



New Published Data Show NeuroPace's RNS® System Provides Patients with Unprecedented Seizure Reduction and Improved Quality of Life

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Personalized, data-driven treatment for refractory focal epilepsy demonstrates unprecedented real-world results and exceptional long-term clinical data

MOUNTAIN VIEW, Calif. – July 27, 2020 – NeuroPace, Inc. today announced the publication of two seminal studies of the RNS System in prominent scientific journals [Epilepsia](#) and [Neurology](#). The RNS System has been shown to dramatically reduce seizures and improve quality of life for people living with refractory epilepsy.

Real-World Data Demonstrating Unprecedented Efficacy Outcomes with the RNS System Published in *Epilepsia*

Real-world data from a multicenter clinical study of the RNS System were published in *Epilepsia*, demonstrating seizure reductions not seen with any other neuromodulation system for refractory focal epilepsy.

Published results from the retrospective study of 150 patients across eight epilepsy centers showed that patients who received the RNS System achieved a one year median seizure frequency reduction of 67% and a two year reduction of 75%. At three or more years, patients experienced an unprecedented 82% median reduction in seizure frequency—the highest reported for any neuromodulation system. One in three patients achieved >90% seizure frequency reduction and nearly 1 in 5 reported being seizure-free in the preceding three months. Physicians reported that 75% of patients who received the RNS System were “much improved” or “very much improved” in their functioning at most recent follow up.

“These real-world outcomes are even better than those reported in the clinical trials supporting FDA approval and underscore the unique advantages of the RNS System for people living with refractory epilepsy,” said Vikram Rao, MD, PhD, one of the two lead authors on the paper. “In addition to compelling therapeutic benefits, the RNS System is the only epilepsy treatment that empowers clinicians with long-term intracranial EEG data, providing them with actionable insights that can be used to develop a personalized treatment plan for each patient.”

Landmark Nine Year Prospective Clinical Trial Results Published in *Neurology*

Complete results from NeuroPace's groundbreaking nine-year, multi-center Long-Term Treatment Study were recently published in the July 2020 issue of *Neurology*, the medical journal of the American Academy of Neurology. The study included 230 patients across 34 epilepsy centers with nearly 1,900 patient-implant years of follow-up. It is the largest prospective neuromodulation trial in the field of epilepsy.

The study authors concluded that the RNS System provides significant and sustained reductions in disabling seizures with enduring improvements in quality of life. At nine years, the median percent reduction in seizure frequency was 75% ($p < 0.0001$) and 73% of patients in the study experienced at least a 50% reduction in seizures. Enduring improvements were seen in overall quality of life (QOL) and cognitive function ($p < 0.05$), areas often profoundly impacted in individuals living with epilepsy. Responsive neurostimulation was well-tolerated and safe over time, with a surgical safety profile similar to other epilepsy procedures and no serious adverse events related to stimulation. The sudden unexplained death in epilepsy (SUDEP) rate for patients treated with the RNS System (2.8 per 1,000 patient-stimulation years) was significantly lower than similar patient populations.

“This study is the culmination of over a decade of research with leading epilepsy centers across the country,” said Martha Morrell, MD, CMO of NeuroPace and Principal Investigator. “The robust clinical evidence affirms the long-term benefits of the RNS System and clearly establishes it as part of the standard of care in the treatment of refractory epilepsy. It's exciting to realize that we are just at the beginning of harnessing the power of the data captured by the RNS System. With growing clinical experience, as we saw in the real world study, and with advanced artificial intelligence research applied to our dataset of 4.5 million ECoG records, we can expect continued improvement in the efficacy of the RNS System.”

About the RNS System

The RNS System is the first and only closed-loop brain-responsive neurostimulation system designed to prevent epileptic seizures at their source. The RNS System treats seizures by continuously monitoring brain waves, recognizing each patient's unique “seizure onset fingerprint,” and responding automatically to disrupt seizure activity before symptoms occur. The RNS System is composed of a neurostimulator, leads placed at the seizure foci, a remote monitor used by patients to upload their data, and a RNS Tablet and Patient Data Management System (PDMS) used by physicians. Physicians can view their patient's electrographic data on a secure website and program the device to personalize therapy for each individual. Unlike antiseizure medications or resective surgery, brain-responsive neuromodulation outcomes typically improve with time and do not cause the cognitive side effects that can be associated with those alternatives. The RNS System is now available at most comprehensive epilepsy centers in the United States and is widely covered by insurance.

The RNS System is an adjunctive therapy for adults with refractory, focal onset seizures with no more than 2 epileptogenic foci. See important safety information at www.neuropace.com/safety/.

About NeuroPace

NeuroPace is dedicated to developing groundbreaking technology and advancing brain science to improve the quality of life for millions of individuals who suffer from neurological disorders. The company's first product, the RNS System, is the only FDA-approved brain-responsive neurostimulator for the treatment of focal onset refractory epilepsy. In addition to treating epilepsy, brain-responsive neuromodulation holds the promise of treating other brain disorders that impair quality of life for millions of patients throughout the world.

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