

# IPCL Phakic Lenses for keratoconus Personal experience

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# Astigmatism

**Cornea Front**



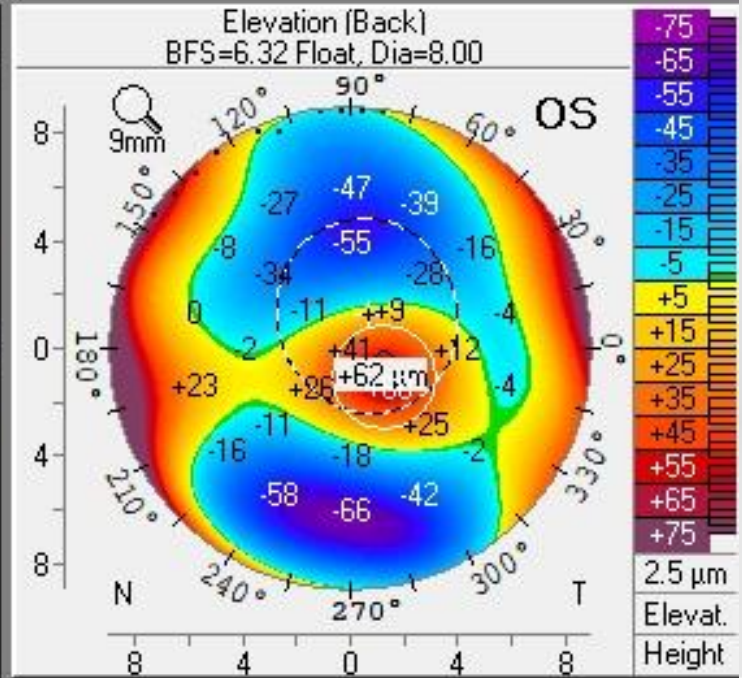
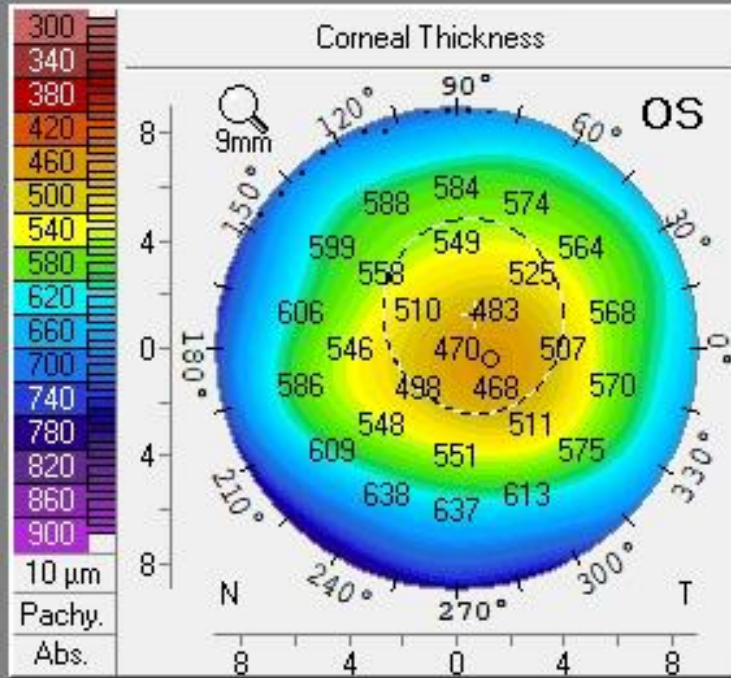
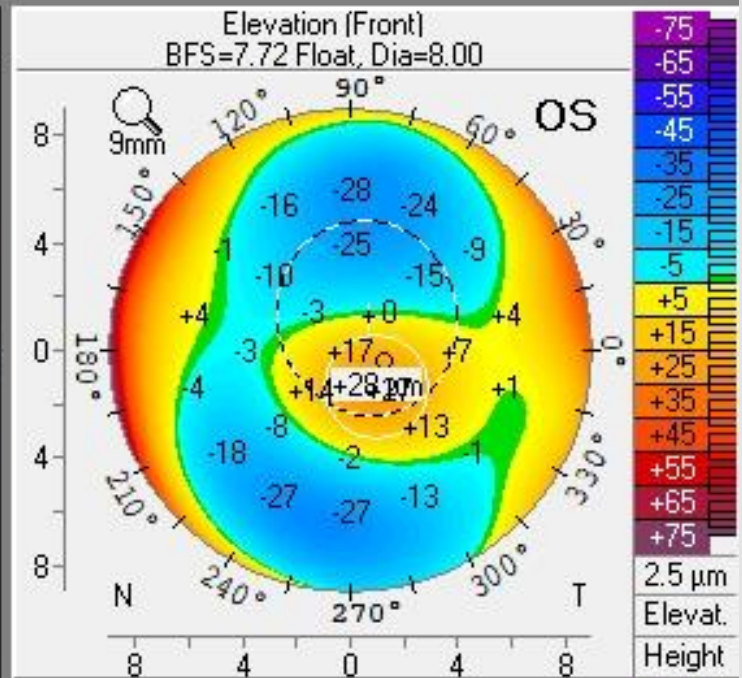
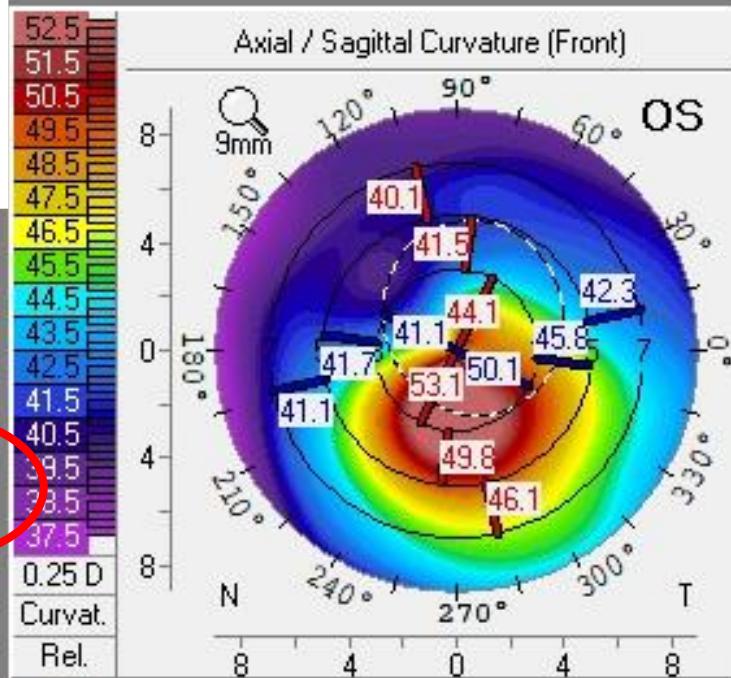
Rf:	7.43mm	K1:	45.4D
Rs:	6.97mm	K2:	48.4D
Rm:	7.20mm	Km:	46.9D
Axis:	68.3°	Astig:	3.0D
Q-val (6mm):	-1.00	Rper:	8.16mm
		Rmin:	6.17mm

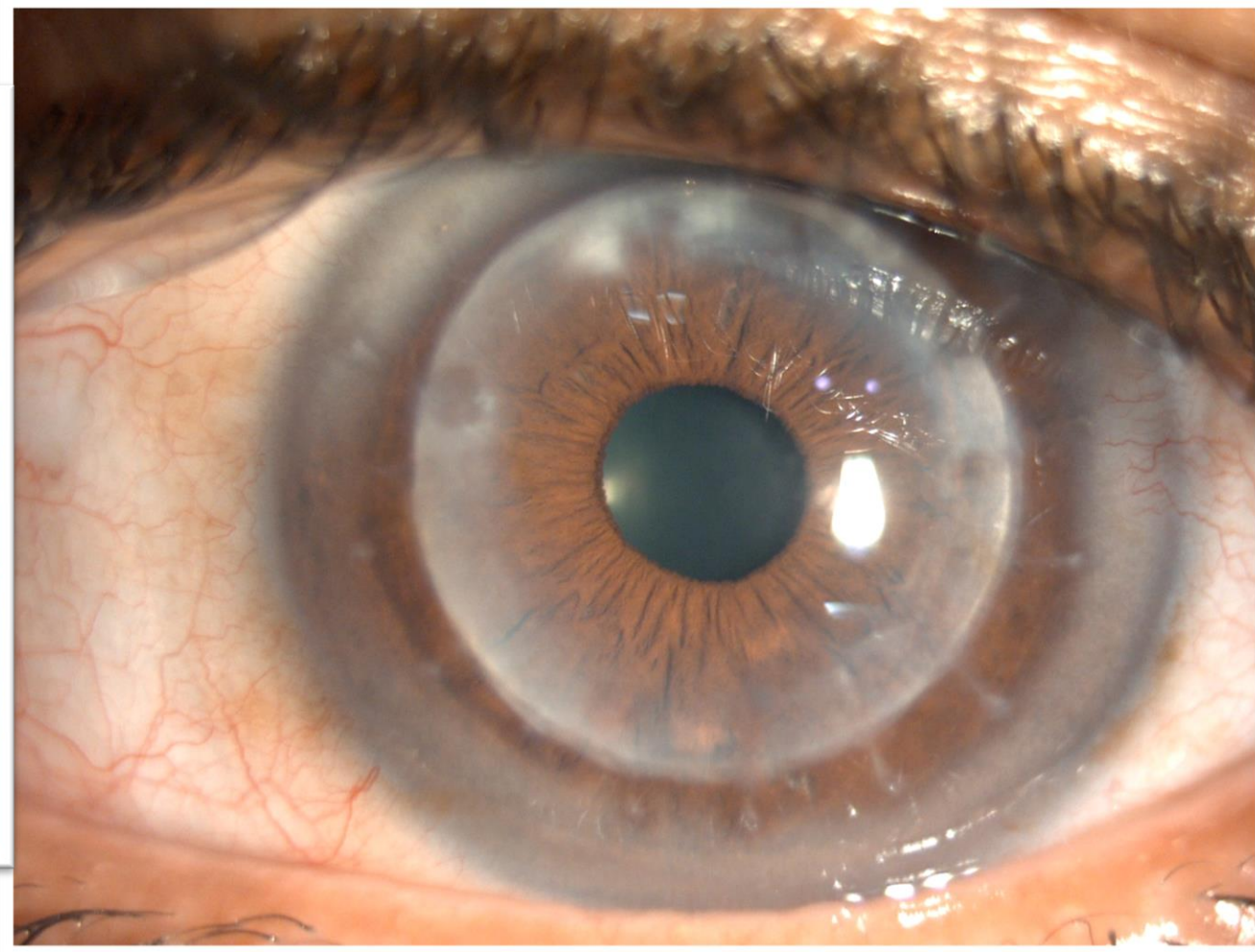
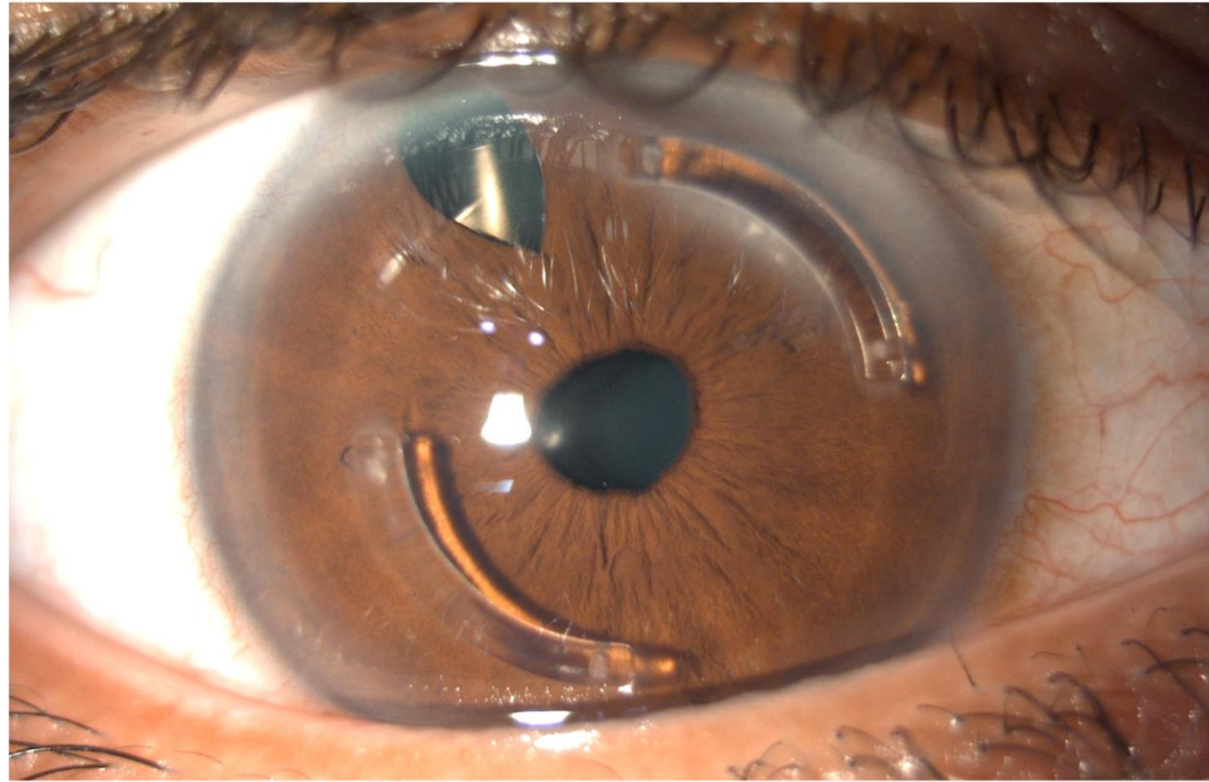
**Cornea Back**



Rf:	5.86mm	K1:	-6.8D
Rs:	5.28mm	K2:	-7.6D
Rm:	5.57mm	Km:	-7.2D
Axis:	79.4°	Astig:	0.8D
Q-val (6mm):	-1.26	Rper:	6.71mm
		Rmin:	4.28mm

Pupil Center:	480µm	x[mm]	+0.34	y[mm]	+0.61
Pachy Vertex N.:	470µm		0.00		0.00
Thinnest Locat.:	461µm		+0.62		-0.21
K Max. (Front):	54.7D		-0.14		-1.10
Cornea Volume:	57.9mm <sup>3</sup>	HWTW	12.2 mm		
Chamb. Volume:	135mm <sup>3</sup>	Angle:	36.9°		
ACD (Int.):	2.93mm	Pupil D:	3.50mm		
Enter IOP (Sum):	+3.2	Lens T:			





**ASTIGMATISM = FAILURE**

10<sup>TH</sup> EVOLVING PRACTICE OF OPHTHALMOLOGY  
MIDDLE EAST CONFERENCE



# Material and Methods

- 13 keratoconus eyes
  - 6 post- keratoplasty
  - 3 after INTACS
  - 4 stable keratoconus (stage 0-1)
- Preop test:
  - UCVA + BCVA with glasses
  - **BCVA with contact lenses**
  - Topography
  - Endothelial Cell count
  - Complete eye evaluation
  - IOL master
  - OCT anterior chamber



# Why Phakic IOL (IPCL)?

- High astigmatism
- Irregular cornea
- Not suitable for LASIK
- Intolerance or uncomfortable with contact lenses



# RESULTS ( follow up 6 M-1.5 Y)

- 6 Post-PK/DALK eyes ( all cylinder > 6D):
  - ↑ 2 lines compared with previous BCVA ( spectacles)
  - Reached previous BCVA (contact lenses)
  - Vault 0.75-1.0 CCT
- 3 Post INTACS eyes :
  - ↑ 3 lines compared with previous BCVA (spectacles)
  - Reached previous BCVA (contact lenses)
  - Vault 1.0 CCT
- 4 eyes Stable Keratoconus stage 1.
  - UCVA 20/20 (all)
  - Vault 1.0 CCT

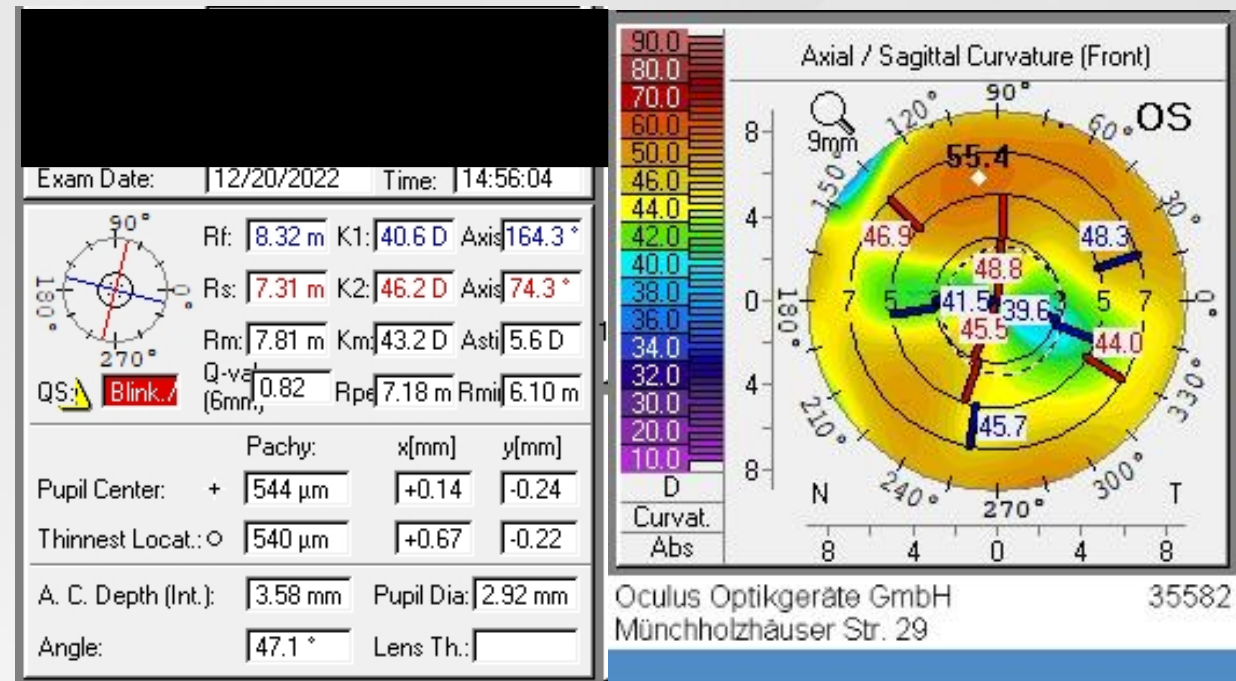
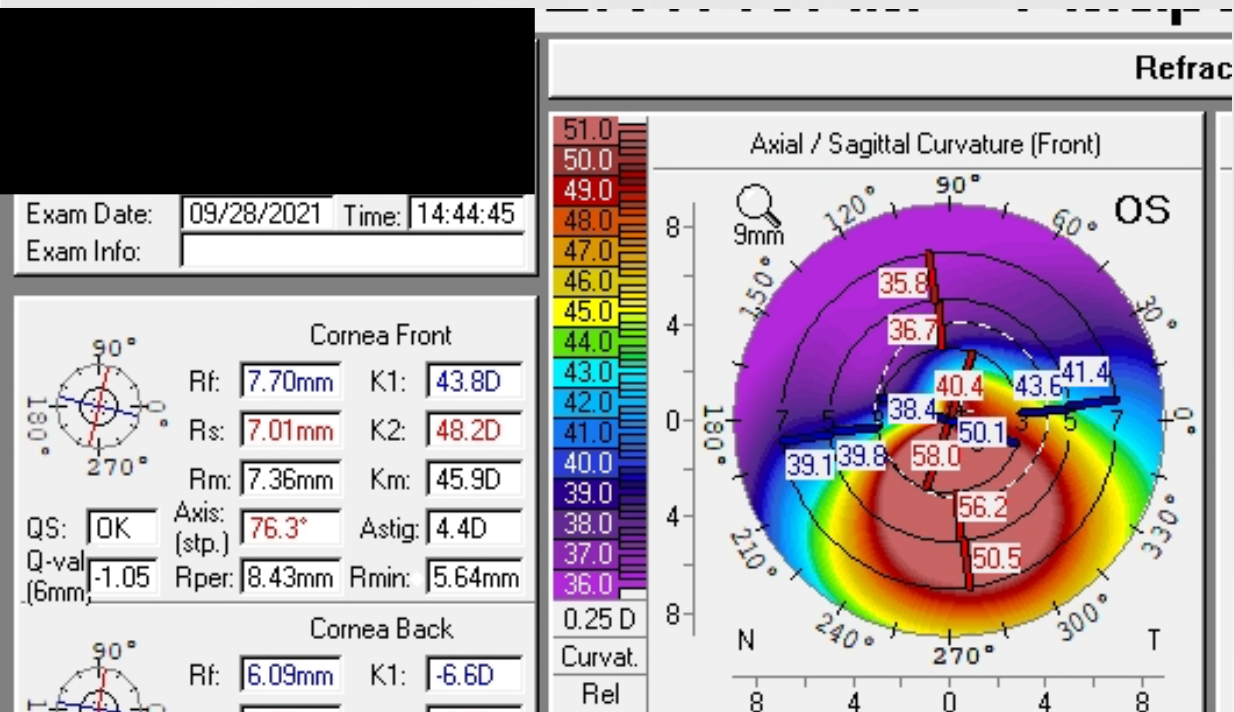
**No mid-term complications**

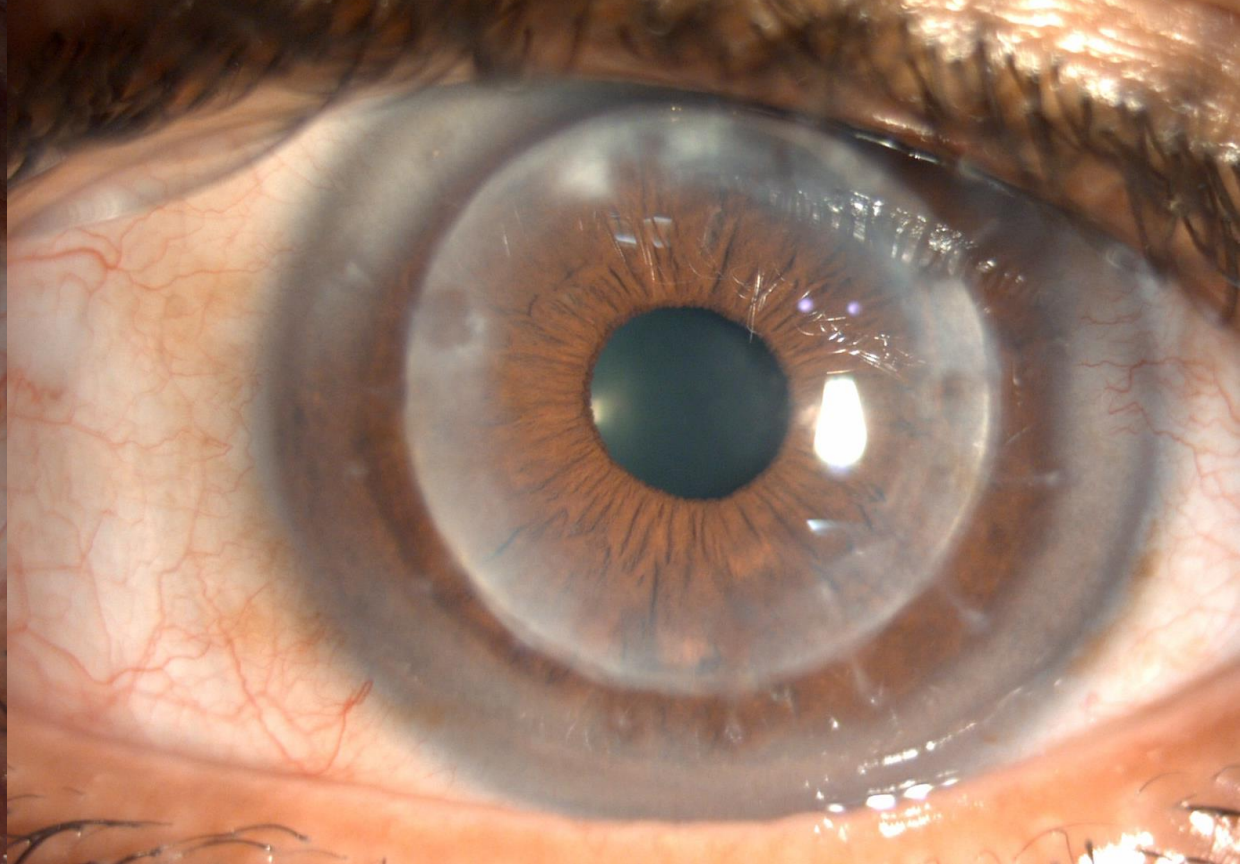
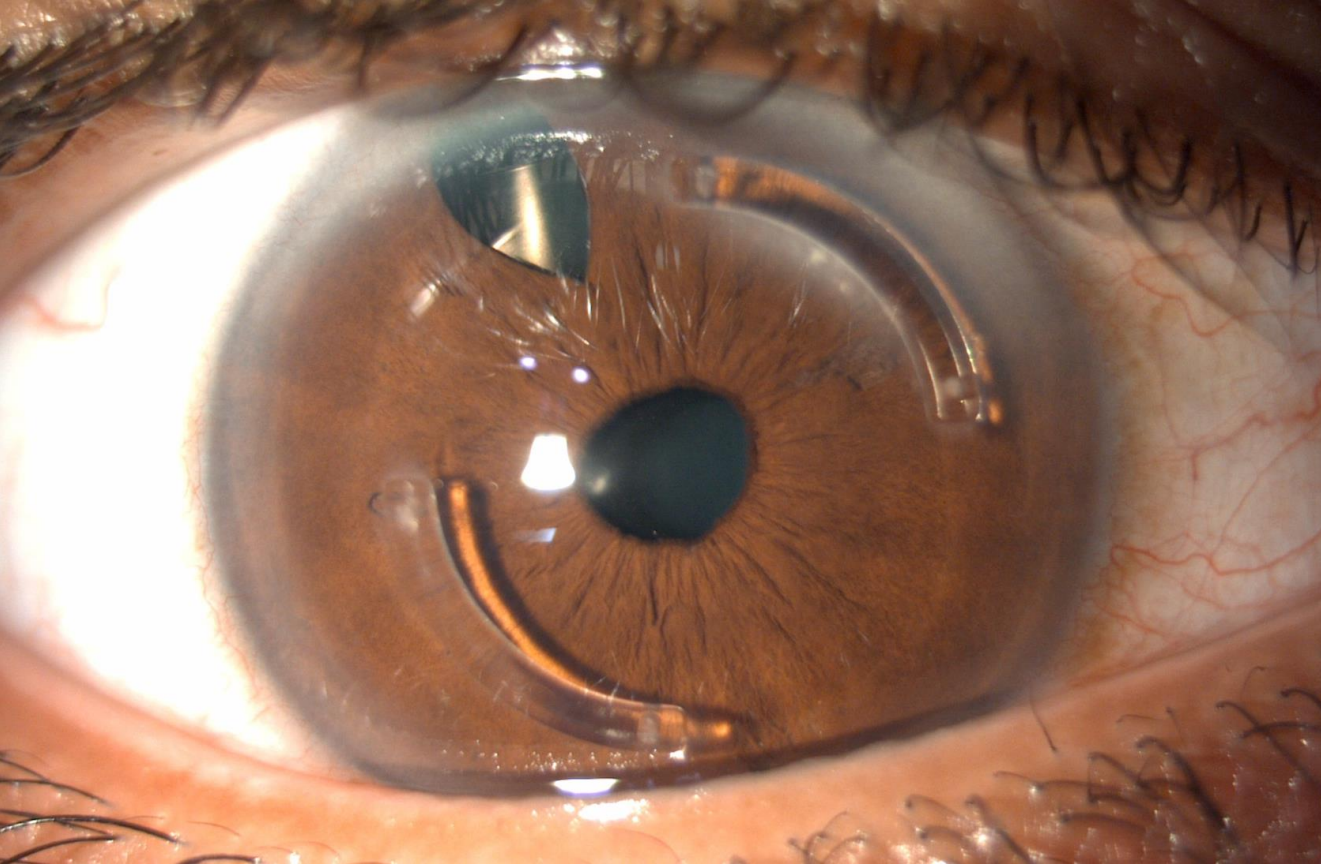
**No wrong calculation**

**No oversizing**

Before DALK :  
CF (ph 0.5, not improving with glasses or CL)

After DALK 0.2( -2.00 -6.50 130° = 0.6)  
After IPCL UCVA 0.8





Male, 35 years old

INTACS 2014 + ICL ?

RE preop

0.23 ( -0.75 -9.00 25° = 0.5)

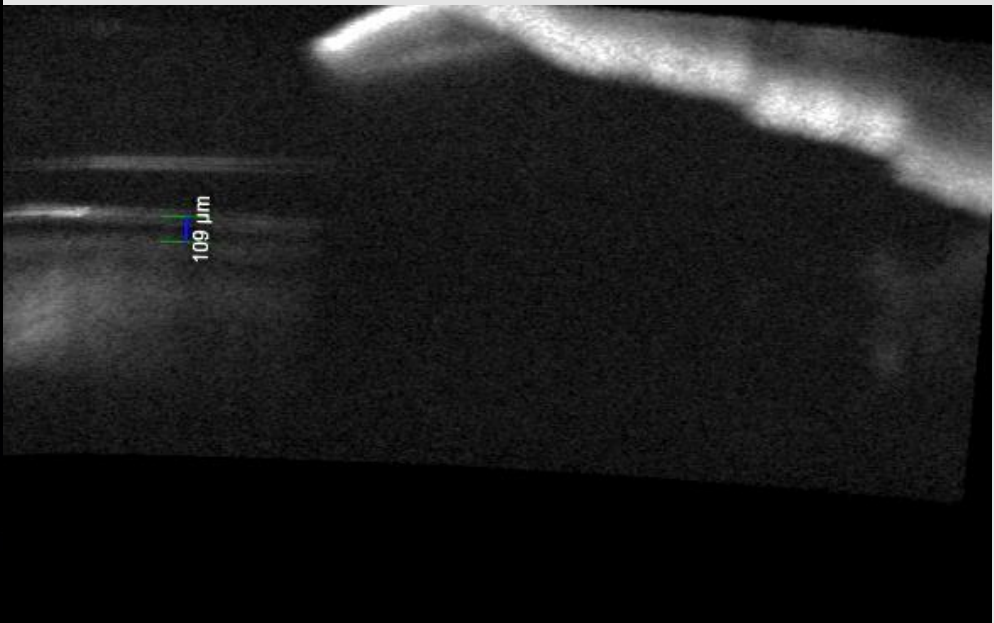
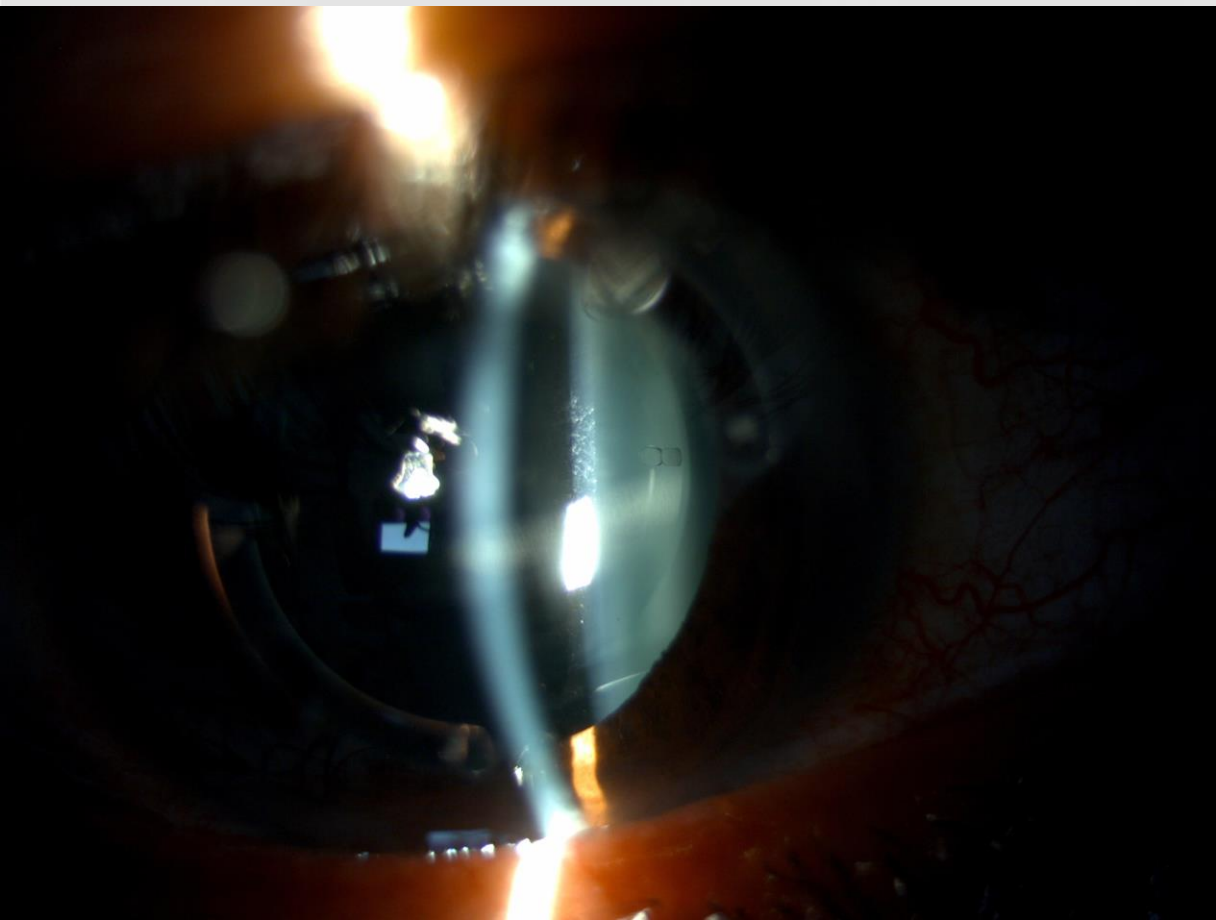
PK 2007

LE preop

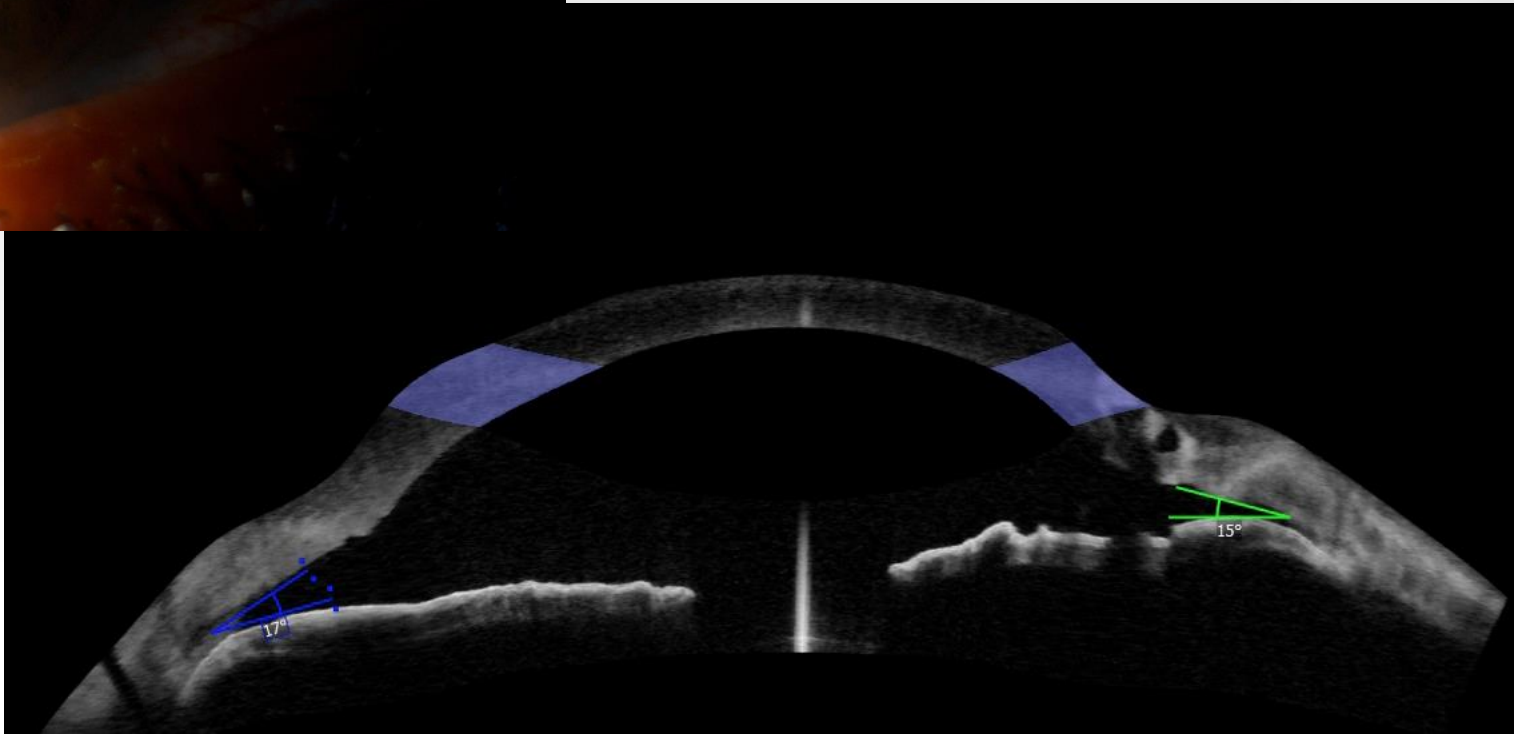
0.2 (+1.50 -7.00 85°=0.7)

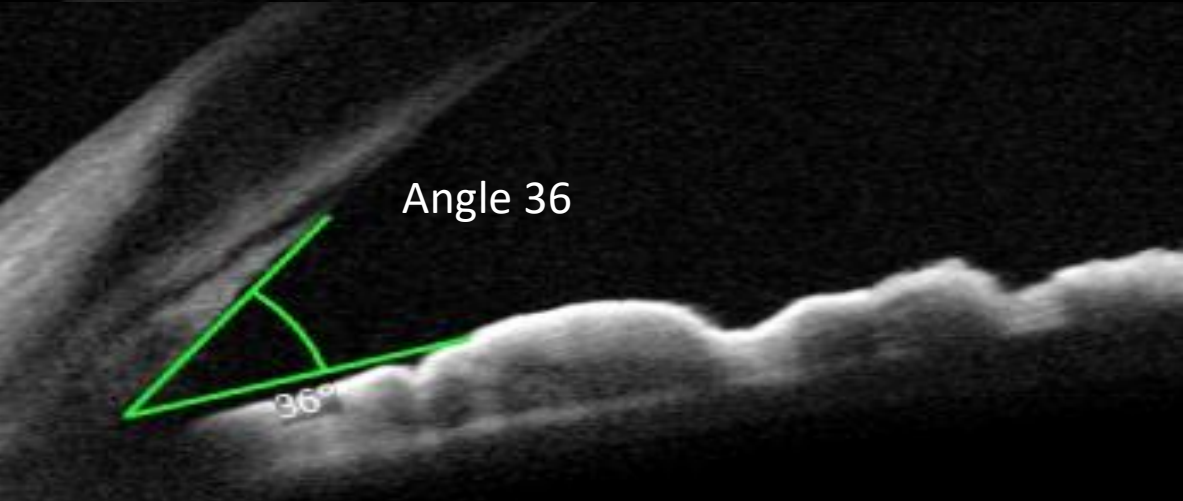
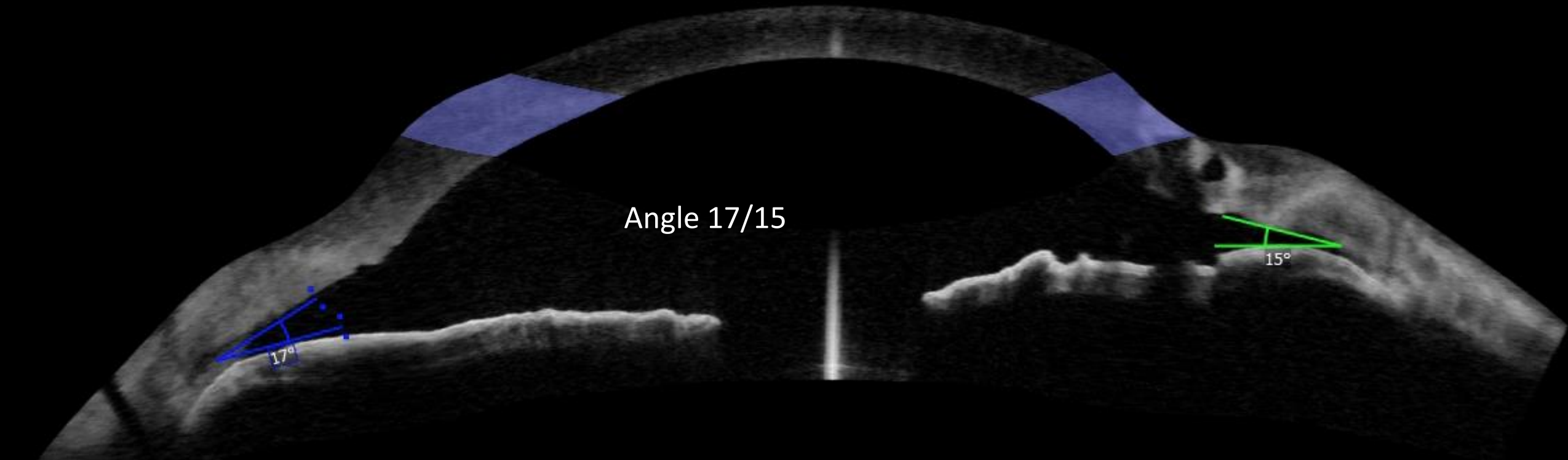
Plan: 1<sup>st</sup> remove ICL RE, then implant IPCL toric, last implant IPCL toric left eye





24 hours follow up  
UCVA 0.4  
IOP 12 mmHg





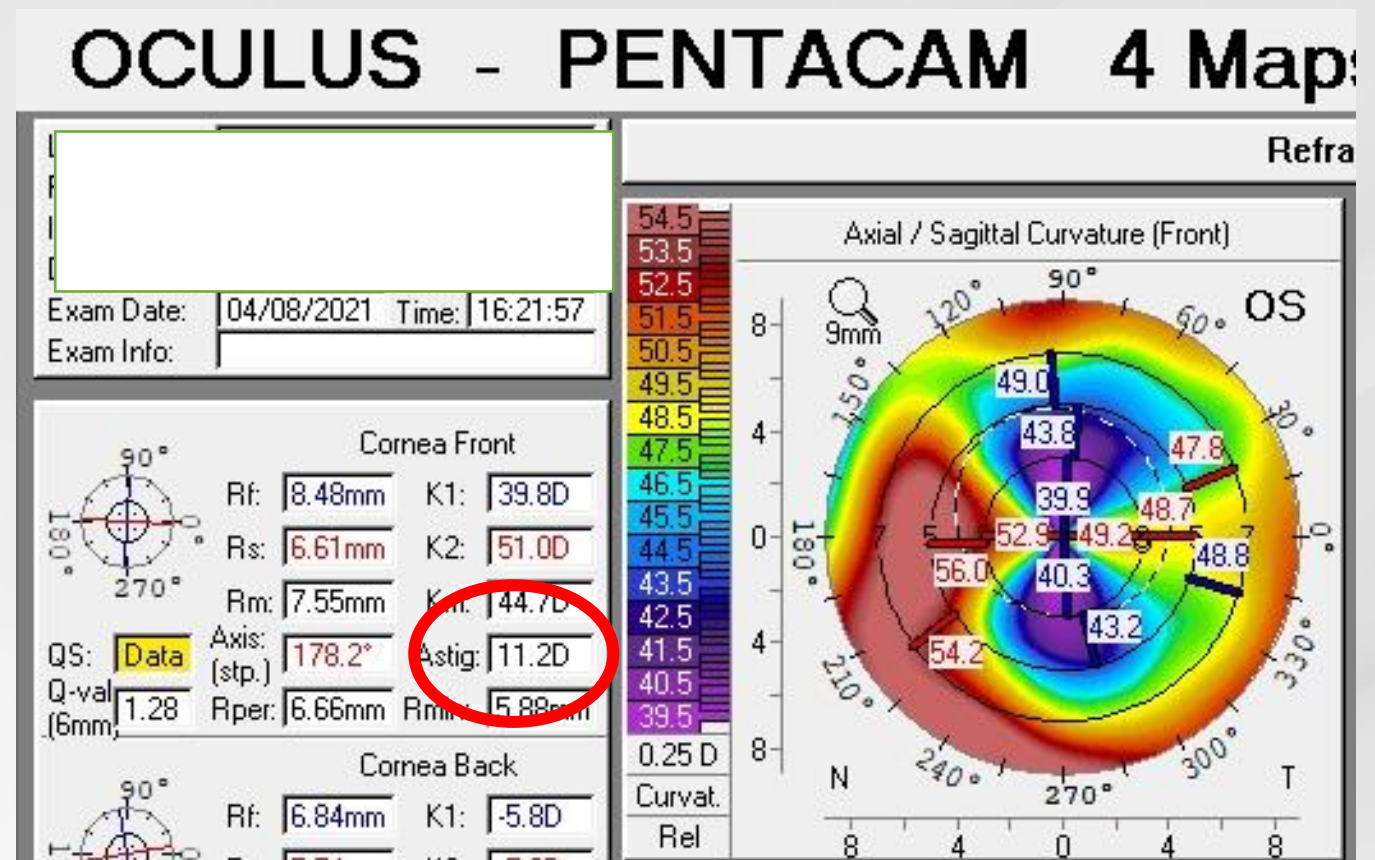
Final vision

UCVA RE 0.8 / LE 0.72

OU vision 0.94

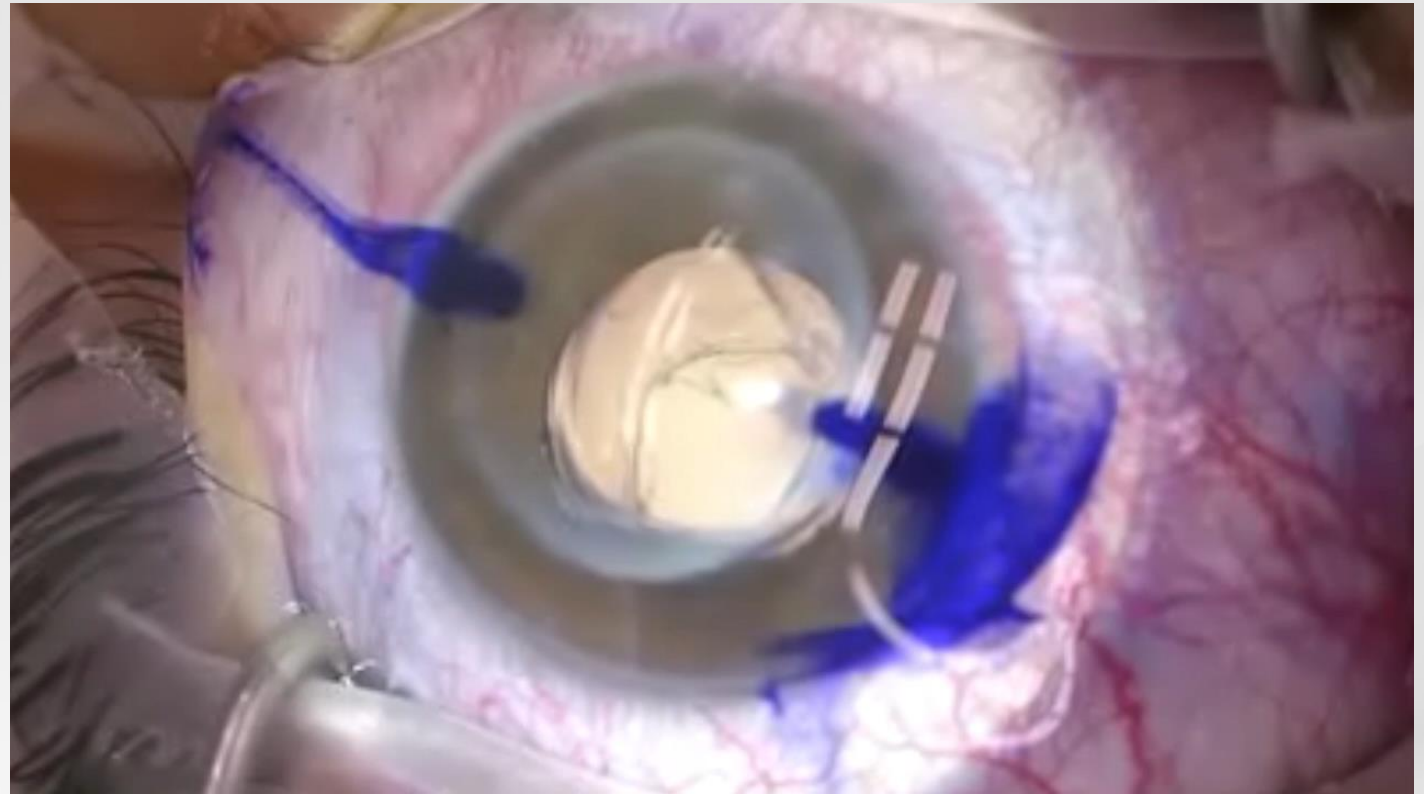
August 2021, Posterior capsular cataract surgery (Rx BCVA -3.75 125° = 0.72)  
December 2021 Posterior YAG

UCVA LE 0.16 ( +2.50 -6.00 107 = 0.53)



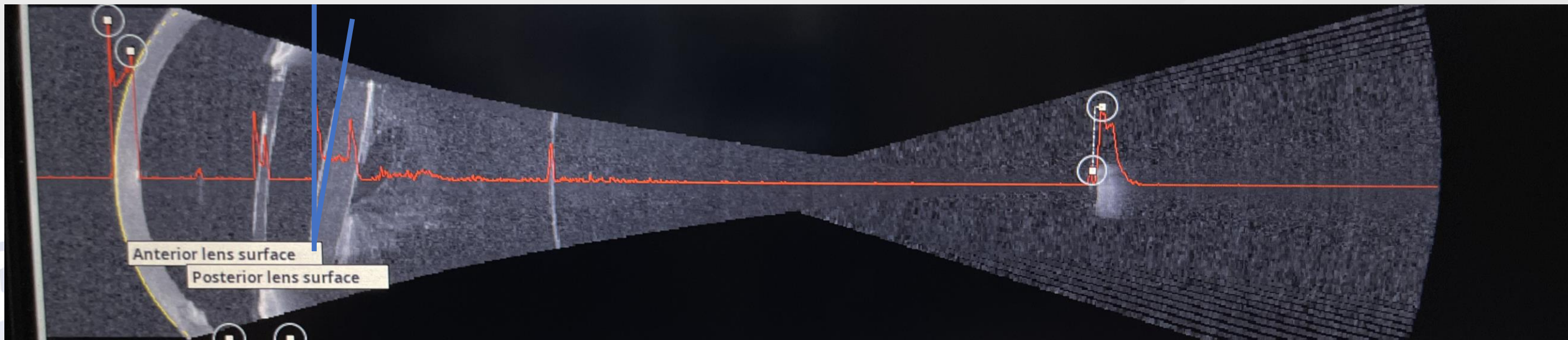
# Tips

- Maximum dilation
- Proper tunnel incision
- Tons of viscoelastic
- Big marks for aligning
- DIAMOX



# Final results

- UCVA 0.7
- Halos at night



# Conclusion?

- Limited information about results in post-keratoplasty patients, but promising results
- Keratoconus : Demonstrated safety and efficacy in retrospective case series (Nourouzi A et al. EJCRC 2023 Online ahead of print)
- IPCL corrects a wider range of astigmatism
- UCVA equals BCVA with contacts
- Effective solution in cases of extreme myopia and/or astigmatism
- Experienced surgeon

Thanks

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