Dear Editor,

The review article by the Philippine Glaucoma Society published in the July-December 2006 issue stated that the flatter “hill of vision” of the MatrixTM FDT indicated a smaller dynamic range, implied decreased utility in advanced glaucoma, and cited Landers et al.2 2006. The study by Landers et al. dealt with the first-generation FDT not the MatrixTM. It was an indirect attempt at measuring the distribution of the different retinal ganglion-cell populations. Aside from a flatter topography, greater stability of FDT with age was also found. The flatter topography of FDT was attributed to a difference in retinotopic or cortical mechanisms.

Concerns with decreased utility of the FDT in advanced glaucoma actually stem from its decreased dynamic range—a property inherent to the test without regard to the hill of vision. The original FDT had a dynamic range of 40dB while the newer MatrixTM had a dynamic range of 56dB for the N-30-FT and 38dB for the newer protocols like the 24-2-FT. In contrast, standard achromatic perimetry has a dynamic range of 50dB.

These concerns were addressed by Artes et al.3 when they found a smaller proportion of absolute defects in FDT than SAP indicating less susceptibility to floor effects (p <0.001). A uniform test-retest variability was also found with a narrower interval than SAP for deeper defects (<25dB in SAP). This suggests greater utility of FDT in following advanced loss.

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AUTHOR’S REPLY

Dear Dr. Gosiengfiao,

Thank you for clarifying some important issues on the utility of the FDT (frequency-doubling technology) perimetry, specifically the newer version, the MatrixTM. In the review article, “Understanding Structure and Function in Glaucoma,” published in December 2006, we cited a recent study by Landers and coworkers,2 which showed that the “hill of vision” of the FDT is flatter compared with that of the SWAP (short-wavelength automated perimetry) and the SAP (standard achromatic perimetry). We failed, however, to mention that the study involved the older FDT perimeter, not the MatrixTM. A subsequent statement mentioned that the older FDT has a smaller dynamic range that may make it less useful in monitoring progression in advanced glaucoma. We inferred that a perimeter with a “flatter hill of vision” would also have a decreased dynamic range and be less sensitive in advanced glaucoma. This assumption is erroneous; you have aptly mentioned that the dynamic range of a perimeter is a property inherent to a perimetric program that has nothing to do with the hill of vision.

Several studies showed the variability of the Matrix (having the widest dynamic range) to be uniform over the measurement range of the instrument, making it advantageous for monitoring glaucoma.2,3 Balian’ showed that test-retest variability was constant throughout the dynamic range for FDT Matrix 10-2 and was even smaller in moderate to severe glaucoma, implying that it may be a better tool to closely monitor advanced glaucoma.

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