New Study Demonstrates Spinal Cord Stimulation Can Reduce Or Stabilize Opioid Use Among Chronic Pain Patients

- One year after implant, 93 percent of patients who continued SCS therapy had lower average daily morphine-equivalent doses than patients who had their SCS system removed

- In 5,400-patient study, average daily opioid use declined or stabilized in patients receiving SCS system, while patients who had SCS system removed had higher opioid use over time

- There is potential to improve outcomes by implanting SCS systems earlier, before chronic opioid use, according to authors

ABBOTT PARK, Ill., Jan. 20, 2017 /PRNewswire/ -- New research has found spinal cord stimulation (SCS) therapy can be key to reducing or stabilizing the use of opioids in patients battling chronic pain. In a new study, researchers examined opioid usage data from more than 5,400 patients both prior to and after receiving an SCS system implant. In an SCS system, an implanted device similar to a pacemaker delivers low levels of electrical energy to nerve fibers, interrupting pain signals as they travel to the brain to reduce the sensation of pain. Researchers have found that average daily opioid use declined or stabilized for patients receiving a successful SCS system compared to patient use of opioids prior to an implant.

In addition, while opioid usage was not different for the two groups at time of implant, patients who underwent a successful SCS implant had significantly lower opioid use one year after their implant. Patients who had their SCS system removed saw their opioid use increase again over time.

The study, which the researchers believe makes a compelling case for considering SCS therapy earlier in the chronic pain care continuum, were presented today at the 2017 North American Neuromodulation Society (NANS) annual meeting by Ashwini Sharan, M.D., director of Functional and Epilepsy Surgery at Vickie and Jack Farber Institute for Neuroscience at Jefferson and president of NANS. The study was sponsored by Abbott (NYSE: ABT), a global leader in the development and manufacture of SCS systems and therapy options, such as the company's proprietary BurstDR™ stimulation.

Currently, more than 2.1 million people in the U.S. suffer from substance abuse related to opioid pain relievers, while worldwide an estimated 15.5 million people are now classified as opioid dependent. Chronic pain is often a driver of opioid use as patients seek relief and improvements to their quality of life. Fortunately for patients, SCS therapy has been clinically proven to offer meaningful relief to patients suffering from chronic pain.

"Given the epidemic of opioid addiction and abuse, these findings are important and confirm that spinal cord stimulation therapy can offer strong benefits for patients struggling with chronic pain," said Sharan. "Based on these results, we concluded it may be possible to improve outcomes by offering our patients spinal cord stimulation earlier, before opioid dependence and addiction can occur."

About the Study:

For their analysis, the research team assessed private and Medicare insurance claims data from 5,476 patients who received an SCS system to treat chronic pain associated with a host of conditions (excluding pain related to cancer). The data were collected between January 2010 and December 2014.

The data confirmed that many patients are often prescribed increasing dosages of opioids prior to receiving an SCS system. The researchers also found:

- SCS therapy is effective for patients at any level of opioid usage prior to implantation.
- Opioid use declined or stabilized in 70 percent of patients who received an SCS system.
- Among patients who had their SCS system explanted, opioid use was higher at one year compared to those who continued with SCS therapy.

The researchers further suggested patient outcomes could be improved if SCS were implanted earlier in recognition of the clinical practice to provide increasing dosages of opioids over time. These conclusions help build upon prior research, such as results of a large multicenter randomized controlled trial in patients with failed back surgery syndrome (FBSS) that showed trends in opioid reduction or cessation among SCS patients. In addition, new technologies released in the U.S. in 2015 and 2016 hold promise to improve outcomes further and may reduce common complications resulting in explant such as the undesired changes in paresthesia, issues with charging, pain at the implantable pulse generator (IPG) site, and loss of pain relief.

"As our society has been seeking ways to stem opioid abuse and addition, our company offers treatment options that can reduce their exposure to opioid medication," said Allen Burton, M.D., medical director of neuromodulation at Abbott. "Data like these are critical to helping us demonstrate that spinal cord stimulation can reduce exposure to opioids while giving patients comprehensive pain relief."

About Abbott's Chronic Pain Portfolio:

Chronic pain affects approximately 1.5 billion people worldwide, more than heart disease, cancer and diabetes combined. The condition can negatively impact personal relationships, work productivity and a patient's daily routine. Abbott is a global leader in the development of chronic pain therapy solutions and the only medical device manufacturer in the world to offer radiofrequency ablation (RFA) and spinal cord stimulation (SCS) therapy solutions including BurstDR™ stimulation as well as stimulation of the

dorsal root ganglion (DRG) with the Axium™ Neurostimulation System and Proclaim™ DRG Neurostimulation System.

About Abbott:
At Abbott, we're committed to helping people live their best possible life through the power of health. For more than 125 years, we've brought new products and technologies to the world -- in nutrition, diagnostics, medical devices and branded generic pharmaceuticals -- that create more possibilities for more people at all stages of life. Today, 74,000 of us are working to help people live not just longer, but better, in the more than 150 countries we serve.

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