ACRM
AMERICAN CONGRESS OF REHABILITATION MEDICINE

Archives of Physical Medicine and Rehabilitation

journal homepage: www.archives-pmr.org

Archives of Physical Medicine and Rehabilitation 2015;96:2091-2

ORGANIZATION NEWS

Highlights From the Rehabilitation Measures Database

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Measurement Characteristics and Clinical Utility of the Functional Gait Assessment Among Individuals With Vestibular Impairment

Karen H. Lambert, PT, DPT, NCS, Jennifer L. Stoskus, DPT, Teresa Rice, PT, MPH, NCS, Linda B. Horn, PT, DScPT, MHS, NCS, Elizabeth Dannenbaum, MScPT, BScPT, Matthew R. Scherer, PT, PhD, NCS

Vestibular impairment can lead to disequilibrium and postural instability[1] and can place an individual at an increased risk for falls. It is important that health care providers screen at-risk patients for imbalance to mitigate fall risk. The Dynamic Gait Index (DGI) is commonly used to evaluate ambulatory balance; however, this measure lacks reliability in persons with vestibular dysfunction and has known ceiling effects in this population.[1] The Functional Gait Assessment (FGA) was developed from the DGI to increase its sensitivity to dynamic instability, integrating more demanding task conditions and effectively improving reliability in this population.[2] Additionally, the instructions and operational definitions for each item on the FGA were clarified to reduce the likelihood of administration error.[3] The FGA takes less than 10 minutes to administer using items typically available in a rehabilitation setting. No formal training is required to administer this measure. The FGA demonstrates excellent concurrent validity with several other measures or indicators commonly considered in individuals with vestibulopathy, including the Dizziness Handicap Inventory and the number of falls a patient has experienced in the previous 4 weeks.[2] The minimal detectable change value established for this measure is useful in clinical decision-making to assess clinically significant changes in functional balance. This Rehabilitation Measures Database summary provides a review of the psychometric properties of the FGA in the vestibular population, including reliability, validity, minimum detectable change, and interpretation of the results.

A full review of the FGA and reviews of over 300 other instruments can be found at www.rehabmeasures.org.

Please address correspondence to rehabmeasures@ric.org.

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This instrument summary is designed to facilitate the selection of outcome measures by trained clinicians. The information contained in this summary represents a sample of the peer-reviewed research available at the time of this summary's publication. The information contained in this summary does not constitute an endorsement of this instrument for clinical practice. The views expressed are those of the summary authors and do not represent those of authors' employers, instrument owner(s), the *Archives of Physical Medicine and Rehabilitation*, the Rehabilitation Measures Database, the United States Department of Education, or the Retirement Research Foundation. The information contained in this summary has not been reviewed externally.

The Rehabilitation Measures Database and Instrument Summary Tear-sheets are funded by the National Institute on Disability and Rehabilitation Research, United States Department of Education through the Rehabilitation Research and Training Center on Improving Measurement of Medical Rehabilitation Outcomes (grant no. H133B090024) and the Retirement Research Foundation (grant no. 2011-027).

Rehabilitation Measures	**Measure Name:**	**Acronym:**	**Summary Author:**
	Functional Gait Assessment	FGA	Lambert K, Stoskus J, Rice T, Horn L, Dannenbaum L, Scherer M

Population Reviewed:	**Admin Time:**	**Items:**	**Score:**
Vestibular Impairment, others reviewed at www.rehabmeasures.org	10 minutes	10	0/30 (min/max)

Purpose and Administration Instructions:

- FGA is a modification of the 8-item Dynamic Gait Index developed to improve reliability and decrease ceiling effect.
- The evaluator asks the individual to perform 10 distinct ambulatory tasks: gait on level surface, change in gait speed, gait with horizontal head turns, gait with vertical had turns, gait with 180 degree pivot turn, stepping over obstacles, gait with narrow base of support, gait with eyes closed, ambulating backwards, and stairs.

Required Equipment:

- Stopwatch, marked walking area (20 feet long x 12 inches wide), Two shoe-box sized obstacles, a set of steps

Training:

- No training required

Validity:

- Concurrent Validity:
  - *Excellent* correlation with:
    - Perception Dizziness Symptoms (r = -0.70)[2]
    - Dizziness Handicap Inventory (r = -0.64)[2]
    - Activities-specific Balance Confidence Scale (r = 0.64)[2]
    - Number of falls in previous 4 weeks (r = -0.66)[2]
    - Dynamic Gait Index (r = 0.80)[2]
  - *Adequate* correlation with Timed Up and Go Test (*r* = -0.50)[2]

Reliability:

- *Excellent* in vestibular populations
  - Intrarater reliability (ICC=0.83)[2]
  - Interrater reliability (ICC= 0.84)[2]

Scoring Instructions:

- Each item is scored on an ordinal scale from 0 (severe impairment) to 3 (normal ambulation)
- All items are summed to calculate a total score

Normative Data:[3]

Age	*n*	Min score	Max score	Mean	SD	95% CI
40-49	27	24	30	28.9	1.5	28.3-29.5
50-59	33	25	30	28.4	1.6	27.9-29.0
60-69	63	20	30	27.1	2.3	26.5-27.7
70-79	44	16	30	24.9	3.6	23.9-26.0
80-89	33	10	28	20.8	4.7	19.2-22.6
Total	200	10	30	26.1	4.0	25.5-26.6

Scoring Interpretation:

- Score of 30 indicates no deficit in balance; ≤ 22 is predictive of falls in community dwelling older adults with 100% sensitivity, 76% specificity.[4]

Standards:

Cut-off Criteria:		
	r	ICC
Excellent	≥ 0.6	≥ 0.75
Adequate	0.31-0.59	0.40-0.74
Poor	≤ 0.3	< 0.4

Considerations:

- The position of the therapist during testing did not affect interrater reliability[2]
- May be performed with or without an assistive device