Preoperative evaluation, disposable intraoperative instrumentation, in Femtosecond LASIK surgery. Introduction to our technique

ESONT

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Purpose:

The introduction of our screening protocol, along with the intraoperative and postoperative careprotocol for Femtosecond

excimer refractive surgery

Setting:

Laservision.gr Institute , Athens, Greece

Financial disclosures NO

Methods

- 1000 consecutive cases in our refractive surgery center in Athens, Greece are screened for the following elements:

1-Dry and dilated (1% mydriacyl) refraction, dry and

2-dilated auto-refraction (Nikon speedy-K),

3-pentacam topography (Wavelight oculyzer),

Methods (2)

4-wavefront analysis (Wavefront Tsernning analyzer),

5-pupilometry (Procyon),

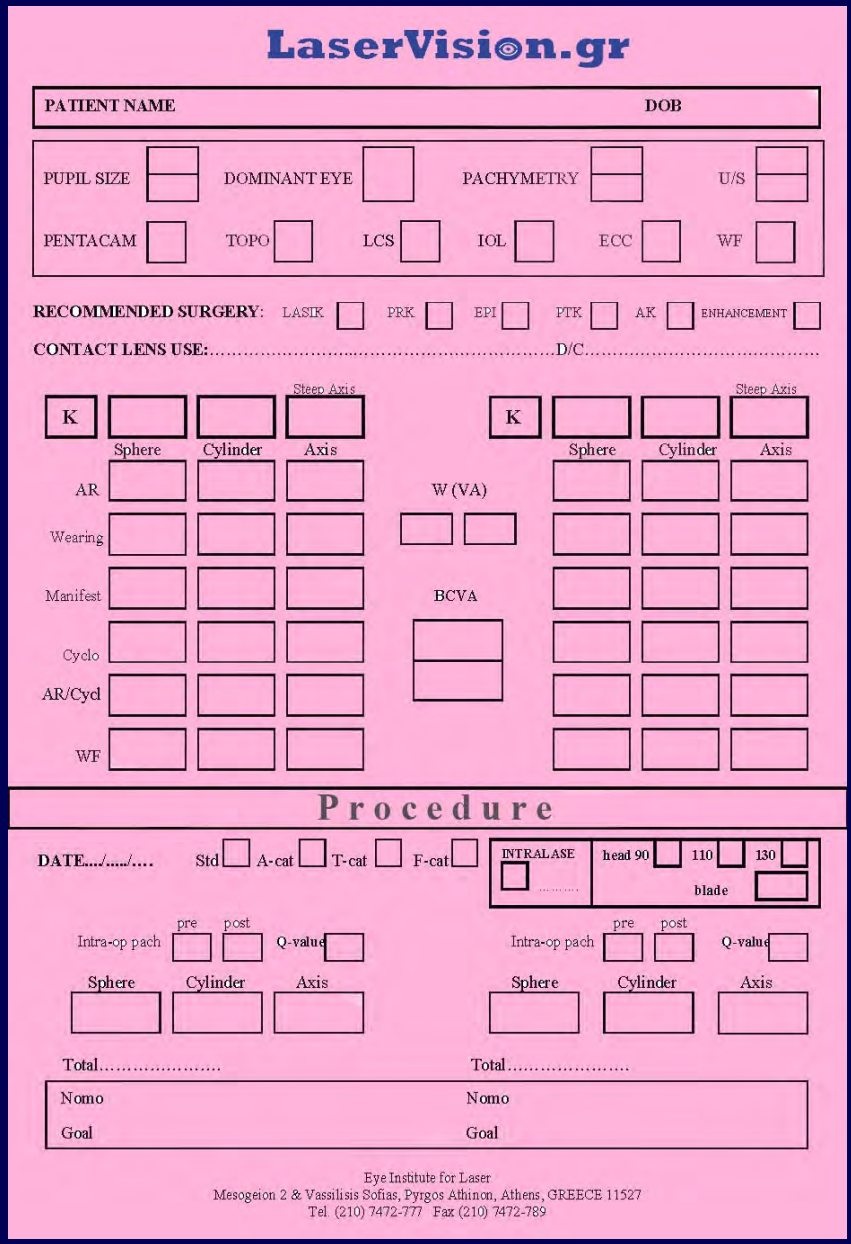
6-contrast sensitivity (Vector Vision)

7-and a complete slit lamp biomicroscopy including dilated fundus exam.

Methods (3)

- For patients over 40 a trial with contact lenses is performed reflecting several monovision scenario to accomplish patient eye dominance and preference.
- The results were compared with a matched group of 1000 cases treated previously with the M2 microkeratome and the same excimer laser

- Treatment form



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PATIENT NAME DOB

PUPIL SIZE DOMINANT EYE PACHYMETRY U/S

PENTACAM TOPO LCS IOL ECC WF

RECOMMENDED SURGERY: LASIK PRK EPI PTK AK ENHANCEMENT

CONTACT LENS USE:.....D/C.....

	K	Sphere	Cylinder	Steep Axis / Axis		K	Sphere	Cylinder	Steep Axis / Axis
AR					W (VA)				
Wearing									
Manifest					BCVA				
Cyclo									
AR/Cycl									
WF									

Procedure

DATE..../...../.... Std A-cat T-cat F-cat

INTRALASE head 90 110 130 blade

	pre	post	Q-value	Sphere	Cylinder	Axis
Intra-op pach						
Total.....						
Nomo						
Goal						

	pre	post	Q-value	Sphere	Cylinder	Axis
Intra-op pach						
Total.....						
Nomo						
Goal						

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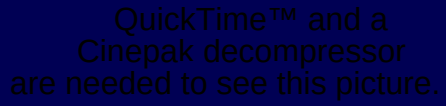
video



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Results

- In 1.000 consecutive cases using the Intralase FS60 femtosecond laser and the Intralase and the Wavelight 400Hz Allegretto Eye-Q:
- we treated 825 myopic eyes and 175 hyperopic eyes.
- The results were for myopia pre-op UCVA 20/80 to 20/17 with mean flap thickness 105 microns (+/-5), hyperopia 20/60 to 20/15 with mean flap 132 microns (+/-7) .

Results (2)

- There were 3 minor flap complications. One of these was managed intra-operatively (loss of suction) the other 2 cases were retreated within two months of the primary procedure without loss of BSCVA.
- There was no flap slippage, epithelial ingrowth or diffuse lamellar keratopathy (DLK) in any case - compared to 12 cases with a mechanical microkeratome

1000 i-LASIK cases
Lasevision.gr Institute, Athens

Started on October 2006

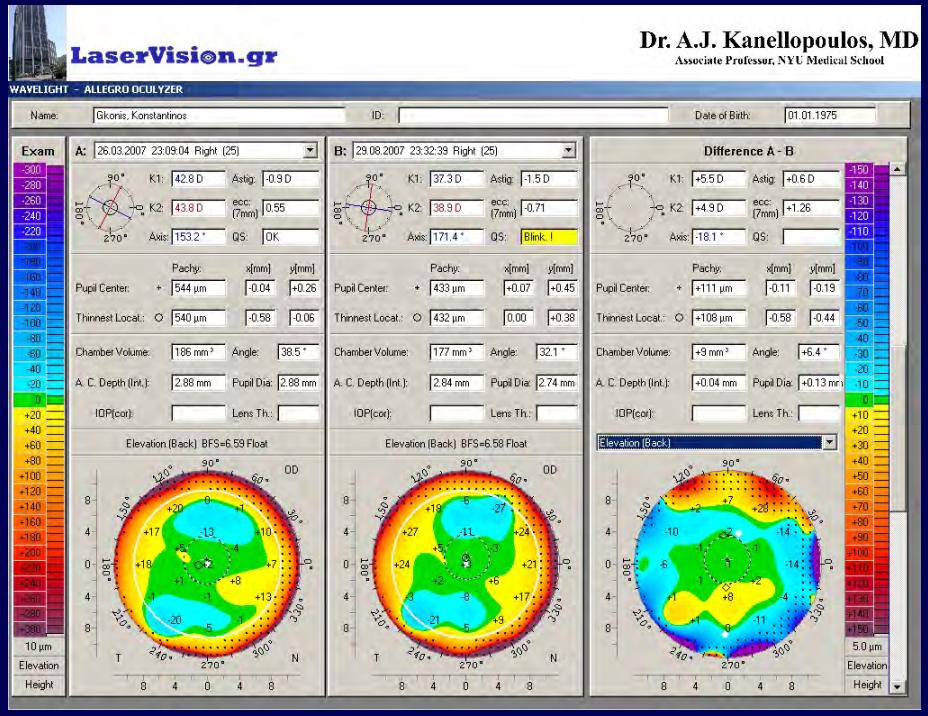
- 780 myopic, 220 hyperopic
- Retrospective comparison with 1000 consecutive M2 cases
- M2 flaps aim 100 to 110 microns myopia
  - Large cut 130SU in hyperopia
  - Femto: 110 microns for myopia, 130 hyperopia

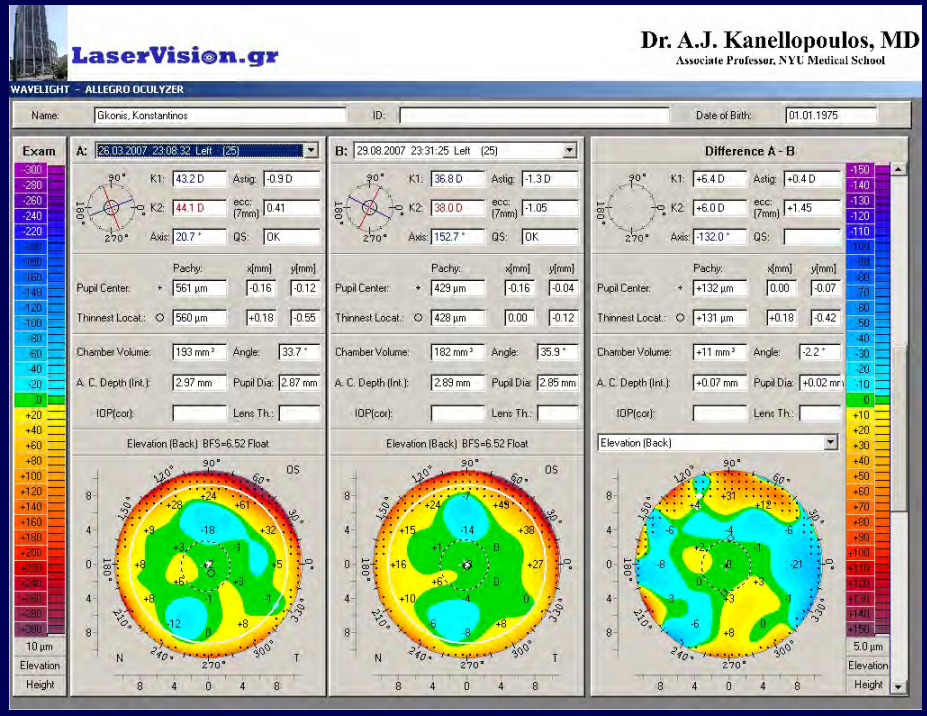
Intralase FS 60 Vs M2 1000 cases

incomplete flaps	**3 2-Completed 1-PRK**	**6- all PRK**
Flap striae-suturing	0	6
Epi ingrowth	0	22
flap myopia	105 +/- 5 8.1mm	100 +/-25 8.9mm
flap hyperopia	135 +/- 7 9.4mm	127 +/- 35 8.9 mm
~~buttonhole~~	~~1~~	~~3~~
Epi-abrasion (ABM dystr)	2	65
DLK	0 (maybe 1 late post abrasion)	0
Light HSS	0	0

Posterior cornea surface change

I-LASIK and M2 LASIK





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Conclusions

- Thorough preoperative screening and disposable instrumentation in Femtosecond and excimer refractive surgery reduces the risks for DLK, and flap complications such as striae and epithelial ingroth and results in safer, more effective visual rehabilitation

Thank you

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