# Test Administration Instructions for the Fullerton Advanced Balance (FAB) Scale

### *1. Stand with feet together and eyes closed*

**Purpose:** Assess ability to use somatosensory (i.e., ground and body position) cues to maintain upright balance while standing in a reduced base of support and vision unavailable.

**Equipment:** Stopwatch with lanyard (for placing around neck).
**Safety Procedures:** Position person being tested n a corner (If available) or close to a wall. Stand close to participant In case of loss of balance. Hold watch at eye level so participant and time can be monitored simultaneously.

**Testing procedures:** Demonstrate the correct test position and then instruct the participants to move the feet independently until they are together. If some participants are unable to achieve the correct position due to lower extremity joint problems, encourage them to bring their heels together even though the front of the feet are not touching. Have participants adopt a position that will ensure their safety as the arms are folded across the chest and they prepare to close the eyes. Begin timing as soon as the participant closes the eyes. (Instruct participants to open the eyes if they feel so unsteady that a loss of balance is imminent.)

**Verbal instructions:** "Bring your feet together, fold your arms across your chest, close your eyes when you are ready, and remain as steady as possible until I instruct you to open your eyes."

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

**Purpose:** Assess ability to lean forward to retrieve an object without altering the base of support; measure of stability limits in a forward direction.

**Equipment:** Pencil and 12-inch ruler

**Safety Procedures:** Position person facing out from corner (If available) or close to wall. Position self to side of participant's outstretched hand. Use arm holding pencil In horizontal position to manually assist client If a loss of balance occurs.

**Testing procedures:** Provide participant with sagittal view of desired movement. Instruct the participant to raise the preferred arm to 90° and extend it with fingers outstretched. Use the ruler to measure a distance of 10 inches from the end of the fingers of the outstretched arm. Hold the object (pencil) horizontally and level with the height of the participant's shoulder. Be sure not to move the pencil once the Instructions are provided. Instruct the participant to reach forward, grasp the pencil, and return to the initial starting position without moving the feet, if possible. (It is acceptable to raise the heels as long as the feet do not move while reaching for the pencil.) If the participant is unable to reach the pencil within 2-3 seconds of initiating the forward lean, indicate to the participant that it is okay to move the feet in order to reach the pencil. Record the number of steps taken by the participant in order to retrieve the pencil.

**Verbal instructions:** "Try to lean forward to take the pencil from my hand and return to your starting position without moving your feet." After allowing 2-3 seconds of lean time: "You can move your feet in order to reach the pencil."

### *3. Turn 360 degrees in right and left directions*

**Purpose:** Assess ability to turn in a full circle in both directions in the fewest number of steps without loss of balance

**Equipment:** None

**Safety Procedures:** Position person being tested about one foot In front of a wall and facing you. Stand close enough during test to provide manual assistance If a loss of balance occurs.

**Testing procedures:** Verbally explain and then demonstrate the task to be performed, making sure to complete each circle in four steps or less and pause briefly between turns. Instruct the participant (who is facing you) to turn in a complete circle in one direction, pause, and then turn in a complete circle in the opposite direction. Count the number of full steps taken to complete each circle. Stop counting steps as soon as the participant is facing you after completing each turn. Allow for a small correction in foot position before a turn in the opposite direction is initiated.

**Verbal instructions:** "In place, turn around in a full circle, pause, and then turn in a second full circle in the opposite direction. Do not begin the full circle in the opposite direction until you are facing me."

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

**Purpose:** Assess ability to control body in dynamic task situations; also a measure of lower body strength and bilateral motor coordination.

**Equipment:** 6-inch-high bench (18- by 18-inch stepping surface)

**Safety Procedures:** Position bench close to a wall and self on opposite side of bench. Adopt close supervisory position and move with participant as she/he steps up and over the bench In each direction.

**Testing procedures:** Verbally explain the movement to be performed before demonstrating the step up onto and over the bench (at normal speed) in both directions. Instruct the participant to step onto the bench with the right foot, swing the left leg directly up and over the bench, and step off the other side, then repeat the movement in the opposite direction with the left leg leading the action. Encourage the participant not to touch the wall or you to maintain balance during the test. During performance of the test item, watch to see that the participant's trailing leg (a) does not make contact with the bench, or (b) swing around, as opposed to directly up and over, the bench. Verbally cue which leg should be leading the action just prior to the start of the movement In each direction.

**Verbal instructions:** "Step up onto the bench with your right leg, swing your left leg directly up and over the bench, and step off the other side. Repeat the movement in the opposite direction with your left leg as the leading leg."

### *5. Tandem walk*

**Purpose:** Assess ability to dynamically control center of mass with an altered base of support

**Equipment:** Masking tape

**Safety Procedures:** Set the tandem walk line approximately 12 Inches away from a wall. Monitor the participant closely during performance of the test Item and walk forward with the client as he/she completes the test Item. Be ready to provide manual assist If a loss of balance occurs.

**Testing procedures:** Verbally explain and demonstrate how to perform the test item correctly before the participant attempts to perform it. Instruct the participant to walk on the line in a tandem position (heel-to-toe) until you tell him/her to stop. Allow the participant to repeat the test item *one time* if unable to achieve a tandem stance position within the first two steps. The participant may elect to step forward with the opposite foot on the second attempt. Score as interruptions any instances where the participant (a) takes one or more steps away from the line when performing the tandem walk or (b) is unable to achieve correct heel-to-toe position during any step taken along the course. Do not ask the participant to stop until 10 steps have been completed.

**Verbal instructions:** "Walk forward along the line, placing one foot directly in front of the other such that the heel and toe are in contact on each step forward. I will tell you when to stop."

### *6. Stand on one leg*

**Purpose:** Assess ability to maintain upright balance with a reduced base of support.

**Equipment:** Stopwatch and lanyard.

**Safety Procedures:** Position the person being tested In a corner (If one Is available) or close to a wall. Stand In a close supervisory position and on the side of the raised leg.

**Testing procedures:** Instruct the participant to fold the arms across the chest, lift one leg off the floor, and maintain balance until instructed to return the foot to the floor. Begin timing as soon as the participant lifts the foot from the floor. Stop timing if the legs touch, the raised leg contacts the floor, or the participant lifts the arms off the chest before the 20 seconds has elapsed. Allow the participant to perform the test a second time with the other leg raised if they touch down quickly on the first attempt or are unsure as to which leg should be raised.

**Verbal instructions:** "Fold your arms across your chest, lift one leg off the floor (without touching your other leg), and stand with your eyes open until I ask you to put your foot down."

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

**Purpose:** Assess ability to maintain upright balance while standing on a compliant surface with eyes closed

**Equipment:** Stopwatch and lanyard; two Airex® pads, with a length of nonslip material placed between the two pads and an additional length of nonslip material between the floor and first pad if the test is being performed on an uncarpeted surface.

**Safety Procedures:** Position person to be tested In a corner (If one Is available) or close to a wall. After demonstrating the test Item, place the Airex® pads In front of the person If standing In a corner. Adopt a close supervisory position and hold watch at a height that allows for simultaneous monitoring of the participant's arm position and eyes as well as the time. Instruct the participant to open the eyes if she/he feels so unsteady that a loss of balance is imminent. Manually assist the client off the foam pads if he/she appears unsteady.

**Testing procedures:** Following a demonstration of the task, instruct the participant to step up onto the foam pads without assistance, position the feet shoulder width apart, fold the arms across the chest, and close the eyes when ready. Begin timing as soon as the eyes close. Stop the trial if the participant (a) opens the eyes before the timing period has elapsed, (b) lifts the arms off the chest, or (c) loses balance and requires manual assistance to prevent falling. Instruct the participant to step forward off the foam at the completion of the test item. Provide manual assistance if needed.

**Verbal instructions:** "Step up onto the foam and stand with your feet shoulder-width apart. Fold your arms over your chest, and close your eyes when you are ready. I will tell you when to open your eyes."

### *8. Two-footed jump for distance (Do not introduce this test Item if participant cannot perform test item 4 safely, has a diagnosis of osteoporosis, or complains of lower body joint pain. Score a zero on the test form and move immediately to test item #9.)*

**Purpose:** Assess upper and lower body coordination and lower body power.

**Equipment:** 36-inch ruler; masking tape.

**Safety Procedures:** Position the person close to a wall and adopt a close supervisory position during the jump. Demonstrate the jump but do not jump more than twice the length of your own feet. Stand to the side of the participant and move forward as he or she jumps. Place your hand on the participant's back to steady him/her as soon as the feet contact the ground following the jump.

**Testing procedures:** Instruct the participant to jump as far but as safely as possible while performing a two-footed jump (i.e., leave the floor with two feet and land on two feet). Demonstrate the correct movement prior to the participant performing the jump. Use the ruler to measure the length of the foot and then multiply by two to determine the ideal distance to be jumped. Observe whether the participant leaves the floor with both feet and lands with both feet. Position the ruler on the floor and on the opposite side of the participant and close to the wall so that you can glance down and see how far the participant jumped.

**Verbal instructions:** "Jump as far *but* (emphasize) as safely as you can. Try and make sure that both feet leave the floor and land at the same time."

### *9. Walk with head turns*

**Purpose:** Assess ability to maintain dynamic balance while walking and turning the head from side-to-side.

**Equipment:** Metronome set at 100 beats per minute

**Safety Procedures:** Position yourself directly behind the participant during the standing portion of the test Item so you can clearly see how far the head turns in either direction. Move to a position that Is behind and slightly to the side of the participant during the walking portion of this test Item. Stand close enough that you can provide manual assistance If the participant becomes unstable while walking.

**Testing procedures:** After first demonstrating the test item, ask the participant to practice turning the head in time with the metronome while standing in place. Watch to see that the participant Is turning the head the required distance to both sides and at the required speed. Provide verbal cueing If the participant Is not performing the head turns correctly. Once the participant appears to have the correct head turning rhythm (after no more than 4 to 6 head turns), Instruct him/her to begin walking forward. The head turns should be to the beat of the metranome. Begin counting steps as soon as the participant begins to walk forward with head turns. Observe whether the participant deviates from a straight path while walking or is unable to turn the head the required distance (In one or both directions) and/or at the required speed. If the participant Is unable to achieve the correct head turning rhythm while standing It Is highly unlikely he/she will be able to achieve It while walking (making the scoring of the test item a little easier). Also, In most cases, the steps will be synchronized with the head turns, making the counting of 10 steps easier.

**Verbal instructions:** "Begin turning your head to the beat of the metranome while standing In place. Start walking forward while turning your head from side-to-side with each beat of the metronome. I will tell you when to stop."

### *10. Reactive postural control*

**Purpose:** Assess ability to efficiently restore balance following an unexpected perturbation

**Equipment:** None

**Safety Procedures:** Position the client approximately 3-4 feet In front of a wall. Stand Immediately behind the participant and adopt a wide base of support during the leaning portion of the test. Be ready to move your feet quickly once you release your hand and the participant begins to lose balance. Flex the elbow and release your hand as soon as you determine that the participant Is exerting sufficient pressure against your hand to require that he/she must step backwards one or more times to restore balance. This release should be unexpected, so do not prepare the participant for the moment of release or allow the participant to lean too far back onto your hand before releasing it.

**Testing procedures:** Instruct the participant to stand with his or her back to you. Extend your arm with the elbow locked and place the palm of your hand In the middle of the participant's back. Instruct the participant to lean back slowly against your hand until you tell him or her to stop. Quickly flex your elbow until your hand is no longer in contact with the participant's back at the moment you estimate that a sufficient amount of force has been applied to require a movement of the feet to restore balance. Try to quickly release your hand while you are still giving the verbal instructions.

**Verbal instructions:** "Slowly lean back into my hand until I ask you to stop."

# Scoring Sheet for Fullerton Advanced Balance 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 with outstretched arm to retrieve an object (pencil) held at shoulder height**

( ) 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 (15 cm) 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 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 or equal to 12 seconds
   - ( ) 3 Able to lift leg independently and maintain position for more than 12 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 perform test item 8 if score is 2 or lower on test item 4. Also 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). Give test item 8 a score of 0 and proceed to test item 9.**

8. **Two-footed jump**
   - ( ) 0 Unable to attempt or attempts to initiate jump but one or both feet do not leave the floor
   - ( ) 1 Able to initiate jump with both feet but one foot either leaves the floor or lands before the other
   - ( ) 2 Able to perform jump with both feet but unable to jump farther than the length of feet
   - ( ) 3 Able to perform jump with both feet and achieve a distance greater than the length of feet
   - ( ) 4 Able to perform jump with both feet and achieve a distance greater than twice the length of 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. Demonstrate reactive postural control**

( ) 0 Unable to maintain upright balance; makes 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 POINTS SCORED: _____ 40 POINTS POSSIBLE MAXIMUM SCORE**

**Evaluating Risk for Falls:**
**Long Form Fullerton Advanced Balance (FAB) scale Cut-Off Score: ≤ 25/40 Points**

# Interpretation of the Individual Test Items on the Fullerton Advanced Balance (FAB) Scale for Possible Underlying Impairments

| Item | Possible impairments | Recommended exercises |
|---|---|---|
| 1. Stand with feet together and eyes closed | 1. Weak hip abductors/adductors | Lateral weight shifts against resistance; side leg raises against gravity/resistance |
| | 2. Poor COG control | Progressive standing balance activities with reduced base of support<br>Seated/standing balance activities emphasizing weight shifts in multiple directions |
| | 3. Poor reception and/or central organization of somatosensory information. | Multisensory training; standing balance activities with vision reduced, engaged, or absent (reduced base of support and weight-shifting activities in anterior-posterior and lateral directions) |
| | 4. Fear-of-falling | Confidence-building activities - slower progression through standing balance activities with vision manipulated. See HAQ # 12 response for confirmation. |
| 2. Reach forward to retrieve object | 1. Reduced limits of stability | Seated/standing trunk leaning activities<br>Seated/standing weight shift activities in multiple directions |
| | 2. Reduced ankle ROM | Ankle circles, heel lifts, and drops from height<br>Ankle strengthening with resistance band |
| | 3. Fear of falling | Confidence-building activities—slower progression through COG activities to ensure success is high. |
| | 4. Lower body muscle weakness | Wall sits or chair stands; LB exercises against resistance (gravity; ankle weights). |
| 3. Turn in a full circle | 1. Poor dynamic COG control | Standing weight transfer activities; gait pattern enhancement (turns, directional changes) and variation (altered step lengths, cone walking). |
| | 2. Poor central organization and integration of sensory information. | Multisensory training (emphasize use of vision, vestibular systems for balance). Gaze stabilization emphasized.<br>Head and eye movement coordination exercises; turning; directional changes; marching and walking with head turns. |
| | 3. Lower body weakness | LB exercises with resistance; emphasize hip and knee flexion; hip abduction/adduction; ankle dorsi and plantarflexion. |
| 4. Step up and over | 1. Poor dynamic control of body | Seated/standing/moving balance activities emphasizing weight shifts, and transfers against gravity.<br>Standing COG activities with reduced base of support |
| | 2. Lower body weakness | LB exercises with resistance (own body/resistance band; emphasize sustained unilateral stance positions) and hip abductor strengthening. |
| | 3. Reduced ROM at ankle, knee, hip | Flexibility exercises emphasizing hip/knee/ankle flexion; seated and standing. |
| | 4. Poor central organization and integration of sensory inputs | Standing and moving multisensory training activities (emphasize use of different sensory inputs for balance). |

| Item | Possible impairments | Recommended exercises |
|---|---|---|
| 5. Tandem walk | 1. Poor dynamic control of body | Standing activities with altered base of support<br>Moving COG control activities; emphasize anterior-posterior directional control during weight shifts |
| | 2. Poor central organization and integration of sensory inputs | Standing and moving multisensory training activities (emphasize use of vision and somatosensation for balance). |
| | 3. Weak hip abductors/adductors | Side leg raise against gravity/resistance; lateral weight shift and lunge activities |
| 6. Stand on one leg | 1. Poor COG control | Standing weight shifts and transfers in multiple directions; reduced base of support activities |
| | 2. Lower body muscle weakness | LB exercises with resistance (body/resistance band); emphasize hip abductors/adductors |
| | 3. Poor use of vision<br>4. Impaired reception of somatosensory Inputs. | Activities emphasizing gaze stabilization.<br>Standing multisensory activities emphasizing use of vision and vestibular systems for balance |
| 7. Stand on foam with eyes closed | 1. Poor central organization and integration of sensory information<br>2. Lower body muscle weakness | Seated/standing activities performed with reduced/engaged/absent vision on altered surfaces<br>LB exercises with resistance (body/resistance band); emphasize quadriceps, gastrocnemius/soleus, hip abductor muscle groups |
| | 3. Heightened fear of falling when vision absent | Confidence-building activities with vision engaged, slowly progressing to activities with reduced and absent vision |
| 8. Two-footed jump | 1. Poor dynamic control of body | Standing/moving COG activities emphasizing leaning away from and back to midline<br>Seated balance activities against gravity |
| | 2. Poor upper and lower body coordination | Selected exercises to improve UB and LB coordination; multiple task activities |
| | 3. Lower body muscle weakness | LB exercises with resistance (body/resistance band) performed at progressively faster speeds. Emphasize knee and hip flexion, hip abduction, ankle dorsiflexor/plantarflexion. |
| 9. Walk with head turns | 1. Poor central organization and integration of sensory inputs | Head and eye movement coordination exercises; gait pattern enhancement (turns, directional changes); standing and moving multisensory activities emphasizing use of vision and vestibular systems for balance) |
| | 2. Poor dynamic control of body | Standing/moving activities with head turns; progressively increase speed and frequency of head turns |
| 10. Reactive postural control | 1. Absent postural strategy (i.e., step) | Activities emphasizing step strategy (i.e., voluntary step activities progressing to resistance band release activity) in all directions |
| | 2. Poor dynamic control of body | Standing and moving COG control activities; volitional stepping activities in multiple directions |
| | 3. Lower body muscle weakness | LB exercises with resistance; emphasize hip and knee flexion; hip abduction/adduction; dorsi/plantarflexion |

*Note:* COG=center of gravity; LB=lower body; UB=upper body.