



Whole Body Vibration Training Applied To Female Basketball Players: Long-term Effects On Strength Development

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The use of vibration as a mechanism to enhance strength has become very popular in recent years; it seems to generate an increase in recruitment and synchronization of muscle fibers, thus producing higher levels of force in the muscles loaded with the vibration stimulus. Nevertheless, research has been contradictory, showing significant increases or no differences depending on several factors such as subjects' age or level of physical activity (amateur or athletes) and characteristics or length (acute, short-term or long-term) of the vibration protocol loading.

PURPOSE: The aim of this project was to investigate and compare the effects of 14 weeks of Whole Body Vibration Training on force development in female basketball players.

METHODS: Thirty-one female basketball players were randomly distributed in an experimental group: VG (vibration) and a control group: CG (no-vibration). Both groups participated in the same training program; however, it is important to note that the experimental group (VG) performed a set of isometric exercises on a vibration platform (half-squat, half-squat with weight on toes and calves), while the control group performed the same isometric exercises directly on the floor. Muscle performance of the legs was tested on a contact-time platform through several tests: squat jump (SJ), counter-movement jump (CMJ) and 15-seconds maximal performance jump; squat power (knee-extension) was also evaluated using an accelerometer.

RESULTS: After 14 weeks, there were no significant differences between the vibration and the control group on all parameters evaluated; however, there was a significant increase from initial to final tests in both groups (CG, VG): SJ: 5.1% and 3.5%; CMJ: 5.6% and 3.0%; 15-seconds: 16.5% and 14.4%; Power squat: 19% and 21%.

CONCLUSION: *The increase in strength through whole body vibration training for female basketball players is comparable to the increase obtained through the same set of exercises performed without the vibration loading.*

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