INTRODUCTION

- Tuck jump assessment (TJA) developed to determine neuromuscular deficits and identify flaws (Figure 1) in lower extremity technique
- TJA assesses risk for lower extremity injury in an athletic population.¹
- TJA can also be used for lower extremity injury prevention, specifically Anterior Cruciate Ligament (ACL) tears and knee valgus injuries.²
- Current research of the TJA’s reliability is inconsistent. Further research warranted to determine reliability in athletic population

PURPOSE

Does the TJA demonstrate reliability in healthy subjects?

MATERIALS AND METHODS

Subjects

Dudley LA, Smith CA, Olson BK, Chimera NJ, Schmitz B, Warren M. Interrater and Intrarater Reliability of the Tuck Jump Assessment by Health Professionals of Varied Educational Backgrounds

- 108 participants including undergraduate and graduate students
- Videos of 40 participants randomly selected for reliability study
- Age range: 18-24 years old
- 15 males and 27 females
- Inclusion: healthy injury
- M/F without prior tuck jump training
- Five raters with diverse educational backgrounds and clinical experience

Herrington L, Myer GD, Munro A. Intra and inter-rater Reliability of the Modified Tuck Jump Assessment

- 24 elite youth volleyball athletes
- 12 males, 12 females
- All activity participating in four year professional development program
- Each attended 8-10-120 minute training sessions per week
- Recruited athletes were excluded if they had ever sustained or acute injuries at time of testing.

Foot-Vannestehegae et al³

Intra and Inter-rater Reliability of the Modified Tuck Jump Assessment

- 10 participants: 5 male and 5 female
- 2-4 view and scored the videos
- Age range: 18-21 years old
- Participating in 5 hours of aerobic exercise per week
- Participants had to be free from lower limb, pelvis or spinal injury

Ray et al⁴

Reliability of the Tuck Jump Injury Risk Assessment in Elite Male Youth Soccer Players

- 25 pre-peak height velocity (PHV) and 25 post-PHV youth soccer players
- Pre-PHV average age of 11.93 years
- Post-PHV average age of 17.26 years
- All participants healthy and with soccer training and competition.
- Subjects completed a physical activity readiness questionnaire to determine their health status and that there was no significant physical reason why they should not participate in the research project.

Participants attended 3 sessions total, 7 days apart, under the same conditions
- Session 1: familiarizing subjects to the test
- Data collected in the second and third sessions were retrospectively analyzed by a single examiner with emphasis on within-subject variation
- 10-minute warm up of dynamic stretches prior to each testing

RESULTS

- TJA inter- and intra-rater reliabilities are inconsistent
- Additional research found that within-subject variation was high under test retest design⁵

CONCLUSION

- TJA is a tool to screen for lower extremity injuries
- Quick to administer; requires minimal equipment
- Difficult to see the flaws in real time; using a video camera with reduced speeds is more effective for viewing flaws¹
- Inconclusive support of TJA reliability
- Further research must be conducted to determine the true reliability of the tuck jump

REFERENCES


Figure 1: Ten Technique Flaws of TJA

Figure 2: Anterior View of Tuck Jump