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## April 2016

# Refractive Improvements After Refractive Surgery

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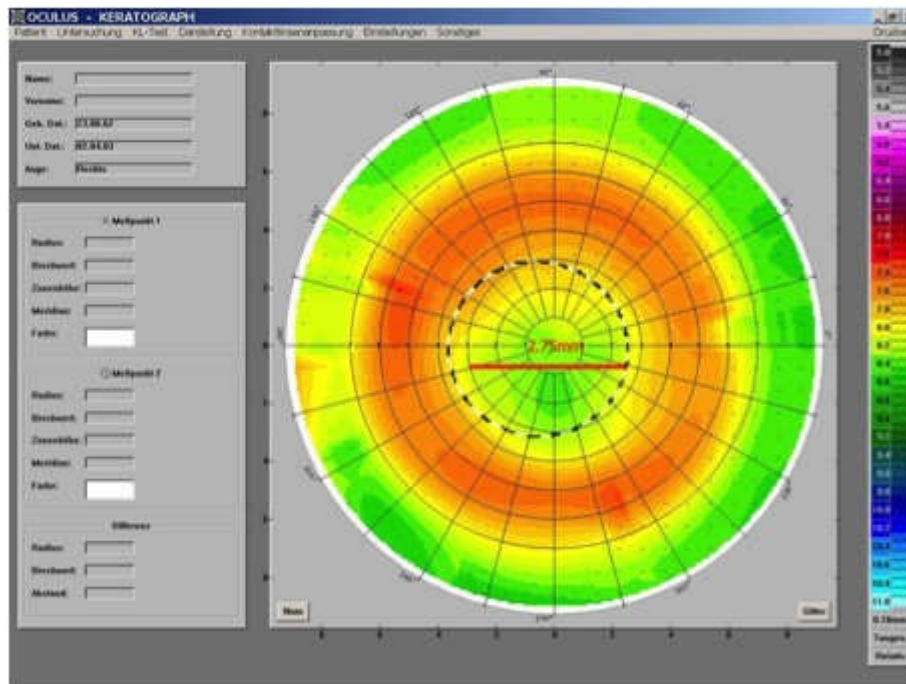
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## Introduction

Refractive surgery does not always result in an optimal visual outcome. In some cases, orthokeratology can improve the optics in these eyes, especially in reducing higher-order aberration and by increasing the optical zone diameter. In this case report, we will discuss orthokeratology as a possible treatment after a photorefractive keratectomy (PRK) laser procedure.

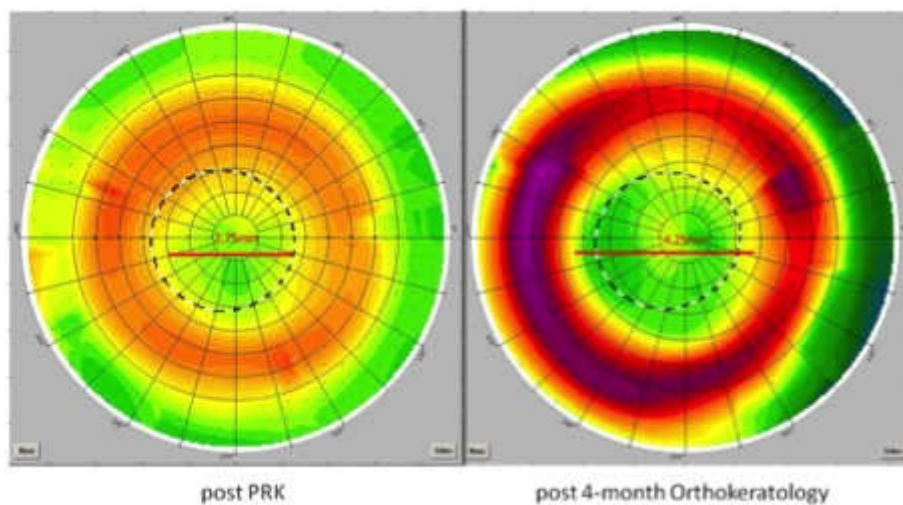
## Case Report

A 39-year-old male Caucasian had undergone PRK in 1991. The patient complained about increasing vision problems, especially at nighttime or during low light conditions. He received a -0.5D / -0.75D spectacle correction for driving from his ophthalmologist, but the patient was still not satisfied with the visual results. Topography showed a typical pattern after refractive surgery, with a useful optic zone diameter of about 2.75mm (Figure 1).



*Figure 1: Optic Zone after PRK*

After considering all of the various treatment options, we decided to use overnight orthokeratology. After 4 months of wearing these lenses, his VAsc improved to 1.25, and the patient had noticed a dramatic reduction in halos and shadows in his vision. Topography showed a 64% increase in optical zone diameter to 4.25mm (Figure 2).



*Figure 2: Topography after Orthokeratology Treatment*

## Discussion

Overnight orthokeratology is an excellent alternative treatment post-refractive surgery. It should be more often considered as a valuable treatment option for patients suffering from reduced visual outcomes after refractive surgery. The quality of vision will be restored, while still having the freedom from spectacles and contact lenses during daytime.



## Michael Baertschi

Michael Baertschi was the senior optometrist at the University Eyehospital Basel from 2000 to 2007. He is the owner of Kontaktlinsenstudio Baertschi in Bern, Switzerland and the CEO of Eyeness AG in Bern. Michael graduated from Pennsylvania College of Optometry as MSc Optom. and from the University of Bern as Mmed in Education and he did his PhD in Biomedicine at Salus University in the USA. Michael is a fellow of the American Academy of Optometry and president of the Swiss Interlens group.



## Michael Wyss

Michael Wyss graduated from Olten SHFA in Switzerland and did his MSc at the Hochschule Aalen Germany (in cooperation with New England College of Optometry and Pacific University, USA). Since 1999 he has worked in a private practice (kontaktlinsenstudio Baertschi in Bern, Switzerland) as Optometrist for specialty contact lens fitting. Additionally, he is an adjunct Faculty Member at the New England College of Optometry USA, Hochschule Aalen Germany, TVCI in Prague (Czech Republic) and FHNW Optometry in Olten Switzerland. Michael is a clinical investigator for several industry partners and has published or lectured on several topics in the contact lens field throughout the world. Michael is a Fellow of the American Academy of Optometry and serves as the vice chairman of the Admittance Committee for new Fellows outside the USA.

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