



## Vibration for Muscle Mass?

*Vibration training ain't good just for the old folks*

By: Jose Antonio, Ph.D in Training

You've heard of vibration training? It conjures up images of spending time with your girlfriend doing...oh, never mind. Wrong type of training. In actuality, there have been several randomized, controlled trials showing improvements after a period of whole-body-vibration exercise. <sup>1</sup> One recent study looked at the effect of whole-body vibration on energy expenditure, as well as on exercise intensity, in physically active subjects during and immediately after a typical set of exercises for muscle growth.



Scientists had 17 male university students perform two training exercises: half squat and half squat with vibration. Both exercises were performed by all subjects on the vibration platform, with one group getting the vibration and the sequence order being assigned randomly. They did five sets of 10 repetitions, with two minutes' rest between sets. What happened? Energy expenditure and perceived exertion were significantly higher in the vibration group during both exercise and recovery. Heart rate did not differ significantly between the groups.

It would appear that strength training could be made more energy efficient through the addition of vibration. According to the scientists who conducted the study, it makes sense to “introduce vibration exercises into regular training programs, particularly those whose key objective is muscle hypertrophy along with fat reduction.” <sup>2</sup>

In a long-term study, scientists investigated the effects of one-year of whole-body-vibration training on isometric and explosive muscle strength and muscle mass in men older than 60. They discovered that isometric muscle strength, explosive muscle strength and mass increased significantly in the vibration group—9.8 percent isometric, 10.9 percent explosive and 3.4 percent mass. They concluded that it was “as efficient as a fitness program to increase isometric and explosive knee extension strength and muscle mass of the upper leg in community-dwelling older men.” <sup>3</sup>

But vibration training ain’t good just for the old folks. A study with athletes demonstrated that a strength-training program that includes whole-body vibration had additive effects on young skiers compared with an equivalent program that did not include vibration. <sup>4</sup>

Another study looked at 21-year-old women taking part in 24 weeks of whole-body-vibration training and fitness training. Forty-eight untrained females were divided into a whole-body-vibration group, which performed unloaded static and dynamic exercises on a vibration platform, and a fitness group, which followed a standard program of cardiovascular and resistance training, including dynamic leg presses and leg extensions (20 to eight reps maximum) and 15 to 40 minutes of cardio. Both groups trained three times weekly. A control group did not participate in any training. Over the 24 weeks fat-free mass increased only in the whole-body-vibration group, by 2.2 percent, so it seems that whole-body-vibration training induces a gain in muscle strength combined with a small increase in fat-free mass. <sup>5</sup> **IM.**

—Jose Antonio, Ph.D.

**Editor’s note:** You can listen to Dr. Jose Antonio and Carla Sanchez on their radio show Performance Nutrition, Web and podcast at [www.performancenutritionshow.com](http://www.performancenutritionshow.com). Dr. Antonio is the CEO of the International Society of Sports Nutrition—[www.TheISSN.org](http://www.TheISSN.org). His other Web sites include [www.SupplementCoach.com](http://www.SupplementCoach.com), [www.Javafit.com](http://www.Javafit.com), [www.PerformanceNutritionShow.com](http://www.PerformanceNutritionShow.com), and [www.JoseAntonioPhD.com](http://www.JoseAntonioPhD.com).

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