

SUPPLEMENTARY DIGITAL MATERIAL 2

Supplementary Table II.—Early Functional Abilities – Revised (EFA-R) scoring sheet with scoring key.

Level	1	2	3	4	5	
Ability:	-lacking -not clearly recognizable	-barely recognizable -instable - purposeless/undifferen tiated -severely limited	-clearly recognizable -stable -purposeful/hardly differentiated -moderately limited	- - -purposeful and differentiated -slightly limited	- - - -no substantial limitation	Item score
Item list for increasing difficulty						
16. Tactile information	1 -no clearly recognizable reaction to tactile stimuli	2 -unspecific reaction to tactile stimuli (e.g., vegetative, unrest, tonus change)	2 -purposeful and different reaction (e.g., tonus adjustment, relaxation, defensive movement according to the stimulus)	3 -differentiated reaction (e.g., grasping, taking) -yet still restriction of letting go, pressure, object handling	4 -adequate grasping, clasping, letting go, object handling -pressure dosing may be still restricted	
14. Voluntary motricity	1 -no voluntary activity recognizable	2 -voluntary activity recognizable (e.g., defensive movements) -mass synergies	2 -voluntary activity -collaboration in form of concentric muscular tension (e.g., grasping but not letting go)	3 -voluntary activity -collaboration in form of concentric muscular tension and eccentric release	4 -selective movements possible (possibly still reduced strength)	
18. Acoustic information	1 -no clearly recognizable reaction to acoustic stimuli	2 -unspecific reaction to acoustic stimuli (e.g., vegetative, startle reaction, tonus change)	3 -purposeful reaction (e.g., view/head-turning movement, relaxation)	4 -differentiated, distinguishable reactions (e.g., in case of unfamiliar/familiar voices)	5 -differentiated, distinguishable reactions (e.g., in case of unfamiliar/familiar voices) -active listening for an extended period	
10. Head control	1 -no head control recognizable	2 -under therapy, very slight tonus adjustment -collaboration	3 -active lifting of head possible (depending on the situation)	3 -active/symmetrical head erection without special preliminary	4 -active/symmetrical head erection without special preliminary	

		-beginning of head positioning reaction recognizable	-possibly asymmetrical head positioning reaction	treatment -possible for <10 minutes	treatment -possible for >10 minutes	
17. Visual information	1 -no clearly recognizable reaction to visual stimuli -no clear focusing	2 -unspecific reaction to visual stimuli -focusing for short periods can be observed -no clear view sequence movements	3 -purposeful, clear focusing -view sequence movements in case of objects in the field of vision (only for moments)	4 -differentiated reaction, focusing -view sequence movements for a longer period -searching movements of the eyes even in case of objects outside of the field of vision -increased distractibility	5 -active visual exploration of the environment -low degree of distractibility	
5. Facio-oral stimulation/ oral hygiene	1 -stimulation (almost) impossible -oral hygiene with helper because of unrest or no reaction -no collaboration	2 -stimulation severely restricted (stimulation of the gums/teeth externally) -possible weak reaction -no collaboration	3 -stimulation moderately restricted -tooth brushing outside without problems, inside partly possible -partly collaboration (opens mouth)	4 -stimulation without any problems (inclusive palate, tongue) -tooth brushing without problems (possible still slight degree of help) -good collaboration (rinsing)	5 -stimulation without any problems or no longer necessary -tooth brushing without any problems	

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Item list for increasing difficulty						
6.Swallowing	1 -can be observed or stimulated rarely or not	2 -swallowing of saliva more frequent	3 -beginning of eating training (pulpy food)	3 -solid foods possible with relative ease	4 -complete oral food intake and liquid supply	

	at all -salivation and aspiration	-can be easily stimulated -more frequent aspiration in the supine position	-problems with bolus transport -aspiration in case of liquid beverages	-too slow/hasty -aspiration rare for liquid beverages	-no aspiration risk	
19. Communication	1 -not clearly recognizable	2 -unspecific -current condition recognizable (e.g., wellness, uneasiness) -bare communication (agreement, disagreement)	3 -purposeful -approval/disapproval clearly recognizable -partly meets requests (yet unstable) -no stable yes/no communication	4 -meets requests in a stable way (as far as possible) -stable yes/no communication	5 -more than stable yes/no communication -able to express needs/information spontaneously/actively without being asked	
7. Tongue movements/ Chewing	1 -no movement or continuing automatic behavior -chewing not possible/biting reflex	2 -partly automatic behavior (can be stopped) -very limited chewing exercises in gauze (up-and-down biting movements/ no rotation)	3 -purposeful tongue movements (still very limited) -excessive/reduced chewing movements (still in gauze) -no differentiation of consistencies	4 -possibly still problems in certain directions of movement -gauze no longer required -various consistencies with closing of lips/possibly still too slow/hasty/onesided	5 -no functional limitation of tongue flexibility and chewing	
20. Self-care ability	1 -totally passive in all ADL	2 -passive in all ADL -slight understanding of the situation (e.g., tonus adjustment, view sequence movement)	3 -partly active collaboration in ADL (e.g., taking over individual action steps, still no clear recognition of objects)	4 -carries out several action steps on his own/ -shows recognition and adequate handling of objects -still requires help from other persons for preparation/structuring/initiating/finishing	5 -can solve a more complex everyday practical task largely on his own (possibly still help in case of unfamiliar situations or lack of concentration)	
12. Transfers	1 -totally passive -possibly two helpers or special aids necessary (lift/sliding board)	2 -passive, still no active collaboration but tonus adjustments partly possible -1 helper, difficult	2 -active collaboration partly possible (lifting head/bridging, leaning forward) -transfer well possible	3 -good active collaboration (putting weight on one or both legs/using arms) -slight support by one	4 -independent transfer possible without danger of falling	

		transfer	with one helper	helper		
4. Excretory behavior	1 -no control -catheter/purging support necessary -laces/smearing of feces -defecation/micturition in bed	2 -no control -possibly still catheter/purging support -tolerates diaper/bottle -unrest when wetting the bed, instable -defecation/micturition in bed	3 -beginning of control -no more catheter -partly unrest, when desire to urinate or defecate, occurs, instable -bladder training/WC (bed chair)	4 -during the day, mostly continent; during the night still partly bedwetting -shows the desire to urinate/impulse to defecate reliably -no more diaper	5 -continent	
					EFA-R Total score	

NOTES. To use the EFA-R scoring sheet with scoring key, follow these instructions:

- Administered the 12-EFA-R items choosing for each item the best description for your patient’s ability level;
- For each item, report the bold number at the top left of each description in the last column ‘Item score’;
- Sum the 12-item scores report it to the last cell at the bottom right ‘EFA-R Total score’.

According to these instructions, you will obtain the EFA-R total score already corrected, which considers the rescoring process in the context of the Rasch analysis.

Finally, to obtain EFA-R linear estimates, that are the conversion of EFA-R total scores into measures:

- Go to Table IV;
- In the first column ‘Raw score’, search the EFA-R total score to be converted to measure;

- On the same line of the total score, move to the right, and you can get the measure in logits (Rasch scale unit of measurement) and in the range 0-100, both with the associated 95% interval confidence.