# Comparison of Different Intraocular Lens Power Calculation Formulas in People With Very High Myopia

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**Abstract :** purpose: To compare the accuracy of Haigis, SRK/T, T2, Holladay 1, Hoffer Q, Barrett Universal II, Emmetropia Verifying Optical (EVO) and Kane for intraocular lens power calculation in patients with axial length (AL) ≥ 28 mm. Methods: In this retrospective single-center study, 50 eyes of 41 patients with AL ≥ 28 mm that underwent uneventful cataract surgery were enrolled. The actual postoperative refractive results were compared to the predicted refraction calculated with different formulas (Haigis, SRK/T, T2, Holladay 1, Hoffer Q, Barrett Universal II, EVO and Kane). The mean absolute prediction errors (MAE) 1 month postoperatively were compared. Results: The MAE of different formulas were as follows: Haigis (0.509), SRK/T (0.705), T2 (0.999), Holladay 1 (0.714), Hoffer Q (0.583), Barrett Universal II (0.552), EVO (0.463) and Kane (0.441). No significant difference was found among the different formulas (P = .122). The Kane and EVO formulas achieved the lowest level of mean prediction error (PE) and median absolute error (MedAE) ($p < 0.05$). Conclusion: The Kane and EVO formulas had a better success rate than others in predicting IOL power in high myopic eyes with AL longer than 28 mm in this study.
**Keywords :** cataract, power calculation formulas, intraocular lens, long axial length
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