## FUGL-MEYER ASSESSMENT UPPER EXTREMITY (FMA-UE) Assessment of sensorimotor function

ID: Date:

## Examiner:

Fugl-Meyer AR, Jaasko L, Leyman I, Olsson S, Steglind S: The post-stroke hemiplegic patient. A method for evaluation of physical performance. Scand J Rehabil Med 1975, 7:13-31.

	Y, sitting pos					
I. Reflex activity					can be e	elicited
Flexors: biceps and finger flexors (at least one) Extensors: triceps			0 0	2 2		
			Subtotal I (max 4	+)		
II. Volitional moveme		synergies,	without gravitational help	none	partial	full
Flexor synergy: Hand from		Shoulder	retraction	0	1	2
contralateral knee to ipsilate			elevation	0	1	2
From extensor synergy (she			abduction (90°)	0	1	2
adduction/ internal rotation, extension, forearm pronatic			external rotation	0	1	2
synergy (shoulder abductio		Elbow	flexion	0	1	2
rotation, elbow flexion, fore		Forearm	supination	0	1	2
supination).	ann	Shoulder	adduction/internal rotation	0	1	2
Extensor synergy: Hand f	rom	Elbow	extension	0	1	2
ipsilateral ear to the contral	ateral knee	Forearm	pronation	0	1	2
		115	Subtotal II (max 18	3)	•	
III. Volitional moveme	ent mixina	svnergies	s. without compensation	none	partial	full
Hand to lumbar spine			in front of ant-sup iliac spine	0	•	
hand on lap		hand behind ant-sup iliac spine (without compensation)				
·			ithout compensation)	,		2
Shoulder flexion 0°- 90°			elbow flexion	0		
elbow at 0°		abduction or elbow flexion during movement				
pronation-supination 0°	flexion 90°,	no shoulder			2	
Pronation-supination		n/supination,	0			
elbow at 90°		ation/supina	ТО			
shoulder at 0°	full pronatio	n/supination	, maintains starting position		· · -	2
			Subtotal III (max 6			
IV. Volitional moveme	ent with lit	tle or no s	synergy	none	partial	full
Shoulder abduction 0 - 90	)° immedia	ate supinatior	or elbow flexion	0		
elbow at 0°	supinatio	on or elbow f	lexion during movement		1	
forearm pronated			ains extension and pronation			2
Shoulder flexion 90° - 180			or elbow flexion	0		
elbow at 0°			exion during movement		1	
pronation-supination 0°			Ilder abduction or elbow flexion			2
Pronation/supination			on, starting position impossibl			
elbow at 0°		pronation/supination, maintains start position			1	
shoulder at 30°- 90° flexion	shoulder at 30°- 90° flexion full pronation/supination, maintains starting position					2
			Subtotal IV (max e	6)		
part IV; compare with the u	naffected sid	е	core of 6 points is achieved in	0 (IV), hyper	lively	norma
	2 of 3 reflexes markedly hyperactive or 0 points in part IV					
finder flevors					1	_
maximum of Treflex livery, none hyperactive						2
			Subtotal V (max 2	2)		
				,		

<b>B. WRIST</b> support may be provided at position, no support at wrist, check the particular support at wrist.	none	partial	full	
Stability at 15° dorsiflexion	less than 15° active dorsiflexion	0		
elbow at 90°, forearm pronated	dorsiflexion 15°, no resistance tolerated	-	1	
shoulder at 0°	maintains dorsiflexion against resistance			2
Repeated dorsifexion / volar flexion	cannot perform volitionally	0		
elbow at 90°, forearm pronated	limited active range of motion		1	
shoulder at 0°, slight finger flexion	full active range of motion, smoothly			2
Stability at 15° dorsiflexion	less than 15° active dorsiflexion	0		
elbow at 0°, forearm pronated	dorsiflexion 15°, no resistance tolerated		1	
slight shoulder flexion/abduction	maintains dorsiflexion against resistance			2
Repeated dorsifexion / volar flexion	cannot perform volitionally	0		
elbow at 0°, forearm pronated	limited active range of motion		1	
slight shoulder flexion/abduction	full active range of motion, smoothly			2
Circumduction	cannot perform volitionally	0		
elbow at 90°, forearm pronated	jerky movement or incomplete		1	
shoulder at 0°	complete and smooth circumduction			2
	Total B (max 10)			

<b>C. HAND</b> support may be provided at the wrist, compare with unaffected hand, the wrist has been been been been been been been bee	none	partial	full	
Mass flexion		0	4	0
from full active or passive extension		0	1	2
Mass extension	G GOT H	0	4	2
from full active or passive flexion		0	1	2
GRASP				
a. Hook grasp	cannot be performed	0		
flexion in PIP and DIP (digits II-V),	can hold position but weak		1	
extension in MCP II-V	maintains position against resistance			2
b. Thumb adduction	cannot be performed	0		
1-st CMC, MCP, IP at 0°, scrap of paper	can hold paper but not against tug		1	
between thumb and 2-nd MCP joint	can hold paper against a tug			2
c. Pincer grasp, opposition	cannot be performed	0		
pulpa of the thumb against the pulpa of	can hold pencil but not against tug		1	
2-nd finger, pencil, tug upward	can hold pencil against a tug	CT		2
d. Cylinder grasp	cannot be performed	0		
cylinder shaped object (small can)	can hold cylinder but not against tug		1	
tug upward, opposition of thumb and	can hold cylinder against a tug			2
fingers				
e. Spherical grasp	cannot be performed	0		
fingers in abduction/flexion, thumb	can hold ball but not against tug		1	
opposed, tennis ball, tug away	can hold ball against a tug			2
	Total C (max 14)			

<b>D. COORDINATION</b> closed, tip of the index fin	marked	slight	none	
Tremor	at least 1 completed movement	0	1	2
Dysmetria	pronounced or unsystematic	0		
at least 1 completed	slight and systematic		1	
movement	no dysmetria			2
		≥6s	2 - 5s	< 2s
Time	at least 6 seconds slower than unaffected side	0		
start and end with the	2-5 seconds slower than unaffected side		1	
hand on the knee	less than 2 seconds difference			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	cons	orrect or iderable erence	correct 100%, little or no difference
<b>Position</b> small alterations in the position	shoulder elbow wrist thumb (IP-joint)	0 0 0 0		1 1 1	2 2 2 2
			Tota	al H (max12)	

J. PASSIVE JOINT MOTION, upper extremity, sitting position, compare with the unaffected side			<b>J. JOINT PAIN</b> during passive motion, upper extremity			
	only few degrees (less than 10° in shoulder)	decreased	normal	pronounced pain during movement or very marked pain at the end of the movement	some pain	no pain
Shoulder						
Flexion (0° - 180°)	0	1	2	0	1	2
Abduction (0°-90°)	0	15	2	0	1	2
External rotation	0	<u> </u>	2	0	1	2
Internal rotation	0	6108	2	0	1	2
Elbow						
Flexion	0	[1]	2	0	1	2
Extension	0	1	2	0	1	2
Forearm						
Pronation	0	1 18	2	0	1	2
Supination	0	1	2	0	1	2
Wrist						
Flexion	0	- 1 -	2	0		2
Extension		1	2		1	2
Fingers	DON		VIN	TATIVIT		
Flexion	0	1	2	0	1	2
Extension	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
H. SENSATION	/12
J. PASSIVE JOINT MOTION	/24

J. JOINT PAIN

/24