

Testing the Reliability of a Modified Spider Test for Pickleball

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ABSTRACT

The spider test has been used to assess change of direction performance in tennis players. Though similar in some aspects to tennis, pickleball is not as well studied. Therefore, we have modified the spider test from tennis for the pickleball court. **PURPOSE:** Our objective is to determine the reliability of the modified test and the number of trials needed to obtain consistent performance accounting for learning and fatigue effects. **METHODS:** Participants included 16 adults between the ages of 19 and 78. Sex of participants included 5 females and 11 males. Participants were asked to perform a standardized dynamic warm up, a warm up trial of the test, and five maximum effort trials, all with 4-6 minutes of rest between trials. Brower timing gates were used to measure the total time of each trial. Repeated measures ANOVA was used to analyze the data, with trial as the repeated measures independent variable, and time as the dependent variable. Estimated marginal means were calculated using the Bonferroni test. **RESULTS:** Total trial time was significantly different between trials ($p < 0.001$). Bonferroni testing showed a significant difference between trial 1 and all other trials ($p < 0.05$) except trial 3 ($p = 0.095$). Trial 2 was significantly different from trials 1 and 5 ($p = 0.033$; 0.007), but not trials 3 and 4 ($p > 0.05$). Trial 3 was not significantly different from any trial ($p > 0.05$). Trial 4 was significantly different from trial 1 ($p = 0.009$) but no other trials ($p > 0.05$). Trial 5 was significantly different from the first two trials ($p = 0.003$; 0.007) but not trial 3 or 4 ($p > 0.05$). **CONCLUSION:** Overall, there appears to be a learning effect. This is most evident between trials 1 and 2. Therefore, at least 2 trials are needed. However, it is unclear where this learning effect ends across all five trials.