Our experience with Trans-epithelial PRK

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Surface Ablation Evolution

PRK → LASEK → EPI-LASIK

Smooth/Custom Ablation Patterns
Mitomycin C

Ultimate goal:
Better results
Faster heal
Less discomfort
Surgical Technique
Removing the Epithelium

- Brush
- Manual Scrape

- Alcohol
- Epi-keratomes
PRK-The first week

- Protective layer heals over 4-5 days (daily visits)
- Day 1 – 30% healed
- Day 2 – 50% healed
- Day 3-5 – 100% healed then BCL removed
Why did surgeons feel recovery faster with Epi-K?

- **EPI-LASIK Flap**
- Smooth edge
- Faster heal
- Less discomfort

Some surgeons will use epi-keratome to produce smoother bed and edges and then remove flap to do a PRK procedure.
TransPRK – the only surface treatment in which the epithelium is ablated with the laser. (55 microns centrally/65 microns periphery)
SCHWIND AMARIS 750S
Combine Trans PRK with:

- 750 Hz pulse rate +
- Automatic Fluence Adjustment +
- Intelligent Thermal Control +
- BETTER RESULTS

Heat propagation of a laser pulse with the ITEC method

Automatic Fluence Level Adjustment
Ideal balance between the total number of laser pulses and energy delivered

Myopia
Hyperopia

SCHWIND AMARIS 750S: ablation time per dioptre [s/D]*
*Without astigmatism, 12.5 mm vertex distance, 6 mm optical zone
Case 1-HP
Mixed Astigmat-PRK???

- Pre-op Rx
- OD +1.75/-2.00 x 002  20/30
- OS +1.75/-4.00 x 176  20/30-

- Severe corneal scarring from CL wear
  - Monocular diplopia secondary to edema from scleral CL
- Dry Eye
- Nystagmus
Case 1-HP

- Discontinued CL wear for 6 weeks
- Began Restasis

Trans PRK treatment one eye at a time
First eye May 2014/ Second June 2014
Treatment Plan - OWF

Age and Rx - OWF used
Postop

- By 2 weeks post Trans PRK, OS UCVA = preop BCVA
  - Rx: pl/-0.75 x 25
- 1 week postop OD UCVA already at 20/50 (preop BCVA 20/30)
Case 2-SK (52 yo female) Hyperopic PRK??

- Pre-op Rx +2.25 OU
- Dry Eye
- K’s 43.50/44.50
- Wanted monovision OS
Case 2-SK
Concerns

- Dry eye postop due to hyperopic treatment, steepening K’s and flap creation

- Decided PRK best course of action
Postop 1 month
CWF used for treatment

OD target plano
OS target -1.00

- OD 20/20 plano
- OS 20/30
  - -1.00 Rx 20/20
Summary

- BCL out consistently Day 3
- Minimal pain and discomfort
- Patients love “no touch”
- Visual outcomes excellent with shorter healing times
Thank You

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