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### Abstract

Absence seizures are usually considered to present a short suspension of consciousness, concomitant with the 3-Hz spike and wave seen in the EEG. For this reason, mechanisms of generation of spike-and-wave discharges have long been negatively associated with mechanisms of consciousness. We present a review of the various theories that have been developed to explain the generation of spike-and-wave discharges, concluding that hyperexcitable components of the cortico-thalamocortical circuit are likely to explain the EEG discharge. Behavioral analysis of absence seizures points to the possibility that it is not consciousness, as a unitary integrating concept, that is disrupted but rather various components of behavior, such as sensory perception, motor output, attention, and memory, that are suspended. Functional imaging studies of metabolic changes during the discharges point to the involvement of the thalamocortical system but also to the suspension of the default mode network as well as involvement of various cortical regions. Taken altogether, these studies point to the possibility that rather than a diffuse attenuation of consciousness, absence seizures result in the suspension of variable “pieces of consciousness” depending on which cortical, subcortical, and thalamocortical networks are primarily involved. It may be that consciousness itself is more amenable to study if it is conceived in terms of its component pieces rather than a unitary concept.

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