

The Established Status Epilepticus Treatment Trial (ESETT) found three anti-seizure drugs were equally effective for status epilepticus. The study enrolled more than 380 children and adults who were randomly assigned to receive levetiracetam, fosphenytoin, or valproate when they arrived to an emergency department in status epilepticus with seizures that continued after the administration of benzodiazepine medications. The study was led by emergency physicians at the University of Michigan, Medical University of South Carolina, George Washington University, and the University of Virginia, enrolling patients from multiple centers across the country. Kim Quayle, MD was the site PI at Washington University in St. Louis where children were enrolled in the study from the St. Louis Children's Hospital Emergency Department. Findings were published in the November 2019 New England Journal of Medicine with the results demonstrating that the three drugs stopped seizures and improved responsiveness in approximately half of the study participants. Specifically, the benefits were seen in 47% of the subjects in the levetiracetam group, 45% in the fosphenytoin group, and 46% in the valproate group. These differences were not statistically significant, and there were no differences in serious side effects among the drugs. The study suggests that the three different medications can be used safely to treat refractory seizures with similar efficacy. The study was supported by the National Institute of Neurological Disorders and Stroke (NINDS), part of the National Institutes of Health (NIH). To learn more about the ESETT results, visit the ESETT study website at www.esett.org.

Reference: Kapur J et al. Randomized trial of three anticonvulsant medications for status epilepticus. N Engl J Med 2019; 381:2103-2113.