

Brain stimulation counteracts dangerous side effect of seizures

December 3 2014, by Bill Hathaway

Loss of consciousness is a common and dangerous side effect of epileptic seizures. A new Yale-led study, however, shows that activation of electrodes in key brain areas can awaken rats with induced seizures.

"At least a quarter of people with epilepsy have seizures that can't be controlled," said Dr. Hal Blumenfeld, professor of neurology, neurobiology, and neurosurgery, and senior author of the study. "Our hope is that for this population, [brain stimulation](#) can help reduce injuries and deaths that result from a loss of consciousness."

Blumenfeld and colleagues brought rats back to consciousness after seizures by stimulating the thalamus and areas of the brain stem known to play a role in wakefulness. The rats immediately began to explore their cages again.

Additional testing needs to be done to determine if such brain stimulation can be conducted safely in humans, he said.

There may be as many as 500,000 epilepsy patients in the United States who suffer from chronic, treatment-resistant seizures, Blumenfeld estimated. These patients might be aided by implants of electrodes that could prevent loss of [consciousness](#) during and follow [seizures](#), he said.

Provided by Yale University

Citation: Brain stimulation counteracts dangerous side effect of seizures (2014, December 3)
retrieved 31 December 2022 from
<https://medicalxpress.com/news/2014-12-brain-counteracts-dangerous-side-effect.html>

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