

Outcome Measure Decision Tree

Stand without UEs?	Yes- continue	No- get gait speed and start at Berg
Measure	Norms/ cut offs	Notes
30 second chair stand	To maintain physical independence 60's = 15 (W) 17 (M) 70's= 14 (W), 15 (M) 80's= 12 (W), 13 (M) 90's = 9 (both) ^{1, 2}	Higher level measure endurance, but time is likely more sensitive
5 x Sit to Stand	> 12 sec ³	If you are worried about a lack of endurance
Gait velocity (10 meter walk test)	>.8 m/s community .4-.8 m/s limited community <.4 m/s household	Other length will do Can use for comparison between assistive devices MCID for stroke= .16 m/s IN ambulatory chronic stroke w/ plantar flexor tone: MDC .2 m/s comfortable, .1 m/s fast ⁴ for geriatrics= .13 m/s
6 minute walk	60-69 = 572 (M), 538 (F) 70-79 =527(M), 471(F) 80-89= 417 (M), 392 (F) ⁵	When endurance is an issue. Details- # errors in first 2 minutes vs. last 2 minutes
miniBEST*	<20 for geriatric fall risk	MCID 4 points ⁶⁻¹⁰ , PD
Functional Gait Assessment	<20/30 most predictive <22/ 30 "effective"	MCID 5 points (includes stairs)
Dynamic Gait Index (DGI)	<19/ 24 indicative of fall risk	MCID 2.6 points
Four Square Step test	>15 sec or failed attempt (CVA) ¹¹ >24 sec (geriatric)	Not available
Timed up and Go	> 12 seconds ³	Limited predictive value by itself. Not a stand-alone item ^{12, 13} , PD
*Berg Balance Scale***	< 50 indicative of fall risk	^{4, 5, 14} Norms 60's = 55, 80's = 50 MDC = 8 pts (varies by population)

For more information in general, go to rehabmeasures.org

Outcome Measure Decision Tree

References:

1. Rikli RE, Jones CJ. Development and validation of criterion-referenced clinically relevant fitness standards for maintaining physical independence in later years. *The Gerontologist*. Apr 2013;53(2):255-267.
2. Jones CJ, Rikli RE, Beam WC. A 30-s chair-stand test as a measure of lower body strength in community-residing older adults. *Res Q Exerc Sport*. Jun 1999;70(2):113-119.
3. Lusardi MM, Fritz S, Middleton A, et al. Determining Risk of Falls in Community Dwelling Older Adults: A Systematic Review and Meta-analysis Using Posttest Probability. *Journal of geriatric physical therapy*. Jan/Mar 2017;40(1):1-36.
4. Hiengkaew V, Jitaree K, Chaibawat P. Minimal detectable changes of the Berg Balance Scale, Fugl-Meyer Assessment Scale, Timed "Up & Go" Test, gait speeds, and 2-minute walk test in individuals with chronic stroke with different degrees of ankle plantarflexor tone. *Arch Phys Med Rehabil*. Jul 2012;93(7):1201-1208.
5. Steffen TM, Hacker TA, Mollinger L. Age- and gender-related test performance in community-dwelling elderly people: Six-Minute Walk Test, Berg Balance Scale, Timed Up & Go Test, and gait speeds. *Phys Ther*. Feb 2002;82(2):128-137.
6. Tsang CS, Liao LR, Chung RC, Pang MY. Psychometric properties of the Mini-Balance Evaluation Systems Test (Mini-BESTest) in community-dwelling individuals with chronic stroke. *Phys Ther*. Aug 2013;93(8):1102-1115.
7. Godi M, Franchignoni F, Caligari M, Giordano A, Turcato AM, Nardone A. Comparison of reliability, validity, and responsiveness of the mini-BESTest and Berg Balance Scale in patients with balance disorders. *Phys Ther*. Feb 2013;93(2):158-167.
8. Cameron M, Mazumder R, Murchison C, King L. Mini Balance Evaluation Systems Test in people with multiple sclerosis: reflects imbalance but may not predict falls. *Gait Posture*. 2014;39(1):669.
9. Chinsongkram B, Chaikereee N, Saengsirisuwan V, Viriyatharakij N, Horak FB, Boonsinsukh R. Reliability and validity of the Balance Evaluation Systems Test (BESTest) in people with subacute stroke. *Phys Ther*. Nov 2014;94(11):1632-1643.
10. Franchignoni F, Horak F, Godi M, Nardone A, Giordano A. Using psychometric techniques to improve the Balance Evaluation Systems Test: the mini-BESTest. *J Rehabil Med*. Apr 2010;42(4):323-331.
11. Goh EY, Chua SY, Hong SJ, Ng SS. Reliability and concurrent validity of Four Square Step Test scores in subjects with chronic stroke: a pilot study. *Arch Phys Med Rehabil*. Jul 2013;94(7):1306-1311.
12. Barry E, Galvin R, Keogh C, Horgan F, Fahey T. Is the Timed Up and Go test a useful predictor of risk of falls in community dwelling older adults: a systematic review and meta-analysis. *BMC Geriatr*. 2014;14:14.
13. Schoene D, Wu SM, Mikolaizak AS, et al. Discriminative ability and predictive validity of the timed up and go test in identifying older people who fall: systematic review and meta-analysis. *J Am Geriatr Soc*. Feb 2013;61(2):202-208.
14. Downs S, Marquez J, Chiarelli P. The Berg Balance Scale has high intra- and inter-rater reliability but absolute reliability varies across the scale: a systematic review. *Journal of physiotherapy*. Jun 2013;59(2):93-99.

For more information in general, go to rehabmeasures.org