

Healing Heel Pain

Podiatrist Stephen Bui designed a device that makes it fast and easy to stretch and strengthen the foot, ankle and calf.

BY ANDREA LINNE

Stephen Bui, DPM, doesn't think of himself as an inventor. "I'm a problem-solver," Dr. Bui says. And the problem he set out to solve in 2017 is heel pain, what he and many other podiatrists say is the main complaint they hear from their patients. (See "Fast Facts About Plantar Fasciitis" on page 158)



Dr. Stephen Bui

"I'm an athlete," Dr. Bui says, "and I suffer from Achilles tendinitis. I tried the exercise plan I give to my patients for plantar fasciitis—it takes 30 minutes or so—and I couldn't do it regularly. I realized I was setting my patients up for failure. If I couldn't do it how could I expect my patients to make the time? It took me more than six months to get better. During that time, I looked at the market to see if there was a solution—something patients might do twice a week rather than once a week. I didn't find anything, and that's when my journey began."

sports expo in Germany. "It made sense for me to work with the company," Dr. Bui says. "We worked together mostly online through web conferencing, and I went to Finland several times for a week at a time," he says. "We had a prototype in August 2018." Dr. Bui says he named the device HighHealer "because it will help reverse the bad effects of wearing high heels. I wanted to take a positive approach and emphasize its healing benefits."

The next step was to raise money to manufacture the HighHealer. For that, he turned to social media. He

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In 2017, Dr. Bui took a sabbatical from his podiatry practice to develop a solution for treating heel pain. He was working for the Robinwood Orthopaedic Specialty Center, a division of the Centers for Advanced Orthopaedics, at its offices in Hagerstown, Md., and Waynesboro, Pa. "I thought I could do it quickly, but creating a simple device took a year and a half," Dr. Bui says. The first step was to think about the criteria for the product. "I wanted to make it easy for patients to do all the stretching exercises in 10 to 15 minutes at most," he says. "To do this, I had to design a device that combines all the modalities into one."

To meet this challenge, Dr. Bui worked with a team from HighRoller, in Tampere, Finland, which developed the ergonomic HighRoller all-in-one exercise tool and body massager. He met Santeri Hilli, an executive from the company, at an international health and wellness

launched a crowdfunding campaign on Indiegogo and raised roughly \$134,000 in 40 days. He also got valuable feedback. "It was validation that people liked the device," he says. "If I raised only, say, \$20,000, I would have said the project was dead in the water because people weren't buying it. Some people just donated a small amount of money. But most people wanted the device. Many backers bought more than one. We offered one product for \$70 and planned to sell it retail for \$89.95. We finished the campaign in September 2018, and we delivered the first products to our backers between December 2018 and February 2019."

Continued on page 158

New Concepts and Studies

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What Does the HighHealer Do?

The HighHealer is a light-weight portable device—it weighs roughly two pounds—that allows patients to do the stretching and strengthening exercises typically recommended to treat heel pain in approximately 10 minutes. “It’s simple and convenient,” Dr. Bui says. “The device allows you to exercise areas of the foot, ankle and calf. You can use it while watching TV, and you can take the device to your office. Patients with plantar fasciitis often feel pain when they stand up after sitting for a long time.”

The HighHealer has a soapstone roller that can provide cold or hot therapy, to relieve inflamed foot tissue. The soapstone has a flat side for sensitive feet and/or acute plantar fasciitis and a triangular blade that provides a more aggressive massage. The primary way to use the device is to sit with your knees at a 90-degree angle. Put your foot on top of the soapstone and apply



Stretching the plantar fascia ligament

pressure. Then, move your foot forward by pulling the toes into the grooves until your heel hits the soapstone. Do 10 repetitions, take a break and repeat for a total of three sets. This stretches the plantar fascia ligament and strengthens the intrinsic muscles of feet. Then, turn the device over to stretch the calf muscles at an optimal angle. Place your heel on the device and then press your foot toward the floor. Hold

the stretch for approximately 30 seconds. Repeat for 10 repetitions. Take a break and repeat for a total of three

“The HighHealer can pay for itself in a very short time.”—Dr. Barbella

sets. If you don’t have tight calves, you might get a better stretch doing this while standing. But be sure to use a wall to maintain your balance.

The HighHealer was first marketed in Europe online and at various health and sports trade shows, and to date, more than 5,000 devices have been sold. It’s now also sold in retail stores in more than 40 countries in North America, South America, Europe, Asia and Australia. The HighHealer was officially launched in the United States in May 2019 at the American Podiatric Medical Association



Dr. Ronald A. Barbella

Annual Scientific Meeting, in Atlantic City, NJ. That’s where Ronald Barbella, DPM, met Dr. Bui. “We connected because we’re both older athletes and podiatrists who regularly utilize active recovery techniques, such as range-of-motion exercises, massage and stretching, to treat inflamed and overtaxed muscles and soft tissue structures like the plantar fascia,” says Dr. Barbella, whose Moorestown Foot Specialists practice is in Mount Laurel, NJ. “He’s a runner and I’m a cyclist, and we both have experienced heel pain. I tried the HighHealer, and it helps me stay active and pain-free. I have a demo device in my office that I show to patients. It fits in well as one of several treatment options we make available

Continued on page 159

Fast Facts About Plantar Fasciitis

A National Health and Wellness Survey of U.S. adults conducted in 2013 found that:

- Approximately 1 percent of U.S. adults reported a diagnosis of plantar fasciitis in the last year
- More than three-quarters of respondents reported having plantar fasciitis pain in the previous month
- The prevalence of plantar fasciitis was lowest in those aged 18 to 44 and highest in those aged 45 to 64
- Women were 2.5 times more likely to report plantar fasciitis than men
- Body mass index (BMI) was strongly associated with plantar fasciitis; those with a BMI of 30 or more were 5 times more likely to have plantar fasciitis than those with a BMI less than 25
- More than 61 percent of respondents reported having pain every day, and almost 54 percent reported that their pain interfered with normal work activities at least moderately. Nearly one-third reported severe (“quite a bit” or “extreme”) pain-related interference
- Almost 70 percent of individuals with plantar fasciitis used over-the-counter analgesics for general pain management. •

Nahin RL. Prevalence and Pharmaceutical Treatment of Plantar Fasciitis in United States Adults. J Pain. 2018;19(8):885-896. doi: 10.1016/j.jpain.2018.03.003. www.ncbi.nlm.nih.gov/pubmed/29597082

[[[FYI: analysis from: <https://nccih.nih.gov/research/results/spotlight/Plantar-Fasciitis-Pain>]]]]



Dr. Chris Robertozzi

to our patients. My familiarity with the device enables me to better explain its application to my patients, including observing and discussing how to use it safely and effectively.”

Christian Robertozzi, DPM, is conducting a small double-blind study of the HighHealer with patients in his Advanced Foot and Ankle Care practice, in Newton, NJ. “Dr. Bui was one of my residents at Mor-

Robertozzi says, patients seem to like it, including the massaging effect.

“If I get positive feedback, I’d have no problem recommending the device, Dr. Robertozzi says, though he does think the \$89.95 cost for the

HighHealer might be a problem for some of his patients. “My practice is in a rural, low-income area, and people don’t have a lot of discretionary money,” he says. “Insurance won’t

Continued on page 159



Loosening calf tightness with optimal angle for stretching

ristown Medical Center, in Morristown, NJ, and he worked with me in my practice,” Dr. Robertozzi says. “We’ve stayed in touch over the years and he asked me if I’d try the HighHealer and let him know what I thought. As part of the treatment for heel pain, I often give patients a 6-inch piece of PVC plastic pipe and tell them to roll their foot on it to stretch out the plantar fascia ligament. So, I’ve been asking patients with heel pain who want to stretch only as their treatment to pick one of two envelopes to see whether they’ll get the PVC pipe or the HighHealer. This way, it’s random. I’m not, for instance, choosing a patient with mild fasciitis to try one or the other solution. At the end of the study we’ll be able to see if the HighHealer was more effective in alleviating the pain and stretching the plantar fascia.” It’s too early to have any results, including whether the heat or cold makes a difference, but, Dr.

cover the cost of the device, but most insurance does pay for orthotics, which I also recommend for patients with heel pain as long-term preventive care.”

Dr. Barbella also acknowledges that the cost of the HighHealer might be an issue for some patients, but, he says, high insurance co-pays for physical therapy

“Solving problems,” Bui says, “is what gets my juices flowing.”

can add up quickly. “The HighHealer can pay for itself in a very short time,” he says, “and can in many cases eliminate the need for additional outside therapy, allowing patients to treat themselves at home with continued follow-up and the support of their podiatrist. With regular long-term use, the HighHealer could also potentially prevent future foot conditions by stretching the calf muscles and strengthening the core intrinsic muscles of the foot.”

This fall, Dr. Bui will be speaking at various events in Boston and Miami, as well as in Bangkok, Dubai,

Hong Kong, Seoul and Tokyo, to present the HighHealer and his latest “invention,” the Kone-X Activation Mat, designed to address nerve issues in the feet that affect balance and movement. “The Kone-X Mat stimulates the sensory cells in the feet,” Dr. Bui says. “There are more than 200,000 nerve endings at the bottom of the feet. Footwear delays or blocks the stimulation and activation of these nerve endings, including proprioceptors, contributing to poor balance and abnormalities in walking or running. Cushioned exercise and yoga mats also inhibit sensory feedback. While going barefoot is helpful, it’s not safe or practical.” That’s where the textured Kone-X Mat comes into play. Dr. Bui points to clinical studies that suggest that textured insoles can improve sensory input on the plantar surfaces of the feet and thus help patients who are at risk for falls improve their balance.

“Standing or moving on the mat—say when you’re making dinner or in the shower, or even just resting your feet on it—for 10 to 15 minutes a day can safely stimulate your feet,” Dr. Bui says. “It also helps people feel better. It’s like getting a foot massage.” As with the HighHealer, Dr. Bui plans to launch it with crowd funding. “Solving problems,” he says, “is what gets my juices flowing.” **PM**