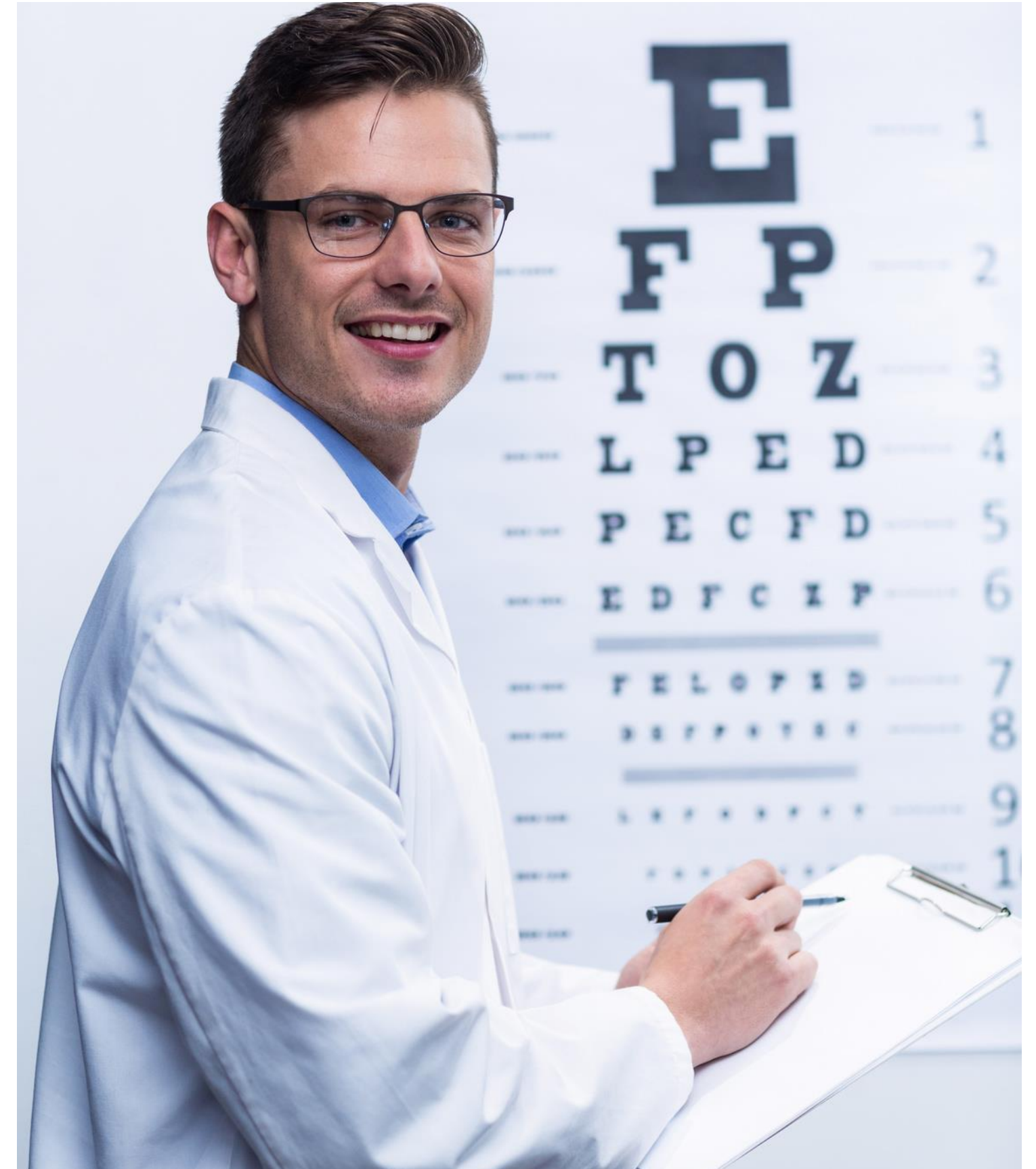
03.

Understand the
limits of
technology

The Patient & Optometry

FAQs

- Why Herzig Eye Institute?
 - Premier referral destination for complex refractive & cataract cases, combining advanced diagnostics and premium surgical technology
 - Focus on precision refractive cataract surgery
- Wait times



Data Collection

- Applies to precision refractive cataract surgery using:
 - ORA
 - Light Adjustable Lens
- OD submits post-op data
- Submission window:
 - ORA: 1-12 months post-op
 - LAL: after final lock in (up to 12 months)
- Reimbursement
 - \$250/eye
 - Paid by cheque or direct deposit
- In compliance with both the Optometry Act & the College of Optometrists of Ontario standards

Clinical Pearls



Goals of Refractive
Cataract Surgery



Lens selection based on
patient preferences



Light Adjustable Lens
Technology

Thank you for your
continued partnership!

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