APR 29, 2025

New study demonstrates sacral neuromodulation lead sensing could optimize overactive bladder therapy

Medtronic, a global leader in healthcare technology, today announced a new interim analysis that indicates sacral neuromodulation (SNM) therapy to treat overactive bladder (OAB) could be automated using a patient's physical response to stimulation. The data from the ongoing PEER 2 study were presented at the American Urological Association's (AUA) 2025 Annual Meeting, taking place April 26 – 29, 2025 in Las Vegas, NV.

“This research demonstrates a strong correlation between subjectively reported sensory thresholds and objectively measured sacral evoked response thresholds,” said Colin Goudelocke, MD, urologist at Ochsner Medical Center Department of Urology, New Orleans, LA, and PEER 2 investigator. “This analysis is an early indication of what is possible with sacral sensing technology and how it could be utilized for a more efficient, consistent approach to treating patients with OAB.”

To treat OAB symptoms, an SNM device sends electrical signals through a lead to stimulate the sacral nerve. Currently, thresholds in the form of motor responses (muscle contractions in the pelvic floor or toe) and sensory responses (self-reporting where patients feel sensation) are used to determine if the sacral nerve has been activated.

PEER 2 overview:

Researchers analyzed data from 82 female subjects with OAB who underwent an SNM advanced therapy evaluation using the Medtronic InterStim™ SureScan™ lead connected to an investigational external neurostimulator (ENS). Propriety sensing technology was leveraged to automatically and objectively measure the body’s sacral evoked responses, or the physiological response to stimulation in additional to sensory responses. Subjects were then switched to the Verify™ ENS for a standard of care therapy evaluation.

Key findings from the analysis include:

- A strong correlation between objectively recorded sacral evoked responses and subjectively reported sensory thresholds across the tested configurations
- A high proportion (ranging from 85% to 100%) of subjects exhibited measurable sacral evoked responses on the electrode configuration matching their initial standard of care therapy trial program

"For over 60 years, Medtronic has been at the forefront of sensing technology, beginning with cardiac applications and more recently, expanding into deep brain and spinal cord stimulation that provide objective and consistent therapy management," said Emily Elswick, president, Medtronic Pelvic Health, a part of the Neuroscience portfolio. "I'm inspired by what we can learn from the natural capabilities of the human body, and I look forward to seeing how else sensing technology might be used to improve the lives of patients."

Investigational device. Limited by Federal (U.S.) law to investigational use. Not approved by FDA and not for sale.

About Medtronic

Bold thinking. Bolder actions. We are Medtronic. Medtronic plc, headquartered in Galway, Ireland, is the leading global healthcare technology company that boldly attacks the most challenging health problems facing humanity by searching out and finding solutions. Our Mission — to alleviate pain, restore health, and extend life — unites a global team of 95,000+ passionate people across more than 150 countries. Our technologies and therapies treat 70 health conditions and include cardiac devices, surgical robotics, insulin pumps, surgical tools, patient monitoring systems, and more. Powered by our diverse knowledge, insatiable curiosity, and desire to help all those who need it, we deliver innovative technologies that transform the lives of two people every second, every hour, every day. Expect more from us as we empower insight-driven care, experiences that put people first, and better outcomes for our world. In everything we do, we are engineering the extraordinary. For more information on Medtronic, visit www.Medtronic.com and follow Medtronic on LinkedIn.

Any forward-looking statements are subject to risks and uncertainties such as those described in Medtronic's periodic reports on file with the U.S. Securities and Exchange Commission. Actual results may differ materially from anticipated results.

Contacts:

Laurel Hood
Public Relations
+1-763-514-0249

Ryan Weispfenning
Investor Relations
+1-763-505-4626

https://news.medtronic.com/New-study-demonstrates-sacral-neuromodulation-lead-sensing-could-optimize-overactive-bladder-therapy