

## **Interrater Reliability of the Star Balance Training Mat**

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*Presented at the Canadian Bone and Joint Conference*

*June 2020*

### **Introduction:**

When introducing an assessment tool to clinical settings it is important that its outcome be reliable between raters. The Star Excursion Balance Test (SEBT) is a valid assessment of a patient's dynamic postural control quantified by measuring single-leg reach distance.

Unfortunately, the clinical adoption of SEBT is low because it is burdensome to assess and maintain. ONPoint Medical (ONPointMed.com; London, Canada) has developed the Star Balance Training Mat, which uses a lower resolution excursion line; eliminating the need for practitioners to become ergonomically compromised when measuring reaches. The objective of this study is to determine the interrater reliability of the SEBT performed using the Star Balance Training Mat.

### **Methods:**

Twenty volunteers (10 male, 10 female; age:  $38 \pm 10$ yr) performed the SEBT on the Star Balance Training Mat while observed by three independent raters. Each subject performed four practice reaches in each direction, then was tested twice. Each test included three reaches in each direction, and five-minute breaks were given between sessions. Each rater recorded the reach distances; and the maximum reach for each reach direction was independently assessed using an absolute Intraclass Correlation Coefficient, ICC (2,1).

### **Results:**

The ICC values ranged from 0.96 to 0.99 across all excursion directions for both stance feet, and the Standard Error of Measure (SEM) and Smallest Detectable Distance (SDD) ranged from 0.95 to 2.64 [% leg length] and 2.63 to 7.31 [% leg length], respectively.

### **Discussion/Conclusion:**

The interrater reliability of the Star Balance Training Mat performed SEBT is excellent, as only 1-4% of the variance in reach distances could be attributed to random variation. These interrater reliability metrics are improved compared the Hyong *et al's* 2014 assessment of the traditional SEBT (ICC: 0.83-0.93, SEM: 3.19-4.26 and SDD: 8.85-11.82).