EGYPTIAN OPHTHALMOLOGICAL SOCIETY Summer Meeting 2018

27 - 28 September, 2018 | Four Seasons, Alexandria, Egypt

Would You SMILE After Refractive Nightmare?

Ramy Awad - MD

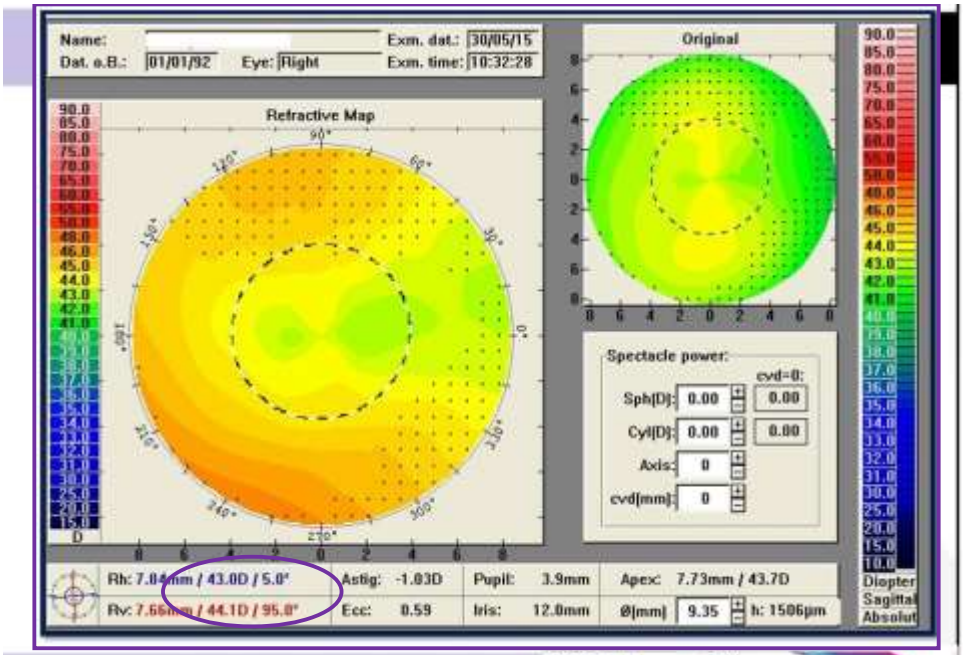
Case Report

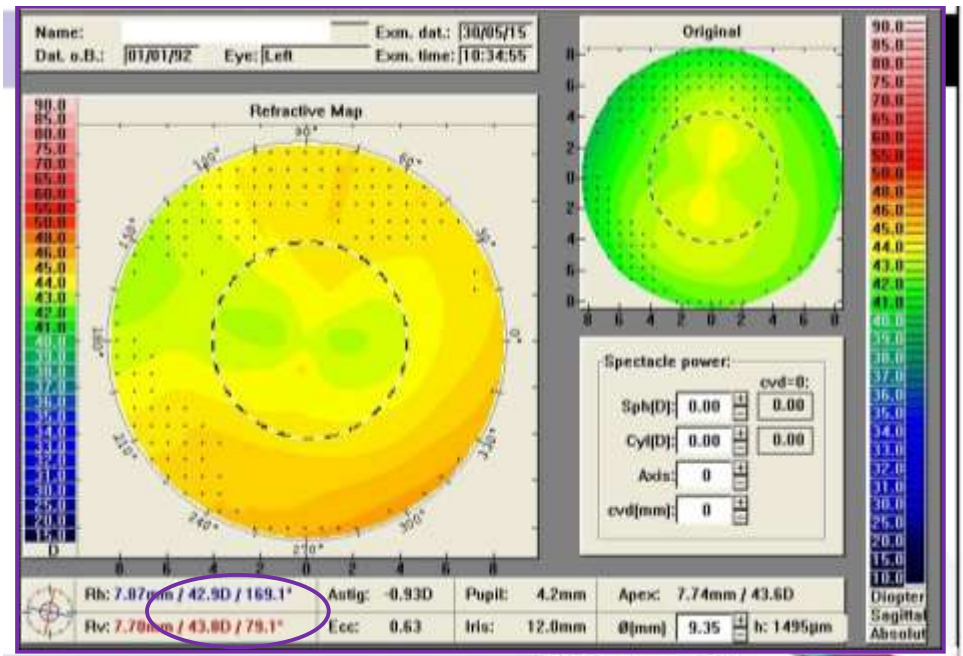
- 23 years old medical student female.
- Asking for refractive surgery.

	OD	OS
UCVA	0.05	0.05
MR	-3.50 -0.50 @ 40.	-3.50 -0.25 @ 160
BCVA	1.0	1.0

- Refraction is the same as glasses.
- No ocular or systemic disease.
- No history of contact lens wear.
- Anterior segment >> Normal.
- Fundus >> Normal disc and vessels.
- IOP >> 16 mmHg. *
- Central corneal thickness
  - OD >> 517 µ
  - OS >> 512 µ

* Using Goldmann applanation tonometer at 2:00 pm with thickness compensation


Name:
Exm. dat.: 30/05/15
Dat. o.B.: 01/01/92
Eye: Right
Exm. time: 10:32:28
Refractive Map
Original
Spectacle power:
cvd=0:
Sph[D]: 0.00
0.00
Cyl[D]: 0.00
0.00
Axis: 0
cvd[mm]: 0
Rh: 7.84mm / 43.0D / 5.0°
Rv: 7.66mm / 44.1D / 95.0°
Astig: -1.03D
Ecc: 0.59
Pupil: 3.9mm
Iris: 12.0mm
Apex: 7.73mm / 43.7D
Ø[mm]: 9.35
h: 1506µm
Diopter
Sagittal
Absolut


Name:
Exm. dat.: 30/05/15
Dat. o.B.: 01/01/92
Eye: Left
Exm. time: 10:34:55
Refractive Map
Original
Spectacle power:
cvd=0:
Sph[D]: 0.00
0.00
Cyl[D]: 0.00
0.00
Axis: 0
cvd[mm]: 0
Rh: 7.87mm / 42.9D / 169.1°
Rv: 7.70mm / 43.8D / 79.1°
Astig: -0.93D
Ecc: 0.63
Pupil: 4.2mm
Iris: 12.0mm
Apex: 7.74mm / 43.6D
Ø[mm]: 9.35
h: 1495µm
Diopter
Sagittal
Absolut

- Prior to surgery a routine check of the M2 Moria microkeratome was performed.
- Oscillation was tested after wetting the disposable blade.
- At the time of surgery, the microkeratome was examined under the microscope to exclude blade imperfections.
- Radial and para-radial corneal marks were made infero-temporally with gentian violet.

- At the time of surgery, the microkeratome was examined under the microscope to exclude blade imperfections.
- A suction ring of size "0" with a "8" stop was placed on the eye.

- After adequate suction the microkeratome assembly was positioned and locked.
- A few drops of BSS were placed inside the ring and the microkeratome was activated.
- On removing the suction ring microkeratome assembly, the flap was found like that

What is THIS!!!

- There is thin, irregular, buttonholed flap with epithelium covering large part of the bed.
- There is also free cap .. The flap comes out with the spatula.

What may be cause of this condition??!!

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LASIK Complications: Etiology, Management, and Prevention

Monday, October 20, 2014

LASIK Complications: Etiology, Management, and Prevention Samir A. Melki, MD, PhD, and Dimitri T. Azar, MD

I. Anatomic Complications

A. THIN/IRREGULAR/BUTTONHOLED FLAP

The incidence of thin flaps after LASIK has been reported to vary between 0.3% and 0.75% in the three major studies.

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Predisposing Factors to Thin/Irregular/Buttonholed Corneal Flaps in LASIK

Factor	Possible mechanism
Steep corneas	g resistance
Flat corneas	sed to blade
Deep orbit, conjunctival cl placement	
Lack of synchronization be and oscillatory blade m	ement of corneal tissue
Damaged blade	defect, inappropriate handling

inadequate suction

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So suction must be checked all through the procedure of flap creation

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MICROKERATOME-RELATED COMPLICATIONS *

Optometrists working within clinics and examining patients soon after treatment may see the following complications. It is unlikely that they will be required to manage the complication as a surgeon is usually in attendance.

Failed flap

There are several possible causes of a failed flap: incomplete suction, the patient squeezing their eyes together and displacing the microkeratome, malfunction of the microkeratome, or an epithelium that has a tendency to be loose. Fortunately, such incidences are rare with one study quoting all flap complications to be 2.19%.[4]

Symptoms When a flap failure occurs, treatment is aborted and the failed flap is left to heal. Apart from the vision, the eye will feel no different to the eye that has had successful treatment. In some cases, if abrasion has occurred, there may be some foreign body sensation.

* LASIK a handbook for optomertrics

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- And that was what I had done.
- I returned the flap back, tried as much as I can to centralize it to its original position. And aborted the treatment for that eye.

That will be the current status

- I have to wait and see

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- While following the patient, waiting for healing. One month later the cornea is seen like that

ORIGINAL PAPER

Intraoperative and early postoperative flap-related complications of laser in situ keratomileusis using two types of Moria microkeratomes

of ingrowth in the fellow eye [15]. Epithelial ingrowth was observed in three (0.37 %) eyes of two patients. In various studies, the incidence of epithelial ingrowth

We performed re-lifting and scraping procedure in one eye, and no line of BSCVA was lost. No progression

- I did not lift the flap .. That is because the flap is thin , irregular. Lifting it may be associated with difficulty in returning it to its original place.
- Steroid treatment with lubricants and follow up was the decision.
- But one month later the patient developed partial melting of the flap with scarring of the other parts.

What to do now ??!!

I performed PTK "100 μ" for removal of the superficial corneal scar.

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Before

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One month Later

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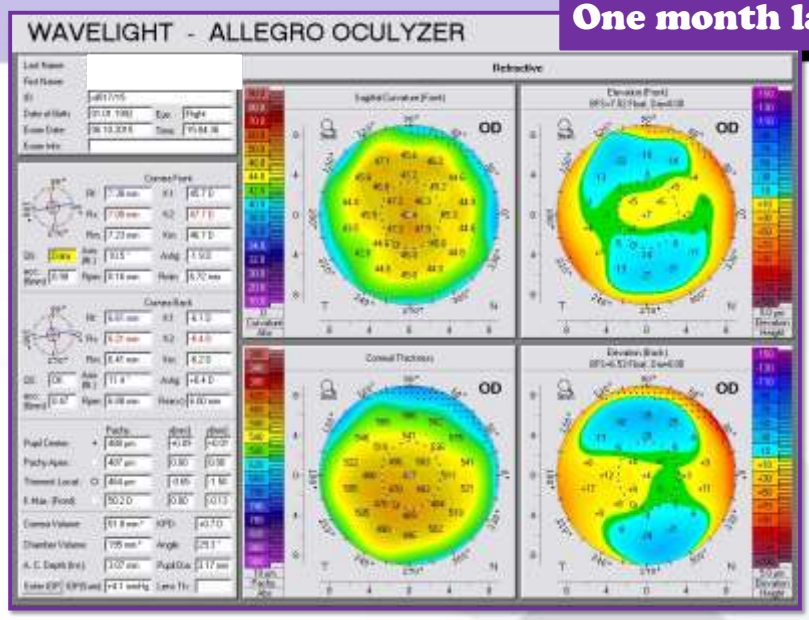
One month later



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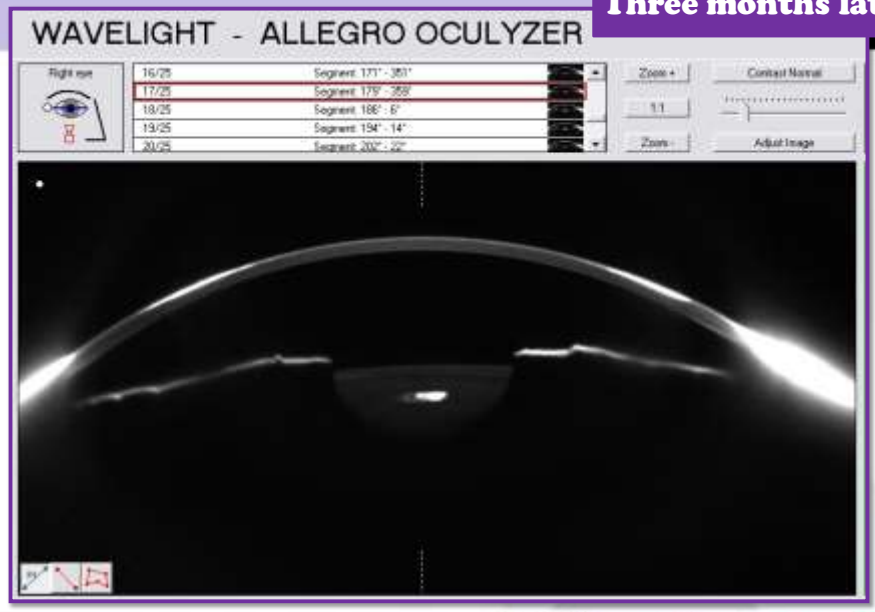
Three months later



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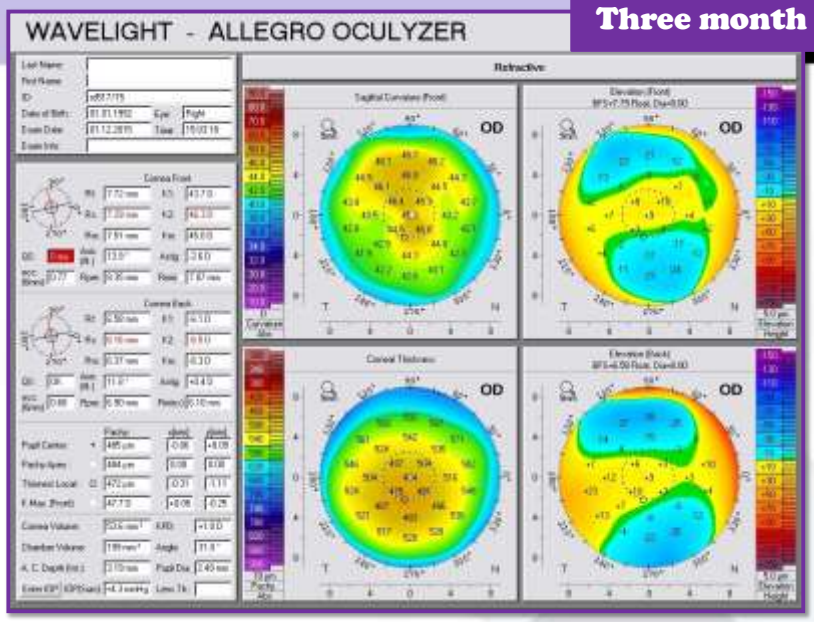
Three month later



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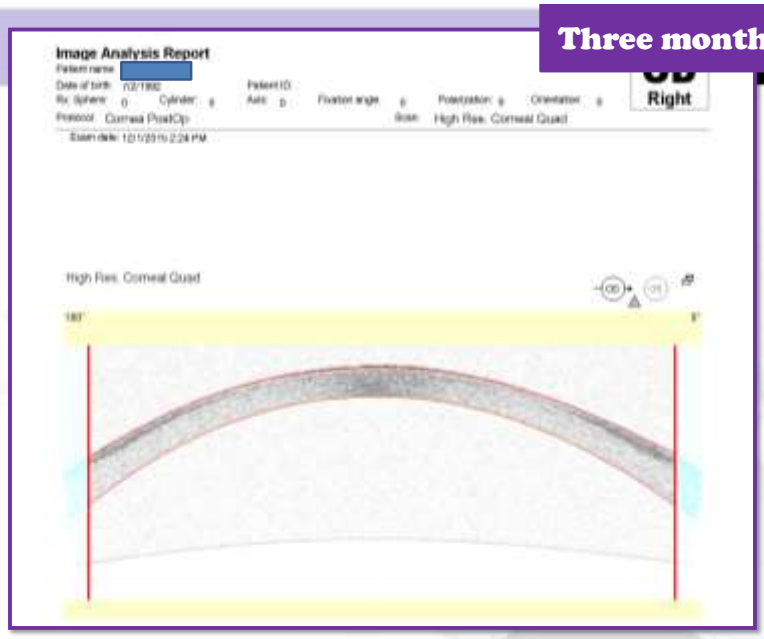
Three month later



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Would you smile right now??!!

Not Yet

- The patient developed circumferential scar.
- With intense steroid treatment the scar decreased significantly.
- The cornea becomes like that

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With follow up

- The scar decreased but the patient complain of some sort of ocular pain and headache.
- Measuring the IOP
  - OD .. 35 mm Hg *
  - OS .. 13 mm Hg *

* Using Goldmann tonometer at 2:00 pm with thickness compensation

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The smile was delayed again

- The patient is steroid responder.
- But fortunately NO evidence of optic cupping.

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- Use of antiglaucoma medications
- Rapid downgrade of steroids.
- Use of NSAIDs.
- Continue with lubricants & ascorbic acid.
- Follow up of IOP, inflammatory signs & corneal scar.

IOP returns to normal values

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3 Months later:

- IOP is normal.
- Cornea in more or less clear.
- Refraction is stable:

  sph -5.50 cyl -2.0 @ 180.
- BCVA .. 0.9.
- Pentacam

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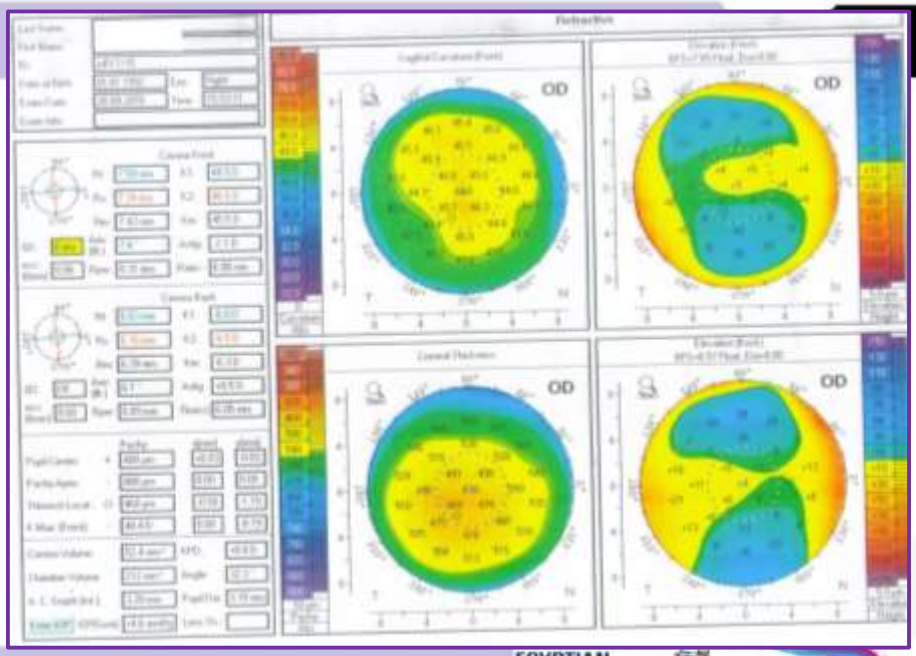

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How to correct that error??!!

- We have 4 options:
  1. Contact Lens.
  2. PTK-PRK with under –correction.
  3. Femto-SMILE.
  4. Lenticular surgery "RLE or Phakic IOL"

The patient was counseled about all options, risks and potential hazards and asked to decide.

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The Decision was

07745 Jena, Germany
+49 3641 220 - 0

Corneal surgery – SMILE OD● ○OS

Diagnostic data

Cornea vertex distance [mm]: 12.00

Manifest
- Sphere [D]: -6.00
- Cylinder [D]: -2.00
- Axis [°]: 7

Corneal radius [mm]: 7.42
Mean K-reading [D]: 45.49
Pachymetry [µm]: 468

Treatment data

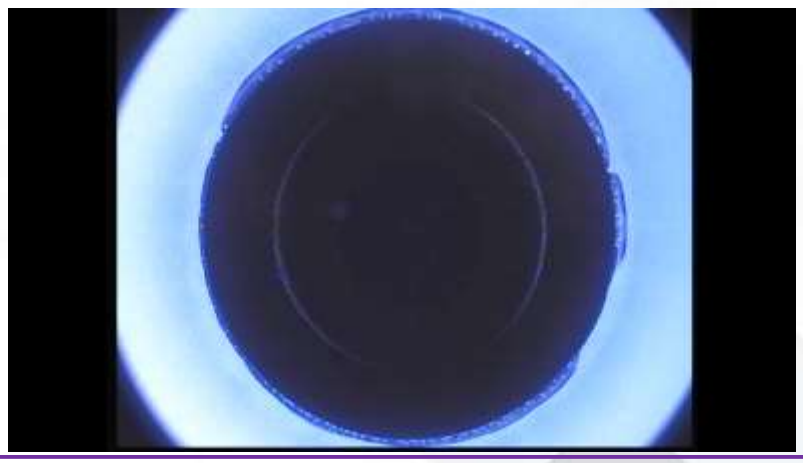
Treatment pack size: S
Suction time [hh:mm:ss]: 00:00:40

Cap data
- Diameter [mm]: 7.50
- Thickness [µm]: 100
- Side cut angle [°]: 70
- Incision position [°]: 120
- Incision angle [°]: 38
- Incision width [mm]: 2.50

Nomogram info
Refraction, Version 2.2

Lenticule data
- Optical zone [mm]: 5.80
- Transition zone [mm]: 0.10
- Minimum thickness [µm]: 1
- Side cut angle [°]: 130
- Refractive correction
  - Sphere [D]: -6.00
  - Cylinder [D]: -2.00
  - Axis [°]: 7

Femto-SMILE Procedure



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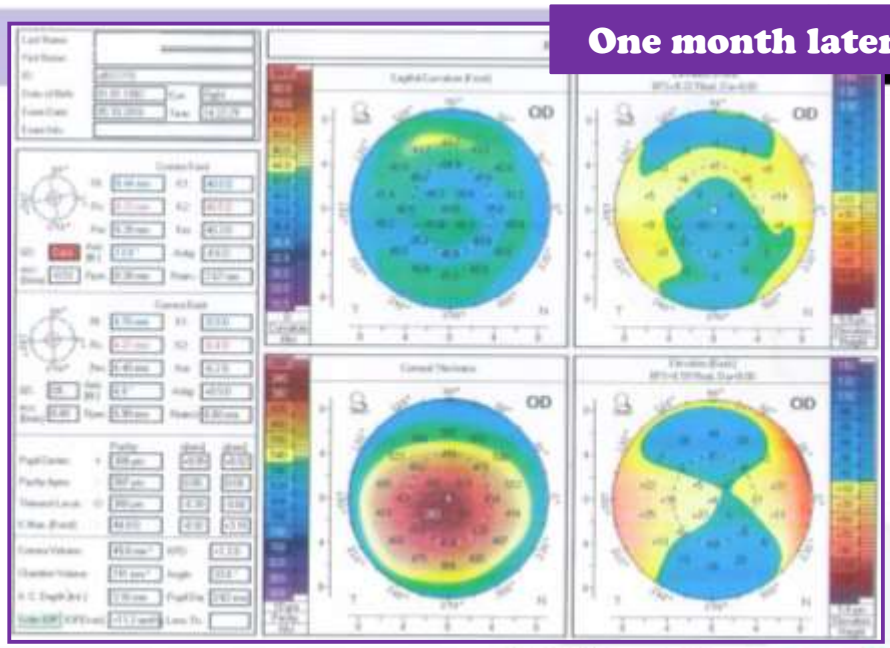
One month later



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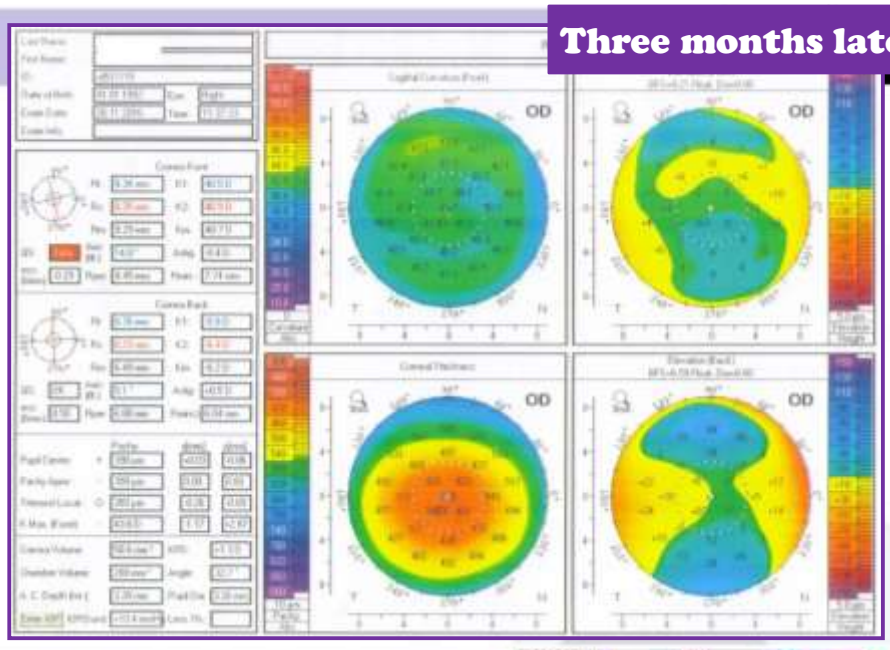
Three months later



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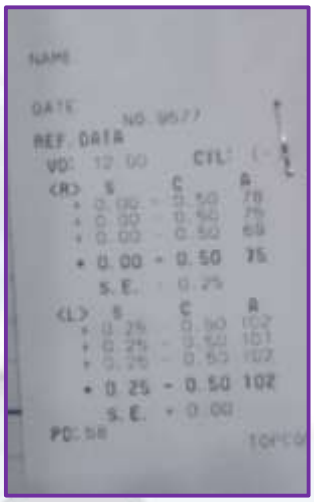
You can smile right now

- UCVA: 1.0 "OU"
- Cornea in more or less clear.
- Refraction is insignificant:



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Take home messages

- In case of complications, you must revise your steps and search for any mistakes & take care of it thereafter.
- At the time of surgery, the microkeratome must be examined under the microscope to exclude blade imperfections.
- Suction must be checked all through the procedure of flap creation
- IOP must be followed and disc must be routinely examined in any patient on steroid treatment.

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Special thanks to:

- Prof. Dr. Osama Ibraheem
- Dr. Moanes Abd Allah

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