

HighBeam Research

Title: Whole lotta shakin' goin' on: Body vibration therapy is helping people with spinal cord injuries build bone density and muscle tone.

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Oct. 3--Dayna Schultz looks as if there is an earthquake going on under her feet. She stands ramrod-straight, teeth clenched, gripping a gray walker for support as her body shakes like a jackhammer, the walker every so often slipping off the side of the large metal plate she is on. Yet for all the motion, Schultz, 19, of Morris, Minn., is calm. The vibrations she experiences aren't the result of seismic shifting. They're part of a therapy called whole body vibration.

The Rehabilitation Institute of Michigan is using it to help increase bone density, reduce spasms and build muscle tone in people who have suffered spinal cord injuries. Madonna and members of the Detroit Lions are proponents, too. High-frequency vibration for fitness now is being marketed and used as a way to help everyday athletes become more fit as well as for injury recovery programs like the one at the Rehabilitation Institute of Michigan, which uses a machine called the Wave. Some fitness centers across the country are starting to offer whole body vibration machines; a popular version is called the PowerPlate.

The machines used in whole body vibration look somewhat like StairMasters -- with a large metal plate where the steps would be. You stand on the plate and select a frequency and a segment time (usually from 30 to 60 seconds); the plate vibrates, causing your muscles to contract. That's supposed to lead to better circulation, fewer spasms and increased bone density. Users can also do basic moves like calf raises, squats, push-ups or sit-ups to work different body parts. "For someone who can't make muscle contractions, this does the contractions for them," says Bill Thornton, the head physical trainer at the Rehabilitation Institute's Center for Spinal Cord Injury Recovery. Thornton, 41, of Dearborn Heights will be monitoring the effects of whole body vibration as part of an institute study. Schultz is using the machine as a part of her therapy after a car accident left her with no feeling below her torso and a broken neck. She's been a part of the Detroit-based Rehabilitation Institute's Center for Spinal Cord Injury Recovery since August. The crash -- a collision with a train that killed two people -- occurred last year. She uses a wheelchair, but also is working to stand again. "I really had to work hard at standing up," Schultz says after trying to stand on the vibration machine for the first time last week. "You feel it a lot more when you're on there." At the Healing Retreat, a medical spa in Bloomfield Hills, a PowerPlate machine is used to help increase circulation and flexibility in users, says Katie Drinkard, the company's manager. Some of those who use the machine are recovering from injuries, while others include it as a part of massage treatments. Drinkard says she's noticed whole body vibration helping to alleviate back and knee pain in some clients and to increase range of motion in a woman who uses it on a shoulder injury. It's also a quicker way to exercise, she says. Others, like Thea Rosa, of Cool, Calif., who was injured two years ago when the horse she was riding fell on her, find that whole body vibration helps to stimulate body parts that have lost sensation. She's been at the institute since June. Rosa started using the Wave in August, when the machine arrived, and now is on it at least three times a week. "I can feel the tingling in my heels now," says Rosa, 39, after a session on the machine that included push-ups off the plate. "It's kind of a nice feeling when you're connected again to your body. You can feel the muscles work." The benefits of whole body vibration are mostly short-term at this point. Rosa, who struggles with severe tightening of the muscles in her legs, says using the machine helps to fatigue her muscles and reduce spasms. But that usually only lasts about an hour. More research is needed on the long-term effects of whole body vibration, says Larry Leigh, director of research and training at WAVExercise, the Windsor-based company that sells a version of the vibration machine. And while whole body

vibration might be useful as a part of fitness program, it's not enough on its own. "You're not going to find any Arnold Schwarzeneggers from training on the Wave," Leigh says. "It's not meant to be a total training method, but as an adjunct" it can be helpful. Still, Rosa credits whole body vibration for much of her progress in the past few months. "My hamstrings are getting stronger; my glutes are getting stronger," she says.

She started riding horses again about four months after her accident. Now she wants to walk again. "With this machine, I can feel the muscles contract and I can stand longer," says Rosa. "It gives you a boost. It's not impossible on my own, but it's a lot harder." Contact CECILIA OLECK at 313-223-4286 or

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