

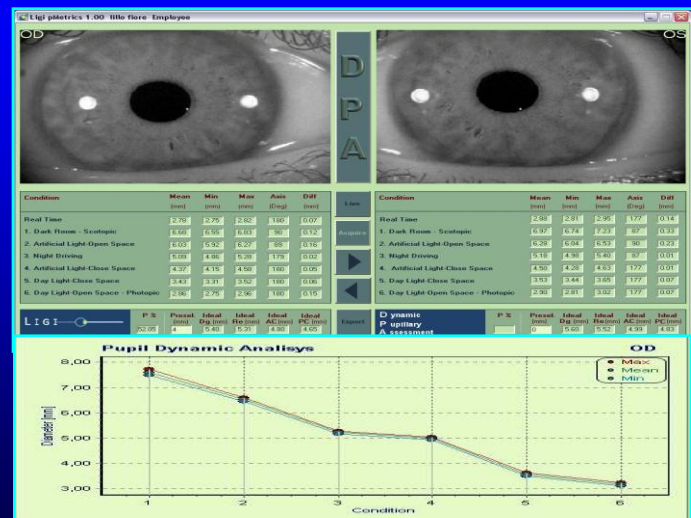
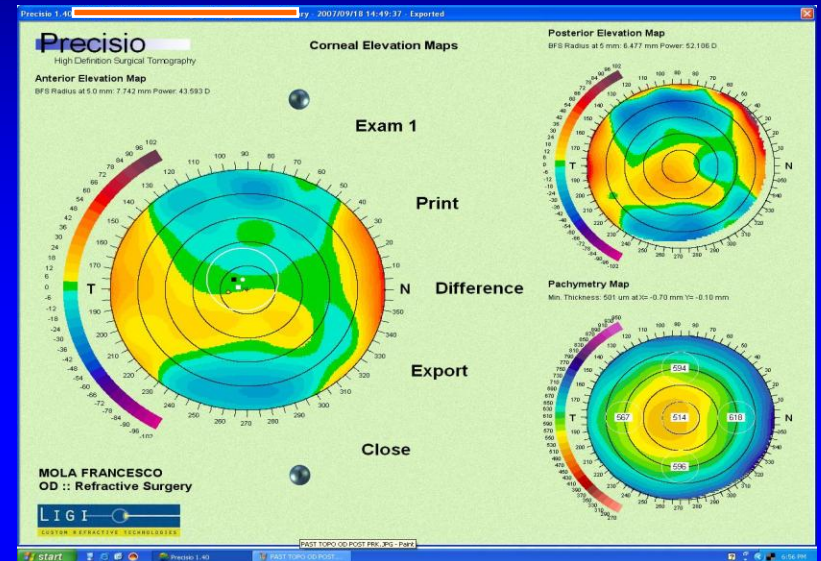


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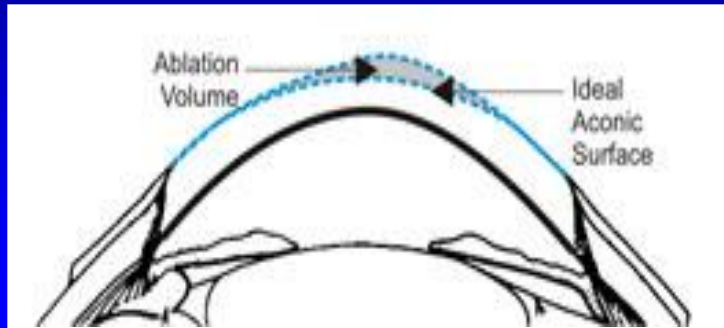
**New automated topographic
procedure to verify the planned
custom ablation with respect to the
delivered ablation**

G. Alessio, M.G. La Tegola

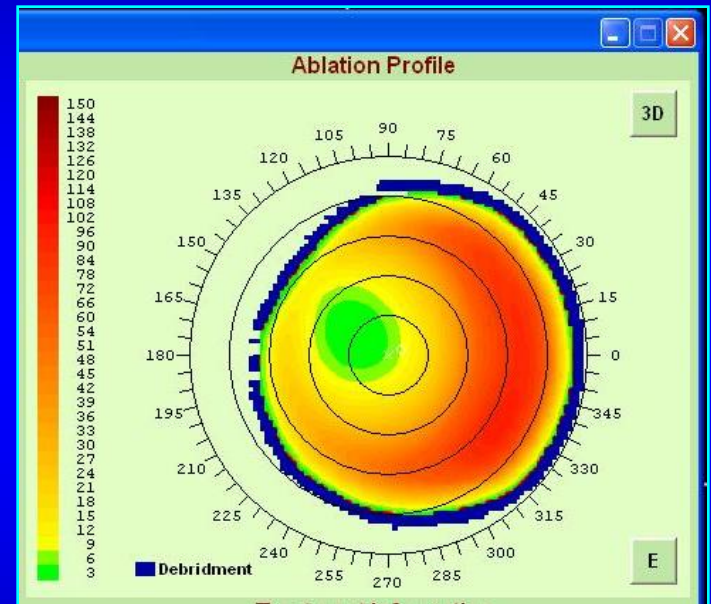
iVerify: The Diagnostics



iVerify: The Ablation



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Purpose

To verify the effective point by point stromal tissue removal by using an objective topographic automatized procedure which has the capability to control the effective ablation performed on the patient cornea compared with the theoretical ablation pattern. The system will compare the preop topography, theoretical ablation and postop topography.

Materials and Methods

iVis Custom Refractive Platform

(iVIS Technologies, Italy)

Patients demography:

- 50 eyes of 29 patients
- 16M, 13F
- Mean age 28.1 ± 7.3 yrs., range 19 to 49
- Follow Up: 6 months

iVIS Platform:

- Topographer: *Precisio*
- Pupillometer: *pMetrics*
- Custom Abl. Software: *Cipta*
- Excimer Laser: *iRes*
- FollowUp software: *iVerify*

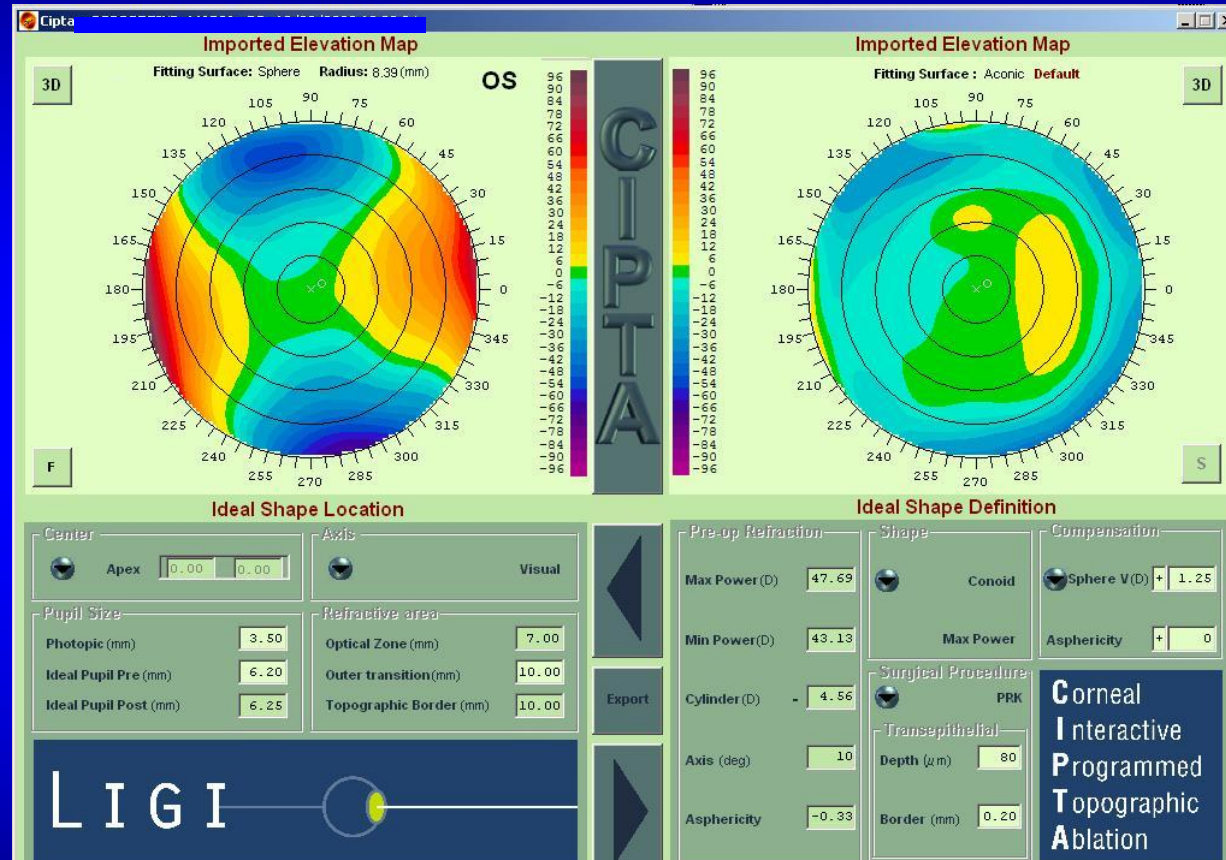
Materials and Methods

All patients were treated in transepithelial procedure with the italian excimer laser IRES 1,000 Hz (iVIS Technologies, Taranto, Italy). The ablation profile, calculated by CIPTA software (iVIS), was based upon Topography (Precisio, iVIS). The follow up validation has been performed using the software iVerify.



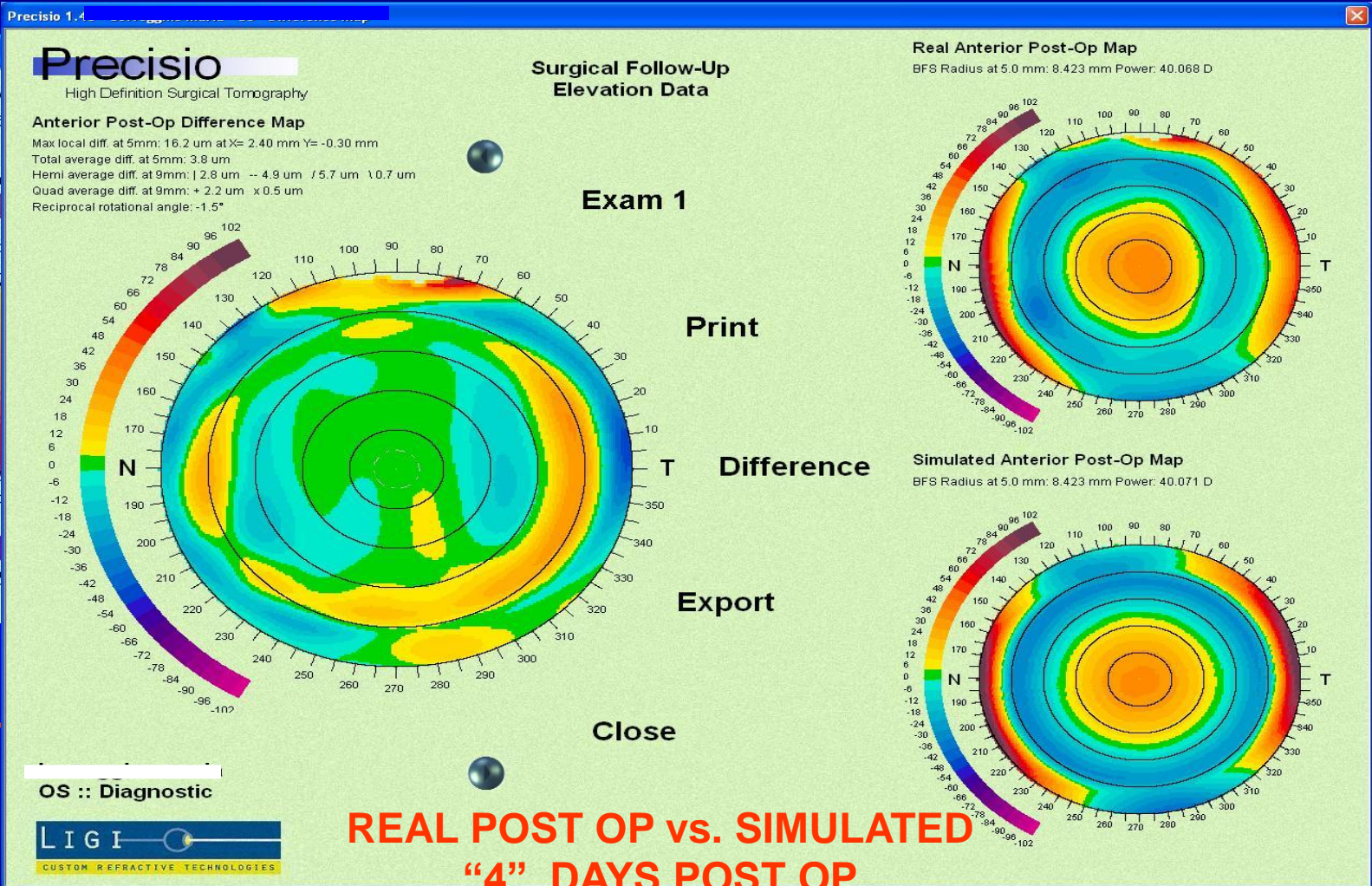
iVERIFY

iVerify Real Surgical FollowUp



**B.M. OS → SF: 0 Cyl.: +4.5 AX110°
8/10 (PRK FEB 2008)**

iVerify Real Surgical FollowUp



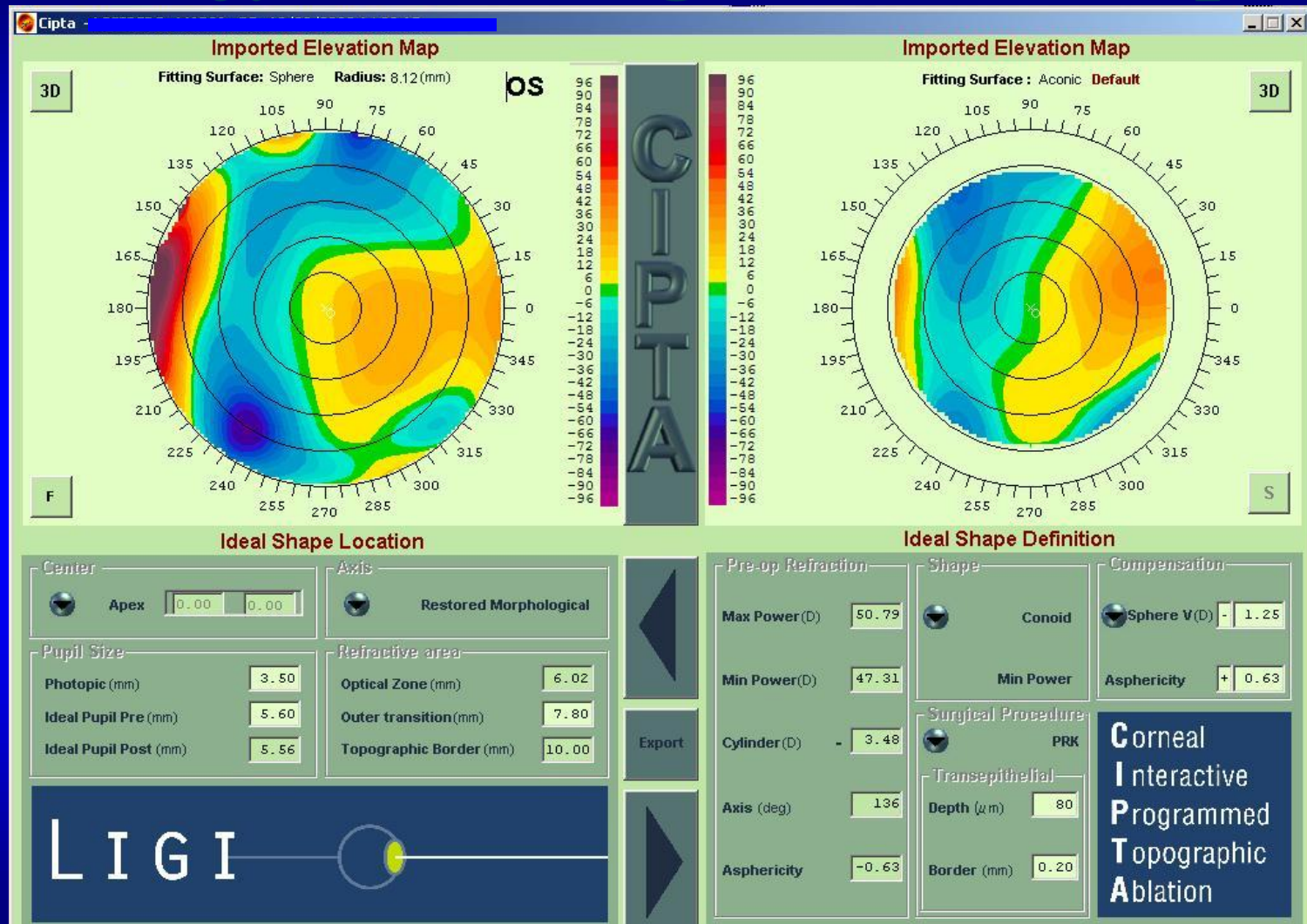
Results

The iVerify software analytically compared the theoretical ablation parameters with the real ones and shows the differences both graphically and numerically (see below).

	Volume	Max Width (0°,90°,180°,270°)	Thickness (0:0,2:0,0:2-2:0,0-2)	Max Depth Displacement
Difference	3.65%	0.992%	2%	2%

No adverse events have been reported.

iVerify Real Surgical FollowUp



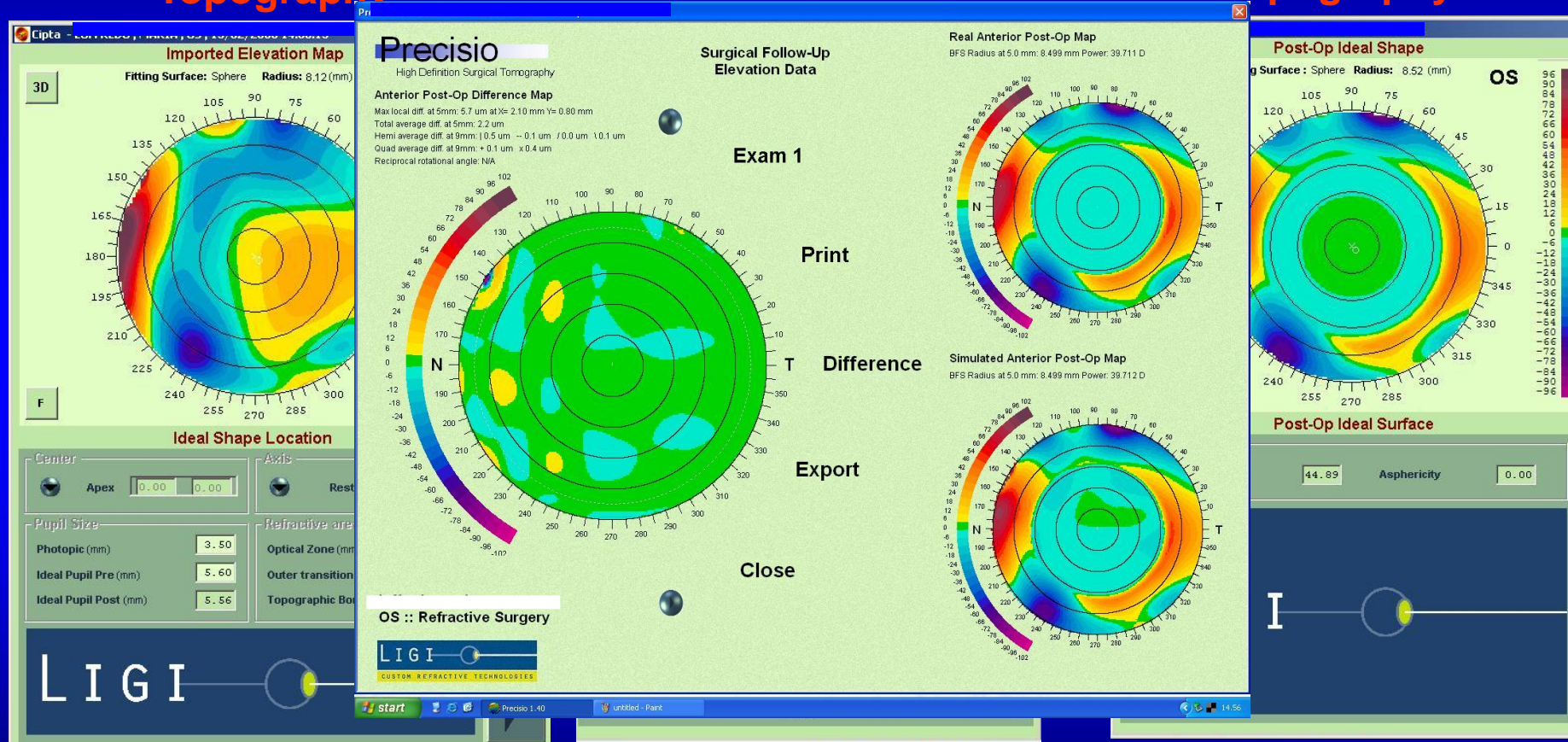
L.M. OS → post PK: Corneal regularization

iVerify Real Surgical Follow Up

Cipta Imported
Topography

Cipta Ablation Profile

Simulated Post.Op
Topography



REAL SIMULATED POST OP TOPOGRAPHY DIFFERENCE

Conclusion

This new topographic automatized procedure to numerically compare the theoretical ablation with effective ablation is a powerful suite to control all procedure in custom ablations giving a powerful and objective effort in surgical followup to understand the weak point of surgical procedure where the refractive outcome was not what desired.

Grazie