

## **The Activities-specific Balance Confidence (ABC) Scale\***

### **Administration:**

The ABC can be self-administered or administered via personal or telephone interview. Larger typeset should be used for self-administration, while an enlarged version of the rating scale on an index card will facilitate in-person interviews. Regardless of method of administration, each respondent should be queried concerning their understanding of instructions, and probed regarding difficulty answering specific items.

### **Instructions to Participants:**

For each of the following, please indicate your level of confidence in doing the activity without losing your balance or becoming unsteady from choosing one of the percentage points on the scale from 0% to 100%. If you do not currently do the activity in question, try and imagine how confident you would be if you had to do the activity. If you normally use a walking aid to do the activity or hold onto someone, rate your confidence as if you were using these supports. If you have any questions about answering any of these items, please ask the administrator.

### **Instructions for Scoring:**

The ABC is an 11-point scale and ratings should consist of whole numbers (0-100) for each item. Total the ratings (possible range = 0 – 1600) and divide by 16 to get each subject's ABC score. If a subject qualifies his/her response to items #2, #9, #11, #14 or #15 (different ratings for "up" vs. "down" or "onto" vs. "off"), solicit separate ratings and use the lowest confidence of the two (as this will limit the entire activity, for instance the likelihood of using the stairs.)

\*Powell, LE & Myers AM. The Activities-specific Balance Confidence (ABC) Scale. *J Gerontol Med Sci* 1995; 50(1): M28-34



## **Modified Falls Efficacy Scale\***

### **Administration:**

The Modified Falls Efficacy Scale (mFES) can be self-administered or administered via personal or telephone interview. Larger typeset should be used for self-administration, while an enlarged version of the rating scale on an index card will facilitate in-person interviews. Regardless of method of administration, each respondent should be queried concerning their understanding of instructions, and probed regarding difficulty answering specific items.

### **Instructions to Participants:**

Subjects are asked, “How confident/sure are you that you do each of the activities without falling?”

### **Instructions for Scoring:**

The mFES scale is a visual analog scale in which items are scored from 0 to 10, with 0 meaning “not confident/not sure at all,” 5 being “fairly confident/fairly sure,” and 10 being “completely confident/completely sure.” Total the ratings (possible range = 0 – 140) and divide by 14 to get each subject’s mFES score. Scores of < 8 indicate fear of falling, 8 or greater indicate lack of fear.

\*Hill KD, Schwarz JA, Kalogeropolous AJ, Gibson, SJ. *Fear of Falling Revisited*. Arch Phys Med Rehabil. 1996;77:1025-1029.

## Modified Falls Efficacy Scale\*

Instructions: For each statement circle the level of confidence expressed, using the code below.

**0= No confidence at all to 10 = Extreme confidence**

*How confident are you that you can...*

1.	Get dressed and undressed	0	1	2	3	4	5	6	7	8	9	10
2.	Prepare a simple meal	0	1	2	3	4	5	6	7	8	9	10
3.	Take a bath or a shower	0	1	2	3	4	5	6	7	8	9	10
4.	Get in/out of a chair	0	1	2	3	4	5	6	7	8	9	10
5.	Get in/out of bed	0	1	2	3	4	5	6	7	8	9	10
6.	Answer the door or telephone	0	1	2	3	4	5	6	7	8	9	10
7.	Walk around the inside of your house	0	1	2	3	4	5	6	7	8	9	10
8.	Reach into cabinets or closets	0	1	2	3	4	5	6	7	8	9	10
9.	Light housekeeping	0	1	2	3	4	5	6	7	8	9	10
10.	Simple shopping	0	1	2	3	4	5	6	7	8	9	10
11.	Using public transportation	0	1	2	3	4	5	6	7	8	9	10
12.	Crossing roads	0	1	2	3	4	5	6	7	8	9	10
13.	Light gardening or hanging out the washing	0	1	2	3	4	5	6	7	8	9	10
14.	Using front or rear steps at home	0	1	2	3	4	5	6	7	8	9	10

*.....without falling?*

**Score = Total \_\_\_\_\_/14 = \_\_\_\_\_**

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\*Modified from Hill KD, Schwarz JA, Kalogeropolous AJ, Gibson, SJ. *Fear of Falling Revisited*. Arch Phys Med Rehabil. 1996;77:1025-1029.

## **Timed “Up and Go”\***

### **Directions:**

The timed “Up and Go” test measures, in seconds, the time taken by an individual to stand up from a standard arm chair (approximate seat height of 46 cm, arm height 65 cm), walk a distance of 3 meters (approximately 10 feet), turn, walk back to the chair, and sit down. The subject wears their regular footwear and uses their customary walking aid (none, cane, walker). No physical assistance is given. They start with their back against the chair, their arms resting on the armrests, and their walking aid at hand. They are instructed that, on the word “go” they are to get up and walk at a comfortable and safe pace to a line on the floor 3 meters away, turn, return to the chair and sit down again. The subject walks through the test once before being timed in order to become familiar with the test. Either a stopwatch or a wristwatch with a second hand can be used to time the trial.

### **Instructions to the patient:**

“When I say ‘go’ I want you to stand up and walk to the line, turn and then walk back to the chair and sit down again. Walk at your normal pace.”

### **Variations:**

You may have the patient walk at a fast pace to see how quickly they can ambulate. Also you could have them turn to the left and to the right to test any differences.

\*Podsiadlo D, Richardson S. The timed “up and go”: a test of basic functional mobility for frail elderly persons. *JAGS* 1991; 39: 142-148.

# **Berg Balance Scale**

**Description:**

14-item scale designed to measure balance of the older adult in a clinical setting.

**Equipment needed:** Ruler

2 standard chairs (one with arm rests, one without)

Footstool or step

Stopwatch or wristwatch

15 ft walkway

**Completion:**

**Time:**

15-20 minutes

**Scoring:**

A five-point ordinal scale, ranging from 0-4. "0" indicates the lowest level of function and "4" the highest level of function.

Total Score = 28

**Interpretation:**

41-56 = low fall risk

21-40 = medium fall risk

0 -20 = high fall risk

< 36 fall risk close to 100%

# Berg Balance Scale

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_ Rater: \_\_\_\_\_

ITEM DESCRIPTION	SCORE (0-4)
1. Sitting to standing	_____
2. Standing unsupported	_____
3. Sitting unsupported	_____
4. Standing to sitting	_____
5. Transfers	_____
6. Standing with eyes closed	_____
7. Standing with feet together	_____
8. Reaching forward with outstretched arm	_____
9. Retrieving object from floor	_____
10. Turning to look behind	_____
11. Turning 360 degrees	_____
12. Placing alternate foot on stool	_____
13. Standing with one foot in front	_____
14. Standing on one foot	_____
Total	_____

## GENERAL INSTRUCTIONS

Please document each task and/or give instructions as written. When scoring, please record the lowest response category that applies for each item.

In most items, the subject is asked to maintain a given position for a specific time. Progressively more points are deducted if the time or distance requirements are not met, if the subject's performance warrants supervision, or if the subject touches an external support or receives assistance from the examiner. Subject should understand that they must maintain their balance while attempting the tasks. The choices of which leg to stand on or how far to reach are left to the subject. Poor judgment will adversely influence the performance and the scoring.

Equipment required for testing is a stopwatch or watch with a second hand, and a ruler or other indicator of 2, 5, and 10 inches. Chairs used during testing should be a reasonable height. Either a step or a stool of average step height may be used for item # 12.

## Berg Balance Scale

1. SITTING TO STANDING  
INSTRUCTIONS: Please stand up. Try not to use your hand for support.
- 4 able to stand without using hands and stabilize independently
  - 3 able to stand independently using hands
  - 2 able to stand using hands after several tries
  - 1 needs minimal aid to stand or stabilize
  - 0 needs moderate or maximal assist to stand

2. STANDING UNSUPPORTED  
INSTRUCTIONS: Please stand for two minutes without holding on.
- 4 able to stand safely for 2 minutes
  - 3 able to stand 2 minutes with supervision
  - 2 able to stand 30 seconds unsupported
  - 1 needs several tries to stand 30 seconds unsupported
  - 0 unable to stand 30 seconds unsupported

*If a subject is able to stand 2 minutes unsupported, score full points for sitting unsupported. Proceed to item #4.*

3. SITTING WITH BACK UNSUPPORTED BUT FEET SUPPORTED ON FLOOR OR ON A STOOL  
INSTRUCTIONS: Please sit with arms folded for 2 minutes.
- 4 able to sit safely and securely for 2 minutes
  - 3 able to sit 2 minutes under supervision
  - 2 able to sit 30 seconds
  - 1 able to sit 10 seconds
  - 0 unable to sit without support 10 seconds

4. STANDING TO SITTING  
INSTRUCTIONS: Please sit down.
- 4 sits safely with minimal use of hands
  - 3 controls descent by using hands
  - 2 uses back of legs against chair to control descent
  - 1 sits independently but has uncontrolled descent
  - 0 needs assist to sit

5. TRANSFERS  
INSTRUCTIONS: Arrange chair(s) for pivot transfer. Ask subject to transfer one way toward a seat with armrests and one way toward a seat without armrests. You may use two chairs (one with and one without armrests) or a bed and a chair.
- 4 able to transfer safely with minor use of hands
  - 3 able to transfer safely definite need of hands
  - 2 able to transfer with verbal cuing and/or supervision
  - 1 needs one person to assist
  - 0 needs two people to assist or supervise to be safe

6. STANDING UNSUPPORTED WITH EYES CLOSED  
INSTRUCTIONS: Please close your eyes and stand still for 10 seconds.
- 4 able to stand 10 seconds safely
  - 3 able to stand 10 seconds with supervision
  - 2 able to stand 3 seconds
  - 1 unable to keep eyes closed 3 seconds but stays safely
  - 0 needs help to keep from falling

7. STANDING UNSUPPORTED WITH FEET TOGETHER  
INSTRUCTIONS: Place your feet together and stand without holding on.
- 4 able to place feet together independently and stand 1 minute safely
  - 3 able to place feet together independently and stand 1 minute with supervision
  - 2 able to place feet together independently but unable to hold for 30 seconds
  - 1 needs help to attain position but able to stand 15 seconds feet together
  - 0 needs help to attain position and unable to hold for 15 seconds

Berg Balance Scale continued.....

8. REACHING FORWARD WITH OUTSTRETCHED ARM WHILE STANDING  
INSTRUCTIONS: Lift arm to 90 degrees. Stretch out your fingers and reach forward as far as you can. (Examiner places a ruler at the end of fingertips when arm is at 90 degrees. Fingers should not touch the ruler while reaching forward. The recorded measure is the distance forward that the fingers reach while the subject is in the most forward lean position. When possible, ask subject to use both arms when reaching to avoid rotation of the trunk.)  
 4 can reach forward confidently 25 cm (10 inches)  
 3 can reach forward 12 cm (5 inches)  
 2 can reach forward 5 cm (2 inches)  
 1 reaches forward but needs supervision  
 0 loses balance while trying/requires external support
9. PICK UP OBJECT FROM THE FLOOR FROM A STANDING POSITION  
INSTRUCTIONS: Pick up the shoe/slipper, which is place in front of your feet.  
 4 able to pick up slipper safely and easily  
 3 able to pick up slipper but needs supervision  
 2 unable to pick up but reaches 2-5 cm(1-2 inches) from slipper and keeps balance independently  
 1 unable to pick up and needs supervision while trying  
 0 unable to try/needs assist to keep from losing balance or falling
10. TURNING TO LOOK BEHIND OVER LEFT AND RIGHT SHOULDERS WHILE STANDING  
INSTRUCTIONS: Turn to look directly behind you over toward the left shoulder. Repeat to the right. Examiner may pick an object to look at directly behind the subject to encourage a better twist turn.  
 4 looks behind from both sides and weight shifts well  
 3 looks behind one side only other side shows less weight shift  
 2 turns sideways only but maintains balance  
 1 needs supervision when turning  
 0 needs assist to keep from losing balance or falling
11. TURN 360 DEGREES  
INSTRUCTIONS: Turn completely around in a full circle. Pause. Then turn a full circle in the other direction.  
 4 able to turn 360 degrees safely in 4 seconds or less  
 3 able to turn 360 degrees safely one side only 4 seconds or less  
 2 able to turn 360 degrees safely but slowly  
 1 needs close supervision or verbal cuing  
 0 needs assistance while turning
12. PLACE ALTERNATE FOOT ON STEP OR STOOL WHILE STANDING UNSUPPORTED  
INSTRUCTIONS: Place each foot alternately on the step/stool. Continue until each foot has touch the step/stool four times.  
 4 able to stand independently and safely and complete 8 steps in 20 seconds  
 3 able to stand independently and complete 8 steps in > 20 seconds  
 2 able to complete 4 steps without aid with supervision  
 1 able to complete > 2 steps needs minimal assist  
 0 needs assistance to keep from falling/unable to try
13. STANDING UNSUPPORTED ONE FOOT IN FRONT  
INSTRUCTIONS: (DEMONSTRATE TO SUBJECT) Place one foot directly in front of the other. If you feel that you cannot place your foot directly in front, try to step far enough ahead that the heel of your forward foot is ahead of the toes of the other foot. (To score 3 points, the length of the step should exceed the length of the other foot and the width of the stance should approximate the subject's normal stride width.)  
 4 able to place foot tandem independently and hold 30 seconds  
 3 able to foot ahead independently and hold 30 seconds  
 2 able to take small step independently and hold 30 seconds  
 1 needs help to step but can hold 15 seconds  
 0 loses balance while stepping or standing
14. STANDING ON ONE LEG  
INSTRUCTIONS: Stand on one leg as long as you can without holding on.  
 4 able to lift leg independently and hold > 10 seconds  
 3 able to lift leg independently and hold 5-10 seconds  
 2 able to lift leg independently and hold  $\geq$  3 seconds  
 1 tries to lift leg unable to hold 3 seconds but remains standing independently.  
 0 unable to try of needs assist to prevent fall

TOTAL SCORE (Maximum = 56)

## **Physical Performance Test**

### Testing Protocol:

Administer the test as outlined below. Subjects are given up to two chances to complete each item. Assistive devices are permitted for tasks 6 – 9.

1. Ask the subject, when given the command to “go” to write the sentence “whales live in the ocean.” Time from the word “go” until the pen is lifted from the page at the end of the sentence. All words must be included and legible. Period need not be included for task to be considered completed.
2. Five kidney beans are placed in a bowl, 5 inches from the edge of the desk in front of the patient. An empty coffee can is placed on the table at the patient’s non-dominant side. A teaspoon is placed in the patient’s dominant hand. Ask the subject on the command “go” to pick up the beans, one at a time and place each in the coffee can. Time from the command “go” until the last bean is heard hitting the bottom of the can.
3. Place a Physician’s Desk Reference or other heavy book on a table in front of the patient. From a seated position, ask the patient, when given the command “go” to place the book on a shelf above shoulder level. Time from the command “go” to the time the book is resting on the shelf.
4. If the subject has a jacket cardigan sweater, ask them to remove it. If not, give the subject a lab coat. Ask the subject, on the command “go” to put the coat on completely such that it is straight on their shoulders and then remove the garment completely. Time from the command “go” until the garment has been completely removed.
5. Place a penny approximately 1 foot from the patient’s foot on the dominant side. Ask the patient, on the command “go” to pick up the penny from the floor and stand up. Time from the command “go” until the subject is standing erect with a penny in hand.
6. With subject in a corridor or in an open room, ask the subject to turn 360 degrees. Evaluate using the scale on PPT scoring sheet.
7. Bring subject to start on a 50-foot walk test course (25 feet out and 25 feet back) and ask the subject, on the command “go” to walk to the 25-foot mark and back. Time from the command “go” until the starting line is crossed on the way back.
8. Bring subject to foot of stairs (nine to 12 steps) and ask subject, on the command “go” to begin climbing stairs until they feel tired and wish to stop. Before beginning this task, alert the subject to the possibility of developing chest pain or shortness of breath and inform the subject to tell you if any of these symptoms occur. Escort the subject up the stairs. Time from the command “go” until the subject’s first foot reaches the top of the first flight of stairs. Record the number of flights (maximum is four) completed (up and down is one flight).

# Physical Performance Test

## Scoring Sheet

			Time	Scoring	Score
1.	Write a sentence. (Whales live in the blue ocean.)	Seconds		$\leq 10$ sec = 4 10.5-15 sec = 3 15.5 – 20 sec = 2 >20 sec = 1 unable = 0	
2.	Simulated eating	Seconds		$\leq 10$ sec = 4 10.5-15 sec = 3 15.5 – 20 sec = 2 >20 sec = 1 unable = 0	
3.	Lift a book and put it on a shelf Book PDR 1988: 5.5 lbs Bed height 59 cm Shelf height 118 cm All sitting with feet on floor	Seconds		$\leq 2$ sec = 4 2.5- 4 sec = 3 4.5 – 6 sec = 2 > 6 sec = 1 unable = 0	
4.	Put on and remove a jacket 1. Standing 2. Use of bathrobe; button down shirt; hospital gown.	Seconds		$\leq 10$ sec = 4 10.5-15 sec = 3 15.5 – 20 sec = 2 >20 sec = 1 unable = 0	
5.	Pick up a penny from floor.	Seconds		$\leq 2$ sec = 4 2.5- 4 sec = 3 4.5 – 6 sec = 2 > 6 sec = 1 unable = 0	
6.	Turn 360 degrees			Discontinuous steps = 0	
				Continuous steps = 2	
				Unsteady (grabs, staggers) = 0	
				Steady = 2	
7.	50-foot walk test. Starting sitting for instructions.	Seconds		$\leq 15$ sec = 4 15.5- 20 sec = 3 20.5 – 25 sec = 2 >25 sec = 1 unable = 0	
8.	Climb one flight of stairs.+	Seconds		$\leq 5$ sec = 4 5.5- 10 sec = 3 10.5 – 15 sec = 2 >15 sec = 1 unable = 0	
9.	Climb stairs.+			Number of flights of stairs up and down (maximum 4)	
	TOTAL SCORE (maximum 36 for nine-item, 28 for seven-item)				
	(*Round time measurements to nearest 0.5 seconds.) (+ omit for 7 item test)			9-item score	

# Dynamic Gait Index\*

**Description:**

Developed to assess the likelihood of falling in older adults.  
This scale was designed to test eight facets of gait.

**Equipment needed:** Box (Shoebox)  
Cones (2)  
Stairs

**Completion:**

**Time:** 15 minutes

**Scoring:** A four-point ordinal scale, ranging from 0-3. “0” indicates the lowest level of function and “3” the highest level of function.  
Total Score = 24

**Interpretation:** < 19 = predictive of falls in the elderly  
> 22 = safe ambulators

\*Shumway-Cook A, Woollacott M. *Motor Control Theory and Applications*, Williams and Wilkins Baltimore, 1995: 323-324

# Dynamic Gait Index

## 1. Gait level surface \_\_\_\_\_

*Instructions:* Walk at your normal speed from here to the next mark (20')

*Grading:* Mark the lowest category that applies.

- (3) Normal: Walks 20', no assistive devices, good speed, no evidence for imbalance, normal gait pattern
- (2) Mild Impairment: Walks 20', uses assistive devices, slower speed, mild gait deviations.
- (1) Moderate Impairment: Walks 20', slow speed, abnormal gait pattern, evidence for imbalance.
- (0) Severe Impairment: Cannot walk 20' without assistance, severe gait deviations or imbalance.

## 2. Change in gait speed \_\_\_\_\_

*Instructions:* Begin walking at your normal pace (for 5'), when I tell you "go," walk as fast as you can (for 5'). When I tell you "slow," walk as slowly as you can (for 5').

*Grading:* Mark the lowest category that applies.

- (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.
- (2) Mild Impairment: Is able to change speed but demonstrates mild gait deviations, or not 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, or changes speed but has significant gait deviations, or changes speed but loses balance but is able to recover and continue walking.
- (0) Severe Impairment: Cannot change speeds, or loses balance and has to reach for wall or be caught.

## 3. Gait with horizontal head turns \_\_\_\_\_

*Instructions:* Begin walking at your normal pace. When I tell you to "look right," keep walking straight, but turn your head to the right. Keep looking to the right until I tell you, "look left," then keep walking straight and turn your head to the left. Keep your head to the left until I tell you "look straight," then keep walking straight, but return your head to the center.

*Grading:* Mark the lowest category that applies.

- (3) Normal: Performs head turns smoothly with no change in gait.
- (2) Mild Impairment: Performs head turns smoothly with slight change in gait velocity, i.e., minor disruption to smooth gait path or uses walking aid.
- (1) Moderate Impairment: Performs head turns with moderate change in gait velocity, slows down, staggers but recovers, can continue to walk.
- (0) Severe Impairment: Performs task with severe disruption of gait, i.e., staggers outside 15" path, loses balance, stops, reaches for wall.

## 4. Gait with vertical head turns \_\_\_\_\_

*Instructions:* Begin walking at your normal pace. When I tell you to "look up," keep walking straight, but tip your head up. Keep looking up until I tell you, "look down," then keep walking straight and tip your head down. Keep your head down until I tell you "look straight," then keep walking straight, but return your head to the center.

*Grading:* Mark the lowest category that applies.

- (3) Normal: Performs head turns smoothly with no change in gait.
- (2) Mild Impairment: Performs head turns smoothly with slight change in gait velocity, i.e., minor disruption to smooth gait path or uses walking aid.
- (1) Moderate Impairment: Performs head turns with moderate change in gait velocity, slows down, staggers but recovers, can continue to walk.
- (0) Severe Impairment: Performs task with severe disruption of gait, i.e., staggers outside 15" path, loses balance, stops, reaches for wall.

Dynamic Gait Index continued....

5. Gait and pivot turn \_\_\_\_\_

*Instructions:* Begin 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:* Mark the lowest category that applies.

- (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.
- (1) Moderate Impairment: Turns slowly, requires verbal cueing, 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 shoebox, step over it, not around it, and keep walking.

*Grading:* Mark the lowest category that applies.

- (3) Normal: Is able to step over the box without changing gait speed, no evidence of imbalance.
- (2) Mild Impairment: Is able to step over box, but must slow down and adjust steps to clear box safely.
- (1) Moderate Impairment: Is able to step over box but must stop, then step over. May require verbal cueing.
- (0) Severe Impairment: Cannot perform without assistance.

7. Step around obstacles \_\_\_\_\_

*Instructions:* Begin walking at normal speed. When you come to the first cone (about 6' away), walk around the right side of it. When you come to the second cone (6' past first cone), walk around it to the left.

*Grading:* Mark the lowest category that applies.

- (3) Normal: Is able to walk around cones safely without changing gait speed; no evidence of imbalance.
- (2) Mild Impairment: Is able to step around both cones, but must slow down and adjust steps to clear cones.
- (1) Moderate Impairment: Is able to clear cones but must significantly slow, speed to accomplish task, or requires verbal cueing.
- (0) Severe Impairment: Unable to clear cones, walks into one or both cones, or requires physical assistance.

8. Steps \_\_\_\_\_

*Instructions:* Walk up these stairs as you would at home, i.e., using the railing if necessary. At the top, turn around and walk down.

*Grading:* Mark the lowest category that applies.

- (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.

TOTAL SCORE: \_\_\_\_\_

# **Functional Gait Assessment**

**Description:**

Developed to assess the likelihood of falling in patients with vestibular disorders. This scale was designed to test 10 facets of gait and balance in a more thorough and concise manner than the Dynamic Gait Index.

**Equipment needed:** 2 Boxes (Shoeboxes)

Stopwatch  
Stairs

**Completion:**

**Time:** 15 minutes

**Scoring:** A four-point ordinal scale, ranging from 0-3. “0” indicates the lowest level of function and “3” the highest level of function.  
Total Score = 30

**Interpretation:** Not published yet.

\*Wrisley DM, Marchetti GF, Kuharsky DK, Whitney SL. *Reliability, Internal Consistency, and Validity of Data Obtained With the Functional Gait Assessment*. Phys Ther. 2004;84:906-918

# Functional Gait Assessment

## 1. Gait level surface \_\_\_\_\_

*Instructions:* Walk at your normal speed from here to the next mark (6m [20ft])

*Grading:* Mark the highest category that applies.

- 3....Normal: Walks 6m [20ft] in less than 5.5 seconds,, no assistive devices, good speed, no evidence for imbalance, normal gait pattern, deviates no more than 15.24-cm (6 in) outside of 30.48-cm (12-in) walkway width.
- 2... Mild Impairment: Walks 6-m (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 30.48-cm (12-in) 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 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 30.48-cm (12-in) walkway width or reaches and touches the wall.

## 2. Change in gait speed \_\_\_\_\_

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

*Grading:* Mark the highest category that applies.

- 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 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 30.48-cm (12-in) walkway width, or not 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 of 30.48-cm (12-in) walkway width or changes speed but has significant gait deviations, 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 of 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 (20ft) 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 each direction.

*Grading:* Mark the highest category that applies.

- 3....Normal: Performs head turns smoothly with no change in gait. Deviates no more than 15.24-cm (6 in) outside of 30.48-cm (12-in) walkway width.
- 2....Mild Impairment: Performs head turns smoothly with slight change in gait velocity (i.e., minor disruption to smooth gait path), deviates 15.24-25.4 cm (6-10 in) outside of 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 of 30.48-cm (12-in) walkway width, can continue to walk.
- 0....Severe Impairment: Performs task with severe disruption of gait (i.e., staggers 38.1 cm [15 in] outside walkway width, loses balance, stops, or reaches for wall.)

Functional Gait Assessment continued...

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 until you have completed 2 repetitions in each direction.

*Grading:* Mark the highest category that applies.

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

2....Mild Impairment: Performs task with slight change in gait velocity (i.e., minor disruption to smooth gait path), deviates 15.24-25.4 cm (6-10 in) outside of 30.48-cm (12-in) walkway width or uses walking aid.

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

0....Severe Impairment: Performs task with severe disruption of gait (i.e., staggers 38.1 cm [15 in] outside walkway width, loses balance, stops, or reaches for wall.)

5. Gait and pivot turn \_\_\_\_\_

*Instructions:* Begin 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:* Mark the highest category that applies.

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:* Mark the highest category that applies.

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 to 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:* Mark the highest category that applies.

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.

Functional Gait Assessment continued...

8. Gait with eyes closed \_\_\_\_\_

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

*Grading:* Mark the highest category that applies.

- 3....Normal: Walks 6m [20ft], no assistive devices, good speed, no evidence for imbalance, normal gait pattern, deviates no more than 15.24-cm (6 in) outside of 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 of 30.48-cm (12-in) walkway width. Ambulates 6 m (20ft) in less than 9 seconds but greater than 7 seconds.
- 1.... Moderate Impairment: Walks 6-m (20-ft), slow speed , abnormal gait pattern, evidence for imbalance, mild gait deviations, deviates 25.4 – 38.1 cm (10-15 in) outside of 30.48-cm (12-in) walkway width. Requires more than 9 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 30.48-cm (12-in) walkway width or will not attempt the task.

9. Ambulating backwards \_\_\_\_\_

*Instructions:* Walk backwards until I tell you to stop.

*Grading:* Mark the highest category that applies.

- 3....Normal: Walks 6m [20ft], no assistive devices, good speed, no evidence for imbalance, normal gait pattern, deviates no more than 15.24-cm (6 in) outside of 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 of 30.48-cm (12-in) walkway width.
- 1.... Moderate Impairment: Walks 6-m (20-ft), slow speed , abnormal gait pattern, evidence for imbalance, mild gait deviations, deviates 25.4 – 38.1 cm (10-15 in) outside of 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 of 30.48-cm (12-in) walkway width or will not attempt the task.

10. Steps \_\_\_\_\_

*Instructions:* Walk up these stairs as you would at home (i.e., using the railing if necessary). At the top, turn around and walk down.

*Grading:* Mark the highest category that applies.

- 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.

TOTAL SCORE: \_\_\_\_\_ MAXIMUM SCORE 30

## 6-Minute Walk Test

**Description:** The 6-Minute Walk test is a measure of endurance.

**Equipment:** stopwatch, rolling tape measure, track/loop walkway

**Instructions:** Monitor vital signs before and after each test if indicated. Assure patient safety throughout the test. Give the same verbal instructions each time. “When I say ‘go’, I want you to walk around this [track]. Keep walking until I say ‘stop’ or until you are too tired to go any further. If you need to rest, you can stop until you feel ready to go again. I am interested in measuring how far you can walk. You can begin when I say ‘go’.” Time the subject for 6 minutes, then say ‘stop’. Measure the distance walked.

Stop testing based on the following criteria:

1. C/o angina symptoms (chest pain or tightness)
2. Any of the following symptoms:
  - a. Light-headedness
  - b. Confusion
  - c. Ataxia, staggering unsteadiness
  - d. Pallor
  - e. Cyanosis
  - f. Nausea
  - g. Marked dyspnea
  - h. Unusual fatigue
  - i. Signs of peripheral circulatory insufficiency
  - j. Claudication or other significant pain
  - k. Facial expressions signifying distress
3. Abnormal cardiac responses
  - a. Systolic blood pressure drops  $> 10$  mmHg
  - b. Systolic blood pressure rises  $< 250$  mmHg
  - c. Diastolic blood pressure rises to  $> 120$  mmHg
  - d. Heart rate drops more than 15 beats per minute (given the subject was walking the last minutes of the test versus resting)

Notify physician if test is terminated for any of the above reasons

6-Minute Walk Test Distances: Means and Standard Deviations by Age and Gender (Meters)

Age	Gender (N)	Mean	SD	Normal Range (2SD)
60-69	Male (15)	572	92	388-756
	Female (22)	538	92	354-722
70-79	Male (14)	527	85	357-697
	Female (22)	471	75	321-621
80-89	Male (8)	417	73	271-563
	Female (15)	392	85	222-562

Steffen, T.M. (2000) Functional assessment: A literature review of four tools. Focus: Geriatric Physical Therapy: An Independent Home Study Course for Individual Continuing Education.