Acute Effect of Whole-Body Vibration Warm-up on Footspeed Quickness

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Abstract

The warm-up routine preceding a training or athletic event can affect the performance during that event. Whole-body vibration (WBV) can increase muscle performance, and thus the inclusion of WBV to the warm-up routine might provide additional performance improvements. The purpose of this investigation was to examine the acute effect of a WBV warm-up, using a vertical oscillating platform and a more traditional warm-up protocol on feet quickness in physically active men. Twenty healthy and physically active men (18–25 years, 22 ± 3 years, 176.8 ± 6.4 cm, 84.4 ± 11.5 kg, 10.8 ± 1.4% body fat) volunteered for this study. A 2 × 2 factorial design was used to examine the effect of 4 warm-up scenarios (no warm-up, traditional warm-up only, WBV warm-up only, and combined traditional and WBV warm-up) on subsequent 3-second Quick feet count test (QFT) performance. The traditional warm-up consisted of static and dynamic exercises and stretches. The WBV warm-up consisted of 60 seconds of vertical sinusoidal vibration at a frequency of 35 Hz and amplitude of 4 mm on a vibration platform. The WBV protocol significantly ($p \leq 0.0005$, $\eta 2 = 0.581$) augmented QFT performance (WBV: 37.1 ± 3.4 touches; no-WBV: 35.7 ± 3.4 touches). The results demonstrate that WBV can enhance the performance score on the QFT. The findings of this study suggest that WBV warm-up should be included in warm-up routines preceding training and athletic events which include very fast foot movements.