

ACUTE EFFECTS OF WHOLE BODY VIBRATION ON FUNCTIONAL CAPABILITIES OF SKELETAL MUSCLE

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Previous research has shown that the use of whole body vibration (WBV) may provide acute benefits in measures of muscular performance. The benefits may be different for athletes and non-athletes. **PURPOSE:** To evaluate the benefits of WBV on muscle contractile performance and anaerobic performance for athletes and non-athletes. **METHODS:** 28 college males (17 non athletes & 11 athletes) participated in this study. The vibration and control conditions were randomized and counterbalanced. Participants were instructed to stand on a Nitrofit Deluxe Vibration Platform for 2 min. During the vibration condition, the platform vibrated at 13 mm peak to peak amplitude and a frequency of 30 Hz. During the control session, participants were given the same instructions, but no vibration was applied. Knee extension (KE)/flexion (KF) performance was measured on a Biodex II Isokinetic Dynamometer at 6 speeds (1.05, 2.09, 3.14, 4.19, 5.24 & 6.28 rad/s). Anaerobic power was measured using both a vertical jump test and Wingate test. **RESULTS:** A RM GLM did not reveal a significant condition effect or group*condition interaction for vertical jump. A condition, and group*condition interaction was seen for peak power and power drop on the Wingate test ($p < .05$). KE average power at 1.05 rad/s and 6.28 rad/s revealed a significant group*condition interaction ($p < .05$). Additionally, a significant group and group*condition interaction were seen for KF average power at 6.28 rad/s ($p < .05$). **CONCLUSION:** These findings indicate that WBV may not be universally beneficial in enhancing muscle contractile performance or anaerobic power generation.