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Whole body vibration exercise: are vibrations good for you?

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ABSTRACT

Whole body vibration has been recently proposed as an exercise intervention because of its potential for increasing force generating capacity in the lower limbs. Its recent popularity is due to the combined effects on the neuromuscular and neuroendocrine systems. Preliminary results seem to recommend vibration exercise as a therapeutic approach for sarcopenia and possibly osteoporosis. This review analyses state of the art whole body vibration exercise techniques, suggesting reasons why vibration may be an effective stimulus for human muscles and providing the rationale for future studies.

Effect of vibratory stimulation training on maximal force and flexibility

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ABSTRACT:

In this study, we investigated a new method of training for maximal strength and flexibility, which included exertion with superimposed vibration (vibratory stimulation, VS) on target muscles. Twenty-eight male athletes were divided into three groups, and trained three times a week for 3 weeks in one of the following conditions: (A) conventional exercises for strength of the arms and VS stretching exercises for the legs; (B) VS strength exercises for the arms and conventional stretching exercises for the legs; (C) irrelevant training (control group). The vibration was applied at 44 Hz while its amplitude was 3 mm. The effect of training was evaluated by means of isotonic maximal force, heel-to-heel length in the two-leg split across, and flex-and-reach test for body flexion. The VS strength training yielded an average increase in isotonic maximal strength of 49.8 percent, compared with an average gain of 16 percent with conventional training, while no gain was observed for the control group. The VS conventional training and 2 cm for the control groups, respectively. The ANOVA revealed significant pre-post training effects and an interaction between pre-post training and 'treatment' effects (P less than 0.001) for the isotonic maximal force and both flexibility tests. It was concluded that superimposed vibrations applied for short periods allow for increased gains in maximal strength and flexibility.