

CWRU spinoff ConservoCare gets licensing options to develop medical device for bladder control

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ConservoCare, LLC, a spinoff of research at Case Western Reserve University, has obtained license options through the university's Technology Transfer Office to develop a medical device for bladder control.

ConservoCare, based in Atlanta, is focused on restoring bladder function lost due to injury or illness. Patients with [spinal cord injuries](#) who experience urethral sphincter spasms are likely to be the first to benefit from the [device](#), which uses electrical nerve stimulation to control the bladder.

"Along with providing world-class research in many areas, Case Western Reserve University is striving to translate these exciting discoveries, putting them into the marketplace," said Jeffrey Duerk, dean of the university's Case School of Engineering. "We encourage our faculty to conduct basic research, but also to provide innovative solutions to a wide variety of issues and clinical needs."

Kenneth Gustafson, PhD, associate professor of biomedical engineering and urology and a research scientist at Louis Stokes Cleveland VA Medical Center, is working closely with ConservoCare on feasibility of a nerve-block medical device.

"ConservoCare is taking this technology to the next step by translating

what is learned in the laboratory and implementing it in the clinical setting," Gustafson said. His laboratory develops neural prostheses to restore pelvic functions. These "pacemakers for the bladder" are being tested in pre-clinical and clinical studies.

ConservoCare's device uses high-frequency electrical nerve stimulation to eliminate sphincter spasms and allow on-demand control of [bladder function](#). Implanting a nerve cuff electrode for feasibility testing requires approval from the U.S. [Food and Drug Administration](#) (FDA). The company also hopes to receive [FDA approval](#) to commercialize the device within five years.

Researchers expect to market the device to spinal cord injury patients and others suffering from urinary retention or incontinence. Without a safe and reliable way to control the bladder, these patients run a risk of urinary tract infections and kidney damage.

"I think we have a very good chance of making this work. I'm very optimistic," said ConservoCare President Adam Boger, who was part of a Case Western Reserve research team that developed the technology. This year, the company will validate a screening protocol and prepare an FDA application for subsequent human trials.

The ConservoCare device technology involves nerve cuff electrodes, a stimulator and a wireless control unit that can direct the device to empty the bladder. The device can calm the bladder, preventing harmful spasms.

"At the push of a button, our patients will be able to empty the bladder. The ConservoCare bladder implant promotes patient independence and improves quality of life by restoring [bladder control](#) while preserving reflexes and sexual function," Boger explained. "The ConservoCare implant will provide doctors a safe, reversible alternative to destructive

and ineffective treatments."

The company relies on technology similar to that used by another Case Western Reserve spinoff, Neuros Medical Inc., which is focused using electrical nerve block technology for elimination of chronic pain.

ConservoCare's technology translation has been financed in part by a \$125,374 Phase I Small Business Technology Transfer grant from the National Institutes of Health, and by Case Western Reserve's Translational Research Partnership, in collaboration with the William H. Coulter Foundation.

Boger said ConservoCare has benefited from strong partnerships with scientists and clinicians.

After earning a PhD in biomedical engineering at Case Western Reserve, Boger worked as a research assistant at CWRU's Neural Engineering Center (NEC). Scientists and engineers at NEC work to find new methods to restore function for those with nerve damage. In 2010, Boger moved to Atlanta to study intellectual property law at Emory University while also working on ConservoCare's medical device commercialization.

Provided by Case Western Reserve University

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