**Functional Gait Assessment**

**Objective**The Functional Gait Assessment (FGA) is a modification of the Dynamic Gait Index (DGI) that uses higher-level tasks to increase the applicability of the test to people with vestibular disorders and to eliminate the ceiling effect of the original test. Three items were added to the DGI because these were noted to be difficult in people with vestibular disorders.

The FGA is used to assess postural stability during various walking tasks.

**Intended Population**

Adults with Parkinson’s disease, stroke or vestibular disorders

**Method of Use**

Time to Administer: 5-10 minutes

Number of Test Items: 10

Scoring: Each item is scored on an ordinal scale from 0 - 3, with

* 0 = severe impairment
* 1 = moderate impairment
* 2 = mild impairment
* 3 = normal ambulation

Thus, the highest score is 30/30.

**Requirements**

1. A Marked 6-m (20ft) walkways that is marked 20.48cm (12in) in width.
2. Stopwatch
3. 3. Step or shoe box
4. Stairs

**Sections and Instructions of the FGA**

It is important you keep the instruction the same as described by the test and is the only thing you say as not to influence performance.

**1. Gait on a Level Surface**

**Instruction**

Walk at your normal speed from here to the next mark.

**Grading**

**3** Normal, walks 6m in less than 5.5 seconds with no adis, in good speed and no evidence of imbalance. Also deviates no more than 15.24cm (6in) outside of the walkway width.

**2** Mild impairment, walks 6m (20 ft) in less than 7 seconds but greater than 5.5 seconds, uses assistive device, slower speed, mild gait deviations, or deviates 15.24–25.4 cm (6–10 in) outside of the walkway width.

**1** Moderate impairment, walks 6 m (20 ft), slow speed, abnormal gait pattern, evidence for imbalance, or deviates 25.4-38.1 cm (10–15 in) outside of the 30.48-cm (12-in) walkway width. Requires more than 7 seconds to ambulate 6 m (20 ft).

**0** Severe impairment, cannot walk 6 m (20 ft) without assistance, severe gait deviations or imbalance, deviates greater than 38.1 cm (15 in) outside of the 30.48-cm (12-in) walkway width or reaches and touches the wall.

**2. Change in Gait Speed**

**Instruction**

Begin walking at your normal pace (for 1.5 m [5 ft]). When  
I tell you “go,” walk as fast as you can (for 1.5 m [5 ft]). When I tell you  
“slow,” walk as slowly as you can (for 1.5 m [5 ft]).

**Grading**

**3** Normal, able to smoothly change walking speed without loss of balance or gait deviation. Shows a significant difference in walking speeds between normal, fast, and slow speeds. Deviates no more than 15.24 cm (6 in) outside of the 30.48-cm (12-in) walkway width.

**2** Mild impairment - is able to change speed but demonstrates mild gait deviations, deviates 15.24–25.4 cm (6–10 in) outside of the 30.48-cm (12in) walkway width, or no gait deviations but unable to achieve a significant change in velocity, or uses an assistive device.

**1** Moderate impairment , makes only minor adjustments to walking speed, or accomplishes a change in speed with significant gait deviations, deviates 25.4–38.1 cm (10–15 in) outside the 30.48-cm (12-in) walkway width, or changes speed but loses balance but is able to recover and continue walking.

**0** Severe impairment, cannot change speeds, deviates greater than 38.1 cm (15 in) outside 30.48-cm (12-in) walkway width,or loses balance and has to reach for wall or be caught.

**3. Gait with Horizontal Head Turns**

**Instructions**

Walk from here to the next mark 6 m (20 ft) away. Begin walking at your normal pace. Keep walking straight; after 3 steps, turn your head to the right and keep walking straight while looking to the right. After 3 more steps, turn your head to the left and keep walking straight while looking left. Continue alternating looking right and left every 3 steps until you have completed 2 repetitions in each direction.

**Grading**

**3** Normal, performs head turns smoothly with no change in gait. Deviates no more than 15.24 cm (6 in) outside 30.48-cm (12-in)  
walkway width.

**2** Mild impairment, performs head turns smoothly with slight change in gait velocity (eg, minor disruption to smooth gait path), deviates 15.24–25.4 cm (6–10 in) outside 30.48-cm (12-in) walkway width, or uses an assistive device.

**1** Moderate impairment—Performs head turns with moderate change in gait velocity, slows down, deviates 25.4–38.1 cm (10–15 in) outside 0.48-cm (12-in) walkway width but recovers, can continue to walk.

**0** Severe impairment—Performs task with severe disruption of gait (eg, staggers 38.1 cm [15 in] outside 30.48-cm (12-in) walkway width, loses balance, stops, or reaches for wall).

**4. Gait with Vertical Head Turns**

**Instructions**

Walk from here to the next mark (6 m [20 ft]). Begin walking at your normal pace. Keep walking straight; after 3 steps, tip your head  
up and keep walking straight while looking up. After 3 more steps, tip your head down, keep walking straight while looking down. Continue alternating looking up and down every 3 steps until you have completed 2 repetitions in each direction.

**Grading**

**3** Normal, performs head turns with no change in gait. Deviates no more than 15.24 cm (6 in) outside 30.48-cm (12-in) walkway width.

**2** Mild impairment, performs task with slight change in gait velocity (eg, minor disruption to smooth gait path), deviates 15.24–25.4 cm (6–10 in) outside 30.48-cm (12-in) walkway width or uses assistive device.

**1** Moderate impairment, performs task with moderate change in gait velocity, slows down, deviates 25.4–38.1 cm (10–15 in)outside 30.48-cm (12-in) walkway width but recovers, can continue to walk.

**0** Severe impairment, performs task with severe disruption of gait (eg, staggers 38.1 cm [15 in] outside 30.48-cm (12-in) walkway width, loses balance, stops, reaches for wall).

**5. Gait and Pivot Turn**

**Instructions**

Begin with walking at your normal pace. When I tell you, “turn and stop,” turn as quickly as you can to face the opposite direction and stop.

**Grading**

**3** Normal, pivot turns safely within 3 seconds and stops quickly >with no loss of balance.

**2** Mild impairment, pivot turns safely in 3 seconds and stops with no loss of balance, or pivot turns safely within 3 seconds and stops with mild imbalance, requires small steps to catch balance.

**1** Moderate impairment, turns slowly, requires verbal cueing, or requires several small steps to catch balance following turn and stop.

**0** Severe impairment, cannot turn safely, requires assistance to turn and stop.

**6. Step Over Obstacle**

**Instructions**

Begin walking at your normal speed. When you come to the shoe box, step over it, not around it, and keep walking.

**Grading**

**3** Normal, is able to step over 2 stacked shoe boxes taped together (22.86 cm [9 in] total height) without changing gait speed; no evidence of imbalance.

**2** Mild impairment, is able to step over one shoe box (11.43 cm[4.5 in] total height) without changing gait speed; no evidence of imbalance.

**1** Moderate impairment, is able to step over one shoe box (11.43 cm [4.5 in] total height) but must slow down and adjust steps to clear box safely. May require verbal cueing.

**0** Severe impairment, cannot perform without assistance.

**7. Gait with Narrow Base of Support**

**Instructions**

Walk on the floor with arms folded across the chest, feet aligned heel to toe in tandem for a distance of 3.6 m [12 ft]. The number of steps taken in a straight line are counted for a maximum of 10 steps.

**Grading**

**3** Normal is able to ambulate for 10 steps heel to toe with no staggering.

**2** Mild impairment, ambulates 7–9 steps.

**1** Moderate impairment, ambulates 4–7 steps.

**0** Severe impairment, ambulates less than 4 steps heel to toe or cannot perform without assistance.

**8. Gait with Eyes Closed**

**Instructions**

Walk at your normal speed from here to the next mark (6 m [20 ft]) with your eyes closed.

**Grading**

**3** Normal, walks 6 m (20 ft), no assistive devices, good speed,no evidence of imbalance, normal gait pattern, deviates no more than 15.24 cm (6 in) outside 30.48-cm (12-in) walkway width. Ambulates 6 m (20 ft) in less than 7 seconds.

**2** Mild impairment, walks 6 m (20 ft), uses assistive device,slower speed, mild gait deviations, deviates 15.24–25.4 cm (6–10 in) outside 30.48-cm (12-in) walkway width. Ambulates 6 m (20 ft) in less than 9 seconds but greater than 7 seconds.

**1** Moderate impairment, wWalks 6 m (20 ft), slow speed, abnormal gait pattern, evidence for imbalance, deviates 25.4–38.1 cm (10–15 in) outside 30.48-cm (12-in) walkway width. Requires more than 9seconds to ambulate 6 m (20 ft).

**0** Severe impairment, cannot walk 6 m (20 ft) without assistance,severe gait deviations or imbalance, deviates greater than 38.1cm (15 in) outside 30.48-cm (12-in) walkway width or will not attempt task.

**9. Ambulating Backwards**

**Instructions**

Walk backwards until I tell you to stop.

**Grading**

**3** Normal, walks 6 m (20 ft), no assistive devices, good speed,no evidence for imbalance, normal gait pattern, deviates no more than 15.24 cm (6 in) outside 30.48-cm (12-in) walkway width.

**2** Mild impairment, walks 6 m (20 ft), uses assistive device,slower speed, mild gait deviations, deviates 15.24–25.4 cm (6–10 in) outside 30.48-cm (12-in) walkway width.

**1** Moderate impairment, walks 6 m (20 ft), slow speed, abnormal gait pattern, evidence for imbalance, deviates 25.4–38.1 cm (10–15 in) outside 30.48-cm (12-in) walkway width.

**0** Severe impairment, cannot walk 6 m (20 ft) without assistance,severe gait deviations or imbalance, deviates greater than 38.1 cm (15 in) outside 30.48-cm (12-in) walkway width or will not attempt task.

**10. Steps**

**Instructions**

Walk up these stairs as you would at home (ie, using the rail if necessary). At the top turn around and walk down.

**Grading**

**3** Normal, alternating feet, no rail.

**2** Mild impairment, alternating feet, must use rail.

**1** Moderate impairment, two feet to a stair; must use rail.

**0** Severe impairment, cannot do safely.

**Evidence**

**Reliability**

Intrarater reliability of the total FGA: ICC = 0.83

Interrater reliability of the total FGA: ICC = 0.84

Internal Consistency: Cronbach alpha value 0.79 across both trials

**Validity**

Concurrent Validity - FGA scores were correlated with the following outcome measure scores;

* ABC Scale: r = -.70
* DHI: r = -.064
* PDS: r = -.70
* Number of falls: r = -.66
* TUG: r = -.50
* DGI: r = 0.80