Patient Name: _____ Date: _____

The Activities-specific Balance Confidence (ABC) Scale*

Instructions to Participants: For each of the following activities, 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.

0%	10	20	30	40	50	60	70	80	90	100%
No Confidence										Completely Confident

How confident are you that you will not lose your balance or become unsteady when you…

1. …walk around the house? _____%
2. …walk up or down stairs? _____%
3. …bend over and pick up a slipper from the front of a closet floor? _____%
4. …reach for a small can off a shelf at eye level? _____%
5. …stand on your tip toes and reach for something above your head? _____%
6. …stand on a chair and reach for something? _____%
7. …sweep the floor? _____%
8. …walk outside the house to a car parked in the driveway? _____%
9. …get into or out of a car? _____%
10. …walk across a parking lot to the mall? _____%
11. …walk up or down a ramp? _____%
12. …walk in a crowded mall where people rapidly walk past you? _____%
13. …are bumped into by people as you walk through the mall? _____%
14. …step onto or off of an escalator while you are holding onto a railing? _____%
15. …step onto or off an escalator while holding onto parcels such that you cannot hold onto the railing? _____%
16. …walk outside on icy sidewalks? _____%

*Powell LE & Myers AM. The Activities-specific Balance Confidence (ABC) Scale. Journal of Gerontology Med Sci 1995; 50(1):M28-34.

Total ABC Score: _____

Scoring: _____ / 16 = _____% of self confidence
Total ABC Score

MEDICARE PATIENTS ONLY
100% - _____% Function = _____% Impairment

Patient Signature: _____ Date: _____

Therapist Signature: _____ Date: _____

Falls Efficacy Scale

Name:_____ Date:_____

On a scale from 1 to 10, with 1 being very confident and 10 being not confident at all, how confident are you that you do the following activities without falling?

Activity:	**Score:** 1 = very confident 10 = not confident at all
Take a bath or shower	
Reach into cabinets or closets	
Walk around the house	
Prepare meals not requiring carrying heavy or hot objects	
Get in and out of bed	
Answer the door or telephone	
Get in and out of a chair	
Getting dressed and undressed	
Personal grooming (i.e. washing your face)	
Getting on and off of the toilet	
Total Score	

A total score of greater than 70 indicates that the person has a fear of falling

Adapted from Tinetti et al (1990)

References:

Tinetti, M., D. Richman, et al. (1990). "Falls efficacy as a measure of fear of falling." Journal of gerontology **45**(6): P239.

Appendix A. Fear of Falling Avoidance Behavior Questionnaire

Please answer the following questions that are related to your balance. For each statement, please check one box to say how the **fear of falling** has or has not affected you. If you do not currently do the activities in question, try and imagine how your **fear of falling** would affect your participation in these activities. If you normally use a walking aid to do these activities or hold onto someone, rate how your **fear of falling** would affect you as if you were not using these supports. If you have questions about answering any of these statements, please ask the questionnaire administrator.

*Please check **one box** for each question*

	Due to my fear of falling, I avoid…	***Completely disagree***	***Disagree***	***Unsure***	***Agree***	***Completely agree***
1.	***Walking***	☐	☐	☐	☐	☐
2.	***Lifting and carrying objects*** *(e.g., cup, child)*	☐	☐	☐	☐	☐
3.	***Going up and downstairs***	☐	☐	☐	☐	☐
4.	***Walking on different surfaces*** *(e.g., grass, uneven ground)*	☐	☐	☐	☐	☐
5.	***Walking in crowded places***	☐	☐	☐	☐	☐
6.	***Walking in dimly lit, unfamiliar places***	☐	☐	☐	☐	☐
7.	***Leaving home***	☐	☐	☐	☐	☐
8.	***Getting in and out of a chair***	☐	☐	☐	☐	☐
9.	***Showering and/or bathing***	☐	☐	☐	☐	☐
10.	***Exercise***	☐	☐	☐	☐	☐
11.	***Preparing meals*** *(e.g., planning, cooking, serving)*	☐	☐	☐	☐	☐
12.	***Doing housework*** *(e.g., cleaning, washing clothes)*	☐	☐	☐	☐	☐
13.	***Work and/or volunteer work***	☐	☐	☐	☐	☐
14.	***Recreational and leisure activities*** *(e.g., play, sports, arts and culture, crafts, hobbies, socializing, travelling)*	☐	☐	☐	☐	☐

Please make sure you have checked one box for each question. Thank you!

TOTAL:

The Lower Extremity Functional Scale

We are interested in knowing whether you are having any difficulty at all with the activities listed below **because of your lower limb problem** for which you are currently seeking attention. Please provide an answer for **each** activity.

Today, *do you* or *would you* have any difficulty at all with:

	Activities	Extreme Difficulty or Unable to Perform Activity	Quite a Bit of Difficulty	Moderate Difficulty	A Little Bit of Difficulty	No Difficulty
1	Any of your usual work, housework, or school activities.	0	1	2	3	4
2	Your usual hobbies, re creational or sporting activities.	0	1	2	3	4
3	Getting into or out of the bath.	0	1	2	3	4
4	Walking between rooms.	0	1	2	3	4
5	Putting on your shoes or socks.	0	1	2	3	4
6	Squatting.	0	1	2	3	4
7	Lifting an object, like a bag of groceries from the floor.	0	1	2	3	4
8	Performing light activities around your home.	0	1	2	3	4
9	Performing heavy activities around your home.	0	1	2	3	4
10	Getting into or out of a car.	0	1	2	3	4
11	Walking 2 blocks.	0	1	2	3	4
12	Walking a mile.	0	1	2	3	4
13	Going up or down 10 stairs (about 1 flight of stairs).	0	1	2	3	4
14	Standing for 1 hour.	0	1	2	3	4
15	Sitting for 1 hour.	0	1	2	3	4
16	Running on even ground.	0	1	2	3	4
17	Running on uneven ground.	0	1	2	3	4
18	Making sharp turns while running fast.	0	1	2	3	4
19	Hopping.	0	1	2	3	4
20	Rolling over in bed.	0	1	2	3	4
	Column Totals:					

Minimum Level of Detectable Change (90% Confidence): 9 points **SCORE: _____/ 80 (fill in the blank with the sum of your responses)**

Source: Binkley et al (1999): The Lower Extremity Functional Scale (LEFS): Scale development, measurement properties, and clinical application. Physical Therapy. 79:371-383.

Berg Balance Scale

The Berg Balance Scale (BBS) was developed to measure balance among older people with impairment in balance function by assessing the performance of functional tasks. It is a valid instrument used for evaluation of the effectiveness of interventions and for quantitative descriptions of function in clinical practice and research. The BBS has been evaluated in several reliability studies. *A recent study of the BBS, which was completed in Finland, indicates that a change of eight (8) BBS points is required to reveal a genuine change in function between two assessments among older people who are dependent in ADL and living in residential care facilities.*

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

Equipment needed: Ruler, two 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 scale, ranging from 0-4. "0" indicates the lowest level of function and "4" the highest level of function. Total Score = 56

Interpretation:
41-56 = low fall risk
21-40 = medium fall risk
0 –20 = high fall risk

A change of 8 points is required to reveal a genuine change in function between 2 assessments.

Berg Balance Scale

Name: _____ Date: _____

Location: _____ Rater: _____

ITEM DESCRIPTION	SCORE (0-4)
Sitting to standing	_____
Standing unsupported	_____
Sitting unsupported	_____
Standing to sitting	_____
Transfers	_____
Standing with eyes closed	_____
Standing with feet together	_____
Reaching forward with outstretched arm	_____
Retrieving object from floor	_____
Turning to look behind	_____
Turning 360 degrees	_____
Placing alternate foot on stool	_____
Standing with one foot in front	_____
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
- the subject's performance warrants supervision
- 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

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

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.

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 able to sit 30 seconds
( ) 1 able to sit 10 seconds
( ) 0 unable to sit without support 10 seconds

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

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

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

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…

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

PICK UP OBJECT FROM THE FLOOR FROM A STANDING POSITION
INSTRUCTIONS: Pick up the shoe/slipper, which is 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

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

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

PLACE ALTERNATE FOOT ON STEP OR STOOL WHILE STANDING UNSUPPORTED
INSTRUCTIONS: Place each foot alternately on the step/stool. Continue until each foot has touched 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

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 place 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

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 ≥ 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)

BESTest
Balance Evaluation – Systems Test

TEST NUMBER/SUBJECT CODE _____ **DATE** _____

EXAMINER NAME _____

EXAMINER Instructions for BESTest

1. Subjects should be tested with flat heeled shoes or with shoes and socks off.
2. If subject must use an assistive device for an item, score that item one category lower

Tools Required

- Stop watch
- Measuring tape mounted on wall for Functional Reach test
- Approximately 60 cm x 60 cm (2 X 2 ft) block of 4-inch, medium-density, Tempur® foam
- 10 degree incline ramp (at least 2 x 2 ft) to stand on
- Stair step, 15 cm (6 inches) in height for alternate stair tap
- 2 stacked shoe boxes for obstacle during gait
- 2.5 Kg (5-lb) free weight for rapid arm raise
- Firm chair with arms with 3 meters in front marked with tape for Get Up and Go test
- Masking tape to mark 3 m and 6 m lengths on the floor for Get Up and Go

SUMMARY OF PERFORMANCE: CALCULATE PERCENT SCORE

Section I:	**_____/15 x 100 = _____**	**Biomechanical Constraints**
Section II:	**_____/21 x 100 = _____**	**Stability Limits/Verticality**
Section III:	**_____/18 x 100 = _____**	**Transitions/Anticipatory**
Section IV	**_____/18 x 100 = _____**	**Reactive**
Section V:	**_____/15 x 100 = _____**	**Sensory Orientation**
Section VI:	**_____/21 x 100 = _____**	**Stability in Gait**

TOTAL: **_____/108 points = _____** **Percent Total Score**

BESTest- Inter-rater Reliability
Balance Evaluation – Systems Test

Subjects should be tested with flat heeled shoes or shoes and socks off. If subject must use an assistive device for an item, score that item one category lower. If subject requires physical assistance to perform an item score the lowest category (0) for that item.

I. BIOMECHANICAL CONSTRAINTS **SECTION I: _____/15 POINTS**

1. BASE OF SUPPORT
   - (3) Normal: Both feet have normal base of support with no deformities or pain
   - (2) One foot has deformities and/or pain
   - (1) Both feet has deformities OR pain
   - (0) Both feet have deformities AND pain

2. COM ALIGNMENT
   - (3) Normal AP and ML CoM alignment and normal segmental postural alignment
   - (2) Abnormal AP OR ML CoM alignment OR abnormal segmental postural alignment
   - (1) Abnormal AP OR ML CoM alignment AND abnormal segmental postural alignment
   - (0) Abnormal AP AND ML CoM alignment

3. ANKLE STRENGTH & RANGE
   - (3) Normal: Able to stand on toes with maximal height and to stand on heels with front of feet up
   - (2) Impairment in either foot of either ankle flexors or extensors (i.e. less than maximum height)
   - (1) Impairment in two ankle groups (eg; bilateral flexors or both ankle flexors and extensors in 1 foot)
   - (0) Both flexors and extensors in both left and right ankles impaired (i.e. less than maximum height)

4. HIP/TRUNK LATERAL STRENGTH
   - (3) Normal: Abducts both hips to lift the foot off the floor for 10 s while keeping trunk vertical
   - (2) Mild: Abducts both hips to lift the foot off the floor for 10 s but without keeping trunk vertical
   - (1) Moderate: Abducts only one hip off the floor for 10 s with vertical trunk
   - (0) Severe: Cannot abduct either hip to lift a foot off the floor for 10 s with trunk vertical or without vertical

5. SIT ON FLOOR AND STANDUP *Time_____ secs*
   - (3) Normal: Independently sits on the floor and stands up
   - (2) Mild: Uses a chair to sit on floor OR to stand up
   - (1) Moderate: Uses a chair to sit on floor AND to stand up
   - (0) Severe: Cannot sit on floor or stand up, even with a chair, or refuses

II. STABILITY LIMITS **SECTION II: _____/21 POINTS**

6. SITTING VERTICALITY AND LATERAL LEAN

Lean			Verticality		
Left	Right		Left	Right	
(3)	(3)	Maximum lean, subject moves upper shoulders beyond body midline, very stable	(3)	(3)	Realigns to vertical with very SMALL or no OVERSHOOT
(2)	(2)	Moderate lean, subject's upper shoulder approaches body midline or some instability	(2)	(2)	Significantly Over- or under-shoots but eventually realigns to vertical
(1)	(1)	Very little lean, or significant instability	(1)	(1)	Failure to realign to vertical
(0)	(0)	No lean or falls (exceeds limits)	(0)	(0)	Falls with the eyes closed

7. FUNCTIONAL REACH FORWARD *Distance reached: _____ cm OR_____inches*
(3) Maximum to limits: >32 cm (12.5 in)
(2) Moderate: 16.5 cm - 32 cm (6.5 – 12.5 in)
(1) Poor: < 16.5 cm (6.5 in)
(0) No measurable lean – or must be caught

8. FUNCTIONAL REACH LATERAL *Distance reached: Left _____ cm (_____in) Right _____ cm (_____in)*

Left	Right	
(3)	(3)	Maximum to limit: > 25.5 cm (10 in)
(2)	(2)	Moderate: 10-25.5 cm (4-10 in)
(1)	(1)	Poor: < 10 cm (4 in)
(0)	(0)	No measurable lean, or must be caught

III. TRANSITIONS- ANTICIPATORY POSTURAL ADJUSTMENT SECTION III. _____/18 POINTS

9. SIT TO STAND
(3) Normal: Comes to stand without the use of hands and stabilizes independently
(2) Comes to stand on the first attempt with the use of hands
(1) Comes to stand after several attempts or requires minimal assist to stand or stabilize or requires touch of back of leg or chair
(0) Requires moderate or maximal assist to stand

10. RISE TO TOES
(3) Normal: Stable for 3 sec with good height
(2) Heels up, but not full range (smaller than when holding hands so no balance requirement)
-OR- slight instability & holds for 3 sec
(1) Holds for less than 3 sec
(0) Unable

11. STAND ON ONE LEG

Left *Time in Sec:_____*	Right *Time in Sec: _____*
(3) Normal: Stable for > 20 s	(3) Normal: Stable for > 20s
(2) Trunk motion, OR 10-20 s	(2) Trunk motion, OR 10-20 s
(1) Stands 2-10 s	(1) Stands 2-10s
(0) Unable	(0) Unable

12. ALTERNATE STAIR TOUCHING *# of successful steps: _____ Time in seconds: _____*
(3) Normal: Stands independently and safely and completes 8 steps in < 10 seconds
(2) Completes 8 steps (10-20 seconds) AND/OR show instability such as inconsistent foot placement, excessive trunk motion, hesitation or arhythmical
(1) Completes < 8 steps – without minimal assistance (i.e. assistive device) OR > 20 sec for 8 steps
(0) Completes < 8 steps, even with assistive devise

13. STANDING ARM RAISE
(3) Normal: Remains stable
(2) Visible sway
(1) Steps to regain equilibrium/unable to move quickly w/o losing balance
(0) Unable, or needs assistance for stability

IV. REACTIVE POSTURAL RESPONSE **SECTION IV: _____/18 POINTS**

14. IN PLACE RESPONSE- FORWARD
(3) Recovers stability with ankles, no added arms or hips motion
(2) Recovers stability with arm or hip motion
(1) Takes a step to recover stability
(0) Would fall if not caught OR requires assist OR will not attempt

15. IN PLACE RESPONSE- BACKWARD
(3) Recovers stability at ankles, no added arm / hip motion
(2) Recovers stability with some arm or hip motion
(1) Takes a step to recover stability
(0) Would fall if not caught -OR- requires assistance -OR- will not attempt

16. COMPENSATORY STEPPING CORRECTION- FORWARD
(3) Recovers independently a single, large step (second realignment step is allowed)
(2) More than one step used to recover equilibrium, but recovers stability independently OR 1 step with imbalance
(1) Takes multiple steps to recover equilibrium, or needs minimum assistance to prevent a fall
(0) No step, OR would fall if not caught, OR falls spontaneously

17. COMPENSATORY STEPPING CORRECTION- BACKWARD
(3) Recovers independently a single, large step
(2) More than one step used, but stable and recovers independently OR 1 step with imbalance
(1) Takes several steps to recover equilibrium, or needs minimum assistance
(0) No step, OR would fall if not caught, OR falls spontaneously

18. COMPENSATORY STEPPING CORRECTION- LATERAL

Left
(3) Recovers independently with 1 step of normal length/width (crossover or lateral OK)
(2) Several steps used, but recovers independently
(1) Steps, but needs to be assisted to prevent a fall
(0) Falls, or cannot step

Right
(3) Recovers independently with 1 step of normal length/width (crossover or lateral OK)
(2) Several steps used, but recovers independently
(1) Steps, but needs to be assisted to prevent a fall
(0) Falls, or cannot step

V. SENSORY ORIENTATION **SECTION V: _____/15 POINTS**

19. SENSORY INTEGRATION FOR BALANCE (MODIFIED CTSIB)

A -EYES OPEN, FIRM SURFACE	**B -EYES CLOSED, FIRM SURFACE**	**C -EYES OPEN, FOAM SURFACE**	**D -EYES CLOSED, FOAM SURFACE**
Trial 1 _____sec	Trial 1 _____sec	Trial 1 _____sec	Trial 1_____sec
Trial 2 _____sec	Trial 2 _____sec	Trial 2 _____sec	Trial 2 _____sec
(3) 30s stable	(3) 30s stable	(3) 30s stable	(3) 30s stable
(2) 30s unstable	(2) 30s unstable	(2) 30s unstable	(2) 30s unstable
(1) < 30s	(1) < 30s	(1) < 30s	(1) < 30s
(0) Unable	(0) Unable	(0) Unable	(0) Unable

20. INCLINE- EYES CLOSED

Toes Up
(3) Stands independently, steady without excessive sway, holds 30 sec, and aligns with gravity
(2) Stands independently 30 SEC with greater sway than in item 19B -OR- aligns with surface
(1) Requires touch assist -OR- stands without assist for 10-20 sec
(0) Unable to stand >10 sec -OR- will not attempt independent stance

VI. STABILITY IN GAIT **SECTION V: _____/21 POINTS**

21. GAIT – LEVEL SURFACE *Time_____secs.*
    (3) Normal: walks 20 ft., good speed (≤ 5.5 sec), no evidence of imbalance.
    (2) Mild: 20 ft., slower speed (>5.5 sec), no evidence of imbalance.
    (1) Moderate: walks 20 ft., evidence of imbalance (wide-base, lateral trunk motion, inconsistent step path) – at any preferred speed.
    (0) Severe: cannot walk 20 ft. without assistance, or severe gait deviations OR severe imbalance

22. CHANGE IN GAIT SPEED
    (3) Normal: Significantly changes walking speed without imbalance
    (2) Mild: Unable to change walking speed without imbalance
    (1) Moderate: Changes walking speed but with signs of imbalance,
    (0) Severe: Unable to achieve significant change in speed AND signs of imbalance

23. WALK WITH HEAD TURNS – HORIZONTAL
    (3) Normal: performs head turns with no change in gait speed and good balance
    (2) Mild: performs head turns smoothly with reduction in gait speed,
    (1) Moderate: performs head turns with imbalance
    (0) Severe: performs head turns with reduced speed AND imbalance AND/OR will not move head within available range while walking.

24. WALK WITH PIVOT TURNS
    (3) Normal: Turns with feet close, FAST (≤ 3 steps) with good balance.
    (2) Mild: Turns with feet close SLOW (≥4 steps) with good balance
    (1) Moderate: Turns with feet close at any speed with mild signs of imbalance
    (0) Severe: Cannot turn with feet close at any speed and significant imbalance.

25. STEP OVER OBSTACLES *Time_____sec*
    (3) Normal: able to step over 2 stacked shoe boxes without changing speed and with good balance
    (2) Mild: steps over 2 stacked shoe boxes but slows down, with good balance
    (1) Moderate: steps over shoe boxes with imbalance or touches box.
    (0) Severe: cannot step over shoe boxes AND slows down with imbalance or cannot perform with assistance.

26. TIMED "GET UP & GO" *Get Up & Go: Time _____sec*
    (3) Normal: Fast (<11 sec) with good balance
    (2) Mild: Slow (>11 sec with good balance)
    (1) Moderate: Fast (<11 sec) with imbalance.
    (0) Severe: Slow (>11 sec) AND imbalance.

27. Timed "Get Up & Go" With Dual Task *Dual Task: Time _____sec*
    (3) Normal: No noticeable change between sitting and standing in the rate or accuracy of backwards counting and no change in gait speed.
    (2) Mild: Noticeable slowing, hesitation or errors in counting backwards OR slow walking (10%) in dual task
    (1) Moderate: Affects on BOTH the cognitive task AND slow walking (>10%) in dual task.
    (0) Severe: Can't count backward while walking or stops walking while talking

California State University, Fullerton
Center for Successful Aging

Scoring Form for Fullerton Advanced Balance (FAB) Scale

Name: _____ Date of Test: _____

1. Stand with feet together and eyes closed

( ) 0 Unable to obtain the correct standing position independently

( ) 1 Able to obtain the correct standing position independently but unable to maintain the position or keep the eyes closed for more than 10 seconds

( ) 2 Able to maintain the correct standing position with eyes closed for more than 10 seconds but less than 30 seconds

( ) 3 Able to maintain the correct standing position with eyes closed for 30 seconds but requires close supervision

( ) 4 Able to maintain the correct standing position safely with eyes closed for 30 seconds

2. Reach forward to retrieve an object (pencil) held at shoulder height with outstretched arm

( ) 0 Unable to reach the pencil without taking more than two steps

( ) 1 Able to reach the pencil but needs to take two steps

( ) 2 Able to reach the pencil but needs to take one step

( ) 3 Can reach the pencil without moving the feet but requires supervision

( ) 4 Can reach the pencil safely and independently without moving the feet

3. Turn 360 degrees in right and left directions

( ) 0 Needs manual assistance while turning

( ) 1 Needs close supervision or verbal cueing while turning

( ) 2 Able to turn 360 degrees but takes more than four steps in both directions

( ) 3 Able to turn 360 degrees but unable to complete in four steps or fewer in one direction

( ) 4 Able to turn 360 degrees safely taking four steps or fewer in both directions

***4. Step up onto and over a 6-inch bench**

( ) 0 Unable to step up onto the bench without loss of balance or manual assistance

( ) 1 Able to step up onto the bench with leading leg, but trailing leg contacts the bench or leg swings around the bench during the swing-through phase in both directions

( ) 2 Able to step up onto the bench with leading leg, but trailing leg contacts the bench or swings around the bench during the swing-through phase in one direction

( ) 3 Able to correctly complete the step up and over in both directions but requires close supervision in one or both directions

( ) 4 Able to correctly complete the step up and over in both directions safely and independently

***5. Tandem walk**

( ) 0 Unable to complete 10 steps independently
( ) 1 Able to complete the 10 steps with more than five interruptions
( ) 2 Able to complete the 10 steps with three to five interruptions
( ) 3 Able to complete the 10 steps with one to two interruptions
( ) 4 Able to complete the 10 steps independently and with no interruptions

***6. Stand on one leg**

( ) 0 Unable to try or needs assistance to prevent falling
( ) 1 Able to lift leg independently but unable to maintain position for more than 5 seconds
( ) 2 Able to lift leg independently and maintain position for more than 5 but less than 12 seconds
( ) 3 Able to lift leg independently and maintain position for 12 or more seconds but less than 20 seconds
( ) 4 Able to lift leg independently and maintain position for the full 20 seconds

***7. Stand on foam with eyes closed**

( ) 0 Unable to step onto foam or maintain standing position independently with eyes open
( ) 1 Able to step onto foam independently and maintain standing position but unable or unwilling to close eyes
( ) 2 Able to step onto foam independently and maintain standing position with eyes closed for 10 seconds or less
( ) 3 Able to step onto foam independently and maintain standing position with eyes closed for more than 10 seconds but less than 20 seconds
( ) 4 Able to step onto foam independently and maintain standing position with eyes closed for 20 seconds

Do not introduce test item #8 if test item #4 was not performed safely and/or it is contraindicated to perform this test item (review test administration instructions for contraindications). Score a zero and move to next test item.

8. Two-footed jump

( ) 0 Unwilling or unable to attempt or attempts to initiate two-footed jump, but one or both feet do not leave the floor
( ) 1 Able to initiate two-footed jump, but one foot either leaves the floor or lands before the other
( ) 2 Able to perform two-footed jump, but unable to jump farther than the length of their own feet
( ) 3 Able to perform two-footed jump and achieve a distance greater than the length of their own feet
( ) 4 Able to perform two-footed jump and achieve a distance greater than twice the length of their own feet

9. Walk with head turns

( ) 0 Unable to walk 10 steps independently while maintaining 30° head turns at an established pace

( ) 1 Able to walk 10 steps independently but unable to complete required number of 30° head turns at an established pace

( ) 2 Able to walk 10 steps but veers from a straight line while performing 30° head turns at an established pace

( ) 3 Able to walk 10 steps in a straight line while performing 30° head turns at an established pace but head turns less than 30° in one or both directions

( ) 4 Able to walk 10 steps in a straight line while performing required number of 30° head turns at established pace

10. Reactive postural control

( ) 0 Unable to maintain upright balance; no observable attempt to step; requires manual assistance to restore balance

( ) 1 Unable to maintain upright balance; takes two or more steps and requires manual assistance to restore balance

( ) 2 Unable to maintain upright balance; takes more than two steps but is able to restore balance independently

( ) 3 Unable to maintain upright balance; takes two steps but is able to restore balance independently

( ) 4 Unable to maintain upright balance but able to restore balance independently with only one step

TOTAL: 40 POINTS

<u>Evaluating Risk for Falls</u>:

Long Form Fullerton Advanced Balance (FAB) scale Cut-Off Score: ≤ 25/40 Points

Short-Form Fullerton Advanced Balance (FAB) scale Cut-Off Score: ≤ 9/16 Points

Appendix.

Functional Gait Assessment[a]

Requirements: A marked 6-m (20-ft) walkway that is marked with a 30.48-cm (12-in) width.

_____1. GAIT LEVEL SURFACE

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

Grading: Mark the highest category that applies.

(3) Normal—Walks 6 m (20 ft) 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 the 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 the 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 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

Instructions: *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: 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 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 (12-in) 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: 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 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 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, 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: Mark the highest category that applies.

(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: 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 steps to clear box safely. May require verbal cueing.

(0) Severe impairment—Cannot perform without assistance.

(Continued)

Appendix.
Continued

_____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.

_____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: Mark the highest category that applies.

(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—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. 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 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: Mark the highest category that applies.

(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: 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

[a] Adapted from Dynamic Gait Index.[1] Modified and reprinted with permission of authors and Lippincott Williams & Wilkins (http://lww.com).

Walker, M.L. (2007). **Reference Group Data for the Functional Gait Assessment**. *Physical Therapy* (87)11, 1468-1477.

Table 1.
Functional Gait Assessment Total Scores by Decade

Age (y)	N	Minimum Score	Maximum Score	Mean	SD	95% Confidence Interval
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

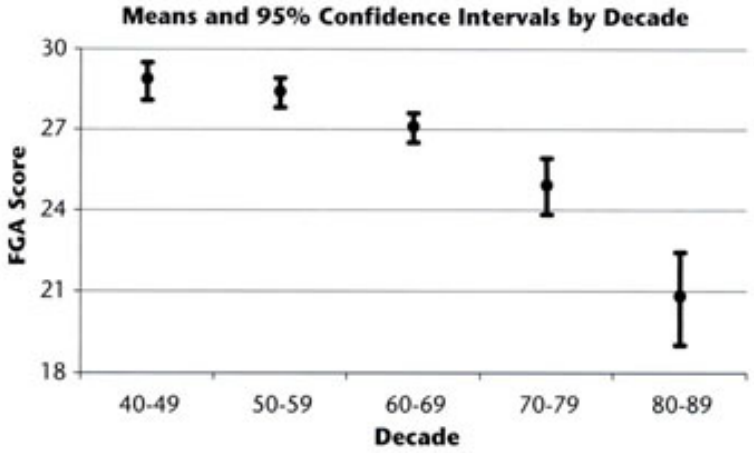

Figure 2.
Comparison of the mean Functional Gait Assessment (FGA) total scores and 95% confidence intervals by decade. A perfect score is 30.

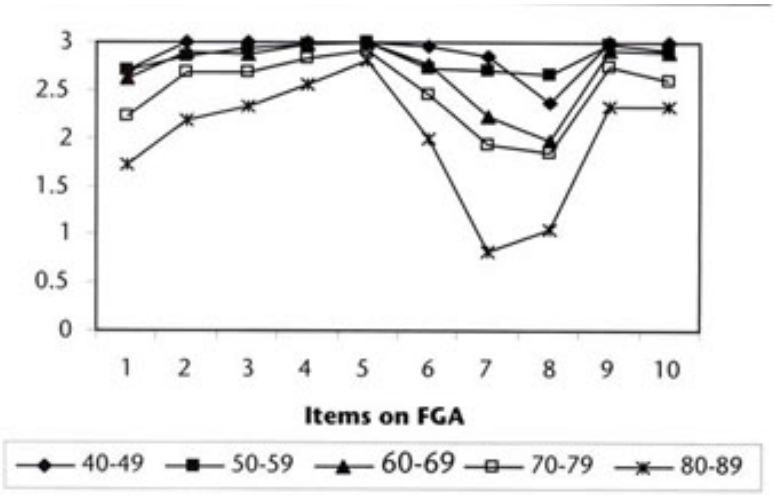

Figure 3.
Mean score of each Functional Gait Assessment (FGA) item by decade. On the Y axis, scores for each item can range from 0 (severe impairment) to 3 (normal). On the X axis are the 10 items of the FGA: 1=gait on level surface, 2=change in gait speed, 3=gait with horizontal head turns, 4=gait with vertical head turns, 5=gait with pivot turn, 6=step over obstacle, 7=gait with narrow base of support, 8=gait with eyes closed, 9=ambulating backward, 10=steps.

Johns Hopkins

Fall Risk Assessment Tool

If patient has any of the following conditions, check the box and apply Fall Risk interventions as indicated.

High Fall Risk - Implement High Fall Risk interventions per protocol

- History of more than one fall within 6 months before admission
- Patient has experienced a fall during this hospitalization
- Patient is deemed high fall-risk per protocol (e.g., seizure precautions)

Low Fall Risk - Implement Low Fall Risk interventions per protocol

- Complete paralysis or completely immobilized

Do not continue with Fall Risk Score Calculation if any of the above conditions are checked.

FALL RISK SCORE CALCULATION – Select the appropriate option in each category. Add all points to calculate Fall Risk Score. (If no option is selected, score for category is 0)	**Points**
Age *(single-select)* 60 - 69 years (1 point) 70 -79 years (2 points) greater than or equal to 80 years (3 points)	
Fall History *(single-select)* One fall within 6 months before admission (5 points)	
Elimination, Bowel and Urine *(single-select)* Incontinence (2 points) Urgency or frequency (2 points) Urgency/frequency and incontinence (4 points)	
Medications: Includes PCA/opiates, anticonvulsants, anti-hypertensives, diuretics, hypnotics, laxatives, sedatives, and psychotropics *(single-select)* On 1 high fall risk drug (3 points) On 2 or more high fall risk drugs (5 points) Sedated procedure within past 24 hours (7 points)	
Patient Care Equipment: Any equipment that tethers patient (e.g., IV infusion, chest tube, indwelling catheter, SCDs, etc.) *(single-select)* One present (1 point) Two present (2 points) 3 or more present (3 points)	
Mobility *(multi-select; choose all that apply and add points together)* Requires assistance or supervision for mobility, transfer, or ambulation (2 points) Unsteady gait (2 points) Visual or auditory impairment affecting mobility (2 points)	
Cognition *(multi-select; choose all that apply and add points together)* Altered awareness of immediate physical environment (1 point) Impulsive (2 points) Lack of understanding of one's physical and cognitive limitations (4 points)	
Total Fall Risk Score (Sum of all points per category)	
SCORING: 6-13 Total Points = Moderate Fall Risk, >13 Total Points = High Fall Risk	

JOHNS HOPKINS MEDICINE

Patient name:	Date:	Time:	AM/PM
NHI:	Test carried out by:		

The 30-Second Chair Stand Test

Overview: The 30 Second Chair Stand Test, in conjunction with other measures such as the 4-Stage Balance Test, Timed Up and Go (TUG) Test and an assessment of postural hypotension can help to indicate if a patient is at risk of falling.

Purpose: To test leg strength and endurance:

Equipment:
- A chair with a straight back, without arm rests, placed against a wall to prevent it moving
- A stopwatch/timer

Instructions to the patient:

1. Sit in the middle of the chair.
2. Place each hand on the opposite shoulder crossed at the wrists.
3. Place your feet flat on the floor.
4. Keep your back straight and keep your arms against your chest.
5. On "**Go**", rise to a full standing position and then sit back down again.
6. Repeat this for 30 seconds.

On "**Go**" begin timing.

Do not continue if you feel the patient may fall during the test.

Count the number of times the patient comes to a full standing position in 30 seconds and record it in the box below.

If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a stand. If the patient must use his or her arms to stand then stop the test and record "0" for the number below.

Number:	(See over page for what this means)

A below average number of stands for the patient's age group indicates a high risk of falls.

Notes:

This resource was developed by bpac[nz] for the Health Quality & Safety Commission based on the STEADI falls campaign by the US Centres for Diseases Control and Prevention (CDC).

Chair stand – Number of stands by age group[1]

MEN			
Age group (years)	**Below Average**	**Average**	**Above Average**
60 – 64	< 14	14 – 19	>19
65 – 69	< 12	12 – 18	>18
70 – 74	< 12	12 – 17	>17
75 – 79	< 11	11 – 17	>17
80 – 84	< 10	10 – 15	>15
85 – 89	< 8	8 – 14	>14
90 – 94	< 7	7 – 12	>12

WOMEN			
Age group (years)	**Below Average**	**Average**	**Above Average**
60 – 64	< 12	12 – 17	>17
65 – 69	< 11	11 – 16	>16
70 – 74	< 10	10 – 15	>15
75 – 79	< 10	10 – 15	>15
80 – 84	< 9	9 – 14	>14
85 – 89	< 8	8 – 13	>13
90 – 94	< 4	4 – 11	>11

1 Rikli R, Jones C, Functional fitness normative scores for community-residing older adults, ages 60-94. J Aging Phys Activity 1999;7(2):162-81.

This resource was developed by bpac[nz] for the Health Quality & Safety Commission based on the STEADI falls campaign by the US Centres for Diseases Control and Prevention (CDC).

Timed Up and Go (TUG) Test

Name:_____ MR: _____ Date:_____

1. Equipment: arm chair, tape measure, tape, stop watch.
2. Begin the test with the subject sitting correctly (hips all of the way to the back of the seat) in a chair with arm rests. The chair should be stable and positioned such that it will not move when the subject moves from sit to stand. The subject is allowed to use the arm rests during the sit – stand and stand – sit movements.
3. Place a piece of tape or other marker on the floor 3 meters away from the chair so that it is easily seen by the subject.
4. Instructions: "On the word GO you will stand up, walk to the line on the floor, turn around and walk back to the chair and sit down. Walk at your regular pace.
5. Start timing on the word "GO" and stop timing when the subject is seated again correctly in the chair with their back resting on the back of the chair.
6. The subject wears their regular footwear, may use any gait aid that they normally use during ambulation, but may not be assisted by another person. There is no time limit. They may stop and rest (but not sit down) if they need to.
7. Normal healthy elderly usually complete the task in ten seconds or less. Very frail or weak elderly with poor mobility may take 2 minutes or more.
8. The subject should be given a practice trial that is not timed before testing.
9. Results correlate with gait speed, balance, functional level, the ability to go out, and can follow change over time.

Normative Reference Values by Age

Age Group	Time in Seconds (95% Confidence Interval)	
60 – 69 years	8.1	(7.1 – 9.0)
70 – 79 years	9.2	(8.2 – 10.2)
80 – 99 years	11.3	(10.0 – 12.7)

Cut-off Values Predictive of Falls by

Group	Time in Seconds
Community Dwelling Frail Older Adults	> 14 associated with high fall risk
Post-op hip fracture patients at time of discharge[3]	> 24 predictive of falls within 6 months after hip fracture
Frail older adults	≥ 30 predictive of requiring assistive device for ambulation and being dependent in ADLs

Date	Time	Date	Time	Date	Time	Date	Time

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1. Bohannon RW. Reference values for the Timed Up and Go Test: A Descriptive Meta-Analysis. Journal of Geriatric Physical Therapy, 2006;29(2):64-8.
2. Shumway-Cook A, Brauer S, Woollacott M. Predicting the probability for falls in community-dwelling older adults using the timed up & go test. Phys Ther. 2000;80:896-903.
3. Kristensen MT, Foss NB, Kehlet H. Timed "Up and Go" Test as a predictor of falls within 6 months after hip fracture surgery. Phys Ther. 2007.87(1):24-30.

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Bischoff HA, Stahelin HB, et al. Identifying a cut-off point for normal mobility: A comparison study of the timed "up and go" test in community-dwelling and institutionalized elderly women. Age and Ageing. 2003;32:315-320.

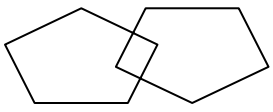
Boulgarides LK, McGinty SM, et al. Use of clinical and impairment-based tests to predict falls by community-dwelling older adults. Phys Ther. 2003;83:328-339.

Podsiadlo D, Richardson S. The timed “up & go": A test of basic functional mobility for frail elderly persons. JAGS. 1991;39:142-148.

Mini-Mental State Examination (MMSE)

Patient's Name: _____ Date: _____

Instructions: ***Ask the questions in the order listed. Score one point for each correct response within each question or activity.***

Maximum Score	Patient's Score	Questions
5		"What is the year? Season? Date? Day of the week? Month?"
5		"Where are we now: State? County? Town/city? Hospital? Floor?"
3		The examiner names three unrelated objects clearly and slowly, then asks the patient to name all three of them. The patient's response is used for scoring. The examiner repeats them until patient learns all of them, if possible. Number of trials: _____
5		"I would like you to count backward from 100 by sevens." (93, 86, 79, 72, 65, …) Stop after five answers. Alternative: "Spell WORLD backwards." (D-L-R-O-W)
3		"Earlier I told you the names of three things. Can you tell me what those were?"
2		Show the patient two simple objects, such as a wristwatch and a pencil, and ask the patient to name them.
1		"Repeat the phrase: 'No ifs, ands, or buts.'"
3		"Take the paper in your right hand, fold it in half, and put it on the floor." (The examiner gives the patient a piece of blank paper.)
1		"Please read this and do what it says." (Written instruction is "Close your eyes.")
1		"Make up and write a sentence about anything." (This sentence must contain a noun and a verb.)
1		"Please copy this picture." (The examiner gives the patient a blank piece of paper and asks him/her to draw the symbol below. All 10 angles must be present and two must intersect.) 
30		TOTAL

(Adapted from Rovner & Folstein, 1987)

Instructions for administration and scoring of the MMSE

Orientation (10 points):

- Ask for the date. Then specifically ask for parts omitted (e.g., "Can you also tell me what season it is?"). One point for each correct answer.
- Ask in turn, "Can you tell me the name of this hospital (town, county, etc.)?" One point for each correct answer.

Registration (3 points):

- Say the names of three unrelated objects clearly and slowly, allowing approximately one second for each. After you have said all three, ask the patient to repeat them. The number of objects the patient names correctly upon the first repetition determines the score (0-3). If the patient does not repeat all three objects the first time, continue saying the names until the patient is able to repeat all three items, up to six trials. Record the number of trials it takes for the patient to learn the words. If the patient does not eventually learn all three, recall cannot be meaningfully tested.
- After completing this task, tell the patient, "Try to remember the words, as I will ask for them in a little while."

Attention and Calculation (5 points):

- Ask the patient to begin with 100 and count backward by sevens. Stop after five subtractions (93, 86, 79, 72, 65). Score the total number of correct answers.
- If the patient cannot or will not perform the subtraction task, ask the patient to spell the word "world" backwards. The score is the number of letters in correct order (e.g., dlrow=5, dlorw=3).

Recall (3 points):

- Ask the patient if he or she can recall the three words you previously asked him or her to remember. Score the total number of correct answers (0-3).

Language and Praxis (9 points):

- Naming: Show the patient a wrist watch and ask the patient what it is. Repeat with a pencil. Score one point for each correct naming (0-2).
- Repetition: Ask the patient to repeat the sentence after you ("No ifs, ands, or buts."). Allow only one trial. Score 0 or 1.
- 3-Stage Command: Give the patient a piece of blank paper and say, "Take this paper in your right hand, fold it in half, and put it on the floor." Score one point for each part of the command correctly executed.
- Reading: On a blank piece of paper print the sentence, "Close your eyes," in letters large enough for the patient to see clearly. Ask the patient to read the sentence and do what it says. Score one point only if the patient actually closes his or her eyes. This is not a test of memory, so you may prompt the patient to "do what it says" after the patient reads the sentence.
- Writing: Give the patient a blank piece of paper and ask him or her to write a sentence for you. Do not dictate a sentence; it should be written spontaneously. The sentence must contain a subject and a verb and make sense. Correct grammar and punctuation are not necessary.
- Copying: Show the patient the picture of two intersecting pentagons and ask the patient to copy the figure exactly as it is. All ten angles must be present and two must intersect to score one point. Ignore tremor and rotation.

(Folstein, Folstein & McHugh, 1975)

Interpretation of the MMSE

Method	Score	Interpretation
Single Cutoff	<24	Abnormal
Range	<21	Increased odds of dementia
	>25	Decreased odds of dementia
Education	21	Abnormal for 8th grade education
	<23	Abnormal for high school education
	<24	Abnormal for college education
Severity	24-30	No cognitive impairment
	18-23	Mild cognitive impairment
	0-17	Severe cognitive impairment

Sources:

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