

Supplement 2 Table – Range of Motion Results

S2 Table: Summary range of motion results for three participants with impaired hand function. Positive values correspond with joint flexion. Some values were not measured (NM), explanations are provided in the footnotes below. MCP hyper-extension was not assessed.

Joint		Par05 (SCI)				Par06 (BPI)				Par07 (Stroke)			
		Active		Passive		Active		Passive		Active		Passive	
		Ext	Flex	Ext	Flex	Ext	Flex	Ext	Flex	Ext	Flex	Ext	Flex
Wrist		NM ¹				-31°	46°			NM ¹			
Index Finger	MCP	NM ²	0°	65°	5°	80°	0°	88°	NM ⁴	NM ⁵			
	PIP	NM ²	16°	54°	36°	100°	0°	94°	NM ⁴	NM ⁵			
	DIP	NM ²	5°	49°	20°	80° ³	0°	80° ³	NM ⁴	NM ⁵			
Middle Finger	MCP	*	0°	45°	*	*	*	*	*	*			
	PIP	*	15°	*	*	*	*	*	*	*			
	DIP	*	18°	*	*	*	*	*	*	*			
Ring Finger	MCP	*	0°	34°	*	*	*	*	*	*			
	PIP	*	26°	*	*	*	*	*	*	*			
	DIP	*	15°	*	*	*	*	*	*	*			
Little Finger	MCP	*	0°	36°	*	34°	*	42°	*	*			
	PIP	*	36°	*	*	100°	*	105°	*	*			
	DIP	*	8°	*	*	80°	*	*	*	*			

* For the middle, ring and little finger, if movement limit was similar to the index finger, joint angles were not recorded in the interest of time

¹ Not recorded because participant did not have active wrist movement

² No active movement, resting joint angles were MCP ≈ 30°, PIP ≈ 25°, DIP ≈ 15°

³ DIP flexion angle was difficult to access with participant's finger fully flexed; however, participant could fully make a fist with all fingers except little finger – DIP range was assumed to be approximately 80° (normal range of motion for the DIP joint)

⁴ Very limited active movement, hand fully closed in fist when in resting position

⁵ Not recorded – Passive extension was difficult to measure, but experimenters could get hand mostly open if it was moved very slowly. Hand could be fully closed.