

Uitgebreide toelichting van het meetinstrument

Timed Up & Go test (TUG)

April 2022

Review: 1) MJH Jungen

2) D Ummels

Invoer: ML Bokhorst

1 Algemene gegevens

	Het meetinstrument heeft betrekking op de volgende categorieën
Lichaamsregio	Onderste extremiteit
Aandoening (ICD)	Zenuwstelsel en zintuigen (CVA, Parkinson)
Domein 'Menselijk functioneren' (ICF)	Mobiliteit/bewegen

- *Korte beschrijving* → De Timed Up & Go test (TUG) meet de tijd die de patiënt nodig heeft om op te staan uit een stoel, 3 meter comfortabel te lopen, om te keren, weer terug te lopen en te gaan zitten. De patiënt mag zijn eigen loophulpmiddel en/of orthese gebruiken, maar er mag geen fysieke hulp of aanmoediging worden gegeven. De test is praktisch en simpel uit te voeren. De TUG is een gemodificeerde versie (het element tijd is toegevoegd) van de Get Up and Go test (GUG). De test wordt ook wel de Timed Get Up en Go Test genoemd (TGUG of TGUGT).¹⁻³ Van dit instrument is een originele en Parkinson-specifieke versie beschikbaar.
- *Doelgroep* → geriatische patiënten² en patiënten met evenwichtsstoornissen
- *Auteur:*
 - ✓ *Oorspronkelijke versie* → GUG: Mathias S (1986)¹
TUG: Podsiadlo D (1991)²
 - ✓ *Nederlandse versie* → TUG: de Jong K (2000)³

2 Doel van het meetinstrument

Combinatie van:

- Evaluatief / effectiviteit
- Inventariserend

3 *Soort / vorm van het meetinstrument*

- Observatielijst
- *Opbouw* → totaal één loopopdracht:
opstaan van de stoel, 3 meter lopen, omdraaien, teruglopen naar de stoel, terugkeren in zittende houding, waarbij de benodigde tijd wordt gemeten met een stopwatch³
- *Instructie aan de patiënt* → ja: ‘Kunt u opstaan en in uw eigen tempo om de pion/kegel lopen en daarna weer in de stoel plaatsnemen?’
- *Meetniveau* → wijze score (tijdsduur in seconden); meetniveau ratio

4 *Verkrijgbaarheid*

- *Opvraagbaar bij* → www.meetinstrumentenzorg.nl
- *Geschatte kosten* → gratis te downloaden
- *Copyright* → ja

5 *Methodologische kwaliteit*

Gegevens over de methodologische kwaliteit staan o.a. in de volgende reviews:

- Fox B, Henwood T, Keogh J, Neville C. Psychometric viability of measures of functional performance commonly used for people with dementia: a systematic review of measurement properties. 2016⁴
- Himuro N, Abe H, Nishibu H, Seino T, Mori M. Easy-to-use clinical measures of walking ability in children and adolescents with cerebral palsy: a systematic review. 2017⁵
- Johnston KN, Potter AJ, Phillips A. Measurement properties of short lower extremity functional exercise tests in people with Chronic Obstructive Pulmonary Disease: systematic review. 2017⁶
- Mestre TA, et al. Rating scales and performance-based measures for assessment of functional ability in Huntington's Disease: critique and recommendations. 2018⁷
- Hawkings EJ, Riddick W. Reliability, validity, and responsiveness of clinical performance-based outcome measures of walking for individuals with lower limb amputations: a systematic review. 2018⁸
- Soubra R, Chkeir A, Novella JL. A systematic review of thirty-one assessment tests to evaluate mobility in older adults. 2019⁹
- Gordon S, Grimmer KA, Barras S. Assessment for incipient hospital-acquired deconditioning in acute hospital settings: a systematic literature review. 2019¹⁰
- Jakobsson M, Gutke A, Mokka LB, Smeets R, Lundberg M. Level of evidence for reliability, validity, and responsiveness of physical capacity tasks designed to assess functioning in patients with low back pain: a systematic review using the COSMIN Standards. 2019¹¹
- de Valle K, McGinley JL, Woodcock I, Ryan MM, Dobson F. Measurement properties and utility of performance-based outcome measures of physical functioning in individuals with facioscapulohumeral dystrophy: a systematic review and evidence synthesis. 2019¹²
- Bergquist R, Weber M, Schwenk M, Ulseth S, Helbostad JL, Verijken B, Taraldsen K. Performance-based clinical tests of balance and muscle strength used in young seniors: a systematic literature review. 2019¹³

- Balk EM, Gazula A, Markozannes G, Kimmel HJ, Saldanha IJ, Trikalinos TA, Resnik LJ. Psychometric properties of functional, ambulatory, and quality of life instruments in lower limb amputees: a systematic review. 2019¹⁴
- Reynaud V, Verdilos A, Pereira B, Boisgard S, Costes F, Coudeyre E. Core outcome measurement instruments for clinical trials of total knee arthroplasty: a systematic review. 2020¹⁵
- Itakussu EY, Morita AA, Kakitsuka EE, Pitta F, Cavalheri V, Hernandez NA. Instruments to assess function or functionality in adults after a burn injury: a systematic review. 2021¹⁶
- Alamrani S, Rushton AB, Gardner A, Bini E, Falla D, Heneghan NR. Physical functioning in adolescents with idiopathic scoliosis: a systematic review of outcome measures and their measurement properties. 2021¹⁷
- Gafner SC, Allet L, Hilfiker R, Bastiaenen CHG. Reliability and diagnostic accuracy of commonly used performance tests relative to fall history in older persons: a systematic review. 2021¹⁸
- Wang C, Chen H, Qian M, Shi Y, Zhang N, Shang S. Balance function in patients with COPD: a systematic review of measurement properties. 2022¹⁹

Kinderen:

- Verbecque E, Da Costa PHL, Vereeck L, Halleman A. Psychometric properties of functional balance tests in children: a literature review. 2015²⁰
- Mahaffey R, Morrison SC, Stephensen D, Drechsler WI. Clinical outcome measures for monitoring physical function in pediatric obesity: an integrative review. 2016²²
- Pavao SL, Silva FPS, Dusing SC, Rocha NACF. Clinical tools designed to assess motor abilities in children with cerebral palsy. 2017²²

Parkinson:

- Bloem BR, et al. Measurement instruments to assess posture, gait, and balance in Parkinson's disease: critique and recommendations. 2016²³
- Krzyston K, Stolarski J, Kochanowski J. Evaluation of balance disorders in Parkinson's disease using simple diagnostic tests: not so simple to choose. 2018.²⁴
- Bouca-Machado R, et al. Measurement instruments to assess functional mobility in Parkinson's disease: a systematic review. 2019²⁵
- Winsor SJ, Kannan P, Bello UM, Whitney SL. Measures of balance and falls risk prediction in people with Parkinson's disease: a systematic review of psychometric properties. 2019²⁶

Verdere gegevens over de methodologische kwaliteit zijn o.a. ook te vinden in:

TGUG

- Giné-Garriga M, Guerra M, Manini TM, Mari-Dell'Olmo M, Pagès E, Unnithan VB. Measuring balance, lower extremity strength and gait in the elderly: construct validation of an instrument. 2010²⁷

ETGUG

- Swanenburg J, Hegemann SC, Zurbrugg A, Palla A, de Bruin ED. Reliability and validity of the extended timed-get-up-and-go test in patients with bilateral vestibular loss. 2014²⁸
- Sibley KM, Beauchamp MK, van Ooteghem K, Straus SE, Jaglal B. Using the systems framework for postural control to analyze the components of balance evaluated in standardized balance measures: a scoping review. 2015²⁹

- Danneels M, Van Hecke R, Keppler H, Degeest S, Cambier D, Van de Berg R, Van Rompeay V, Maes L. Psychometric properties of cognitive-motor dual-task studies with the aim of developing a test protocol for persons with vestibular disorders: a systematic review. 2020³⁰

Component TUG

- Hawkins EJ, Riddick W. Reliability, validity, and responsiveness of clinical performance-based outcome measures of walking for individuals with lower limb amputations: a systematic review. 2018³¹

6 *Hanteerbaarheid / feasibility*

- *Taal* → originele versie Engels¹, vertaling in het Nederlands³
- *Benodigdheden* → stoel met armleuningen en zithoogte ca.45 en 47 cm, stopwatch, pion of kegel en indien gewenst de loophulpmiddelen en/of orthesen van de cliënt
- *Randvoorwaarden* → de test wordt in een rustige ruimte met effen terrein uitgevoerd waarop een markering van 3 meter is aangebracht. De cliënt mag een keer oefenen en gebruikt zijn normale schoeisel en loophulp (stok of looprek)³
- *Benodigde tijd* → afhankelijk van de toestand van de patiënt, maximaal 240 seconden¹
- *Gebruikershandleiding* → nee

7 *Normgegevens*

- *Interpretatie* →
Score < 20 sec: de revalidant loopt zelfstandig en veilig³
Score > 30 sec: er is hulp bij het lopen noodzakelijk³

8 *Overige gegevens*

- In Wall et al. (2000) wordt voor de meting een multimemory stopwatch gebruikt in plaats van een gewone stopwatch. Hiermee kunnen ook de tijdsintervallen tussen de verschillende taken afzonderlijk gemeten worden in plaats van alleen de totale tijd. Deze uitgebreidere meting wordt de Expanded Timed Get-up-and-Go test (ETGUG) genoemd. Er wordt gemeten over een afstand van 10 meter in plaats van 3 en de stoel heeft geen armleuningen in tegenstelling tot de gewone T(G)UG. De meetpunten liggen bij 2 en 8 meter op de heen en op de terugweg.³²
- Faria et al. (2013) hebben de Timed “Up and Go” Assessment of Biomechanical Strategies (TUG-ABS) ontwikkeld om de biomechanische strategieën te achterhalen die mensen met een beroerte gebruiken tijdens de uitvoering van de TUG-test.³³
- Naast de TUG bestaat ook een uitgebreidere versie, de TUG Dual Task (TUG-DT).³⁴
- Williams et al. (2005) pasten de TUG aan voor kinderen met en zonder handicap, de TUGm (modified), ook afgekort als mTUG.³⁵
- De iTUG is een instrumentele versie van de TUG waarbij gebruik gemaakt wordt van een apparaat dat speciaal ontwikkeld is om gang en beweging te meten.^{36,37}
- De sTUG is een smartphone versie, waarbij sensors de bewegingen opnemen en vertalen in vastgestelde parameters.³⁸
- De TUG staat ook beschreven in de Rehabilitation Measures Database.³⁹
- De TUG-DT en de TUGm staan ook beschreven in de Rehabilitation Measures Database.⁴⁰

9 Literatuurlijst

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