

**Supplementary Table 1.** Changes in the pupillometer parameters over 24 hours in acute stroke patients treated with dexmedetomidine (n=5)

Time points	Right eye	P-value <sup>a)</sup>	Left eye	P-value <sup>a)</sup>
<b>Maximum pupil size (mm)</b>				
20:00 (Baseline)	3.23±0.81	(ref)	3.14±0.87	(ref)
0:00	3.52±1.01	0.125	3.30±0.85	0.286
4:00	3.79±0.95	0.034	3.54±0.82	0.113
8:00	3.22±0.85	0.654	3.19±0.65	0.504
12:00	3.47±0.99	0.738	3.46±1.31	0.438
16:00	3.27±0.90	0.722	3.09±0.87	0.889
P for linear trend		0.023		0.097
<b>CH (%)</b>				
20:00 (Baseline)	19.44±8.08	(ref)	18.11±9.06	(ref)
0:00	19.81±11.25	0.344	19.69±10.91	0.474
4:00	22.50±9.91	0.063	22.43±10.86	0.107
8:00	17.67±9.82	0.815	16.75±9.32	0.828
12:00	16.70±9.38	0.329	19.00±9.85	0.910
16:00	16.14±9.31	0.369	17.21±11.29	0.803
P for linear trend		0.015		0.124
<b>LAT (sec)</b>				
20:00 (Baseline)	0.28±0.04	(ref)	0.29±0.06	(ref)
0:00	0.30±0.06	0.229	0.29±0.06	0.492
4:00	0.28±0.05	0.922	0.30±0.09	0.091
8:00	0.29±0.06	0.739	0.30±0.07	0.091
12:00	0.30±0.06	0.506	0.30±0.08	0.106
16:00	0.28±0.08	0.825	0.30±0.07	0.091
P for linear trend		0.361		0.550
<b>CV (mm/sec)</b>				
20:00 (Baseline)	1.13±0.63	(ref)	1.13±0.94	(ref)
0:00	1.27±0.86	0.137	1.27±0.81	0.514
4:00	1.41±0.84	0.053	1.37±0.73	0.332
8:00	1.17±0.90	0.320	1.11±0.74	0.968
12:00	1.13±0.82	0.924	1.30±0.85	0.607
16:00	0.99±0.72	0.815	1.12±0.74	0.989
P for linear trend		0.011		0.320
<b>MCV (mm/sec)</b>				
20:00 (Baseline)	1.86±0.96	(ref)	1.74±1.25	(ref)
0:00	2.19±1.37	0.061	2.12±1.25	0.285
4:00	2.28±1.18	0.068	2.35±1.16	0.113
8:00	1.76±1.20	0.688	1.77±1.11	0.864
12:00	1.84±1.22	0.930	1.87±1.25	0.966
16:00	1.67±1.09	0.827	1.79±1.24	0.916
P for linear trend		0.006		0.085
<b>DV (mm/sec)</b>				
20:00 (Baseline)	0.92±0.43	(ref)	0.73±0.35	(ref)
0:00	0.84±0.57	0.227	0.77±0.40	0.383
4:00	0.95±0.66	0.102	1.02±0.39	0.098
8:00	0.63±0.43	0.813	0.69±0.45	0.584
12:00	0.66±0.52	0.428	0.92±0.69	0.269
16:00	0.67±0.40	0.766	0.71±0.52	0.597
P for linear trend		0.030		0.202
<b>NPi score</b>				
20:00 (Baseline)	4.07±0.36	(ref)	4.03±0.33	(ref)
0:00	3.89±0.47	0.296	3.92±0.50	0.168
4:00	3.82±0.59	0.198	3.90±0.73	0.207
8:00	3.89±0.45	0.409	3.95±0.49	0.313
12:00	3.63±0.57	0.046	3.90±0.73	0.284
16:00	3.79±0.43	0.147	3.95±0.32	0.329
P for linear trend		0.559		0.184

Values are presented as mean±standard deviation.

CH, constriction; LAT, latency; CV, constriction velocity; MCV, maximum constriction velocity; DV, dilation velocity; NPi, neurological pupil index.

All P-values are calculated using a linear mixed-effect model with a random intercept model for repeated measures analysis.

<sup>a)</sup>P-value for mean difference between 20:00 (baseline) and each time point in 24 hours.