

1 **ONLINE SUPPLEMENT**
2 **SUPPLEMENTAL MATERIAL**
3 **A Cross-over Randomized Trial of the Effect of Cervical Manipulation on Vertebral**
4 **Artery and Cerebral Hemodynamics in Neck Pain Patients**

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1 **Supplemental Table**

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3 **Table I.** Analysis of resting state fMRI indicating coordinates from areas of significantly
 4 increased functional connectivity, post-procedures.

Number of Voxels	CM_X	CM_Y	CM_Z	PV_X	PV_Y	PV_Z	Side	Location	P Values
54	-56.2	-32.2	+7.2	-47.2	-46.5	+17.0	L	TG	0.0027
53	-5.1	-59.4	-28.0	-5.2	-60.5	-32.0	L, R	Uvula	0.0003
52	+23.8	+10.8	+30.4	+26.2	+2.5	+34.5	R	FG	0.000035
48	-6.2	-38.6	-38.1	-5.2	-36.0	-39.0	L, R	CT	0.0014
47	-45.3	-57.7	-14.4	-43.8	-64.0	-28.5	L	FfG, MTG	0.0001
43	+33.4	-46.2	+25.6	+36.8	-39.5	+27.5	R	MTG	0.00235
37	+31.6	-75.2	+6.2	+36.8	-67.5	+3.0	R	MOG	0.0047
32	-17.2	-19.3	+51.0	-12.2	-22.0	+48.5	L	PG, MCG	0.00165
31	+22.0	-56.1	-35.4	+22.8	-57.0	-39.0	R	CT	0.00047
31	-28.0	-39.2	+30.7	-29.8	-36.0	+31.0	L	IPL	0.0017
25	+55.8	-12.7	-3.2	+57.8	-8.0	-4.0	R	STG	0.0031
24	+1.4	-91.3	+8.9	+5.2	-95.5	+3.0	L, R	Cuneus	0.0003
24	-8.5	-76.1	+44.3	-5.2	-78.0	+48.5	L	Precuneus	0.0127
20	-10.7	+59.2	+2.4	-12.2	+65.5	-0.5	L	MSFG	0.00345
20	-21.0	-77.0	+7.5	-22.8	-74.5	+6.5	L	Cuneus, MOG	0.00205

5 *CM: centre of mass. PV: peak velocity. X, Y, Z: coordinates in the Colin N_27 atlas. L,*
 6 *R: left and right. TG: temporal gyrus. FG: frontal gyrus. CT: cerebellar tonsil. FfG:*
 7 *fusiform gyrus. MTG: middle temporal gyrus. MOG: middle occipital gyrus. PG:*
 8 *precentral gyrus. MCG: middle cingulate gyrus. IPL: inferior parietal lobe. STG:*
 9 *superior temporal gyrus. MSFG: middle, superior frontal gyrus.*

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1 Supplemental Figures
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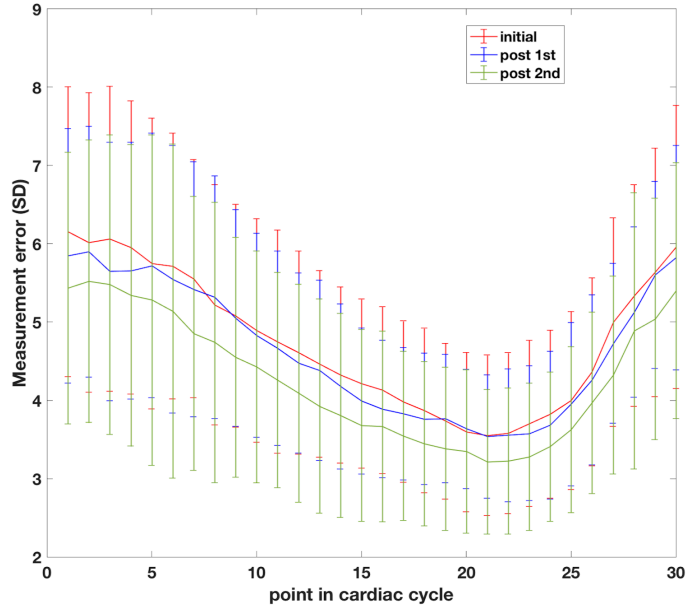


Figure I. Left vertebral artery mean blood flow variability in the cardiac cycle between neutral (initial), cervical manipulation (post 1st) and maximum rotation (post 2nd). Bars represent the standard deviation of the mean errors at each point.

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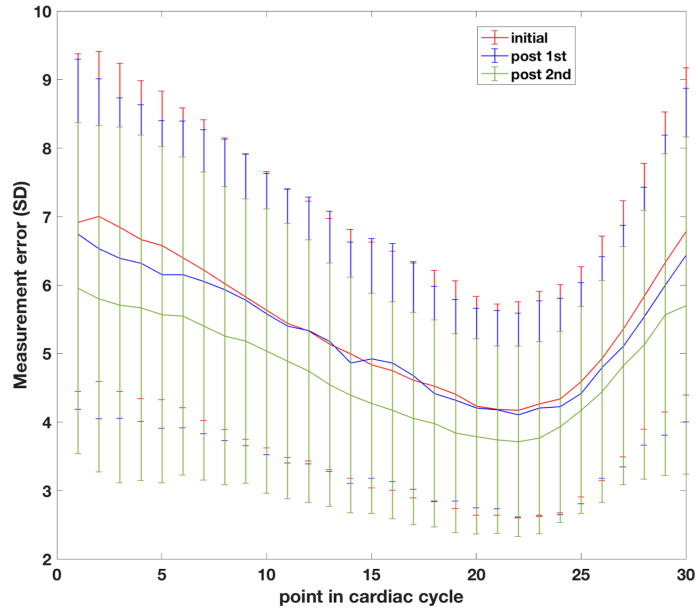


Figure II. Right vertebral artery mean blood flow variability in the cardiac cycle between neutral (*initial*), cervical manipulation (*post 1st*) and maximum rotation (*post 2nd*). Bars represent the standard deviation of the mean errors at each point.