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Inducing audiogenic seizures in deer mice

Epilepsy, a neurological condition characterized by recurring seizures, is a substantial health problem affecting 2.5 million Americans. Epilepsy can arise from either brain injury or genetic susceptibility. Epilepsy can be studied using animal models, such as rodents prone to audiogenic seizure (AGS). After exposure to intense sound, these animals experience loss of consciousness accompanied by rhythmic muscle spasms and rigid muscle stiffness. A particular laboratory stock of deer mice (*Peromyscus maniculatus artemisiae*) has a spontaneous genetic mutation that results in sensitivity to AGS. Szalai and colleagues describe a system that they designed for inducing and monitoring AGS in deer mice. They plan to use the new equipment to characterize outcome after repeated seizure induction in the same animal.

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Human respiratory tract infections modeled in cotton rats (*Sigmodon hispidus*)

Respiratory viral infection is a great human health concern, resulting in disease, death and economic losses. Although mice are commonly used as research models, their use in studies of infectious diseases is confounded because most human pathogens do not naturally infect mice. Cotton rats (*Sigmodon hispidus*), on the other hand, are highly susceptible to many human pathogens, and they have been particularly useful in the study of the pathogenesis of human respiratory virus infections. In this review, Green *et al.* contrast the cotton rat with the mouse as a useful animal model for the development and preclinical testing of antiviral compounds and vaccines for human viral respiratory infections. The authors also provide some practical advice for the handling, maintenance, breeding and experimental manipulation of cotton rats.

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