

Cutting-edge without the scalpel

For chronic heel pain, shock wave therapy is an option to surgery

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John Hoffman was in for shocks when he sought treatment for chronic heel pain.

Hoffman recently received a series of shock waves — also known as pressure or sound waves — to his left heel in hopes of healing a painful condition called plantar fasciitis, which refers to damage to and inflammation of the plantar fascia, a gristle-like connector that runs between the heel and toes and helps support the foot's arch. A bony protrusion called a heel spur can develop from calcium deposits when the plantar fascia pulls away from the heel area.

Hoffman said his heel spurs have limited his mobility since January. Neither physical therapy nor three cortisone shots corrected the problem, he said.

"Nothing has worked up to this point," Hoffman, 59, of Williamsport, said while waiting for his first extracorporeal shock wave therapy (ESWT) treatment at Dr. Daniel D. Michaels' podiatry office in Hagerstown. "I'm at the point where I prefer this to surgery if it works."

People who spend a lot of time on their feet, run or walk on hard surfaces, have recently gained weight, or have tight Achilles tendons, are most likely to suffer from plantar fasciitis — a condition for which more than 3 million Americans seek treatment each year, according to information from the Maryland Podiatric Medical Association. Podiatrists are seeing a surge in cases as baby boomers jog into middle age, according to the Towson, Md.-based organization.

Ninety to 95 percent of individuals diagnosed with plantar fasciitis respond to such conservative care treatments as stretching, shoe inserts and orthotic devices, cortisone injections, night splints, physical therapy and weight loss, said Michaels, who owns Reconstructive Foot & Ankle Institute in Hagerstown and Frederick, Md. Until the advent of ESWT, surgery to cut part of the fascia to loosen it — ultimately weakening the arch — was the only option left to plantar fasciitis sufferers, Michaels said.

"If nothing else works, we usually end up doing surgery," he said.



By Kevin G. Gilbert/Staff Photographer

Certified shockwave technician William F. Lee positions a foot on a shock wave machine. The device precisely focuses pressure waves into the foot.

The U.S. Food and Drug Administration in 2000 approved extracorporeal shock wave therapy to treat chronic heel pain and other injuries, and the procedure is gaining popularity as an increasing number of insurance companies cover it, according to the Maryland Podiatric Medical Association. A stronger version of the procedure has been used since the 1980s to break up kidney stones.

Shock wave therapy "can produce complete relief from heel pain without the side effects of stitches, skin

incisions or soft-tissue trauma," Michaels said. He has been providing access to shock wave therapy to an average of about three patients per month for more than a year. The patients have reported heel pain relief within three to five days after receiving treatment — and that relief is long-term, Michaels said.

"The majority of the feedback is positive," he said.

Hoffman, who underwent shock wave therapy on Friday, Oct. 15, didn't expect to start feeling the results until at least one week later. Though

still uncomfortable four days after the procedure, he was hopeful.

ABCs of shock wave therapy

In a nutshell, here's how ESWT works:

- The doctor numbs the patient's foot with topical anesthetic. "Without anesthesia it would hurt quite a bit," said William F. Lee, certified shock-wave technician with United Shock Wave Therapies. The company owns the Dornier Epos Ultra shock wave machines that Lee and other technicians operate at doctors' offices in 35 states. "With anesthesia, they're going to feel some sensation, but it might just be a light tap or vibration."

- The numbed heel is then placed on a fluid-filled plastic pillow that's connected to the shock wave machine. The fluid acts as a conductor for the "shocks," Lee said.

- An ultrasound machine pinpoints the exact location of the injury so the shockwave technician can target the shock waves to within one-tenth of a millimeter of the foot injury.

- The technician sends several thousand shocks through the fluid-filled cushion to the injury. The intensity of the waves build up to 15,000 pounds of pressure per square foot within 15 to 20 minutes, Lee said.

Patients can return to normal activities right after the procedure if they wear supportive footwear, stretch, and avoid barefoot activities and positions that place excessive pressure on the forefoot, according to information from the Maryland Podiatric Medical Association.

Lee said shock wave therapy is increasingly popular in Maryland and elsewhere. The New York City resident spends about one week per month in Maryland to treat an average of 20 patients with one of his company's mobile \$450,000 Dornier Epos Ultra shock wave machines.

"Despite the competition, we're still gaining a strong foothold here," he said.

In addition to chronic heel pain, shock wave therapy is used to treat problems of the shoulders, knees, elbows and ankles, Lee said.

"It produces just enough inflammation to get the body to heal itself. It's part of a natural way to get the body to heal itself," Michaels said. "It's actually a very advanced approach."

Lee and Michaels said the cutting-edge procedure has proven effective through scientific studies.

"The stuff we do here is proven through research," said Michaels, who plans to expand his practice on Howell Road in Hagerstown to include an on-site foot surgery and wound care center. "Therefore, we can provide the community in Hagerstown with the greatest standard of care."