Mini Balance Evaluation Systems Test

(Mini BESTest)

Name: _____ **Age:** _____

Date of test: _____ **Patient ID number:** _____

This test is designed for screening and evaluating motor control by assessing the ability to maintain balance under various conditions. It is useful in detecting balance impairments and planning subsequent treatment strategies.

Test instructions

- **Subject conditions**: Subject should be tested with flat-heeled shoes OR shoes and socks off.

- **Equipment**: Temper® foam (also called T-foamTM 4 inches thick, medium density T41 firmness rating), chair without armrests or wheels, incline ramp, stopwatch, a box (9" height) and a 3 meter distance measured out and marked on the floor with tape [from chair].

- **Scoring**: The test has a maximum score of 28 points, and the 14 items are each scored from 0 to 2.

  - "0" indicates the lowest level of function and "2" the highest level of function.

  - If a subject must use an assistive device for an item, score that item one category lower.

  - If a subject requires physical assistance to perform an item, score "0" for that item.

  - For Item 3 (stand on one leg) and Item 6 (compensatory stepping-lateral) only include the score for one side (the worse score).

  - For Item 3 (stand on one leg) select the best time of the 2 trials [from a given side] for the score.

  - For Item 14 (timed up & go with dual task) if a person's gait slows greater than 10% between the TUG without and with a dual task then the score should be decreased by a point.

Test responses

Instructions are provided for each task. Select the score based on the patient's performance.

Anticipatory	Subscore: _____ /6
1. Sit to stand	
Instructions: - Tell the patient to cross arms across the chest. - Next, let them stand up without using their hands. - Note the initiation of the movement, and the use of the subject's hands on the seat of the chair, the thighs, or the thrusting of the arms forward.	

Score:
    (2) Normal: Comes to stand without use of hands and stabilizes independently.
    (1) Moderate: Comes to stand WITH use of hands on first attempt.
    (0) Severe: Unable to stand up from chair without assistance, OR needs several attempts with use of hands.	

2. Rise to toes

Instruction:

- Tell the patient to rise to the toes and hold for 3 seconds.
- Allow the subject two attempts.
- Score the best attempt. (If you suspect that the subject is using less than full height, ask the subject to rise up while holding the examiners' hands.)
- Make sure the subject looks at a non-moving target 4-12 feet away.

Score:

    (2) Normal: Stable for 3 s with maximum height.

    (1) Moderate: Heels up, but not full range (smaller than when holding hands), OR noticeable instability for 3 s.

    (0) Severe: < 3 s

3. Stand on one leg

Instruction:

- Tell the patient to lift one leg and record time how long they can maintain.
- Allow the subject two attempts and record the times.
- Record the number of seconds the subject can hold up to a maximum of 20 seconds.
- Stop timing when the subject moves hands off of hips or puts a foot down.
- Make sure the subject looks at a non-moving target 4-12 feet ahead.
- Repeat on the other side.

Left:	**Right:**
Time in seconds	Time in seconds:
Trial 1:	Trial 1:
Trial 2:	Trial 2:

Score:
  (2) Normal: 20 s
  (1) Moderate: < 20 s
  (0) Severe: Unable
	Score:
	  (2) Normal: 20 s
	  (1) Moderate: < 20 s
	  (0) Severe: Unable

To score each side separately use the trial with the longest time.
To calculate the sub-score and total score use the side [left or right] with the lowest numerical score [i.e. the worse side].

Reactive postural control	**Subscore: _____ /6**

4. Compensatory stepping correction-forward

Instruction:

- Stand in front of the subject with one hand on each shoulder and ask the subject to lean forward (Make sure there is room for them to step forward).
- Require the subject to lean until the subject's shoulders and hips are in front of toes.
- After you feel the subject's body weight in your hands, very suddenly release your support. The test must elicit a step.
- **NOTE:** Be prepared to catch the subject.

Score:

    (2) Normal: Recovers independently with a single, large step (second realignment step is allowed).

    (1) Moderate: More than one step is used to recover equilibrium.

    (0) Severe: No step, OR would fall if not caught, OR falls spontaneously.

5. Compensatory stepping correction-backward

Instruction:

- Stand behind the subject with one hand on each scapula and ask the subject to lean backward (Make sure there is room for the subject to step backward.)
- Require the subject to lean until their shoulders and hips are in back of their heels.
- After you feel the subject's body weight in your hands, very suddenly release your support.
- Test must elicit a step.
- **NOTE:** Be prepared to catch subject.

Score:

    (2) Normal: Recovers independently with a single, large step.

    (1) Moderate: More than one step used to recover equilibrium.

    (0) Severe: No step, OR would fall if not caught, OR falls spontaneously.

6. Compensatory stepping correction-lateral

Instruction:

- Stand to the side of the subject, place one hand on the side of the subject's pelvis, and have the subject lean their whole body into your hands.
- Require the subject to lean until the midline of the pelvis is over the right (or left) foot and then suddenly release your hold.
- **NOTE:** Be prepared to catch subject.

Left:	Right:

Score:
 	
    (2) Normal: Recovers independently with 1 step (crossover or lateral OK).
    (1) Moderate: Several steps to recover equilibrium.
    (0) Severe: Falls, or cannot step.
	Score:
	
	    (2) Normal: Recovers independently with 1 step (crossover or lateral OK).
	    (1) Moderate: Several steps to recover equilibrium.
	    (0) Severe: Falls, or cannot step.

Use the side with the lowest score to calculate sub-score and total score.

Sensory orientation	Subscore: _____ /6

7. Stance (feet together); eyes open, firm surface

Instruction:

- Record the time the subject was able to stand with feet together up to a maximum of 30 seconds.
- Make sure subject looks at a non-moving target 4-12 feet away.

Time in seconds:

Score:

(2) Normal: 30 s

(1) Moderate: < 30 s

(0) Severe: Unable

8. Stance (feet together); eyes closed, foam surface

Instruction:

- Use medium density Temper® foam, 4 inches thick.
- Assist subject in stepping onto foam.
- Record the time the subject was able to stand in each condition to a maximum of 30 seconds.
- Have the subject step off of the

Time in seconds:

Score:

(2) Normal: 30 s

(1) Moderate: < 30 s

(0) Severe: Unable

9. Incline- eyes closed

Instruction:

- Aid the subject onto the ramp.
- Once the subject closes eyes, begin timing and record time.
- Note if there is excessive sway.

Time in seconds:

Score:

(2) Normal: 30 s

(1) Moderate: < 30 s

(0) Severe: Unable

Dynamic gait	**Subscore: _____ /6**

10. Change in gait speed

Instruction:

- Allow the subject to take 3-5 steps at normal speed, and then say "fast".
- After 3-5 fast steps, say "slow".
- Allow 3-5 slow steps before the subject stops walking.

Score:

(2) Normal: Significantly changes walking speed without imbalance.

(1) Moderate: Unable to change walking speed or signs of imbalance.

(0) Severe: Unable to achieve significant change in walking speed AND signs of imbalance.

11. Walk with head turns - horizontal

Instruction:

- Allow the subject to reach normal speed, and give the commands "right, left" every 3-5 steps.
- Score if you see a problem in either direction.
- If subject has severe cervical restrictions allow combined head and
- trunk movements

Score:

(2) Normal: Turns with feet close FAST (< 3 steps) with good balance.

(1) Moderate: Turns with feet close SLOW (>4 steps) with good balance.

(0) Severe: Cannot turn with feet close at any speed without imbalance.

12. Walk with pivot turns

Instruction:

- Demonstrate a pivot turn.
- Once the subject is walking at normal speed, say "turn and stop."
- Count the number of steps from "turn" until the subject is stable.
- Imbalance may be indicated by wide stance, extra stepping or trunk motion.

Score:

(2) Normal: Turns with feet close FAST (< 3 steps) with good balance.

(1) Moderate: Turns with feet close SLOW (>4 steps) with good balance.

(0) Severe: Cannot turn with feet close at any speed without imbalance.

13. Step over obstacles

Instruction:

- Place the box (9 inches or 23 cm height) 10 feet away from where the subject will begin walking.
- Two shoeboxes taped together works well to create this apparatus.

Score:

(2) Normal: Able to step over box with minimal change of gait speed and with good balance.

(1) Moderate: Steps over box but touches box OR displays cautious behavior by slowing gait.

(0) Severe: Unable to step over box OR steps around box.

14. Timed up & go with dual task (3 meter walk)

Instruction with TUG:

- Have the subject sitting with the subject's back against the chair.
- The subject will be timed from the
- moment you say "Go" until the subject returns to sitting.
- Stop timing when the subject's buttocks hit the chair bottom and the subject's back is against the chair.
- The chair should be firm without arms.

Score:

> **(2) Normal:** No noticeable change in sitting, standing or walking while backward counting when compared to TUG without Dual Task.
>
> **(1) Moderate:** Dual Task affects either counting OR walking (>10%) when compared to the TUG without Dual Task.
>
> **(0) Severe**: Stops counting while walking OR stops walking while counting.

TUG: _____ seconds

Instruction with Dual Task TUG:

- While sitting determine how fast and accurately the subject can count backward by threes starting from a number between 100-90.
- Then, ask the subject to count from a different number ,and after a few numbers say "Go".
- Time the subject from the moment you say "Go" until the subject returns to the sitting position.
- Score dual task as affecting counting or walking if speed slows (>10%) from TUG and or new signs of imbalance

Score:

> **(2) Normal:** No noticeable change in sitting, standing or walking while backward counting when compared to TUG without Dual Task.
>
> **(1) Moderate:** Dual Task affects either counting OR walking (>10%) when compared to the TUG without Dual Task.
>
> **(0) Severe**: Stops counting while walking OR stops walking while counting.

Dual task TUG: _____ seconds

When scoring item 14, if subject's gait speed slows more than 10% between the TUG without and with a Dual Task the score

Total score: _____ /28

Healthcare professional information

Name:	License ID number:
Signature:	Date of test:

Franchignoni, F., Horak, F., Godi, M., Nardone, A., & Giordano, A. (2010). Using psychometric techniques to improve the Balance Evaluation Systems Test: the mini-BESTest. *Journal of Rehabilitation Medicine : Official Journal of the UEMS European Board of Physical and Rehabilitation Medicine*, 42, 323–331. doi:10.2340/16501977-0537

King, L., & Horak, F. (2013). On the Mini-BESTest: Scoring and the reporting of total scores. *Physical Therapy*, 93(4), 571–5. doi:10.2522/ptj.2013.93.4.571