

TWBV Good for Physical Therapy or Performance?

*Recently, many physical therapists and strength and conditioning coaches have started incorporating whole-body-vibration(WBV), in which patients stand on a platform that provides gentle to challenging, constant vibration that reverberates through the body.

Background

Originally developed for Russian cosmonauts to preserve muscle and bone mass in zero gravity conditions, whole-body-vibration is gaining confidence among health practitioners—particularly those who treat athletic populations and people compromised by disease, age or disability. TWBV is already employed extensively in Europe and Asia. And practitioners in the United States are becoming aware of its systemic effects and therapeutic applications.

How does it work?

Vibration therapy units are either motor-generated plates or vibrational models. Motor-oriented units move in both horizontal and vertical planes. This is beneficial for athletes who want to challenge multiple planes of motion. Vibrational sound or piston models operate in the vertical plane only, reproducing the effects of gravity. This can benefit an older population and those recovering from injury. Vibrational models also allow patients to experience higher Hz ranges to allow higher tolerances and more systemic and cellular benefits. Whole-body-vibration-therapy machines typically range from 3 to 50 Hz.

What does whole body vibration do to the body?

Like aerobic and anaerobic exercise, whole-body vibration increases physical strength, dexterity and endurance. Heightened circulation increases oxygen uptake, while mechanical oscillations create tendon stretch reflexes to stimulate involuntary muscle contractions throughout the body. Comparable to weight repetitions at the gym, some studies report WBV can increase muscle strength and work tolerance with less effort and time for the same movement. In some cases, studies have shown WBV can boost muscle strength more than ordinary weight training in a shorter time period.

In rehabilitation

WBV has been used as a therapeutic modality for people with paraplegia, cerebral palsy and muscular dystrophy. By stimulating muscles that the brain can't control, WBV helps minimize lower-body atrophy and, in some cases, reconnect the signal from the brain with previously atrophied muscles. Patients with postural problems often report new awareness and control over lower abdominal muscles after WBV sessions.

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In addition to whole body strengthening and improved endurance, WBV is being studied for its possible therapeutic role in helping with boosting bone density, relieving joint pain, lymph drainage and improving circulation in postoperative recovery.

Studies have also reported WBV can boost metabolism and raise anabolic hormone levels (HGH) in the body, but more research is needed.

Balance and coordination at a technical level

During whole-body-vibration-therapy, the moving plate excites stretch receptors and tendon reflexes in joints, promoting increased receptor activity and challenging balance and coordination in a safe environment.

Single-leg activities during WBV promote improved static and dynamic balance through that lower extremity.

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Therapeutic Whole Body Vibration
Sessions!



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*Article information obtained from <http://www.my-physical-therapy-coach.com/>