

# Seizures In Pets

Seizures occur in dogs and cats the same as they do in humans but happen more frequently. A seizure can be very frightening and upsetting to observe, especially to the pet owner.

A seizure is a transitory disturbance of brain function that has a sudden onset, ceases spontaneously, and tends to recur. A seizure results from a sudden and uncontrolled electric discharge of neurons in the cerebral cortex of the brain. Other names for a seizure include convulsion, fit, and epilepsy.

Seizures are a sign of abnormal brain function. They are classified as either partial or generalized.

Partial seizures occur when neurons discharge in a specific area in the cerebrum. Partial seizures are further classified as simple or complex based on the absence or presence, respectively, of changes in behavior and/or consciousness. Behaviors such as biting at nothing, rapid running in circles, or attacking the base of the tail are examples of an animal which may be having a partial seizure. These animals sometimes respond to anticonvulsant drugs, confirming the incidents are partial seizures.

Generalized seizures, also referred to as tonic-clonic seizures, involve an animal's entire body. During the first phase, about 10 to 30 seconds, an animal falls to the ground, loses consciousness, and rigidly extends its legs. It may also stop breathing and shake. In the second phase, the animal's legs make running or paddling motions, its mouth makes chewing motions, and it may continue to shake. In addition, the animal may urinate, defecate, have dilated pupils, salivate excessively, vocalize, or vomit during either phase. The seizure may alternate between the two phases once or repeatedly for the duration of the seizure. The entire seizure usually lasts between 1 and 2 minutes, but it can seem much longer. A continuous series of this type of seizure

without a recovery period is termed status epilepticus, and is a severe medical emergency.

Seizures are divided into 4 stages. The first stage is the preictal stage. In this stage the animal may stare into space, become restless or afraid, or try to get attention from their owners. The second stage is the ictal stage or the actual partial or generalized seizure. In the third stage, the postictal stage, the animal may wander, be confused, circle, or sleep for a long period. This stage can last from 1 hour to 7 days. The final stage, the interictal period, is the interval between seizures.

Some seizures have no definable cause and are termed idiopathic epilepsy. These seizures usually begin when an animal is between 1 and 3 years of age. It is common in dogs but not cats. Animals with this type of seizure are usually normal between episodes. Breeds that may be genetically predisposed to this type of seizure include the Beagle, Dachshund, German Shepherd, Keeshound, and Belgian Tervuren. Breeds with a high incidence of this type of seizure disorder without a proven genetic link include the Cocker Spaniel, Collie, Golden Retriever, Irish Setter, Labrador Retriever, Siberian Husky, and Wire Fox Terrier.

Other seizures have specific causes, which can be either extra-cranial (from outside the brain) or intracranial (from inside the brain). Extra-cranial causes include toxins, liver disease or failure, kidney disease or failure, hypoglycemia, electrolyte imbalances, and hypoxia (low oxygen). Intracranial causes include inflammation, infection (bacterial, viral, fungal, protozoal, rickettsial), congenital malformations, neoplasia (cancers), trauma, or cysts. These can affect any breed of dog or cat.

Diagnosis of seizures requires a complete physical examination by the veterinarian. A complete and detailed history must be provided by the owner and should include potential access to chemicals, poisons, vaccinations status, illnesses, injuries, and behavioral changes. Laboratory analysis should include a complete blood count, chemistry panel with electrolytes, and a urinalysis. Specific tests for specific

diseases may also be necessary. Additional diagnostic procedures may include radiography (x-rays), MRI's, ophthalmic (eye) examination, and more.

The goal of treatment is to reduce the number, frequency, and severity of seizures. Seizures are not always completely eliminated.

Anticonvulsant drugs should be used to control all seizures.

Medications have side effects. Your veterinarian will discuss any treatment prescribed for seizure control. If you have any questions regarding your pet, seizures in general, or the treatment prescribed, your veterinarian is there for you. You should feel free to ask any questions necessary so that you understand and are comfortable with the entire process.