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Comparison of Dynamic Balance in Male and Female Collegiate Lacrosse and Soccer Athletes

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CONTEXT

Deficits in dynamic balance have been a strong predictor of lower extremity injury. Lower extremity dynamic balance between gender and sport have been examined but there is inconclusive data that supports a difference.

OBJECTIVE

To determine a difference in dynamic balance between NCAA DIII men's and women's soccer/lacrosse using the modified star excursion balance test (SEBT).

DESIGN AND SETTING

Dynamic balance assessment using the modified SEBT. Subjects have one test and will complete 3 trials using their dominant leg. Average score of the 3 trials will be used in our analysis. Subjects will be evaluated in a controlled clinical environment on multipurpose flooring.

PARTICIPANTS

23 females and 25 males participating in varsity soccer or lacrosse at Ohio Northern University during the 2019-2020 season. Subjects are 18-23 years old and have not had a LE injury, vestibular problems or concussion in the last 12 weeks.

INTERVENTION

Subjects were shown a video instructing proper technique on SEBT prior to testing and allowed 3 practice trials prior to testing.

MAIN OUTCOME MEASUREMENT

Reach distances were measured in the anterior, posteromedial and posterolateral direction and normalized for leg length: (excursion distance/leg length x 100). Mean normalized reach distances for each gender were compared using a T-Test.

RESULTS

Male participants demonstrated a significantly greater posteromedial reach than female participants (male: 100.2 (\pm 10.6), female: 94.0 (\pm 9.03), $p=0.03$). No significant differences in posterolateral or anterior directions noted.

CONCLUSION

Among collegiate soccer and lacrosse players, male athletes appear to exhibit superior dynamic balance in the posteromedial direction when compared to females. The addition of posteromedial focused dynamic balance exercises may be beneficial to prevent lower extremity injury in female soccer and lacrosse athletes.

KEY WORDS: *SEBT, Dynamic Balance, Gender, Sport, LE Injury*