

Evaluating the Relationship Between Vertical Jump Performance and FMS in Young Adult Males

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Functional Movement Screening (FMS) is an assessment test used to determine an athlete's risk of injury based on the scores of seven tests that utilize commonly used movement patterns during exercise. Each test is scored based on whether or not biomechanical deficiencies are present when performing each test. Prior research has predominantly evaluated the relationship between FMS and susceptibility to injury. Yet there appears to be limited research with FMS and anaerobic performance. Specifically, the relationship between FMS and vertical jump performance has not yet been addressed. **PURPOSE:** To determine the correlation between Functional Movement Screening scores and maximum vertical jump height in young adult males. **METHODS:** Thirty averagely fit males (Age= 23.13 ± 3.02 yrs, HT= 178.74 ± 8.00 cm, WT= 82.14 ± 13.46 kg, BF%= 14.32 ± 4.60) voluntarily participated in this study. Each subject performed FMS and were scored according to the grading criteria provided by the developers of FMS. Then a dynamic warm-up utilizing a cycle ergometer for 8 min was performed followed by a 4-min passive recovery period. Next, subjects performed four maximum effort vertical jumps, which served as their vertical jump familiarization trials. All jumps were separated by 30 seconds except the last jump of the familiarization trial and the first jump of the performance trials which were separated by 4 min of passive recovery. The highest of the four performance jump trials, excluding the first jump, was utilized for data analysis. Pearson Correlations were utilized to assess the relationship maximum vertical jump height and total FMS score, squat FMS score, and inline lunge FMS score. **RESULTS:** There was a slight positive correlation when comparing maximum vertical jump (69.51 ± 9.68 cm) to total FMS score ($r=.264$) and FMS squat score ($r=.170$), but there was a moderate positive relationship with FMS inline lunge score ($r=.421$), which was significantly higher ($p=.01$) than both FMS total and FMS squat scores. **CONCLUSION:** The results of the current study seem to suggest that total FMS score is not a significant predictor for maximum vertical jump height. However, future studies should seek to determine the potential impact that improvements in the FMS inline lunge, squat, and total score may have on vertical jump performance.