Novel Pre-Visual Field Algorithm Improves Performance and Predicts VF Defects

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Purpose: To assess the effect of a novel pre-test algorithm using virtual reality visual field (VRVF) prior to a complete automated visual field test (CAVFT) in patients with visual field defects.

Methods: Consecutive patients with visual field defects underwent a pretest drill using VRVF (12 key points analyzed) before undergoing CAVFT. The pretest and complete automated visual field findings were compared.

Results: Fifteen examinations of 14 patients were included for analysis. The VRVF pretest drill and CAVFT threshold values showed a strong correlation (R^2 = .6214), as did mean deviation and pattern standard deviation (R^2 = .8336, .6135). The variance within each quadrant showed moderate correlation (R^2 = .4796). Analyses showed a highly statistically significant difference in threshold values between both exams (P-value = .00008).

Conclusion: This novel pretest algorithm can be a potentially useful adjunct to CAVFT.