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View Abstract

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Study Group: (none)

ABSTRACT

TITLE: Repeatability of the Envision perimetry headset with and without a gaming component

ABSTRACT BODY:

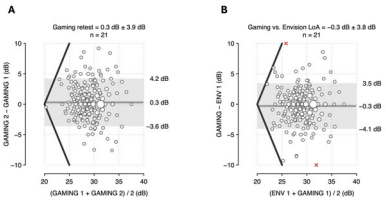
Purpose: To evaluate the repeatability of the Envision headset perimetry test without (ENV) and with (ENVg) gaming elements added. These were compared against a clinical standard, the Humphrey Field Analyzer (HFA).

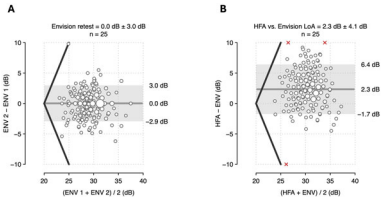
Methods: The ENV test was developed on the Pico 3 Neo Eye (Pico Immersive, Singapore) headset and uses a ZEST algorithm to evaluate the 24−2 testing locations at sensitivities as low as 20dB. Thirty healthy eyes from 30 participants performed the following 24−2 visual field tests, with the order of tests counterbalanced: one HFA and two ENV tests (Part 1) (clinicaltrials.gov: NCT06549010). The HFA test was performed with the SITA-Standard algorithm. The same participants were invited again to perform a version of the ENV perimetry test with gaming elements added to it, ENVg. Twenty-four participants returned and performed two ENV and two ENVg tests (Part 2); the two test types alternated and the choice of the first test of the series was counterbalanced. Five participants in Part 1 and 3 participants in Part 2 were excluded from the analysis due to

at least one test with a false positive (FP) rate >15%. The repeatability of ENV and ENVg and the differences between ENV and HFA at every test location were evaluated with limits of agreements.

Results: For reference and based upon 28 healthy eyes from a previous study (1), the mean±1.96SD difference on the HFA between repeated tests was found to be 0.4±4.4dB. In this study, the repeatability of the ENV test was 0.0±3.0dB in Part 1 (Fig. 1A) and 0.1±3.6dB in Part 2. The gaming variant of the test, ENVg, presented similar repeatability, 0.3±3.9dB (Fig. 2A). The difference between ENV and HFA was 2.3±4.1dB (Fig. 1B). The difference between ENV and ENVg was -0.3±3.8dB (Fig. 2B). A post-hoc analysis on the 3 participants from Part 2 whose tests were removed due to high FP rate did not reveal any significant trends: one participant performed poorly on 3 out of the 4 tests, the second struggled with the ENVg tests, while the third participant had high FP rates on both ENV tests.

Conclusions: The repeatability for perimetric testing with the Envision headset was comparable to that with the HFA. There is a systematic difference between HFA and ENV testing of approximately 2dB. A gamified version of the ENV test did not increase retest variability to the perimetric test. 1. I Marín-Franch et al. JoV 2013





DETAILS

PRESENTATION TYPE - PLEASE NOTE, IF YOU CHANGE YOUR PRESENTATION TYPE AFTER APPLYING FOR AN AWARD (BELOW), YOU MUST GO BACK AND RESELECT THE APPLY BUTTON.:
Poster Only

CURRENT REVIEWING CODE: 2050 Glaucoma: Visual fields and other functional testing

CURRENT SECTION/GROUP: Glaucoma

Clinical Trial Registration (Abstract): No

Other Registry Site (Abstract): (none)

Registration Number (Abstract): (none)

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Date Trial Began (MM/DD/YYYY) (Abstract): (none)

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AWARDS: