

Examiner: _____
Subject: _____

Date: _____

MINI BESTest- of DYNAMIC BALANCE
Balance Evaluation – Systems Test
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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.

1. SIT TO STAND

- (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: Impossible to stand up from chair without assistance –OR- several attempts with use of hands.

2. RISE TO TOES

- (2) Normal: Stable for 3 sec 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 sec

3. STAND ON ONE LEG

- | | |
|---|--|
| <u>Left</u> Time in sec Trial 1: _____ Trial 2: _____ | <u>Right</u> Time in sec Trial 1: _____ Trial 2: _____ |
| (2) Normal: 20 s | (2) Normal: 20 s |
| (1) Moderate: < 20 sec | (1) Moderate: < 20 sec |
| (0) Severe: Unable | (0) Severe: Unable |

4. COMPENSATORY STEPPING CORRECTION- FORWARD

- (2) Normal: Recovers independently a single, large step (second realignment step is allowed)
- (1) Moderate: More than one step used to recover equilibrium
- (0) Severe: No step, OR would fall if not caught, OR falls spontaneously

5. COMPENSATORY STEPPING CORRECTION- BACKWARD

- (2) Normal: Recovers independently 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

- | | |
|--|--|
| <u>Left</u> | <u>Right</u> |
| (2) Normal: Recovers independently with 1 step (crossover or lateral OK) | (2) Normal: Recovers independently with 1 step (crossover or lateral OK) |
| (1) Moderate: Several steps to recovers equilibrium | (1) Moderate: Several steps to recovers equilibrium |
| (0) Severe: Falls, or cannot step | (0) Severe: Falls, or cannot step |

7. EYES OPEN, FIRM SURFACE (FEET TOGETHER)

- Time in sec: _____
- (2) Normal: 30s
 - (1) Moderate: < 30s
 - (0) Severe: Unable

8. EYES CLOSED, FOAM SURFACE (FEET TOGETHER)

- Time in Sec: _____
- (2) Normal: 30s
 - (1) Moderate: < 30s
 - (0) Severe: Unable

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9. INCLINE- EYES CLOSED

Time in sec: _____

- (2) Normal: Stands independently 30 sec and aligns with gravity
- (1) Moderate: Stands independently <30 SEC -OR- aligns with surface
- (0) Severe: Unable to stand >10 sec -OR- will not attempt independent stance

10. CHANGE IN GAIT SPEED

- (2) Normal: Significantly changes walking speed without imbalance
- (1) Moderate: Unable to change walking speed or imbalance
- (0) Severe: Unable to achieve significant change in speed AND signs of imbalance

11. WALK WITH HEAD TURNS – HORIZONTAL

- (2) Normal: performs head turns with no change in gait speed and good balance
- (1) Moderate: performs head turns with reduction in gait speed
- (0) Severe: performs head turns with imbalance

12. WALK WITH PIVOT TURNS

- (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

- (2) Normal: able to step over box with minimal change of speed and with good balance
- (1) Moderate: steps over shoe boxes but touches box OR displays cautious behavior by slowing gait.
- (0) Severe: cannot step over shoe boxes OR hesitates OR steps around box

14. TIMED UP & GO (TUG) WITH DUAL TASK TUG: _____ sec; Dual Task TUG: _____ sec

- (2) Normal: No noticeable change between sitting & standing in backward counting & no change in gait speed for TUG.
- (1) Moderate: Dual task affects either counting OR walking.
- (0) Severe: Stops counting while walking OR stops walking while counting.

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INSTRUCTIONS:

1. SIT TO STAND

Examiner Instructions: Note the initiation of the movement, and the use of hands on the arms of the chair or their thighs or thrusts arms forward.

Patient: Cross arms across your chest. Try not to use your hands unless you must. Don't let your legs lean against the back of the chair when you stand. Please stand up now.

2. RISE TO TOES

Examiner Instructions: Allow the patient to try it twice. Record the best score. (If you suspect that subject is using less than their full height, ask them to rise up while holding the examiners' hands.) Make sure subjects look at a non-moving target 4-12 feet away.

Patient: Place your feet shoulder width apart. Place your hands on your hips. Try to rise as high as you can onto your toes. I'll count out loud to 3 seconds. Try to hold this pose for at least 3 seconds. Look straight ahead. Rise now.

3. STAND ON ONE LEG

Examiner Instructions: Allow the patient two attempts and record the best. Record the no. of seconds they can hold posture up to a maximum of 30sec. Stop timing when subject moves their hand off hips or puts a foot down. Make sure subjects look at a non-moving target 4-12 feet ahead.

Patient: Look straight ahead. Keep your hands on your hips. Bend one leg behind you . Don't touch your raised leg on your other leg. Stay standing on one leg as long as you can. Look straight ahead. Lift now.
(Repeat other side)

4. COMPENSATORY STEPPING CORRECTION-FORWARD

Examiner Instructions: Stand in front to the side of patient with one hand on each shoulder and ask them to push forward. (Make sure there is room for them to step forward). Require them to lean until their shoulders and hips are in front of their toes. Suddenly release your push when the subject is in place and providing constant pressure to a level just before the heels lift off. The test must elicit a step. NOTE: Be prepared to catch patient.

Patient: Stand with your feet shoulder width apart, arms at your sides. Lean forward against my hands beyond your forward limits. When I let go, do whatever is necessary, including taking a step, to avoid a fall.

NOTE: Be prepared to catch patient.

5. COMPENSATORY STEPPING CORRECTION - BACKWARD

Examiner Instructions: Stand in back to the side of the patient with one hand on each scapula and ask them to push backward. (Make sure there is room for them to step backward.) Require them to lean until their shoulders and hips are in back of their heels. Release your push when the subject is in place, and providing constant pressure to a level just before the heels lift off. Test must elicit a step. NOTE: Be prepared to catch patient.

Patient: Stand with your feet shoulder width apart, arms down at your sides. Lean backward against my hands beyond your backward limits. When I let go, do whatever is necessary, including taking a step, to avoid a fall.

NOTE: Be prepared to catch patient.

6. COMPENSATORY STEPPING CORRECTION- LATERAL

Examiner Instructions: Stand behind the patient, place one hand on either the right (or left) side of the pelvis, and get them to lean their whole body into your hand. Require them to lean until the midline of pelvis is over the right (or left) foot and then suddenly release your hold. NOTE: Be prepared to catch patient if necessary!

Patient: Stand with your feet together, arms down at your sides. Lean into my hand beyond your sideways limit. When I let go, step if you need to, to avoid a fall.

NOTE: Be prepared to catch patient.

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SENSORY ORIENTATION

7. EYES OPEN, FIRM SURFACE

Examiner Instructions: Record the time the patient was able to stand to a maximum of 30 seconds.

Patient: Place your hands on your hips. Place your feet together until almost touching. Look straight ahead. Each time, stay as stable as possible until I say stop.

8. EYES CLOSED, FOAM SURFACE

Examiner Instructions: Use medium density Temper® foam, 4 inches thick. Assist subject in stepping onto foam. Tell patient to "Close Eyes" Record the time the patient was able to stand in each condition to a maximum of 30 seconds. Have the subject step off the foam between trials. Include leaning or hip strategy during a trial as "instability."

Patient: Place your hands on your hips. Place your feet together until almost touching. Look straight ahead. Each time, stay as stable as possible until I say stop.

(Shumway-Cook A and Horak FB. Assessing the influence of sensory interaction on balance. Physical Therapy. 66: 1548 1550, 1986.)

9. INCLINE, EYES CLOSED

Examiner Instructions: Aid the patient onto the ramp. Once the patient closes their eyes, begin timing and record and average both times. Note if sway is greater than when standing on firm, level, surface with eyes closed (Item 15 B) or if there is poor alignment to vertical. Assist includes a cane or light touch any time during the trial.

Patient: I will be timing this next assessment. Please stand on the incline ramp with your toes toward the top. Place your feet shoulder width apart. Keep arms at your sides. Place your hand on your hips. I will start timing when you close your eyes.

10. CHANGE IN SPEED

Examiner Instructions: Allow the patient to take 3-5 steps at their normal speed, and then say "fast", after 3-5 fast steps once say "slow". Allow 3-5 slow steps before they stop walking.

Patient: Begin walking at your normal speed, when I tell you "fast" walk as fast as you can. When I say "slow", walk very slowly.

11. WALK WITH HEAD TURNS- HORIZONTAL

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

Patient: Begin walking at your normal speed, when I say "right", turn your head and look to the right. When I say "left" turn your head and look to the left. Try to keep yourself walking in a straight line.

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12. WALK WITH PIVOT TURNS

Examiner Instructions: Demonstrate a pivot turn. Once the patient is walking at normal speed, say “turn and stop.” Count the steps from turn until the subject is stable. Instability may be indicated by wide stance width, extra stepping or trunk motion.

Patient: Begin walking at your normal speed. When I tell you to “turn and stop”, turn as quickly as you can to face the opposite direction and stop. After the turn, your feet should be close together.

13. STEP OVER OBSTACLES

Examiner Instructions: Place the box (9” or 22.9 cm height) 10 ft. away from where the patient will begin walking. Use a stopwatch to time gait duration to calculate average velocity by dividing the number of seconds into 20 feet.

Patient: Begin walking at your normal speed. When you come to the shoe boxes (9” or 22.9 cm height), step over them, not around them and keep walking

14. TIMED UP & GO WITH DUAL TASK

Examiner Instructions: Use the TUG score to determine the effects of dual taking.

1) TUG: Have the patient sit with their back against the chair. Time the patient from the time you say “Go” until they return to sitting in chair. Stop timing when the patient’s buttocks hit the chair bottom. The chair should be firm with arms to push from if necessary.

2) TUG with Dual Task: While sitting, determine how fast and accurately the patient can count backwards by 3’s from a number between 90-100. Then, ask them to count from a different number and after a few numbers say “go”. Time the patient from the time you say “go” until they return to the sitting position.

Patient:

1) TUG: When I say “Go”, stand up from chair, walk at your normal speed across the tape on the floor; turn around, and come back to sit in the chair. Continue counting backwards the entire time.

2) TUG with Dual Task: Count backwards by 3’s starting at _____. When I say “Go”, stand up from chair, walk at your normal speed across the tape on the floor; turn around, and come back to sit in the chair. Continue counting backwards the entire time.