

Supplementary Information for Basal ganglia as an fMRI motor neurofeedback target in Parkinson's disease

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The pilot analysis has not been included in the manuscript due to its small sample size. Nevertheless, to support our pilot findings, we have conducted the following analysis in the healthy cohort. To investigate the MRI data, we looked at the localizer runs for all twelve healthy participants. We used BrainVoyager (BV, version 22.2, Brain Innovation, Maastricht, the Netherlands). Intensity inhomogeneity correction for anatomical images was applied before transforming them into MNI space. Standard pre-processing steps including scan-slice time correction with cubic spline interpolation and intra-session motion correction relative to the first volume of the first functional run with trilinear detection and sinc interpolation were applied. Realigned functional images were subsequently registered to the corresponding anatomical image and spatially smoothed with a 7mm Gaussian full width at half maximum kernel. We looked at the T-contrast 'Motor Imagery' as compared to 'Rest' during the localizer runs. False discovery rate correction was used at $p < 0.05$ as multiple comparisons correction. We observed significant activations in the left putamen and thalamus. No significant clusters were detected in the STN, although a small number of voxels showed activation within the GPI.



Figure 1: Activation map in the healthy cohort during the localizer runs for the contrast Motor Imagery > Rest (MNI Brain).