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Electrode implants ease teacher's headache pain

► *The surgery provides relief for a woman who suffered intense pain for five years following a head injury.*

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The Grand Rapids Press

Tears come to the eyes of Kentwood art teacher Mary McDermott Marquardt when she thinks about her life before she had electrodes surgically implanted in her head last year to stop headaches that began after a head injury.

"I had five years of going from doctor to doctor, trying to get someone to listen to me. I had a nonstop number-10 headache," on a pain scale of 1 to 10, said Marquardt, 35.

But since the surgical procedure, performed by Grand Rapids pain specialist Dr. Keith Javery, she is enjoying life with her husband, Mike, her job at Valleywood Middle School, and the water color painting she does as an artist.

"I think this procedure is so promising. I can function now and, when I leave school, I have a life," Marquardt said.

She is one of a dozen people in West Michigan who have gotten surgically implanted occipital nerve stimulators as a last-ditch treatment for head pain caused by inflamed nerves at the back of the head. The FDA-approved procedure is relatively new, and Javery is one of a few doctors in the country doing it.

Javery has adapted spinal stimulators made by two companies, Medtronic Inc. and ANS — Advanced Neuromodulation Systems. The devices include a wire running to a connection in the mid-back and then to a programmable generator in the lower back.

Pain specialists have known that implanting electrodes along the spinal cord could block pain below the neck. But it was only in the past decade they found that stimulating head and facial nerves just below the skin helped with whiplash injuries in the neck, intractable headaches and severe stabbing facial pain from trigeminal neuralgia, also known as tic douloureux.

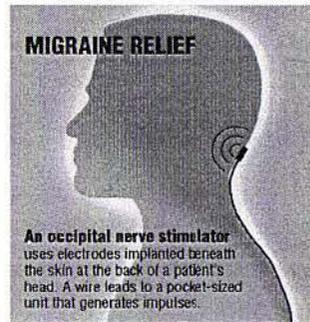
"Nerve pain is known to be one of the most severe and difficult to control. It's a pain you frequently can't get away from," said Javery, who works at **Michigan Pain Consultants**.

Marquardt knows that kind of pain. Doctors told her to expect several months of "post-concussion syndrome" including pain after her head injury. But months stretched into years. And the pain got so bad some days that she couldn't function.

"On those days, I'd just be in bed with the lights out trying to ride it out.



Keith Javery



PRESS GRAPHIC

I was missing about 12 days of school a year. The rest of the time, I just learned to live with it," she said.

Some days, the back of her head was so sensitive that just touching it caused a terrible headache. "On days that my nerves were 'hot,' even pressure from the shower was too much," she said.

Almost worse than the pain was not knowing what caused it, Marquardt said. She tried medication, physical therapy, massage, chiropractic and biofeedback, and none helped.

Finally, she saw Javery, who told her she had a textbook case of occipital neuralgia, a chronic painful swelling of the nerves at the back of her head. This kind of inflammation can be caused by an injury, by arthritis high in the neck and by chronic neck muscle tension, Javery said.

These nerves usually heal with time, therapy and medication. No one knows why 5 percent of patients continue to

have pain even after the nerve has healed, he said.

To help these people, Javery began implanting electrodes just under the skin at the base of the skull. They zap the nerves with electric impulses, flooding them with so much stimulation they forget to send pain signals to the brain.

The device has worked well for Dr. Ricardo Garza, a Grand Rapids internist with head pain that gradually worsened after an injury 20 years ago.

Garza said he looked for help when the mild headache he had learned to live with turned ugly.

"I am a tough guy. I don't quit very easily," said Garza, 61. "But I was getting clusters of attacks of this pain five or six days in a row. And there was nothing that could take care of it."

After getting the nerve stimulator, Garza was back to his practice in a week.

"I still have some occasional mild pain. But this stimulator lets me work and do anything I want," he said.

Javery said the stimulator is not a panacea. The procedure Marquardt and Garza had is major surgery requiring three incisions, at the head, the mid-back and the lower back. And it doesn't totally erase pain.

"It's like a dimmer switch; you can turn the pain way down. It's a partial answer to a problem we had no answer for before," Javery said.

Marquardt says getting something planted in her head was scary, but she had no better alternatives.



PRESS PHOTO/JON. M. BROUWER

Mary McDermott Marquardt holds an electronic device that helps her deal with chronic headaches.

Her options included cutting out the offending nerves entirely. But she opted for the nerve stimulator because it has no side effects and is reversible.

Since the initial surgery in December 2001, she has had two revision surgeries to tweak the system. "That's a lot of surgery in a year's time," she said. "But given all of that, I'd do it again. I feel so grateful to have this technology."