

The Journal of Bone and Mineral Research, March 2004

<http://www.jbmr.org/doi/full/10.1359/JBMR.0301245>

Their reasons for undertaking this study:

"Most strategies to treat postmenopausal bone loss have been focusing on antiresorptive medication. More recently, the potential contribution of load-bearing exercise to preserve bone density and prevent osteoporosis has received some attention. In this regard, a relatively vigorous aerobic and strength training regimen has been shown to be most effective. However, this approach has the inherent disadvantage of a lack of long-term compliance and may even increase the risk of fracture. It is therefore imperative to continue the search for more attractive, low-risk exercise programs, with the goal of improving the outcome... The aim of this randomized controlled trial was therefore to assess musculoskeletal effects of high-frequency whole body vibration (WBV) training in postmenopausal women."

They randomly assigned women to three groups:

WBV: Whole Body Vibration

RES: Resistance Training group (weight training)

CON: Control group - who did neither

The results of the study

Fat: ".. in both groups [vibration & resistance], total fat mass decreased significantly during the intervention period. In contrast, no significant change in fat mass was observed in the CON [control] group."

"Vibration training improved isometric and dynamic muscle strength..... and also significantly increased BMD [bone mineral density] of the hip"

"Compared with the RES [resistance training] group, the 6-month vibration intervention resulted in a significant 1.51% net benefit in total hip BMD."

"The mean change in total hip BMD in the WBV [whole body vibration] group (with a net benefit of about 1.5% at 6 months compared with controls) is similar in magnitude to the gain in hip BMD observed with antiresorptive agents at the 6-month time point in recent osteoporosis trials, supporting its potential clinical relevance"

"No vibration-related side effects were observed."

"In conclusion, in healthy postmenopausal women, a 24-week whole body vibration program is feasible and able to modify muscle strength, balance, and hip bone density, which are well-recognized risk factors for hip fracture."