

مركز مسقط لعلاج العيون بالليزر
Muscat Eye Laser Center

Aberration-Free Laser in-situ Keratomileusis with the SCHWIND AMARIS 1050RS

Juan Guillermo Arbelaez, MD
Maria C. Arbelaez, MD
Samuel Arba Mosquera, PhD
Thomas Magnago, Dipl. Ing. (FH)

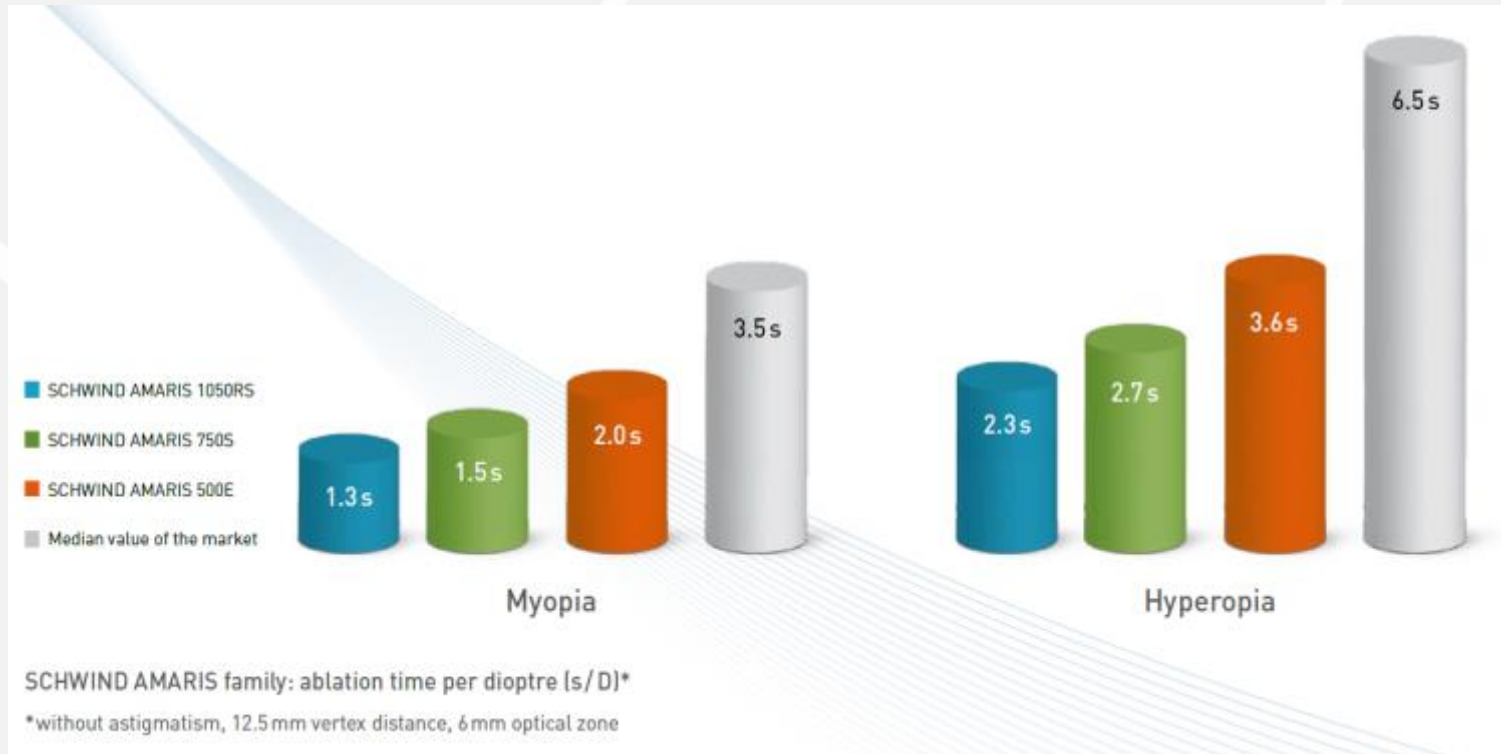


SCHWIND AMARIS 1050RS

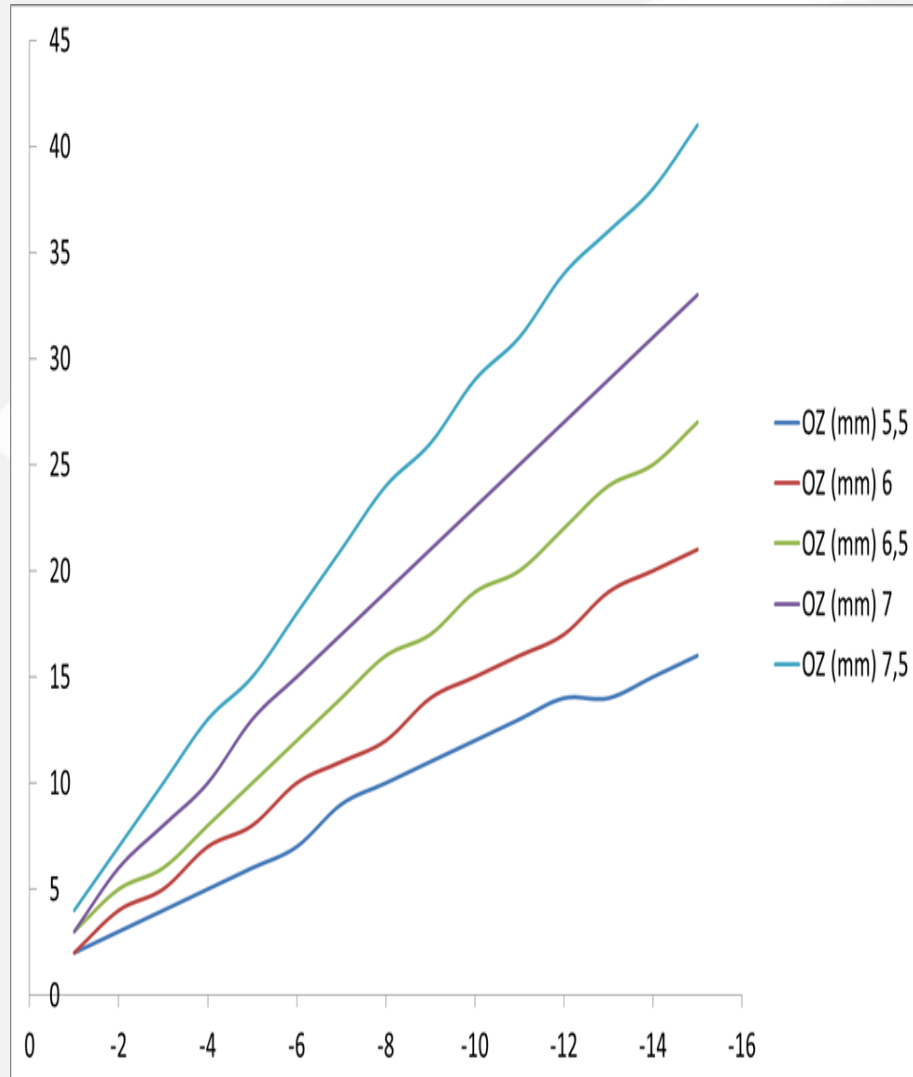


Benefits of 1050 Hz

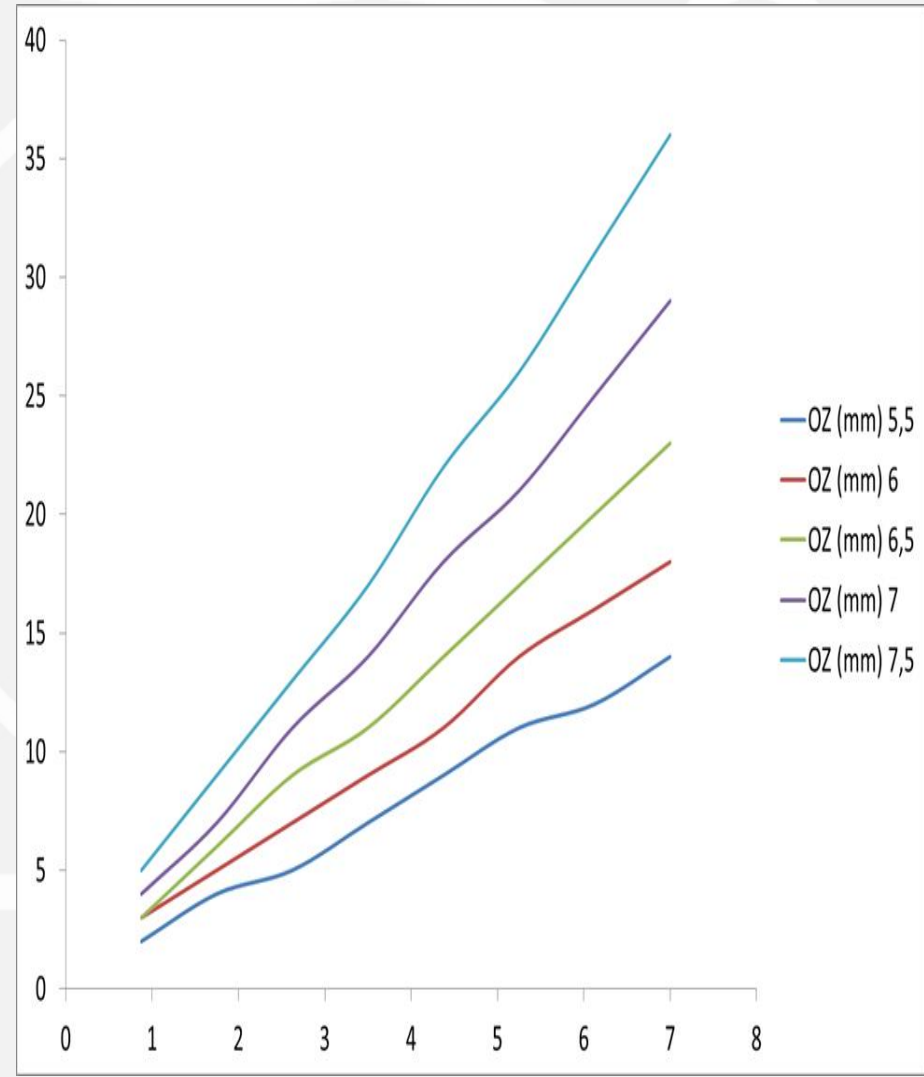
- Patient's expectations have increased for the attainable results and the comfort they expect.
- Therefore offering the shortest treatment times with excellent outcomes, will bring you a tremendous advantage
- This is why we decided on the SCHWIND AMARIS and we are happy now with our new laser to set a new standard, delivering greater safety and patient comfort.



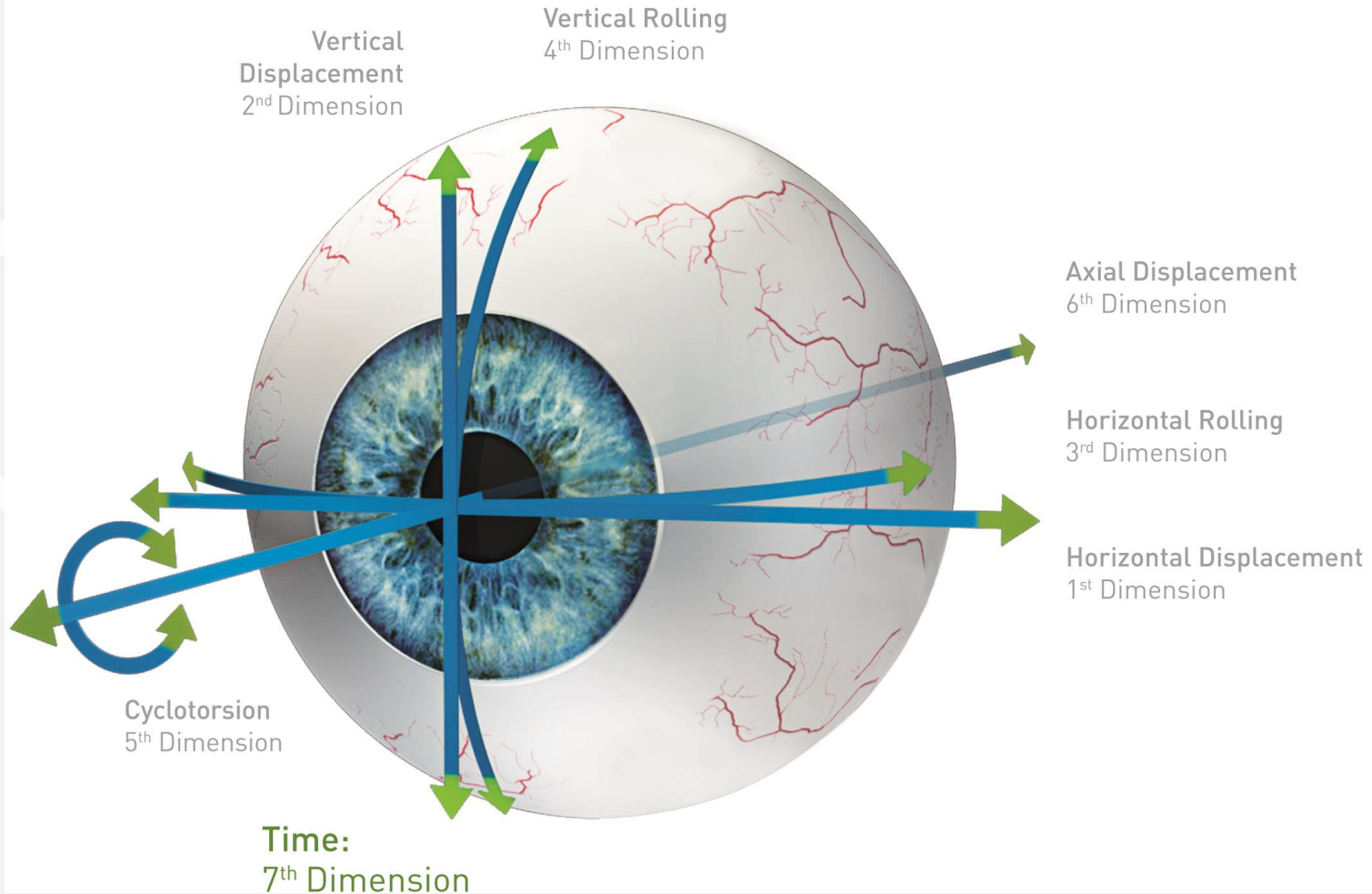
Myopia



Hyperopia

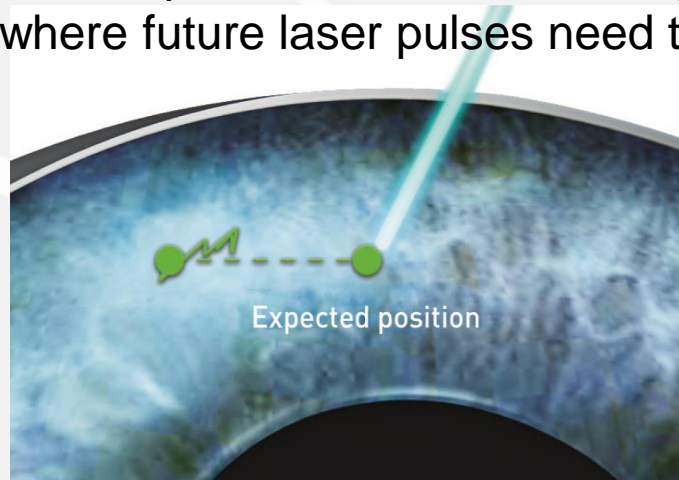


7D Tracking



Latency-Free Tracking

- Considers the time factor for future eye movements and describes them as the 7th dimension.
- Compensates for eye movements that occur in the period between acquisition of the eye tracker image and triggering of the subsequent laser pulses.
- The eye tracker performs a motion analysis on the basis of previous eye positions during the treatment.
- It then calculates, for all six dimensions, where the corneal target position will be at the moment of the next two consecutive pulses.
- The scanner moves to this position before the next pulse is triggered knowing when and where future laser pulses need to be triggered



SCHWIND CAM Software

ORK-CAM
Module*

PresbyMAX® Module*
Hybrid, μ -Monovision, Symmetric

PALK-CAM
Module*

PTK-CAM
Module*

Aspheric

Bi-aspheric multifocal

Pachymetric Data Based

Refraction Neutral

PRK, TransPRK, LASEK, LASIK, FemtoLASIK

Pachymetry Assisted
Laser Keratectomy w/o
clipping

Stroma or
Transepithelial

Aberration-Free, Corneal Wavefront,
Ocular Wavefront Treatment

Grafting

Non-
Grafting

Round or
Elliptical Shape

Refractive Treatment

+

Presbyopia Treatment

Therapeutic Treatment

*with Static Cyclotorsion Control





Our experience
Our experience



Purpose: To assess the efficacy, predictability, and safety of LASIK for the surgical correction of low to moderate myopia with astigmatism

Subjects: 94 eyes with a manifest refraction spherical equivalent
All candidates for Aberration-Free laser refractive surgery

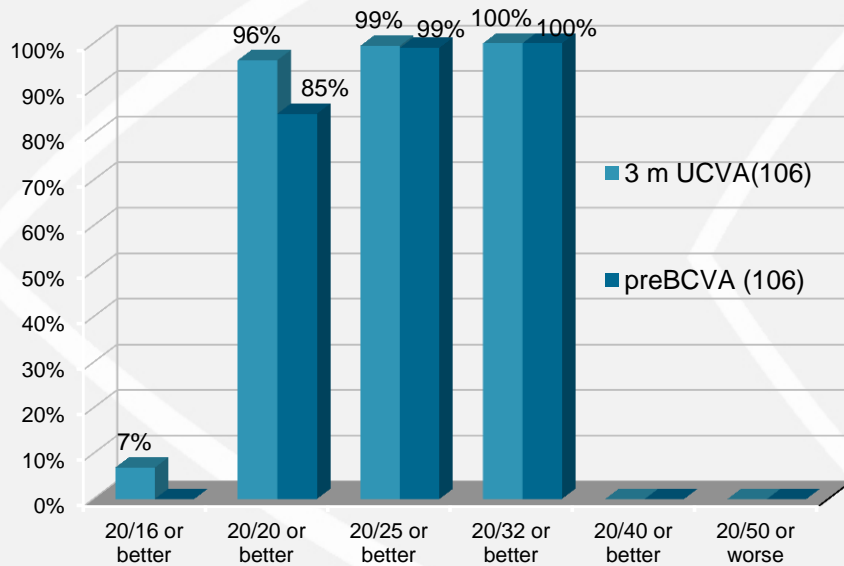
Materials: SCHWIND AMARIS 1050RS excimer laser with different repetition rates

Methods: All eyes underwent treatment with the non wavefront-guided aspheric algorithm of the SCHWIND AMARIS 1050RS excimer laser working at different repetition rates. All eyes were targeted for emmetropia. Refractive outcomes and corneal higher order aberrations were analyzed pre and postoperatively.

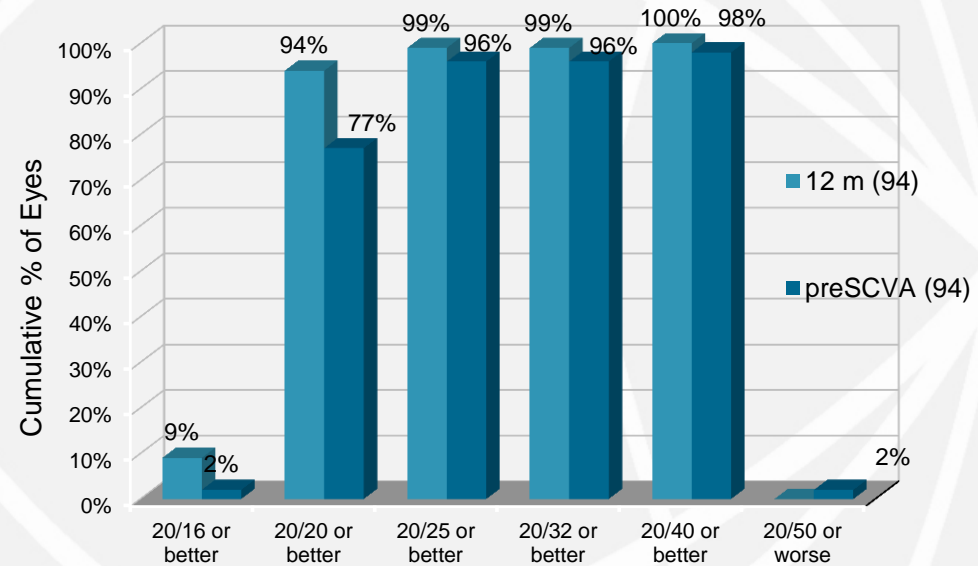


Visual Acuity preop BCVA vs postop UCVA – Percentage

750 Hz

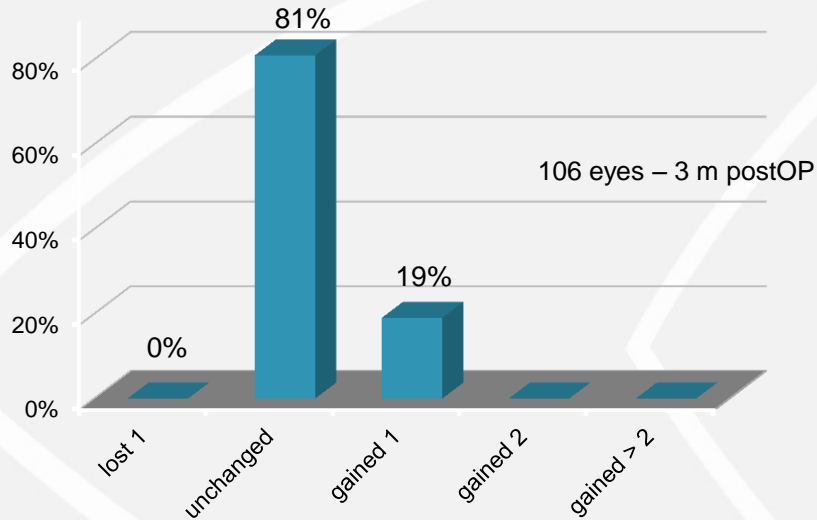


1050 Hz

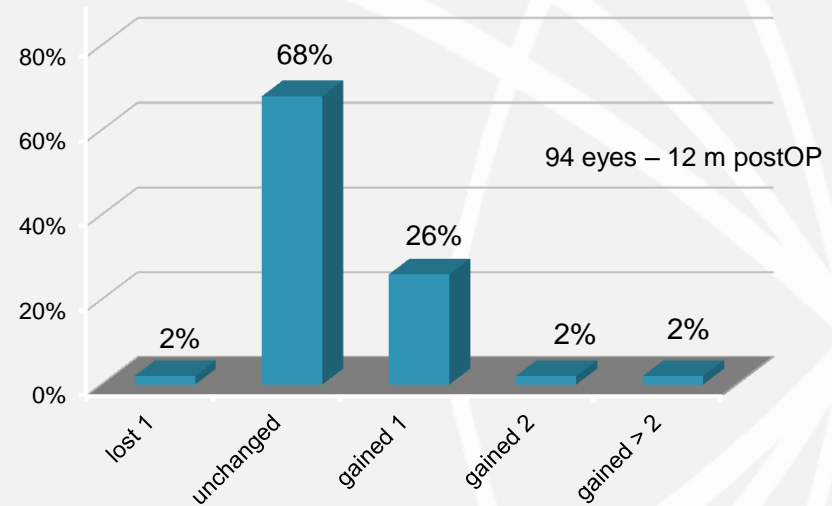


Safety Change in BCVA – Percentage 'Safety'

750 Hz



1050 Hz



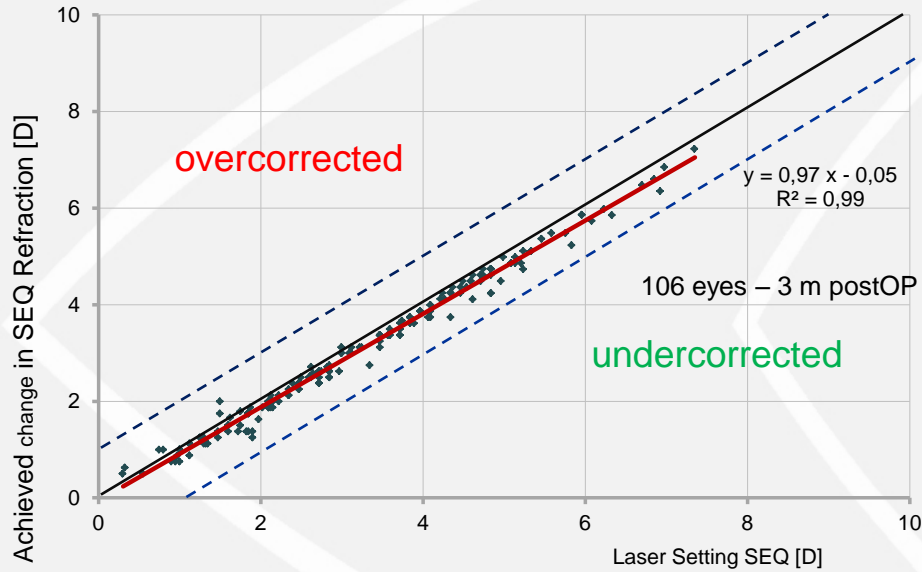
Change in BCVA comparable values between the two groups

750Hz → 19% gained lines

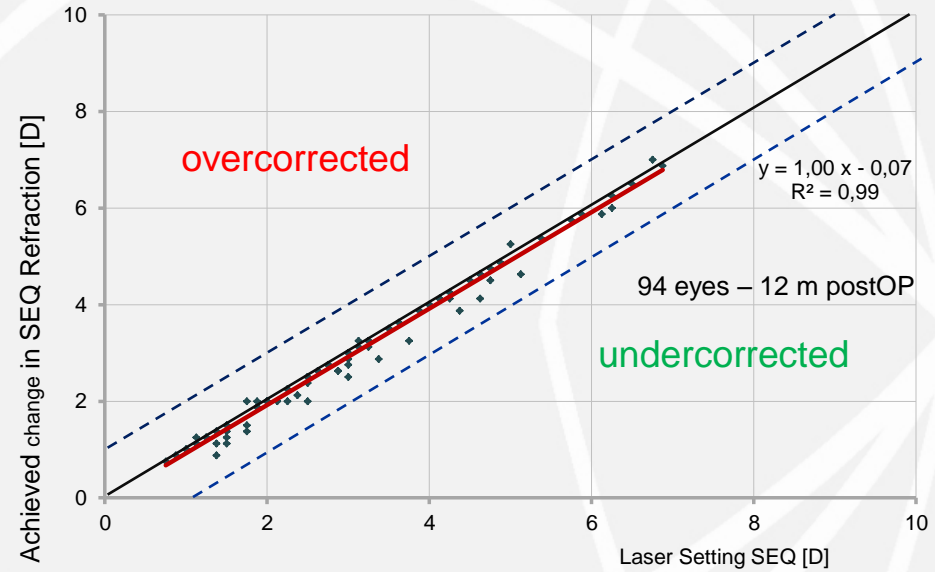
1050HZ → 30% gained lines

Scattergram Attempted Change in SEQ Refraction [D]

750 Hz



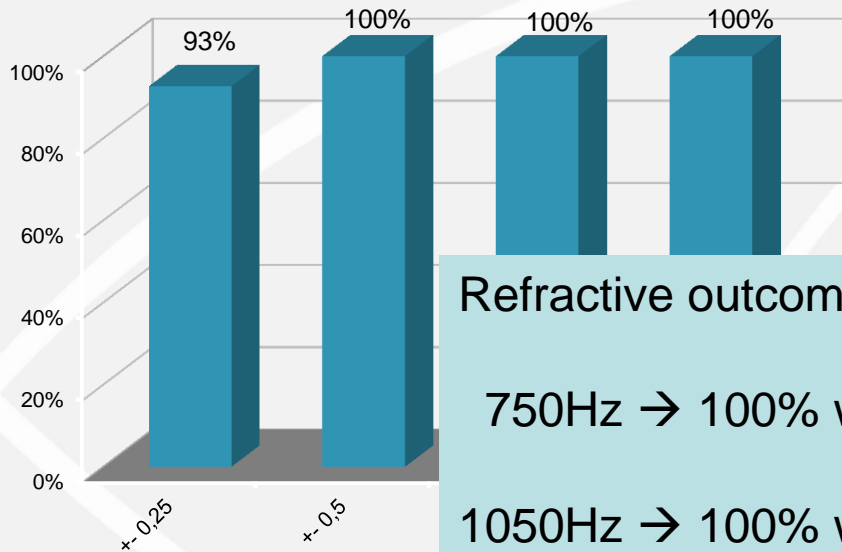
1050 Hz



Three months achieved vs. attempted correction comparable between the two groups

Refractive Outcome Percentage within Attempted

750 Hz

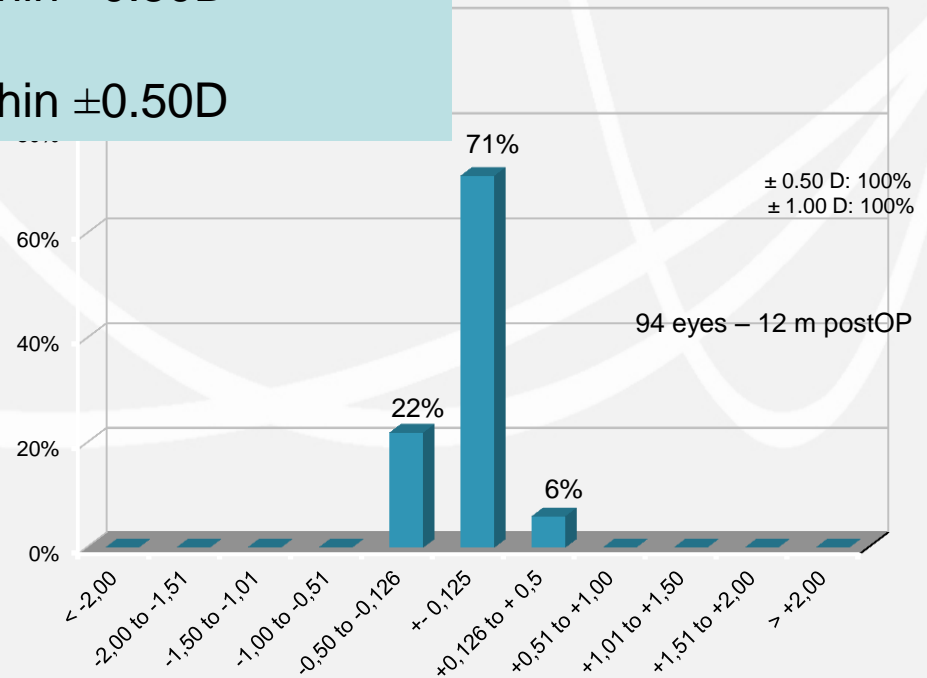


Refractive outcome comparable values:

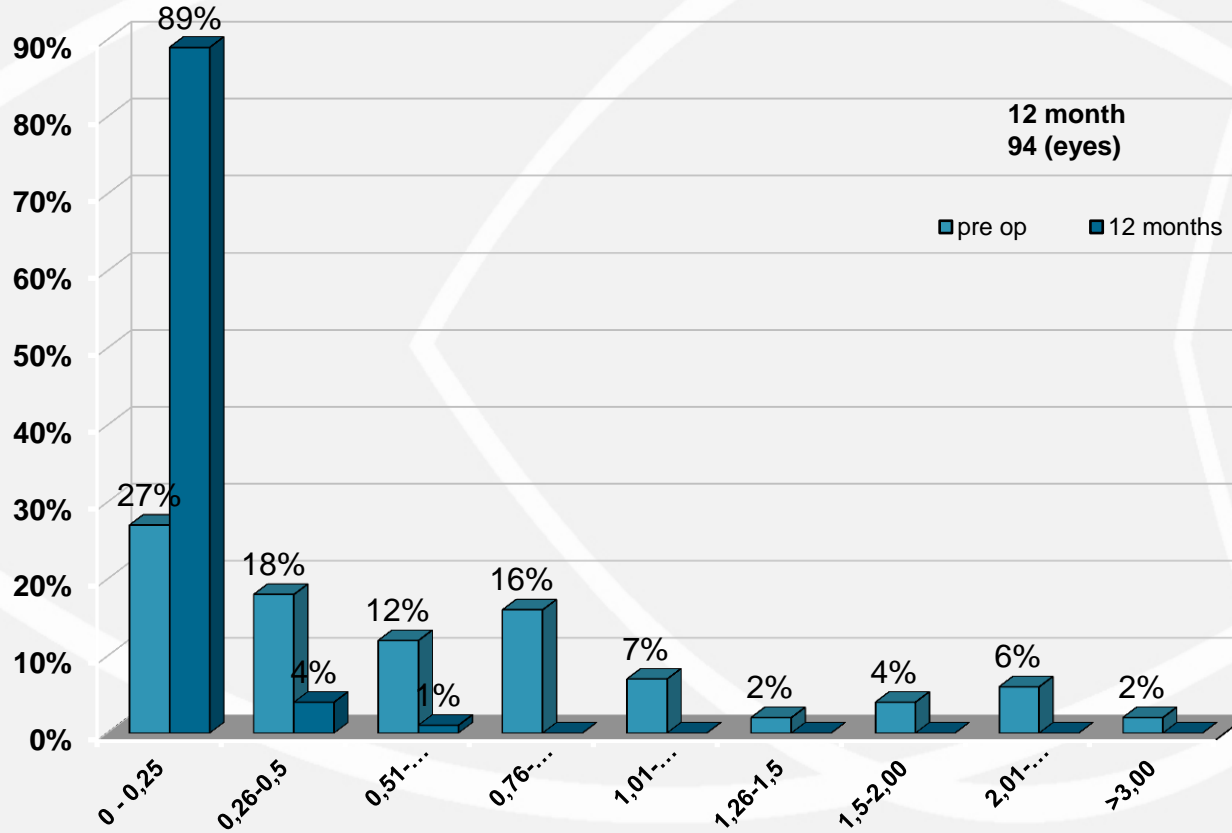
750Hz \rightarrow 100% within ± 0.50 D

1050Hz \rightarrow 100% within ± 0.50 D

1050 Hz



Refractive Astigmatism with the 1050 Hz



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Summary results:

- The results of LASIK treatments with 750Hz and 1050Hz are absolutely comparable
- 1050Hz results are 12 months follow up whereas the 750Hz data are 3 months follow-up.

Conclusion:

- Treatments using repetition rates up to 1050Hz are safe, efficient and very predictable.
- In our experience outcomes with 1050Hz are comparable to lower frequencies
- Faster and more predictable treatments.



**Thank you very much
for your kind attention!**

