

Additional File 4: Analysis of SPECT Data

The following analyses were carried out:

- Descriptive summaries and comparisons of pre-HBOT SPECT means (MCP), standard deviations (SD), and coefficients of variation (CV), by brain region (Left/Right, White/Gray, Angle), between 29 affected military subjects, and 29 matched normal controls.
(Tables E.1, E.2, and E.3)
- Summary of SPECT MCP (E.4A), SD (E.4B), and CV (E.4C) at Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT, by Region of Brain, in Military Subjects
- Analysis of changes in SPECT MCP (E.5A), SD (E.5B), and CV (E.5C) Between Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT, by Region of Brain, in Military Subjects

All descriptive summary tables are in the format:

Mean \pm Standard Deviation

Median (Minimum – Maximum)

The changes between Pre-HBOT, 1 day Post-HBOT, and 40 days Post-HBOT in Table E.5.A, B, and C are summarized in the following format:

Mean Change \pm Standard Deviation of Changes

Median Change (Minimum Change – Maximum Change)

p value for significance of change

P values are calculated from the Student t test, and indicate whether the difference between military and control subjects, or the changes between time points are significant. Significant differences ($p \leq 0.05$) are highlighted in red text, and near-significant differences ($p < 0.10$) are highlighted in orange text.

**1. Summary of SPECT Mean Counts/Pixel (MCP) at Pre-HBOT
(Comparison between Veterans and Normal Controls)**

Section of Brain	Veterans (n=29)	Normals (n=29)	P-val
Left Gray 030	1,543 ± 322 1,567 (923 – 2,294)	1,611 ± 245 1,574 (1,223 – 2,389)	0.374
Left Gray 060	1,575 ± 333 1,596 (950 – 2,302)	1,666 ± 259 1,654 (1,244 – 2,478)	0.251
Left Gray 090	1,555 ± 321 1,606 (957 – 2,214)	1,591 ± 252 1,602 (1,184 – 2,322)	0.640
Left Gray 120	1,572 ± 313 1,570 (966 – 2,331)	1,632 ± 273 1,614 (1,142 – 2,443)	0.441
Left Gray 150	1,682 ± 376 1,753 (671 – 2,258)	1,734 ± 292 1,734 (1,261 – 2,730)	0.562
Left Gray All	1,586 ± 322 1,625 (968 – 2,278)	1,647 ± 257 1,625 (1,243 – 2,472)	0.428
Left White 060	968 ± 238 912 (559 – 1,730)	1,071 ± 235 1,037 (646 – 1,619)	0.104
Left White 120	933 ± 238 880 (556 – 1,641)	1,043 ± 224 1,008 (655 – 1,604)	0.074
Left White All	951 ± 235 919 (558 – 1,686)	1,057 ± 225 1,033 (693 – 1,543)	0.083
Right Gray 030	1,532 ± 319 1,547 (918 – 2,127)	1,590 ± 274 1,590 (1,212 – 2,480)	0.457
Right Gray 060	1,566 ± 323 1,535 (990 – 2,330)	1,689 ± 284 1,703 (1,255 – 2,587)	0.128
Right Gray 090	1,532 ± 307 1,530 (1,009 – 2,226)	1,610 ± 274 1,563 (1,197 – 2,387)	0.314
Right Gray 120	1,543 ± 282 1,541 (939 – 2,160)	1,647 ± 282 1,626 (1,244 – 2,466)	0.165
Right Gray 150	1,668 ± 323 1,603 (948 – 2,457)	1,737 ± 264 1,681 (1,340 – 2,503)	0.376
Right Gray All	1,568 ± 302 1,564 (961 – 2,225)	1,655 ± 267 1,612 (1,266 – 2,485)	0.253
Right White 060	974 ± 220 937 (543 – 1,542)	1,084 ± 244 1,026 (686 – 1,664)	0.075
Right White 120	901 ± 251 825 (508 – 1,790)	1,043 ± 223 993 (685 – 1,592)	0.027
Right White All	938 ± 225 912 (526 – 1,666)	1,064 ± 225 1,015 (745 – 1,563)	0.037

2. Summary of SPECT Standard Deviations (SD) at Pre-HBOT (Comparison between Veterans and Normal Controls)

Section of Brain	Veterans (n=29)	Normals (n=29)	p-val
Left Gray 030	53.3 ± 20.3 46.2 (21.1 – 112.2)	54.5 ± 17.6 52 (25.8 – 88.9)	0.812
Left Gray 060	63.3 ± 21.9 60.8 (21.6 – 104.9)	64.3 ± 21.4 61.7 (29.8 – 125.1)	0.864
Left Gray 090	56.4 ± 25.7 48.7 (18.7 – 119.1)	64.7 ± 30.1 57.2 (29.3 – 172.7)	0.264
Left Gray 120	53.0 ± 21.3 49.8 (18.7 – 108)	56.2 ± 25.1 57.7 (8.7 – 106)	0.595
Left Gray 150	69 ± 37 58 (22 – 165)	56 ± 28 53 (24 – 144)	0.150
Left Gray All	58.9 ± 16.2 56.9 (35.2 – 88.4)	59.2 ± 15.9 56.4 (26.8 – 91.1)	0.951
Left White 060	55.7 ± 26.3 50.3 (19.3 – 115.3)	54.4 ± 21.4 48.5 (26.9 – 113.7)	0.836
Left White 120	53.9 ± 21.7 47.8 (28.8 – 98.4)	46.2 ± 18.2 39.6 (21.6 – 79.3)	0.151
Left White All	54.8 ± 18.7 50.5 (26.6 – 88.3)	50.3 ± 13.7 49 (28 – 96.5)	0.302
Right Gray 030	48.6 ± 18.7 46.8 (20 – 83.4)	49.1 ± 16.9 50.2 (15.6 – 82.7)	0.918
Right Gray 060	54.5 ± 18.7 53.2 (26.5 – 104.4)	58.9 ± 22.5 58.6 (20.6 – 113.1)	0.421
Right Gray 090	59.9 ± 20.4 60.1 (15.1 – 98.8)	55.2 ± 18.6 52.3 (23.6 – 103.5)	0.364
Right Gray 120	53.7 ± 23.9 51 (20.7 – 128)	49.6 ± 18.6 45.8 (20.9 – 98.7)	0.471
Right Gray 150	60.0 ± 24.2 59.3 (18.7 – 116.5)	47.9 ± 18.6 44.3 (25 – 99)	0.037
Right Gray All	55.4 ± 12.6 56.1 (32.2 – 82)	52.2 ± 8.8 52.8 (36.8 – 71.4)	0.266
Right White 060	63.2 ± 26.3 58.5 (22.5 – 113.8)	52.6 ± 21.4 48.3 (15.8 – 103.6)	0.098
Right White 120	50.8 ± 18.4 52.9 (17.2 – 100.6)	43.1 ± 19.7 38.1 (15.9 – 87.5)	0.130
Right White All	57.0 ± 17.8 55.9 (29.3 – 89.7)	47.9 ± 13.3 45.6 (24 – 68.3)	0.030

3. Summary of SPECT Coefficient of Variation (CV) (100×SD/Mean) at Pre-HBOT. Comparison between Veterans and Normal Controls

Section of Brain	Veterans (n=29)	Normals (n=29)	p-val
Left Gray 030	3.55 ± 1.49 3.24 (1.71 – 8.77)	3.39 ± 1.01 3.41 (1.8 – 5.39)	0.647
Left Gray 060	4.04 ± 1.16 4.27 (1.36 – 6.01)	3.91 ± 1.37 3.47 (1.88 – 7.05)	0.708
Left Gray 090	3.64 ± 1.60 3.12 (1.49 – 8)	4.09 ± 1.73 3.72 (1.84 – 10.1)	0.310
Left Gray 120	3.33 ± 1.03 3.49 (1.48 – 5.09)	3.42 ± 1.48 3.44 (0.76 – 6.2)	0.783
Left Gray 150	4.00 ± 1.61 4.22 (1.22 – 7.31)	3.20 ± 1.28 2.93 (1.38 – 6.48)	0.041
Left Gray All	3.71 ± 0.65 3.57 (2.41 – 5.34)	3.60 ± 0.87 3.65 (2.14 – 5.25)	0.594
Left White 060	5.85 ± 2.69 6.21 (2.24 – 12.53)	5.32 ± 2.36 4.71 (1.92 – 11.49)	0.427
Left White 120	5.87 ± 2.12 5.2 (2.72 – 11)	4.55 ± 1.80 3.89 (1.83 – 7.82)	0.013
Left White All	5.86 ± 1.86 5.72 (3.14 – 10.22)	4.94 ± 1.53 4.9 (1.92 – 9.66)	0.043
Right Gray 030	3.15 ± 0.99 3.1 (1.7 – 5.63)	3.11 ± 1.05 3.13 (1.06 – 5.55)	0.891
Right Gray 060	3.51 ± 1.02 3.41 (1.46 – 5.39)	3.53 ± 1.37 3.53 (1.12 – 8.04)	0.959
Right Gray 090	3.92 ± 1.19 3.97 (1.06 – 6.73)	3.50 ± 1.25 3.15 (1.88 – 6.63)	0.190
Right Gray 120	3.48 ± 1.38 3.33 (1.36 – 7.86)	3.04 ± 1.04 2.69 (0.91 – 6.03)	0.175
Right Gray 150	3.65 ± 1.43 3.34 (1.01 – 7.24)	2.74 ± 0.85 2.55 (1.34 – 4.31)	0.005
Right Gray All	3.54 ± 0.59 3.56 (2.13 – 4.94)	3.18 ± 0.45 3.23 (2.07 – 4.17)	0.012
Right White 060	6.52 ± 2.24 6.45 (2.63 – 10.19)	4.99 ± 2.10 4.77 (1.97 – 10.81)	0.010
Right White 120	5.76 ± 1.89 5.67 (2.74 – 9.33)	4.18 ± 1.79 3.81 (1.44 – 8.06)	0.002
Right White All	6.14 ± 1.52 6.11 (2.8 – 9.23)	4.59 ± 1.19 4.34 (2.24 – 7.31)	< 0.001

**4A. Summary of SPECT MCP by Region of Brain, in Military Subjects
at Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT**

Section of Brain	Pre-HBOT	1 day Post-HBOT	40 days Post-HBOT
Left Gray 030	1,543 ± 322 (29) 1,567 (923 – 2,294)	1,590 ± 302 (29) 1,600 (891 – 2,354)	1,507 ± 325 (29) 1,502 (933 – 2,160)
Left Gray 060	1,575 ± 333 (29) 1,596 (950 – 2,302)	1,617 ± 282 (29) 1,569 (970 – 2,251)	1,547 ± 335 (29) 1,507 (943 – 2,339)
Left Gray 090	1,555 ± 321 (29) 1,606 (957 – 2,214)	1,625 ± 284 (29) 1,558 (893 – 2,196)	1,555 ± 351 (29) 1,608 (927 – 2,312)
Left Gray 120	1,572 ± 313 (29) 1,570 (966 – 2,331)	1,652 ± 285 (29) 1,645 (922 – 2,085)	1,545 ± 324 (29) 1,507 (971 – 2,265)
Left Gray 150	1,682 ± 376 (29) 1,753 (671 – 2,258)	1,744 ± 281 (29) 1,726 (990 – 2,222)	1,678 ± 344 (29) 1,676 (911 – 2,237)
Left Gray All	1,586 ± 322 (29) 1,625 (968 – 2,278)	1,646 ± 276 (29) 1,616 (933 – 2,177)	1,566 ± 329 (29) 1,558 (937 – 2,263)
Left White 060	968 ± 238 (29) 912 (559 – 1,730)	1,120 ± 217 (29) 1,147 (574 – 1,617)	1,007 ± 270 (29) 905 (611 – 1,609)
Left White 120	933 ± 238 (29) 880 (556 – 1,641)	1,064 ± 192 (29) 1,073 (508 – 1,383)	949 ± 263 (29) 865 (579 – 1,550)
Left White All	951 ± 235 (29) 919 (558 – 1,686)	1,092 ± 197 (29) 1,105 (541 – 1,463)	978 ± 260 (29) 905 (595 – 1,521)
Right Gray 030	1,532 ± 319 (29) 1,547 (918 – 2,127)	1,564 ± 291 (29) 1,558 (955 – 2,352)	1,489 ± 344 (29) 1,474 (868 – 2,128)
Right Gray 060	1,566 ± 323 (29) 1,535 (990 – 2,330)	1,623 ± 264 (29) 1,644 (954 – 2,142)	1,535 ± 334 (29) 1,503 (953 – 2,212)
Right Gray 090	1,532 ± 307 (29) 1,530 (1,009 – 2,226)	1,591 ± 250 (29) 1,623 (980 – 1,980)	1,529 ± 352 (29) 1,549 (870 – 2,161)
Right Gray 120	1,543 ± 282 (29) 1,541 (939 – 2,160)	1,622 ± 264 (29) 1,614 (897 – 2,087)	1,553 ± 355 (29) 1,510 (899 – 2,393)
Right Gray 150	1,668 ± 323 (29) 1,603 (948 – 2,457)	1,705 ± 305 (29) 1,667 (1,004 – 2,301)	1,680 ± 375 (29) 1,666 (958 – 2,587)
Right Gray All	1,568 ± 302 (29) 1,564 (961 – 2,225)	1,621 ± 264 (29) 1,639 (958 – 2,092)	1,557 ± 345 (29) 1,581 (909 – 2,296)
Right White 060	974 ± 220 (29) 937 (543 – 1,542)	1,078 ± 210 (29) 1,088 (585 – 1,459)	976 ± 247 (29) 886 (573 – 1,457)
Right White 120	901 ± 251 (29) 825 (508 – 1,790)	1,029 ± 202 (29) 1,053 (500 – 1,347)	922 ± 267 (29) 856 (484 – 1,499)
Right White All	938 ± 225 (29) 912 (526 – 1,666)	1,053 ± 198 (29) 1,067 (543 – 1,378)	949 ± 253 (29) 899 (529 – 1,462)

**4B. Summary of SPECT SD by Region of Brain, in Military Subjects
at Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT**

Section of Brain	Pre-HBOT	1 day Post-HBOT	40 days Post-HBOT
Left Gray 030	53.3 ± 20.3 (29)	46.6 ± 21.5 (29)	46.8 ± 20.4 (29)
	46.2 (21.1 – 112.2)	40.2 (14.2 – 96.6)	39.9 (15.5 – 93.8)
Left Gray 060	63.3 ± 21.9 (29)	57.0 ± 24.2 (29)	52.3 ± 19.8 (29)
	60.8 (21.6 – 104.9)	50.1 (28.6 – 111.2)	51.3 (20.5 – 95)
Left Gray 090	56.4 ± 25.7 (29)	52.4 ± 25.6 (29)	54.0 ± 18.3 (29)
	48.7 (18.7 – 119.1)	46 (19.6 – 131.2)	54.1 (13.5 – 101.3)
Left Gray 120	53.0 ± 21.3 (29)	47.8 ± 21.3 (29)	46.9 ± 24.7 (29)
	49.8 (18.7 – 108)	47.3 (12.3 – 92.7)	45.1 (15.6 – 95.7)
Left Gray 150	69 ± 37 (29)	55.6 ± 21.3 (29)	57.9 ± 28.1 (29)
	58 (22 – 165)	49.6 (23.3 – 112)	58.1 (13.9 – 126.9)
Left Gray All	58.9 ± 16.2 (29)	51.9 ± 16.5 (29)	51.6 ± 12.9 (29)
	56.9 (35.2 – 88.4)	48.9 (26 – 88.6)	48.9 (26.8 – 80)
Left White 060	55.7 ± 26.3 (29)	59.4 ± 25.4 (29)	54 ± 31 (29)
	50.3 (19.3 – 115.3)	56.8 (27.8 – 122.5)	50 (16 – 168)
Left White 120	53.9 ± 21.7 (29)	52.5 ± 19.8 (29)	45.8 ± 26.9 (29)
	47.8 (28.8 – 98.4)	50.8 (20.6 – 98.6)	37 (14.1 – 127.8)
Left White All	54.8 ± 18.7 (29)	56.0 ± 15.3 (29)	49.9 ± 23.6 (29)
	50.5 (26.6 – 88.3)	56.6 (29.5 – 89.9)	46.6 (14.9 – 129.7)
Right Gray 030	48.6 ± 18.7 (29)	44.3 ± 17.5 (29)	42.4 ± 16.1 (29)
	46.8 (20 – 83.4)	41 (15.5 – 89)	41.5 (17.8 – 78.5)
Right Gray 060	54.5 ± 18.7 (29)	50.8 ± 21.4 (29)	47.1 ± 14.6 (29)
	53.2 (26.5 – 104.4)	44.3 (17.1 – 108.5)	45.4 (19.9 – 80.3)
Right Gray 090	59.9 ± 20.4 (29)	57.1 ± 21.2 (29)	61.8 ± 25.7 (29)
	60.1 (15.1 – 98.8)	56.5 (23.5 – 93.3)	56.3 (28 – 114.4)
Right Gray 120	53.7 ± 23.9 (29)	50.0 ± 26.4 (29)	53.8 ± 23.8 (29)
	51 (20.7 – 128)	49.8 (9.6 – 96.9)	47.4 (25.5 – 117.3)
Right Gray 150	60.0 ± 24.2 (29)	58.1 ± 24.5 (29)	54.4 ± 19.7 (29)
	59.3 (18.7 – 116.5)	52.7 (29.2 – 143.8)	44.9 (25 – 95.3)
Right Gray All	55.4 ± 12.6 (29)	52.1 ± 15.1 (29)	51.9 ± 14.2 (29)
	56.1 (32.2 – 82)	51.4 (30.6 – 84.9)	50.2 (28.4 – 78.9)
Right White 060	63.2 ± 26.3 (29)	58.2 ± 28.5 (29)	50.0 ± 19.1 (29)
	58.5 (22.5 – 113.8)	49.9 (13.8 – 124)	49.4 (14.9 – 79.8)
Right White 120	50.8 ± 18.4 (29)	51.0 ± 20.5 (29)	46.8 ± 17.6 (29)
	52.9 (17.2 – 100.6)	51.5 (20.3 – 90.9)	47 (14.9 – 83.8)
Right White All	57.0 ± 17.8 (29)	54.6 ± 19.8 (29)	48.4 ± 14.9 (29)
	55.9 (29.3 – 89.7)	50.2 (26.1 – 102.8)	49.5 (20.1 – 72.9)

**4C. Summary of SPECT CV by Region of Brain, in Military Subjects
at Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT**

Section of Brain	Pre-HBOT	1 day Post-HBOT	40 days Post-HBOT
Left Gray 030	3.55 ± 1.49 (29)	2.90 ± 1.13 (29)	3.16 ± 1.30 (29)
	3.24 (1.71 – 8.77)	2.54 (1.3 – 5.73)	2.86 (0.92 – 6.55)
Left Gray 060	4.04 ± 1.16 (29)	3.50 ± 1.21 (29)	3.35 ± 0.93 (29)
	4.27 (1.36 – 6.01)	3.23 (1.92 – 5.59)	3.29 (1.46 – 5.33)
Left Gray 090	3.64 ± 1.60 (29)	3.19 ± 1.20 (29)	3.55 ± 1.23 (29)
	3.12 (1.49 – 8)	3.07 (1.16 – 6.39)	3.25 (1.1 – 6.1)
Left Gray 120	3.33 ± 1.03 (29)	2.89 ± 1.20 (29)	3.05 ± 1.47 (29)
	3.49 (1.48 – 5.09)	3.03 (0.85 – 5.92)	2.72 (0.99 – 6.34)
Left Gray 150	4.00 ± 1.61 (29)	3.22 ± 1.19 (29)	3.54 ± 1.85 (29)
	4.22 (1.22 – 7.31)	2.85 (1.62 – 6.11)	3.04 (1.13 – 8.32)
Left Gray All	3.71 ± 0.65 (29)	3.14 ± 0.76 (29)	3.33 ± 0.67 (29)
	3.57 (2.41 – 5.34)	2.94 (1.84 – 4.66)	3.19 (2.07 – 4.91)
Left White 060	5.85 ± 2.69 (29)	5.43 ± 2.36 (29)	5.32 ± 2.50 (29)
	6.21 (2.24 – 12.53)	5.19 (1.93 – 12.28)	5.36 (1.71 – 13.51)
Left White 120	5.87 ± 2.12 (29)	4.98 ± 1.68 (29)	4.81 ± 2.31 (29)
	5.2 (2.72 – 11)	4.92 (1.82 – 8.33)	4.23 (1.82 – 11.16)
Left White All	5.86 ± 1.86 (29)	5.21 ± 1.33 (29)	5.06 ± 1.81 (29)
	5.72 (3.14 – 10.22)	5.34 (3.11 – 8.06)	4.91 (2.16 – 10.54)
Right Gray 030	3.15 ± 0.99 (29)	2.83 ± 0.96 (29)	2.87 ± 0.97 (29)
	3.1 (1.7 – 5.63)	2.79 (1.39 – 5.22)	2.78 (1.5 – 5.24)
Right Gray 060	3.51 ± 1.02 (29)	3.08 ± 0.96 (29)	3.11 ± 0.90 (29)
	3.41 (1.46 – 5.39)	2.87 (1.15 – 5.06)	3.09 (1.46 – 5.79)
Right Gray 090	3.92 ± 1.19 (29)	3.62 ± 1.30 (29)	4.01 ± 1.21 (29)
	3.97 (1.06 – 6.73)	3.64 (1.41 – 6.51)	3.97 (1.99 – 6.45)
Right Gray 120	3.48 ± 1.38 (29)	3.02 ± 1.48 (29)	3.42 ± 1.10 (29)
	3.33 (1.36 – 7.86)	2.96 (0.63 – 6.01)	3.4 (1.67 – 6.61)
Right Gray 150	3.65 ± 1.43 (29)	3.44 ± 1.33 (29)	3.33 ± 1.32 (29)
	3.34 (1.01 – 7.24)	3.11 (1.79 – 6.78)	2.82 (1.78 – 6.58)
Right Gray All	3.54 ± 0.59 (29)	3.20 ± 0.73 (29)	3.35 ± 0.60 (29)
	3.56 (2.13 – 4.94)	3.25 (2 – 4.89)	3.4 (2.21 – 4.28)
Right White 060	6.52 ± 2.24 (29)	5.53 ± 2.79 (29)	5.34 ± 2.34 (29)
	6.45 (2.63 – 10.19)	5.15 (1.13 – 13.81)	4.95 (1.76 – 10.6)
Right White 120	5.76 ± 1.89 (29)	4.91 ± 1.67 (29)	5.34 ± 2.15 (29)
	5.67 (2.74 – 9.33)	4.66 (2.17 – 8.88)	5 (1.64 – 9.85)
Right White All	6.14 ± 1.52 (29)	5.22 ± 1.73 (29)	5.34 ± 1.98 (29)
	6.11 (2.8 – 9.23)	4.91 (2.17 – 8.49)	5.02 (2.64 – 10.22)

**5A. Summary of SPECT MCP by Region of Brain, in Military Subjects
Changes Between Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT**

Section of Brain	Pre to 1 day Post	Pre to 40 days Post	1 day to 40 days Post
Left Gray 030	47 ± 328 (29) 1 (-701 – 650) p = 0.450	-37 ± 454 (29) -116 (-824 – 1,132) p = 0.667	-83 ± 421 (29) -38 (-856 – 1,165) p = 0.295
Left Gray 060	42 ± 353 (29) 22 (-725 – 747) p = 0.531	-29 ± 492 (29) -67 (-1,029 – 1,133) p = 0.756	-70 ± 406 (29) -79 (-844 – 1,113) p = 0.359
Left Gray 090	70 ± 343 (29) 69 (-561 – 774) p = 0.282	-0 ± 487 (29) -36 (-815 – 1,102) p = 1.000	-70 ± 394 (29) -37 (-839 – 941) p = 0.347
Left Gray 120	80 ± 342 (29) 51 (-811 – 787) p = 0.218	-27 ± 455 (29) -115 (-792 – 923) p = 0.749	-107 ± 417 (29) -56 (-806 – 946) p = 0.177
Left Gray 150	62 ± 388 (29) 56 (-603 – 959) p = 0.396	-4 ± 506 (29) -104 (-876 – 1,017) p = 0.966	-66 ± 419 (29) -122 (-781 – 1,069) p = 0.404
Left Gray All	60 ± 337 (29) 20 (-652 – 676) p = 0.346	-19 ± 470 (29) -67 (-845 – 1,012) p = 0.826	-79 ± 403 (29) -36 (-791 – 1,047) p = 0.298
Left White 060	152 ± 239 (29) 188 (-384 – 637) p = 0.002	38 ± 343 (29) -27 (-680 – 691) p = 0.553	-114 ± 281 (29) -109 (-583 – 638) p = 0.038
Left White 120	131 ± 206 (29) 197 (-367 – 430) p = 0.002	16 ± 318 (29) -27 (-560 – 731) p = 0.784	-114 ± 277 (29) -76 (-594 – 439) p = 0.034
Left White All	141 ± 215 (29) 170 (-376 – 504) p = 0.001	27 ± 326 (29) -37 (-620 – 711) p = 0.656	-114 ± 272 (29) -71 (-566 – 531) p = 0.032
Right Gray 030	32 ± 319 (29) -8 (-591 – 739) p = 0.591	-43 ± 464 (29) -92 (-883 – 1,126) p = 0.622	-75 ± 413 (29) -61 (-955 – 1,089) p = 0.335
Right Gray 060	57 ± 332 (29) 8 (-666 – 727) p = 0.361	-30 ± 461 (29) -123 (-764 – 887) p = 0.725	-88 ± 382 (29) -65 (-716 – 857) p = 0.227
Right Gray 090	59 ± 310 (29) 46 (-575 – 722) p = 0.318	-4 ± 475 (29) -29 (-793 – 1,001) p = 0.969	-62 ± 412 (29) -23 (-835 – 1,030) p = 0.424
Right Gray 120	79 ± 288 (29) 56 (-667 – 605) p = 0.153	10 ± 455 (29) 4 (-812 – 1,061) p = 0.906	-69 ± 389 (29) -76 (-794 – 893) p = 0.350
Right Gray 150	37 ± 380 (29) 55 (-908 – 795) p = 0.608	12 ± 518 (29) -8 (-1,024 – 1,160) p = 0.898	-24 ± 434 (29) -1 (-942 – 999) p = 0.766

Section of Brain	Pre to 1 day Post	Pre to 40 days Post	1 day to 40 days Post
Right Gray All	53 ± 312 (29) 19 (-671 – 689) p = 0.372	-11 ± 467 (29) -31 (-796 – 971) p = 0.901	-64 ± 397 (29) -54 (-782 – 974) p = 0.396
Right White 060	104 ± 185 (29) 134 (-320 – 428) p = 0.005	3 ± 324 (29) 9 (-765 – 677) p = 0.966	-102 ± 268 (29) -71 (-568 – 543) p = 0.050
Right White 120	127 ± 216 (29) 158 (-596 – 558) p = 0.004	21 ± 316 (29) -11 (-670 – 571) p = 0.726	-107 ± 286 (29) -88 (-723 – 486) p = 0.054
Right White All	116 ± 192 (29) 156 (-458 – 429) p = 0.003	12 ± 311 (29) 18 (-717 – 607) p = 0.842	-104 ± 270 (29) -77 (-622 – 514) p = 0.047

**5B. Summary of SPECT SD by Region of Brain, in Military Subjects
Changes Between Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT**

Section of Brain	Pre to 1 day Post	Pre to 40 days Post	1 day to 40 days Post
Left Gray 030	-6.8 ± 28.4 (29) -10 (-46.5 – 56) p = 0.210	-6.6 ± 27.4 (29) -8.7 (-69.4 – 37) p = 0.207	0.2 ± 24.1 (29) 1.7 (-61.3 – 58) p = 0.965
Left Gray 060	-6 ± 33 (29) -7 (-60 – 50) p = 0.309	-11.0 ± 26.3 (29) -11.6 (-61.6 – 37.9) p = 0.033	-4.7 ± 26.6 (29) -6.4 (-75.9 – 44.9) p = 0.353
Left Gray 090	-4 ± 39 (29) 1 (-69 – 81) p = 0.579	-2.4 ± 27.5 (29) 7.2 (-51.4 – 37.2) p = 0.643	2 ± 31 (29) 1 (-77 – 51) p = 0.773
Left Gray 120	-5.1 ± 26.3 (29) -2.3 (-58.7 – 56.7) p = 0.301	-6 ± 37 (29) -7 (-83 – 77) p = 0.382	-0.9 ± 28.2 (29) -2.2 (-41.9 – 60.8) p = 0.865
Left Gray 150	-13 ± 39 (29) -9 (-107 – 78) p = 0.083	-11 ± 48 (29) -3 (-122 – 81) p = 0.240	2.3 ± 28.1 (29) -1 (-62.3 – 57) p = 0.666
Left Gray All	-7.0 ± 23.8 (29) -13.6 (-50.2 – 48) p = 0.123	-7.3 ± 22.5 (29) -9.3 (-48.1 – 41.3) p = 0.090	-0.3 ± 17.0 (29) -0.2 (-37.6 – 29.7) p = 0.928
Left White 060	4 ± 36 (29) 5 (-78 – 78) p = 0.575	-1.8 ± 27.7 (29) -6.5 (-58.6 – 81.8) p = 0.730	-6 ± 39 (29) -11 (-86 – 83) p = 0.448
Left White 120	-1.4 ± 28.0 (29) 2.8 (-71.9 – 46.6) p = 0.796	-8.0 ± 30.0 (29) -11.7 (-62.5 – 45) p = 0.161	-6.7 ± 28.7 (29) -12.3 (-67.5 – 63.8) p = 0.222
Left White All	1.2 ± 23.0 (29) -1.7 (-35.7 – 47.7) p = 0.779	-4.9 ± 24.8 (29) -6.6 (-49.4 – 60.5) p = 0.296	-6.1 ± 25.2 (29) -8.2 (-40.5 – 72.9) p = 0.203
Right Gray 030	-4.3 ± 24.3 (29) -5.3 (-54.4 – 49.7) p = 0.345	-6.3 ± 22.8 (29) -6.1 (-53.8 – 25.6) p = 0.151	-1.9 ± 19.2 (29) -0.8 (-38.4 – 39.5) p = 0.594
Right Gray 060	-3.7 ± 23.6 (29) -2.2 (-45.2 – 51.7) p = 0.405	-7.5 ± 20.2 (29) -6.2 (-59.1 – 40.5) p = 0.057	-3.7 ± 18.9 (29) -2.2 (-37.9 – 31.1) p = 0.295
Right Gray 090	-3 ± 30 (29) 1 (-67 – 74) p = 0.625	2 ± 30 (29) -6 (-46 – 63) p = 0.737	4.7 ± 28.9 (29) -3.6 (-48.6 – 55.4) p = 0.391
Right Gray 120	-4 ± 33 (29) -7 (-102 – 52) p = 0.542	0 ± 35 (29) -4 (-99 – 64) p = 0.996	4 ± 35 (29) 3 (-66 – 93) p = 0.564
Right Gray 150	-1.9 ± 28.2 (29) -7.6 (-44.9 – 83.6) p = 0.714	-5.7 ± 23.9 (29) -11.8 (-36.9 – 49.1) p = 0.213	-4 ± 31 (29) -3 (-85 – 66) p = 0.524

Right Gray All	-3.3 ± 17.8 (29) -2.7 (-35.5 – 36.6) p = 0.325	-3.5 ± 15.9 (29) -6.2 (-45.9 – 30.6) p = 0.249	-0.2 ± 18.2 (29) -2.2 (-29.3 – 47.1) p = 0.958
Right White 060	-5 ± 36 (29) -5 (-75 – 77) p = 0.451	-13 ± 33 (29) -7 (-92 – 42) p = 0.037	-8 ± 33 (29) -6 (-68 – 61) p = 0.186
Right White 120	0.1 ± 21.0 (29) -5.2 (-29.7 – 45.1) p = 0.972	-4.1 ± 22.1 (29) -4.7 (-47.1 – 30.8) p = 0.331	-4.2 ± 24.2 (29) -3.5 (-58.4 – 41.7) p = 0.358
Right White All	-2.5 ± 23.1 (29) -7.1 (-43.1 – 45.1) p = 0.572	-8.6 ± 21.8 (29) -5.6 (-64.6 – 30.9) p = 0.042	-6.2 ± 23.1 (29) -5.5 (-57.4 – 33.1) p = 0.161

**5C. Summary of SPECT CV by Region of Brain, in Military Subjects
Changes Between Pre-HBOT, 1-day Post-HBOT, 40-days Post-HBOT**

Section of Brain	Pre to 1 day Post	Pre to 40 days Post	1 day to 40 days Post
Left Gray 030	-0.65 ± 1.71 (29) -0.53 (-4.4 – 3.32) p = 0.050	-0.39 ± 1.59 (29) -0.14 (-3.96 – 2.5) p = 0.198	0.26 ± 1.40 (29) 0.25 (-3.25 – 4.06) p = 0.329
Left Gray 060	-0.54 ± 1.61 (29) -0.61 (-3.25 – 2.24) p = 0.080	-0.69 ± 1.23 (29) -0.86 (-2.7 – 2.27) p = 0.005	-0.15 ± 1.31 (29) -0.1 (-2.82 – 1.92) p = 0.544
Left Gray 090	-0.45 ± 1.95 (29) -0.51 (-4.8 – 3.19) p = 0.225	-0.09 ± 1.75 (29) 0 (-3.71 – 3.66) p = 0.779	0.36 ± 1.72 (29) 0.31 (-3.45 – 3.13) p = 0.272
Left Gray 120	-0.44 ± 1.41 (29) -0.44 (-3.04 – 2.76) p = 0.107	-0.27 ± 2.12 (29) -0.8 (-3.33 – 4.54) p = 0.491	0.16 ± 1.69 (29) -0.03 (-3.41 – 3.42) p = 0.609
Left Gray 150	-0.79 ± 1.78 (29) -0.47 (-3.95 – 3.38) p = 0.024	-0.47 ± 2.21 (29) 0.19 (-4.6 – 3.55) p = 0.265	0.32 ± 1.97 (29) 0.26 (-4.11 – 4.71) p = 0.389
Left Gray All	-0.57 ± 1.01 (29) -0.82 (-2.17 – 1.34) p = 0.005	-0.38 ± 0.95 (29) -0.57 (-2.27 – 1.66) p = 0.039	0.19 ± 0.93 (29) 0.31 (-2.13 – 1.84) p = 0.282
Left White 060	-0.4 ± 3.6 (29) -0.2 (-10.1 – 6.1) p = 0.526	-0.54 ± 2.75 (29) -0.7 (-7.97 – 4.85) p = 0.303	-0.1 ± 3.3 (29) 0.4 (-6.1 – 6.6) p = 0.861
Left White 120	-0.89 ± 2.81 (29) -0.28 (-7.88 – 3.36) p = 0.100	-1.06 ± 2.74 (29) -0.87 (-6.12 – 4.88) p = 0.046	-0.18 ± 2.78 (29) -0.29 (-6 – 5.82) p = 0.736
Left White All	-0.66 ± 2.27 (29) -0.38 (-6.48 – 2.72) p = 0.130	-0.80 ± 2.23 (29) -0.79 (-5.26 – 3.11) p = 0.064	-0.14 ± 2.05 (29) -0.25 (-3.75 – 5.87) p = 0.711
Right Gray 030	-0.32 ± 1.45 (29) -0.02 (-3.62 – 2.3) p = 0.245	-0.28 ± 1.52 (29) -0.57 (-3.84 – 3.19) p = 0.333	0.04 ± 1.34 (29) -0.08 (-2.69 – 2.57) p = 0.869
Right Gray 060	-0.44 ± 1.18 (29) -0.43 (-2.86 – 2.11) p = 0.055	-0.40 ± 1.33 (29) -0.51 (-2.7 – 3.38) p = 0.114	0.04 ± 1.04 (29) 0.29 (-2.37 – 2.35) p = 0.856
Right Gray 090	-0.30 ± 1.80 (29) -0.16 (-4.61 – 5.23) p = 0.370	0.08 ± 1.32 (29) 0.04 (-3.53 – 3.35) p = 0.736	0.39 ± 1.47 (29) 0.19 (-2.14 – 3.39) p = 0.165
Right Gray 120	-0.46 ± 1.90 (29) -0.8 (-6.34 – 2.3) p = 0.204	-0.06 ± 1.80 (29) 0.05 (-4.63 – 2.75) p = 0.851	0.40 ± 1.95 (29) 0.35 (-3.81 – 5.12) p = 0.285
Right Gray 150	-0.20 ± 1.33 (29) -0.17 (-2.36 – 2.41) p = 0.415	-0.32 ± 1.35 (29) -0.46 (-2.84 – 1.97) p = 0.217	-0.11 ± 1.87 (29) 0.11 (-4.38 – 3.46) p = 0.745

Right Gray All	-0.34 ± 0.83 (29) -0.19 (-2.42 – 1.34) p = 0.033	-0.20 ± 0.59 (29) -0.3 (-1.25 – 0.91) p = 0.087	0.15 ± 0.94 (29) 0.14 (-2.59 – 2.08) p = 0.398
Right White 060	-1.0 ± 3.4 (29) -1.6 (-6.6 – 6.8) p = 0.127	-1.19 ± 2.92 (29) -1.25 (-6.92 – 5.58) p = 0.037	-0.2 ± 3.2 (29) 0 (-6.6 – 7) p = 0.742
Right White 120	-0.85 ± 1.95 (29) -0.94 (-5.04 – 2.98) p = 0.027	-0.42 ± 2.73 (29) 0.1 (-4.6 – 5.55) p = 0.413	0.43 ± 2.54 (29) -0.06 (-5.24 – 5.19) p = 0.373
Right White All	-0.92 ± 2.07 (29) -1.44 (-4.15 – 3.62) p = 0.024	-0.80 ± 2.30 (29) -1.03 (-4.59 – 4.28) p = 0.070	0.12 ± 2.26 (29) 0.01 (-4.76 – 5.32) p = 0.786