

FMA-UE PROTOCOL
FUGL-MEYER ASSESSMENT
 UPPER EXTREMITY (FMA-UE)

ID:

Date:

Examiner:

Assessment of sensorimotor function

A. UPPER EXTREMITY, sitting position					
I. Reflex Activity		none	can be elicited		
Flexors: biceps and finger flexors (at least one) Extensors: triceps		0 0	2 2		
Subtotal (max 4)					
II. Volitional movement within synergies, without gravitational help		none	partial	full	
Flexor synergy: Hand from contralateral knee to ipsilateral ear. From extensor synergy (shoulder adduction/internal rotation, elbow extension, forearm pronation) to flexor synergy (shoulder abduction/external rotation, elbow flexion, forearm supination). Extensor synergy: Hand from ipsilateral ear to the contralateral knee.	Shoulder	retraction	0	1	2
		elevation	0	1	2
		abduction (90°)	0	1	2
		external rotation	0	1	2
	Elbow	flexion	0	1	2
	Forearm	supination	0	1	2
	Shoulder	additional/internal rotation	0	1	2
	Elbow	extension	0	1	2
	Forearm	pronation	0	1	2
Subtotal II (max 18)					
III. Volitional movement mixing synergies, without compensation		none	partial	full	
Hand to lumbar spine hand on lap	cannot perform or hand in front of ant-sup iliac spine hand behind ant-sup iliac spine (without compensation) hand to lumbar spine (without compensation)	0	1	2	
Shoulder flexion 0° - 90° elbow at 0° pronation-supination 0°	immediate abduction or elbow flexion abduction or elbow flexion during movement flexion 90°, no shoulder abduction or elbow flexion	0	1	2	
Pronation-supination 0° elbow at 90° shoulder at 0°	no pronation/supination, starting position impossible limited pronation/supination, maintains starting position full pronation/supination, maintains starting position	0	1	2	
Subtotal II (max 6)					
IV. Volitional movement little or no synergy		none	partial	full	
Shoulder abduction 0° - 90° elbow at 0° forearm pronated	immediate supination or elbow flexion supination or elbow flexion during movement abduction 90°, maintains extension and pronation	0	1	2	
Shoulder flexion 0° - 90° elbow at 0° pronation-supination 0°	immediate abduction or elbow flexion abduction or elbow flexion during movement flexion 180°, no shoulder abduction or elbow flexion	0	1	2	
Pronation/supination elbow at 90° shoulder at 30° - 90° flexion	no pronation/supination, starting position impossible limited pronation/supination, maintains starting position full pronation/supination, maintains starting position	0	1	2	
Subtotal IV (max 6)					
V. Normal reflex activity assessed only if full score of 6 points is achieved in part IV; compare with the unaffected side		0 (IV), hyper	lively	normal	
biceps, triceps, finger flexors	2 of 3 reflexes markedly hyperactive or 0 points in part IV 1 reflex markedly hyperactive or at least 2 reflexes lively maximum of 1 reflex lively, none hyperactive	0	1	2	
Subtotal V (max 2)					
Total A (max 36)					
B. WRIST support may be provided at the elbow to take or hold the starting position, no support at wrist, check the passive range of motion prior testing		none	partial	full	
Stability at 15° dorsiflexion elbow at 90° forearm pronated shoulder at 0°	less than 15° active dorsiflexion dorsiflexion 15°, no resistance tolerated maintains dorsiflexion against resistance	0	1	2	
Repeated dorsiflexion/volar flexion elbow at 90° forearm pronated shoulder at 0° slight finger flexion	cannot perform volitionally limited active range of motion full active range of motion, smoothly	0	1	2	
Stability at 15° dorsiflexion elbow at 0° forearm pronated slight shoulder flexion/abduction	less than 15° active dorsiflexion dorsiflexion 15°, no resistance tolerated maintains dorsiflexion against resistance	0	1	2	
Repeated dorsiflexion/volar flexion elbow at 0° forearm pronated slight shoulder flexion/abduction	cannot perform volitionally limited active range of motion full active range of motion, smoothly	0	1	2	
Circumduction elbow at 90° forearm pronated shoulder at 0°	cannot perform volitionally jerky movement or incomplete complete and smooth circumduction	0	1	2	
Total B (max 10)					

C. HAND , support may be provided at the elbow to keep 90° flexion, no support at the wrist, compare with unaffected hand, the objects are interposed, active grasp		none	partial	full					
Mass flexion from full active or passive extension		0	1	2					
Mass extension from full active or passive flexion		0	1	2					
Grasp									
A. Hook grasp flexion in PIP and Dip (digits -V). extension in MCP -V	cannot be performed can hold position but weak maintains position against resistance	0	1	2					
B. Thumb adduction 1st CMC, MCP, IP at 0°, scrap of paper between thumb and 2nd MCP joint	cannot be performed can hold paper but not against tug can hold paper against a tug	0	1	2					
C. Pincer grasp, opposition pulpa of the thumb against the pulpa of 2nd finger, pencil, tug upward	cannot be performed can hold pencil but not against tug can hold pencil against a tug	0	1	2					
D. Cylinder grasp cylinder shaped object (small can) tug upward, opposition of thumb and fingers	cannot be performed can hold cylinder but not against tug can hold cylinder against a tug	0	1	2					
E. Spherical grasp fingers in abduction/flexion, thumb opposed, tennis ball, tug away	cannot be performed can hold ball but not against tug can hold ball against a tug	0	1	2					
Total C (max 14)									
D. CO-ORDINATION/SPEED sitting, after one trial with both arms, eyes closed, tip of the index finger from knee to nose, 5 times as fast as possible		none	partial	full					
Tremor		0	1	2					
Dysmetria	pronounced or unsystematic slight and systematic no dysmetria	0	1	2					
		≥ 6s	2-5s	< 2s					
Time start and end with the hand on the knee	at least 6 seconds slower than unaffected side 2-5 seconds slower than unaffected side less than 2 seconds difference	0	1	2					
Total D (max 6)									
Total A-D (max 66)									
H. SENSATION, upper extremity eyes closed, compared with the unaffected side		anesthesia	hypoesthesia or dysesthesia	normal					
Light touch	upper arm, forearm palmary surface of the hand	0 0	1 1	2 2					
		less than 3/4 correct or absence	3/4 correct or considerable diff.	correct 100%, little or no diff.					
		≥ 6s	2-5s	< 2s					
Position small alterations in the position	shoulder elbow wrist thumb (IP joint)	0 0 0 0	1 1 1 1	2 2 2 2					
Total H (max 12)									
I. PASSIVE JOINT MOTION, upper extremity sitting position, compare with the unaffected side				J. JOINT PAIN, upper extremity during passive motion, upper extremity					
	only a few degrees (less than 10° in shoulder)	decreased	normal	pronounced pain during movement or very marked pain at the end of movement	some pain	no pain			
Shoulder									
Flexion (0°-180°)	0	1	2	0	1	2			
Abduction(0°-90°)	0	1	2	0	1	2			
External rotation	0	1	2	0	1	2			
Internal rotation	0	1	2	0	1	2			
Elbow									
Flexion	0	1	2	0	1	2			
Extention	0	1	2	0	1	2			
Forearm									
Pronation	0	1	2	0	1	2			
Supination	0	1	2	0	1	2			
Wrist									
Flexion	0	1	2	0	1	2			
Extention	0	1	2	0	1	2			
Fingers									
Flexion	0	1	2	0	1	2			
Extention	0	1	2	0	1	2			
Total (max 24)			Total (max 24)						
A. Upper extremity	/36	B. Wrist	/10	C. Hand	/14	D. Coordination/speed	/6	Total A-D (motor function)	/66
H. Sensation	/12	J. Passive joint motion		/24	J. Joint pain		/24		