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Research article

from September
2014**Acute Whole-Body Vibration does not Facilitate Peak Torque and Stretch Reflex in Healthy Adults**Citations in
ScholarGoogleElla W. Yeung¹, Cheuk C. Lau², Ada P.K. Kwong², Yan M. Sze², Wei Y. Zhang², Simon S. Yeung¹, 

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The acute effect of whole-body vibration (WBV) training may enhance muscular performance via neural potentiation of the stretch reflex. The purpose of this study was to investigate if acute WBV exposure affects the stretch induced knee jerk reflex [onset latency and electromechanical delay (EMD)] and the isokinetic knee extensor peak torque performance. Twenty-two subjects were randomly assigned to the intervention or control group. The intervention group received WBV in a semi-squat position at 30° knee flexion with an amplitude of 0.69 mm, frequency of 45 Hz, and peak acceleration of 27.6 m/s² for 3 minutes. The control group underwent the same semi-squatting position statically without exposure of WBV. Two-way mixed repeated measures analysis of variance revealed no significant group effects differences on reflex latency of rectus femoris (RF) and vastus lateralis (VL; $p = 0.934$ and 0.935 , respectively) EMD of RF and VL ($p = 0.474$ and 0.551 , respectively) and peak torque production ($p = 0.483$) measured before and after the WBV. The results of this study indicate that a single session of WBV exposure has no potentiation effect on the stretch induced reflex and peak torque performance in healthy young adults.

Key words: Acute whole body vibration, neuromuscular performance, stretch reflex, peak torque

Key Points

- There is no acute potentiation of stretch reflex right after whole body vibration.
- Acute whole body vibration does not improve muscle peak torque performance in healthy young adults.

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