



Evaluation of Topography-guided LASIK and Simultaneous Collagen Cross-linking in the Management of Post-LASIK Ectasia

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Purpose:

- Evaluation of safety and efficacy of under-the-flap, partial, topography-guided LASIK(tLASIK) combined with simultaneous in-the-flap collagen cross-linking(CXL) in the management of post-LASIK ectasia

Methods:

- 7 eyes of 4 patients with post-LASIK ectasia evaluated before and after tLASIK and CXL:
 - UCVA
 - BSCVA
 - Refraction
 - Keratometry(K)
 - Topography
 - Cornea haze(0=clear cornea, 1=mild haze, 2=moderate haze, 3=severe haze, 4=reticular haze)
 - Ectasia Stability
- All eyes had a partial topography guided ablation within the original flap
 - Followed by single instillation of 0.1% riboflavin solution within the flap
 - Then followed by CXL with 7mW/cm² UVA irradiation for 10 minutes over the re-positioned flap
- Mean follow-up was 15.5 months (12 to 38)

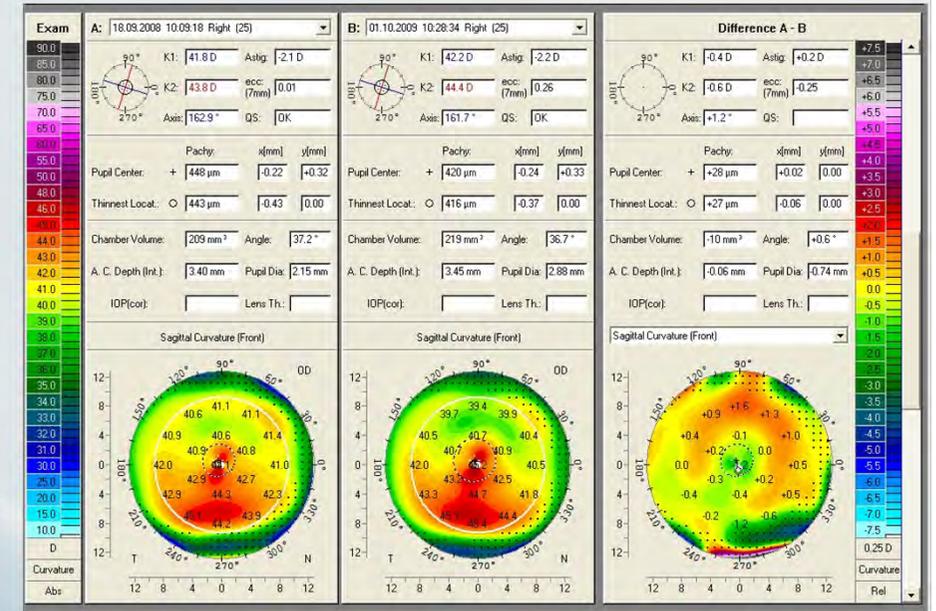
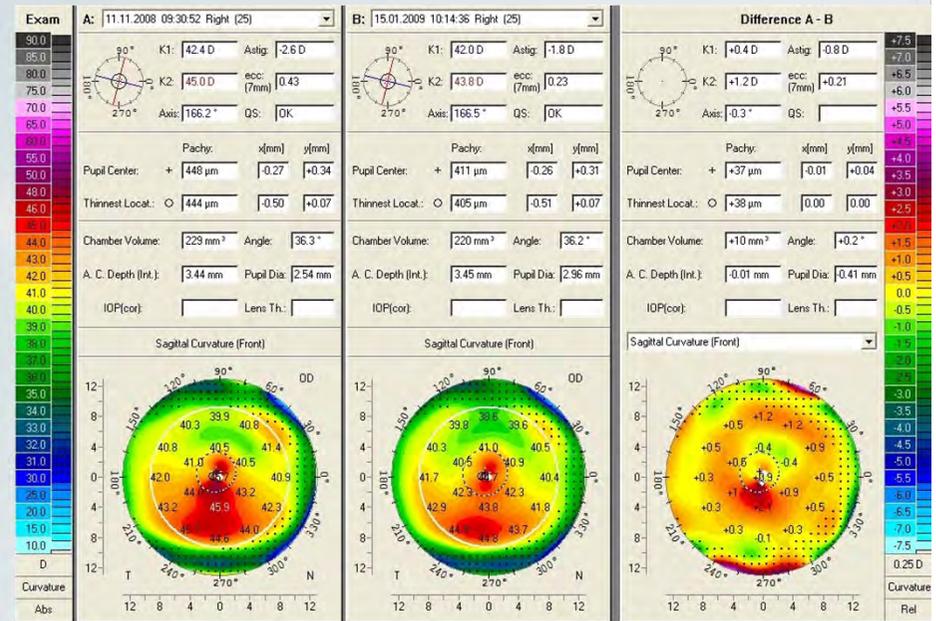
Results:

- Visual function recovery took an average of 2 days post-operatively
- UCVA: from 0.21 to 0.42
- BSCVA: from 0.41 to 0.57
- Spherical equivalent improved: 2.1D
- Mean haze score: 0.4
- Mean keratometry reduction: 2.4D
- Two eyes appeared to regress within one year

Post-LASIK ectasia: -1 -
 1.75@ 75. Pach 445, Treated
 with topo-guided
 enhancement of: -1 -1.25@
 75 and 10 minutes CXL. Pre
 and 2 months post images
 seen here. Improvement of
 UCVA 20/60 to 20/25

Same case seen 1 year
 later with some **ectasia
 regression**.

UCVA 20/30. BSCVA
 20/20 with -0.5 -
 0.75@78



Conclusions:

- Simultaneous tLASIK and CXL carries unique advantage of rapid rehabilitation and minimal patient discomfort post-operatively
- It appears to be safe and potentially effective in stabilizing ectasia progression and enhancing visual rehabilitation in some post-LASIK ectasia cases although the percentage of regression in this small group remains a troublesome disadvantage.