

## ORIGINAL RESEARCH

## THE RELIABILITY OF AN INSTRUMENTED DEVICE FOR MEASURING COMPONENTS OF THE STAR EXCURSION BALANCE TEST

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## ABSTRACT

**Background.** The Star Excursion Balance Test (SEBT) is a dynamic test that requires strength, flexibility, and proprioception and has been used to assess physical performance, identify chronic ankle instability, and identify athletes at greater risk for lower extremity injury. In order to improve the repeatability in measuring components of the SEBT, the Y Balance Test™ has been developed.

**Objective.** The purpose of this paper is to report the development and reliability of the Y Balance Test™.

**Methods.** Single limb stance excursion distances were measured using the Y Balance Test™ on a sample of 15 male collegiate soccer players. Intraclass Correlation Coefficients (ICC) were used to determine the reliability of the test.

**Results.** The ICC for intrarater reliability ranged from 0.85 to 0.91 and for interrater reliability ranged from 0.99 to 1.00. Composite reach score reliability was 0.91 for intrarater and 0.99 for interrater reliability.

**Discussion.** This study demonstrated that the Y Balance Test™ has good to excellent intrarater and interrater reliability. The device and protocol attempted to address the common sources of error and method variation in the

SEBT including whether touch down is allowed with the reach foot, where the stance foot is aligned, movement allowed of the stance foot, instantaneous measurement of furthest reach distance, standard reach height from the ground, standard testing order, and well defined pass/fail criteria.

**Conclusion.** The Y Balance Test™ is a reliable test for measuring single limb stance excursion distances while performing dynamic balance testing in collegiate soccer players.

**Key Words:** Y Balance Test, lower extremity, postural stability

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**Financial Disclosure:** *The primary author of this study is the inventor of the Y Balance Test Kit™ used in this study.*

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