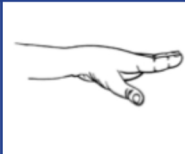








The Neurological Hand Deformity Classification (Wilton, 2013)

Type	F1. Wrist flexion ≤ 20°, thumb adduction	F2. Wrist flexion > 20°, active wrist & finger extension	F3. Wrist flexion > 20°, wrist extension powered by finger flexors and extensors	F4. Wrist flexion ≤ 20°, active finger flexion & extension, wrist extension absent	F5. Wrist flexion finger flexion, minimal active movement	E1. Wrist extension, finger movement powered by intrinsic muscle action	E2. Wrist extension, finger flexion, minimal active movement
							
Associated thumb deformity	Not always present CMC Adduction	CMC adduction MCP extension IP hyper extension	CMC adduction MCP & IP vary	CMC adduction MCP & IP vary	CMC adduction MCP & IP flexion	CMC adduction MCP flexion IP neutral	CMC adduction, MCP & IP flexion
Associated finger patterns	Hyper extension of PIP joints	Hyper extension of PIP joints	Hyper extension of PIP joints	Hyper extension of PIP joints	Flexion of IP joints	MCP flexion IP extension	Flexion, adduction at MCP joints, flexion of IPs associated with wrist extension posture
Primary location of spasticity	FCU AP	FDP & FDS AP, 1st DI	FCU, FCR, PL FDP & FDS AP	FCU, FCR, PL FDP & FDS AP	Combined spasticity extrinsic & intrinsic musculature of the fingers and thumb	ECRL & ECRB, ECU contributes to ulnar deviation, interossei, AP, FPB	Combined spasticity extrinsic & intrinsic musculature of the fingers and thumb
Muscles not effected by spasticity	Wrist extensors Extrinsic & intrinsic finger flexors & extensors	Wrist & thumb extensors Intrinsic finger musculature	Intrinsic finger musculature	Intrinsic finger musculature	Wrist musculature opposite to wrist position	FDP & FDS	Wrist flexor musculature opposite to wrist position
Contracture	Thumb web space	FDP & FDS end range extension Thumb web space	FCU, FCR limiting end range wrist extension combined with loss of end range FDS & FDP. Thumb web space.	FCU, FCR, PL, FDP, FDS limiting end range extension, Thumb web space	Severe deformity in wrist, fingers & thumb muscles with deficits in volar skin & soft tissue	Intinsic finger flexors, thumb, palmar skin & fascial shortening. Hand hygiene critical	Wrist extensors & dorsal wrist capsule. Palmar skin & fascial contracture potential severe deformity of wrist, fingers MCP joints & thumb.
Functional deficit	Nil Limited thumb abduction compromising thumb span to clear object for grasp	Palm orientation in grasp, wrist control during finger flexion Thumb disadvantaged effective opposition	Reach and grasp compromised by wrist extension powered by active finger extension or reversed tenodesis action	Approach & grasp compromised by wrist position	No Function	Opening fingers & thumb for grasp disadvantaged by wrist extension - finger flexion/extension possible if wrist in neutral & thumb abducted	No Function