

Hyperopic LASIK with the Allegretto-Wave and the M2 AAO 2003



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Co-workers

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Purpose of Study

- To evaluate the safety, efficacy and accuracy of hyperopic LASIK
- To determine the spherical nomogram adjustment
- To evaluate the wavefront pre- and post-operatively

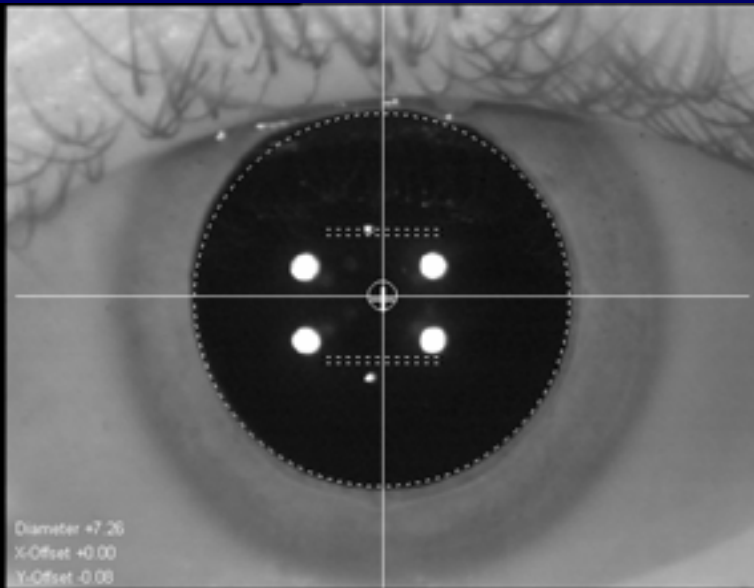


Method

- 120 consecutive eyes, underwent LASIK for hyperopia or hyperopic astigmatism OZ: 6.5-9.
- We evaluated pre- and post-operatively: refractive error, UCVA and BCVA,
- high order aberrations at pre-op, 1 month, 3 months, 6 months and 1 year.
- These data are standard, non-wavefront guided treatments.

Method

- WaveFront evaluated prior to surgery
- Dilated pupil to 7mm (not cycloplegic, 1 drop Mydriacyl 1%)
- Pre-op, Day 1, Week 1, month 1 and Month 3 Data



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Results:

- **Results:** Mean values: The pre-op sphere was + 2.25 D (+1.00 to +6.50) and the cylinder -1.25 (0 to -3.75)
- UCVA improved from 20/100 to 20/25.
- At 6 months 88% of the eyes were 20/20, 17% 20/15. 100% of eye were within +/- 0.75D of the refractive goal at 6 months. and 1 year

Results:

- RMSH increased by 45%. 47% of eyes gained at least 1 line of BCVA.
- No complications were noted in this limited group.
- There was a mean +0.32 regression in the spherical correction noted between the 1st month

Results: Efficacy-12 months

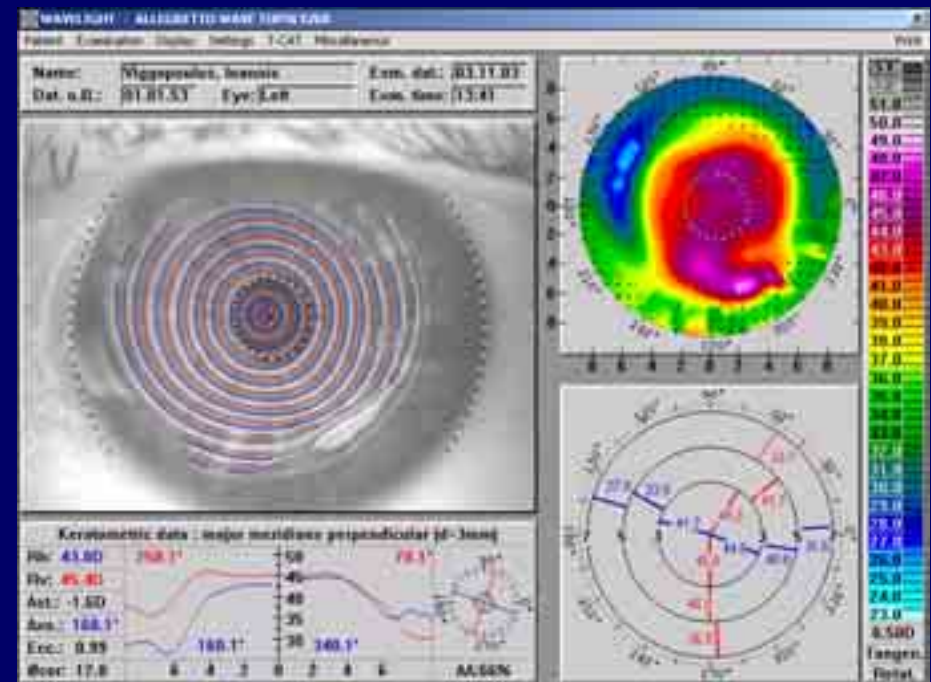
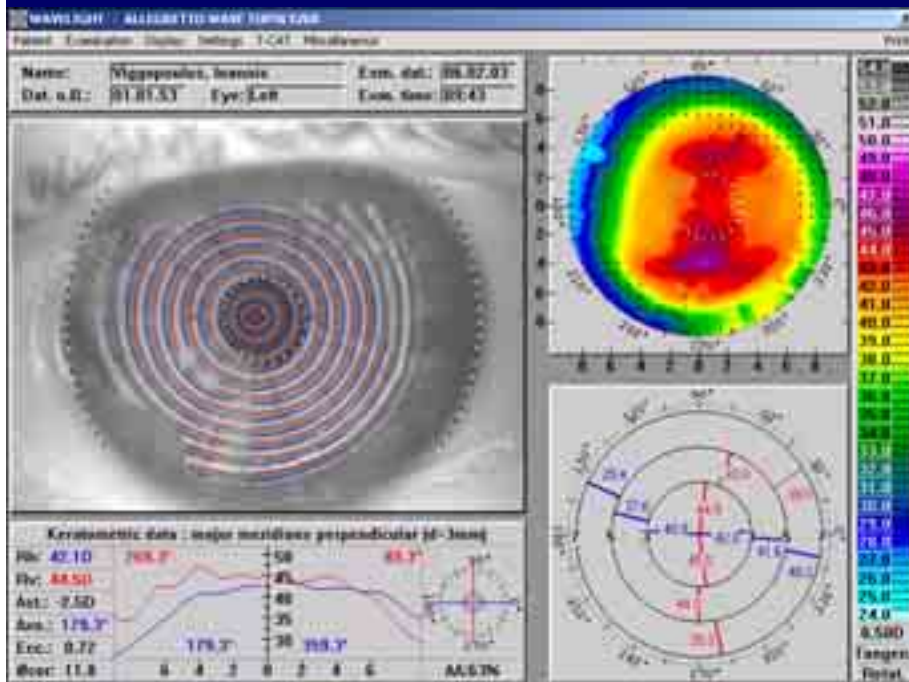
QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

Results: Safety 12 months



QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

Case example: +3.50 -3.00 180



Case example:

Pre-op RE:

+2.00 -6.00 x 167 and

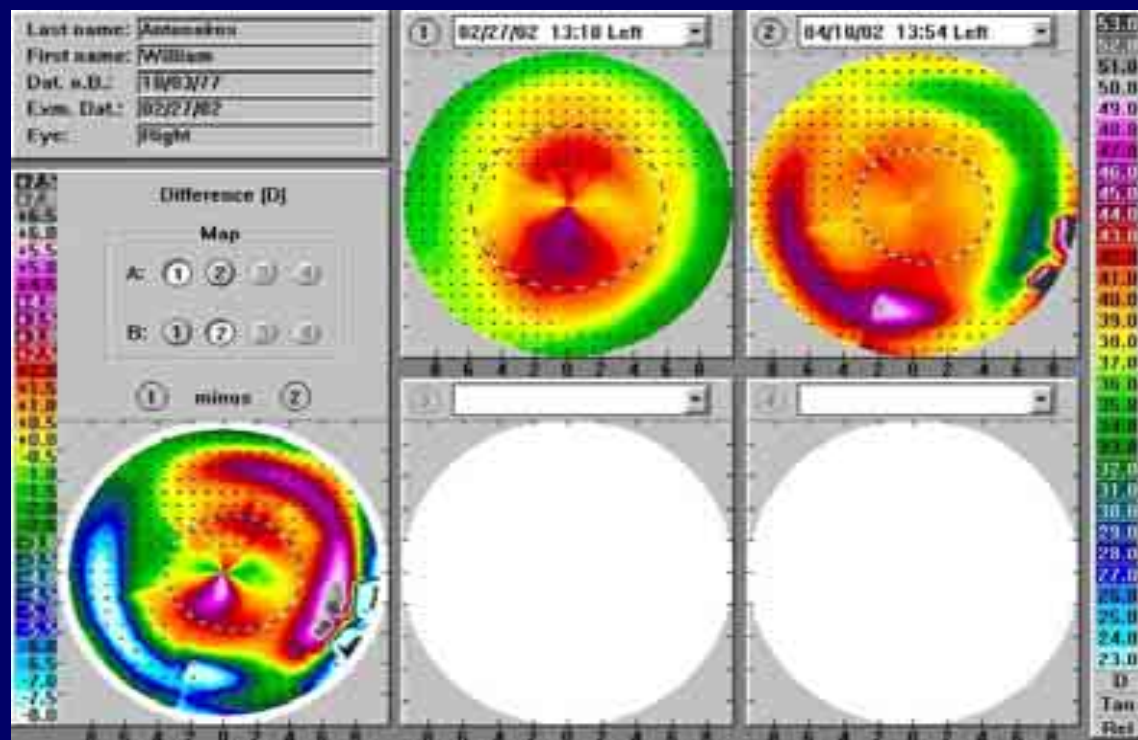
BCVA 6/10

3m post “standard”

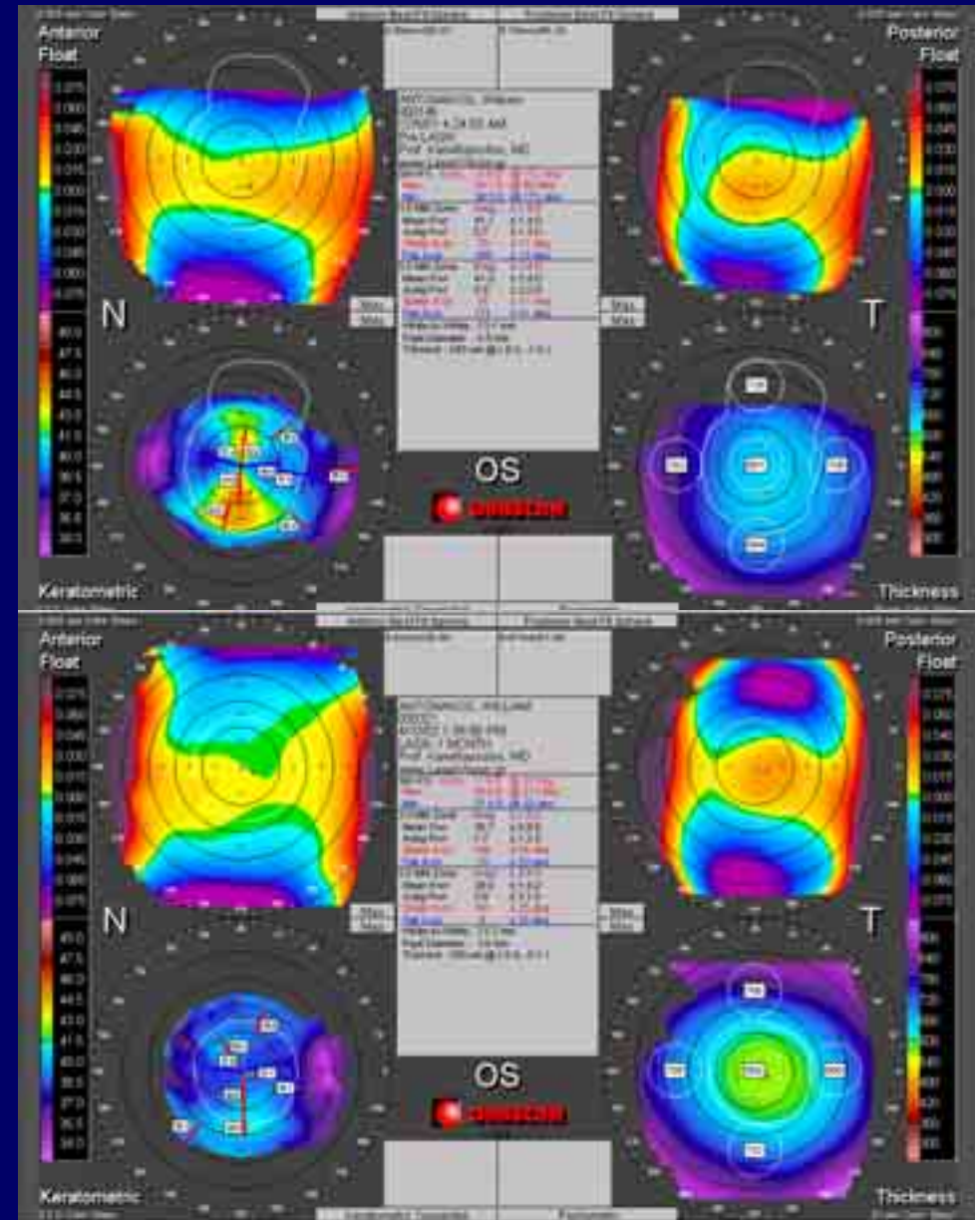
LASIK :+0.50 -0.50 x 19

UCVA 9/10

In topographic terms all of the cylinder corrected, of importance the effective ablation zone on topography is exactly the one planned with the laser: 6.5mm



Same patient:
Orbscan measurements:
pre-op above and post-
op below



Conclusion

Hyperopic LASIK utilizing the ALLEGRETTO-WAVE excimer laser and the M2 microkeratome appears to be safe and effective in the correction of hyperopia and hyperopic astigmatism.

- It has demonstrated in our clinical practice the ability to induce little higher order aberrations

Conclusion

Refraction appears to stable at 12 months

- The postoperative results at day one were very impressive, possibly deriving from the smooth ablation pattern of corneal stroma bed and/or the smooth microkeratome pass.
- Very significant improvement in BCVA postoperatively

Thank You

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