

Whole Body Vibration for Osteoporosis and Fall Prevention

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Let's take a look at how vibration training can affect building bone mass and preventing falls. Whole body vibration (WBV) platforms such as the Power Plate have been reported to increase or maintain bone density.

These types of platforms were created in the mid to late 90's in Europe, with the original intention of osteoporosis prevention. Soon after, people realized that they also were beneficial for rehab and general fitness training.

A study reported in the American Journal of Bone and Mineral Research (2004) involved 70 post-menopausal women over a 24 week period. One group used the Power Plate for their training and another used conventional resistance training.

The women doing vibrational exercise saw a 1.5% increase in bone density at the hip, while the other group saw no significant increase. If these exercises were done in a sitting or lying position, that shouldn't be surprising.

A more recent study again compared vibration training versus a resistance training group. In this case, the strength training group used "functional training", which can mean different things, but likely involved exercising in standing positions.

This would place greater stress on the bones than doing isolation exercises done while sitting or lying down. This would also have more carryover to doing activities of daily living, as most of our daily movements occur while standing.

Both groups saw an increase in bone density at the spine and maintained bone mass at the hip. The group using WBV had a significant decrease in the number of falls versus the control group. The hip and the spine are vulnerable to bone loss and potential fracture.

If bone loss occurs here, it is also likely that resistance training isn't taking place, which can cause muscles to weaken, probably increasing the risk of falling and/or loss of mobility.

I have my clients do exercises in a standing position both on and off the vibration platform to build a combination of strength and balance, as well as working on coordination. It's basically a use it or lose it situation.

Squats and stepups are the types of exercises that put the necessary stress on the bones and muscles to get these results. These types of movements involve multiple muscles and joints, making them very efficient.

A further study saw 89 post-menopausal women between the ages of 58-74 increase not just their leg strength with WBV, but their speed of movement. Muscle power is usually decreased with aging, and thus is very important to train.

How fast your muscles contract (react) can be the difference between losing your balance and falling, or not.

Different wellness studios and clinics have incorporated vibration training with their over 50 clients and I think that this is wise. One in particular, are the Stand Strong Clinics, which are aimed at seniors.