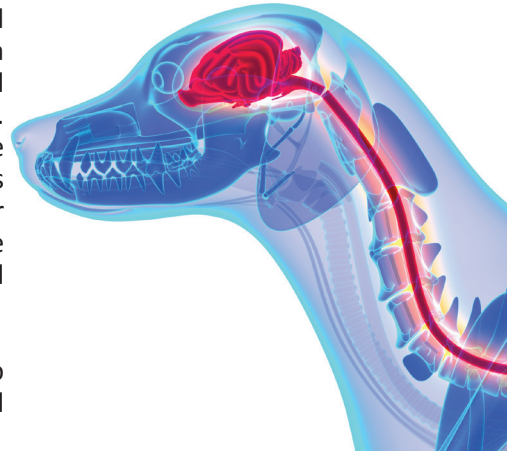


What is a seizure?

A seizure is caused by an abnormal burst of electrical activity within the brain, commonly in one of the cerebral hemispheres (focal/partial seizure). A focal/partial seizure is one in which the jerking or twitching is limited (at least initially) to a particular part of the body. More often, the electrical activity spreads out and involves both sides of the brain, which results in a generalized (grand mal) seizure. Generalized seizures last less than two minutes and are characterized by collapse with rigid extension of the legs. This is followed by rhythmic jerking of the legs (which resembles running or paddling). Some dogs also chomp, chew, drool or urinate and defecate. As the dog regains consciousness there is a post-seizure state characterized by disorientation and confusion. The dog may stumble into walls and appear blind. The post-seizure state can persist for minutes or hours.

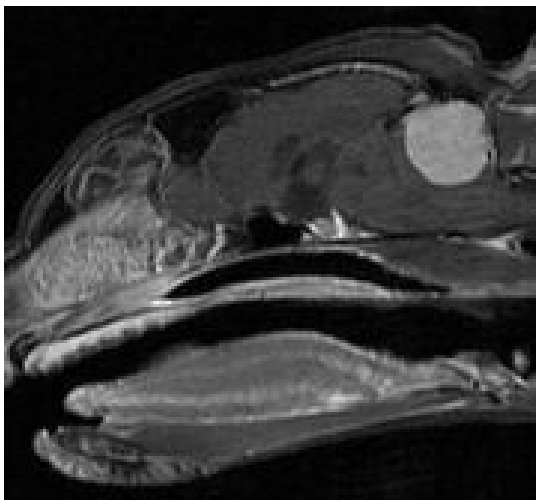


There are other causes of neurological episodes, which can appear similar to seizures but are not, including: syncope, narcolepsy, vestibular/vertigo spells and some pain-related behavior.

Diagnosis of Seizures

Since seizures can be caused by any process that alters the normal neurological function, the goal of the veterinarian is to distinguish between primary and secondary causes of seizures. This is done through examination, the taking of a thorough patient history and often includes further medical tests (bloodwork, x-rays, blood pressure), advanced imaging (brain MRI) and/or spinal fluid analysis, if necessary. With this information, the veterinarian can create a plan for the management and treatment of the patient's seizures.

Age of Patient	Most Likely Causes
Less than 1 year of age	Metabolic (liver shunt), infection/inflammatory (encephalitis), toxin, congenital malformation
1 - 5 years of age	Idiopathic Epilepsy, infectious/inflammatory (encephalitis), vascular/stroke
Greater than 5 years of age	Brain tumor, infection/inflammatory (encephalitis), vascular/stroke, metabolic (glucose regulation)



Treatment of Seizures

Following definitive diagnosis, treatment of the specific condition should be considered. In the case of diagnosis of Idiopathic Epilepsy (seizures for which no underlying abnormality can be identified), the treatment of seizures centers on control with anticonvulsant drugs. Other identified causes of seizures vary in their treatment and prognosis and may involve management with additional specific medications or surgery in some cases.