

**Supplemental Table 8.** Lesion Network Mapping Results, Voxelwise Liebermeister Test

	ROI Peak, Comparing Actual versus Randomized Network Overlap (z value, p)	Average Voxel Intensity in ROI (z)	Average Voxel Intensity Outside of ROI (z) (P value – Comparison to ROI Average)
Peduncular Hallucinosis	8.71*, P < 10 <sup>-5</sup>	4.50	0.74 +/- 1.3, P = 0.006
Auditory Hallucinosis	4.36*, P < 10 <sup>-4</sup>	1.95	0.24 +/- 0.62, P = 0.008
Central Post-Stroke Pain	7.52*, P < 10 <sup>-5</sup>	3.55	0.17 +/- 1.21, P = 0.0074
Subcortical Aphasia	5.66*, P < 10 <sup>-5</sup>	3.39	0.42 +/- 1.32, P = 0.029

Abbreviations. ROI Region of interest

\* Z values over 2.33 were significant at a false discovery rate threshold of 5% for each syndrome

**Supplemental Table 9.** Lesion Network Mapping Results, T-Test

	ROI Peak	ROI Average Voxel Intensity	Average Voxel Intensity Outside of ROI (P value – Comparison to ROI Average)	Average Voxel Intensity in ROI from Random Lesions (P value – Comparison to ROI Average)
Peduncular Hallucinosis	21/23 (95%)	16.89	9.58 +/- 1.70, P = 0.00024	2.69 +/- 3.33, P = 0.000046
Auditory Hallucinosis	14/15 (93%)	7.67	1.65 +/- 2.25, P = 0.008	4.20 +/- 1.41, P = 0.01
Central Post-Stroke Pain	17/23 (78%)	15.50	2.90 +/- 3.68, P = 0.0009	2.27 +/- 1.02, P = < 1x10 <sup>-9</sup>
Subcortical Aphasia	12/12 (100%)	6.82	2.66 +/- 3.21, P = 0.198	1.58 +/- 0.69, P < 1 x 10 <sup>-4</sup>

Abbreviations. ROI Region of interest

**Supplemental Table 10.** Lesion Network Mapping Results, Subtraction Analysis

	ROI Peak (%), Comparing Actual versus Randomized Network Overlap	ROI Average Voxel Intensity (%)	Average Voxel Intensity Outside of ROI (%) (P value – Comparison to ROI Average)
Peduncular Hallucinosis	59	31	4.45 +/- 9, P = 0.005
Auditory Hallucinosis	56	24	3.08 +/- 8.34, P = 0.015
Central Post-Stroke Pain	69	49	3.5 +/- 13.9, P = 0.002
Subcortical Aphasia	78	41	9.29 +/- 19.21, P = 0.108

Abbreviations. ROI Region of interest