

# Exploring the cause of sudden unexplained death in epilepsy

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Dravet syndrome (DS) is a form of infantile-onset, treatment-resistant epilepsy that is caused by a mutation in the gene encoding a voltage-gated sodium channel, SCN1A. DS patients have a 30-fold increased risk of dying from sudden unexplained death in epilepsy (SUDEP) compared to patients with other forms of pediatric-onset epilepsy.

In this issue of the *Journal of Clinical Investigation*, Franck Kalume and colleagues at the University of Washington characterized SUDEP in a mouse model of DS. Observation using video, electroencephalography, and electrocardiography revealed that a prolonged slowing of the heart beat preceded SUDEP in mice. Treatment with drugs that reduce activity in the [parasympathetic nervous system](#) reduced the incidence of SUDEP, suggesting that mortality results from seizure-related parasympathetic hyperactivity.

In a companion Attending Physician, Orrin Devinsky and colleagues discuss how these results could relate to SUDEP in human DS patients.

**More information:** Sudden unexpected death in a mouse model of Dravet Syndrome, *J Clin Invest.* [doi:10.1172/JCI66220](https://doi.org/10.1172/JCI66220)  
Sudden death in epilepsy: Of mice and men, *J Clin Invest.* 2013;123(4):1415–1416. [doi:10.1172/JCI67759](https://doi.org/10.1172/JCI67759)

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