

## CASE STUDY

# Neocortical: Insula

42 year old man with 20 year history of seizures 4 to 5 times a month characterized by throat constriction, mouth and tongue dysesthesias, and dysarthria that sometimes progresses to focal clonic activity of the left face and arm. Once every 2 to 3 months, he will lose consciousness.

## HISTORY

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**Seizure onset:** 22 years of age

**Seizure risk factors:** none

**Prior treatments:** failed trials of 5 antiepileptic medications as well as vagus nerve stimulation therapy

**Scalp video-EEG:** ictal onset involves mid and lateral temporal lobe electrodes as well rapid involvement of frontal lobe electrodes

**Intracranial EEG:** Earliest ictal changes in insula by SEEG with rapid hippocampal spread

## EVALUATION & PLAN

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- Simple and complex partial seizures from insular cortex
- Because of the risks of surgery in the insular cortex, it was elected to proceed with treatment with the RNS System with a depth lead placed in the left insula

## LEAD IMPLANT STRATEGY

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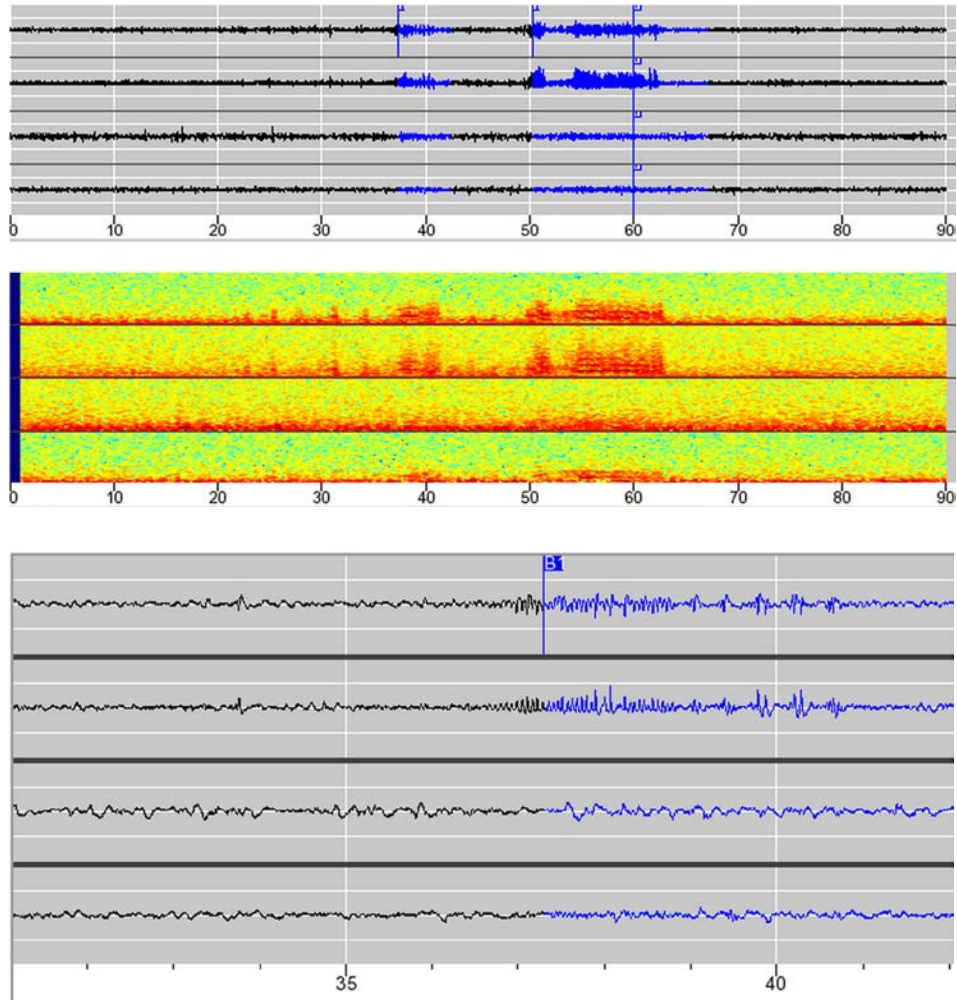
- 1 depth lead targeting the left insular cortex
- 1 left frontal cortical strip lead





ECOG

Epileptiform discharges detected before neurostimulator has been programmed to provide responsive stimulation. Insula depth lead is the top two channels and left frontal cortical strip lead is the bottom 2 channels. Detection in electrodes from the insular cortex is denoted by B1. The ECoG and corresponding Fast Fourier Transform (FFT) are shown above an expanded view of the ECoG.



This case study is a composite adapted from actual case files; results are not necessarily representative of the patient population.



See important prescribing and safety information in the RNS® System labeling. This is intended as supplementary information and should be used in conjunction with the labeling. Refer to the labeling for a description of the RNS® System and its components, indications for use, contraindications, warnings, cautions, adverse events and instructions for use. The manuals are available at [www.NeuroPace.com](http://www.NeuroPace.com).

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