

# Understanding Variable Biologic-Based Factors in Determining Laser Refractive Surgery Outcomes: A Response to the Moshirfar et al Paper [Response to Letter]

Majid Moshirfar <sup>1-3</sup>, Joshua S Theis<sup>4</sup>, David S Cha<sup>5</sup>, Kaiden B Porter<sup>4</sup>, Carter J Payne <sup>1,6</sup>, Phillip C Hoopes <sup>1</sup>

<sup>1</sup>Hoopes Vision Research Center, Hoopes Vision, Draper, UT, USA; <sup>2</sup>John A. Moran Eye Center, University of Utah, School of Medicine, Salt Lake City, UT, USA; <sup>3</sup>Utah Lions Eye Bank, Murray, UT, USA; <sup>4</sup>University of Arizona College of Medicine Phoenix, Phoenix, AZ, USA; <sup>5</sup>Saint Louis University, School of Medicine, Saint Louis, MO, USA; <sup>6</sup>Department of Ophthalmology, George Washington University School of Medicine and Health Sciences, Washington, DC, USA

Correspondence: Majid Moshirfar, Hoopes Vision Research Center, 11820 S. State St. #200, Draper, UT, 84020, USA, Tel +1 801 568 – 0200, Fax +1 415-476-0336, Email cornea2020@me.com

## Dear editor

We would like to first thank Dr. Motwani for his insightful response to our paper. We agree with many of the points made in the letter, but disagree on several and will outline those below. We agree with the point made that epithelial thickness changes may affect how corneas respond to different refractive surgeries. We have touched on this point in our paper where we mention that increased epithelial remodeling and hyperplasia in PRK may be responsible for a lower change in keratometry relative to change in spherical equivalent.

We also agree that all sources of error may not be quantifiable in the context of refractive surgery. However, our paper simply points to preoperative parameters that have correlations with the  $\Delta K/\Delta SEQ$  value; it is up to clinicians and other researchers to determine if incorporation of these correlations will produce quantifiable improvements in refractive surgery outcomes. We believed it to be outside of the scope of this paper to incorporate these correlations into specific nomograms. We did outline how they could be incorporated into the nomograms of other clinicians by providing the slope of each correlation, and even comparing the strengths of each parameter against one another. This would allow clinicians to select the most influential preoperative parameter and then use the slope of its correlation to adjust their targeted change in keratometry for a projected change in spherical equivalent.

We disagree on the use of a fixed, Gullstrand model as a sole metric for understanding error in refractive surgery, and do not posit this point in our paper. We agree that there are other factors outside of this model that will influence outcomes. We are simply pointing to correlations we noted between preoperative characteristics and  $\Delta K/\Delta SEQ$  and how this may aid in understanding corneal properties in the context of refractive surgery.

## Disclosure

The authors report no conflicts of interest in this communication.

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Clinical Ophthalmology 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Clinical Ophthalmology editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

## Clinical Ophthalmology

Dovepress

### Publish your work in this journal

Clinical Ophthalmology is an international, peer-reviewed journal covering all subspecialties within ophthalmology. Key topics include: Optometry; Visual science; Pharmacology and drug therapy in eye diseases; Basic Sciences; Primary and Secondary eye care; Patient Safety and Quality of Care Improvements. This journal is indexed on PubMed Central and CAS, and is the official journal of The Society of Clinical Ophthalmology (SCO). The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/clinical-ophthalmology-journal>

<https://doi.org/10.2147/OPTH.S443809>