# HEALTH


## ‘NEVER GIVE UP’: THESE TREATMENTS CAN ALLEVIATE CHRONIC PAIN

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# ‘Never give up’: These treatments can alleviate chronic pain

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Living with chronic pain is debilitating and exasperating, especially when the pain continues after you’ve already undergone surgery to correct the condition. Many times, the surgery has corrected the physical problem and has healed completely, but the nerves that transmit pain to the brain have failed to turn off.

“People with chronic pain should never give up,” Dr. Michael Esposito, pain management specialist and founder of the Interventional Spine and Pain Institute, said. “It’s easy to lose hope, but there is no need to suffer in silence. They need to speak up and see what else is available. There are new, cutting-edge interventional techniques that can alleviate the pain and allow you to live a pain free life again.”

One of those techniques offered by Dr. Esposito is Dorsal Root Ganglion (DRG) Stimulation. The dorsal root ganglia are nerve structures inside your spine that contain primary sensory neurons that are responsible for pain signaling. Imagine the spinal cord as the highway that runs the length of the spine, and the DRGs as traffic signals directing what get through to the brain.

The body has many dorsal root ganglia with each responsible for signaling to a different area. DRG stimulation directly targets the nerve responsible for pain in a specific area.

“Sometimes the body gets stuck in the healing state and there is inflam-


**Dr. Michael Esposito.**
PHOTOS JOSHUA KODIS

mation and pain," Dr. Esposito explained. "All the signals get carried through the nerves that are injured to the brain. The DRG is the grand central station that decides what signals go to the brain and which signals are filtered out. With nerve injuries we find that the DRG is not functioning correctly. We are able to apply a low-level electrical current with a stimulator that reinitiates the filtering capacity of the nerve, allowing it to filter out the pain for different body parts.

"The body is very well mapped out and we can pinpoint which nerve is signaling the pain for a specific body part. For the knee we target the L3 and L4, for the foot and ankle we target L5 and S1, for the hip it's T12 and L1. It's an exact science that enables us to block the pain signal for that specific body part," said Dr. Esposito. "Theoretically the body part that was operated on has already healed but the signals simply haven't turned off. We are allowing the nerve to function appropriately again and filter out the pain signals it doesn't need."

DRG is FDA-approved to treat pain from injuries from the belly button down, although it can be used off label for upper extremities. It treats an entity called causalgia, also known as CRPS, or complex regional pain syndrome. The diagnosis often comes after some type of injury or surgery and is characterized by a persistent nerve pain. There may be persistent swelling, burning sensation and tingling. Once a diagnosis of CRPS is made, DRG can treat the root of the problem within the spine.

"This procedure is always reversible and you are able to test drive it first," Dr. Esposito said. "Once we identify the root of the pain, we put wires under the skin temporarily with an external battery to try it out for a week. The trial stimulator sends a mild electrical current through the wires to see if you feel a tingling sensation. This is done in the office.

"If after the end of the week the patient feels the pain is relieved or reduced, the trial is considered successful. We take out the temporary wires and implant a long-term device in the buttock or abdomen with a battery that will last about six and a half years. This procedure will be done in a surgical setting. The battery doesn't need recharging during that time, but at the end of the six and a half years it will have to have the battery replaced. The fixed wires stay in place. The unit is controlled by the patient with an external controller."

Many people confuse DRG stimulation with spinal cord stimulation. Both treatments replace pain signaling with a mild electrical current but there are some differences.

Spinal cord stimulation blocks signaling from up the spinal cord to the central nervous system by implanting a device under the skin at the base of the spinal cord. It focuses on the entire length of the sciatic nerve instead of one small area. It is great at managing widespread pain, but the dorsal root ganglion stimulation is more precise, focusing only on the area that hurts.

In a study, published in the National Library of Medicine, comparing the success rates of dorsal root ganglion stimulation verses spinal cord stimulation, dorsal root ganglion stimulation yielded higher treatment success in terms of improved pain relief and function.

"We also have peripheral nerve stimulators that can be put around the knee, ankle or arm," Dr. Esposito continued. "Rather than putting a stimulator in the spine we can put it in the periphery and it treats the nerves around the knee or shoulder but not the root of the pain. And we have new treatments for spinal stenosis which is prevalent in the aging population. If epidurals fail, rather than having back surgery we can put in little spacers between the bones that open up the tight spaces making it easier to walk and stand."

Dr. Esposito stresses the importance of a multidisciplinary approach to pain management. "Not everyone benefits from an injection or medication or physical therapy. I do everything from epidural injections to advanced interventions and utilize all the tools in my toolbox for the best outcome."

*Dr. Esposito opened his private practice in Vero Beach in February 2022 after working for six years at a pain management group in Melbourne. He is double board-certified in pain medicine and anesthesia by the American Board of Anesthesiology. He received his medical degree from Georgetown University School of Medicine in Washington, D.C., and completed his residency in anesthesiology in the Department of Anesthesia and Critical Care at the University of Chicago Hospital in Chicago. He completed his fellowship in interventional pain medicine at Massachusetts General Hospital, a Harvard Medical School teaching hospital, in Boston. His office is located at 777 37th St. Suite C-101 in Vero Beach. You can call 772-360-1997 or visit interventionalspineandpaininstitute.com to schedule an appointment.* ■