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|  | Title: | Measuring Standing Balance | | |
| | Version Date: | 2019-DEC-09 | Document Number: | SOP_DCS_0023 |
| | Effective Date: | 2021-AUG-15 | | |
| Data Collection Site (DCS) | Version: | 3.0 | Number of Pages: | 4 |

1.0 Purpose:

The purpose of this document is to describe the standardized procedure for measuring participants' standing balance.

2.0 Scope:

This document is to be used by DCS staff when administering the test for standing balance to participants.

3.0 Responsibilities:

The first priority of DCS staff is to ensure the safety of participants. DCS staff are responsible for performing the procedures as described in the current approved version of the standard operating procedure.

4.0 Related Documents:

Not applicable

5.0 Definitions:

Not applicable

6.0 Equipment:

Not applicable

7.0 Supplies:

- Stopwatch; and,
- An area where a mark has been made one metre from a wall.

8.0 Procedure Steps:

Contraindications:

- The participant is unable to stand unassisted (Contraindications Questionnaire).
- The participant uses cane or walker regularly (Contraindications Questionnaire);
- The participant has a lower limb prosthesis (includes above-the-knee, below-the-knee, and foot prosthesis);
- The participant's current weight exceeds 125 kg / 275 lbs;
- The participant has current symptoms of dizziness or light-headedness (observed);
- The participant is noted to be unsteady (i.e., liable to fall) while standing or walking (observed).



IMPORTANT NOTE:

Make sure to remain close enough to the participant so that you are able to respond in the event of a loss of balance. If the participant loses their balance, help them to the floor. Do not attempt to lift them up. Help the participant come to rest on the floor without getting injured.

If you are concerned about the participant's ability to complete the test at any point skip the test and provide details in Onyx. In Onyx, select: Interviewer refused due to health or safety reason OR Participant attempted but unable to complete.

Positioning/placement of the participant is critical to the reproducibility and comparison, between visits, of this test.

- Step 1:** At the *Interview Tab* in Onyx, look for *Standing Balance* in the list of stages. Then select *Start* in that row. The *Standing Balance: Start* window will pop up.
- Step 2:** Scan the Interview ID barcode then click on **Continue**.
- Step 3:** Remind the participant of the risk of falling during the test. Let them know a pretest will be done as a precaution. Remind them that they can decline to do the test at any point. Let them know you will be as close as possible to them during the test.
- Step 4:** **Ask** the participant to sit down to remove their shoes and socks. If the participant prefers to wear their socks make note of this in Onyx.
- Step 5:** **Position** the participant one arm's length from the wall, facing the wall. Use a corner area if possible.
- Step 6:** **Stand close** to the participant. Be ready to respond in the event of a loss of balance.
- Step 7:** **Explain** that prior to conducting the one legged test, a pretest procedure will be administered to help ensure their safety.
- Step 8:** **Demonstrate** the pretest procedure:
 - Stand with feet side-by-side (directly touching), hands on hips and eyes wide open.
 - Say "**Begin when ready**" and then start timing. After 10 seconds, say, "**Stop.**"
- Step 9:** **Assume the timing position:**
 - Hold the timer in your right hand and place your right hand behind the participant's right shoulder. Stay close to respond in the event of loss of balance.
 - Your left hand should be ready next to the participant's left arm. Be sure to stand close enough to be ready to respond, but not so close that you are obstructing the participant's movements.
- Step 10:** When the participant is ready, say "**Begin when ready**", start the timer and then say "**stop**" at 10 seconds.
- Step 11:** If the participant can't hold the side-by-side standing position for 10 seconds or appears unsteady during the test, then call a second person (spotter) in and proceed to **step 12** for the one legged standing test.

If no spotter is available or if the participant appears very unsteady during the side-by-side standing task, then skip the one legged standing test.

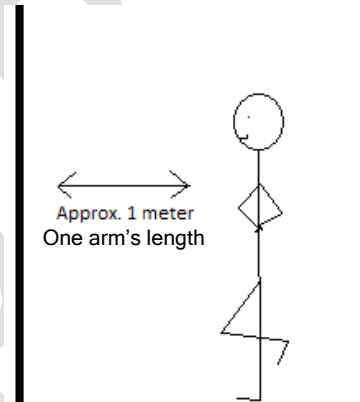
If the participant can hold the position for 10 seconds, then proceed to **step 13**.

Step 12: Set up the one legged test with a spotter.

- One person will time the participant and the other person will administer the test. Both people should stay close enough to be able to assist the participant in the event of a loss of balance. One person should have their right hand behind subject's right shoulder, and their left arm next to the participant's left arm.

Step 13: Explain and demonstrate the one legged test to the participant:

- Stand one arm's length from the wall, facing the wall. Use a corner area if possible.
- Demonstrate the procedure for a few seconds, lifting the left leg to calf level with both hands on the waist. Tell the participant to keep their leg in the raised position for as long as possible.
- Instruct the participant: "When I say "Ready, begin" raise your left leg to the calf, bending the raised leg with your hands on your waist. Keep your left leg in the raised position as long as you can."
- Assure the participant, again, that you will help if he/she loses their balance.



Step 14: Click **Next** in Onyx.

Step 15: Allow the participant to practice the procedure.

Step 16: When they are ready, have them stand one metre (at least an arm span) from the wall, facing the wall. **If one staff person, assume the timing position in step 9. If two staff, assume the spotter and timing positions in step 12.** Say "Ready, begin"

Step 17: **Start the timer** when the participant's foot leaves the ground. **Stop the timer** when/if: the foot touches the ground, the participant loses balance and/or touches the wall, or they start to hop. Stop the test if the participant reaches 60 seconds.

Step 18: In Onyx, **record** if the test was done for the **right leg** and enter the time achieved (in seconds: milliseconds). Click **Next**.

Step 19: Repeat the test with the other leg. **Record** the time achieved (in seconds: milliseconds) in Onyx. Click **Next**.

Step 20: **Record** any comments.

Step 21: Click **Next** and then click **Finish** in Onyx.

Step 22: Indicate in the **comment** field in Onyx if there was anything that may have affected or influenced the measurement. Ensure that comments do not contain any personally identifying information.

Step 23: Click **Continue** to return to the status page.

9.0 Documentation and Forms:

- **CRF_DCS_0022** – Standing Balance Case Report Form

10.0 References:

- K1-CLSA-CoP- DCS Participant Flow; [updated 2010 Feb].
- Ávila-Funes JA, Gray-Donald K, Payette H. Association of nutritional risk and depressive symptoms with psychical performance in the elderly: The Quebec Longitudinal Study of Nutrition as a Determinant of Successful Aging (NuAge). J Am Coll Nutr. 2008; 27(4):492-8.
- Centers for Disease Control and Prevention. 2001b. National Health and Nutrition Survey. Balance Procedure Manual. Available: <http://www.cdc.gov/nchs/data/nhanes/ba.pdf>
- Assessment- The 4-Stage Balance Test, Centers for Disease Control and Prevention National Center for Injury Prevention and Control. Available: https://www.cdc.gov/steady/pdf/4-Stage_Balance_Test-print.pdf

F2 Revision History:

| New Version # | Revision Date | Revision Author | Content Approval |
|---|----------------------|------------------------|-------------------------|
| 3.0 | 2019-NOV-28 | Lorraine Moss | Harriet Sauve |
| Summary of Revisions | | | |
| Additional contraindications added | | | |
| Added - Important note: loss of balance and skipping the test if staff feel it is unsafe for the participant | | | |
| Added - Step 4: remind participant of the risk of loss of balance | | | |
| Added - Steps 6-10: an addition of a 10 second side-by-side standing pretest | | | |
| Added - Step 11-12: Use of a spotter | | | |
| Added - Step 13: placement guidelines | | | |
| General formatting and spelling corrections throughout document. | | | |
| Last 2 bullet points added in section 10.0 | | | |
| In Step 16 added the sentence that starts with” If one staff person, a.....” | | | |