

The Clinical Benefits of Vibration Therapy

Jeffrey Tucker, DC, DACRB

I strongly recommend you consider vibration therapy if you're not already using it. I literally wrote the manual for the late Dr. Jake Pivoroff, a chiropractor, who was the developer of an original handheld deep muscle stimulator device and technique. Dr. William Fuji, a medical doctor, took the deep muscle stimulator vibration-percussion to the next professional level.

I've been using a handheld deep muscle stimulator vibration-percussion device in my practice for more than 10 years. A year ago, I added whole body vibration (WBV) with sound frequency technology using the method developed by Dr. Caroline Stites, a naturopath, and Dr. Carl Cadwell, a medical device manufacturer. The whole-body vibration plate with sound therapy has enhanced my in-office fat-loss program, healthy aging strategy and fitness programs. Sound therapy increases cellular energy production (cellular voltage) and may help the body heal itself.¹

I'm sorry I waited so long to use WBV (and share the benefits with you, the readers of *Dynamic Chiropractic*). Here are some of the reasons I've added WBV to my clinical toolbox.

Awareness

Standing still on a WBV plate creates a "Feldenkrais moment." By this, I mean *awareness*. I can engage kinesthetic awareness, postural awareness, breath awareness, muscle tone awareness, etc. It's an opportunity to cue my patient, *Turn on your sensors*. The sensory system is intimately related to the movement system. I ask patients to scan their body while on the vibration device, see if they can sense tension, and then release the tension through various suggestions: breath, postural change, slow movements, or random movement. Once tension is released, then new postural habits or "turning on" of muscles can begin.

Blood Flow

Two studies conducted at Loma Linda University and published in the *Medical Science Monitor* found WBV can significantly increase circulation in the arms and legs.²⁻³

Muscle Strength

Centner, et al., in a 2020 study and review, suggest the effects of WBV help strengthen, tighten and tone muscle. Vibration plates move at different frequencies, some as high as 30-50 vibrations per second. As such, your muscles contract with incredible speed, as if you were exercising. In rehabilitation circles, any movement is better than no movement!⁴

Sarcopenia is a real threat to healthy aging. Low muscle mass becomes more common with increased age (Makizako). Whole body vibration with sound may be helping to add that critical mass of cellular

loading that decreases risks for major hallmarks of unhealthy aging, such as obesity, insulin resistance, frailty and decreased muscle mass.

Weight Loss

Milanese, et al., demonstrated that eight weeks of WBV training is effective in inducing positive body composition changes, as well as increased muscle strength, in women.⁵ Our weight-loss dieters find WBV is helping reduce and release stubborn body fat. An unpublished study by Caroline Stites, ND, demonstrated an average weight loss of 4.1 pounds in 30 days utilizing lipolysis frequencies from a sound vibration plate.⁶

Bone Strength and Balance

Rubin, et al.⁷ and Roelants, et al.,⁸ did studies that found the use of vibrating platforms increased bone mineral density and slowed bone loss. Weight-bearing, strength and balance-training exercises are an important part of any osteoporosis prevention and treatment program, regardless of age. WBV can help increase or preserve bone mass and may also help reduce the risk of falling.

Gusi, et al., demonstrated that after eight months, BMD at the femoral neck in a WBV group increased by 4.3 percent compared to a walking group.⁹ (BMD at the lumbar spine was unaltered in both groups.) Balance improved in the WBV group (29 percent), but not in the walking group.

Improving Biomarkers of Health

In my office, I use nitric oxide test strips and bioelectrical impedance analysis (BIA) derived phase angle as efficient markers of health. Treatment with WBV with sound and the deep muscle stimulator hand-held vibration demonstrate two important markers I am most interested and excited about these days:

1. Both devices, either alone or combined in session, increase nitric oxide levels.
2. Both devices, either alone or combined, increase phase angle, a marker of cellular membrane function and cellular health.

Nitric oxide plays a significant role in the cardiovascular system. It is responsible for healthy circulation because it widens blood vessels and increases microcirculation, allowing oxygen and nutrient delivery to all cells.

Other Benefits

Like all other exercise, WBV with sound appears to be a good stress reliever, and 10 minutes with or without the exercise movements, but with proper breathing instructions and cues (e.g., inhale for 4 seconds, hold for 7 seconds, exhale for 8 seconds), is working for my patients. In this way, I can use the vibration plate as a pre-treatment "practice your belly breathing" session for relaxation; the handheld DMS as a skilled therapy for pre-treatment or fascial release therapy; and WBV with sound anywhere along a treatment session. I especially like to introduce WBV with sound during my exercise training to improve circulation, postural awareness and movement sensation, and as recovery time along with some gentle stretching.

Handheld Vibration Therapy

I integrate the vibration-percussion hand-held deep muscle massager/stimulator into my fascial release therapy and stretch training. Do my patients like it? They "love it." I administer the therapy myself as part of my evaluation and treatment. I am in a one-on-one treatment setting and have limited time with my patients, so I have to pick and choose what manipulation/mobilizations, therapy tools (lasers, shockwave, etc.) and exercises to do with each patient.

I think the deep muscle stimulator is a tool unlike the ones (many patients are purchasing for home use. If a patient has muscle- / fascial-related pain, and/or I'm trying to gain length and gliding in that tissue, the use of my hands and the device works well. Patients appreciate the device as effective in reducing pain and tenderness, and increasing range of motion.

The benefit of me doing it to them with my skills (even if they have a cheaper unit at home) is in the recognition I often hear from the patient: "This is what I need."

Oftentimes I'm teaching patient's specific ELDOA exercises or other at-home movements, and as we go through the exercise program I apply the handheld DMS to dense fascia that is not gliding. I just don't find that patients who have other vibration / percussion devices can do it as well on themselves. There is no question in my mind that vibration devices are skilled therapies. My skill is deciding to use vibration therapy for a particular patient.

The handheld device is manual therapy; good for fascial release, increasing range of motion, oxygen to tissues, increasing blood flow, and optimizing recovery.

Treatment on a "spot" or fascial chain linkage with handheld vibration for even 30-60 seconds often reduces some spasm or changes tone, and in that way my manipulation, posture training and exercise therapy can have a better impact.

People require some relaxation. If I can teach them or offer them something to relax with, I can do better manual therapies. Furthermore, you as the doctor need to relax. I've been around for 35-plus years and if you are overusing your hands and fingers, you may not enjoy practice as much as I still do.

I think handheld vibration tools, in conjunction with your skilled transducers (your hands), and whole-body vibration with sound therapy, offer the brain counterstimulation to rewire the nervous system and help gain control of lost health.

Tucker's Top 5 Exercises to Perform on the Vibration Plate With Sound

1. *Leg Stands* - This is fundamental for me to teach patients how to feel and practice ankle, knee and hip proprioception. The progression is standing on one leg with eyes open and eyes closed.
2. *"Super-Slow" Marching in Place* - Instruct the patient to do this under three scenarios: a) moving the arms overhead; b) moving the scapulohumeral shoulder and arms into protraction and retraction; and c) moving the arms through horizontal adduction and abduction.
3. *Squat (Body-Weight)* - The aim is to practice form and improve ankle, knee, hip, and lumbopelvic mobility along with back, buttock and leg strength.
4. *Lunges* (one leg on the vibration plate and one leg on the floor) - This position helps stretch the hip flexors, calves and legs of the leg on the floor. Performing reps helps strengthen the quadriceps and gluteals.
5. *Planks / Push-Ups* - Forearm plank variations are a great core exercise. Adding push-ups is part of chest, shoulder and triceps strengthening.

Billable CPT codes I use are 97110, 97112 and 97530.

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