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A COMPARISON OF LONG TERM VARIABILITY IN STANDARD AUTOMATED PERIMETRY AND SHORT-WAVELENGTH AUTOMATED PERIMETRY IN STABLE GLAUCOMA PATIENTS

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Purpose. To quantify and compare the long term variability (LTV) in standard automated perimetry (SAP) and short wavelength automated perimetry (SWAP) in a group of stable glaucoma patients.

Methods. From a group of 53 glaucoma patients previously experienced in visual field testing, we identified 25 glaucoma patients who were stable, based on both SAP and SWAP visual field criteria. Each patient had performed three SAP and three SWAP visual fields within a 3-4 month period. For each of the fifty-two 24-2 visual field locations, threshold decibel values were used to calculate LTV (expressed as statistical standard deviation) separately for SAP and SWAP. **Results.** When averaging the entire 24-2 field, the mean (±SD) LTV for SAP and SWAP was 2.36 ± 0.75 dB (95% confidence interval 2.18-2.53 dB) and 2.89 ± 0.78 (95% confidence interval 2.75-3.04 dB) respectively (p=0.004). In 20 of the 52 visual field locations SWAP LTV was significantly higher than SAP LTV. In addition, the LTV increased with greater distance from the point of fixation for both SAP and SWAP. LTV decreases closer to fixation, more for SAP than for SWAP. **Conclusion.** Long term variability, in a group of stable glaucoma patients was 0.53 dB higher for SWAP then for SAP. This needs to be taken into consideration when evaluating serial visual fields for change.

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