

Supplementary Table 1: Stimulation electrodes used to evoke the movements for the individual hand movements task. The electrode code refers to the upper (U) or lower (L) cuff, rows A, B, C, or D, and columns 1-20 (see also Extended Data Figure 5 for a schematic of the electrode layout).

Movement	Electrodes used	Total number of electrodes
Wrist Flexion	UC1, UC15, UC16, UC17, UC18, UD1, UD15, UD16, UD17, UD18	10
Wrist Extension	UA10, UA11, UB10, UB11, UC9, UC10, UD9, UD10	8
Hand Open	LC9, LC10, LD3, LD9, LD10, UA9, UA10, UA11, UD8	9
Thumb Flexion	LD13, UA13	4
Thumb Extension	LC9, LC10, LD9, LD10	4
Middle Flexion	LD16, UD16	2

Supplementary Table 2: Training parameters for GRASSP testing

Task	Number of repetitions	Movement time range (s)	Rest time range (s)
MMT Strength			
Wrist Extensors	6	3 to 4	2 to 3.5
Extensor Digitorum	6	3 to 4	2 to 3.5
Opponens Pollicis	6	3 to 4	2 to 3.5
Flexor Pollicis Longus	6	3 to 4	2 to 3.5
Finger Flexors	6	3 to 4	2 to 3.5
Finger Abductors	6	3 to 4	2 to 3.5
First Dorsal Interossei	6	3 to 4	2 to 3.5
Qualitative Prehension			
Cylindrical Grasp	6	3 to 4	2 to 3.5
Lateral Key Pinch	6	3 to 4	2 to 3.5
Tip-to-tip (thumb and index finger)	6	3 to 4	2 to 3.5
Quantitative Prehension			
1. Cylindrical Grasp	4	5 to 6	2.5 to 4
2. Spherical Grasp	4	2 to 3	3 to 4
3. Tip-to-tip (thumb and index finger) / Tripod pinch	4	5 to 6	2.4 to 4
4. Lateral Key pinch	6	3 to 4	2 to 3.5
5. Tip-to-tip (thumb and index finger)	6	3.5 to 4.5	5.5 to 6.5
6. Tip-to-tip (thumb and index finger) and/or Tripod pinch	6	3.5 to 4.5	5.5 to 6.5