



On behalf of Vision Expo, we sincerely thank you for being with us this year.

Vision Expo Has Gone Green!

We have eliminated all paper session evaluation forms. Please be sure to complete your electronic session evaluations online when you login to request your CE Letter for each course you attended! Your feedback is important to us as our Education Planning Committee considers content and speakers for future meetings to provide you with the best education possible.



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CASES FROM TORNADO ALLEY

SURGICAL MANAGEMENT IN THE OD LANE

LINDSEY BULL, OD, FAAO
EYECARE ASSOCIATES OF SOUTH TULSA

2

DISCLOSURES

- ALLERGAN/ABBVIE
- VIATRIS

3

PROGRAM OBJECTIVES

- DISCUSSION AROUND EVERYDAY SURGICAL PATIENT CASES
- DECISION MAKING AROUND SURGICAL OPTIONS
 - HOW DO WE MAKE THAT CHOICE
- HOW WE AS OPTOMETRISTS PLAY A ROLE IN PATIENT SURGICAL CARE
- HOW WE CAN BEST PREPARE OUR PATIENT AND THE SURGEON

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CASE #1: LASIK VS PRK

- 25YOM PRESENTS IN OFFICE FOR LASIK PREOP
 - OUT OF CONTACT LENSES FOR 2+ WEEKS
 - MANIFEST REFRACTION:
 - OD: -3.50 -0.25 X 155 20/20
 - OS: -3.75 -0.25 X 162 20/20
 - CYCLOPLEGIC REFRACTION:
 - OD: -3.50 -0.25 X 155 20/20
 - OS: -3.75 -0.25 X 162 20/20
- ANTERIOR AND POSTERIOR SEGMENT: WNL OU

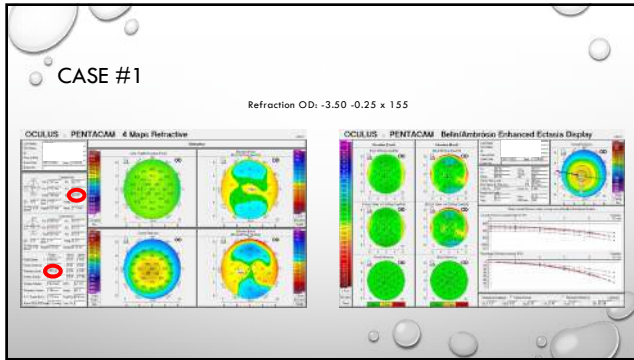
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CASE #1

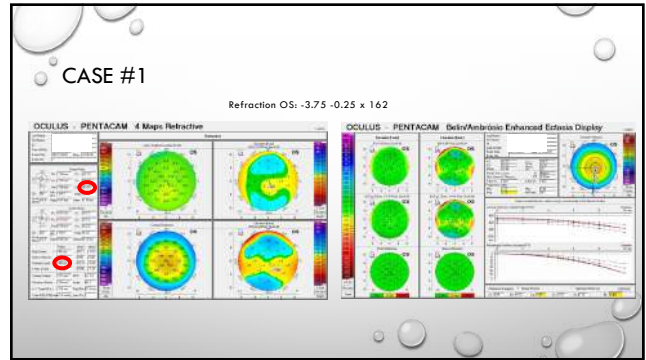
- LASIK/PRK CONSIDERATIONS/CONTRAINDICATIONS:
 - AGE
 - 18+
 - OCULAR HEALTH
 - DRY EYE
 - CATARACTS
 - RETINAL HEALTH
 - GLAUCOMA
 - MACULAR DEGENERATION
 - PACHIS
 - RESULTANT CENTRAL CORNEAL THICKNESS
 - 400 MICRONS¹
 - REGIONAL STROMAL BD 275 MICRONS OR MORE
 - K'S
 - FLATTENS 0.80 FOR EACH MYOPIC DIOPTR²
 - 800 UM³
 - STEEPENS 1.00 FOR EACH HYPEROPIC DIOPTR²
 - 300 UM³
 - CORNEA
 - EPITHELIAL
 - KERATOCONUS
 - NEOVASCULARIZATION
 - HAZY/OPAC
- SYSTEMIC HEALTH⁴
 - AUTONIMUNE CONDITIONS/COLLAGEN VASCULAR DISORDERS
 - DIABETES
 - PREGNANCY AND BREASTFEEDING
- MEDICATIONS⁴
 - ISOTRETINOIN
 - ANGIOTENSIN
 - COLCHICINE
 - SUKRAFESTAN
 - LEVODOPHETES IMPLANT
- MENTAL HEALTH⁴
 - OCCUPATION
 - Military, police, pilots, fighters

1. Chohan, Chhabra, et al. "Optical cross-sections in laser-assisted subepithelial keratectomy." Arch of the Society of Optom. 2002; 40(5): 100-111.
2. Rucklidge, R. "The science of LASIK." J. Optom. 2010; 51(10): 10-15.
3. Smith, A. "The science of LASIK." J. Optom. 2010; 51(10): 10-15.
4. Gosses, H. "The science of LASIK." J. Optom. 2010; 51(10): 10-15.

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CASE #1

- FLAP VS EPI REMOVAL
 - 120 MICRONS VS 50 MICRONS
- ABLATION AMOUNT:
 - 6.5MM ZONE = 15 MICRONS
 - LESS GLARE/HALOS
 - MORE TISSUE ABLATED
 - 6.0MM ZONE = 12 MICRONS
 - MORE GLARE/HALOS
 - LESS TISSUE ABLATED
 - PUPIL SIZE?
- REFRACTION:
 - OD: -3.50 -0.25 X 155
 - OS: -3.75 -0.25 X 162

Δ Pach LASIK
 OD: $3.50 \times 15 = 52.5 + 120 = 172.5$
 OS: $3.75 \times 15 = 56.25 + 120 = 176.5$

Δ Pach PRK
 OD: $491 - 102.5 = 388.5$
 OS: $489 - 106.5 = 382.5$

AK's
 $3.75 \times 0.8 = 3$
 $43 - 3 = 40$

So which procedure should we do?

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CASE #1

- CONSIDERATIONS:
 - CORNEAS < 500 MICRONS³
 - MANY SURGEONS LIMIT LASIK TO >500 MICRONS
 - CONVERT TO PRK IF <500 MICRONS
 - ENHANCEMENT ABILITY IN THE FUTURE
 - HOW MUCH TISSUE WILL WE HAVE REMAINING?
 - LESS THAN 320 MICRONS- ENHANCEMENT POLICY DISCUSSED
 - HOW FLAT/STEEP ARE WE MAKING THE CORNEA?
 - PUPIL SIZE
 - ZONE
 - DO WE NEED TO CROP?

SO WHAT DID WE DECIDE?

PRK!

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CASE #1

- WE ARE THE GATEKEEPERS!
 - WE- THE PATIENT AND OPTOMETRIST- DECIDE TOGETHER WHICH SURGERY WILL PROVIDE BEST OUTCOME
 - WHAT IS SAFEST
 - WHAT WILL GIVE BEST VISUAL PROGNOSIS
 - WE GET TO ESTABLISH A RELATIONSHIP WITH THE PATIENT
 - WHO WILL BETTER UNDERSTAND THE PATIENT'S DAY TO DAY NEEDS?

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CASE #1

- WAVEFRONT GUIDED:
 - LESS TISSUE CONSUMING⁵
 - LESS TIME CONSUMING PREOPERATIVELY
 - POSSIBLY FAVORED FOR ENHANCEMENTS⁵
- TOPOGRAPHY GUIDED:
 - MORE TISSUE CONSUMING⁵
 - SENSITIVE TO HIGHER ORDER ABERRATIONS⁵
 - BETTER CONTRAST SENSITIVITY⁶
 - MORE TIME CONSUMING PREOPERATIVELY
 - CAN BE USED WITH CORNEAL SCARRING⁵

OD: Residual stroma: 390 vs 377

OS: Residual stroma: 381 vs 377

5. Ashikhin, Savits, Piersa, et al. "Wavefront Guided vs Topography Guided" Cor and Refractive Surg Today, May 2006.
6. Hill, et al. "Wavefront guided versus standard LASIK enhancement for residual astigmatism." Ophthalmology 2006; 113(2):101-102.

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CASE #1

Wavelight 5000 Treatment Report
 OD

Alcon

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CASE #1

Wavelight 5000 Treatment Report
 OS

Alcon

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CASE #1

- DAY 1 POST-OP
 - OD UCDA: 20/25+
 - OS UCDA: 20/20
- 4 DAY POST-OP
 - OD: 20/20
 - OS: 20/30
 - BCL REMOVED OU AT THIS APPT
- 1 MONTH POST-OP
 - OD: 20/20
 - OS: 20/20

MEDICATION INSTRUCTIONS:

- MOXIFLOXACIN- QID FOR 7 DAYS
- PREDNISOLONE- QID, TID, BID, QD EACH FOR 7 DAYS
- BROMFENAC- BID FOR 7 DAYS
- ATIVAN (lorazepam)*- PATIENT GIVEN 2 1mg TABLETS
- GABAPENTIN**- 1 300mg CAPSULE TID FOR 4 DAYS
- PRESERVATIVE FREE TEARS- MINIMUM OF QID FOR 30 DAYS

GABAPENTIN: SIGNIFICANTLY REDUCED POST OPERATIVE PAIN AFTER PRK?

*Lorazepam is a schedule IV medication
 **Gabapentin is a schedule V medication in some states

7. Loshman, et al. "Outcomes for postoperative pain after photorefractive keratectomy: a prospective, randomized, double-blind, placebo-controlled trial." J Refract Surg. 2011;27(8):413-417.

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CASE #1 FINAL THOUGHTS

- PATIENT EDUCATED AND BROUGHT INTO SURGICAL DECISION MAKING
- LOOK AT HIGHER ORDER ABERRATIONS!
- CONSIDER FUTURE INTERVENTIONS THAT MAY BE NECESSARY
- PRK DOESN'T HAVE TO BE SCARY

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CASE #2: EDOF IOL, YAG CAPSULOTOMIES... AND NOW WHAT??

- 58YOM PRESENTS WITH COMPLAINTS OF:
 - HAZY/CLOUDY VISION THAT IS INTERFERING WITH HIS JOB
 - GLARE AND HALOS AT NIGHT
 - FEELS THAT VISION HAS DECREASED SIGNIFICANTLY OVER THE PAST YEAR
- VA:
 - OD: -6.00 -0.25 X 091 20/70-1
 - OS: -6.00 -0.25 X 070 20/60-2
 - GLARE: 20/200 OD AND OS

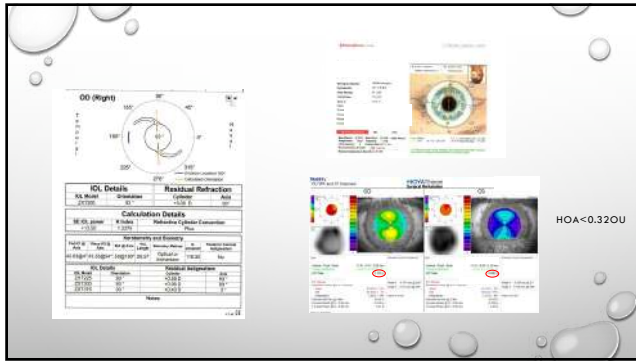
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CASE #2

- ANTERIOR SEGMENT:
 - WNL
 - LENS:
 - OD 3+ NUCLEAR SCLEROSIS, 3+ CORTICAL SPOKES
 - OS 3+ NUCLEAR SCLEROSIS, 3+ CORTICAL SPOKES
- POSTERIOR SEGMENT:
 - WNL
- DIAGNOSIS: COMBINED CATARACTS OU
- RECOMMENDATION: KPE W/ IOL
 - AFTER PATIENT EDUCATION AND DISCUSSION, DETERMINED THAT PATIENT IS A GOOD CANDIDATE FOR EDOF (SYMFONY) IOL AND PATIENT ELECTS TO PROCEED OU
 - OD FIRST AND OS TO FOLLOW

OD				OS			
Horizontal Lens Axis	Clear Field	Horizontal Lens Axis	Clear Field	Horizontal Lens Axis	Clear Field	Horizontal Lens Axis	Clear Field
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

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CASE #2

• POST OPERATIVE MEDICATIONS:

- PATIENT GIVEN THE OPTION
 - DROPS:
 - ANTIBIOTIC- QID 1 WEEK
 - STEROID- QID, TID, BID, QD EACH FOR 1 WEEK
 - NSAID- BID FOR 1 MONTH
 - COMBINATION DROP:
 - COMBINED ANTIBIOTIC/STEROID: QID, TID, BID, QD EACH FOR 1 WEEK
 - OPTIONAL NSAID
- DROPLESS:
 - TRIAMCINOLONE/MOXIFLOXACIN
 - PARS PLANA OR TRANS-ZONULAR INJECTION

• PATIENT ELECTED TO PROCEED WITH DROPLESS

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CASE #2

DROPLESS PROS

- INCREASED PATIENT COMPLIANCE
- DECREASE IN COST TO PATIENT
- DECREASE IN ENDOPHTHALMITIS⁶
- NO PRESERVATIVES ON OCULAR SURFACE

DROPLESS CONS

- FLOATER COMPLAINTS
- BREAKTHROUGH INFLAMMATION
 - DROPS NEEDED AT THAT TIME
- DIFFICULTY CONTROLLING IOP SPIKE
- POSSIBLE INCREASE IN TASS⁷

6. Izbicki M. "Is It Worth It? What You Need to Know about DropleSS Cataract Surgery." Review of Ophthalmology. 13 May 2017. <https://www.reviewofophthalmology.com/article/is-it-worth-it-what-you-need-to-know-about-drople-ss-cataract-surgery>

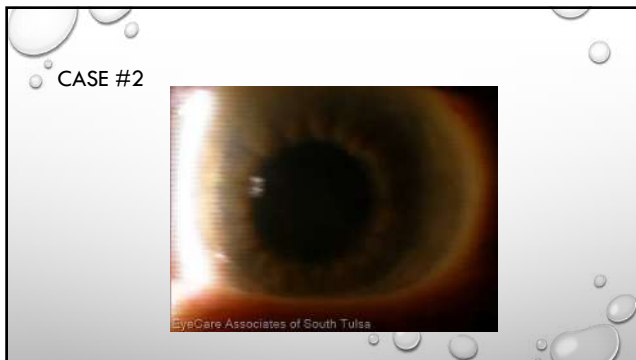
7. Patel, Ekhar, Akhayer, Siddhar, "Is 'DropleSS' Worth It?" Review. Today's Eye Doctor. 2022. <https://www.todayseyedoctor.com/articles/2022/05/16/is-drople-ss-worth-it/>

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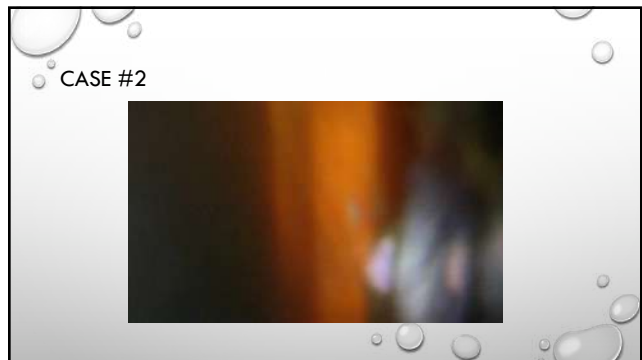
CASE #2

- 1 DAY POST OP OD- SYMFONY TORIC- DROPLESS
 - OD: UCDVA 20/20-
 - ANTERIOR SEGMENT OD:
 - TRACE MICROCYSTIC CORNEAL EDEMA
 - TRACE ANTERIOR CHAMBER CELL
 - IOL IN GOOD POSITION
 - RTC 1 WEEK FOR 1 WEEK P/O
- DROPLESS:
 - TRIAMCINOLONE/MOXIFLOXACIN 0.2ML
 - IAPRIMIS
 - PARS PLANA INJECTION
- 1 WEEK POST OP OD, REC OS-
 - OD: UCDVA 20/20-
 - OS: UCDVA CF 3FT
 - ANTERIOR SEGMENT OD:
 - WNL
 - TORIC MARKINGS NOTED AT 93°
 - ANTERIOR SEGMENT OS:
 - LENS: NS 3+, SPOKES 3+
 - POSTERIOR SEGMENT OS:
 - WNL

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CASE #2

- 1 DAY POST OP OS- SYMFONY WITH LRI- DROPLESS
 - OD: UCDVA 20/20
 - ANTERIOR SEGMENT OS:
 - TRACE MICROCYSTIC CORNEAL EDEMA
 - TRACE ANTERIOR CHAMBER CELL
 - IOL IN GOOD POSITION
 - RTC 1 WEEK FOR 1 WEEK P/O
- 1 WEEK POST OP OS
 - OS: UCDVA 20/20
 - ANTERIOR SEGMENT OS:
 - WNL
- 1 MONTH POST OP OU:
 - OD: UCDVA 20/20
 - OS: UCDVA 20/20
 - ANTERIOR SEGMENTS OU:
 - WNL
 - MANIFEST REFRACTION
 - OD pl sph DVA: 20/20
 - OS +0.25 -0.25 @ 015 DVA: 20/15
 - PATIENT EDUCATION
 - YAG

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CASE #2

- PATIENT RETURNS 1 YEAR LATER FOR COMPREHENSIVE EXAMINATION
 - HAS NOTICED THAT VISION HAS DECREASED AT ALL RANGES AND INCREASED GLARE
 - UCDVA OD 20/25 OS 20/40+
 - GLARE OD 20/40- OS 20/70
 - DIAGNOSIS:
 - PCO 2+ OU
 - RECOMMEND YAG CAPSULOTOMY OU
 - PREDNISOLONE BID OU FOR 7 DAYS
- 1 WEEK P/O YAG OU
 - UCDVA OD 20/20 OS 20/20
 - D/C PREDNISOLONE AT THIS TIME

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CASE #2

- PATIENT RETURNS 1 YEAR LATER
 - CHIEF COMPLAINT: VISION HAS BEEN DOING GREAT UNTIL I WAS GRINDING AT WORK EARLIER TODAY...



- WORKMANS COMP CASE
 - MUST SEE URGENT CARE FIRST
 - URGENT CARE REFERS TO US
 - "WE WERE ABLE TO GET SOME PARTICLES OUT OF THE RIGHT EYE BUT WE WERE SCRAPING AND COULD NOT GET EVERYTHING OUT"

"I WAS WEARING SAFETY GLASSES... BUT I DID PULL THIS OUT OF MY EYE"

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CASE #2

- UCDVA OD 20/150
 - DID NOT TAKE IOP!
 - DIAGNOSIS:
 - 5MM FULL THICKNESS CORNEAL LACERATION ADJACENT TO PUPIL WITH VITREOUS TO THE WOUND
 - (+)SEIDEL SIGN
 - RECOMMENDED IMMEDIATE SURGICAL REPAIR
 - FOX SHIELD OVER PATIENT OD
 - STRICT INSTRUCTIONS TO NOT TOUCH EYE
 - SURGERY CENTER NOTIFIED
 - PATIENT TRANSFERRED IMMEDIATELY

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CASE #2

- SURGICAL REPAIR:
 - 3 BURIED CORNEAL SUTURES
 - CONSIDERATION FOR REMOVAL ONLY AFTER 6 WEEKS¹⁰
 - VITREOUS REMOVED FROM AC
 - WOUND HYDRATED
 - (-)SEIDEL SIGN FOLLOWING REPAIR
 - BCL PLACED DURING PROCEDURE
 - 0.1ML TRU/MOXXI BY PARS PLANA INJECTION
 - INTRAVITREAL ANTI-BIOTICS HAVE BEEN SHOWN TO REDUCE RISK OF ENDOPHthalmitIS FOLLOWING OPEN GLOBE INJURIES¹¹
 - DROPS:
 - OFLOXACIN QID
 - PREDNISOLONE QID
 - RTC FOR 1 DAY POST OP
- DISCUSSION INCLUDED:
 - POST-OP INSTRUCTIONS
 - GUARDED VISUAL PROGNOSIS
 - IMPORTANCE OF EYE SHIELD AND POST OPERATIVE MEDICATIONS
 - FOLLOW UP VISIT

10. Amemiya, Grayson. "Do Need to Know: 8 Pearls in Evaluating and Managing Open Globe Injuries." Jan. 2022. <https://www.aaojournal.org/doi/10.1097/COO.0000000000000000>

11. Abbasov, Bekir, et al. "Topical Antibiotic Prophylaxis Reduces the Risk of Post-Traumatic Endophthalmitis After Ocular Injury." *Surv Ophthalmol*. May 2018. 94(3): 210-222.

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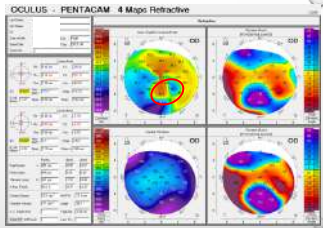
CASE #2

- 1 DAY POST OP- CORNEAL LACERATION
 - UCDVA OD HM 2FT
 - IOP WITH ICARE OD 8MMHG
 - (-)SEIDEL SIGN
 - BCL REMOVED AT THIS TIME
 - 3 SUTURES NOTED
- 1 WEEK POST-OP
 - UCDVA OD 20/250
 - IOP WITH ICARE 11 MMHG
 - BEGIN PREDNISOLONE TAPER
 - TID, BID, QD EACH FOR 1 WEEK
 - D/C OFLOXACIN AT THIS TIME
 - RTC 3 WEEKS

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CASE #2

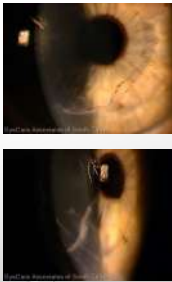
- 1 MONTH POST OP- CORNEAL LACERATION
 - UCDVA 20/100
 - PH 20/80
 - CORNEAL SCAR NOTED
 - D/C PREDNISOLONE
 - APPT MADE TO REMOVE SUTURES



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CASE #2

- 3 MONTH POST OP VISIT
 - UCDVA OD 20/70
 - PH OD 20/40-
 - SUTURES REMOVED AT TODAY'S VISIT
 - BCL PLACED OVER CORNEA FOR COMFORT
 - REMOVE IN 1-2 DAYS
- CURRENTLY
 - UCDVA OD 20/60-
 - OD: PL -2.00 @ 094 DVA: 20/30 -1



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CASE #2

- WHAT ARE MY OPTIONS NOW?
 - GLASSES VS SCLERAL CONTACT LENS VS SOFT CONTACT LENS
 - PRK?
 - WAVEFRONT GUIDED⁵
- PROGNOSIS?
- WOULD IOL CHOICE BE DIFFERENT KNOWING WHAT WAS TO COME?

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CASE #2 FINAL THOUGHTS

- TIMING IS EVERYTHING AND HINDSIGHT IS 20/20
- IMPORTANCE OF PATIENT EDUCATION IN WHAT OUR ROLE AS THEIR PRIMARY EYE PHYSICIAN IS
- KEEP FOX SHIELDS IN YOUR OFFICE!



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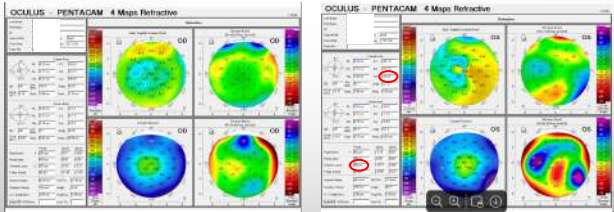
CASE #3: WHEN WE MIX AND MATCH

- 67YOF PRESENTS FOR CATARACT EVALUATION WITH WANT TO HAVE TO WEAR GLASSES/CONTACTS AS LITTLE AS POSSIBLE
 - HISTORY OF LASIK IN 2003
 - OD -1.50SPH 20/30-
 - OS -1.00 -3.25 X 105 20/40-2
 - GLARE:
 - OD: 20/40-
 - OS: 20/60-
 - ANTERIOR SEG:
 - FLAP NOTED OU
 - CORNEAL ECTASIA OS (mild)¹²
 - No scarring
 - Topography <53D
 - Corneal thickness >475 microns
 - Stable over the course of 15+ years
 - POSTERIOR SEG:
 - WNL

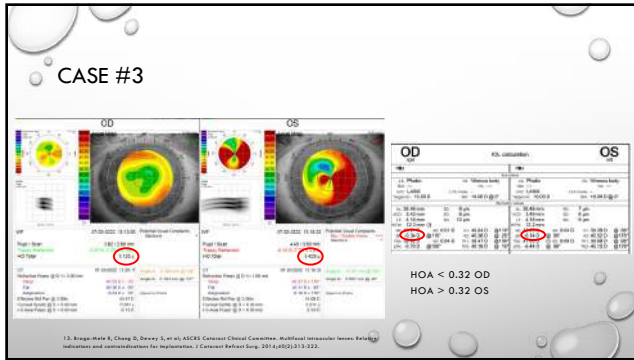
12. Davis, Roberts, Miller, Wilson. "Stripping ectasia diagnosis: a therapeutic approach." Contact Lens Spectrum. 2013; 30: 34-36, 38-40.

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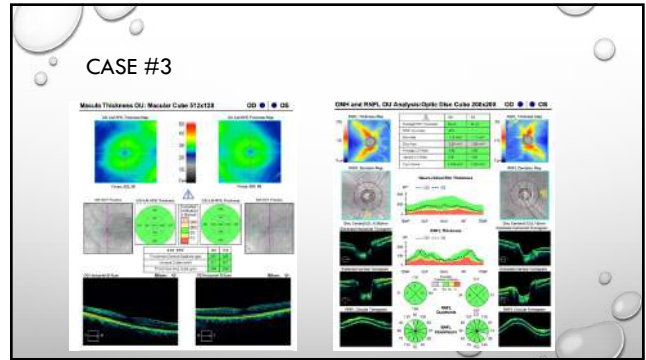
CASE #3



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CASE #3

- "NEAR VISION IS MORE IMPORTANT TO ME THAN GLARE"
- SO WHAT ARE OUR OPTIONS AND HOW DO WE EDUCATE THE PATIENT?
 - MONOVISION?
 - MULTIFOCAL?
 - TRIFOCAL (PANOPTIX) SHOWING ACCEPTABLE VISUAL OUTCOMES IN POST REFRACTIVE SURGERY PATIENTS¹⁴
 - HISTORICALLY, MF IOLs HAVE BEEN AVOIDED IN POST REFRACTIVE PATIENTS
 - EXTENDED DEPTH OF FOCUS?
 - HAVE SHOWN SUCCESSFUL VISUAL RESULTS IN POST REFRACTIVE SURGERY¹⁵

14. Bagdasarian, J., et al. "Refractive outcomes following trifocal intraocular lens implantation in postmyopic LASIK and PRK eyes." Clin Ophthalmol. 2022; 16: 2129-2134.
15. Chouhry, et al. "Comparison of Visual Outcomes of Extended Depth of Focus Lenses in Patients with and without Previous Laser Refractive Surgery." Journal of Refractive Surgery. 2020; 36(1): 28-32.

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CASE #3

- TRIFOCAL OD: PANOPTIX
 - LOW HIGHER ORDER ABERRATIONS
 - MORE NEAR/DISTANCE
- TORIC IOL:
 - DISTANCE VISION
 - GOOD INTERNAL HEALTH
 - HIGH HIGHER ORDER ABERRATIONS
- OD FIRST WITH OS TO FOLLOW

- PATIENT RISKS DISCUSSED
 - NO POSSIBILITY OF PRK/LASIK ENHANCEMENT OS
 - INCLUDED IN CONSENT FORM
 - RISK OF GLARE/HALOS ESPECIALLY OS
 - MODIFIED MONOVISION

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CASE #3


- 1 DAY P/O OD PANOPTIX:
 - UCDVA: 20/25+
 - 1+ MICROCYSTIC EDEMA
 - 1+ AC CELL
 - IOP 13MMHG WITH ICARE
- 1 WEEK P/O OD:
 - UCDVA: 20/25+
 - UCNVA: 20/30
 - ANT SEG WNL
 - IOP 12MMHG WITH ICARE
- 1 DAY P/O OS TORIC:
 - UCDVA: 20/50
 - 1+ STROMAL AND MICROCYSTIC EDEMA
 - 2+ AC CELL
 - IOP 13MMHG WITH ICARE
- 1 WEEK P/O OS TORIC:
 - UCDVA: 20/40
 - UCNVA: 20/40
 - ANT SEG- WNL
 - TORIC MARKINGS NOTED @ 002
 - IOP 10MMHG WITH ICARE

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CASE #3

- 1 MONTH P/O OU
 - UCDVA: OD: 20/25
OS: 20/25
OU: 20/25+
 - UCNVA: OD: 20/20-
OS: 20/40-
OU: 20/20
- PATIENT REPORTS VISION IS DOING "PRETTY GOOD!"
- ANT SEG OU: WNL
- MANIFEST REFRACTION:
 - OD -0.25, -0.25 X 007 DVA: 20/25
 - OS -0.25SPH DVA: 20/25 +1
- RTC 5-6 MONTHS FOR PCO CHECK

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CASE #3 FINAL THOUGHTS

- CONSIDERATION OF HIGHER ORDER ABERRATIONS AND APPROPRIATE LENS OPTIONS
- PATIENT EDUCATION
- IMPORTANCE OF PRE-OPERATIVE TESTING
- ONE LENS TYPE MAY NOT BE APPROPRIATE FOR BOTH EYES

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CASE #4: AN ABRASIVE EROSION

- 48YOM PRESENTS WITH PAIN IN OD
 - "WAS CUTTING A TREE YESTERDAY- WITH SAFETY GLASSES ON- AND SOMETHING GOT IN THE RIGHT EYE AND IT HAS BEEN EXTREMELY PAINFUL SINCE"
- DVA: OD: 20/CF2 FT
OS: 20/20
- IOP: OD: NOT TAKEN
OS: 12MMHG WITH ICARE
- ANTERIOR SEGMENT:
 - CORNEA OD: 4X5MM CENTRAL ABRASION NOTED
 - NO FB NOTED ON EYE OR UPON LID EVERSION OD

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CASE #4

- DIAGNOSIS: CORNEAL ABRASION OD
- PLAN:
 - BANDAGE CONTACT LENS
 - MOXIFLOXACIN QID OD
 - PF TEARS Q1H
 - PRESCRIBED GABAPENTIN 300MG
 - TAKE 1 CAPSULE TID FOR 4 DAYS
 - RTC 1 DAY FOR RECHECK

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CASE #4

- 1 DAY POST ABRASION:
 - PATIENT COMPLAINING OF CONTACT LENS INTOLERANCE
 - VA OD: 20/400
 - IMPROVED FROM CF 2 FT
 - BCL IN PLACE
 - EPITHELIUM HEALING WITH DEFECT MEASURING 2X3MM CENTRALLY
 - CONTINUE ANTIBIOTIC AND TEARS- RTC 2 DAYS
- 3 DAY POST ABRASION:
 - PATIENT COMPLAINING OF CONTACT LENS INTOLERANCE THAT IS WORSENING
 - VA OD: 20/250
 - BCL REMOVED
 - LINEAR EPITHELIAL STAINING NOTED
 - TRACE
 - DECISION MADE TO KEEP BCL OFF DUE TO PATIENT EXPRESSING HOW MUCH BETTER HE FELT WITHOUT IT
 - CONTINUE ANTIBIOTICS FOR THE WEEKEND
 - RTC NEXT WEEK FOR RECHECK
 - TEARS: MINIMUM OF QID
 - LUBRICATING OINTMENT QHS

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CASE #4

- 4 DAYS LATER: PATIENT RETURNS TO OFFICE- "PAIN IS BACK AND I THINK IT'S ACTUALLY WORSE."
- VA OD: CF 2FT
- CORNEA: 5MM AREA OF CORNEAL EROSION WITH NO EPITHELIAL DEFECT
 - NEW EPITHELIAL TISSUE "FLOATING" AND NOT ADHERED TO CORNEA
- RECOMMENDED CORNEAL DEBRIDEMENT WITH DIAMOND BURR POLISH AND AMNIOTIC MEMBRANE
 - PROKERA SLIM MEMBRANE USED
 - SOME RESEARCH SHOWING USE OF AMNIOTIC MEMBRANE MAY ALLOW PATIENT TO HAVE LONGER TIME PERIODS BETWEEN EROSIONS¹⁶
 - COMPARED TO DEBRIDEMENT AND BCL- AMNIOTIC MEMBRANE AND DEBRIDEMENT REDUCED RATE OF RECURRENCE¹⁷
 - APPROXIMATELY 6X6 AREA OF EPITHELIUM DEBRIDED

16. Frank Crank, Dennis. "My Patient has Recurrent Corneal Erosions...How What?" April 2019. Review of Ophthalmology. <https://www.reviewofophthalmology.com/article/my-patient-has-recurrent-corneal-erosions-how-what/>

17. Housheer, Scott, Heidi, Wilton. "Comparative Amniotic Membrane After Epithelial Debridement for Recurrent Corneal Erosion." RPOD. January, 2016. <https://www.reviewofophthalmology.com/article/comparative-amniotic-membrane-after-epithelial-debridement-for-recurrent-corneal-erosion/>

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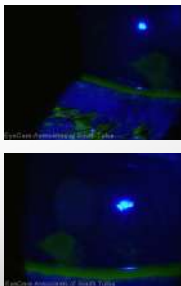
CASE #4

- PATIENT EDUCATION:
 - MEDICATIONS:
 - CONTINUE MOXIFLOXACIN QID
 - BEGIN PREDNISOLONE QID
 - BEGIN NSAID BID
 - GABAPENTIN REFILL
 - PF TEARS Q1-2H
 - DISCUSSED AWARENESS OF AMNIOTIC LENS AND BLURRINESS OF VISION
 - TAPE EYELID?
 - RTC 1-2 DAYS

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CASE #4

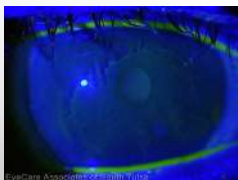
- 1 DAY P/O DEBRIDEMENT WITH AMNIOTIC MEMBRANE
- PATIENT REPORTS THAT HE IS DOING BETTER TODAY
- MEMBRANE REMOVED TO ASSESS HEALING
- VA OD: 20/400
- MEMBRANE REPLACED
- CONTINUE ALL MEDICATIONS AS PREVIOUSLY PRESCRIBED
- RTC 4-5 DAYS FOR MEMBRANE REMOVAL



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CASE #4

- 5 DAY P/O DEBRIDEMENT WITH AMNIOTIC MEMBRANE
- MEMBRANE DISSOLVED AND PROKERA SLIM RING REMOVED AT THIS VISIT
- VA OD: 20/30
- MEDICATIONS:
 - CONTINUE PF TEARS Q1-2H
 - START HYPERTONIC DROPS/OINTMENT
 - BEGIN STEROID TAPER
 - PATIENT REQUESTED TO D/C NSAID
 - D/C MOXIFLOXACIN
 - D/C GABAPENTIN
- RTC 3-4 WEEKS FOR RECHECK
- DISCUSSED CONSIDERATION OF PTK (PHOTOTHERAPEUTIC KERATECTOMY) IF EPITHELIUM DETACHES/ERODES AGAIN



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CASE #4 FINAL THOUGHTS



- COST FOR PATIENT
 - INSURANCE CHECK BEFORE PLACEMENT OF AMNIOTIC MEMBRANE!
- DEBRIDEMENT AND PRK- NOT SO UNALIKE!
- DOXYCYCLINE FOR RCE?
 - INHIBIT MATRIX METALLOPROTEINASE-9
 - INHIBITION CAN AID THE RECOVERY AND REATTACHMENT OF THE CORNEAL EPITHELIUM
- DIFFERENT SURGICAL/PROCEDURE APPROACHES FOR CORNEAL EROSIONS
- PAIN MANAGEMENT

18. Tschopp, Raj, Ramesh, Ramesh et al. "Treatment of recurrent recurrent erosion." EyeNet. March 2013; 39-41.

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THANK YOU!

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