

## MS and WBV: A Promising Combination

# MS and WBV: A Promising Combination

By: BY KELLY PRICE

Lynn Mitchell has a brilliant smile on her face, a shiny engagement ring on her finger, and a new outlook on her future. She also has MS.

Since she was diagnosed 10 years ago at the age of 20, she has battled the progressive limitations the disease put on her body and the accompanying depression that has largely confined her to her home.

"When they told me I had MS, I didn't even know what the letters stood for," she remembers, "but I learned very quickly. I also learned you have to help yourself and not depend on medications."



For the last six months, Lynn has been part of a new program for MS patients combining progressive strength training with whole body vibration (WBV) that has had what she calls "amazing results."

The Multiple Sclerosis Strength and Stability Program was founded and is directed by Charles G. Oakes, PhD, following early consultations with Dr. Harold Moses Jr., assistant professor, department of neurology, Multiple Sclerosis Center at Vanderbilt University School of Medicine, and Irv Rubenstein, PhD, exercise physiologist, a nationally-certified personal trainer who founded S.T.E.P.S., Inc., Nashville's first personal training center. The program adds whole body vibration to progressive strength training in hopes of hastening the rehabilitation of MS patients beyond what traditional physical and occupational therapies accomplish.

Vibration technology was developed in the 1970s by Russian scientists to counteract the loss of bone mass experienced by their cosmonauts during long space missions. Knowing that bones get stronger when the surrounding muscle fibers contract repeatedly (Wolff's Law), the Russians mechanically produced the stimulus of displacement by vibration, forcing the muscles to react by contracting and relaxing involuntarily. The body's natural reflexive response to disruptions in gravity is to engage every muscle in a peak contraction in order to stabilize itself. This reaction causes an enormous increase in blood flow to muscles, tendons, ligaments, and tissues, releasing hormones that are critical in healing damaged tissue.

Elite athletes in Europe, who are aware of the advantages of WBV in rehabilitating damaged muscles and developing strength, have been using vibration technology in their training and conditioning programs for almost three decades. The technology came to the United States via professional football and basketball teams for use in expediting rehab from injuries. The Tennessee Titans have three Advanced Vibration Technology machines in their training facility and even take one on the road with them for away games.

WBV operates at the neural level, triggering a reflexive neural response to disruptions in stability. With WBV these disruptions come in the form of 30 to 50 vibrations per second as the patient stands on a vibrating platform. Oakes' unique program assumes that a technology that elicits benefits at the truly neural level may have enormous potential when applied to individuals living with conditions that result from neural deficiencies, such as MS.

The program stems from two tenets based on extensive scientific studies: 1) progressive strength training is as beneficial

to MS clients as it is to non-MS clients; and 2) WBV is proven to augment and hasten progressive strength training in normal populations.

Early this year, in consultation with Moses and Rubenstein and the local MS chapter, Oakes began using a regimen with his MS clients that combined progressive strength training with the use of the vibration machine to improve the functional ability and conditioning.

"As far as I know, we are the only ones in the country systematically using progressive strength training combined with WBV for MS patients," Oakes said. "We don't know why the combination works, but we know that it does," he added, describing its pragmatic validity.

In February, when she first came to S.T.E.P.S., Mitchell remembers she walked tentatively with a cane, leaning on the wall for support. In her assessments, she failed the cognitive, strength, and balance tests that Oakes administered. After a few sessions using progressive strength training based on the established MS protocols that are recommended by the American College of Sports Medicine and the National Strength and Conditioning Association, Oakes put her on the whole body vibration machine. She was amazed by the result, feeling an immediate acute effect from the first treatment that lasted for four days. Now, after regular use for six months, she says using the machine has made her more alert and energetic and her muscles more conditioned and stimulated. She can see so much progress that "I feel that I'm almost back to where I was when I was diagnosed. I didn't think I could get back."

The Mid South Chapter of the MS Society provides need-based scholarships for patients who participate in the program. Meredith Hillin, a program coordinator, says the chapter is "100 percent behind the program. There have been some amazing, phenomenal successes."

Moses stresses that this exercise program is one aspect of a total approach to a chronic illness such as MS, and it must be combined with a good diet, proper rest, avoidance of tobacco and excessive alcohol, and management of stress for optimal results.

He adds, "I am encouraged by the early results utilizing WBV for people with MS. I am hopeful that this technique will help improve not only well-being, but strength, endurance and coordination. We will be studying the role of WBV in people with MS to see how much it does help. We plan to do this in the near term."

ie.

October 2006