

Early results at 1 and 3 months after Trans-PRK with AMARIS

a no-touch, one-step treatment



Trans-PRK advantages

- **No-Touch treatment in one step (much faster than in the past with 2 steps)**
- **Significantly less dehydration, and therefore reduced risk of over-correction**
- **No alcohol required to loosen the epithelium, no damage to Bowmann's membrane due to mechanical abrasion**
- **Diameter of the removed epithelium = Diameter of treatment zone**
- **Faster wound healing**
- **All combination of treatments are possible (aberration-free, corneal and ocular wavefront, PresbyMAX)**

Fundamentals

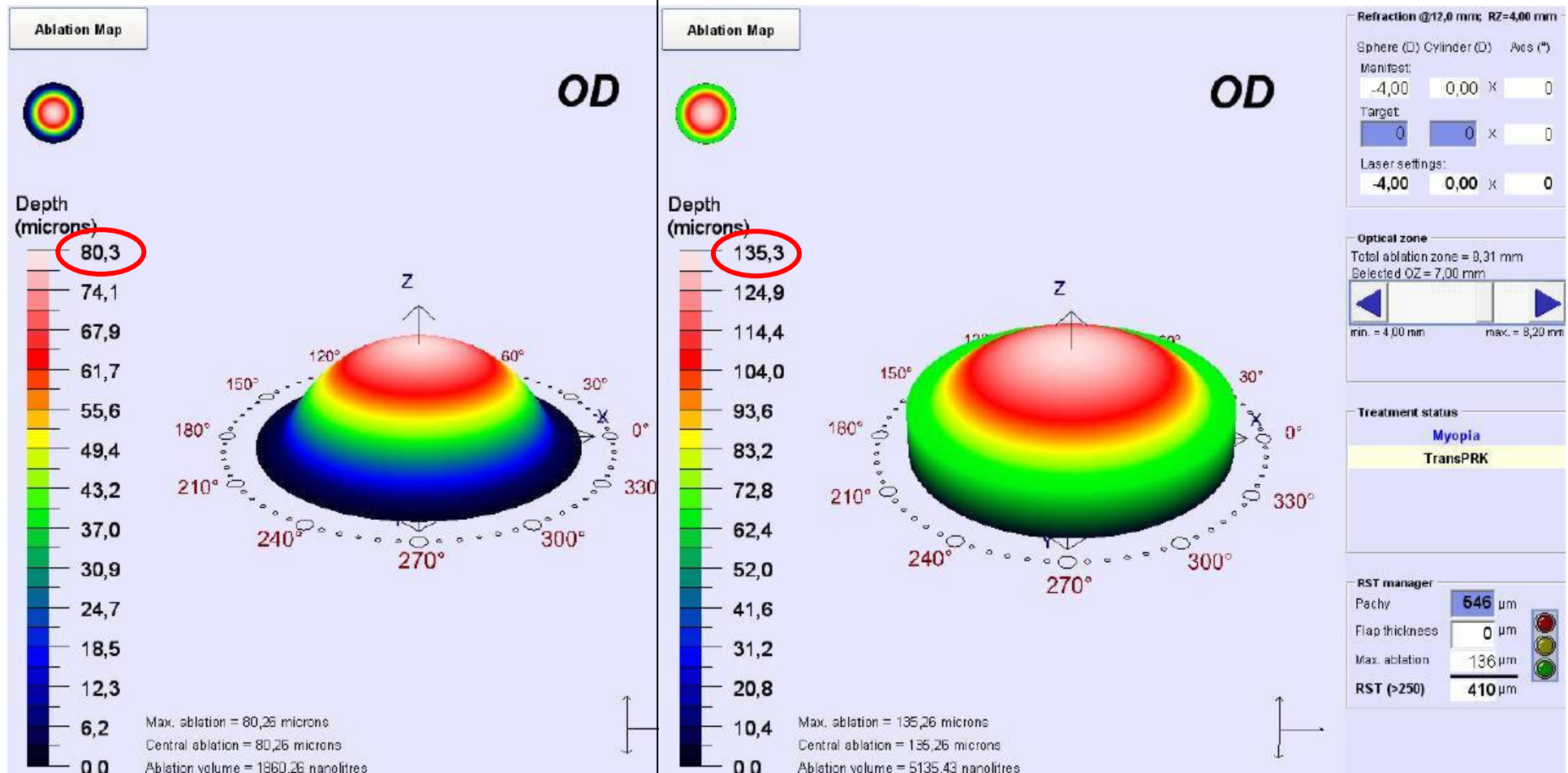
- **About 70% of the population* have a central corneal pachymetry: of 55 microns and, at a distance of 8 mm, 65 microns**
- **The ablation volume for removal of the epithelium is refractive-neutral, meaning it does not induce any hyperopic or myopic shift.**
- **2 ablation rates – epithelial pulse rate is higher than the refractive pulse rate in the stroma**
- **Ablation volume for the epithelial removal is significantly higher than the refractive volume**
- **AMARIS with his ablation profile is the ideal laser**

Profile of Ablation

Volume of ablation for a -4.00 D:

PRK 1860 nanolitres

TransPRK 5135 nanolitres

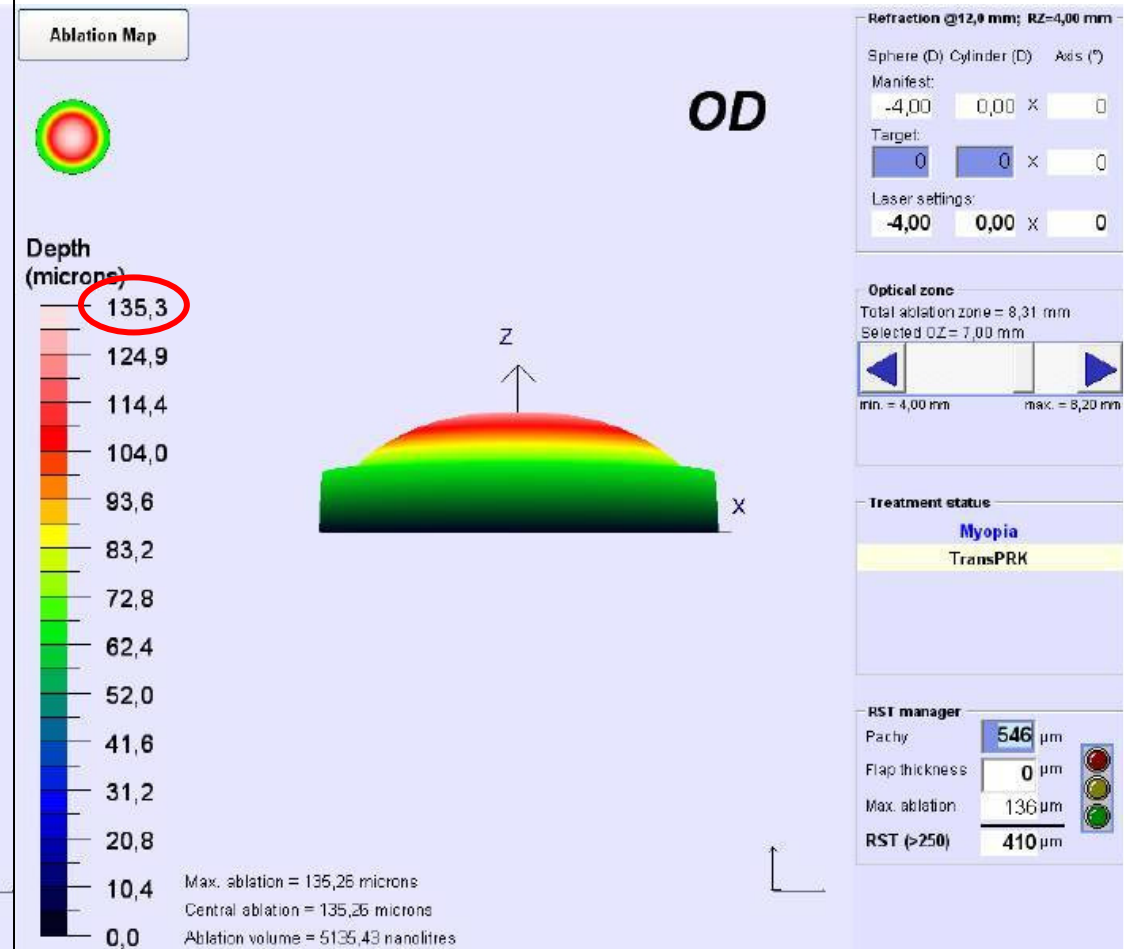
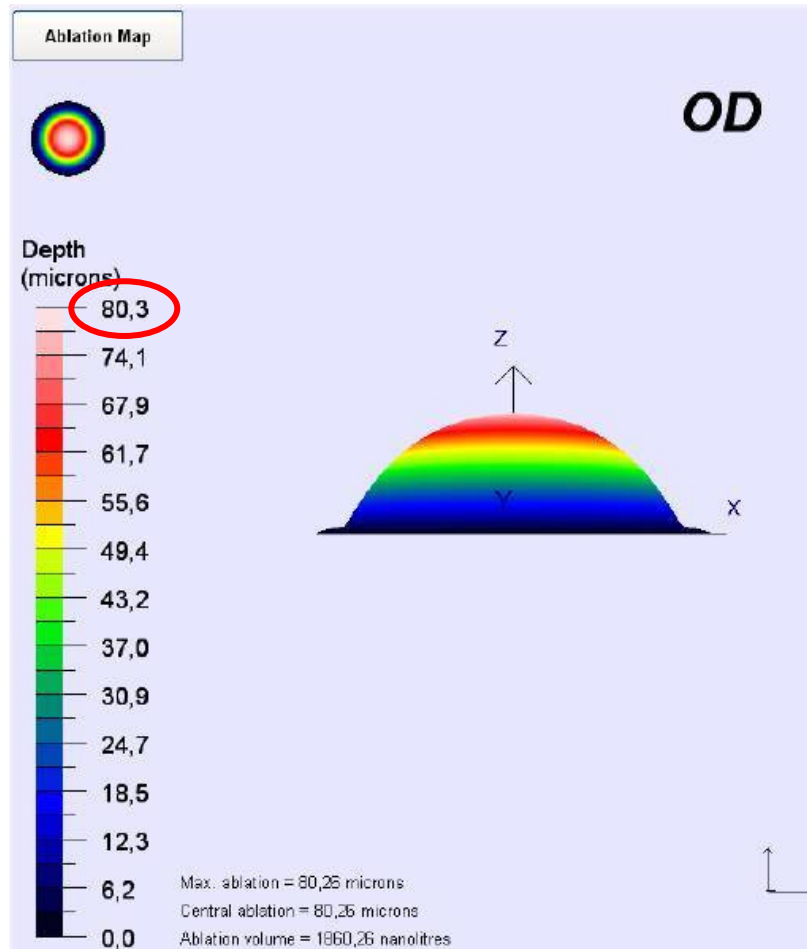


Profile of Ablation

Volume of ablation for a -4.00 D:

PRK 1860 nanolitres

TransPRK 5135 nanolitres



Treatment Method

Patient Selection:

- **Myopia up to -7 D and astigmatism up to 2.5 D of cylinder**
- **Astigmatic correction over 1.0 D only in combination with cyclotorsion compensation (SCC)**

Medication pre-op:

- **Topical anesthetics with preservative-free eye drops**
- **3 minutes of rinsing with chilled BSS of 8°C**

Treatment Method

Technique:

- Use of a speculum with extraction
- Start of the treatment as soon as the cornea becomes dry

Medication post-op:

- 1 preservative-free ampoule of -> Voltaren / Dexamethason / Floxal
- Usage of a bandage lens (Day&Night Ciba base curve of 8.9 mm) for 3 days
- Daily: 2 x 1 ampoule Floxal and, every 2 hours, 1 ampoule chilled OculotectFluid
- After removal of the bandage lens for another 10 days 4 x 2 drops of Efflumidex and 4 x ThiloTears gel
- No MMC !

Demographics

Number of eyes pre OP: 19

age@OP	average	36 years	(from 20 to 53)		
gender	female	63.2%	or 12 eyes	male	36.8% or 7 eyes
eye	left	47.4%	or 9 eyes	right	52.6% or 10 eyes

pre SR equiv: mean -3,37 D \pm 1,75 D (from -6,22 to -1,00)

pre SR sph: mean -2,99 D \pm 1,82 D (from -6,10 to -0,50)

pre SR cyl: mean -0,76 D \pm 0,60 D (from -2,68 to 0,00)

number of eyes 1 m: 19 (follow up rate 100%)

post SR equiv: mean -0,09 D \pm 0,41 D (from -1,00 to 0,50)

post SR sph: mean 0,06 D \pm 0,45 D (from -1,00 to 0,50)

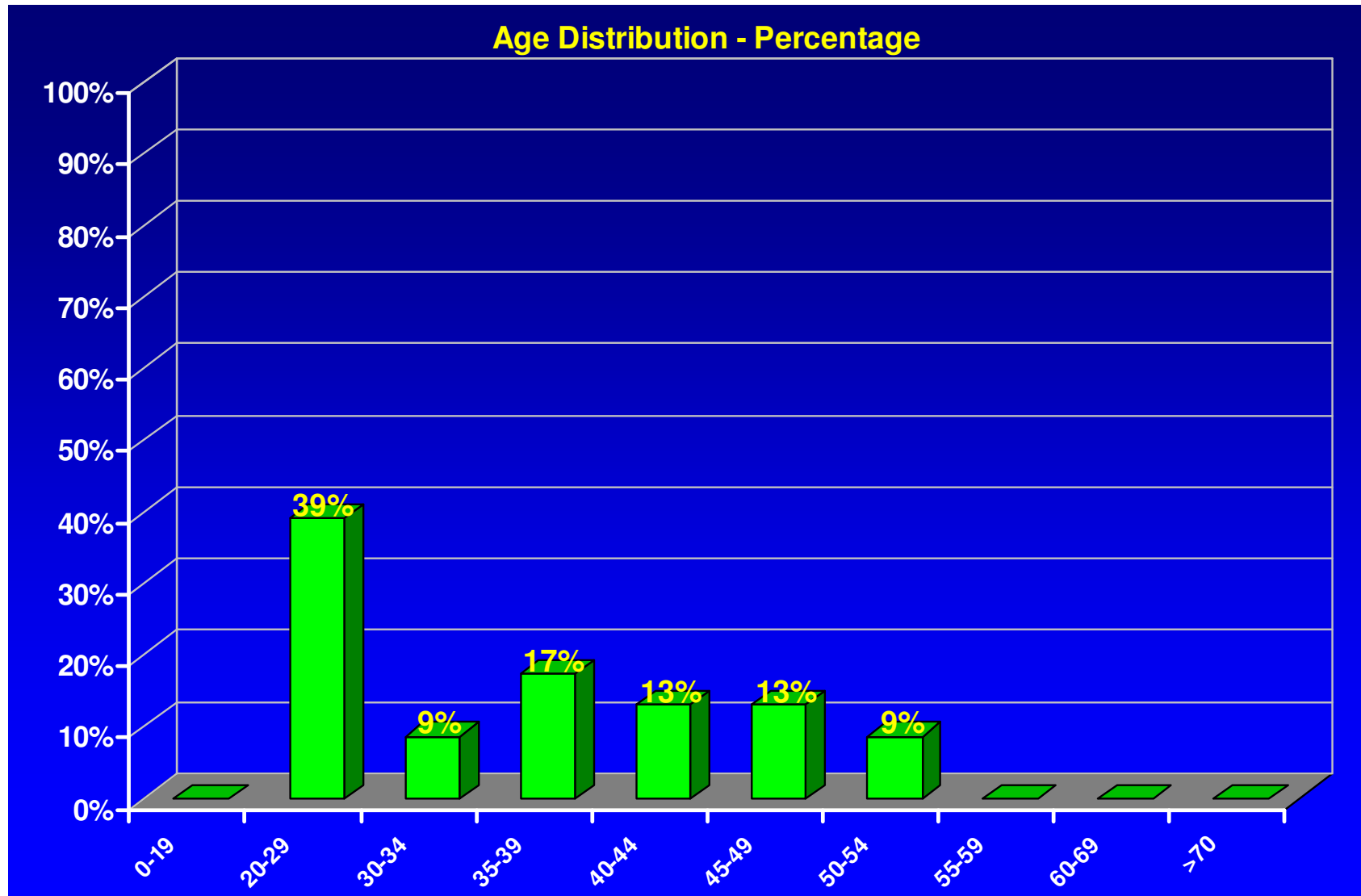
post SR cyl: mean -0,30 D \pm 0,33 D (from -1,00 to 0,00)

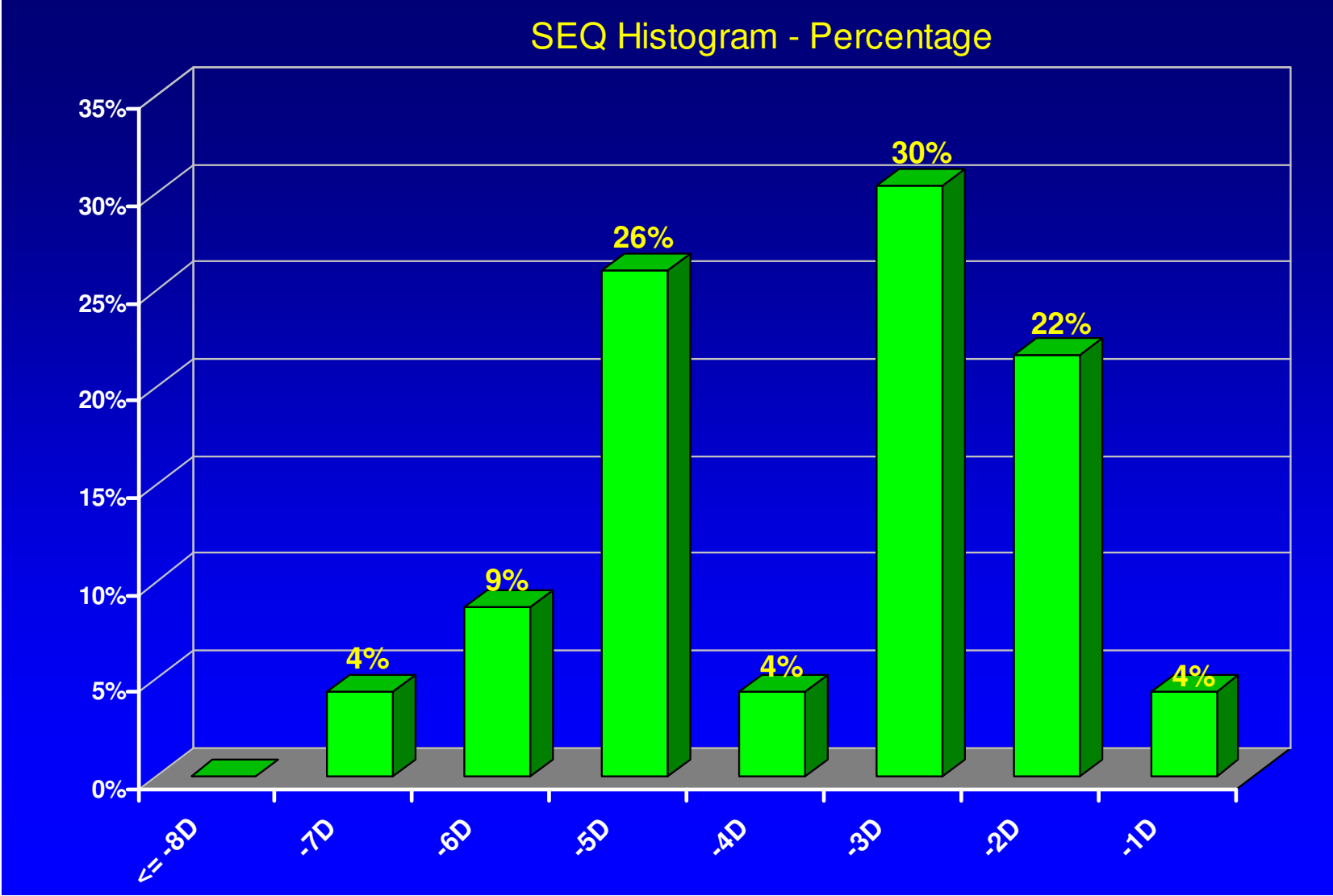
number of eyes 3 m: 19 (follow up rate 100%)

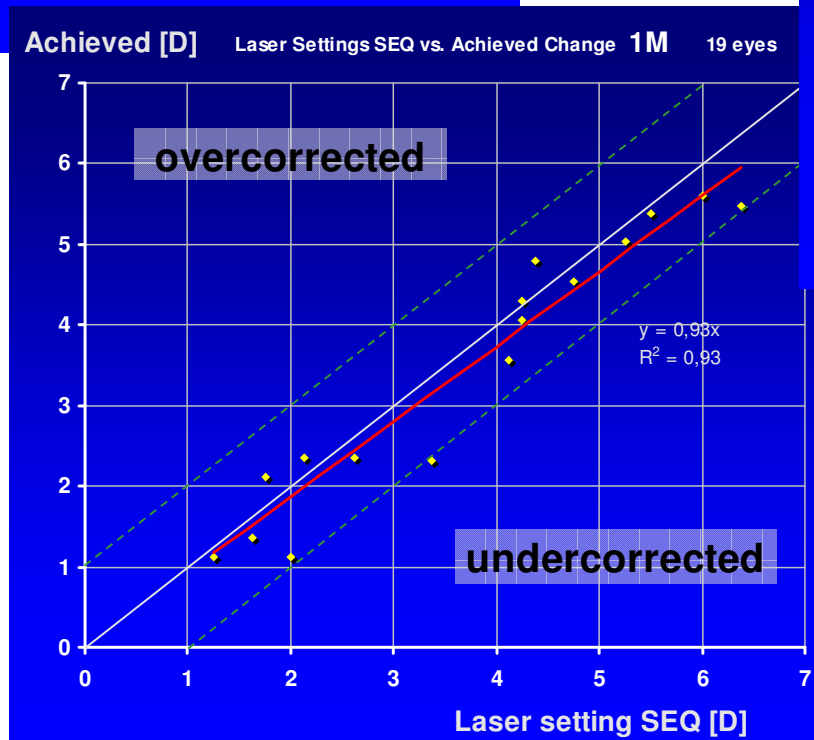
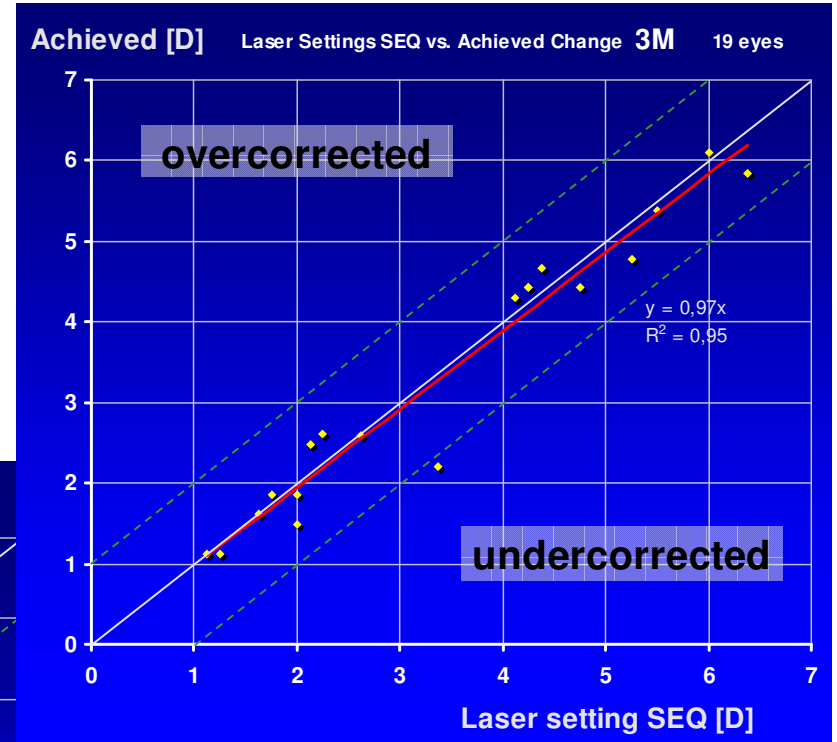
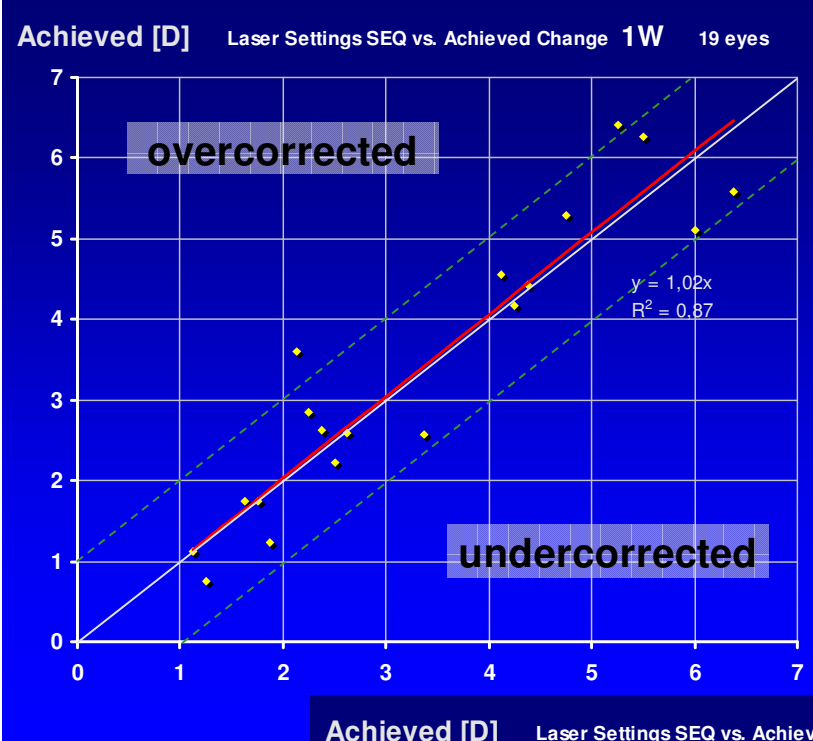
post SR equiv: mean 0,05 D \pm 0,34 D (from -1,13 to 0,38)

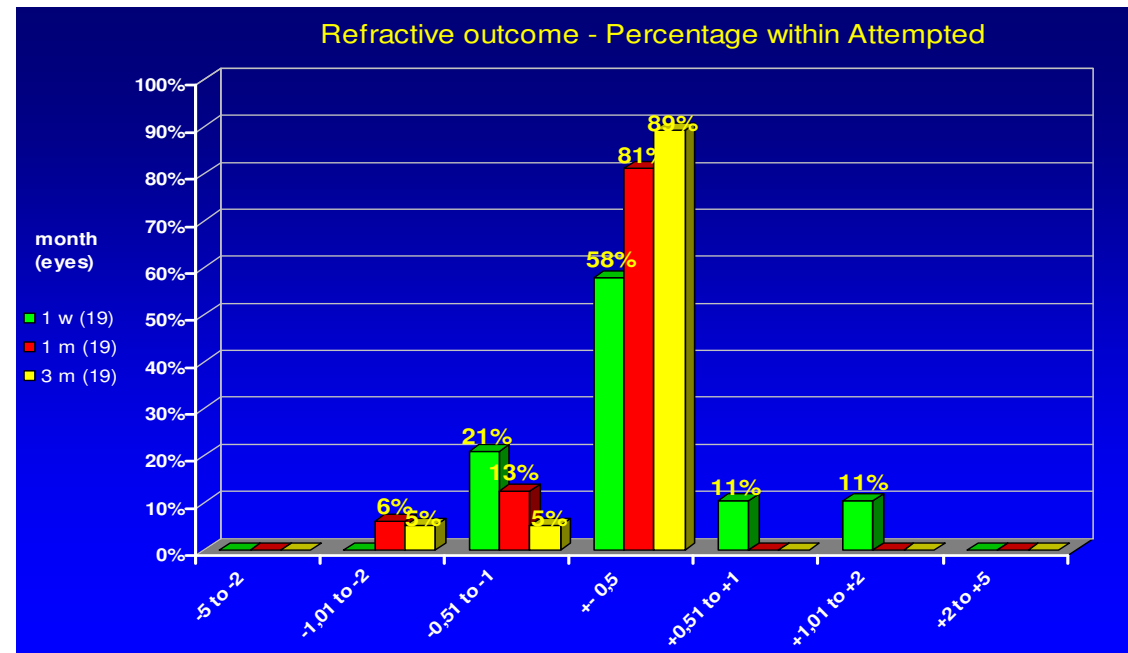
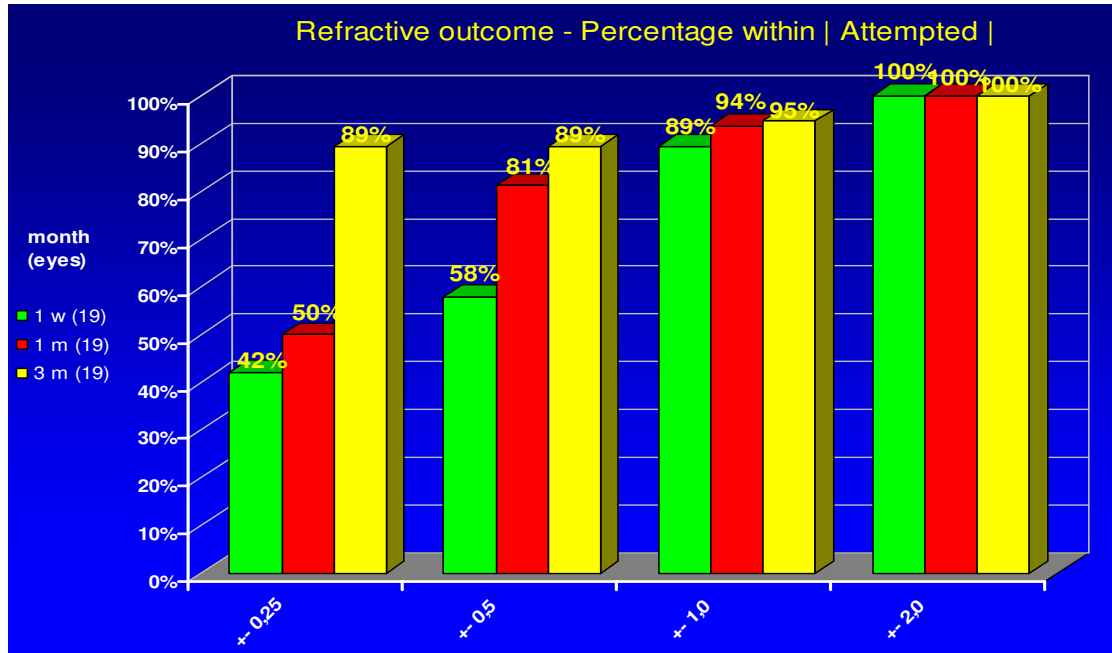
post SR sph: mean 0,13 D \pm 0,33 D (from -1,00 to 0,50)

post SR cyl: mean -0,17 D \pm 0,21 D (from -0,50 to 0,00)

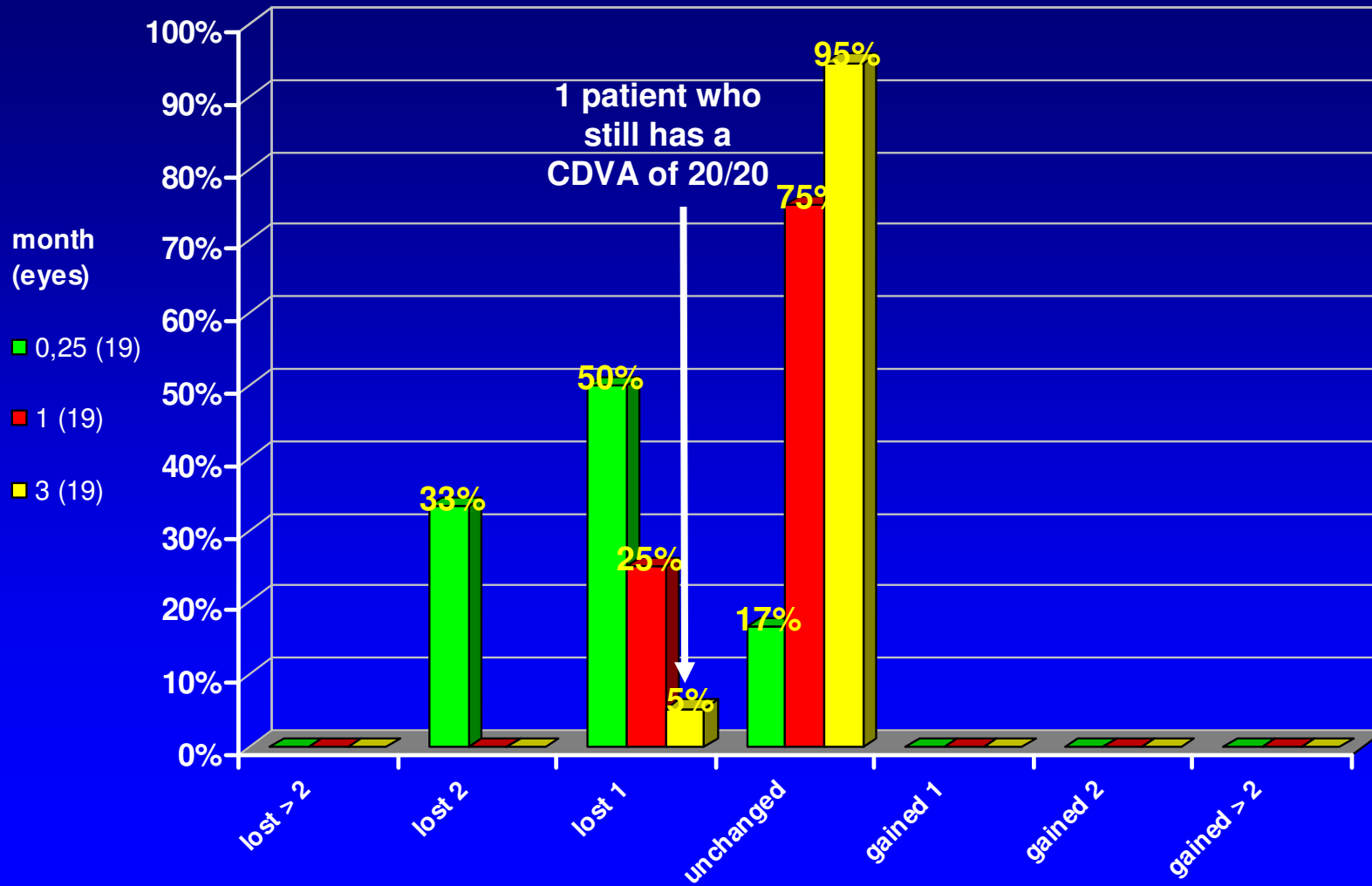


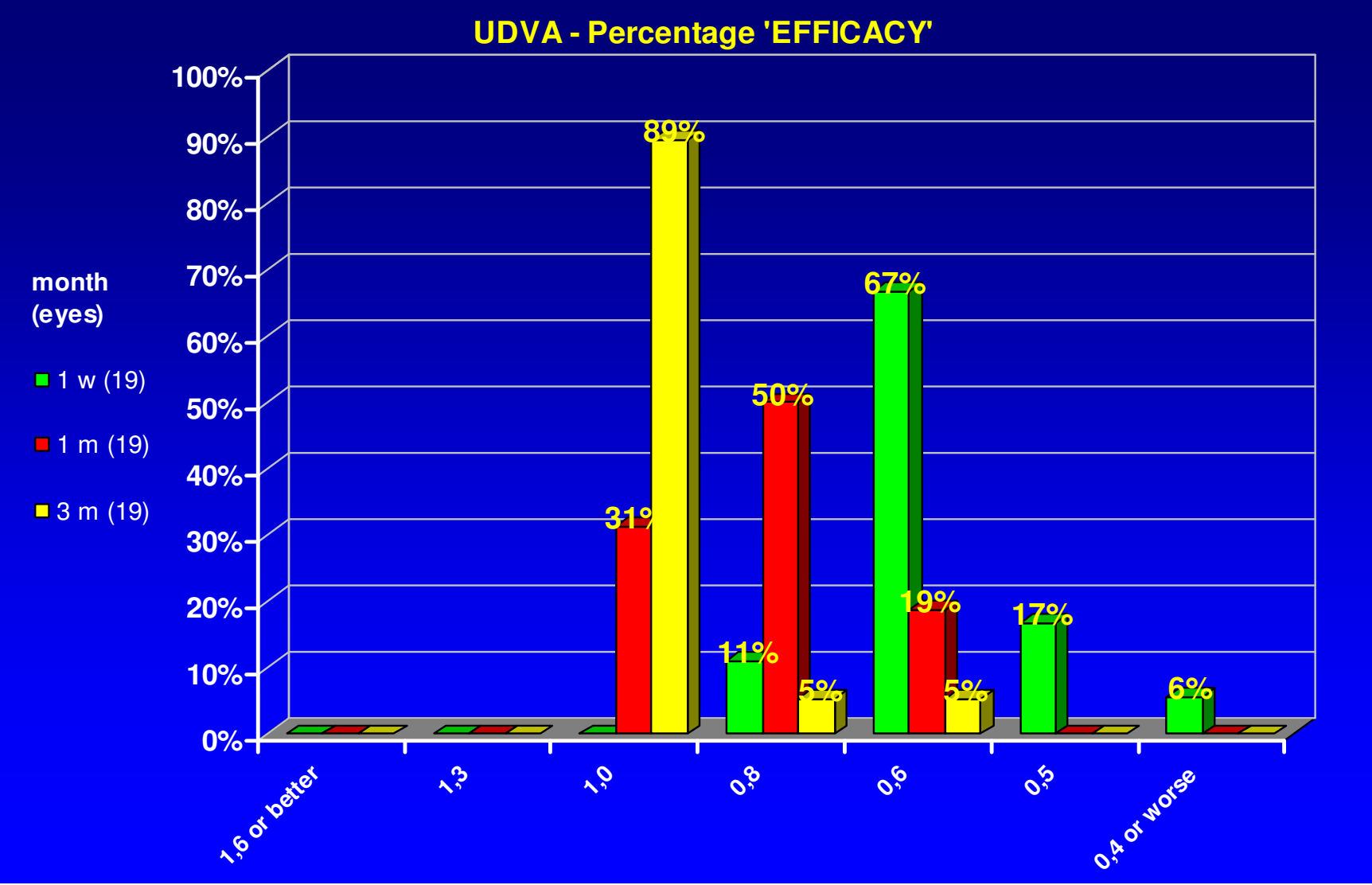






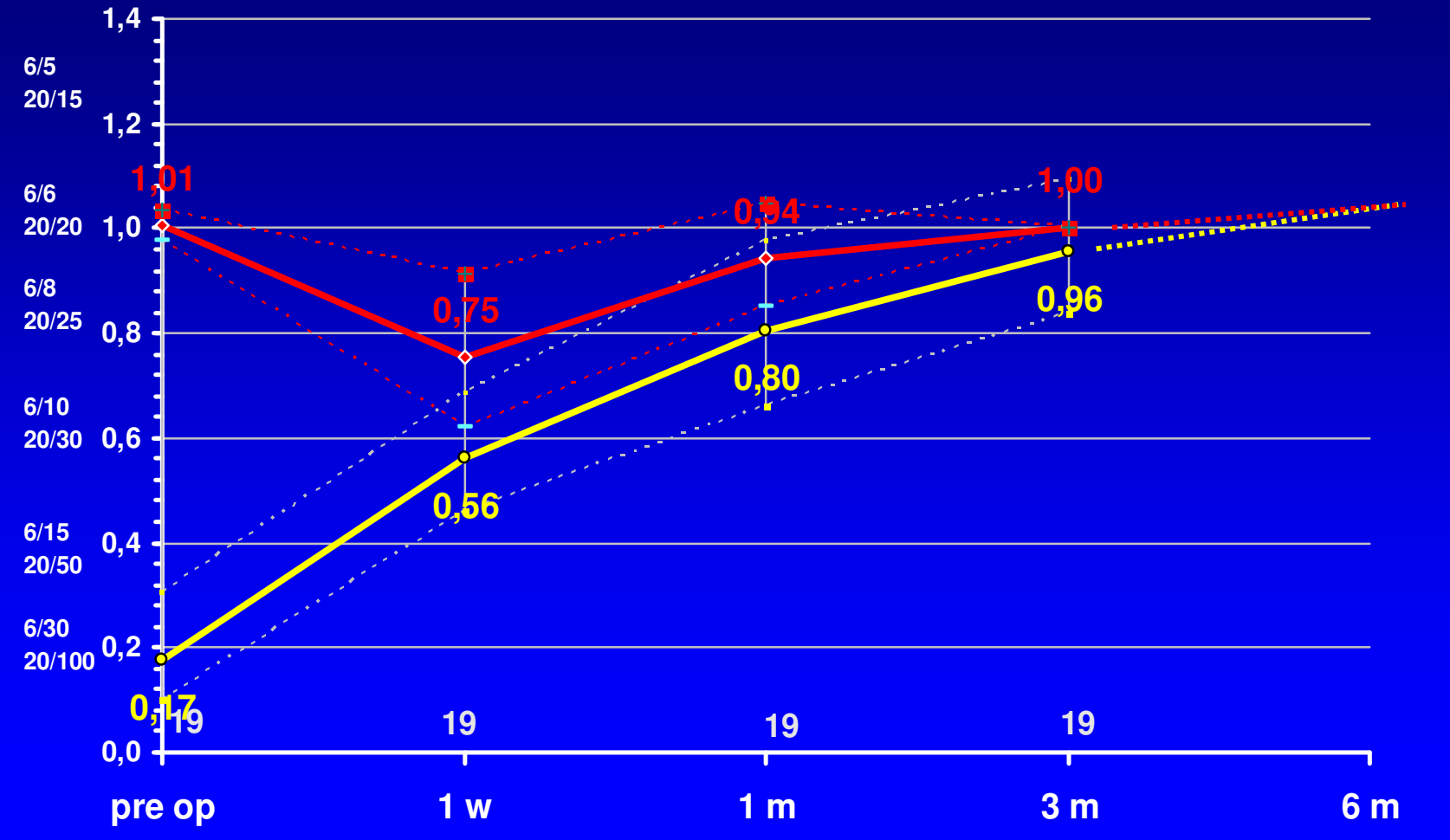
Change in CDVA - Percentage 'SAFETY'



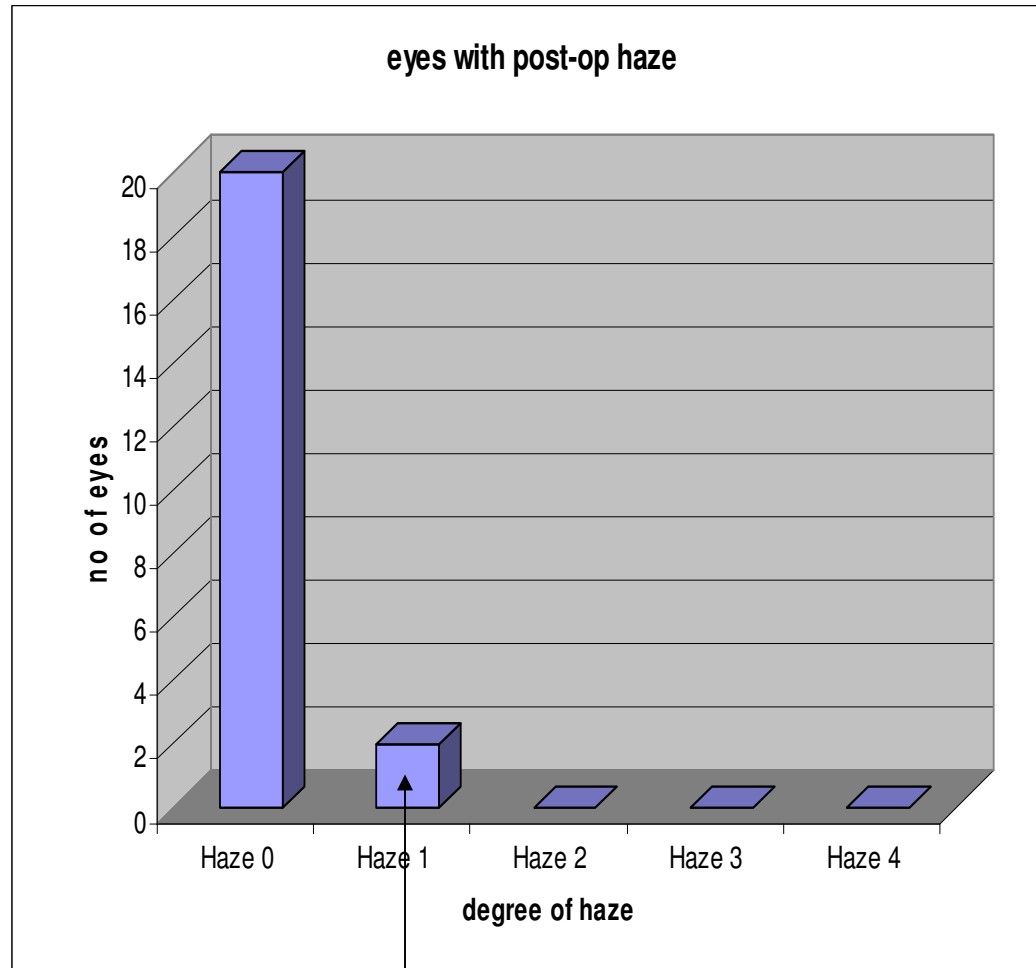




UDVA & CDVA over Time



Haze and Retreatments



No re-treatments

Same patient

Take Home Message

Our results with Trans-PRK comply with published outcomes in classical PRK / LASEK / EpiLASEK

The main advantages are in a shorter treatment time and treatment in a single step

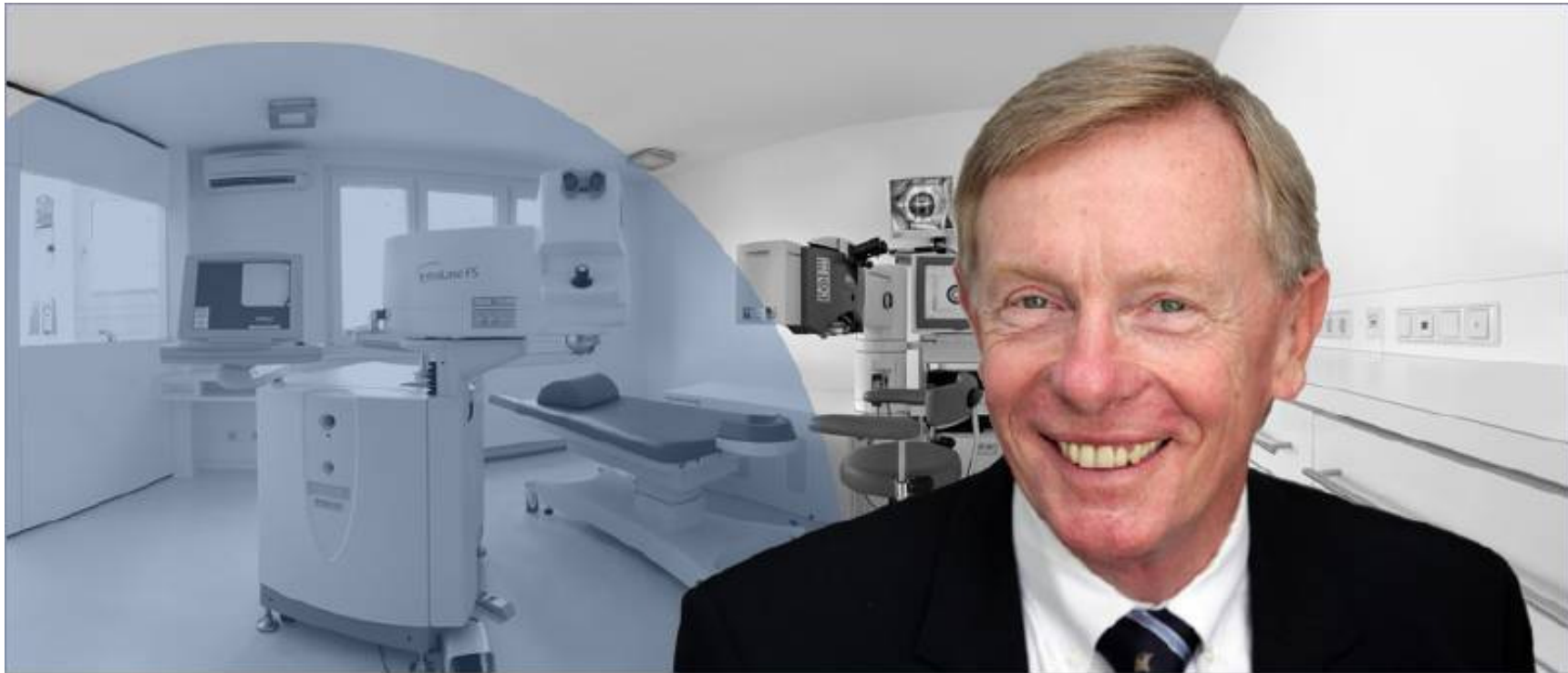
Significant diminishing of post OP risks

Smaller abrasion of epithelium and therefore faster re-epithelialisation with less discomfort and pain as well as less risk of infection due to faster epithelial healing

In all patients, epithelium was closed at day 3 post-op

I would like to see the development of devices which could measure the map of epithelial thickness, so that these parameters could be taken into account in the calculation of the ablation profile

PRK will survive!



Thank You for your attention