

Improving strength and postural control in young skiers: whole-body vibration versus equivalent resistance training.

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Several groups have undertaken studies to evaluate the physiologic effects of whole-body vibration (WBV). However, the value of WBV in a training program remains unknown. Objective: To investigate whether a WBV program results in a better strength and postural control performance than an equivalent exercise program performed without vibration.

Methods:

Randomized, controlled trial. Setting: Laboratory. Patients or Other Participants: Thirty-three Belgian competitive skiers (ages = 9-15 years). Intervention(s): Subjects were assigned to either the WBV group or the equivalent resistance (ER) group for 6 weeks of training at 3 times per week. Main Outcome Measure(s): Isokinetic plantar and dorsiflexion peak torque, isokinetic knee flexion and extension peak torque, explosive strength (high box test), and postural control were assessed before and after the training period.

Results:

Both training programs significantly improved isokinetic ankle and knee muscle strength and explosive strength. Moreover, the increases in explosive strength and in plantar-flexor strength at low speed were significantly higher in the WBV group than in the ER group after 6 weeks. However, neither WBV training nor ER training seemed to have an effect on postural control.

Conclusions:

A strength training program that includes WBV appears to have additive effects in young skiers compared with an equivalent program that does not include WBV. Therefore, our findings support the hypothesis that WBV training may be a beneficial supplementary training technique in strength programs for young athletes.

Reference:

Mahieu N.N., Wityrouw E., Van de Voorde D., Michilsens D., Arbyn V. & Van den Broecke W. (2006). Improving strength and postural control in young skiers: whole-body vibration versus equivalent resistance training. *Journal of Athletic Training*. 41(3). 286-293.