



Rate of false positive answers is the only reliable reliability parameter in computerized perimetry

The Science behind the Tip

In computerized perimetry patient's reliability is measured by 3 parameters, namely rate of false positive and false negative answers (FPA and FNA)¹ and of fixation losses (FL). A FPA is recorded when the patient responds to a zero-luminance (older standard strategies) or responds during periods when no true responses are expected (SITA). FNA are measured by presentation of bright stimuli at locations where threshold sensitivities have been determined. FL is typically monitored using the blind spot method where visible stimuli are presented at location for the blind spot at random intervals.

In eyes with severe visual field (VF) loss covering the blind spot, the rate of FL is easily underestimated. On the other hand, FL is sometimes overestimated when the blind spot has been erroneously located at the start of the test. High rate of FNA is highly correlated to VF loss^{2,3}. This is explained by the high intra-test variability in the threshold estimates in areas with reduced sensitivity, and cannot be blamed on the patient's reliability. Rates of FPA show no association to VF status⁴.

In the infancy of computerized perimetry visual fields were flagged as unreliable when rates of false answers were $\geq 33\%$. This limit was arbitrarily settled when including healthy subjects in the original Statpac interpretation tool. A cut off at 15%, the $\approx 95^{\text{th}}$ percentile in a healthy population, is a more appropriate limit for FPA, while FNA can be neglected in patients with VF loss.

References

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