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Hamburg-Eppendorf

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in cooperation with CARE - VISION

Pain and functioning post Alcohol PRK vs. PTK-PRK: A prospective Intra-individual Comparison


Toam Katz, Gisbert Richard, S. J. Linke


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Subjektive Entwicklung der Schmerzsymptomatik und Funktion nach Alcohol PRK, bzw. PTK-PRK: eine intraindividuelle, prospektive und vergleichende Studie


Toam Katz, Gisbert Richard, S. J. Linke


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epithelium removal steps

Alcohol PRK	PTK-PRK
<ul style="list-style-type: none"> Manual 8.5 mm well Alcohol 20% 30 sec Alcohol dried Epithelium scraped Bowman exposed 	<ul style="list-style-type: none"> Photo therapoetic profile 8.9 mm diameter ablation 50 micron deep ablation 1 minute ablation Autotracker centered Stroma exposed


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potential advantages


Alcohol PRK	PTK-PRK
<ul style="list-style-type: none"> Established experience Known nomograms Shorter ablation time Less ablation energy Eliminates epithelial irregularities 	<ul style="list-style-type: none"> No toxic alcohol All laser – no touch Auto-tracker centering customized epithelial ablation Very easy to perform May combine epistromal scar ablation


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slides alcohol prk.wmv


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Common PRK steps

Autotracker centered
 Refractive ablation 200 Hz
 MMC 0.02% 10 mm sponge
 Therapeutic contact lens


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Alcohol PRK vs. PTK-PRK which is easier for the patient?

- The first week post PRK is the hardest
- Which causes more pain?
- What level of pain?
- Which limits functioning more?
- What is the degree of functioning ?


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slides tprk.wmv


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Inclusion criteria

- Consecutive PRK candidates
- Unsuitable for LASIK
 - Low Residual Stromal Bed
 - Corneal inferior steepening
 - Pachymetry < 500 microns
- Informed consent


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study - demographics

- 146 eyes of 73 patients
- 42 males, 31 females
- Ages 18-50 yrs (27±8 mean±SD yrs)
- Refraction -1 to -8.75 D
-4.25±1.75 (mean±SD)


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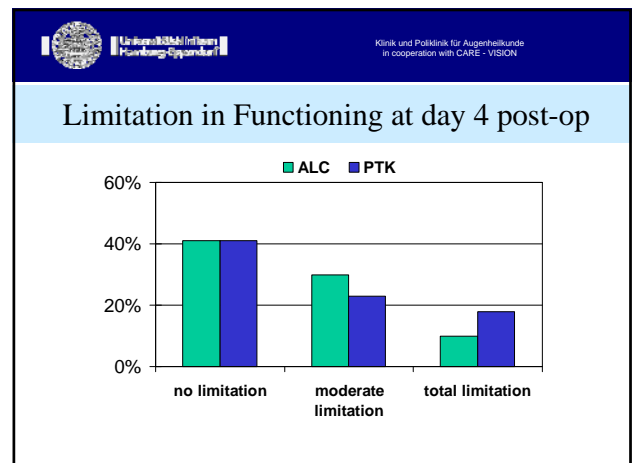
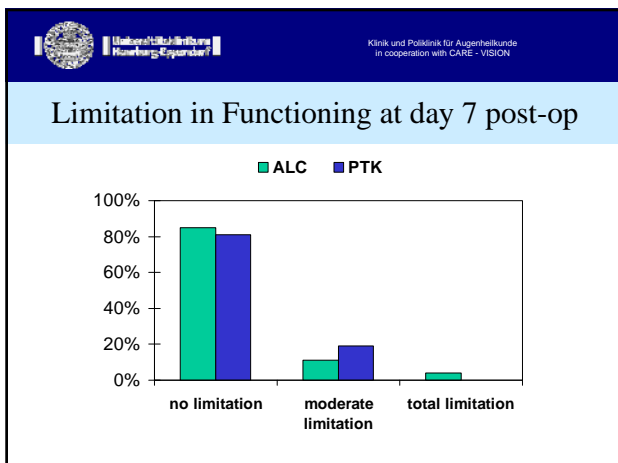
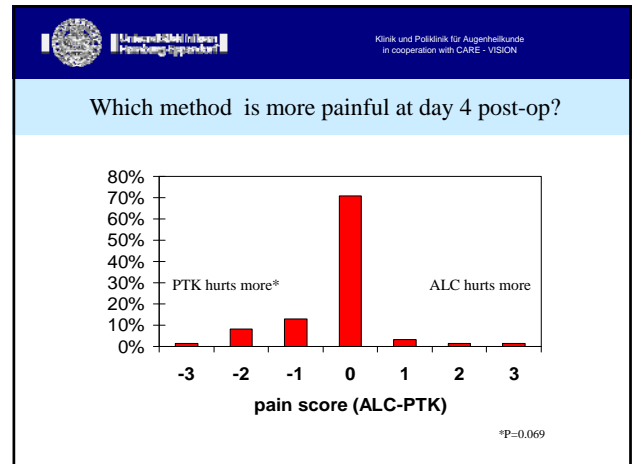
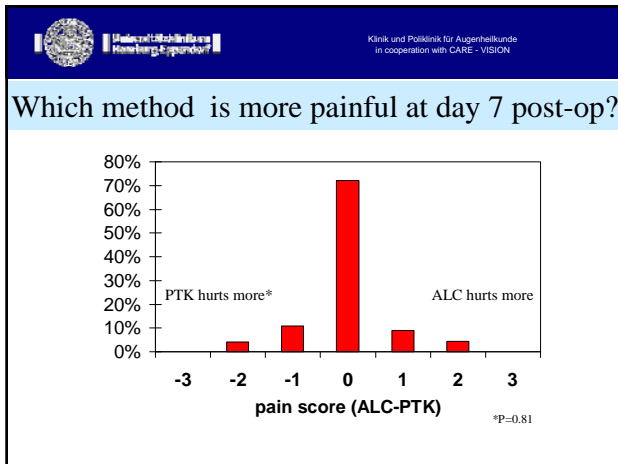
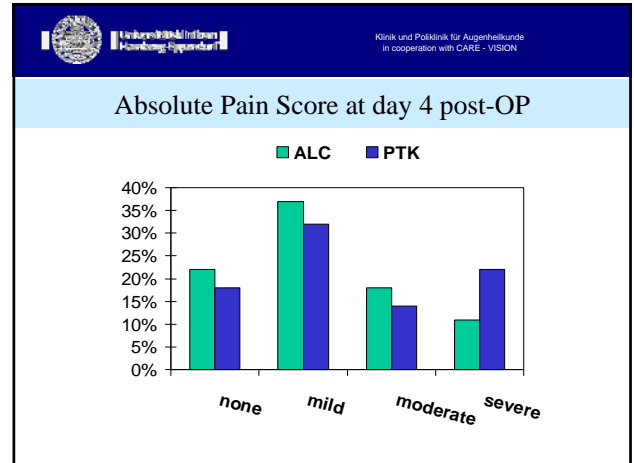
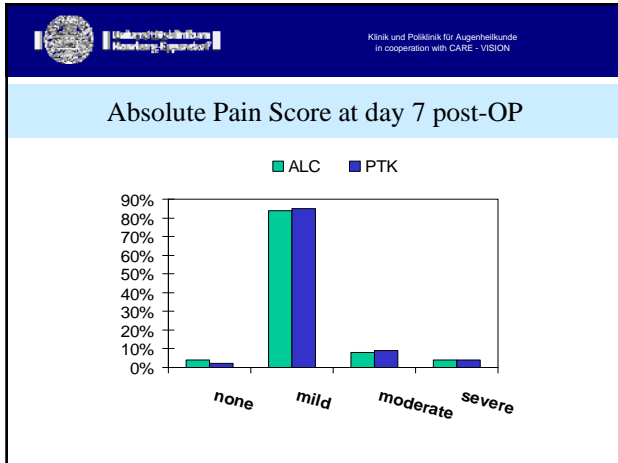
study setup – questionnaire in post operative days 4 and 7

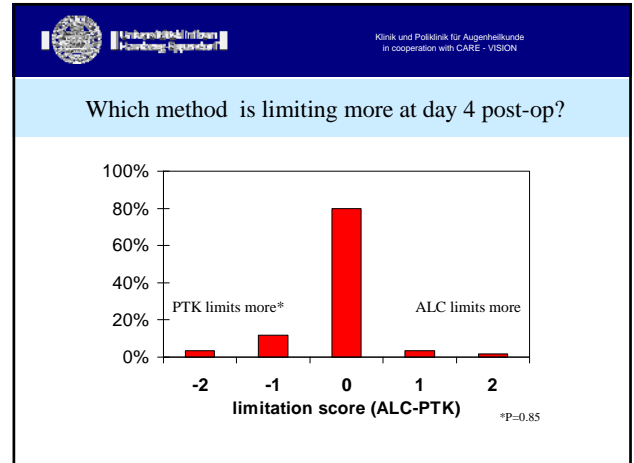
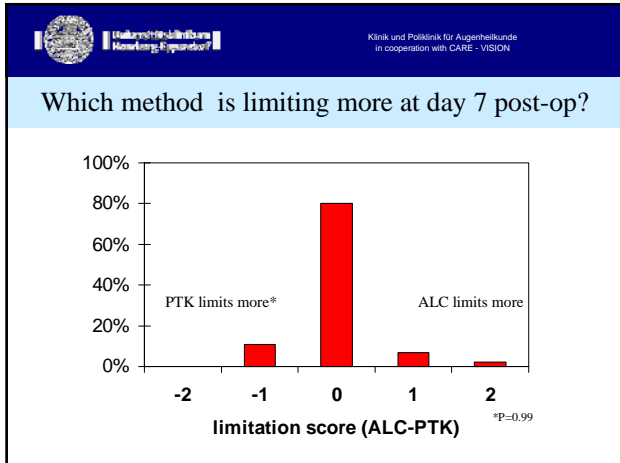
<u>Pain score</u>	<u>Limitation of Functioning</u>
0 - no pain	0 - no limitation
1 - mild pain	1 - moderate limitation
2 - moderate pain	2 - total limitation
3 - severe pain	




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study setup

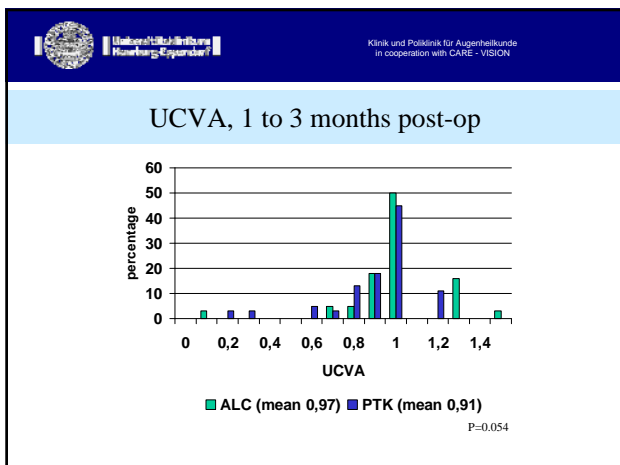
- Care Vision clinic , Tel Aviv, Israel
- Single surgeon
- Allegretto Wave 200
- OD : Alcohol PRK OS : PTK-PRK
- Questionnaire filled by patient days 4, 7 post op







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- ### If at all, why is ptk-prk more painful ?
- More ablation induces more inflammation ?
 - (Hyung et al AJO 2005)
 - Alcohol blocks corneal nerves ?
 - (Esquenazi JCRS 2005)
 - Other mechanism?
 - Longer follow-up is needed to compare risk of haze and visual outcome.

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- ### Conclusions
- PTK-PRK caused more pain on day 4 (borderline significance)
 - Equal limitation of functioning on day 4
 - No difference in pain and function on day 7
 - Symptoms were mostly mild or moderate





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Thank you for your attention

Summary of Results

	<i>Day 4 post-op</i>	<i>Day 7 post-op</i>
<i>Pain score (mean)</i>	1,20 ALC 1,47 PTK P=0.069	1,12 ALC 1,15 PTK P=not significant.
<i>Limitation of function score (mean)</i>	0,61 ALC 0,72 PTK P=not significant	0,20 ALC 0,19 PTK P=not significant