

Comparison of biometry formulas and their relationship with axial lengths

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Abstract

Objectives: The purpose of cataract surgery is mostly to render patient emmetropic. There are many variables involved while achieving this, one of which is correct biometry. Regardless of the procedure involved in biometry, the formulas used also effect the spherical power of the eye post-operatively.

Subjects and Methods: Four major biometry formulas (SRK/T, SRK-2, Holladay, and Hoffer-Q) were chosen and were subjected to comparison with each other and their correlation to axial length of the patient's eye noted. Total of 34 patients were chosen, who met the inclusion criteria, and their biometry was done using the respective formula. These patients were followed up for three post-op visits for over a period of 1-1.5 month post-operatively and their spherical errors noted by auto refractometry. This error was later confirmed by subjective refraction. All these patients were operated by a single surgeon with same technique of surgery in all of them i.e. phaco-emulsification.

Results: Results showed a statistically significant importance of choice of different formulas (p-value 0.028) while no significant difference in performance of these formulas over same group of axial lengths.

Conclusion: Newer generation formulas (Hoffer-Q, SRK/T and Holladay-1) all proved to be equally effective in predicting IOL power in all ranges of axial lengths with no significant difference in their performance. *Al-Shifa Journal of Ophthalmology* 2014; 10(1): 9-13 © Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan.
