

Lasik Outcomes with Ablation Centration on the Coaxially Sighted Corneal Light Reflex

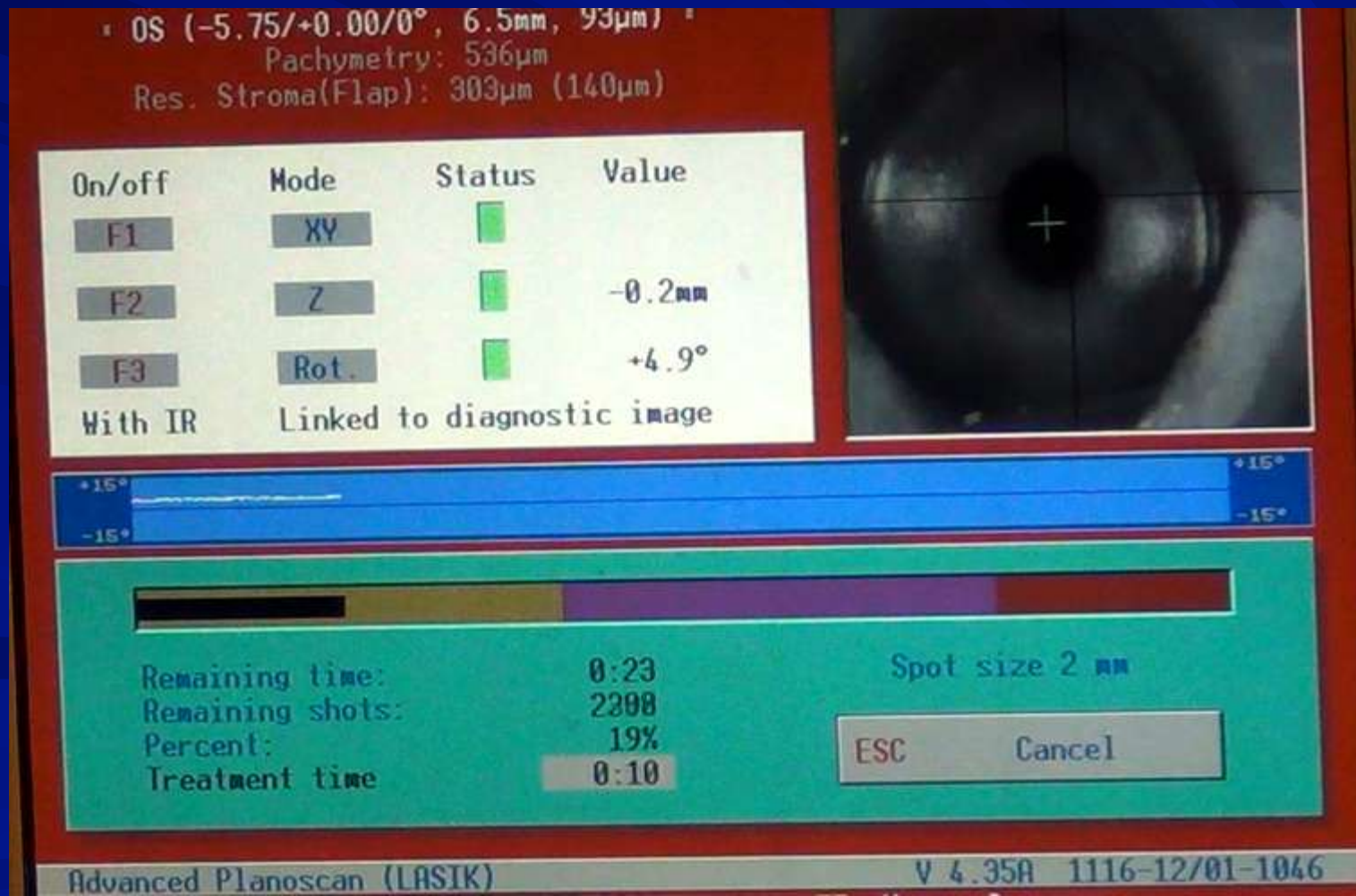
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No financial interest

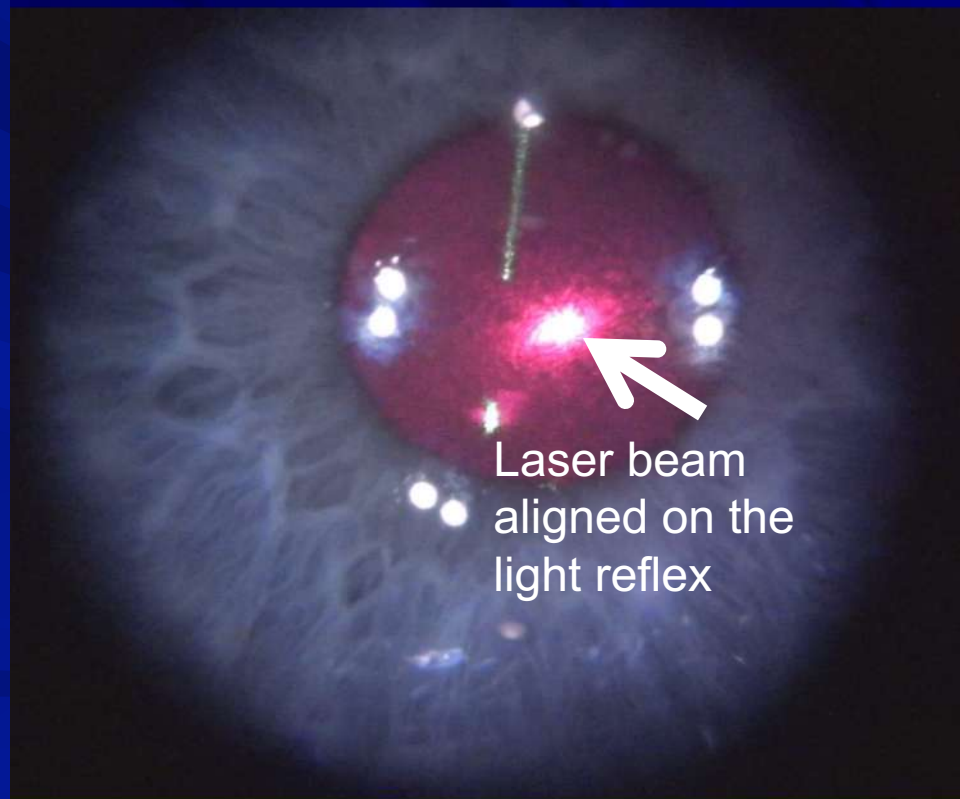
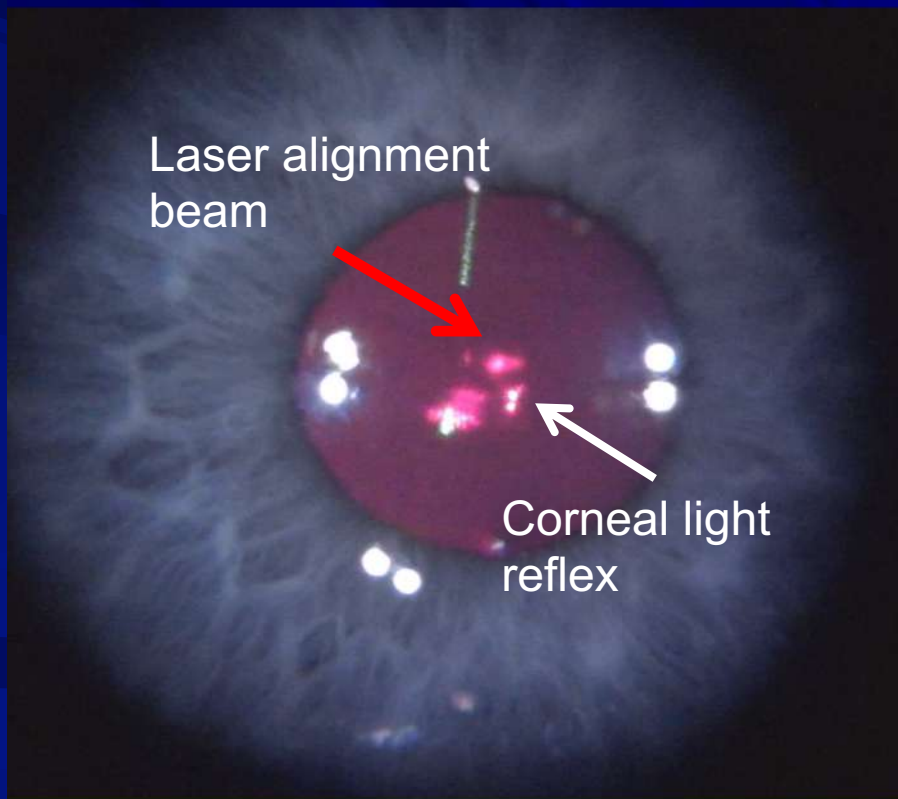
Purpose

- Decentration of Excimer laser ablation can induce cylinder and coma.
- Two standard refractive platforms, at different locations with similar demographics were compared for pre and post-operative cylinder.
- One location had a Zyoptix Technolas 217z laser (Technolas) and the second location used a VISX STAR S4 (Visx)

The Technolas Advanced Planoscan 6.5MM optical zone was used with Iris registration and Advanced Control Eye-tracking (real time tracking of the iris rotation).



Ablations were centered over the coaxially sighted corneal light reflex



The x and y positions were adjusted by the surgeon just before the ablation.

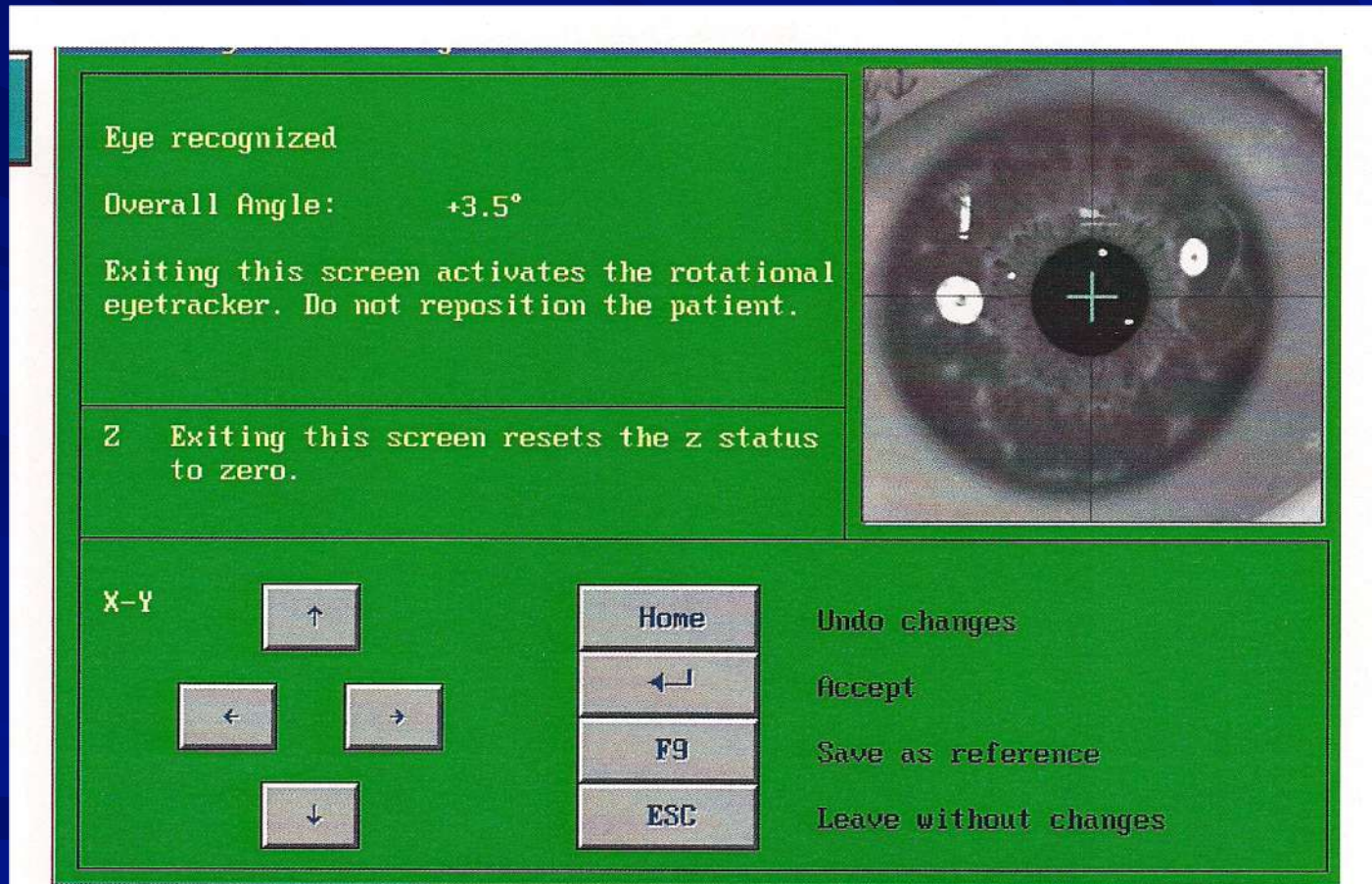
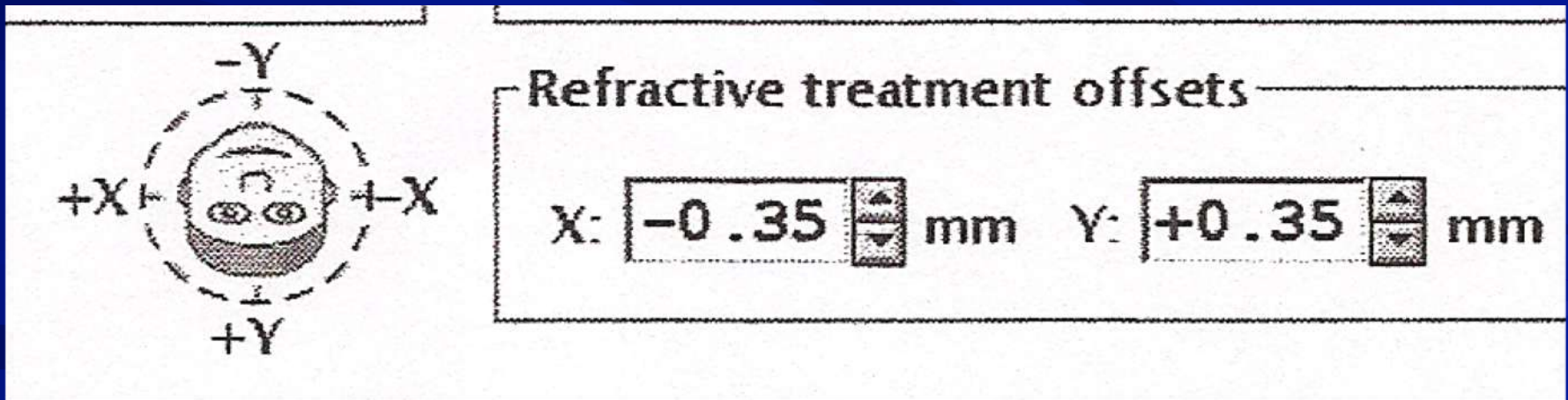


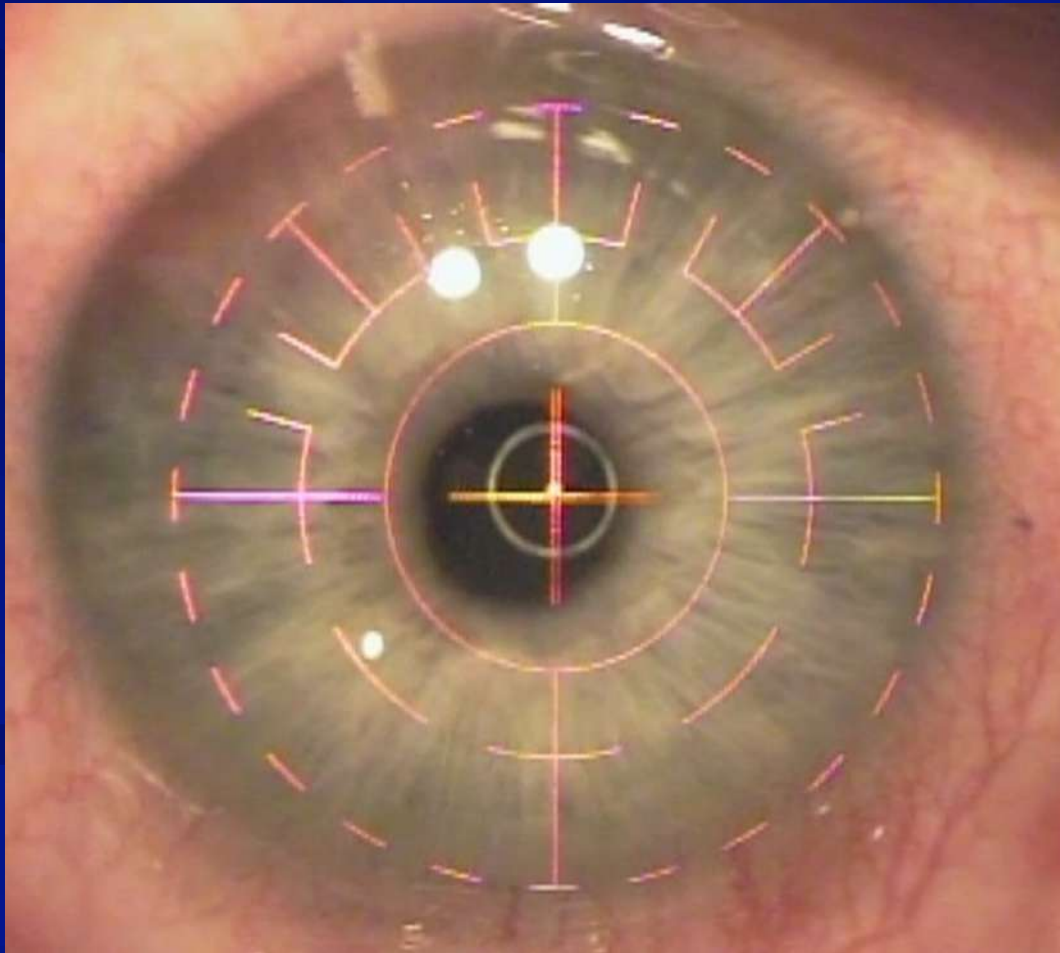
fig. 9-10: Eye tracker alignment (example: ZYOPTIX treatment after successful Iris Registration with available Iris data)

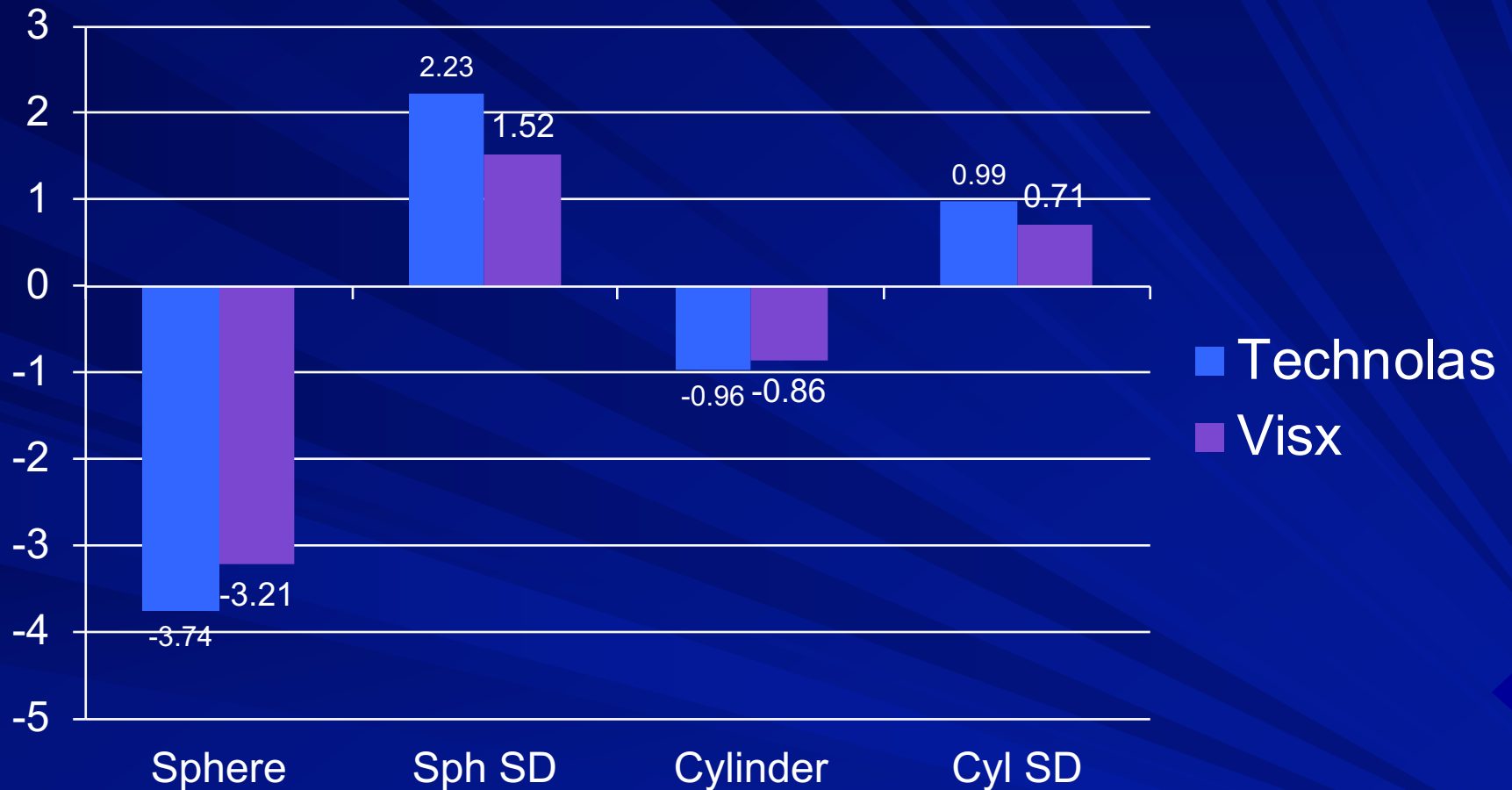
A Visx Standard 6.5 mm optical zone with 8.0 mm blend zone was used.

The ActiveTrak real time pupil tracker was used with the x and y “OFFSET” position set by the surgeon before making the LASIK flap.



The reticle was used to estimate the offset, limited to 0.35mm by the laser



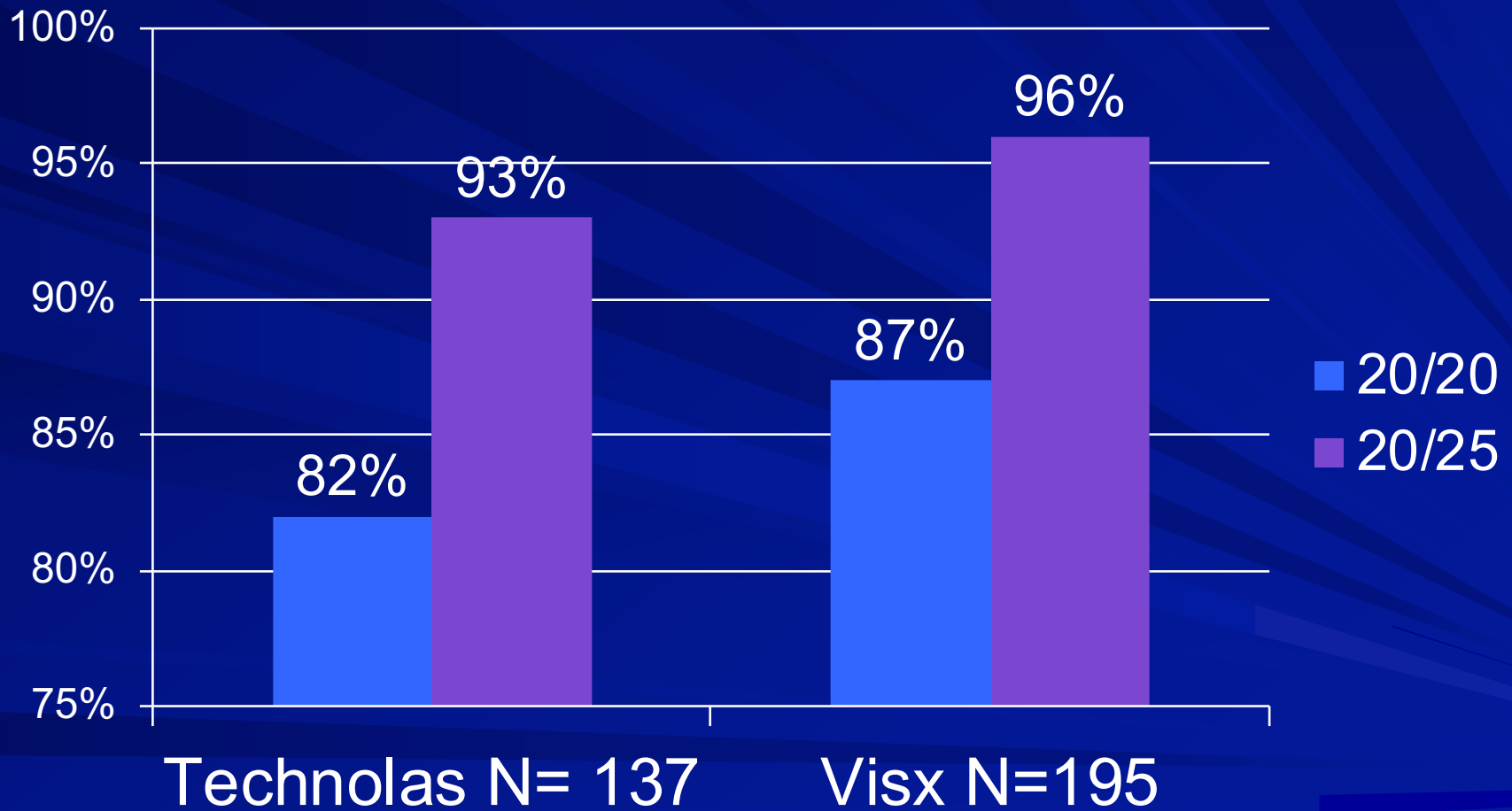


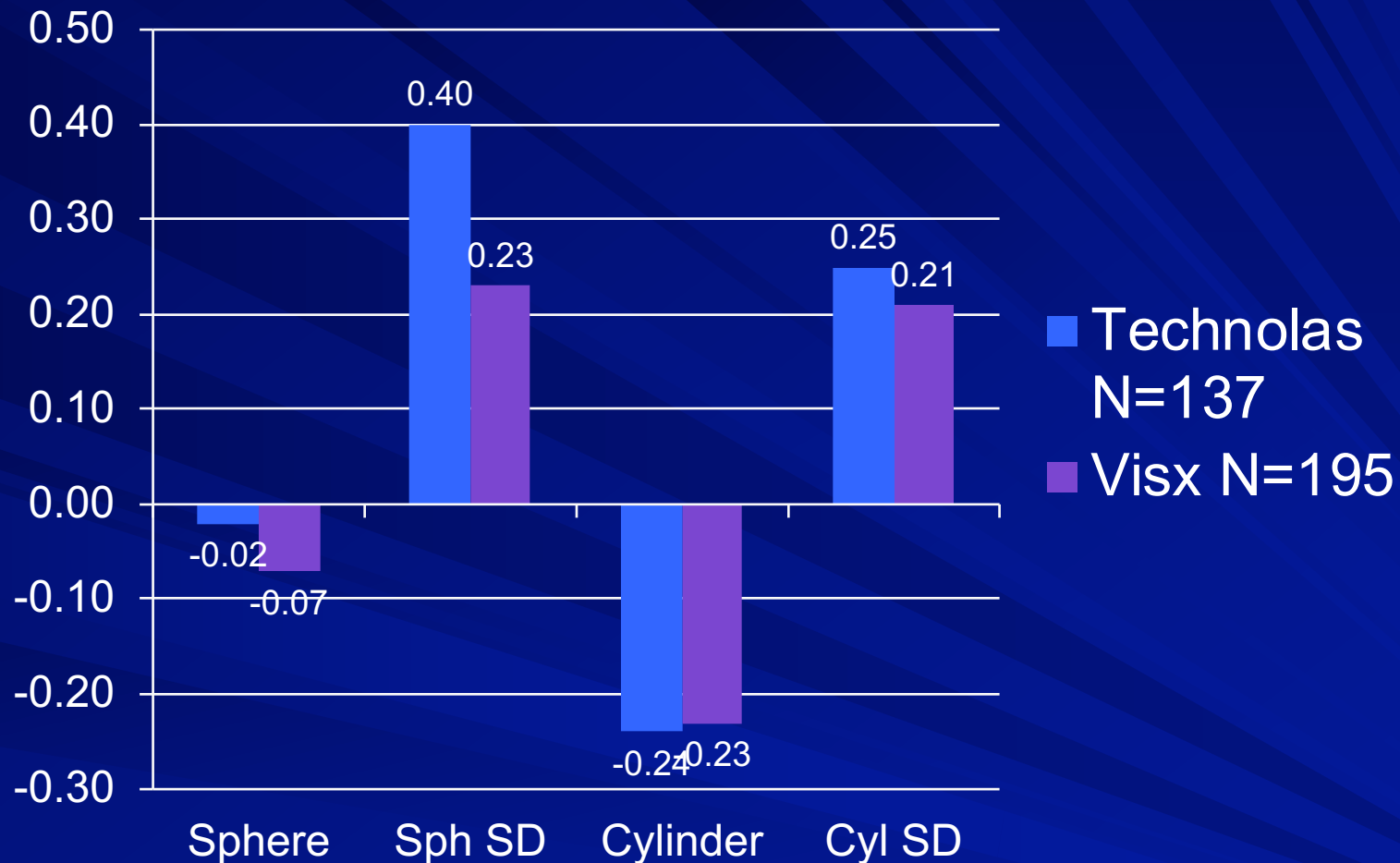
Pre-operative Sphere and cylinder

*Pre-op, there was no statistical difference between the Technolas and Visx *cylinder*

*SD-Standard Deviation

Uncorrected Vision at One Month





One month post op refraction

* At one month post -op, there was no statistical difference between the Technolas and Visx ***cylinder***.

Conclusion

- Treatments in both cases were based on manifest refraction, optimized ablation profiles with treatments centered over the coaxially sighted corneal light reflex.
- Similar outcomes were obtained with the two laser platforms used.