

eAppendix 1.

Stroke-Specific Community Balance and Mobility Scale (CB&MStroke)^a

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| 1. Tandem Walking (formerly item 2*) | |
| <p>0 Unable to complete 2 consecutive steps on the line independently. Acceptable to toe-out. 1 Able to complete >3 consecutive steps. Acceptable to toe-out. Not acceptable: heel-to-toe distance of >8 cm (3 in). 2 Able to complete >3 consecutive steps, in good alignment (heel-toe contact, feet straight on line, no toeing-out), but demonstrates excessive use of equilibrium reactions. 3 Able to complete 7 consecutive steps, in good alignment (heel-toe contact, feet straight on line, no toeing-out), and in a steady and coordinated manner. Not acceptable: excessive use of equilibrium reactions or looking at feet.</p> | |
| 2. 180° Tandem Pivot (formerly item 3*) | |
| <p>0 Unable to independently assume tandem position, unweight heels, and/or initiate pivot in tandem stance position. 1 Initiates pivot, but unable to complete 180° turn. 2 Completes 180° turn using a discontinuous motion or completes in a continuous motion, but unable to sustain reversed position. Not acceptable: heel-toe distance of >8 cm (3 in). 3 Completes 180° degree turn in a continuous motion and sustains reversed position. Acceptable to have feet slightly angled out in reversed position. Not acceptable: heel-toe distance of >8 cm (3 in) or excessive use of equilibrium reactions.</p> | |
| 3. Lateral Foot Scooting on P limb (formerly item 4P*) | |
| <p>0 Unable to sustain unilateral stance independently. 1 Able to perform 2 lateral pivots in any fashion. 2 Able to complete 40 cm (16 in) of lateral foot scooting in any fashion. Acceptable to be unable to control final position. 3 Able to complete 40 cm (16 in) of lateral foot scooting in a continuous, rhythmical motion demonstrating a controlled final position in unilateral stance. Not acceptable: to pause while pivoting to regain balance, veer from a straight line, excessive use of equilibrium reactions or excessive trunk rotation while pivoting.</p> | |
| 4. Hopping forward (formerly item 5*) | |
| 4P: P limb | 4NP: NP limb |
| <p>0 Unable 1 1 or 2 hops, uncontrolled 2 Covers 1 m (39 in) in 2 hops, but unable to sustain landing (hops or pivots) 3 Covers 1 m (39 in) in 2 hops, coordinated with stable landing. Unacceptable: hops or pivots.</p> | <p>0 Unable 1 1 or 2 hops, uncontrolled 2 Covers 1 m (39 in) in 2 hops, but unable to sustain landing (hops or pivots) 3 Covers 1 m (39 in) in 2 hops, coordinated with stable landing. Unacceptable: hops or pivots.</p> |
| 5. Crouch and Walk (formerly item 6*) | |
| <p>0 Unable to descend into a crouch or to maintain crouch to pick up beanbag, and/or unable to rise to stand from crouch position independently. 1 Descends into a crouch and rises independently, but hesitates, unable to maintain forward momentum. 2 Crouches and walks in a continuous motion, time ≤8 s, but uses a protective step/excessive equilibrium reactions to maintain balance. Not acceptable: to veer off course. 3 Crouches and walks in a continuous and rhythmical motion, time ≤4 s. Not acceptable: to veer off course or use protective step/excessive equilibrium reactions.</p> | |
| 6. Lateral Dodging (formerly item 7*) | |
| <p>0 Unable to perform 1 crossover in both directions without loss of balance or use of support. 1 One or more crossovers completed to and from the 2-m mark, but does not contact the line with every step. 2 2 cycles (to the 2-m line and back twice) completed, and foot contacts the line during every step. 3 2 cycles (to the 2-m line and back twice) completed in ≤12 s in a continuous, rhythmical fashion with coordinated direction changes immediately after verbal cue.</p> | |
| 7. Walking and Looking (formerly item 8†) | |
| 7P: Target to the P side | 7NP: Target to the NP side |
| <p>0 Unable to walk and look (eg, stops) 1 Performs, but loses visual fixation 2 Performs and maintains visual fixation, but veers from line or takes a protective step 3 Performs in ≤7 s in a steady and coordinated manner in a straight path. Not acceptable: loss of visual fixation or veering from the line.</p> | <p>0 Unable to walk and look (eg, stops) 1 Performs, but loses visual fixation 2 Performs and maintains visual fixation, but veers from line or takes a protective step 3 Performs in ≤7 s in a steady and coordinated manner in straight path. Not acceptable: loss of visual fixation or veering from the line.</p> |

(Continued)

Rasch Analysis Evaluation Following Stroke

eAppendix 1.

Continued

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| 8. Running With a Controlled Stop (formerly item 9*) | |
| <p>0 Unable to run with both feet off the ground (no flight phase). 1 Runs in any fashion, time >5 s. 2 Runs in any fashion, time >3 s but ≤5 s, unable to control stop (uses protective step or excessive equilibrium reactions). 3 Runs in any fashion, time >3 s but ≤5 s, with a controlled stop, both feet on the line. Not acceptable to use protective step or excessive equilibrium reactions. 4 Runs in any fashion, time ≤3 s, unable to control stop (uses protective step or excessive equilibrium reactions). 5 Runs in a coordinated, rhythmical manner, time ≤3 s, performs a controlled stop with both feet on the line. Not acceptable to use protective step or excessive equilibrium reactions.</p> | |
| 9. Forward-to-Backward Walking (formerly item 10*) | |
| <p>0 Unable to complete task without assistance or use of support. 1 Performs, but must stop to regain balance. 2 Performs in >11 s and/or requires ≥4 steps to turn. 3 Performs in ≤11 s and/or veers from the line during backward walking. 4 Able to complete task in a continuous motion in ≤9 s and/or uses protective step(s) during/just after turn. 5 Able to complete task in a continuous motion in ≤7 s, maintaining a straight path. Not acceptable: veering from the line.</p> | |
| 10. Descending Stairs (formerly item 12*) | |
| <p>0 Unable to step down without the use of a railing or cane for support. 1 Able to complete a full flight of 8 stairs using a step-to and/or an uncoordinated reciprocal pattern with the use of a railing or cane. 2 Able to complete a full flight of 8 stairs using a rhythmical, coordinated reciprocal pattern.</p> | |
| 11. Step-ups × 1 Step (formerly item 13*) | |
| 11P: P limb leading | 11NP: NP limb leading |
| <p>0 Unable to complete without assistance or use of support 1 Completes 5 cycles, acceptable to demonstrate incoordination or inconsistent speed/rhythm. Not acceptable: looking at feet. 2 Completes 5 cycles >6 s but <10 s, acceptable to demonstrate incoordination or inconsistent speed/rhythm. Not acceptable: looking at feet. 3 Completes 5 cycles ≤6 s in a rhythmical and coordinated manner. Not acceptable: looking at feet.</p> | <p>0 Unable to complete without assistance or use of support 1 Completes 5 cycles, acceptable to demonstrate incoordination or inconsistent speed/rhythm. Not acceptable: looking at feet. 2 Completes 5 cycles >6 s but <10 s, acceptable to demonstrate incoordination or inconsistent speed/rhythm. Not acceptable: looking at feet. 3 Completes 5 cycles ≤6 s in a rhythmical and coordinated manner. Not acceptable: looking at feet.</p> |

* Refers to item number in the original CB&M.

References

Howe JA, Inness EL, Venturini A, et al. The Community Balance and Mobility Scale: a balance measure for individuals with traumatic brain injury. *Clin Rehabil.* 2006;20:885–895.

^a Scale adapted, with permission, from the Community Balance and Mobility Scale (CB&M), developed by the Toronto Rehabilitation Institute–University Health Network (© 1998). Refer to the original CB&M manual for standardized instructions and guidelines for each test item. The original CB&M guidelines for administration are available at: http://www.uhn.ca/TorontoRehab/Health_Professionals/Documents/TR_HCP_SUPP_CBMScale.pdf. P=paretic, NP=nonparetic.

eAppendix 2.

Nomogram to Convert Total Raw Stroke-Specific Community Balance and Mobility Scale (CB&MStroke) Scores (/45) to Transformed Scores (/100)^a

| Total CB&MStroke Ordinal Score (/45) | Transformed Score (/100) (Logits) | Total CB&MStroke Ordinal Score (/45) | Transformed Score (/100) (Logits) | Total CB&MStroke Ordinal Score (/45) | Transformed Score (/100) (Logits) |
|--------------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|
| 0 | 0.0 | 17 | 62.5 | 34 | 77.4 |
| 1 | 1.0 | 18 | 63.3 | 35 | 78.4 |
| 2 | 5.4 | 19 | 64.2 | 36 | 79.6 |
| 3 | 24.6 | 20 | 65.0 | 37 | 80.8 |
| 4 | 39.5 | 21 | 65.8 | 38 | 82.2 |
| 5 | 45.2 | 22 | 66.7 | 39 | 83.7 |
| 6 | 48.3 | 23 | 67.5 | 40 | 85.4 |
| 7 | 50.5 | 24 | 68.3 | 41 | 87.4 |
| 8 | 52.3 | 25 | 69.2 | 42 | 89.6 |
| 9 | 53.9 | 26 | 70.0 | 43 | 92.2 |
| 10 | 55.3 | 27 | 70.9 | 44 | 95.6 |
| 11 | 56.5 | 28 | 71.8 | 45 | 100.0 |
| 12 | 57.7 | 29 | 72.6 | | |
| 13 | 58.7 | 30 | 73.5 | | |
| 14 | 59.7 | 31 | 74.5 | | |
| 15 | 60.7 | 32 | 75.4 | | |
| 16 | 61.6 | 33 | 76.4 | | |

^a This table provides a nomogram to convert raw total scores (/45) from the ordinal CB&MStroke to transformed logit interval scores (/100) for ease of calculating change scores over time or in response to treatment.