Supplemental Table 1: This table lists values of angular velocity (ω) squared, angular acceleration (α), brain volume, maximum principal strain (MPS), and fiber strain (E_f) in the corpus callosum (CC) and brainstem (BS) for each subject. Brain volume was computed by summing the volume of each brain tissue element in the finite element mesh used in the harmonic phase finite element (HARP-FE) method.

Subject	ω^2 (rad^2/s^2)	α (rad/s^2)	Brain Volume (cm^3)	MPS Brain	E_f CC	E_f BS
NR1	11.56	247.1	1382.3	0.035	0.018	0.010
NR2	12.46	235.2	1489.2	0.039	0.015	0.015
NR3	11.70	218.5	1429.6	0.038	0.019	0.011
NR4	9.73	209.6	1292.8	0.038	0.018	0.015
NR5	6.50	179.2	1193.3	0.035	0.019	0.019
NR6	13.76	237.5	1468.2	0.042	0.020	0.015
NR7	13.91	240.5	1403.7	0.053	0.024	0.017
NR8	13.32	230.6	1342.6	0.043	0.023	0.010
NR9	6.35	156.4	1118.8	0.026	0.010	0.007
NR10	5.86	173.4	1137.5	0.028	0.016	0.009
NE1	4.08	347.5	1463	0.029	0.014	0.029
NE2	3.24	322.0	1213.8	0.025	0.011	0.018
NE3	3.35	318.3	1298.9	0.023	0.011	0.013

NE4	3.42	293.4	1416.4	0.029	0.014	0.028
NE5	3.46	325.1	1320.6	0.021	0.010	0.015
NE6	3.13	283.9	1582.2	0.022	0.012	0.018
NE7	2.34	213.4	1482.2	0.021	0.012	0.008
NE8	2.37	220.9	1572.5	0.024	0.012	0.012
NE9	2.40	231.7	1411.8	0.019	0.009	0.008
NE10	2.92	272.0	1478.7	0.024	0.012	0.021