



Comparison and Evaluation of Five Different Surgically Induced Astigmatism Calculators Outcome and Analysis Reports

Purpose

To compare the surgically induced astigmatism (SIA) values and the analysis report of five different SIA calculators.

Methods

Data from 80 eyes of 72 subjects who underwent uneventful phacoemulsification surgery by four different surgeons were analysed. Surgical data, preoperative and postoperative K-readings were taken and used for the SIA analysis. Five available online calculators namely; the SIA calculator (SIAC), SIA calculator version 2.1 (SIA2.1), SIA calculator version 3.1 (SIA3.1), Ophthalmology calculator version 6.0 (OC6.0) and VECTrAK™ vector calculator version 2.4.2 (VVA) were used to calculate the SIA for each individual surgeon. The mean individual SIA values of each calculator were compared.

Results

The mean individual SIAs using SIAC, SIA2.1, SIA3.1, OC6.0 and VVA were 0.7183 ± 0.41 D, 0.7181 ± 0.41 D, 0.7181 ± 0.41 D, 0.7181 ± 0.41 D and 0.7184 ± 0.41 D respectively. There were no significant differences in determining SIA values between the calculators ($P = 0.71$). All the paired comparisons revealed that the calculators are in agreement with each other in determining SIA values. The result of Bland and Altman analysis revealed that the range of 95% LOA between all the compared calculators were smaller than 0.012 D

Conclusion

All calculators evaluated in this study provides comparable results and they can be used interchangeably to calculate individual SIA. Each calculator has own advantages and its application can be utilized for specific clinical or research objectives.

Authors

Khairidzan Mohd
Kamal, MD

Md Muziman Syah Md
Mustafa, PhD

Nazaryna Marzuki

Noorhazayti Ab. Halim,
PhD

[Find Similar](#)

View Related Events

Day: [Saturday, May 4, 2019](#)

Day: [Sunday, May 5, 2019](#)

Day: [Monday, May 6, 2019](#)

Day: [Tuesday, May 7, 2019](#)