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Shoes That Rock Your Muscles

By LAURA JOHANNES | Tuesday, September 15, 2009

Those weird-looking shoes with rocker-like soles popping up everywhere aren't a fashion statement. Companies that sell them say they aid weight loss, tone muscles and relieve stress on the knees and hips. Short-term data show wearing the shoes makes some muscles work harder, but so far there's no rigorous evidence that they speed weight loss.

Unlike traditional athletic shoes that are built to be stable, rocker-sole shoes are deliberately unstable. The effect, companies that make the shoes say, is similar to using a wobble board or balance board in a gym. To stand or walk in these shoes, you must engage more muscles than you do using regular shoes, the companies say. Manufacturers recommend you wear them during your normal activities, starting with short periods until you get used to them.

Podiatrist John Pagliano, a clinical instructor at the University of California Irvine School of Medicine, says the studies on the shoes so far are "not rigorous enough" to convince him of any benefits. Logically, the shoes seem like a good idea for people standing much of the day, he says, but he recommends they be used with caution for running or other heavy sports activities.

The 'Anti-Shoe'

The shoes vary in cost, style and weight. Switzerland's Masai Group International Ltd., a pioneer in what it calls "physiological footwear," sells the MBT, with a dramatically curved sole. MBTs, which the company dubs the "anti-shoe," have been widely available in the U.S. since 2005 and cost from \$240 to \$390.

Recently a bevy of shoes based on similar principles have hit the U.S. market. This spring, Skechers USA Inc., of Manhattan Beach, Calif., and Reebok International Ltd., a Canton, Mass. unit of Adidas AG, jumped into the market with shoes starting at \$100. Skechers says its curved-sole Shape-Ups are designed to "promote weight loss, tone muscles and improve posture."

Reebok's EasyTone shoes, which it says "tones butt and leg muscles," don't have a visible rocker sole. They are built with air pockets under the ball of the foot and heel, which give the wearer the feeling of stepping on a mini balance ball.

Rehab Help

There are 39 studies on Masai shoes, of which nine have been published in peer-reviewed journals, according to company scientist Cordula Stegen. The company has been focusing on showing the shoes represent a healthier way to stand and walk, and in proving they can be used effectively for rehabilitation of pain or injuries.

In a 30-person Masai-supported study presented at a Canadian scientific conference in June, Swiss researchers found that patients given Masai MBT shoes to wear for three months after a course of physical therapy had better long-term results than patients given a home-exercise program without MBT shoes.

"The big advantage of the MBT is that you always have it with you and your training increases as long as you wear it," says Benno M. Nigg, director of the University of Calgary's Human Performance Laboratory, which has performed paid studies for Masai.

Dr. Nigg says he has found that wearing MBTs works small muscles around the ankles, improving the wearer's balance over time. He also found people wearing MBTs consumed 3% more oxygen—roughly equivalent to calorie burn—compared with individuals wearing a control shoe.

But he believes the extra energy expenditure is largely related to the heavier weight of the shoe. MBTs weigh slightly more than two pounds each.

Measuring Activity

Reebok's EasyTone shoes by contrast weigh an average of about 10 ounces each, similar to its traditional walking shoes. Reebok commissioned a study from the University of Delaware, which tested five women on a treadmill with electronic sensors on their muscles. Electrical activity in the butt muscles—representing muscle movement—was 28% greater for the EasyTone shoes than for a typical Reebok walking shoe used as a control. Electrical activity was 11% greater for the hamstring and calf muscles while wearing the EasyTones.

The test involved only 500 steps, and Reebok acknowledges that the effect may diminish as wearers get used to the shoes.

In a six-week trial commissioned by Skechers, a dozen women were given the shoes and told to wear them during their normal daily activities and walking programs. The unpublished study, conducted by a California chiropractor, didn't have a control group and wasn't rigorously designed. It found an average weight loss of 3.25 pounds and an improvement in body composition.