TACSM Abstract

The Effect of Vision on Isometric Muscular Power

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ABSTRACT

Isokinetic muscular power is the ability to generate force at a constant speed. **PURPOSE**: The purpose of this study was to determine the effect of vision on isokinetic muscular power. **METHODS**: Participants in this study consisted of twenty-four students from Texas Lutheran University (18 male and 6 female). The mean age was 18.8 with a standard deviation of 1.18. The mean height was 68.67 inches with a standard deviation of 4.26. The mean weight was 177.65 lbs with a standard deviation of 41.06. Subjects met at the Kieffer Kinesiology Laboratory to perform two tests on two different days. The subjects performed a five-minute walk on the treadmill at their own pace to warm-up. On day 1, extension and flexion of the knee was tested at 60 degrees a second using the Biodex machine. This consisted of one set of five repetitions at 100% power. On day 2, subjects completed the same routine wearing a blindfold to simulate visual impairment. **RESULTS**: For extension, the mean muscular power without a blindfold was 130.54 and with the blindfolded was 128.18. A paired t-test was conducted yielding a t stat of 0.57, t critical of 1.71 and a p value of 0.57 indicating that no significant difference was found. For flexion, the mean muscular power without the blindfold was 70.29 and with the blindfold was 76.9. A second t-test was conducted resulting in a t stat of 2.23, a t critical of 1.71 and a p value of .036 indicating a significant difference with flexion. **CONCLUSION**: It remains unclear why the use of a blindfold assisted in flexion but not in extension. Due to mixed results, further research on this topic could help better understand the effect of vision on isokinetic muscular power.