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# Efficacy, safety and predictability of Femto LASIK with the all solid-state laser for refractive surgery.

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- Purpose : To assess the efficacy , safety and predictability of Femto-LASIK procedure with the all solid-state laser for refractive surgery
- Setting : Memira Group Centre for Refractive Surgery – Malmö, Sweden

# Patients

- 21 patients (38 eyes)
- Age 21 to 52 years  
(mean  $36 \pm 8,63$ )
- SE -0,13 to -6,88  
(mean  $-2,49 \pm 1,68$ )

# Methods

- Refractive ablation  
**Solid state laser Katana  
LaserSoft**  
(Katana Technologies, Germany)
- Flap creation  
Ziemer LDV Femtolaser

# Katana LaserSoft

- Wavelength 210 nm
- Gaussian beam
- Flying spot of 0,25 mm in diameter
- Repetition rate of 1,75 kHz
- Eye-tracker latency of 1 ms

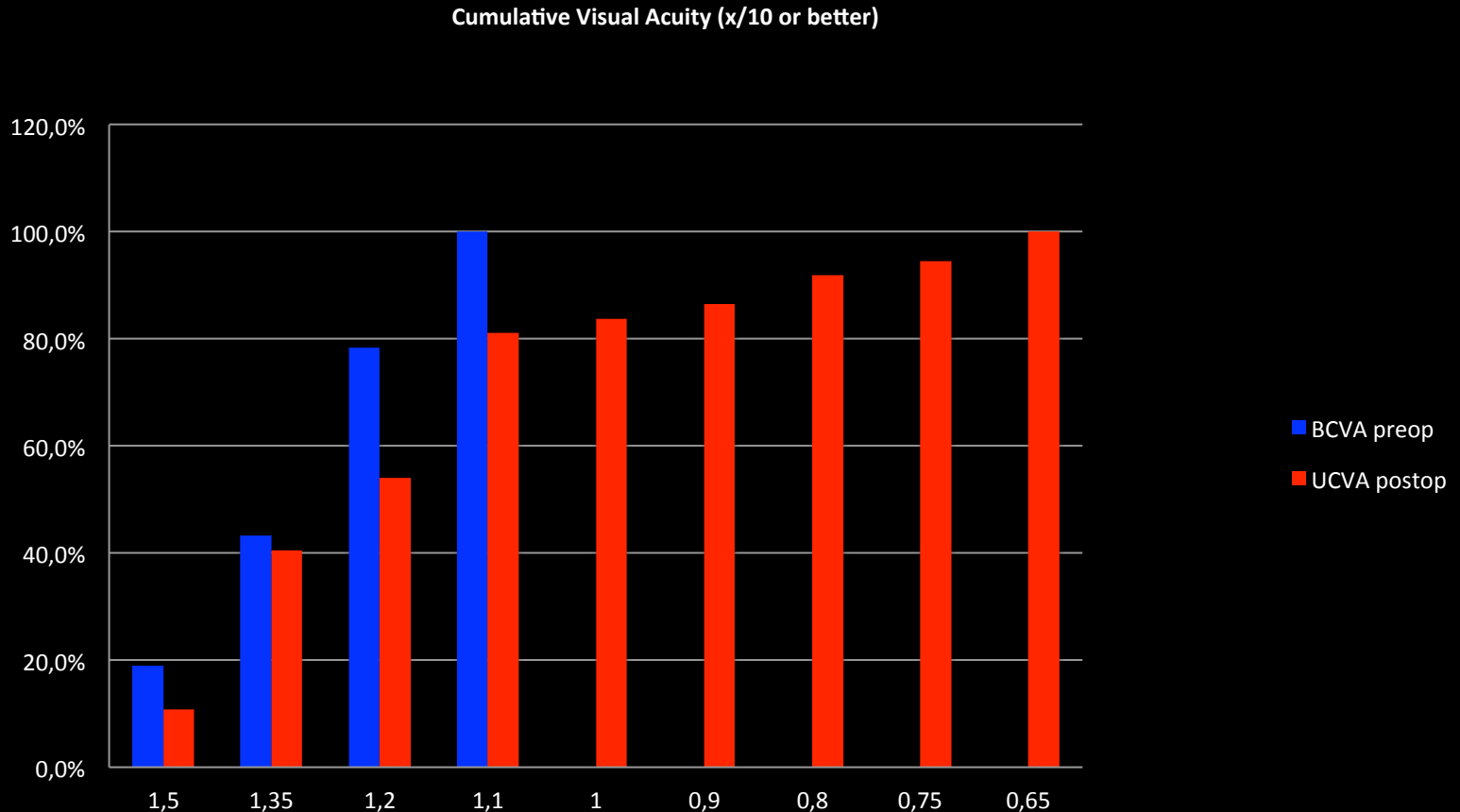


# Main outcome measures

- UCVA
- BCVA
- Spherical Equivalent Refraction

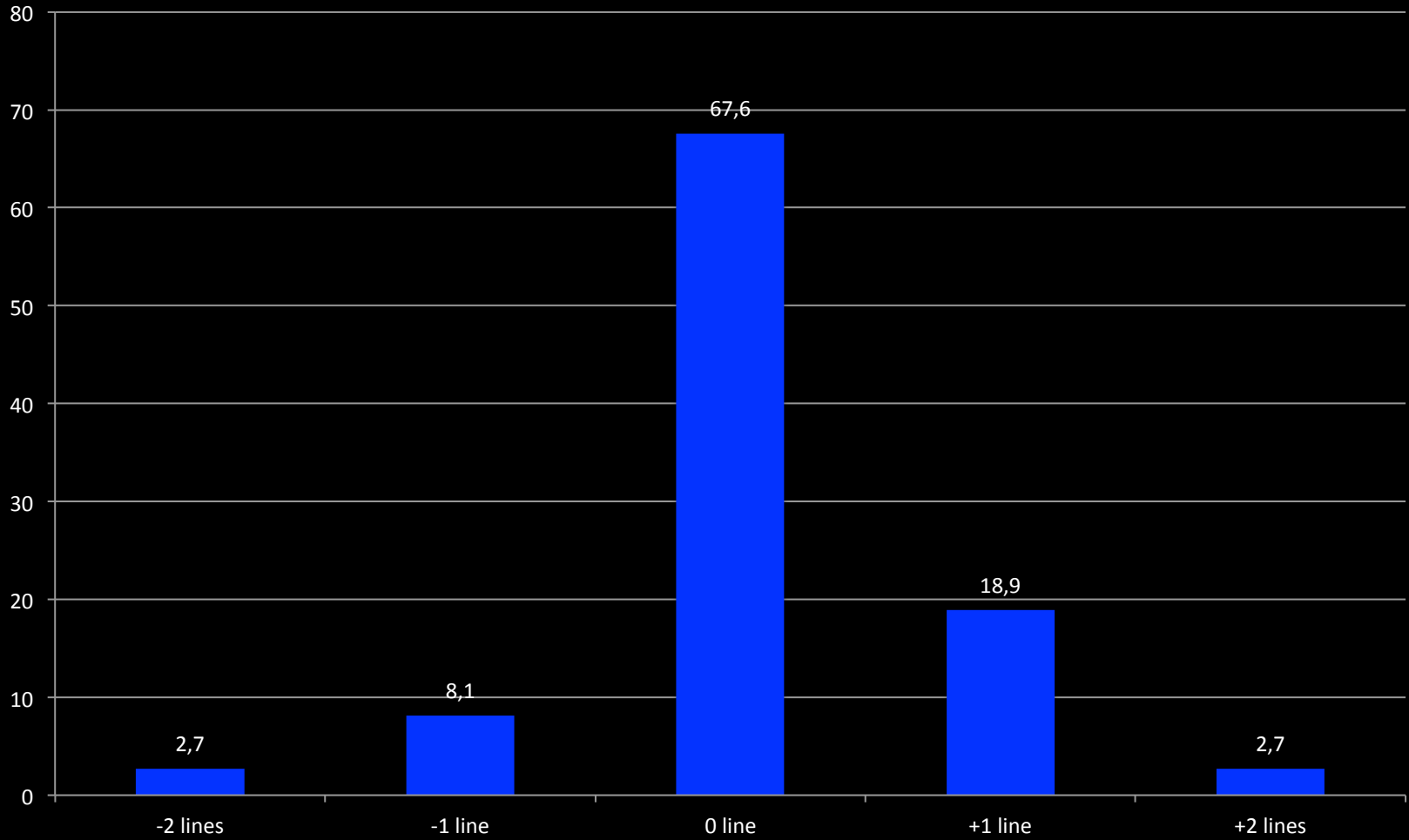
Follow up period 3 months

# Results: Visual Acuity (decimal chart)

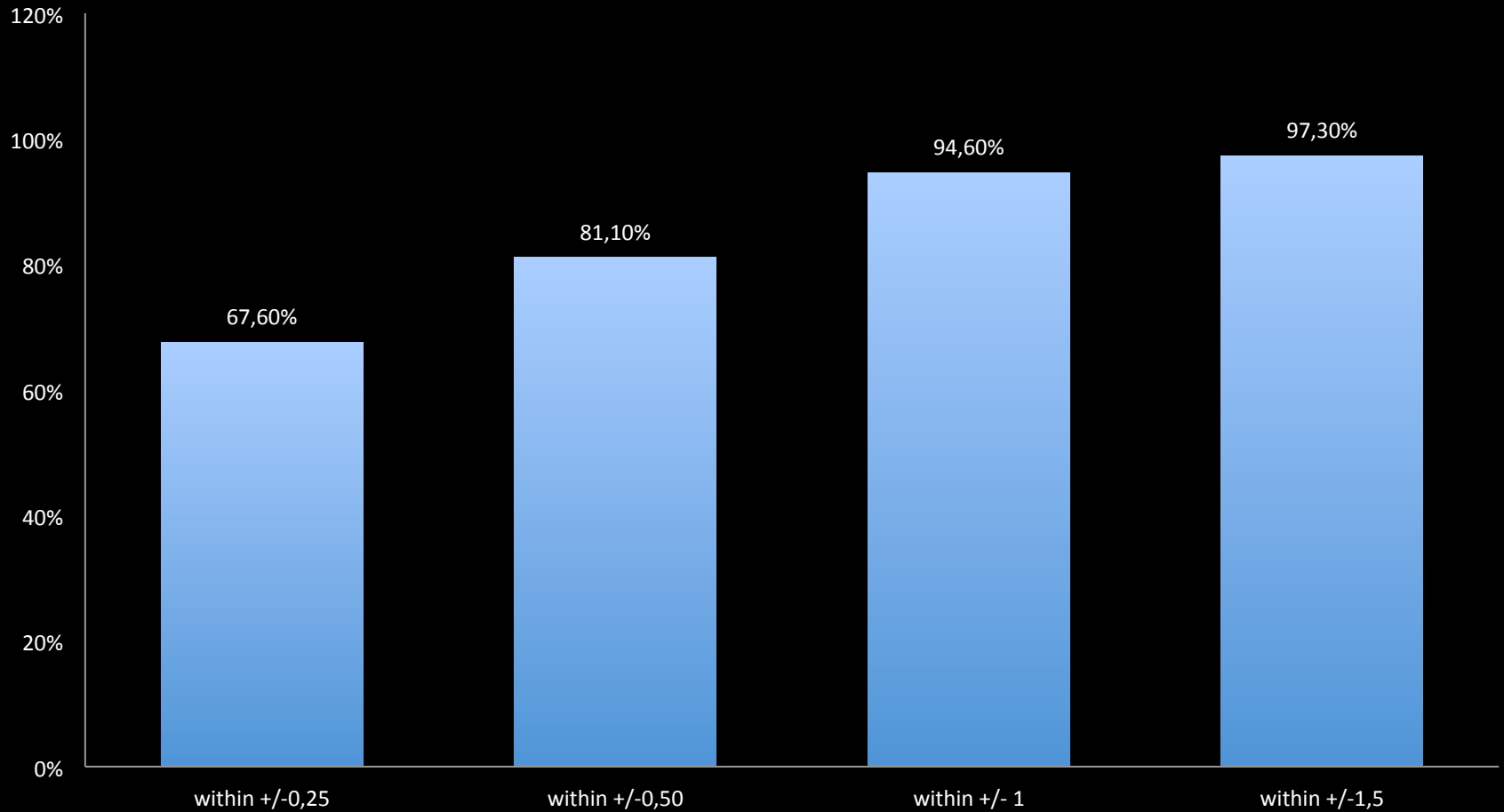


UCVA  $\geq 1,0$  in 83,8%,  $\geq 0,8$  in 89,2% of eyes and  $\geq 0,65$  in 100% of eyes

# Safety



# Refractive outcome





Efficacy index = 0,93

(UCVA postop/BCVA preop)

Safety index = 1,02

(BCVA postop/BCVA preop)

Predictability index = 1,12

(BCVA post/UCVA post)

# Conclusions

- **LaserSoft Femto LASIK resulted as a safe and effective procedure with a good predictability during the evaluation period.**
- Due to the high repetition rate (1kHz) the energy per pulse is lower than in standard excimer treatments. This leads to an ablation with strongly reduced stress waves.
- The solid state approach reduces the requirements for maintenance and the related costs, and the diode pumping system features long lifetime and efficiency.
- These characteristics make LaserSoft a safe, stable, more compact and less costly alternative to gas-operating excimer lasers for refractive surgery.