

# Comparison of 24-2C SITA Standard and 24-2C SITA Faster



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## PURPOSE

- The recent 24-2C SITA Faster visual field (VF) test increases sensitivity of central field defects by adding 10 test locations from the 10-2 pattern to the end of the 24-2 test. However, some clinicians prefer to test glaucoma patients with the SITA Standard strategy.
- The purpose of this ongoing clinical study was to compare the 24-2C SITA Standard test to the 24-2C SITA Faster test in healthy and glaucoma eyes.

## METHODS

- 24-2C SITA Standard (SS) and 24-2C SITA Faster (SFR), as well as 10-2 SS, and 10-2 SITA Fast VFs were acquired on an HFA3 Model 860 perimeter (ZEISS, Dublin, CA) at each of two visits on one eye each for healthy and glaucoma subjects (see Figure 1).

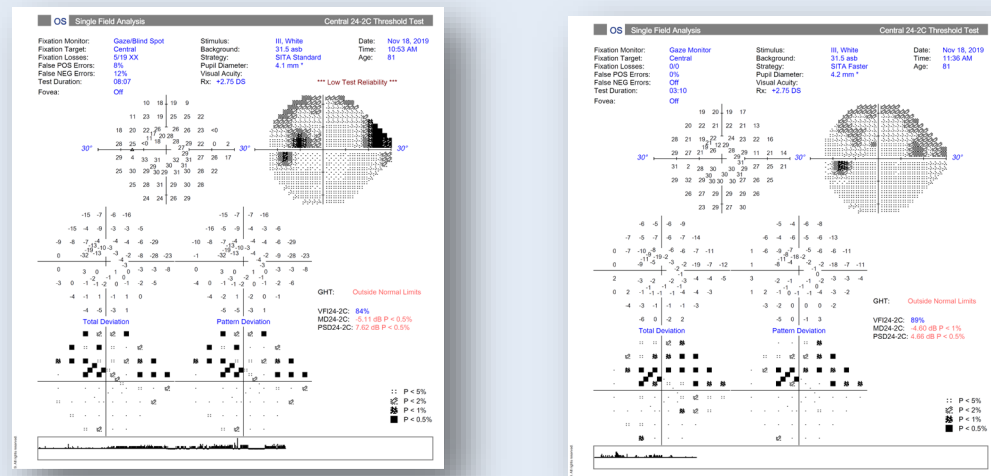


Figure 1. Examples of 24-2C SITA Standard and Faster visual fields

- 24-2 SS VFs were extracted from 24-2C SS as a reference for disease severity. Data from last qualified visit were used for analyses.
- Bland-Altman and scatter plots were used to assess agreement for the Mean Deviation (MD), Visual Field Index (VFI), and Pattern Standard Deviation (PSD).
- The sum of any total deviation (TD) and pattern deviation (PD) points flagged for the 24-2C VFs were totaled and compared using paired equivalence t-tests ( $\alpha = 0.05$ ). Equivalence limits were chosen as 5% of total test points.

## 24-2C SITA Standard detects visual field defects comparably to 24-2C SITA Faster

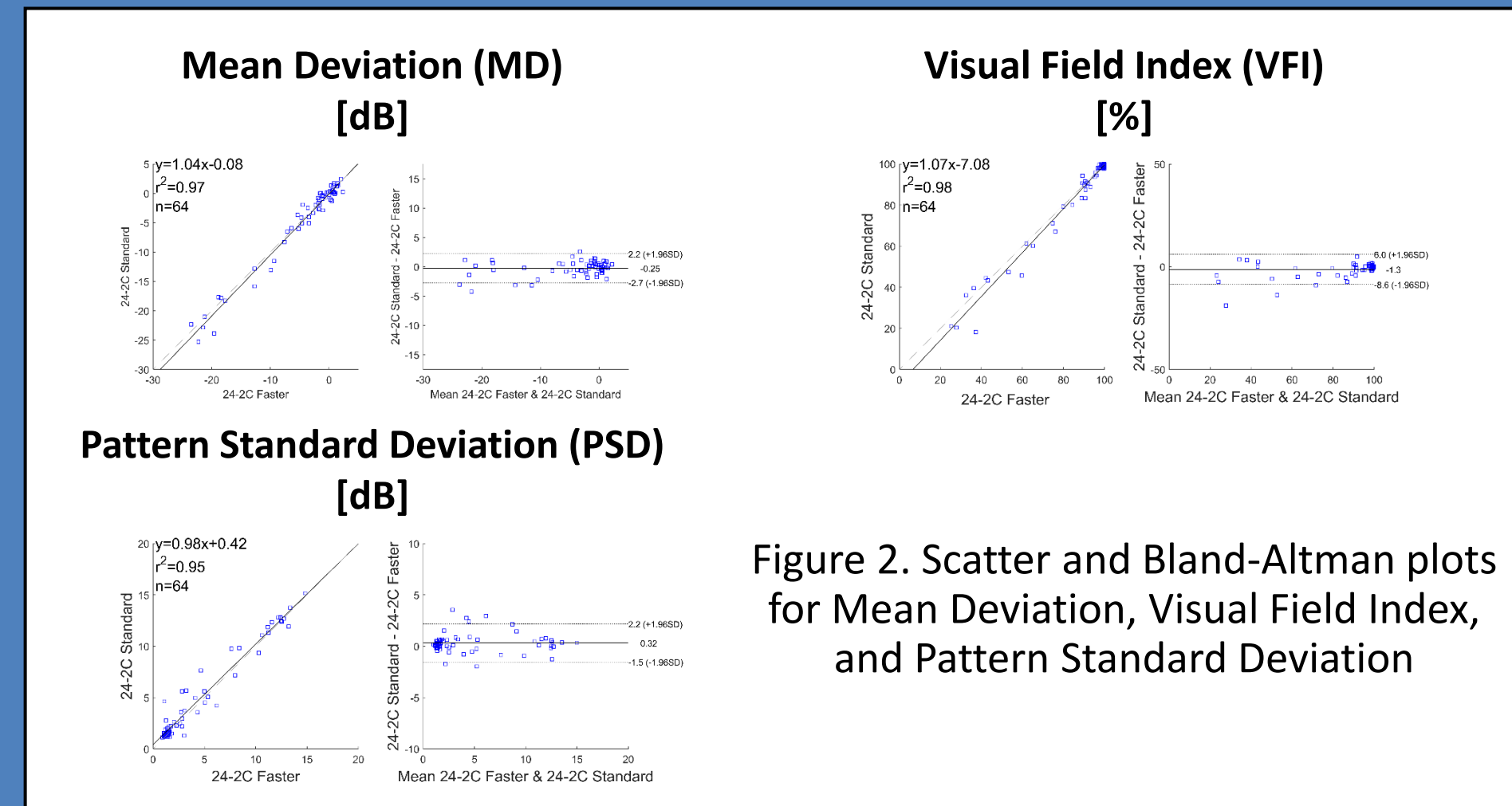


Figure 2. Scatter and Bland-Altman plots for Mean Deviation, Visual Field Index, and Pattern Standard Deviation

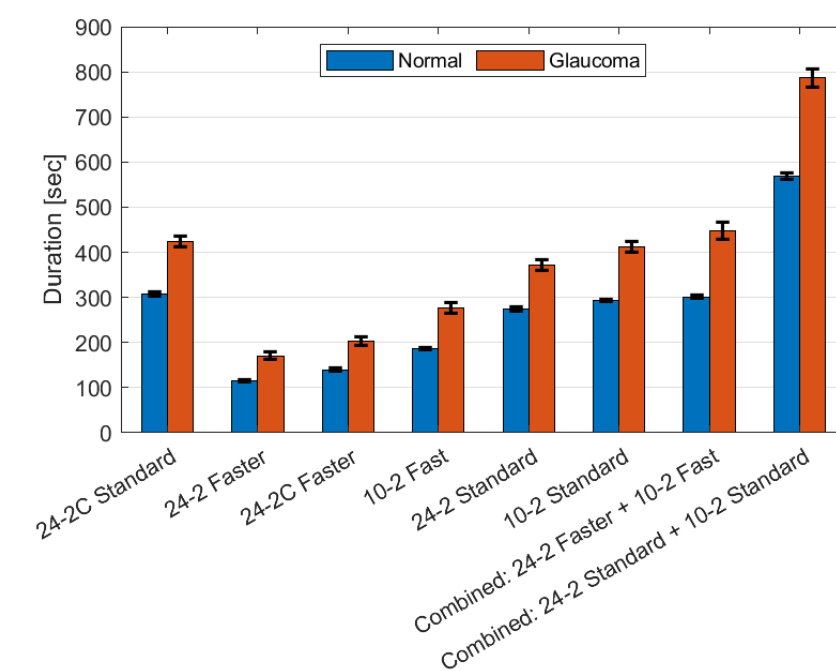


Figure 3. Test times (mean +/- standard error) for SITA visual field tests

Parameter	Common Test Locations	24-2C SS [#]	24-2C SFR [#]	Difference [#]	Equivalence p-value
<b>Healthy (N = 30 Eyes)</b>					
# Cumulative TD (P < 5%)	62	2.2 (3.4)	3.1 (4.8)	-0.9 (3.8)	0.002
# Cumulative TD (P < 2%)	62	0.8 (1.3)	1.0 (2.3)	-0.2 (1.9)	<0.001
# Cumulative TD (P < 1%)	62	0.4 (0.7)	0.3 (0.7)	0.0 (0.8)	<0.001
# Cumulative PD (P < 5%)	62	5.0 (3.9)	4.8 (4.1)	0.2 (4.9)	0.002
# Cumulative PD (P < 2%)	62	1.8 (2.0)	1.9 (2.3)	-0.1 (2.9)	<0.001
# Cumulative PD (P < 1%)	62	0.8 (1.0)	0.8 (1.1)	0.0 (1.4)	<0.001
<b>Glaucoma (N = 34 Eyes)</b>					
# Cumulative TD (P < 5%)	62	33.6 (20.7)	34.0 (19.2)	-0.4 (8.3)	0.037
# Cumulative TD (P < 2%)	62	28.0 (20.5)	27.8 (19.7)	0.2 (6.5)	0.009
# Cumulative TD (P < 1%)	62	24.7 (20.1)	23.2 (19.2)	1.5 (5.3)	0.053
# Cumulative PD (P < 5%)	62	26.6 (13.0)	25.8 (12.9)	0.8 (6.1)	0.022
# Cumulative PD (P < 2%)	62	22.2 (14.4)	21.7 (14.2)	0.5 (4.3)	0.001
# Cumulative PD (P < 1%)	62	19.6 (15.3)	19.0 (14.8)	0.6 (3.8)	0.001

Table 1. Mean (SD) of flagged Total and Pattern Deviation test locations

## RESULTS

- Mean age was 58.4 (standard deviation, SD: 7.8; range: 44 to 75) years for 30 healthy eyes and 71.6 (SD: 9.2; range 53 to 98) years for 34 glaucoma eyes.
- Mean 24-2 SS MD was 0.29 (SD: 1.04; range: -1.89 to 2.62) dB and -8.15 (SD: 7.81; range: -23.42 to 1.63) dB in healthy and glaucoma eyes, respectively.
- MD, VFI, and PSD values were similar between both strategies across all eyes, with linear correlations ranging from 0.98 to 0.99 and regression slopes ranging from 0.98 to 1.07 (see Figure 2).
- 24-2C SITA Standard duration was 11.7% and 13.8% longer than 24-2 SITA Standard in healthy and glaucoma eyes, respectively (see Figure 3).
- 24-2C SITA Faster was twice as fast as 24-2C SITA Standard in both healthy and glaucoma cohorts.
- For healthy eyes, mean difference (SD) for any TD defects at the 5<sup>th</sup> percentile was -0.9 (SD: 3.8) points and -0.2 (4.9) points for PD (see Table 1).
- For glaucoma eyes, mean differences for any defects at the 5<sup>th</sup> percentile were -0.4 (8.3) for TD and 0.8 (6.1) points for PD.

## CONCLUSIONS

- 24-2C SITA Standard showed comparable sensitivity to detect visual field defects as 24-2C SITA Faster in this study, with mean differences between the number of any flagged TD and PD points across the field ranging from -0.9 to 1.5 defects.
- Thus, the 24-2C test pattern with the reference SITA Standard strategy may offer clinicians who prefer to use the SITA Standard strategy a similar ability to detect central visual field loss as SITA Faster.

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Disclosures: SS (E), TC (E), SY (E), NG (C), CW (C), IF (C), TS (C), GCL (E) – Carl Zeiss Meditec, Inc.; NA – None

