

Comparison of 24-2C SITA Standard intervisit repeatability to legacy SITA tests



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PURPOSE

- The 24-2C test pattern increases sensitivity to central field defects by adding 10 test locations from the 10-2 pattern that are tested at the end of a 24-2 threshold test¹.
- The purpose of this ongoing, preliminary clinical study was to compare the repeatability of the 10 added test locations in a prototype 24-2C SITA Standard test to legacy SITA tests in normal and glaucomatous eyes.

METHODS

- Experimental 24-2C SITA Standard (**SS-C**), as well as 24-2C SITA Faster (**SFR-C**), 10-2 SITA Standard (**SS-10**), and 10-2 SITA Fast (**SF-10**) visual fields (VFs) were acquired on an HFA3 Model 860 perimeter (ZEISS, Dublin, CA) at each of two visits on one eye each for healthy and glaucomatous subjects.
- 24-2 SITA Standard VFs (**SS**) were extracted from **SS-C** as a reference for disease severity.
- Repeatability was calculated by computing the test-retest standard deviation (TRT-SD) using both visit data for mean deviation (MD), as well as individual threshold values at the 10 added test locations.

RESULTS

- Mean age was 55.8 (standard deviation, SD: 6.4; range: 44.3 to 69.9) years for 17 healthy eyes and 73.6 (SD: 9.2; range 60.9 to 97.9) years for 16 glaucomatous eyes (p<0.001).
- Mean 24-2 SITA Standard MD was 0.63 (SD: 1.15; range: -1.14 to 3.04) dB and -6.81 (SD: 6.86; range: -22.61 to 1.85) dB in healthy and glaucomatous eyes (p<0.001), respectively.

24-2C SITA Standard test repeatability may be comparable to either 24-2 or 10-2 SITA Standard

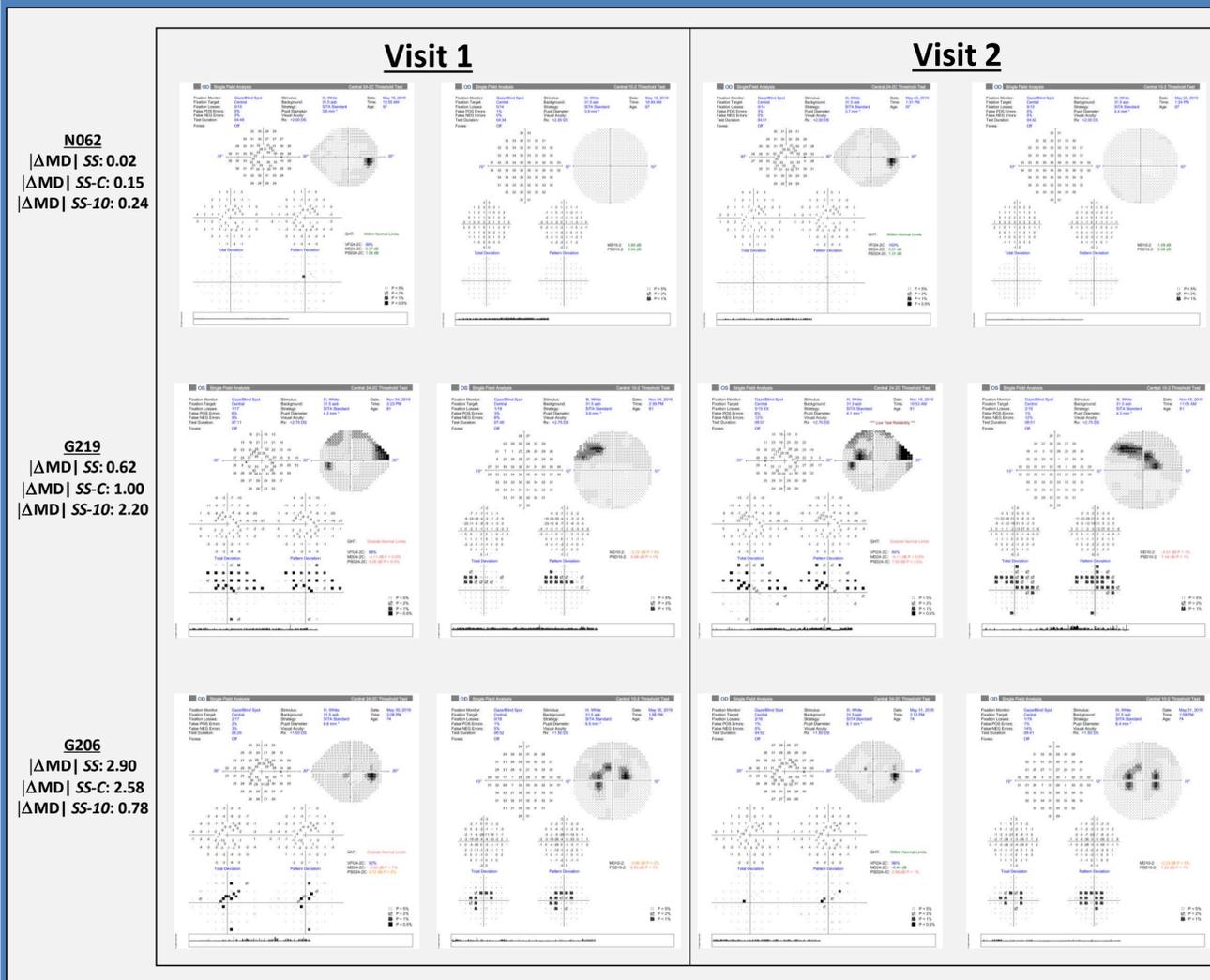


Figure 1 – Intervisit exam results of subjects with least (top), median (middle), and greatest (bottom) difference in extracted 24-2 SITA Standard MD between visits

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RESULTS (CONTINUED)

- TRT-SDs for MD were 0.67, 0.61, 1.29, 0.52, and 0.49 dB for tests **SS**, **SS-C**, **SFR-C**, **SS-10**, and **SF-10**, respectively.
- TRT-SDs for the thresholds in the 10 added locations were 1.57, 2.28, 1.85, 2.21 dB for tests **SS-C**, **SFR-C**, **SS-10**, and **SF-10**, respectively (see Table 1).
- Overall, the repeatability for **SS-C** and thresholds were comparable (no worse) to their counterparts.
- Examples of intervisit exam results are shown in Figure 1.

Cohort	Total Points	SS-C [dB]	SFR-C [dB]	SS-10 [dB]	SF-10 [dB]
All	330	1.57 [1.28, 1.82]	2.28 [1.41, 2.90]	1.85 [1.36, 2.24]	2.21 [1.75, 2.58]
Healthy	170	0.97 [0.84, 1.09]	1.43 [1.08, 1.71]	1.20 [1.03, 1.34]	1.25 [1.11, 1.38]
Glaucoma	160	2.02 [1.55, 2.40]	2.93 [1.41, 3.89]	2.36 [1.53, 2.96]	2.90 [2.18, 3.47]

Table 1 – TRT-SD and 95% confidence interval for thresholds in the 10 new test locations

CONCLUSIONS

- The findings in this preliminary cohort suggest the repeatability of the additional test locations added to 24-2C SITA Standard test may be comparable to the repeatability of the same locations in the 24-2C SITA Faster and the 10-2 SITA tests.
- As a result, a 24-2C SITA Standard test may maintain comparable ability to detect progressive changes in the ten new test locations in the central visual field as compared to the current SITA tests.

References

¹Callan et al. *IOVS* 2020; 61(7): Abstract 3876.