



**ADVANCED ORTHOPEDICS  
AND SPORTS MEDICINE INSTITUTE, PC**  
A CENTER OF EXCELLENCE FOR BONE AND JOINT CARE

## Welcome relief: Neurostimulation offers respite from chronic pain

"On a scale of 1 to 10, the pain was always at least a 5 and sometimes hit a 9 or a 10," shares 72 year-old Manalapan resident Lucille Veltri of her condition after breaking several discs in her back in 2005.

I tried everything -- epidurals, pain medication, and nothing worked. There was no surgery that could correct my problem, and I didn't want to be on pain medication for the rest of my life," she said. "I was totally limited in what I could do, and normal activities around the house -- like doing laundry -- could land me on my back for days."



Goldberg talks about the neurostimulation device.



Dr. Kristen E. Cardamone and Dr. Grigory Goldberg talk about a new neurostimulation device that is implanted to provide relief to people suffering with chronic pain. (Staff photos by Tanya Breen)

Veltri is not alone. According to a 2005 USA Today/ABC News/Stanford University Medical Center poll and subsequent report, it is estimated that more than 40 million Americans suffer from chronic pain, a condition that often is hard to localize and treat.

[Dr. Kristen Cardamone](#), a board-certified interventional physiatrist specializing in physical medicine and rehabilitation who practices at Advanced Orthopedics and Sports Medicine Institute (AOSMI) in Freehold, sees an alarming number of these cases.

"Chronic pain of a neuropathic kind is often experienced as a burning or shooting sensation, typically in the back or legs, that doesn't go away with a normal passage of time or even prescribed medications," she explains. "It can result from trauma to the spine caused by a car accident or a fall, or other conditions such as disk herniation, arthritis, or surgery, all of which can cause nerve fibers to get irritated, pinched or inflamed."

Dr. Grigory Goldberg, a spine surgeon and fellow partner at AOSMI, knows well the difficulty in treating this condition.

"Many of these nerve conditions don't show up on an MRI, or, if they do, the condition is either not serious enough to warrant surgery or not capable of being corrected by surgery. Medications like Cymbalta, Lyrica and epidurals can sometimes lessen the pain, and surgery can occasionally be effective in releasing pressure on the nerve, but these options don't always work. So patients

continue to suffer with their symptoms and live with chronic pain for lack of any other viable options."

That can be frustrating to those who suffer.

"At the point where they come through our door, patients have often tried everything -- from pain medication, acupuncture and chiropractics to supplements, surgery and alternative approaches -- all to no avail," Cardamone says.

That makes Cardamone and Goldberg all the more excited to be able to offer neurostimulation, a relatively new but proven pain-blocking procedure that has the potential to offer welcome relief to patients who had all but given up.

"The fact is, sometimes you can't anatomically correct pain, so you just have to try to block it," Cardamone explains.

### **Stimulating signals**

Neurostimulation does just that, sending signals that stimulate the spinal cord with tiny electrical impulses provided by a small, inconspicuous device implanted near the surface of the skin.

Unlike electrical stimulation, which works similarly but on the surface of the skin, neurostimulation works near the spine in an area called the epidural space. There, a lead or a catheter with metal contacts is implanted which, once hooked up to the electrical stimulation device, effectively blocks out pain signals to the brain.

"It will not likely take away 100 percent of a patient's pain," Cardamone concedes, "but patients understand that it may significantly lessen its severity to facilitate improved function in their daily activities."

The minimally invasive procedure begins with a one-hour outpatient procedure in which the patient has the device temporarily installed for a three-to-seven-day trial period to determine their response. If it proves successful in reducing their pain, the patient can have the lead permanently implanted. Charged by a battery pack that sits unobtrusively under the patient's fatty tissue, the patient has complete control over the level of neurostimulation applied and can even elect to turn it off.

"While success is not guaranteed, upwards of 50 percent of our patients have responded positively," Cardamone says.

### Worth the trial

Veltri considers herself among this fortunate category. Upon hearing about the option of neurostimulation from her doctor, she met with Cardamone and proceeded to have a trial system installed on Nov. 8. The results have been highly encouraging.

"I would say that 80 percent of my pain is gone," Veltri said. "If I'm feeling pain, I can control the level of stimulation that's administered based on its severity and can feel the pain subside within about 30 minutes."

"Overall, we're very excited about this option," Cardamone shares. "' light of a cultural shift toward more natural, holistic medicine, neurostimulation has opened a lot of doors to patients suffering with chronic pain who were unable to live life the way they want. And from a doctor's standpoint, it's a constant battle to try to find treatment for people who don't respond, so neurostimulation is encouraging because it gives the medical community another sound option to offer patients."

Veltri is among the most optimistic.

"There were so many things we planned to do which I just couldn't manage because of my pain, and it got depressing," she said. "For anyone whose pain is as bad as mine was, neurostimulation is worth the trial to see if it will work. I'm just so happy at the thought that I can get my life back the way it should be."



By Susan Bloom • Correspondent • November 30, 2010