

Dynamic basal ganglia output signals license and suppress forelimb movements

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Supplementary Video 1. Annotation of movement time points in pellet reaching task

Multiple forelimb pellet reaching trials with overlaid task events as in Fig. 1b. The mouse extends the arm from inside the box to outside the slit to reach for the pellet. Grasping is temporally aligned to the onset of retraction and, after retraction stop, the mouse starts handling the food pellet. Color code used in video is aligned to the one displayed in Fig. 1b.

Supplementary Video 2. Movement variations observed in pellet reaching task

Multiple forelimb pellet reaching trials stratified as in Fig. 3a in short versus long duration reaches, complete reach and abbreviated reaches and reaches followed by handling or not. Note the difference in reach duration and reach start distance from slit in short versus long reaches, the absence of distal forelimb movements at retraction start in abbreviated reaches.

Supplementary Video 3. Optogenetic stimulation of SNr neurons delays lever pressing.

Videos show 5 control and 5 optogenetic activation trials from one mouse seen from the bottom view. Visual cue is visible at the bottom to signal the beginning of the response time. Note delay or absence of lever press execution upon laser exposure.