

## **The NeuroPace RNS™ System: Responsive Cortical Stimulation for Epilepsy**

The NeuroPace RNS™ System provides a novel approach to the treatment of medically intractable partial onset seizures. The implantable components of the RNS System include a cranially implanted neurostimulator that is attached to leads placed at the seizure focus. Leads include a 4 electrode containing subdural strip, and 4 electrode containing depth leads. The neurostimulator is programmed to detect epileptiform activity preceding a seizure and to deliver stimulation to the focus. Detection settings are tailored to the appearance of the epileptiform activity. Stimulation settings are individualized for the patient. Stimulation parameters that can be varied include frequency, duration, pulse width, and current.

The physician programs and captures data from the neurostimulator using a laptop based programmer. The patient is provided a laptop based data transmitter for home to upload data from the neurostimulator. Data acquired by the physician and patient is stored on a secure web based patient data management system. The physician has access to this password-protected interactive data repository through any web portal.

Clinical trials using the RNS™ System include a now-concluded feasibility trial to demonstrate safety and provide evidence for efficacy, and an on-going multi-center randomized double blind pivotal trial to demonstrate safety and efficacy.