

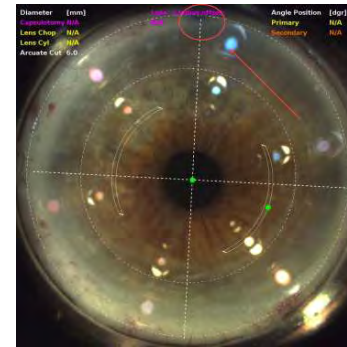
Reduced Cylinder with femtosecond laser-assisted cataract surgery (FACS): A contralateral eye study

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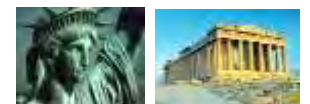
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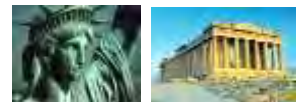
Intro/Methods: To evaluate the short and longer term visual recovery of eyes treated with FACS or blade incision.

In a randomized eye assignment 14 consecutive bilateral cataract cases had either FACS (group A) or manual keratome (group B), both groups had 2.8mm incisions. All cases were evaluated prior to and following their surgery using refraction, visual acuity, automated keratometry, endothelioscopy, corneal topography and Scheimflug tomography and intraocular pressure. Mean follow-up time was 3 months (3-12) post-surgery



Methods:

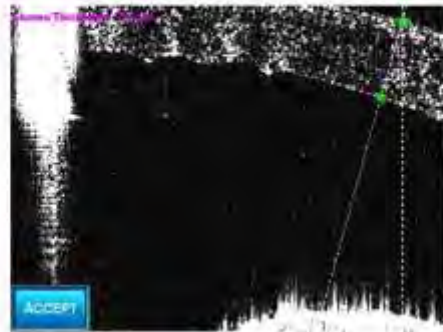
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Results:

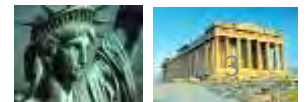
Mean refractive astigmatism was more stable in group A, while it was more variable (decreasing over the very short term) in the eyes of group B. Keratometric astigmatism in the same time period showed a similar effect with mean cylinder change at 3 months 0.12 Diopters in Group A, and 0.48 Diopters in Group B ($P < 0.0001$), indicating that the refractive effect was related to differences observable on the anterior cornea. Topographic asymmetry was evident in eyes of group B.

Adjusting thickness/depth

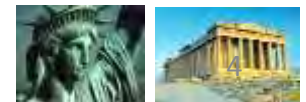
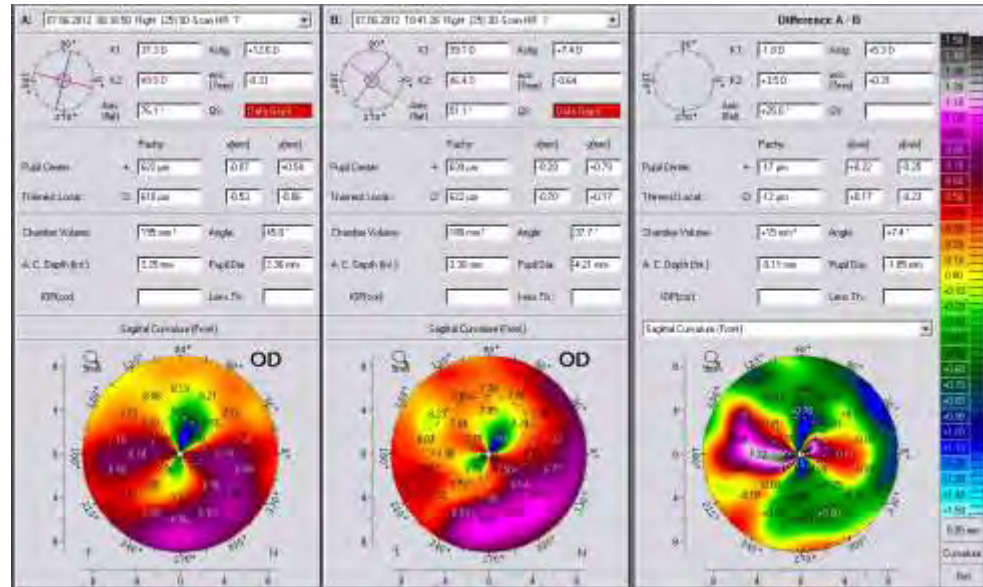
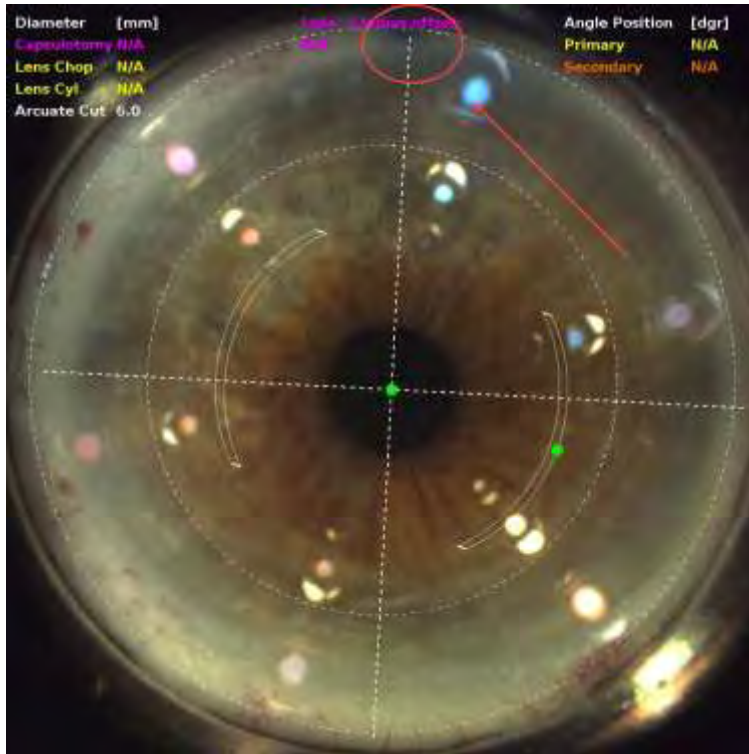


The actual depth of the AK incisions can be adjusted manually by the surgeon with intraoperative cornea OCT guidance as seen in the picture on the left.

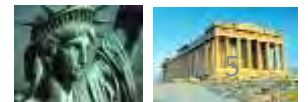
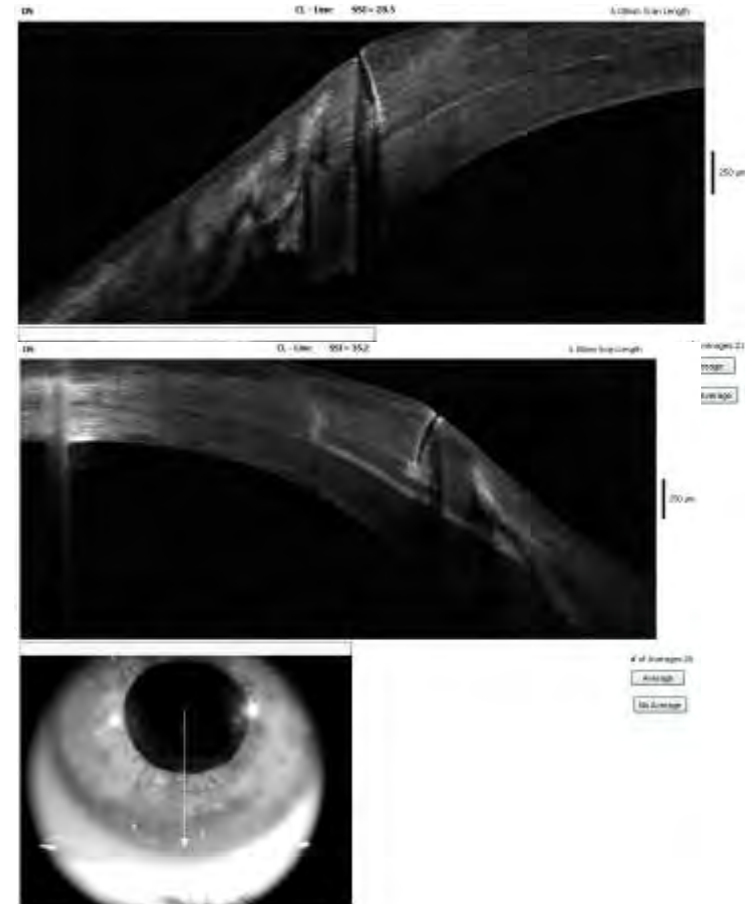
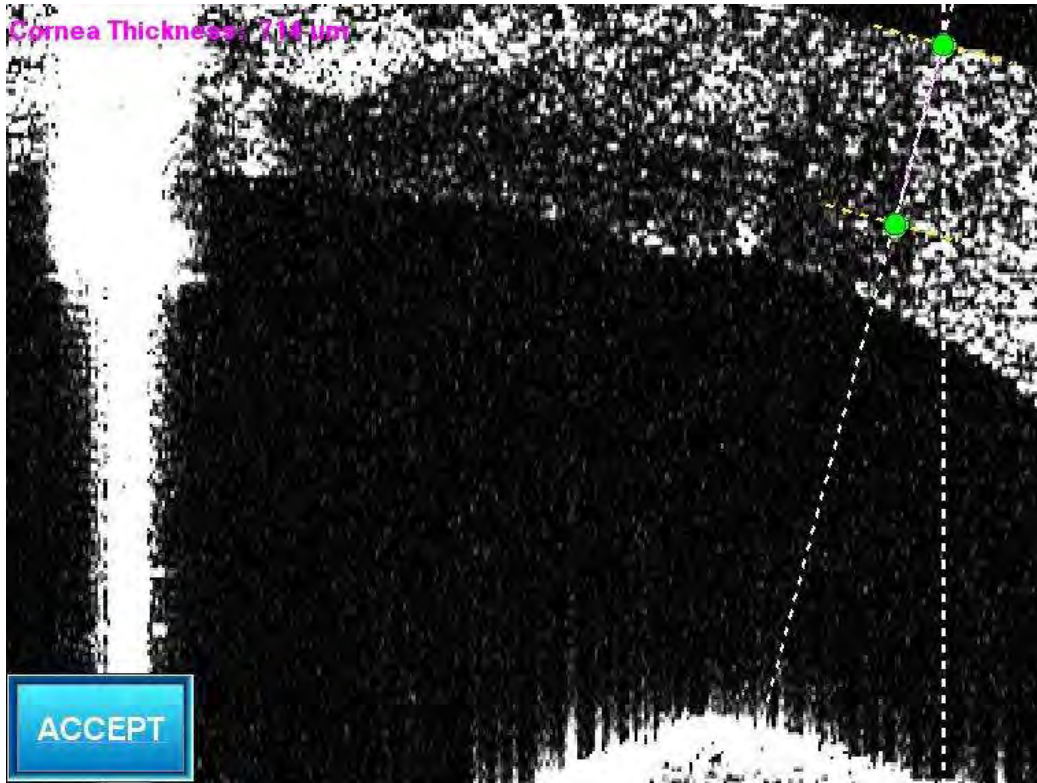
The top green dot is adjustable to anterior mark of the laser incision . The bottom green dot is respectively adjusted to the depth.



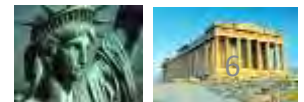
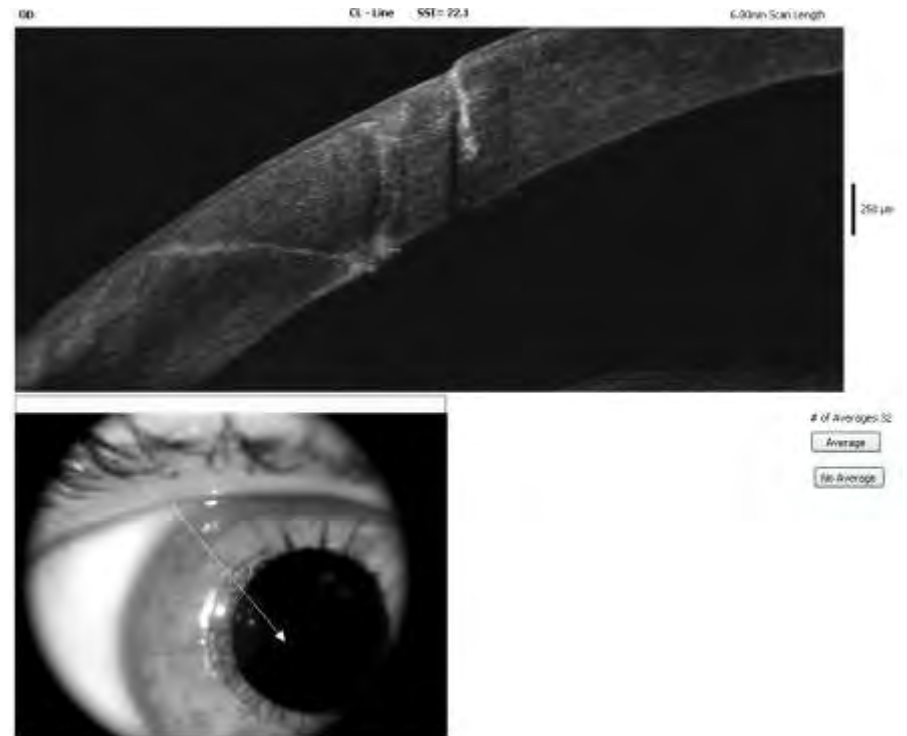
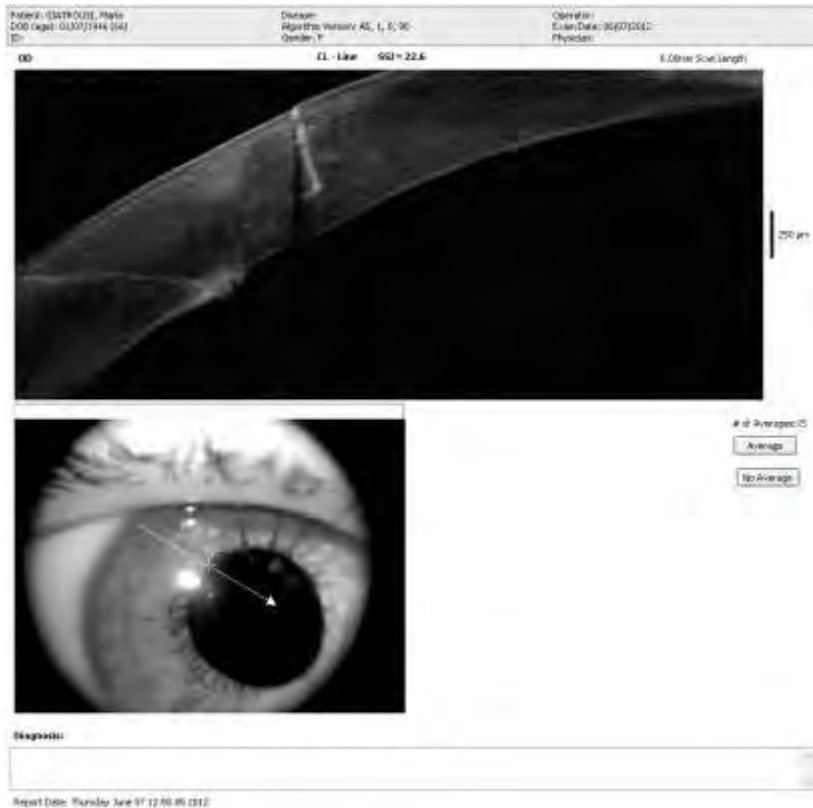
Rotating on 6° clock mark



AK in DSAEK



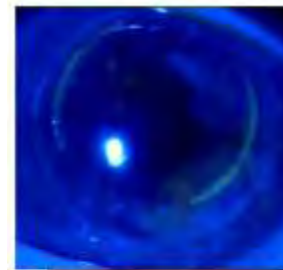
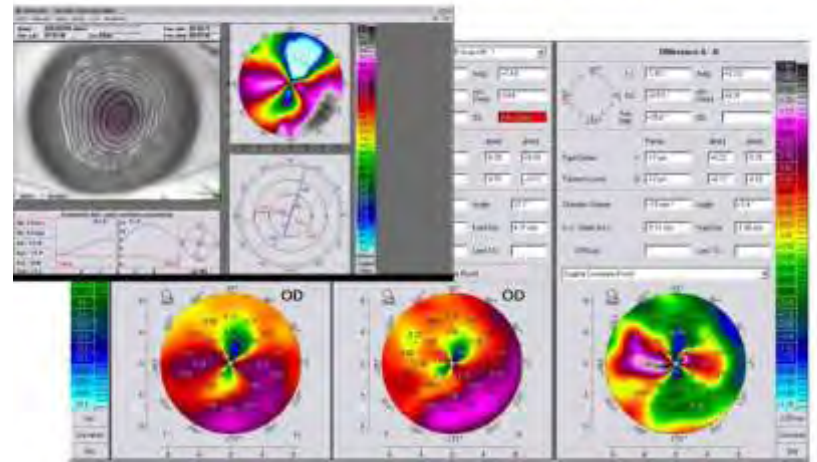
Before and after “opening” of the AK incisions with a Sinskey hook on the slit lamp



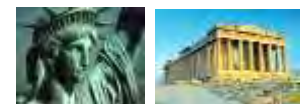
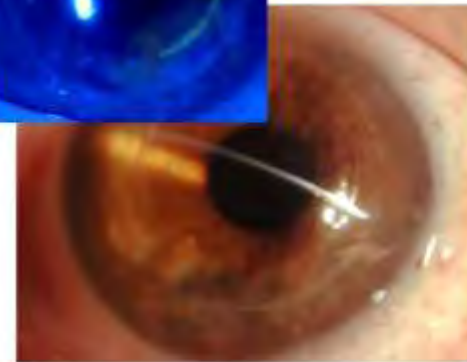
Conclusions

- FACS, may improve wound integrity following small incision cataract surgery. The evidence here suggests that post-operative stabilization of the refraction occurs sooner, providing a potential advantage in terms of patient and surgeon perception of the success of the surgery. Additionally the femto AK incisions

Before after LenSx AK



Precision: LenSx AK axis



Conclusions-astigmatic keratotomy

LenSx AK a superior tool in customised correction of cylinder

The incisions have proven fast, reproducible, customizable, adjustable, precise, and safe in our patient group with improvements in corneal astigmatism and visual acuity that is maintained several months out.

develop a precise nomogram and predictable algorithm for optimal surgical outcomes

Next step is 90% depth and leave surface uncut-adjustable.



Diamond blade AK

LenSx AK

