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Vibration therapy

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Abstract

Whole-body vibration training is a method for muscle strengthening that is increasingly used in a variety of clinical situations. Key descriptors of vibration devices include the frequency, the amplitude, and the direction of the vibration movement. In a typical vibration session, the user stands on the device in a static position or performs dynamic movements. Most authors hypothesize that vibrations stimulate muscle spindles and alpha-motoneurons, which initiate a muscle contraction. An immediate effect of a non-exhausting vibration session is an increase in muscle power. Most studies of the longer term use of vibration treatment in various disorders have pursued three therapeutic aims: increasing muscle strength, improving balance, and increasing bone mass. In a small pilot trial in children we noted improvements in standing function, lumbar spine bone mineral density, tibial bone mass, and calf muscle cross-sectional area.

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