


HOW TO BECOME A PREMIUM PRACTICE:

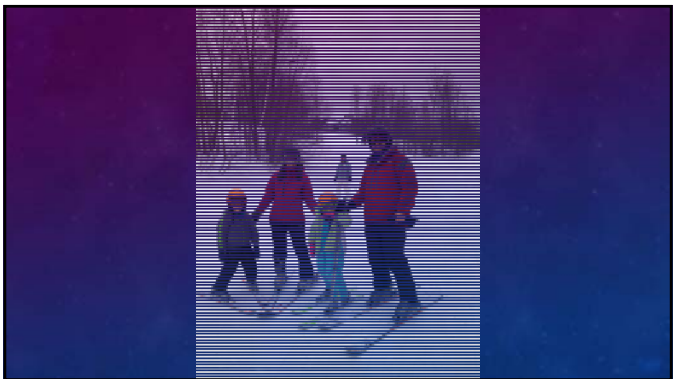
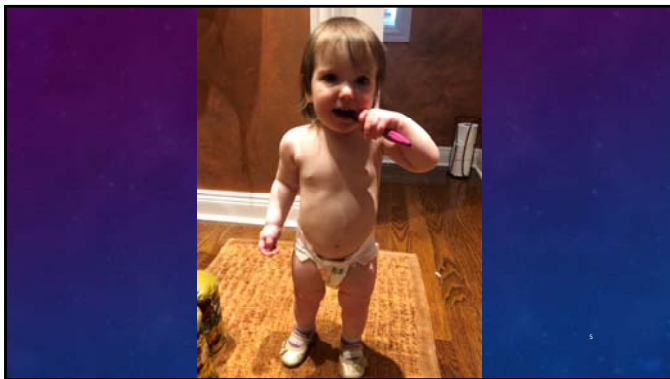
FROM FRONT DESK, TO BACK OFFICE, TO TECHNICIANS, TO DOCTORS

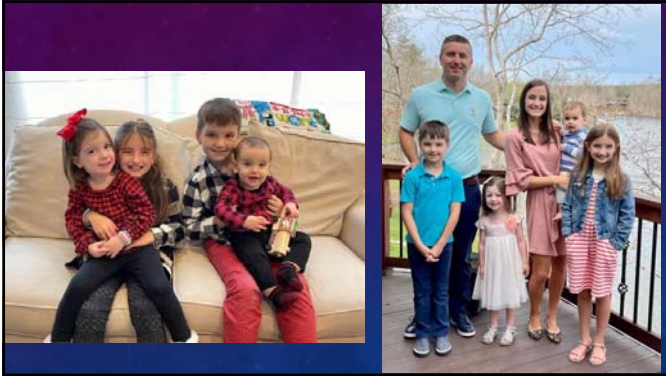
MICHAEL PATTERSON, DO
MANAGING PARTNER, EYE CENTERS OF TENNESSEE
CAPTAIN, UNITED STATES ARMY RESERVES



FINANCIAL DISCLOSURES

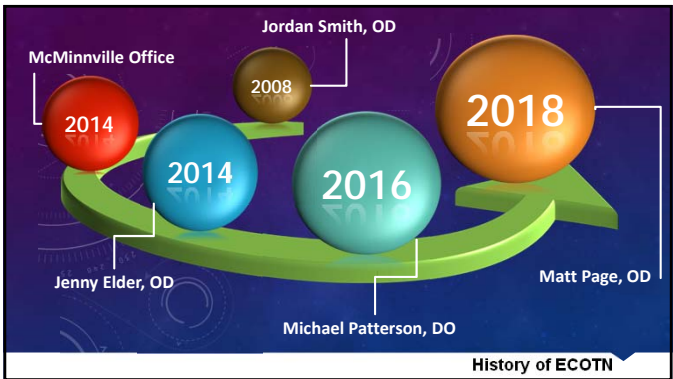
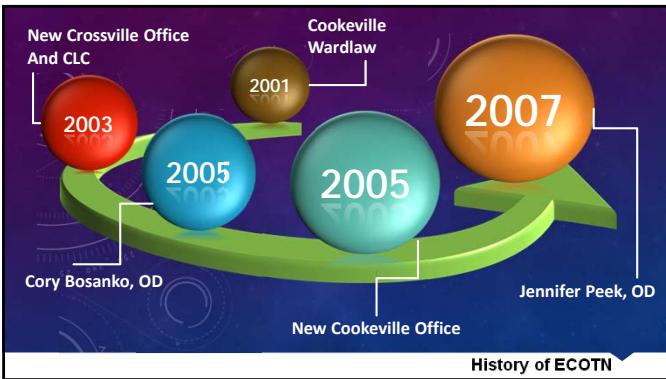
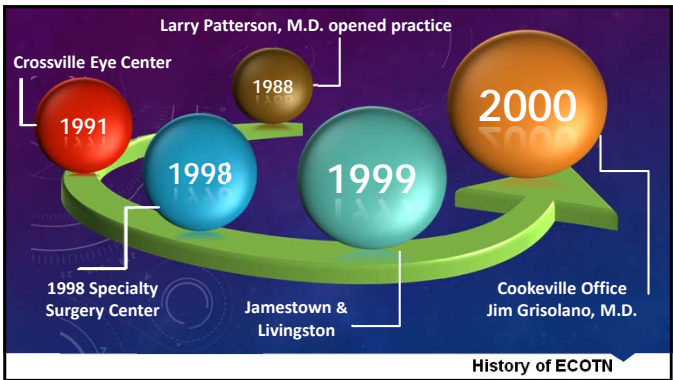
- Carl Zeiss Meditec
- Johnson and Johnson Vision
- Bausch and Lomb
- Allergan
- Iantrek
- Glaukos
- New World Medical

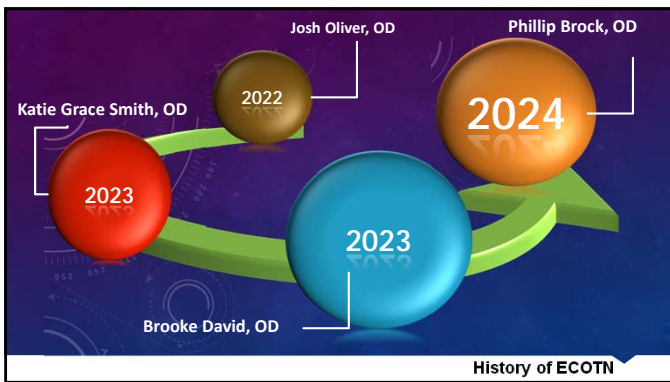
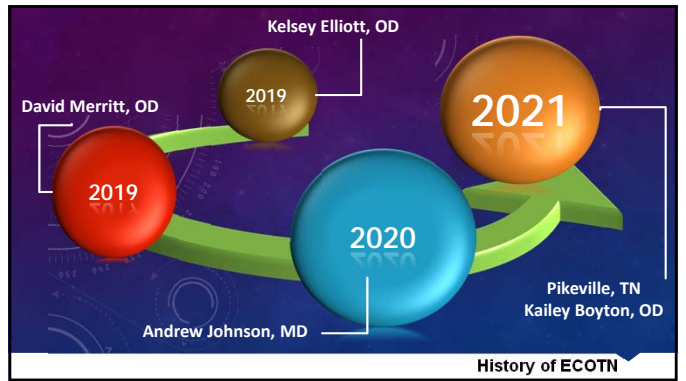
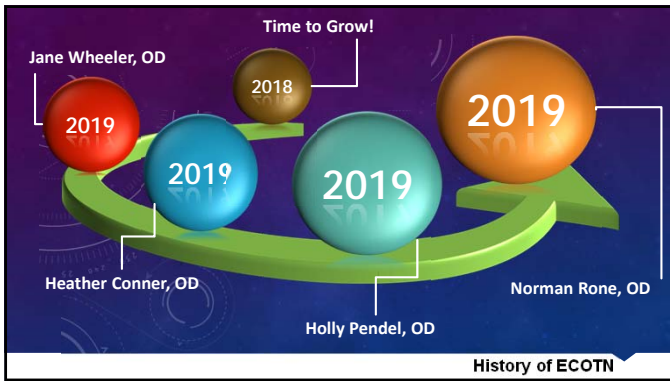




WHY DO MOST PRACTICES NEVER BECOME A PREMIUM PRACTICE?

HOW THIS WHOLE THING GOT STARTED





EYE CENTERS OF TENNESSEE

- 4 Ophthalmologists
- 17 Optometrists
- 8 Locations
- Full Scope Ophthalmic Practice
- Surgery Center
- 190+ employees

WHY IS EFFICIENCY IMPORTANT?

- Speed doesn't lead to efficiency, but efficiency leads to speed!
- Every single thing in your practice must be efficient:
 - Check In, Check Out, price of optical, retina, surgery evals, back office

PEOPLE DON'T CARE HOW MUCH YOU KNOW UNTIL
THEY KNOW HOW MUCH YOU CARE



10 TIPS TO HAVE A PREMIUM PRACTICE

1. BECOME GENUINELY INTERESTED IN OTHERS

- Make eye contact
 - Includes when talking to people on the phone (energy, excitement, care is easily heard by inflection)
- Know your patients by name
 - This is a major key to someone's self-worth
- Smile at the person in front of you
- Customer Experience
 - Have coffee machines or drinks for patients AND their families

2. START WITH PRAISE TO YOUR TEAM

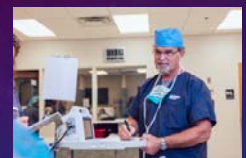
- Find a Megan.
- You must get your "junior team members" and the "senior team members" to be able to make decisions together
 - Can't operate in fear
- You must make them feel empowered
- Give them the tools to succeed and let them prove to you they can do it
- "Clients do not come first. Employees come first. If you take care of your employees, they will take care of your clients" (Richard Branson)

3. CALL MISTAKES OUT, BUT DO SO INDIRECTLY

- Never berate staff in front of their peers
- Give direct communication on mistakes, don't sweep under the rug, but do so gently
- Allow your team to communicate mistakes they see to their superiors without fear of retribution
- Mistakes should turn into opportunity

4. SHARE THE WEALTH

- Bonus structure
- Lunch daily (practice provides)
- 401K (matching), HSA
- Scrubs (look good, you feel good, you play good)
- Hawaii trips
- Continuing education
 - Trips fully funded plus paid work hours once every 3 years
- Vacations
 - Buy back policy
- "Train people well enough so they can leave, treat them well enough so they don't want to" Richard Branson



Attrition is killer

5. AVOID WASTING MATERIALS

- Every single glove wasted cost money
- You don't need 3 drops in one eye for EVERY dilation
- 1, not 2, paper towels can dry your hands
- The more wasted, the less bonus for the team

6. TEACH, TEACH, TEACH

- Monthly tech meetings
 - Technicians receive iJCHAPO credits
 - Doctors, admin, technicians
 - Make doctor's lecture and teach, bring up current topics
- Bi-monthly front office meetings
 - Doctors, COO, front office
- Monthly optical meetings
 - Opticians, administration
- Yearly Office meeting for all practices and staff

AMD Tech Meeting .pptx	Feb 22
Angles Tech Meeting 4-19-2017.pptx	Apr 20
CVF Tech Meeting 4-6-17.pptx	Apr 6, 20
CR Tech Meeting.pptx	Mar 20
EGM Tech Meeting 5-17-17.pptx	May 20
Fundus Photography 6-14-17.pptx	Jun 17
Glaucoma Primer Te...eting 11-30-16.pptx	Nov 30
Pediatric introductory...eting 9-26-18.pptx	Mar 1, 20
3-LPO Tech Meeting 5-5-17.pptx	Apr 20
Tech Meet 3-22-17.pptx	Mar 22
Tech Meeting 1-10-18.pptx	Jan 17
Tech Meeting 6-14-17.pptx	Jan 17
Tech Meeting 9-7-18.pptx	Aug 27
Tech Meeting 10-10-18 CME.pptx	Apr 20
Tech Meeting Retinal Detachment 2-21-18.pptx	Feb 21
Tech Meeting- HVF-Photos-Bleph.pptx	Apr 20

7. BE A PART OF THE TEAM

- Do not let your doctor sit back and do nothing
- Make she or he work
- OR gown/glove
- If the leaders aren't willing to do the work, no one will do it
- Get people cross-trained (to be able to appreciate the difficulty of the front office vs back office)

8. ALWAYS START ON TIME

- Never start your day behind schedule
- Remember the customer experience
 - Waiting times
 - You are not more important than they are
- Get to work early to get supplies ready and machines on
- Being late is NOT acceptable in patient care anymore
- Be proactive in communication with your doctors
 - Schedule patients later if your doctors are going to be late

9. SOCIAL MEDIA

- Make your social media presence count (i.e. don't waste posts that are not going to get your message out or tell your story)
- Encourage team members to represent your company well on social posts
- Get patient testimonials (when good)

10. EMBRACE CHANGE

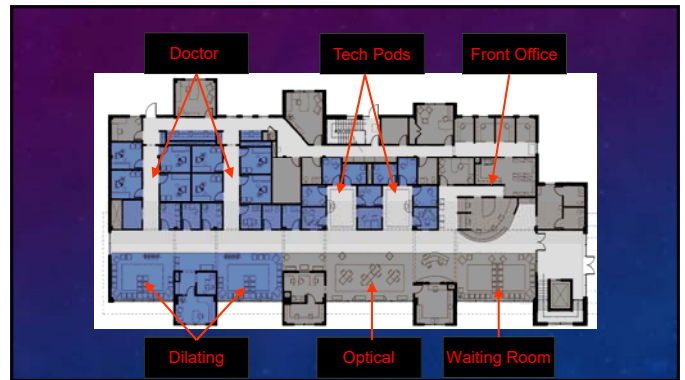
- Difference of my father and me
- Everyone is uncomfortable with change, but change often is good
- Be willing to adapt to the current times, or you will be left behind

WHAT DOES IT LOOK LIKE IN TENNESSEE? (CLINIC)

- Monday through Friday – Main office, 140-150 patient exams a day, 50-70 Optical additional optical visits, 50-60 surgery patients on Tuesday
- 1 Optometrists, 1 Ophthalmologist
- 4 Front office
- 4 Opticians
- 10-11 Technicians
- 4 Scribes (4 for surgeon, 2 for OD)
- 3 Surgical coordinators

WHAT DO WE TREAT?

- Cataract – all lenses
 - Glaucoma – Durysta, SLT, Micropulse, MIGS, Ahmed, Express, FDA trials
 - Oculoplastics – ELA, ILA, LTS, BULB, MOHs, Enucleation, Evisceration
 - Medical and Laser Retina – Dry/wet AMD, Laser Retinopathy, PRP, etc, Low Vision
 - Contacts – Soft, Hard, Sclerals
 - Cornea – DMEKs, Pterygium, Prokera
 - Dry Eye – Prokera, Plugs, Tyrvaya
 - Neuro-ophthalmology – GCA rule outs, NAION, Prism
 - Pediatrics – Amblyopia, NLD Probing
 - Refractive – LASIK, PRK, RK, ICL
- Things we don't do: Strab surgery, Retinal OR surgery, PKP



THREE STANDARD COMPUTERIZED REFRACTORS

- * Vision history
- * Lensometry
- * Auto Keratometry
- * Auto Refraction
- * Refraction



REFRACTING STATION



HISTORY ROOM

- Medical history
- Motility
- Pupils
- IOP
- Dilate



TRADITIONAL FULL EXAM ORDER

- * Techs perform:
 - * Medical history
 - * Visual history
 - * Vision, refraction, pupils, IOP, and dilate
- * Patient waits and waits
- * Finally sees doctor after 45 minutes
- * Goes to optical dispensary to pick out glasses with dilated eyes.
- * Total time can be 2 hours

OUR APPROACH

- * Techs perform:
 - * Quick visual history and refraction
 - * Medical history
 - * Pupils, IOP, Dilation
 - * If *not* getting glasses, dilate *before* getting the medical history
- * Goes to optical
- * Sees doctor
- * Goes home
- * Total time about 60 minutes

OUR APPROACH

- * CEO
- * COO
- * Director of Operations
- * 4 Regional Managers
- * 5 Operational Managers
(Techs/Optical/Recalls/HR/Credentialing)
- * Lead Surgery Coordinator
- * Nursing Administrator

SURGERY CENTER

- 55-60 patient cases
 - Morning: 28 cataracts/2 blephs by 11 am, twice monthly ICL
 - Afternoon: 10-12 Cataracts, 2 DMEKS, 10 Bilateral Plastics (ELAs, ILAs, BULBs, LTS, occ MOHS recon), 4-6 Glaucomas in pm
 - In between am/pm: 9-15 Lasers (SLT, YAG Vit, YAG Cap, Durysta)
- 1 OR
- 4 Beds
- 1 Surgeon
- 5 RNs
- 2 Scrub Techs
- 2 CRNAs
- 2 Front Desk

WHAT ARE THE TAKE AWAYS AND HOW CAN I HELP?

- Efficiency
 - You can be consistently inaccurate, but you cannot be inaccurate if you are efficient
- Attitudes
- Change in policy
- Customer Experience Matters
- Never stop learning
- Share the wealth

CONTACT INFORMATION

- Call me: let me talk to your surgeons, doctors
- michaelp@ecotn.com
- 931-260-8069



Refractive Surprises after IOL Surgery

Sonia H. Yoo, MD
 Greentree Hickman Endowed Professor of Ophthalmology
 Associate Medical Director
 Bascom Palmer Eye Institute
 University of Miami Miller School of Medicine

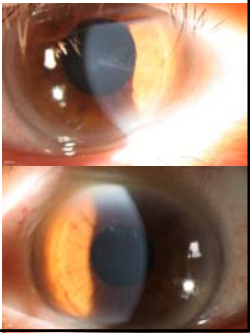
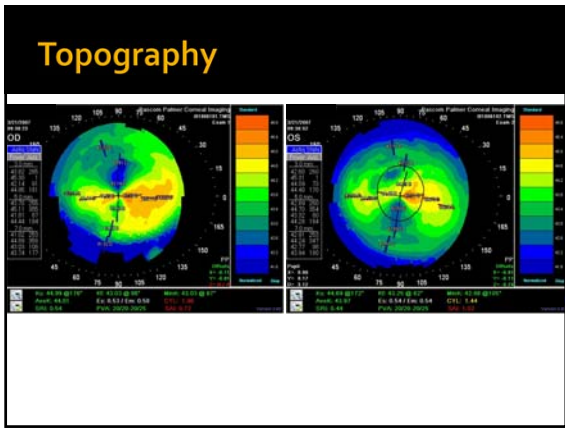
• Financial Disclosures: Carl Zeiss Meditec, Oyster Point Pharma, Dermavant, J&J
 • No financial interests in this subject matter

Learning Objectives

- List the possible unintended consequences on refraction seen with various IOLs
- Understand the management of patients with refractive surprises after IOL surgery
- Learn techniques to avoid refractive surprises after IOL surgery

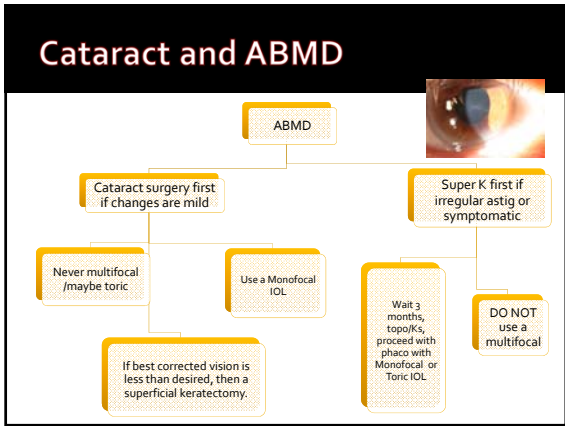
Case Presentation

- 63 ♂
- Ref
 - +1.50 +1.50 X 180
 - +2.00 +1.50 X 180
- BSVA
 - 20/40 (OU)
- 2+ Cataracts OU
- Mild DES

Treatment

- Which IOL?
- Phaco + Toric IOL OU
 - SN6AT3
- Not too happy
- Lesson Learned: Be very careful with premium lenses in patients with anterior basement membrane dystrophy

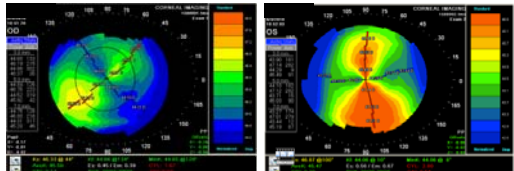


Case Presentation

- 65 ♀
- Ref
 - 10.50 +4.50 x 45
 - 9.25 +4.00 x 95
- BCVA (RGP CL)
 - 20/40 (OU)
- Slit lamp
 - OD: 2+ Cataract
 - OS: 1+ Cataract , iris coloboma

Treatment ?

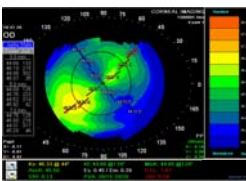
OD -10.50 +4.50 x 45



Options

- TORIC IOL
- IOL + LRI
- EXCIMER
- AK

Plan for OD - Toric IOL



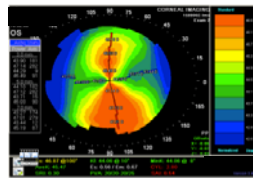
- Complicated phaco
- PPV+PPL/Sulcus IOL + LRI
- MA50BM
- Post op 6 week UCVA
 - OD: 20/40

What would you do for the left eye?
OS -9.25 +4.00 x 95

OS Phaco + Toric IOL

- SN6AT5
- UCVA
 - OD: 20/25 (PO 10 wks)
 - OS: 20/25 (PO 4 wks)
- OD -0.25 +0.50x30
- OS -0.50 +0.50x100
- Lesson Learned: Have a back up plan



OS -9.25 +4.00 x 95, inferior iris coloboma

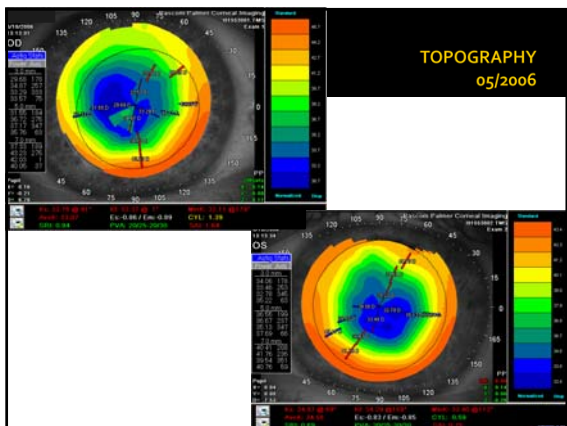


Case Presentation

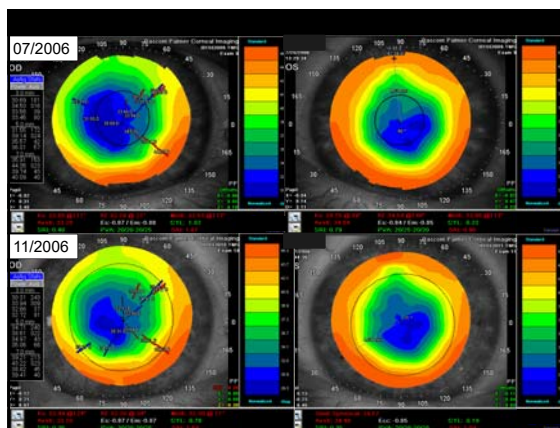
- 48 years old, male
- "I want a better vision."
- POHx:
 - RK OU; 1986
 - OD: -3.00 sph
 - OE: -3.75 sph

Exam – 05/2006

- OD: +5.75 +5.50 @ 95 20/20
- OS: +2.50 +1.75 @ 70 20/20
- OS = dominant eye
- IOP:
 - OD: 14
 - OS: 17
- Slit Lamp:
 - OD 
 - OS 



- CLEAR LENS EXTRACTION OD (6/2006)**
- **12 Days Post-op:** "halos, worse at the end of day"
 - VA OD: +3.25 +1.50 x 85 20/20; Add +1.75 J1
 - OS: +3.00 +1.25 x 42 20/20; Add +1.75 J1
 - **2 Months Post-op:** "vision more stable"
 - VA OD: +2.50 +0.75 x 78 20/20
 - OS: +3.50 +1.25 x 58 20/205
 - **5 Months Post-op:** "Halos at night; vision worsens throughout the day."
 - VA OD: +2.50 +0.75 x 85 20/20
 - OS: +3.75 +0.50 x 45 20/20



- What now?**
- LASIK
 - PRK
 - IOL EXCHANGE
 - PIGGYBACK

- How to Choose the IOL power?**
- Holladay vergence formula
 - Masket nomogram:
 - For Myopic refractions, 1.2x SE
 - For Hyperopic refractions, 1.5x SE

CASE 2 : Treatment

- How to choose the right IOL

IOL Power (Sulcus) - Diopters	Expected Correction - Diopters
-4.00	-3.40
-3.00	-2.55
-2.00	-1.75
-1.00	-0.85
0.00	0
+1.00	+0.66
+2.00	+1.33
+3.00	+2.00
+4.00	+2.66

Back to the patient...

- S/P PiggyBack lens implant 11/2006
- IOL:
 - Staar AQ 5010, +4.00 D, ciliary sulcus
- VA:
 - “vision better, no discomfort”
 - OD 20/30: +0.25 +1.25 x 90 20/20
 - OS 20/60: +3.75 sph 20/20

Lesson Learned

- Piggyback IOL
 - B&L LI61AO 3 piece aspheric silicone lens with PMMA haptics A=118.7
 - Staar Silicone IOL AQ 5010 (6.3mm optic, 14.0mm dia) Order cartridge and inserter (difficult to fold thin IOL)

Case Presentation

- 70 year old female
- Cat OU
- MRx : OD -3.25 (20/40)
OS plano +1.50 x 80 (20/50)

Case Presentation

- Phaco OD : 7/22/08
SN60WF 20.0 (target -1.18)
- Phaco OS : 7/29/08
Sn60WF 19.5 (target -0.23)
- UCVA 20/20, 20/40
- MRx :
OD : Plano (20/20)
OS : +0.25 +0.50 90 (20/25)

Case Presentation

I CAN'T READ!!!!

Case Presentation

- What now?
- OCT : no CME
- OS : Haptics in the bag

Case Presentation

- How to proceed ??????

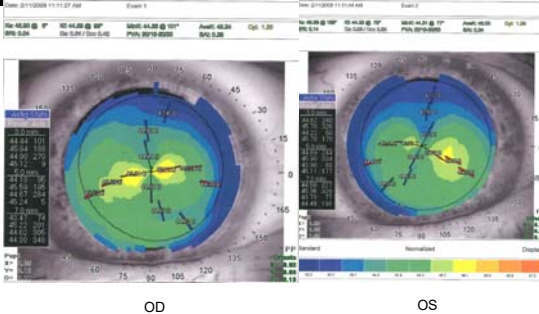
IOL Explanation



Case Presentation

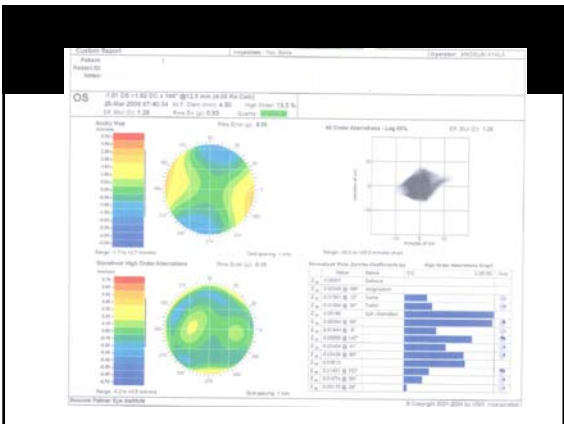
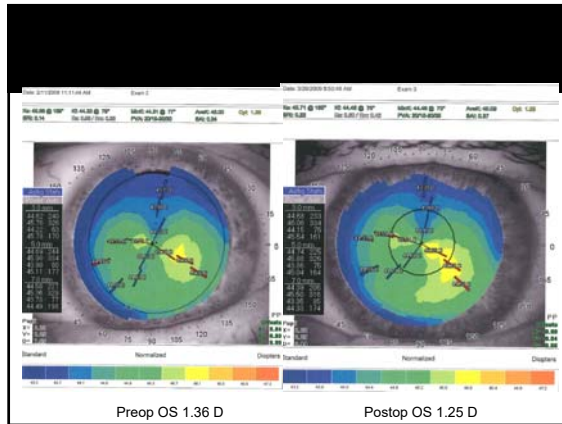
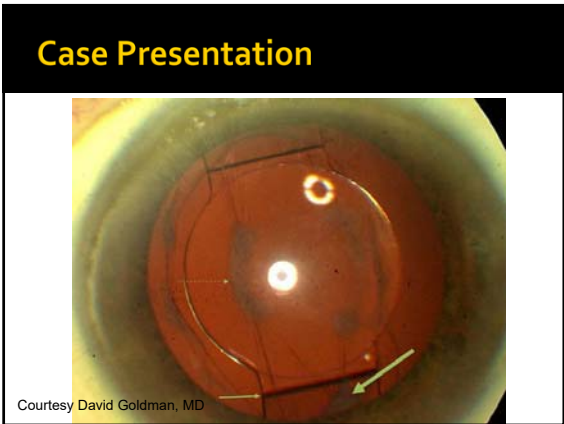
- 51 yo jeweler c/o hazy vision OS>OD
- UCVA 20/300 OU, J1+OD, J1 OS
- Mrx OD -3.00 +0.50 x180 20/20
OS -3.00 +0.75 x170 20/20
- Central PSC OS

Preop Topography



Case Presentation

- 3/10/09 Crystalens HD OS
- POD#1 20/20, J3 “blurry”
- POD#9 20/50, J1 “blurrier”
- Mrx: -1.50 +1.75 x 168 20/15



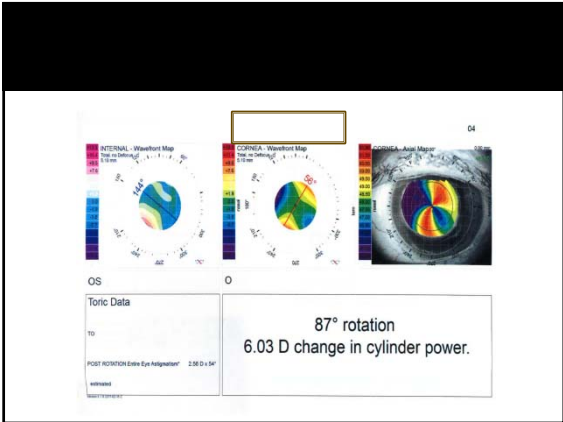
- ### Case Presentation
- Patient given glasses and cannot tolerate them due to anisometropia
 - -3.00 +0.50 x180 OD
 - -1.50 +1.75 x 168 OS
 - Unable to tolerate contact lenses

- ### What to do now?
- YAG?
 - IOL exchange (what IOL would you place? Toric?)
 - LASEK/PRK (when?)
 - LASIK (when?)
 - Lens removal in the right eye?

LRICALCULATOR.COM

76 yo female c/o blurry vision OS since surgery

- s/p toric PCIOL 6/2018 OU
- s/p yag 11/2019 OU
- UCVA OD 20/25, OS 20/300
- BSCVA OD 20/20, OS 20/30
- Mrx OD plano +0.50 x 145, OS -5.0 +8.75 x 53
- SLE: OD toric marks at 130, OS toric marks at 144 (AMO ZCT600 +2.45D SE 6D CYL)



15 yo female with high hyperopia and PSC cataracts

- OD +7.0 20/30 OS +8.0 20/60
 - AL = 20.10 mm IOL power 38.0D
-

Summary

- Watch out for occult ocular surface disease prior to IOL surgery
- Consider low flow phaco, scleral tunnel in RK patients
- For piggyback IOL, use a thin, 3 piece lens in the sulcus over an in the bag IOL of a different material
- When correcting refractive errors after IOL surgery, rule out other causes of ametropias (CME, corneal wound healing) and wait for refractive stability
- All refractive IOL patients (not just multifocal) are very sensitive to postoperative cylinder!

Summary

- In all surgeries
SUCCESS = OUTCOME/PATIENT EXPECTATIONS
- Pre and Post-operatively, make sure to listen to the patients concerns and address them
- Patients need realistic expectations set prior to surgery

Thank You

Pearls for Success with Multifocal IOLs

Mark F. Pyfer MD



Success with Premium IOLs

- ✓ Optimize the ocular surface
- ✓ Accurate biometry
- ✓ Meticulous and consistent surgical technique
- ✓ Treat astigmatism > 0.5D
- ✓ Analyze outcomes / customize A-constants
- ✓ Identify outliers before surgery
 - Physiologic (high angle alpha, co-morbid eye disease)
 - Psychologic (unrealistic expectations, OCD)
- ✓ Thorough pre-op counseling
- ✓ Expect some refractive enhancements
- ✓ Comfortable with IOL exchange

3 Surgical Technique Pearls

- ① Prevent capsule fibrosis & opacification
- ② Adopt Femtosecond laser-assisted cataract surgery (FLACS)
- ③ Optimize intraoperative IOL alignment

① Prevent Capsule Fibrosis and Opacification



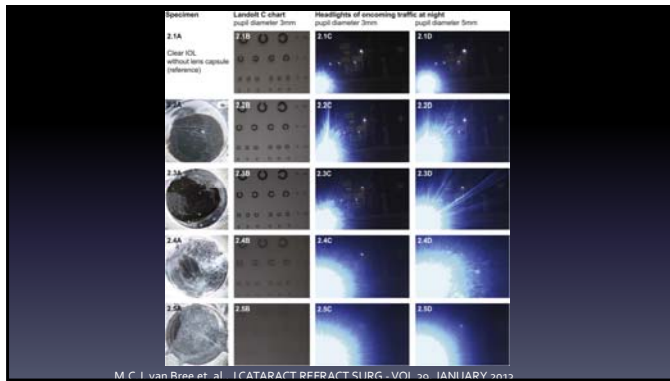
Incidence of PCO

- Most common "complication" of phaco CE
- 3yr incidence: 38.5%
 - Greater with hydrophilic acrylic IOLs (64%)
 - Greater for resident / fellow surgeons (49%)

C.Fong et al, Am J Ophthalmol 2014, Jan: 171-179

What Causes Capsule Opacification?

- Wound healing response to cataract removal
- Proliferation, migration and epithelial-to-mesenchymal transition (metaplasia) of LECs
- Collagen deposition
- Myofibroblast contraction
- Lens fiber regeneration (Elschnig's pearls)



Why Worry About PCO / ACO?

- Why not just treat with Nd-YAG laser?
 - Missed opportunity due to late follow-up
 - Possible complications of laser (uncommon)
 - Patient perception of failure
 - Sub-optimal performance of premium IOLs

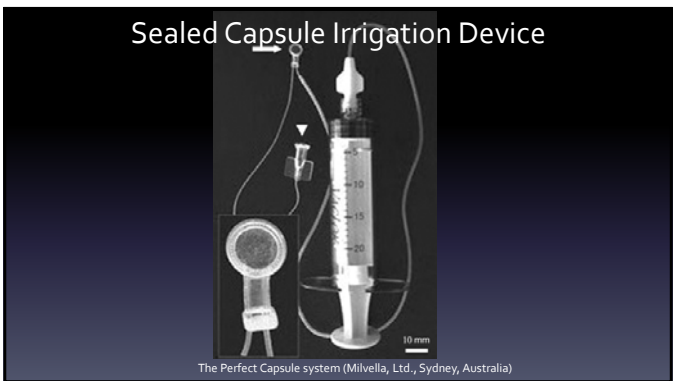
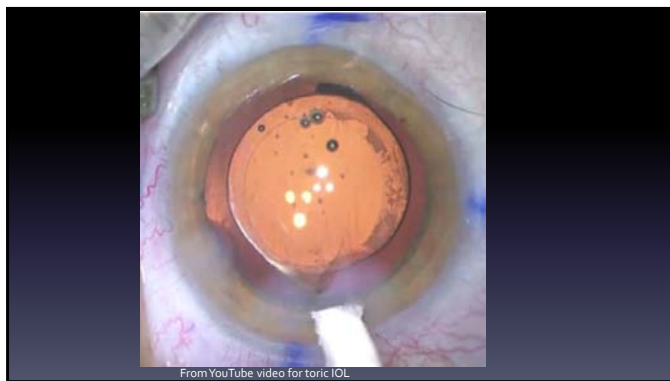
Prevention of Capsule Opacification

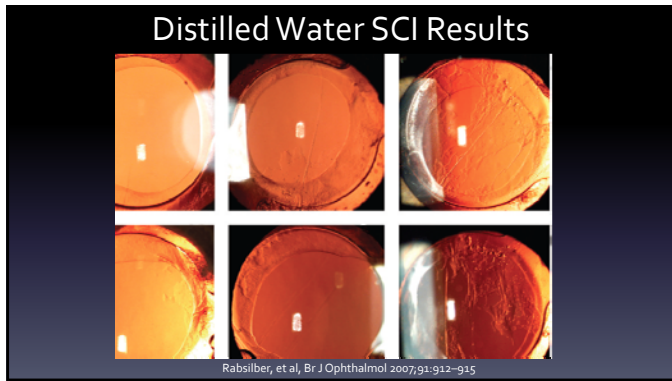
- ① Surgical Maneuvers
- ② Post-operative Interventions
- ③ Innovative IOL Design

Prevention of Capsule Opacification: Surgical Maneuvers

- Square-edged IOL
- 360 degree anterior capsule optic overlap
- Complete cortical removal
- Practice proper capsular bag "toilette" *

* Jay Lippman, MD





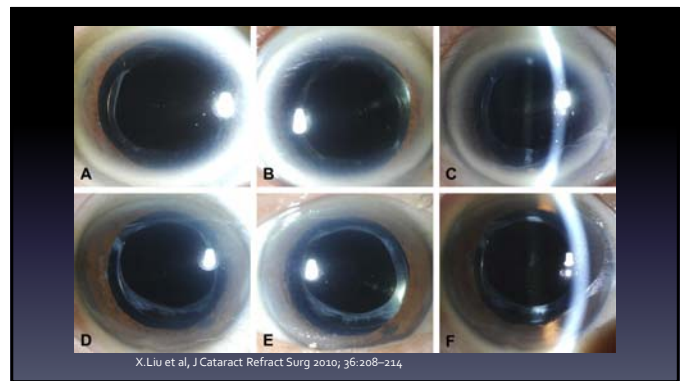
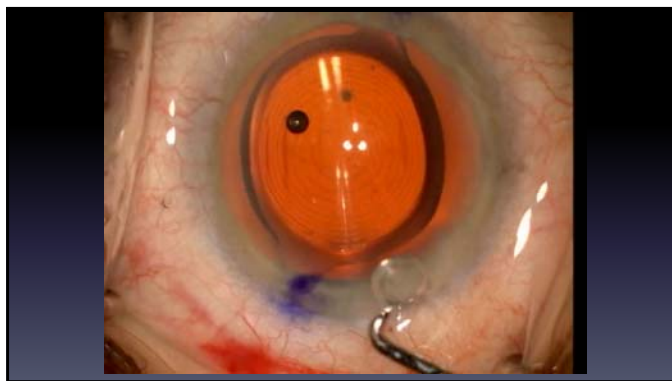
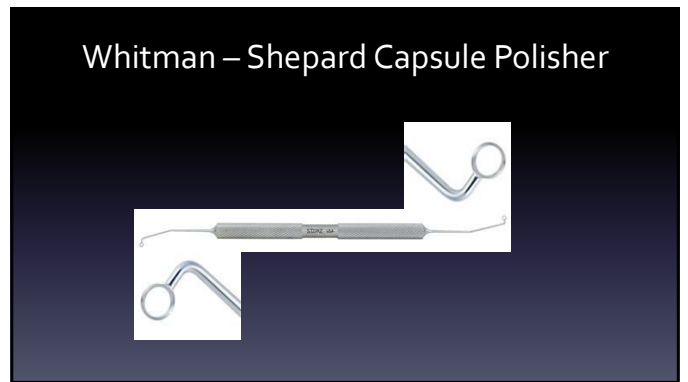
Capsule Polishing System

Enables a meticulous removal of lens and epithelial cells from the anterior and posterior capsule. The orange green dye serves to sub-incise capsule that is hard to reach, and is particularly useful for cleaning waxy deposits of opacities from the peripheral anterior capsule. Cleaning the capsule helps to prevent capsule contraction syndrome.

Saffran - Singer Capsule Polishing System
 Designed by Dr. Steven Saffran, MD
 (Lawrenceville, New Jersey)
EP-68

Cianni - Singer Capsule Polishing System
 Designed by Dr. Robert Cianni, MD
 (Salt Lake City, Utah)
EP-68C




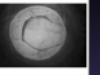



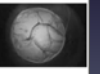
Singer Capsule Polishing System
 Designed by Dr. Jack Singer, MD
 (Randolph, Vermont)
EP-81



Post-operative Interventions


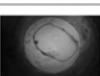



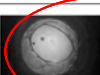


- Pharmacologic
- Laser Relaxing Incisions

Can Topical NSAID Use Prevent AC Contraction?

	Antibiotic only	Diclofenac	Bromfenac	Betamethasone
	Control	DFNa	BFNa	BM
1 week after surgery				
2 weeks after surgery				

K. Mukai et al, J Cataract Refract Surg 2009; 35:1614-1618

Can Topical NSAID Use Prevent AC Contraction? Yes (in rabbits)

	Antibiotic only	Diclofenac	Bromfenac	Betamethasone
	Control	DFNa	BFNa	BM
1 week after surgery				
2 weeks after surgery				

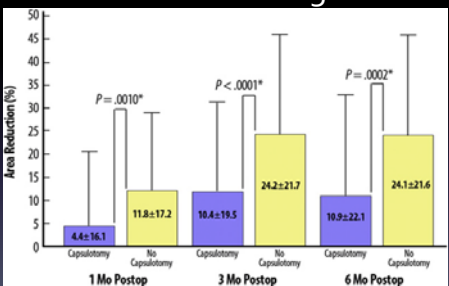
K. Mukai et al, J Cataract Refract Surg 2009; 35:1614-1618

Laser Relaxing Incision Study



K. Hayashi, et al., J Cataract Refract Surg 2010; 37:97-103

YAG laser AC relaxing incisions



Time Postop	Group	Area Reduction (%)
1 Mo Postop	Capsulotomy	4.4 ± 16.1
	No Capsulotomy	11.8 ± 17.2
3 Mo Postop	Capsulotomy	10.4 ± 19.5
	No Capsulotomy	24.2 ± 21.7
6 Mo Postop	Capsulotomy	10.9 ± 22.1
	No Capsulotomy	24.1 ± 21.6

K. Hayashi, et al., J Cataract Refract Surg 2010; 37:97-103

Innovative IOL Design

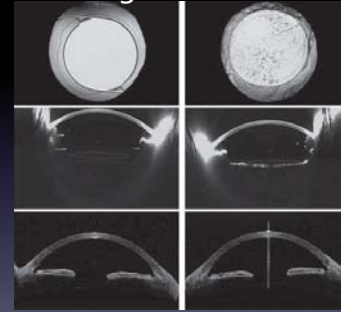
- Endocapsular equatorial ring
- Space-filling multi-piece IOLs

Silicone Endocapsular Ring



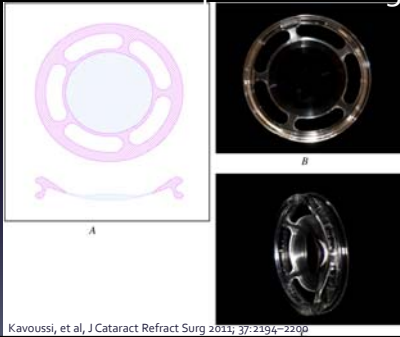
T. Hara et al, Arch Ophthalmol. 2011;129(7):855-863.

E-ring Clinical Trial

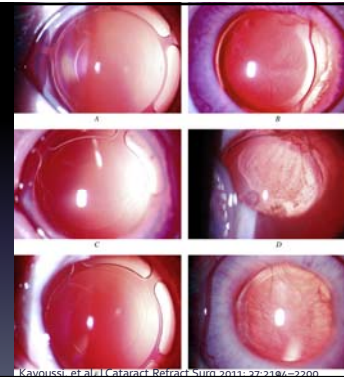


T. Hara et al, Arch Ophthalmol. 2011;129(7):855-863.

New Disc-shaped IOL Design



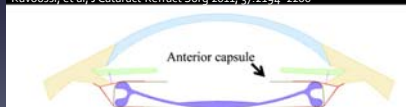
Kavoussi, et al, J Cataract Refract Surg 2011; 37:2194-2200



Kavoussi, et al, J Cataract Refract Surg 2011; 37:2194-2200

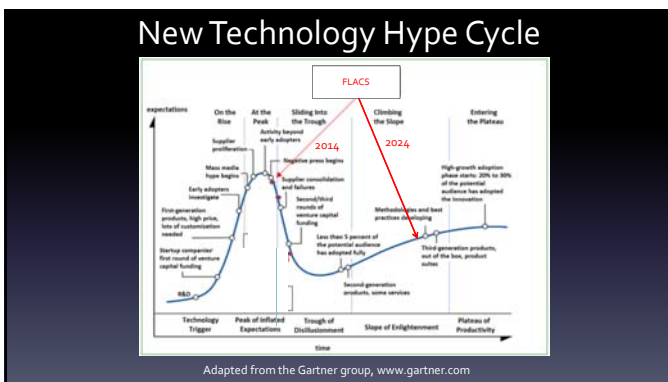
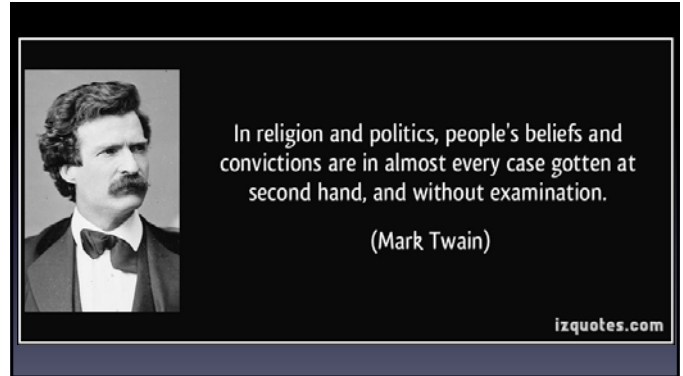


Kavoussi, et al, J Cataract Refract Surg 2011; 37:2194-2200



② Adopt Femtosecond Laser-assisted Cataract Surgery





Why FLACS?

- More expensive
- Takes longer (at least at first)
- Some report higher complication rate (at first)
- Cortical removal more challenging
- Better outcomes not yet proven with current IOL designs

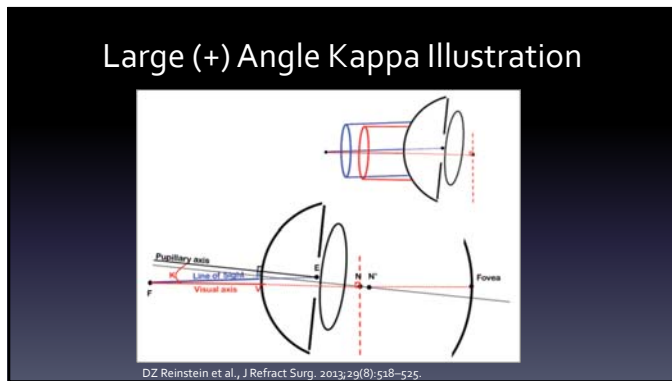
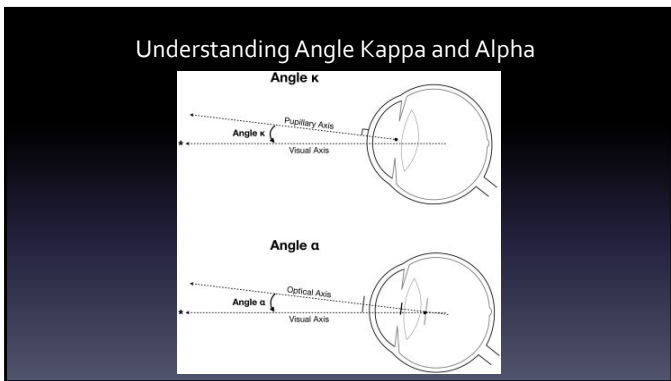
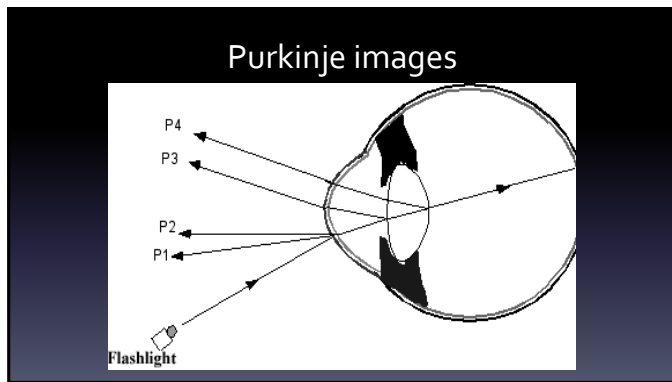
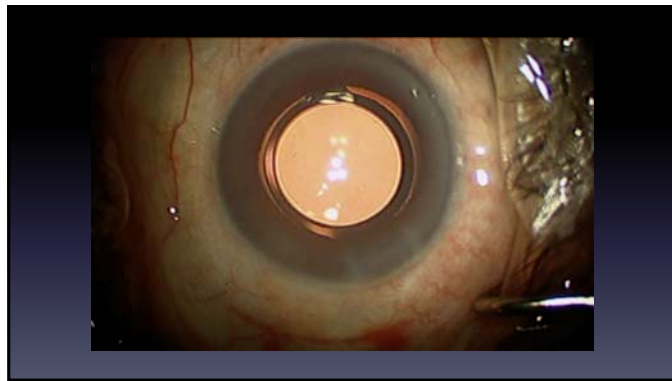
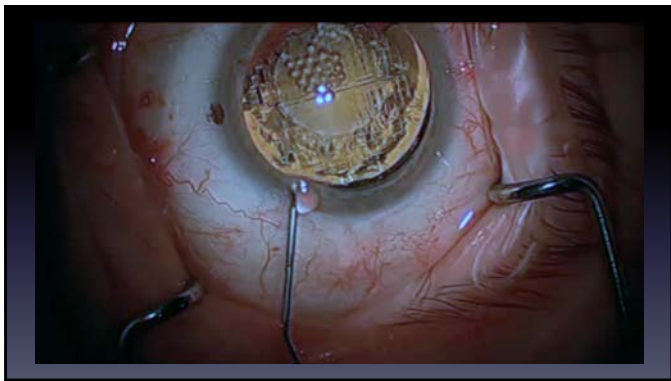
Why not FLACS?

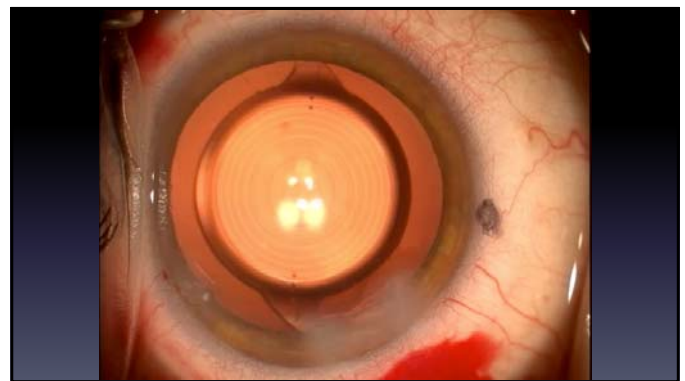
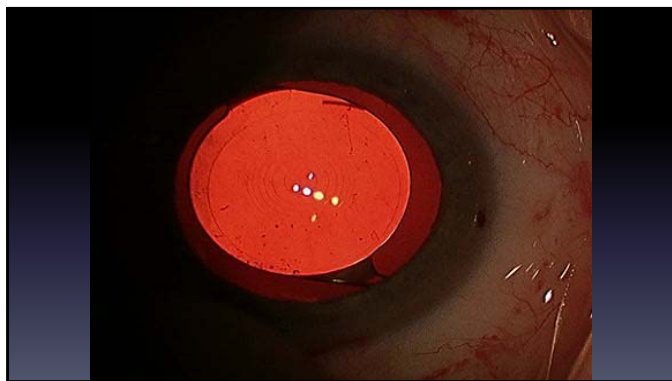
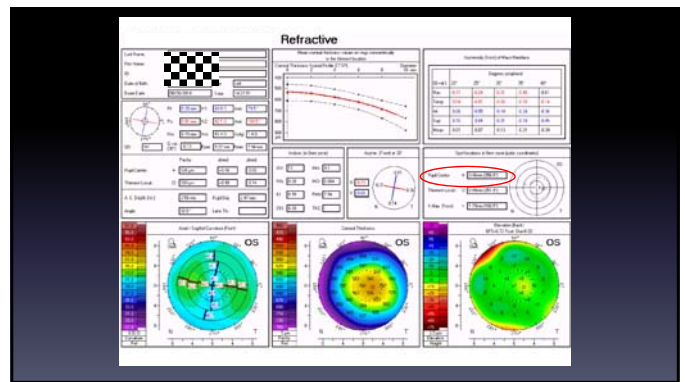
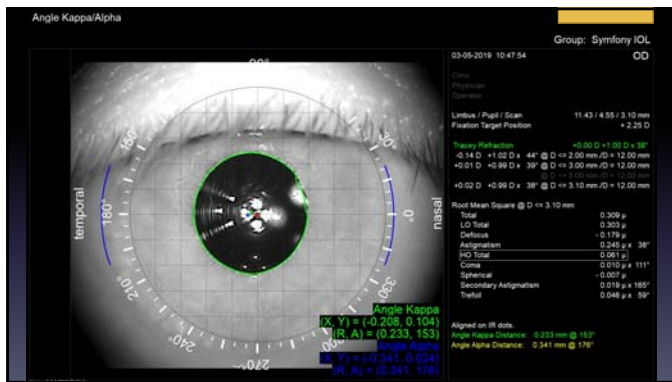
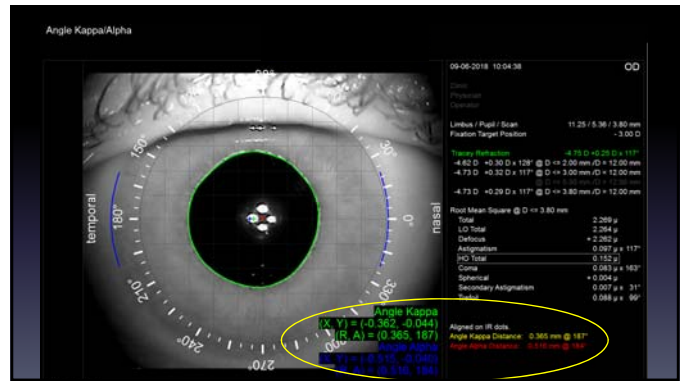
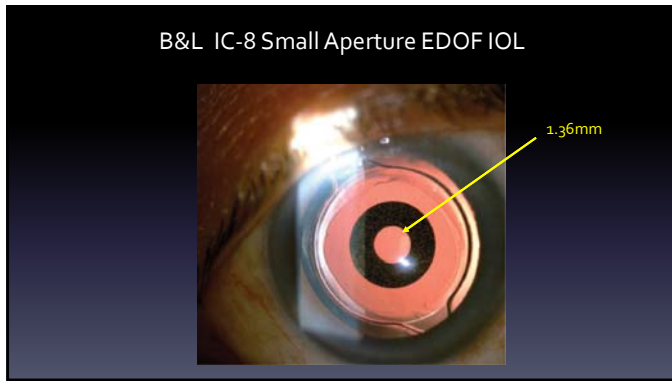
- Perfect capsulotomy every time
- Ability to center capsulotomy on anatomic features automatically
 - Scanned capsule, pupil, limbus, other
 - Now linked to pre-op imaging
- Consistent arcuate keratotomy incisions
 - Intrastromal option (impossible with blade)
- Zero ultrasound lens extraction
- Will spur development of new IOLs

Femto Phaco Technique Adjustments

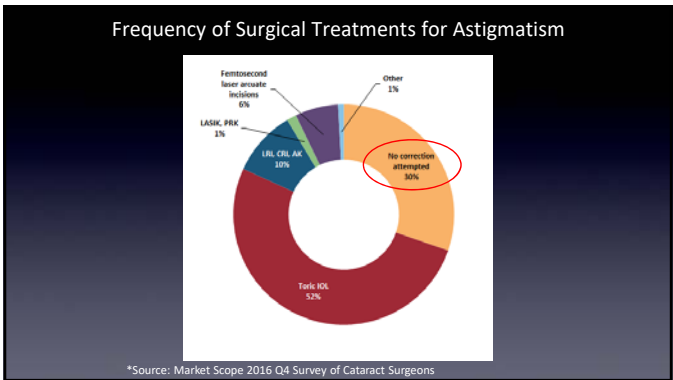
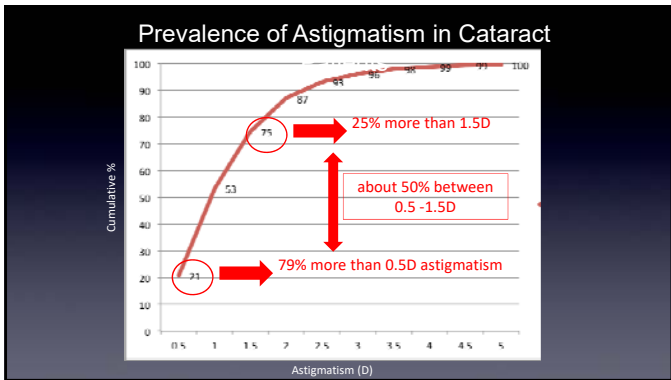
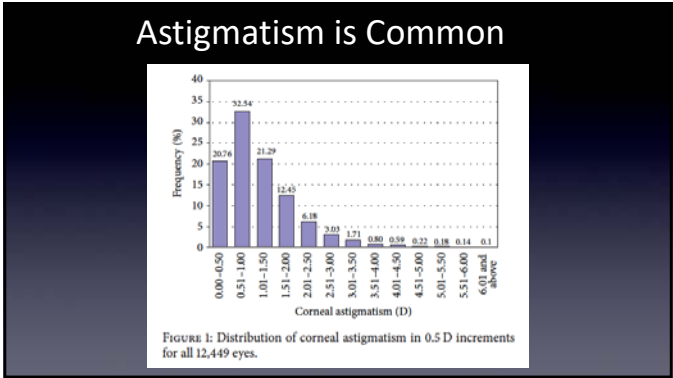
- ① Expect a "yellow reflex" initially
- ② "Dimple-down" capsule disc removal
- ③ Vent trapped gas bubbles before hydrodissection
- ④ Aspirate nuclear quadrants in non-softened area first
- ⑤ Use a curved soft-tipped IA handpiece

 A surgical image showing a femto phaco technique adjustment. The image shows a circular lens with a grid pattern, surrounded by a yellowish reflex. The lens is being held in place by a handpiece.





Treat Astigmatism: Femto laser Arcuate Keratotomy



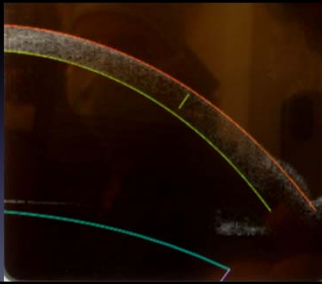
Arcuate Keratotomy & Limbal Relaxing Incisions

- Used to correct astigmatism
- Done manually
- Difficult to perform in a reliable manner
- Risks:
 - Ocular discomfort, infection, corneal perforation, over / under-correction, irregular astigmatism

Intrastromal Arcuate Keratotomy (ISAK)

- Precise and accurate length, depth, angular position, and optical zone
- Uses optical coherence tomography guided corneal pachymetry
- Allows for greater safety and reproducibility compared with manual techniques
- Minimizes risk of infection and patient discomfort
- Disadvantages include expense and less effect of incisions

Intrastromal Arcuate Keratotomy (ISAK)



Femto ISAK surgical view



Femto ISAK day 1 postop



Current ISAK Nomogram Options

Donnenfeld LRI Nomogram

Donnenfeld LRI Nomogram
 Patient Name: Pyler
 Patient Name ID: 78
 Patient Age: 78
 Nomogram Selection: Donnenfeld Nomogram
 Eye Selection: O20 - Right Eye
 Steep Meridian: 80 / 278
 Flat Meridian: 8 / 180
 Steep K: 44.80 D
 Flat K: 42.80 D
 Prospective Astigmatism: 1.80 D
 Residual Astigmatism after LRI: 0.80 D
 New Steep K: 41.80 D New Flat K: 42.80 D
 Anterior curvature: 1.80 D Treatment: 1.30 D
 LRI Incision(s): 1 Incision Size: 50/19.7 a.h.

Julian Stevens ISAK Calculator

Enter data into the white data boxes and the calculator will generate the intrastromal AK data to program into ANO Catalys
 Reset all values to defaults
 Age (Years): 70
 Enter mean SIRC magnitude of your primary incision & side-ports: 0
 Enter mean SIRC Angle of your primary incision & side-ports: 150
 Enter the magnitude of the cyl to be corrected: 1.5
 Enter the angle of the cyl to be corrected: 90
 Total cylinder magnitude to be corrected: 1.5
 Total cylinder angle to be corrected: 90
 Incision arc length to program Catalys: 60° at angle 90°

My technique: Adjust your current LRI nomogram

Table 1. Modified Gills nomogram indicating the degrees of arc incised with paired LRIs centered on the steep axis. The length is titrated by keratometric cylinder and patient age; the incision depth is set at 600 µm.

Preoperative Cylinder (D)	Degrees of Arc						
	30-40 Y	41-50 Y	51-60 Y	61-70 Y	71-80 Y	81-90 Y	≥ 91 Y
WTR astigmatism*							
1.50 to 2.25	60	55	50	45	40	35	30
2.50 to 3.00	70	65	60	55	50	45	40
≥ 3.25	80	75	70	65	60	55	45
ATR astigmatism†							
1.50 to 2.00	70	65	60	55	45	30	30
2.25 to 2.75	90	80	70	60	50	45	40
≥ 3.00	90	80	85	70	60	50	45

ATR = against the rule; WTR = with the rule
 *Steepest keratometry reading 45 to 135 degrees
 †Steepest keratometry reading 2 to 45 degrees or 135 to 180 degrees; the temporal incision includes the cataract incision.

Ref: Kaufmann C, Peter J, et al. JCRS. 2005 Dec;31(12):2261-5

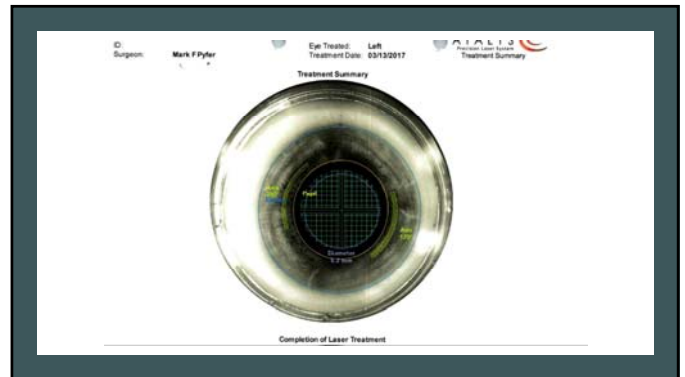
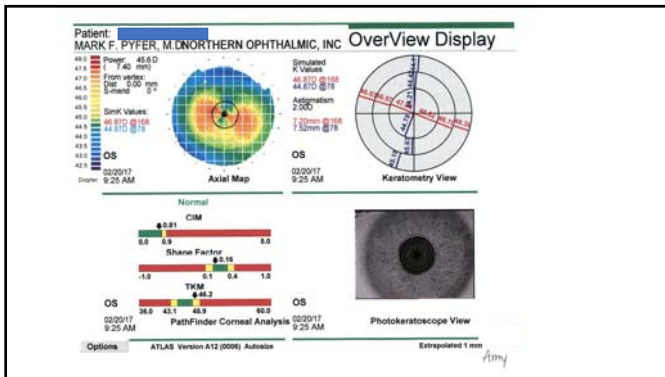
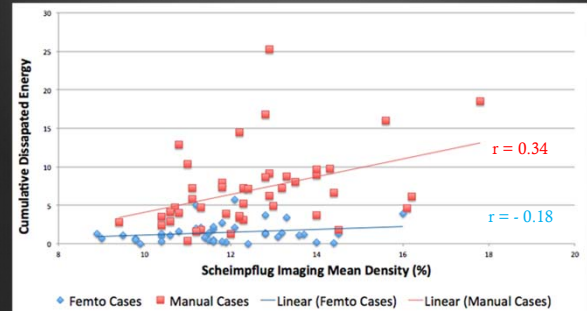
Example of ISAK Calculation

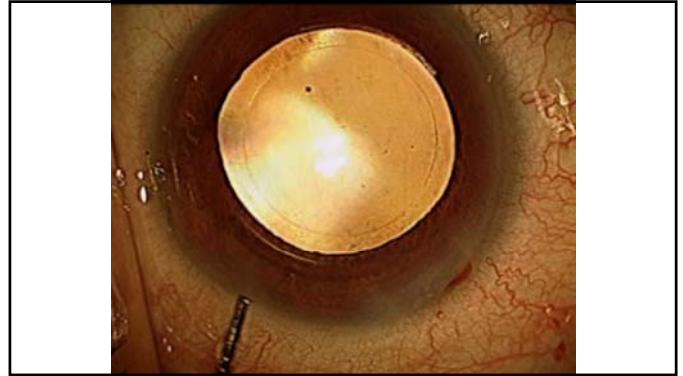
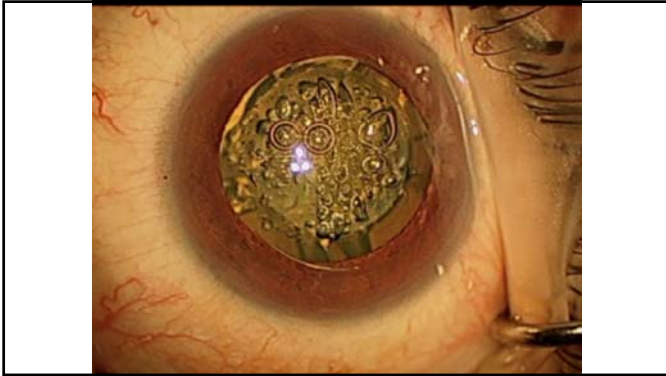
70 year old with 1.5D steep axis at 90°
 Table calls for paired LRIs arc length of 45°
 1.4 x 45 = 63° ISAK pair at 90°
 (20% uncut anterior and posterior cornea)

First Hand Information



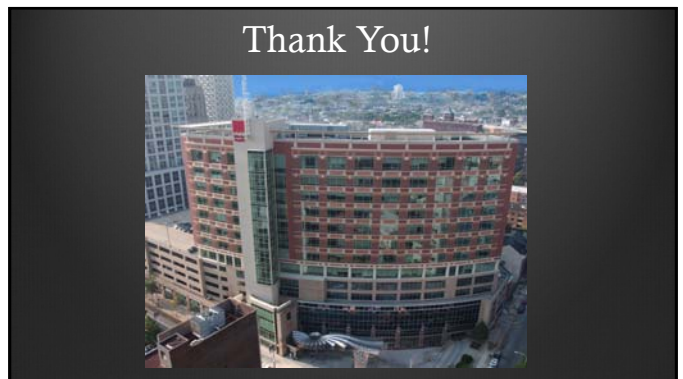
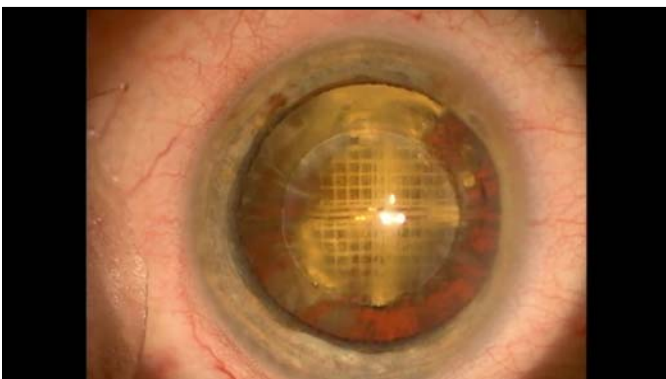
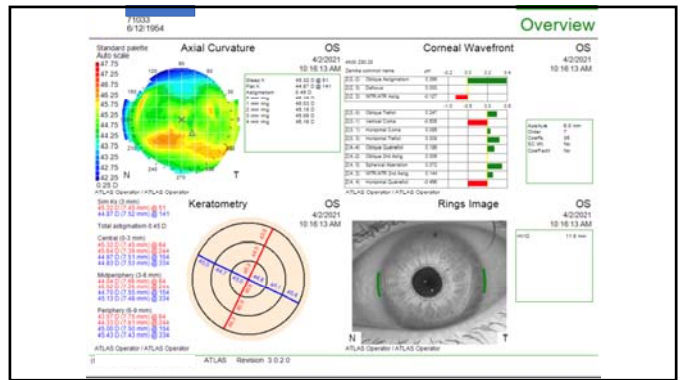
Mean Lens Density vs CDE





Curvature Values		Spherical values	
Avg: 43.83/45.86 D		SD: 0.03 mm	
K1: 43.72 D @ 86°	7.72 mm	K1: 44.29 D x 158°	7.62 mm
K2: 45.79 D @ 176°	7.37 mm	K2: 44.94 D x 68°	7.51 mm
AD: +2.07 D @ 176°		AK: +0.65 D x 68°	
K1: 43.89 D @ 82°	7.69 mm	K1: 44.18 D x 144°	7.64 mm
K2: 45.86 D @ 172°	7.36 mm	K2: 44.64 D x 54°	7.56 mm
AD: +1.97 D @ 172°		AK: +0.46 D x 54°	
K1: 43.95 D @ 80°	7.68 mm	K1: 44.29 D x 163°	7.62 mm
K2: 45.86 D @ 170°	7.36 mm	K2: 44.82 D x 73°	7.53 mm
AD: +1.91 D @ 170°		AK: +0.53 D x 73°	

Anterior Chamber Depth Values		Anterior chamber depth values	
Avg: 2.74 mm		Avg: 2.74 mm	
SD: 0.03 mm		SD: 0.03 mm	



Thank You!