

# NEW EFFECTIVE TREATMENT FOR CROHN'S DISEASE

Bioelectronic medicine based on LI doctor's work helps woman

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Daily pulses of electricity delivered in minute doses have banished all symptoms of Crohn's disease for a New Jersey woman whose treatment was derived from the breakthrough theories of a Long Island doctor, the pioneer of an emerging science called bioelectronic medicine.

The experimental treatment arrives as the number of people with Crohn's disease has dramatically risen, more than doubling nationwide in recent years. An estimated 3 million people are believed to have Crohn's disease, an inflammatory gastrointestinal condition marked by excruciating pain, diarrhea, fever, weight loss and a wide range of disparate symptoms.

Kelly Owens, 28, of Rockaway, New Jersey, had endured more than a decade with Crohn's, a disorder that waxes and wanes for most people. For her, it was an around-the-clock nightmare that included not only inflammatory gastrointestinal symptoms but debilitating arthritis, a known complication for some patients with Crohn's disease. Her misery, however, didn't end there.

Owens developed 22 pyodermas — deep skin ulcers — that raise the risk of infection, and she was afflicted with bone-weakening osteoporosis. That disorder is likely to have occurred as a consequence of the powerful anti-inflammatory

steroid prescribed to relieve her overarching problem with inflammation. Owens sought help from doctors all over the country, but to no avail.

She was so weak and encumbered by Crohn's, her husband, Sean, had to carry her because she was unable to walk.

"We lived what it was like as an older couple before we were able to live as a young couple," Owens said of the constant pain, dependence on medications and physical limitations.

## Precise cause elusive

Although more than 70 genes have been linked to Crohn's disease, a precise cause remains elusive. Doctors are aware that it involves a body at war with itself — the immune system attacks the gastrointestinal tract. But what sets it off remains a mystery.

Medical scientists have pointed to environmental factors and disruptions in the microbiome, the vast community of friendly bacteria that inhabit the intestines.

For years, the disorder was viewed as disproportionately affecting people of Ashkenazi Jewish heritage, but that concept is no longer accepted, said Edda Ramsdell, executive director of the Crohn's & Colitis Foundation, Long Island Chapter in Garden City.

"All people are at risk. African Americans have it, it's also a growing problem in Hispanics," Ramsdell said, noting an estimated 40,000 people on

Long Island have been diagnosed with Crohn's.

The foundation has embarked on a major initiative examining possible environmental triggers of the disorder, which can be relentless and incapacitating as it was for Owens.

"In 2015 my Crohn's got so out of control I had to quit my job. In no time, I went from 142 pounds to 110. I was in really bad shape," Owens said.

Even the class of drugs considered the gold standard for treating Crohn's, medications called biologic drugs — Humira, Remicade and Stelara — had no impact on her disease.

Then, early last year, physicians told Owens they had nothing left to help her.

"My doctors in New York said you've been on everything, and there isn't anything else we can do. You'll just have to be on prednisone," she said of the steroid.

With such a bleak outlook, she recalled a story she read a few years earlier about Dr. Kevin Tracey on Long Island. He developed a trailblazing theory about the underlying cause of inflammatory diseases and pioneered a non-pharmaceutical approach to treat them. She contacted him.

Tracey, director and chief executive of the Feinstein Institute for Medical Research in Manhasset, has garnered an international reputation for his work in bioelectronic medicine, which relies on painless, imperceptible pulses of electricity delivered via a tiny implant. He is the developer or co-developer of implantable devices to deliver electrical stimuli.

Theorist, neurosurgeon, sci-



NEWSDAY / ALEANDRA VILLA

Bioelectronic treatment has eased symptoms for Kelly Owens.

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— Kelly Owens

entist and inventor, Tracey first advanced what seemed a radical hypothesis in the late 1990s: He postulated that the vagus nerve is intimately involved in the function of the immune system. The nerve, which starts in the brain, becomes a network of 80,000 branches throughout the body.

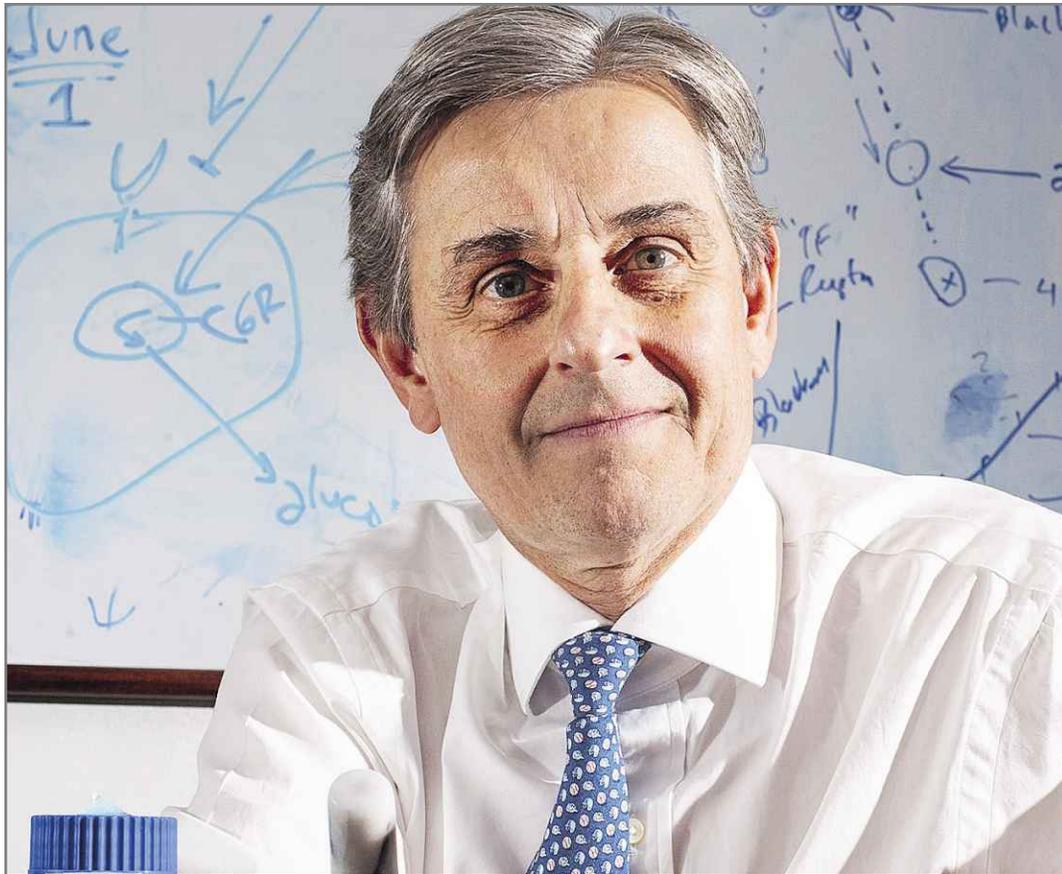
## Vital nerve

As it turns out, the vagus interfaces with major organs, including the spleen, a veritable storehouse of immune system cells and proteins — the very forces that go awry in inflammatory conditions. When the vagus is stimulated with an

electrical pulse, disabling inflammatory disorders can be treated.

A recent study of patients with rheumatoid arthritis, whose bioelectronic treatment was based on Tracey's research, proved their debilitating symptoms could be alleviated through tiny doses of electricity that last only seconds. It is not a cure.

"I have spent 30 years thinking about the science of inflammation with the hope of helping people," Tracey said. "And to learn from Kelly that she had literally traveled the country looking for help for many, many years, was so sad. Her doctors,



Dr. Kevin Tracey has pioneered bioelectronic medicine at the Feinstein Institute in Manhasset.

the best doctors, had told her she was out of options.”

Tracey told Kelly the Feinstein Institute did not have a clinical trial underway on Crohn's disease, but that SetPoint Medical, a medical device company, was collaborating with doctors in the Netherlands on one.

It involved implanting a device in the neck to communicate electrically just a few seconds a day with the vagus nerve. Owens said she was ready to try it.

“We sold everything we had. We sold our car. We did a crowdfunding campaign,” said Owens, who acknowledged that neither she nor her husband knew a word of Dutch, even though they would be living in the Netherlands for five weeks.

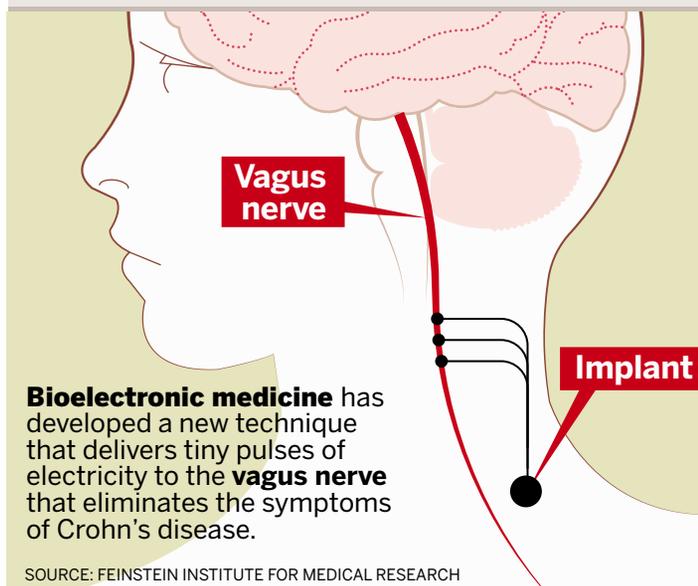
#### Quick change

She joined the clinical trial in June 2017 and underwent surgery to have the small device implanted in her neck. Owens said the treatment was as close as medicine comes to magic. “As soon as they turned on my stimulation I started noticing a difference. I had an urge to run,” Owens said.

She now runs 2 miles a day and has had no symptoms of Crohn's or Crohn's-related arthritis in more than a year. The experience has made her a vocal champion of bioelectronic medicine. Owens was a

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**Bioelectronic medicine** has developed a new technique that delivers tiny pulses of electricity to the **vagus nerve** that eliminates the symptoms of Crohn's disease.

SOURCE: FEINSTEIN INSTITUTE FOR MEDICAL RESEARCH

speaker at a scientific meeting involving the discipline earlier this year. Tracey is pleased with her progress.

“It's time for hope for Crohn's” said Tracey. “It is an important medical problem in

New York, and Long Island has a large high-risk population.

“What the early trials are suggesting is that a significant number of people with Crohn's may benefit from vagus nerve therapy,” he said.

# Shinnecocks rally for land preservation

BY VERA CHINESE

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Shinnecock Indian Nation tribal members rallied at a Southampton site Sunday in hopes of raising \$185,000 to help buy and preserve the land where human skeletal remains were discovered last month.

A skull, bone and glass bottle were found at the Hawthorne Road site on Aug. 13 during construction on a private home. The remains and the bottle were taken to the Suffolk County Medical Examiner's office where an anthropologist determined them to be more than 50 years old. An archaeologist with the state Office of Parks, Recreation and Historic Preservation said the remains were “likely” of American Indian Origin, a claim tribal members had made since the discovery.

Members of the tribe, which is hosting its 72nd annual Powwow on its Southampton reservation this weekend, descended on the Hawthorne Road property Sunday evening to pray for a solution that preserves the land and repatriates their likely ancestor.

“All over our hills are our sacred burial sites,” said Rebecca Genia, a Shinnecock member who identified herself as the

tribe's grave protection warrior. “We are going to ask that our ancestors please help us.”

Southampton Town officials offered to buy the lot for \$390,000, according to tribal members and a representative of the builder.

Southampton Town Supervisor Jay Schneiderman confirmed Sunday that the town made an offer for the “fair market value” of the property, but declined to disclose that price.

“It was more than the property was recently purchased for,” he said in a text message. “The town cannot legally pay more than fair market value.”

The owner of the property, whom the town has not identified, turned down the offer explaining that he had already spent thousands on permits and other costs, said the owner's business partner, Michael White of Southampton-based Georgica Builders. The owner is asking for an additional \$185,000 to cover costs associated with the project, White said.

“Hopefully, we won't have to build there,” said White. “He's the type of guy who would try to preserve it, [the offer] is just too low.”

Genia said the tribe will conduct grassroots fundraising or perhaps take out a loan.



Shinnecock tribal member Peter Running Bear Silva, center, speaks during a prayer service at construction site Sunday.

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NEWSDAY / ROD EYER