

Sir,  
**Reply to Dr Hoffer**

Dr Hoffer's comments are very important. The queries are discussed individually:

*The question of limitation on the ACD:* In my paper I discussed results taking the input data  $AL = 23.45$ ,  $K = 45$ , ACD constant = 6.15 (personalised or manufacturer's, whatever), and vertex = 12, giving a predicted anterior chamber depth = 6.14334. In no case was there any need to go to any extremes of either AL or ACD. So the question of limiting the value of ACD does not arise. Even without going into any detail, it is possible to test whether these limitations on ACD are being executed in my program with the given input values, merely by placing flags in the 'if statements' in the HofferQ function in my code, and analysing the output.

*The missing minus sign:* This printing error in the original paper was corrected in a subsequent published errata. This factor has been taken into account as shown in the function for Hoffer Q in my paper.

*The retinal thickness factor:* As my computer code shows, the retinal thickness factor  $R_{th}$  was considered for Holladay I and SRK-T (in different ways, of course) but not for Hoffer Q.

*The question of checking with the formula author or the manufacturer:* On recommendation of the *Eye* editorial board, the article was sent before publication to both the formula author and Carl Zeiss Meditech, and their valuable comments were taken into consideration in this article. So the comment about not validating the formula with the author(s) is premature, injudicious and deplorable.

It is best to reiterate here that IOLMaster's accuracy for biometry and HofferQ formula's predictive power have been established well. The point in question in the article, however, is whether the IOLMaster is as accurate in implementing the IOL formulas or if there is scope of any error. This paper is an attempt in that direction. To label this attempt as 'blatantly detrimental' is a gross injustice to any scientific criticism. Unfortunately, while the aforesaid main issue remains unsolved, the focus of discussion has digressed elsewhere.

It is painful to hear that one should use only an 'approved and licensed' version of a formula, and not the one that is published in the public domain. It makes one wonder where would science be today if Einstein's  $E = mc^2$  or Newton's laws of gravitation or Kepler's laws of planetary motion were all copyrighted.

S Basu

William Harvey Hospital,  
Kennington Road,  
Willesborough,  
Ashford, Kent TN24 0LZ, UK

Correspondence: S Basu,  
Tel: +44 1233 633331, ext. 88534;  
Fax: +44 1233 616770.  
E-mail: sbasu2003@doctors.net.uk

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Sir,  
**Reply to Basu S et al**

With great interest I read the paper on IOLMaster vs theoretical calculations in *Eye* (2006) **20**: 90–97.

My experience, however, with the HofferQ implementation and the IOLMaster is different and I wonder what the reasons might be.

Looking at the code at the bottom of page 95, in the Function HofferQ, there is the statement  $ACD = AtoACD(ELPtoA(ELPconst))$ . The variable ACD is later used to calculate the predicted ACD in  $ACD = ACD + 0.3 * \dots$

The 'ACD' on the right side of this equation/definition actually should be the HofferQ IOL constant 'pACD', that is, in the expression  $ACD = AtoACD(ELPtoA(ELPconst))$  'ACD' should play the role of 'pACD' in the original HofferQ publication. Why convert  $ELPconst \rightarrow A \rightarrow ACD$ ?

Trying to reproduce the example 1 (emmetropic eye  $A = 23.5$ ,  $K = 43.5$ ) in Hoffer's original paper of 1993, the predicted ACD for an IOL constant  $pACD = 4.50$  should be 4.40887.

Assuming that the variable  $ELPconst$  stands for pACD then I have a problem understanding the conversion  $ELPconst \rightarrow A \rightarrow ACD$ .  $ACD = AtoACD(ELPtoA(ELPconst))$  would turn out to be 4.46591 instead of 4.50 and the predicted Hoffer ACD would be 4.37479 instead of 4.40887. Could this explain the problems that were observed? The function HofferQ needs the entry of whatever stands for the paper's 'pACD' in the nomenclature. Which variable in the code plays this role?

W Haigis

Department of Ophthalmology, University of  
Wuerzburg, Sanderring, Wuerzburg D-97070,  
Germany