

Factors that influence standard automated perimetry test results in glaucoma: test reliability, technician experience, time of day, and season

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PURPOSE: To determine the influence of several factors on standard automated perimetry test results in glaucoma.

METHODS: Longitudinal Humphrey field analyzer 30-2 Swedish interactive threshold algorithm data from 160 eyes of 160 glaucoma patients were used. The influence of technician experience, time of day, and season on the mean deviation (MD) was determined by performing linear regression analysis of MD against time on a series of visual fields and subsequently performing a multiple linear regression analysis with the MD residuals as dependent variable and the factors mentioned above as independent variables. Analyses were performed with and without adjustment for the test reliability (fixation losses and false-positive and false-negative answers) and with and without stratification according to disease stage (baseline MD) .

RESULTS: Mean follow-up was 9.4 years, with on average 10.8 tests per patient. Technician experience, time of day, and season were associated with the MD. Approximately 0.2 dB lower MD values were found for inexperienced technicians (P < 0.05).
CONCLUSIONS: Technician experience, time of day, season, and the percentage of false-positive answers have a significant influence on the MD of standard automated perimetry.

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