explaining 11.9% of the variance (P=0.030). No other hip torque measures contributed significantly to hip and knee joint excursions during a SLL or DLL(P>0.05). **Conclusions:** Hip extension torque and external rotation torques were associated with frontal plane hip and knee excursions during a SLL and DLL. However, the relationships were weak where approximately 88% of the variance was left unexplained. These findings, along with a lack of identified relationships between other hip torque measures and joint kinematics, suggest that hip strength alone may not control lower extremity motion during landing tasks. Future research should examine the role of muscle activation along with other neuromuscular and anatomical factors that may influence kinematics of the hip during functional tasks.

Learning Effect For The Timed Cross Over Hop Test

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Context: Athletic trainers have used a variety of functional tests to access an athlete's rehabilitation progress to determine physical readiness to return to sport. Without knowledge of the learning effect of a functional test it is difficult to differentiate the effects of learning from rehabilitation. **Objective:** To determine the learning effect between days and legs on the Timed Cross Over Hop (TCOH) test. **Design:** A 5x2 (day, leg) counter-balanced repeated measures. **Setting:** Research laboratory. **Patients or Other Participants:** Twenty six (11 males, 15 females) healthy subjects (age = 23.0 ± 3.5 yrs, height = 169.6 ± 7.1 cm, mass = 70.3 ± 11.4 kg) with no history of lower extremity injury. **Interventions:** All subjects performed 2 trials of TCOH test (s) each leg for 5 different days, and the best trial for each day was retained for analysis. A 5x2 repeated measures ANOVA was used to determine the effects of day and leg on TCOH time, α=0.05. Non-linear regression was used to predict asymptote of learning. **Main Outcome Measures:** Learning effect and between leg differences for single leg TCOH (s) test between days. **Results:** There were no leg (p = .267) or leg x day interactions (p = .425) for single leg TCOH performance. The single leg TCOH performance significantly improved over time (p = .000) with a significant quadratic trend (p = .01): Day1 17.11 ± 5.69 s, 95% CI 14.81–19.40 s; Day2 14.92 ± 4.12 s, 95% CI 13.26 –16.58 s; Day3 14.22 ± 3.66 s, 95% CI 12.74 –15.70 s; Day4 13.00 ± 3.39 s, 95% CI 11.63 –14.37 s; Day5 12.48 ± 3.15 s, 95% CI 11.21–13.76 s. The absolute value of the differences between legs by days was: LegDiffDay1 = 2.43 ± 3.07 s, 95% CI 1.20–3.68 s; LegDiffDay2 = 1.36 ± 1.52 s, 95% CI 0.75-1.98 s; LegDiffDay3 = 1.37 ± 1.12 s, 95% CI 0.92–1.82 s; LegDiffDay4 = 0.90 ± 0.78 s, 95% CI 0.59–1.22 s; LegDiff-Day5 = 0.72 ± 0.49 s, 95% CI 0.52–0.91 s. The non-linear re-gression indicated that improvement and between leg differences reached a plateau at day 5, R^2 = .984, SEE = .32 s, R^2 = .92, SEE = .27 s, respectively. **Conclusions:** The 95% CI threshold for between leg differences in healthy subjects is 3.68 s which represents the minimum detectable difference between healthy and injured limbs for the TCOH test. The learning effect for the test is extinguished after 5 days.

The Relationship Between Performance Measures And Landing Technique In Female Youth Soccer Athletes

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Context: Poor landing technique is associated with anterior cruciate ligament (ACL) injury risk. It is unknown how injury risk factors relate to measures of sport performance, which may be important for injury prevention program design and compliance. It is also unknown if these measures are reliable in youth athletes. **Objective:** To evaluate the within-day reliability of landing technique and performance measures and to evaluate the relationship between these measures. We hypothesized that all measures would be reliable and that landing technique would be related to performance measures. **Design:** Correlational research design. **Setting:** Soccer field. **Patients or Other Participants:** Fourteen healthy youth female soccer athletes (Age:13±2 years, Height:154.9±10.4 cm, Mass:50.6±13.2 kg) volunteered to participate. **Interventions:** Participants performed three trials of a jump landing task, an agility test (T-test), a double-leg countermovement vertical jump and a double-leg broad jump in a random order during a single test session. The jump-landing task required participants to jump forward from a 30cm high box a distance of half their body height and jump vertically for maximal height immediately upon landing. The jump-landing trials were videotaped from the sagittal and frontal planes and graded using the Landing Error Scoring System (LESS). The agility test required participants to sprint forward, side shuffle left and right, and sprint backwards. Participants jumped as high as possible for the vertical jump test and jumped as far as possible for the broad jump. Intraclass coefficients were calculated between the three trials of each dependent variable. Pearson correlation coefficients evaluated the relationship between LESS score and performance on the agility, vertical jump, and broad jump tests ($\alpha \leq 0.05$). **Main Outcome Measures:** The LESS uses a binary system to evaluate several landing characteristics. A low LESS score indicates few landing errors and proper landing technique. Performance on the agility test was measured using a digital timing system. Maximal vertical jump height was measured via