

Gait / Stairs / Slopes

The underlying principle for all balance testing during gait is to measure the functional ability of a subject to integrate different aspects of sensory inputs into a unitary balance command, especially when this ability is challenged. To judge whether gait is normal gait or not, SwayStar™ provides reference data of normal subjects, over the age range 6-82.

Gait, stairs and slopes tasks involve more complex uses of sensory inputs and varied motor control. These tasks naturally lead to an increase in trunk sway in subjects who have a balance deficit when compared to normal subjects. There are four gait (one with barriers) and two tandem walking protocols available as pre-defined protocols in SwayStar™ on first installation. The subject should start the task standing normally. When the task is completed, the recording should be stopped. Otherwise only when the subject loses balance control

WARNING

All tasks should be performed with the aid of one or two assistants as "spotters" if the instability of the subject is such that there is a danger of falling during testing or the test subject has a fear of falling.

Gait tasks

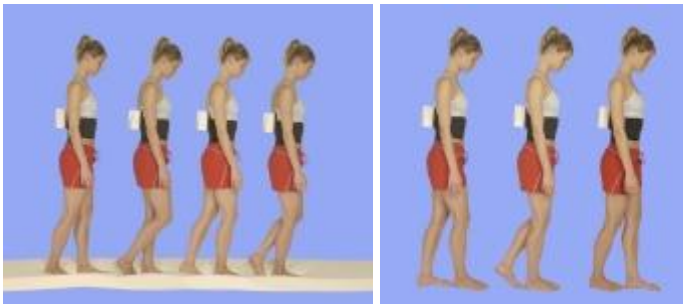


- walking normally 3 meters five (approximately 5 steps) with the eyes closed.
- walking 3 m while horizontally rotating the head, left to right, in rhythm with the steps.
- walking 3 m while pitching the head, up and down, in rhythm with the steps.
- walking over a set of four low (24 cm high) barriers placed 1 m apart.

E-mail :info@b2i.info

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Tandem steps tasks



- The subject places one foot directly in front of the other (heel to toe) for 8 steps, eyes open, with and without foam. The subject is requested to watch his foot placement and to avoid treading on his socks. Roll trouser legs up if these would impede tandem walking without shoes.

Stairs / Slopes

- Walking up and down a set of stairs or a slope requires shifting from one foot to the other at a changed height combined with forward movement and fixation on step edges or slopes.

Stairs (1 task is normally done)

- Walking up a set of stairs with two upward and two downward steps

Note: If there are handrails for the stairs, the subject should be instructed not to touch the handrails. If the handrails are touched during the protocol, it is to be interpreted as a fall and the protocol should be terminated.