Corneal Crosslinking (CXL)

- refractive

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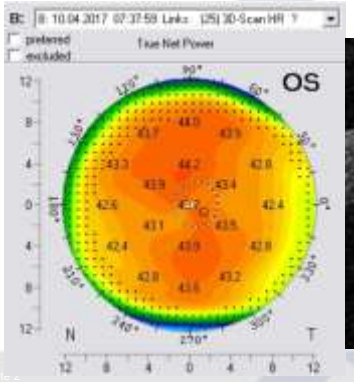
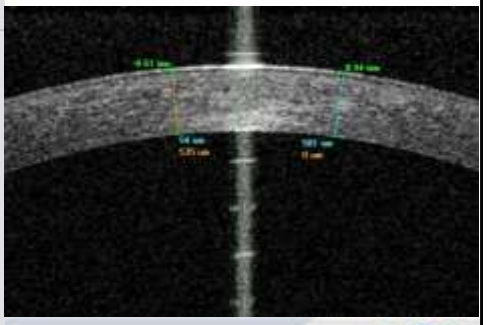
Case MG

The 25 years old patient is myopic and does not tolerate soft CL any more. Asks for simple and inexpensive alternarives.

VA OD(dominant) -0.5sph = 1.2 OS -1.0 cyl -0.5/15° = 1.1





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We decided to perform refractive epi on-CXL.

Parameters:
- **Mediocross TE 20 min**
- **oxygen 92% floating the cornea**
- **5.4 J/cm² , diameter 6mm, 15 mW/cm²**

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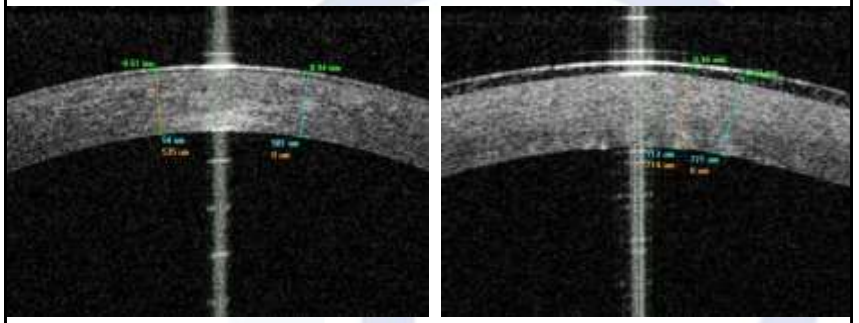

CCT increase 200 µm (40%) **epith. thickness inc. 55 µm (100%)**

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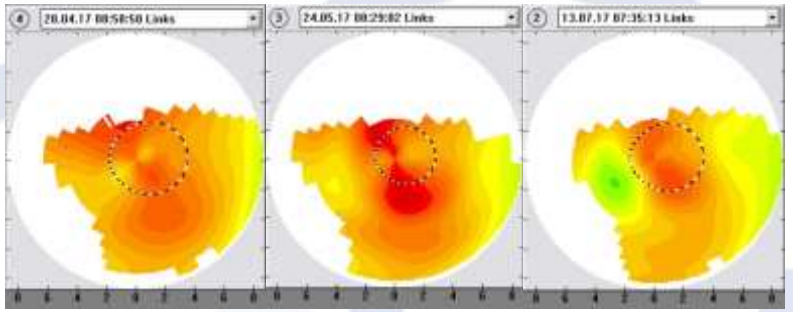

sph.equ.

-1.25D -1.5D -1.0D

Seite 5

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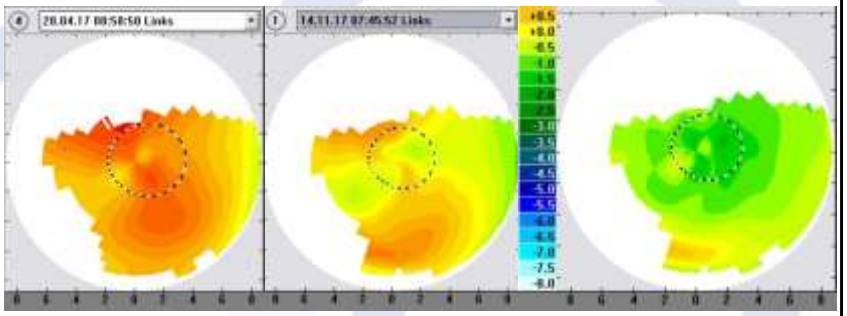
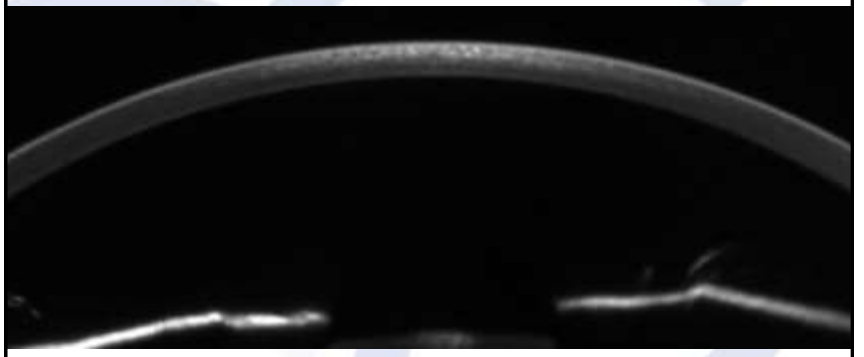


sc 0.5 1.0p

Seite 6

Case MG



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Next questions

1. What about stability?
2. How is the optical quality of the vision?
3. Glare, low contrast VA ?
4. How big should the optical zone be ?

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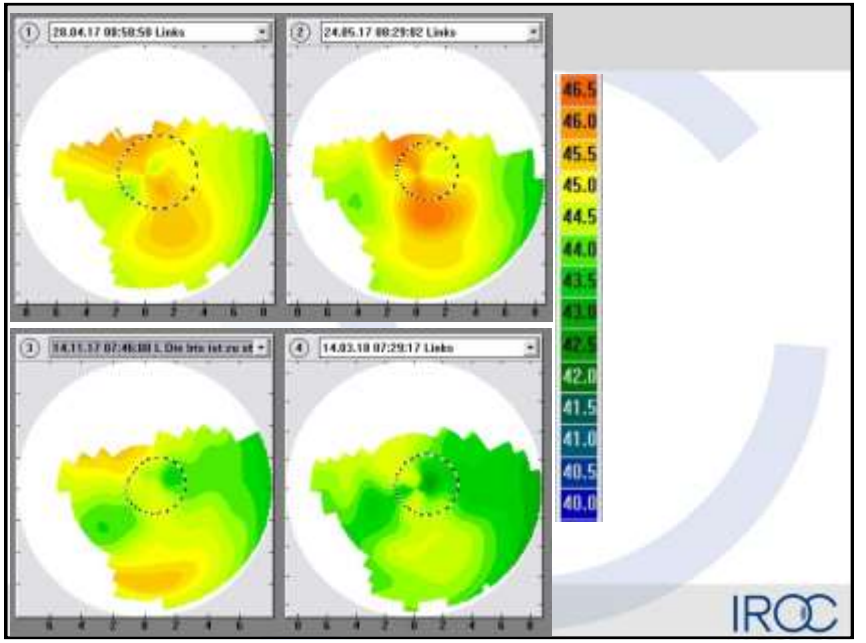
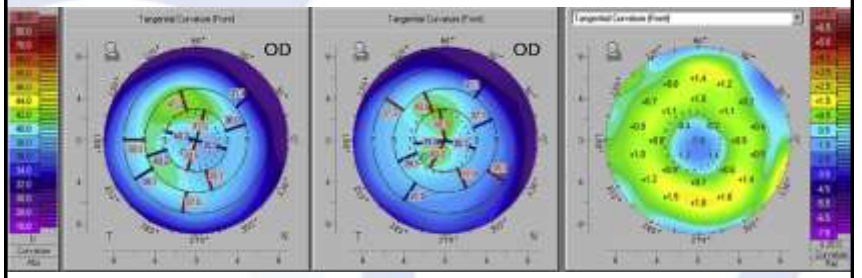


Photorefractive intrastromal corneal crosslinking for the treatment of myopic refractive errors: Six-month interim findings

Results: Twenty-six eyes of 14 patients with a mean age of 30.8 years ± 9.3 (SD) were included. There were statistically significant improvements in UDVA 1, 3, and 6 months postoperatively (all $P < .001$). A significant improvement in CDVA was observed ($P = .02$). Improvements in the mean manifest sphere and MRSE versus baseline were noted at all visits ($P < .001$), with a mean change of 0.99 ± 0.47 diopter (D) and 0.97 ± 0.48 D, respectively, by 6 months postoperatively. Significant reductions in corneal curvature versus baseline occurred at all follow-up visits (all $P < .05$). At 1 month, there were no significant changes in the endothelial cell density ($P = .282$) or number of cells ($P = .069$). No safety issues or complications were reported.

Conclusion: The findings show that patterned CXL using a custom CXL system is safe and effective for reducing myopic refractive error.



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Next questions

If we have doubts about the predictibility of the flattening effect, which patient group would fit best because it is lest demanding?

1. **Myopia ?**
2. **Hyperopia ?**
3. **Presbyopia ?**

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Conclusions

1. Refractive CXL may work for low degrees of myopia.
2. Predictability and stability are not yet investigated.
3. Since it is „epi-on“ the complication rate is probably low.
4. Before clinical aproval we need better data.

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