

## Key for Neuro Assessment

### Standard Scales

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Manual Muscle Testing (MMT)		Functional Range of Motion (ROM) <span style="float: right;">x (100)</span>	
Grade	Description	Grade	Description
5	Normal Functional Strength - Against Gravity - Full Resistance.	5/ WNL	100% Active Functional Motion ( Within Normal Limits)
4	Good Strength - Against Gravity With Some Resistance.	4	75% Active Functional Motion
3	Fair Strength - Against Gravity - No Resistance – Safety Compromise.	3	50% Active Functional Motion
2	Poor Strength - Unable To Move Against Gravity.	2	25% Active Functional Motion.
1	Trace Strength - Slight Muscle Contraction - No Motion.	1	Less Than 25%.
0	Zero - No Active Muscle Contraction		
Functional Independence Measure ( FIM )			
Grade	Description	Grade	Description
1	Total assistance - (patient performs less than 25%)	5	Supervision/ Bed side-( needs assistance on request , activities performed bed side )
2	Maximum Assistance – (25% - 50%)	6	Modified independence- ( uses aids/ takes time to complete task)
3	Moderate Assistance – (50%-75%)	7	Complete independence – (timely/ safely)
4	Minimum contact Assistance- (75% -100%) Patient requires contact assistance		
Balance Grades			
Grade	Description	Grade	Description
0/ZERO	Patient requires maximum assistance to maintain balance	3/good	Patient maintains balance without support, accepts moderate challenge, shifts weight although limitations are evident
1/ poor	Patient requires support to maintain balance	4/ normal	Patient maintains balance without support, accepts maximal challenge and can shift weight in all directions
2/ fair	Patient maintains balance without support, cannot tolerate challenge		
Dysphagia Grading (GUSS)		Tightness/ Contracture/ Deformity	
Grade	Description	Grade	Description
D0 GUSS (20)	Normal swallow (all textures ) successful	Tightness	Mild/ Moderate / Severe
D1 GUSS (15-19)	Mild Dysphagia (low risk of aspiration/ mild stasis) (solid unsuccessful)	Contracture	Stretchable/ Non Stretchable
D2 GUSS (10-14)	Moderate Dysphagia (Moderate risk of aspiration/ moderate stasis/ moderate leakage of food), (liquids unsuccessful)	Deformity	Congenital/ Acquired (Postural/ Structural)

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Sensation Scale ( Superficial/ Deep/ Combined)		• Drooling	
Grade	Description	Grade	Description
1	Intact: normal, accurate response	0	normal
2	Decreased: delayed response	1	Mild
3	Exaggerated: increased sensitivity or awareness of the stimulus after it has ceased	2	Moderate
4	Inaccurate: inappropriate perception of a given stimulus	3	Severe
5	Absent: no response	4	Profound
6	Inconsistent or ambiguous: response inadequate to assess sensory function accurately		
P	Proximal	D	Distal
Coordination Scale		Hand Functions Scoring <span style="float: right; border: 1px solid black; border-radius: 50%; padding: 2px;">Not std.</span>	
Grade	Description	Grade	Description
5	Normal Performance	0	Task impossible
4	Mild Impairment: Able to accomplish; slightly less than normal speed; requires superior/ minimal contact guarding	1	Functionally inadequate
3	Moderate Impairment: Able to accomplish activity; movements are slow, awkward and unsteady; requires moderate contact guarding	2	Possible with abnormal difficulty (synergy)
2	Severe Impairment: Able only to initiate activity without completion; requires maximal contact guarding	3	Functionally adequate
1	Activity Impossible	4	Average normal function
Brunnstorms Stages			
Stage	Recovery of the Hand- Arm	Stage	Recovery of the Arm- Hand.
1	Flaccidity- No Voluntary movement	1	Flaccidity- No Voluntary movement
2	Synergy developing- flexion usually before extension, spasticity developing	2	Little or no active finger flexion
3	Synergies preformed more voluntarily- marked increase in spasticity	3	Mass grasp or hook grasp, no voluntary finger extension or release

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4	Some movements deviating from synergy-  (hand behind body; arm to forward horizontal positions; pronation and supination with elbow flexed to 90°; spasticity decreasing)	4	Lateral prehension with release by thumb movement, semi voluntary finger extension (small ROM)
5	Independence from basic synergy-  (Arm to the side horizontal position; arm forward and overhead; pronation and supination with elbow fully extended, spasticity waning)	5	Palmer prehension, possibly cylindrical or spherical grasp (awkward)
6	Isolated joint movements freely preformed with near normal coordination, spasticity minimal	6	All types of prehension (improved skill) voluntary finger extension (full ROM) Individual finger movements
<b>Cognitive/ Perceptual Score ( non-standard)</b>		<b>Dermatomes Grading (ASIA)</b>	
<b>Grade</b>	<b>Description</b>	<b>Grade</b>	<b>Description</b>
1	Intact	0	Absent
Min I/m	Minimal Impairment	1	Impaired
Mod. I/m	Moderate Impairment	2	Normal
Sev. I/m	Severe Impairment	NT	Not testable
<b>Voluntary Control (substitute for muscle power)</b>		<b>Rancho Los Amigos ( RLA)</b>	
<b>Grade</b>	<b>Description</b>	<b>Grade</b>	<b>Description</b>
Poor	Flexor or extensor synergy, gravity elimination/ no movement	I	No Response: Total Assistance
Poor +	¼ ROM without synergy, remaining synergy/ no movement, gravity eliminating	II	Generalized Response: Total Assistance
Poor ++	½ ROM " "	III	Localized Response: Total Assistance
Poor +++	¾ ROM " "	IV	Confused/ Agitated: Maximal Assistance
Fair	Full ROM " " (MMT=2/5)	V	Confused, Inappropriate-Non-Agitated: Maximal Assistance
Fair +	¼ ROM without synergy, remaining synergy/ no movement, against gravity	VI	Confused, Appropriate: Moderate Assistance

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Fair ++	½ ROM "	"	VII	Automatic, Appropriate: Minimal Assistance for Daily Living Skills	
Fair +++	¾ ROM "	"	VIII	Purposeful, Appropriate: Stand-By Assistance	
Good	Full ROM "	" (MMT=3/5)	IX	Purposeful, Appropriate: Stand-By Assistance on Request	
*Good +	Full ROM, takes moderate / min resistance		X	Purposeful, Appropriate: Modified Independent	
<b>Glasgow coma scale ( GCS)</b>			<b>Pressure Sores / Wounds</b>		
score	Adult/ Children (Infants)	component	stage 1	redness	
4	Opens eyes spontaneously	Eye Opening	stage 2	blisters	
3	Opens eyes to verbal stimuli		stage 3	wound	
2	Opens eyes in response to painful stimuli		stage 4	deep wound	
1	No response		DTR- deep tendon reflex		
5	Oriented, appropriate (coos and babbles)	Verbal Response	0	Non elicitable	
4	Confused, answer questions (irritable cries, consolable)		1+	Diminished/ hypo reflexia	
3	Inappropriate words (cries in response to pain)		2+	Elicitable / normal	
2	Incomprehensible words or nonspecific sounds (moans in response to pain)		3+	Brisk	
1	No response		4+	Exaggerated	
6	Obeys command (moves spontaneously and purposefully)	Motor Response	5+	Clonus ( ankle/ patella )	
5	Localize painful stimulus (withdraws to touch)		<b>Vital signs/Adults</b>		
4	Withdraws in response to pain		70-90 \ 140-160 - (80\120)	BP	
3	Abnormal flexion to painful stimuli (decorticate response)		35.9-36.3c / 96.5- 97.5 F	Temp	
2	Extension to painful stimuli (De- cerebrate response)		60-90 - (72)	Pulse Rate	
1	No response		15-22 - (20)	Respiratory Rate	

FUNCTIONAL SKILLS				
	STATIC		DYNAMIC	
1	supine		✓ rolling	
2	prone			
3	side line	right		
		left		
4	crook line		✓ bridging	
5	quadripod/4 point		crawling	
6	kneeling/2 point		kneel walking	
7	half kneel			
Transfer	Come up to sit	right		
		left		
8	W sitting		bunny hopping	
9	cross leg sitting		bottom shuffling	
10	high sitting	supported	pushups (P) and stoop(S) - LLS - HLS	✓ P- static
		unsupported		✓ P- dynamic
11	long leg sitting	supported		S-ankle level
		unsupported		S-knee level
Transfer	come to stand	direct transfer	bed	walker
		pivot transfer	chair/ toilet stool / tub / car	quadripod
		w/c transfer	low stool	bus / tripod
			floor	stick
12	standing		walking	safety, Aid?
			tandem walking	
			jumping	
13	one leg stance		stair climbing	
			hopping/ skipping	
			running	
14	squatting			
15	half squatting			

BALANCE GRADES

4 / NORMAL

patient is able to maintain balance without support  
Accepts maximal challenge and can shift weight in all directions

3 / GOOD

patient is able to maintain balance without support  
Accepts moderate challenge and can shift weight although limitations are evident

2 / FAIR

patient is able to maintain balance without support  
Cannot tolerate challenge, cannot maintain balance while shifting weight

1 / POOR

patient requires support to maintain balance

0 / ZERO

patient requires maximum assistance to maintain balance

Transfers -  
w/ie propulsion  
wheely

**Table 8-7 FUNCTIONAL BALANCE GRADES**

Normal	Patient is able to maintain steady balance without support (static). Accepts maximal challenge and can shift weight in all directions (dynamic).
Good	Patient is able to maintain balance without support (static). Accepts moderate challenge; able to maintain balance while picking object off floor (dynamic).
Fair	Patient is able to maintain balance with handhold (static). Accepts minimal challenge; able to maintain balance while turning head/trunk (dynamic).
Poor	Patient requires handhold and assistance (static). Unable to accept challenge or move without loss of balance (dynamic).

Absent/zero. (Not able to balance even with handhold (static).)

Performance-Oriented Mobility Assessment, and the Get Up and Go Test.

→ The Functional Reach Test (FR) developed by Duncan et al.<sup>114</sup> is a test of dynamic standing balance. Functional reach is defined as the maximal distance one can reach forward beyond arm's length while maintaining a fixed BOS in the standing position. It uses a leveled yardstick mounted on the wall and positioned at the patient's shoulder height (acromion). The patient stands next to the wall (without touching) with the shoulder flexed to 90° and elbow extended. The hand is fist. An initial measurement is made of the position of the 3rd metacarpal along the yardstick. The patient is then