

TIMEPOINT	GROUP	baseline	day 1		day 3		day 7		day 15		day 30		day 60		STATISTIC	
			sham	nGVS	sham	nGVS	sham	nGVS	sham	nGVS	sham	nGVS	sham	nGVS	factor timepoint	factor group
HEMISPHERIC SENSOR NETWORKS	olfactory	104.3 (6.4)	100.5 (4.8)	103.0 (4.0)	98.8 (4.2)	102.4 (5.0)	101.2 (6.6)	101.2 (3.6)	99.8 (10.8)	99.3 (5.7)	102.4 (2.7)	98.2 (3.3)	100.6 (3.6)	100.4 (5.1)	p = 0.664, $\eta_p^2 = 0.025$	
	auditory	112.1 (2.6)	115.5 (3.8)	112.4 (3.7)	111.8 (5.7)	110.3 (4.5)	112.3 (7.6)	105.9 (6.6)	109.8 (5.5)	108.2 (3.3)	110.3 (3.7)	108.9 (4.5)	106.6 (4.8)	108.0 (3.9)	p = 0.004, $\eta_p^2 = 0.130$	
	insular c.	113.0 (5.2)	118.3 (3.3)	121.2 (4.9)	119.1 (4.4)	120.4 (5.6)	119.9 (4.9)	122.6 (4.3)	122.9 (4.4)	116.1 (5.3)	119.6 (3.8)	119.4 (6.3)	116.3 (8.5)	120.3 (5.1)	p < 0.001, $\eta_p^2 = 0.230$	
	somato-sensory c.	112.1 (3.3)	121.0 (4.4)	123.6 (4.8)	121.2 (2.5)	124.9 (4.1)	124.8 (6.4)	128.9 (2.0)	123.8 (3.7)	120.5 (5.2)	118.7 (3.1)	126.2 (4.6)	113.2 (8.8)	118.2 (3.9)	p < 0.001, $\eta_p^2 = 0.241$	
	parietal c.	109.5 (3.0)	118.8 (3.3)	117.0 (4.5)	116.2 (4.3)	117.9 (3.9)	119.5 (7.2)	112.7 (5.0)	116.0 (9.4)	113.0 (5.0)	114.8 (2.0)	115.1 (4.2)	106.9 (13.4)	109.0 (6.7)	p < 0.001, $\eta_p^2 = 0.188$	
	visual c.	109.6 (3.2)	117.0 (4.1)	113.6 (4.8)	113.8 (4.5)	112.5 (5.3)	112.5 (7.4)	107.0 (6.5)	109.5 (12.6)	111.4 (4.0)	113.2 (4.8)	109.6 (5.5)	107.7 (10.7)	109.5 (6.2)	p = 0.041, $\eta_p^2 = 0.088$	
	lateral thalamus	119.4 (6.1)	124.4 (3.8)	127.9 (5.7)	118.5 (7.8)	127.0 (5.3)	128.1 (7.5)	127.2 (8.1)	126.6 (4.9)	123.8 (7.5)	131.0 (8.1)	128.1 (5.6)	129.3 (7.2)	127.2 (9.8)	p = 0.001, $\eta_p^2 = 0.087$	
HEMISPHERIC MOTOR NETWORKS	orbito-frontal c.	120.7 (7.8)	125.9 (4.0)	127.3 (7.0)	123.5 (3.4)	127.3 (7.0)	119.5 (2.6)	124.9 (7.2)	123.4 (6.7)	124.8 (6.5)	124.2 (3.2)	120.4 (4.3)	119.4 (11.1)	125.0 (7.0)	p = 0.004, $\eta_p^2 = 0.080$	
	medial pre-frontal c.	127.5 (5.7)	137.2 (7.7)	138.2 (5.0)	135.2 (6.2)	136.4 (5.8)	131.3 (5.4)	133.3 (5.2)	132.6 (6.6)	134.6 (4.6)	132.3 (7.6)	128.8 (2.9)	124.2 (5.1)	132.5 (6.6)	p < 0.001, $\eta_p^2 = 0.157$	
	frontal association c.	109.4 (7.1)	108.5 (7.2)	109.1 (4.3)	104.5 (7.6)	111.2 (7.0)	100.6 (5.3)	110.7 (8.0)	108.3 (7.0)	113.7 (6.8)	113.4 (4.9)	111.5 (7.4)	101.7 (17.2)	112.2 (11.2)	p = 0.069, $\eta_p^2 = 0.078$	
	motor c.	117.1 (3.2)	120.9 (2.8)	124.2 (4.2)	121.3 (3.9)	126.2 (3.2)	121.0 (3.7)	128.7 (4.6)	123.0 (4.3)	124.1 (4.5)	122.9 (3.4)	127.3 (5.6)	110.2 (14.8)	122.9 (4.2)	p < 0.001, $\eta_p^2 = 0.158$	
	striatum	121.2 (4.3)	128.4 (4.1)	134.3 (5.6)	129.0 (3.3)	133.2 (4.6)	132.6 (7.7)	138.7 (4.6)	127.8 (4.9)	126.5 (3.9)	125.1 (5.0)	134.4 (6.0)	123.0 (4.0)	131.2 (5.2)	p < 0.001, $\eta_p^2 = 0.171$	
LIMBIC NETWORKS	accumbens	116.5 (6.8)	117.6 (3.6)	124.4 (5.3)	114.1 (6.5)	122.6 (7.8)	119.4 (9.6)	121.3 (5.1)	114.1 (6.5)	122.6 (7.8)	119.4 (9.6)	121.3 (5.1)	114.0 (6.5)	114.6 (4.5)	p = 0.001, $\eta_p^2 = 0.215$	
	amygdala	97.8 (2.4)	97.8 (3.4)	100.2 (4.4)	98.9 (2.3)	100.8 (4.7)	100.4 (4.0)	100.6 (6.3)	96.5 (3.5)	98.3 (4.0)	98.1 (2.6)	99.4 (4.1)	97.1 (4.5)	102.4 (1.6)	p = 0.139, $\eta_p^2 = 0.029$	
	entorhinal c.	103.9 (2.7)	107.6 (3.7)	108.0 (2.9)	107.4 (5.2)	108.3 (3.9)	110.5 (3.5)	108.5 (3.9)	107.8 (3.7)	105.5 (3.6)	107.5 (4.3)	108.4 (5.6)	104.6 (3.5)	108.6 (6.3)	p = 0.044, $\eta_p^2 = 0.089$	
	ad. hippocampus	104.5 (3.3)	109.2 (2.4)	107.0 (3.8)	109.0 (2.7)	108.6 (3.2)	106.4 (2.7)	106.3 (4.0)	107.2 (4.5)	106.6 (3.9)	110.3 (2.5)	105.2 (4.0)	108.9 (2.8)	108.6 (3.7)	p = 0.059, $\eta_p^2 = 0.067$	
	p. hippocampus	99.7 (8.1)	99.7 (3.8)	95.7 (4.8)	98.4 (6.4)	99.4 (5.4)	95.4 (5.7)	90.0 (5.5)	97.4 (5.4)	96.6 (4.8)	101.5 (2.7)	94.6 (6.1)	99.3 (5.4)	99.3 (7.1)	p = 0.008, $\eta_p^2 = 0.117$	
	cingulate	125.8 (4.4)	131.4 (8.2)	136.3 (6.6)	135.1 (4.8)	138.0 (3.2)	132.7 (5.5)	140.6 (5.8)	136.4 (5.1)	135.7 (4.4)	133.9 (8.4)	139.3 (7.9)	124.3 (8.4)	134.8 (4.9)	p < 0.001, $\eta_p^2 = 0.137$	
	retrosplenial c.	109.1 (6.6)	109.5 (4.6)	108.8 (3.8)	111.0 (4.8)	112.4 (3.4)	112.4 (5.8)	111.8 (6.6)	110.7 (9.2)	112.3 (4.9)	114.0 (4.5)	112.6 (4.4)	109.6 (5.9)	115.1 (5.4)	p = 0.343, $\eta_p^2 = 0.038$	
BRAINSTEM-CEREBELLAR NETWORKS	cerebellar g.m.	94.8 (1.9)	93.6 (5.3)	92.7 (4.6)	90.3 (2.0)	89.8 (5.2)	91.3 (5.3)	90.0 (4.0)	92.0 (5.5)	91.8 (5.0)	95.8 (2.7)	89.8 (7.4)	99.7 (5.9)	93.1 (5.9)	p = 0.011, $\eta_p^2 = 0.111$	
	cerebellar w.m.	107.5 (4.9)	110.2 (6.0)	106.9 (6.2)	103.6 (3.6)	103.0 (6.3)	106.3 (7.9)	104.8 (3.2)	105.7 (6.3)	105.0 (5.5)	107.8 (3.7)	102.7 (7.8)	111.8 (4.9)	106.0 (6.9)	p = 0.053, $\eta_p^2 = 0.083$	
	v. tegmental area	106.3 (5.7)	108.3 (4.5)	107.4 (7.5)	113.4 (6.3)	108.1 (6.1)	105.5 (4.4)	106.1 (7.6)	109.3 (4.0)	108.8 (4.1)	107.5 (3.0)	105.8 (7.7)	110.1 (3.6)	111.1 (7.1)	p = 0.259, $\eta_p^2 = 0.100$	
	colliculus superior	119.3 (5.7)	112.8 (4.8)	112.2 (5.3)	114.7 (2.1)	110.7 (5.8)	110.4 (6.1)	110.5 (3.7)	111.7 (6.5)	115.2 (2.3)	113.3 (2.6)	109.6 (6.6)	114.4 (5.9)	114.3 (5.0)	p = 0.005, $\eta_p^2 = 0.168$	
	colliculus inferior	127.8 (6.6)	108.5 (4.5)	104.5 (4.3)	108.7 (2.4)	105.3 (6.8)	104.5 (4.6)	103.7 (4.4)	105.8 (6.5)	106.5 (4.5)	106.7 (2.7)	102.4 (5.9)	109.7 (5.2)	110.2 (4.0)	p < 0.001, $\eta_p^2 = 0.134$	
	pons	99.3 (4.1)	95.2 (4.6)	88.6 (4.9)	95.4 (5.0)	91.1 (6.0)	92.5 (5.9)	92.4 (4.4)	96.9 (6.1)	91.8 (3.7)	92.9 (3.1)	87.1 (4.5)	93.5 (6.2)	91.0 (4.6)	p = 0.002, $\eta_p^2 = 0.145$	
	vestibular nucleus	116.7 (4.4)	105.1 (6.2)	98.6 (6.2)	105.0 (5.8)	101.5 (7.6)	100.9 (10.9)	100.4 (5.8)	105.3 (5.2)	103.0 (4.5)	102.4 (4.1)	96.4 (6.3)	105.7 (8.8)	99.5 (5.4)	p < 0.001, $\eta_p^2 = 0.152$	
															p = 0.009, $\eta_p^2 = 0.246$	

**Suppl. Table S1.** Descriptive statistics (mean  $\pm$  SD) and statistical comparisons of changes in mean normalized levels of brain activity in 26 selected brain regions measured by [ $^{18}\text{F}$ ]-FDG-PET.