

Corneal Issues in Cataract Surgery

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Thanks to our panelists!

- Surendra Basti, MD: Northwestern
- Jose de la Cruz, MD: Univ. of Illinois
- David Lubeck, MD: Arbor Eye

Question #1:

Should ALL patients undergo corneal topography prior to cataract surgery?

- A) No
- B) Yes
- C) Maybe

We will discuss 3 cases
(hopefully) which, I believe,
illustrate the critical nature of
corneal topography prior to
cataract surgery

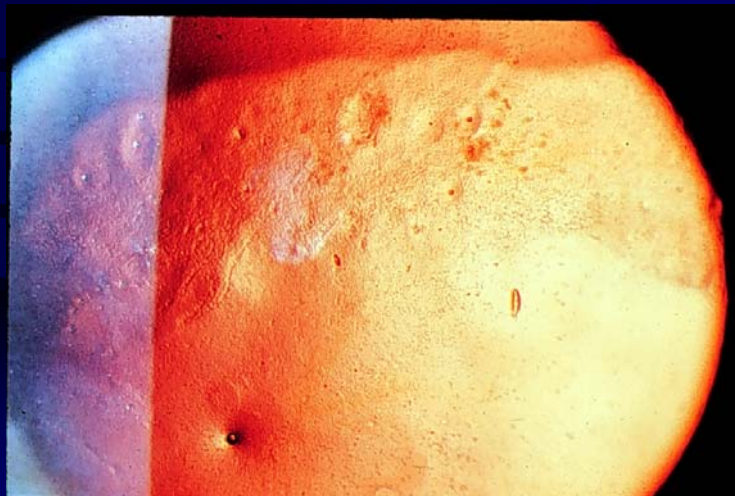
67 year old with poor BCVa

- BCVa= 20/50 OU
- *Moderate* Epithelial Basement Membrane Dystrophy (EBMD) OU
- Lenses: 1+ NS cataracts OU
- No other ocular abnormalities

Slit lamp exam



Dilated slitlamp exam

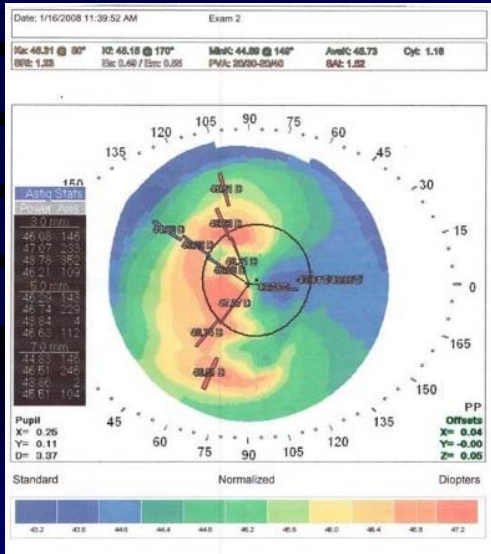


Topography at presentation:

SRI= 1.23

Question #2: What would you do?

- 1) Cataract surg., then debridement if needed
- 2) Debridement, then cat. surgery if needed
- 3) Both surg's simlt.
- 4) Neither surgery



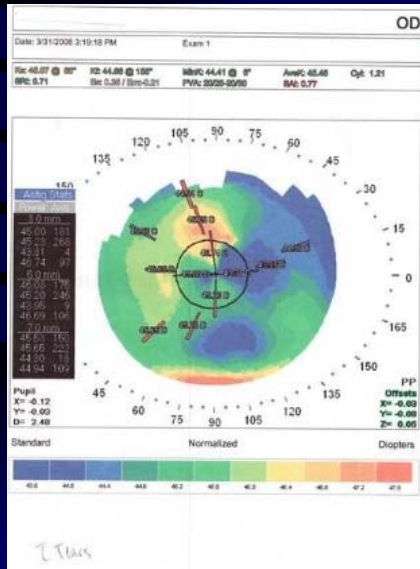
2 mos. post-debridement OD

SRI= 0.71

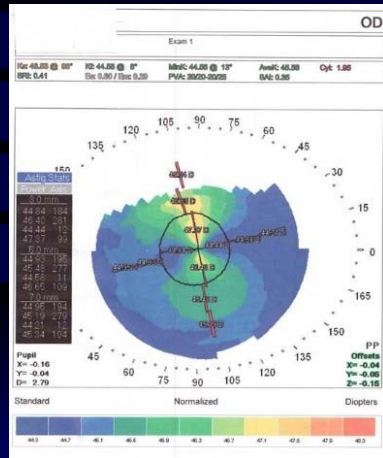
BCVa= 20/25-, happy!

(+ 1.2 D reg. corneal cylinder...

OS then debrided, patient happy.....



7 yrs. later, at age 74, has cataracts,
DEMANDS multi-focal IOL!



3+ NS cataracts,
 No EBMD OU.....
 BCVa= 20/60 OD, 20/50 OS
 TMS: SRI= 0.41, +1.9 x 98
 MR: -5.75 + 1.50 x 99
 (OS c comparable numbers)

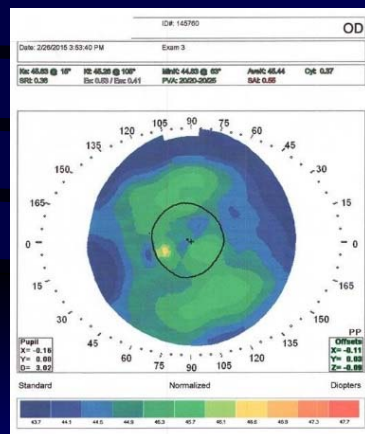
Question #3: What would you do now?

- A) Femto phaco/LRI with multifocal IOL
- B) Tradional phaco/LRI with multifocal
- C) Femto phaco/LRI with monofocal IOL
- D) Traditional phaco/LRI with monofocal
- E) A different procedure

LenSx femto-cataract surgery with LRI's 2/19/15 OD

- Two 60 degree LRI's at 99 degrees, 80% depth, 9mm o.z.- using Donnenfeld's online nomogram: (www.lricalculator.com).
- Only superior incision was "opened".
- (What are the panel's nomogram tips for planning femto LRI's?)

One week post-op Outcome: Minimal cyl



20/20 and J3 sc, -0.25 sph.
and happy (but still reads
better with un-operated
eye sc), Minimal cyl on TMS

Anxious to have
surgery on other eye/aniso!

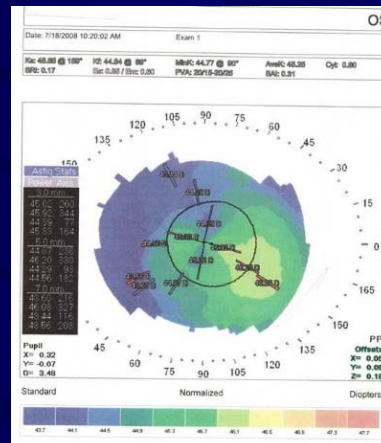
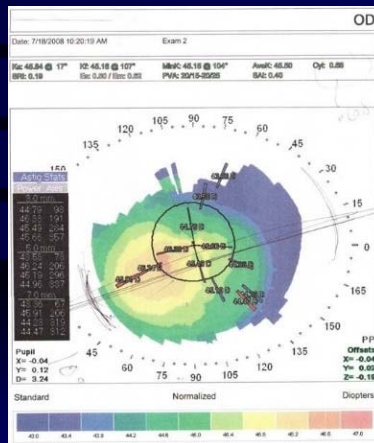
54 year old requests cataract surgery with multi-focal IOL's.

- Has never worn contacts
- Does NOT want to depend on readers post-op if possible
- MR OD: +0.25 + 1.25 x 180
- MR OS: +0.50 +1.50 x 175

Pre-op corneal topographies-

OD: +0.68 X 17

OS: +0.8 x 159



Question #4

What would you do?

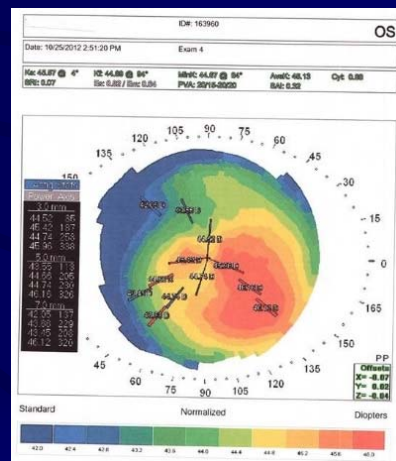
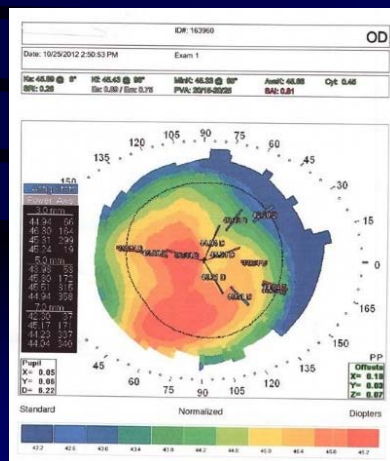
- A) Monofocal IOL
- B) Multifocal IOL
- C) Monofocal IOL with LRI's?
- D) Multifocal IOL with LRI's
- E) Some other operation

Phaco via clear temporal incisions in 2008- ReSTOR OU

- 20/40, J3 sc post-op OU, blurry Va, minimal impr. with glasses, ctl intolerant so not sure if they helped much
- Went to another practice as her "insurance changed". Referred to a neurologist for Va.....
- 3 yrs. postop, letter from ALCON regulatory indicating patient was having intolerable halos and blurry vision, unable to work per her report

- I called the patient and asked her to come in, gratis.
- She stated that another ophthalmologist told her that, with +1.25D cyl OU pre-op, she was not a good candidate for multifocal IOL's (even though there was actually LESS cylinder on pre-op topography)

UCVa: OD= 20/60, OS=20/40, Near=J7/J6
 MR: -1.00 +1.00 x 180= 20/40 OD
 MR: -1.25 +2.00 x 180= 20/30 OS

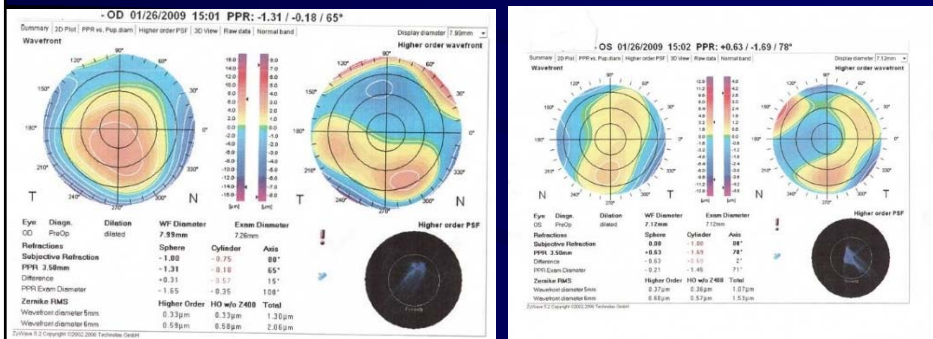


Question #5

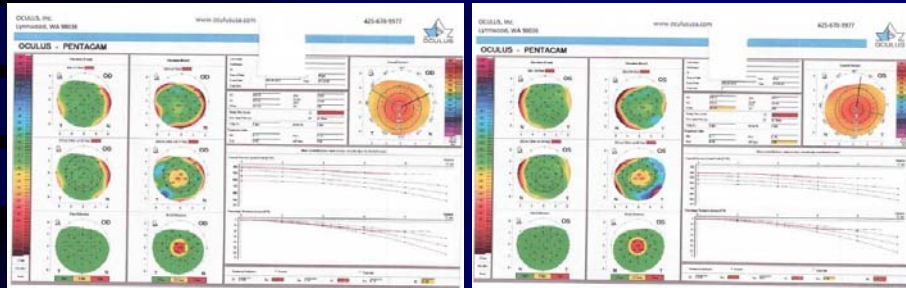
What would you do now?

- A) More diagnostic testing
- B) Call my lawyer
- C) Laser refractive surgery
- D) Something else

Wavefronts: SLIGHTLY Increased Higher-Order Aberrations OU, pach= 424/434



Pentacams: Increased posterior elevation, abnormal “thickness progression” profiles OU



Question #6: What would you do now? (Almost 6 years postop)

- A) Corneal collagen crosslinking (CXL)
- B) PRK
- C) LRI's
- D) IOL exchange
- E) Something else

IOL XC with mono-focal IOL's ("insurance only")

OS: 12/12, OD: 2/13

- OD: $-1.50 + 1.00 \times 152 = 20/25$
- OS: $-1.25 + 1.25 \times 2 = 20/20$
- "Vision fine, halos gone, life-changing experience!"
- Back at work!

62 year old, cleared by me for LASIK
8 years previously- (never had surgery)-
Still wears glasses, now wants surgery for
distance Va sc- OK with readers

- MR:

- OD $-5.75 + 1.50 \times 103 = 20/20$ - BCVa
- OS: $-6.00 + 2.25 \times 85 = 20/25$ BCVa

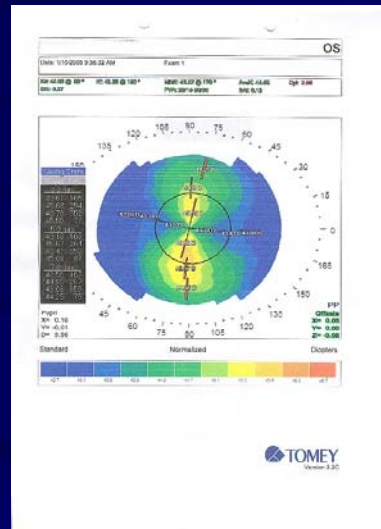
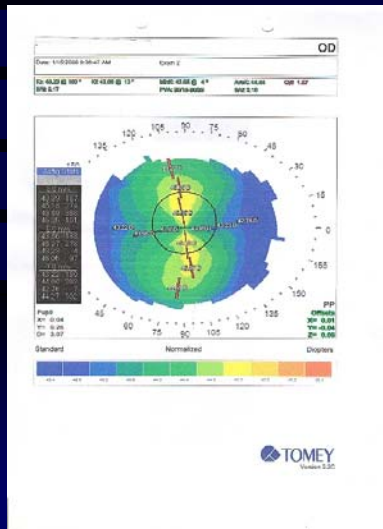
- TMS:

- OD: $+1.6 \times 103$
- OS: $+2.1 \times 90$

- New, mild ant. cortical cataracts noted OU

- Pachs, etc., normal. BAT: 20/25, 20/30, 20/30-

TMS: Symmetrical, with-the rule cylinder OU



What procedure would YOU do?

- A) LASIK
- B) PRK
- C) Refractive Lens Exchange
- D) Some other procedure
- E) No procedure

“Refractive lens exchanges” done via Clear corneal temporal incisions OU

- Left eye: Alcon Toric T-4 (+3.0D cyl. at IOL plane)= good outcome....
- Right eye: operated 3 weeks later, with
 - Alcon Toric T-3 (+2.25 cyl. at IOL plane)
- Post-op= 20/20 ou sc- “Never saw better in my life”
- (IOL choice modified by Koch nomogram)

Koch Toric IOL Nomogram WTR Astigmatism (Target residual 0.25 - 0.50 D WTR)

Astigmatism (D)	Alcon Toric IOL
≤ 1.40	0 (PCRI if >1.00)
1.50 – 1.99	T3
2.00 – 2.49	T4
2.50 – 2.90	T5

Thanks for your attention!

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