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Journal of Physics: Conference Series

Volume 1366, Issue 1, 7 November 2019, Article number 012053

2nd International Conference on Applied and Industrial Mathematics and Statistics 2019, ICoAIMS 2019; The Zenith HotelKuantan, Pahang; Malaysia; 23 July 2019 through 25 July 2019; Code 155273

Comparison of surgically induced astigmatism (SIA) values using three Holladay incorporated method SIA calculators (Conference Paper) [\(Open Access\)](#)

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Abstract

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Postoperative residual astigmatism is one of the unsatisfying visual outcomes of phacoemulsification resulting from surgically induced astigmatism (SIA). Various SIA calculators have been introduced to assist surgeons in calculating SIA for toric intraocular lens (IOL) determination. The aim of this study was to compare SIA values calculated using three different Holladay incorporated method SIA calculators. A data set of 80 eyes from 72 subjects who had undergone uneventful phacoemulsification using less than 3 mm clear corneal incision technique were included in the study. The preoperative and postoperative K-readings were computed into the three online Holladay incorporated method SIA calculators which were the SIA Calculator version 1.1 (SIAC1.1); Single Case SIA Calculator (SCSIAC); and Panacea SIA Calculator version 8(6.0) (Panacea). The mean individual SIA values obtained from each calculator were compared. There were no significant differences in mean individual SIA between the calculators ($p > 0.05$). Pearson's correlation coefficients for all compared calculators achieved 0.99. The ranges of 95% limit of agreement between calculators were too small and tight, ranged from -0.012 to 0.012 only. In conclusion, the SIAC1.1, SCSIAC and Panacea produced a comparable SIA value among calculators. Hence, either one can be used interchangeably. © Published under licence by IOP Publishing Ltd.

SciVal Topic Prominence

Topic: Astigmatism | Cataract | Total corneal

Prominence percentile: 84.986 

Indexed keywords

Engineering controlled terms:

[Correlation methods](#) [Intraocular lenses](#)

Engineering uncontrolled terms

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ISSN: 17426588

Source Type: Conference Proceeding

Original language: English

DOI: 10.1088/1742-6596/1366/1/012053

Document Type: Conference Paper

Volume Editors: Jaini N.I., Jamil N.M., Jonovich A.A.A., Kasim A.R.M., Zabidi S.F.A., Jusoh @ Awang R.

Sponsors: Institut Teknologi Sepuluh (ITS) Nopember, Persatuan Sains Matematik Malaysia (PERSAMA), Universiti Malaysia Pahang (UMP)

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