

Clinical Test of Sensory Organization and Balance (CTSIB)

test is the therapist's version of the Computerized Dynamic Posturography which attempts to measure the way that vision, vestibular and somatosensory interaction allows us to maintain our balance against the forces of gravity. The test was developed by Shumway-Cook and Horak in 1986 (*Phys Ther*) and further discussed as a clinical tool in 1987 (*Phys Ther*). Patients with uncompensated unilateral vestibular deficits have been shown to have difficulty when visual and support surface information are manipulated (Nashner, 1982).

General Instructions:

Have the subject remove their shoes. Have the subject stand erect without moving, looking straight ahead as long as possible or until the trial is over.

Instructions:

Condition 1:

Stand on the floor with arms across your chest and your hands touching your shoulders, feet together with ankle bones touching, and hold for 30 sec (Horak, 87)

Condition 2:

Stand on the floor with arms across your chest and your hands touching your shoulders, feet together with ankle bones touching with your eyes closed, and hold for 30 sec (Horak, 87)

Condition 3:

Stand on the floor with arms across your chest with your hands touching your shoulders, feet together with ankle bones touching the **visual conflict dome** on your head with your eyes open, and hold for 30 sec (Horak, 87)

Condition 4:

Stand on a 3 inch high density foam cushion with your arms crossed and touching your shoulders, feet together with the ankle bones touching, and your eyes open, holding for 30 sec (Horak, 87)

Condition 5:

Stand on a 3 inch high density foam cushion with your arms crossed and touching your shoulders, feet together with ankle bones touching, and your eyes closed, holding for 30 sec (Horak, 87)

Condition 6:

Stand on a 3 inch high density foam cushion with your arms crossed and touching your shoulders, feet together with ankle bones touching, and your eyes open looking into the dome, holding for 30 sec (Horak, 87)

In Horak's article (1987) she suggests that each test be performed 3 times. She also suggested that a sway grid could be used to quantify motion in addition to documenting the time that the subject could maintain the position. Shumway-Cook and Horak (1986) also suggest that sway may be quantified in the following manner:

- 1= minimal sway
- 2= mild sway
- 3= moderate sway
- 4=fall

Criteria to stop timing the task:

The subject's arms moved from the original position, the subject's foot moved, or they opened their eyes during an eyes closed trial.

In Condition 5 and 6, we believe that the only system that you can use to maintain your balance is your vestibular system. Weber and Cass (1993) determined that falls on Condition Five correlated with the results of the CDP **90%** of the time.