

Seizures in Dogs

**What is a seizure?**

Seizures are one of the most frequently seen neurological problems in dogs. A seizure is also known as a convulsion or fit. It may have all or any combination of the following:

* Loss or derangement of consciousness
* Contractions of all the muscles in the body
* Changes in mental awareness from non-responsiveness to hallucinations
* Involuntary urination, defecation or salivation
* Behavioral changes, including non-recognition of owner, viciousness, pacing and running in circles

**What are the three phases of a seizure?**

Seizures consist of three components.

* The pre-ictal phase, or aura, is a period of altered behavior in which the dog may hide, appear nervous or seek out the owner. He/she may be restless, nervous, whining, shaking or salivating. This may last a few seconds to a few hours.
* The ictal phase is the seizure itself and lasts from a few seconds to about five minutes. During this period, all of the muscles of the body contract strongly. The dog usually falls on his/her side and seems paralyzed while shaking. The head will be drawn backward. Urination, defecation and salivation often occur. If it is not over within five minutes, the dog is said to be in status epilepticus or prolonged seizure.
* During the post-ictal phase, there is confusion, disorientation, salivation, pacing, restlessness and/or temporary blindness. There is no direct correlation between the severity of the seizure and the duration of the post-ictal phase.

**Is the dog in trouble during a seizure?**

Despite the dramatic signs of a seizure, the dog feels no pain, only bewilderment. Dogs do not swallow their tongues. If you put your fingers into the dog's mouth, you will do no benefit to your pet and will run a high risk of getting bitten. The important thing is to keep the dog from falling and hurting him/herself. As long as he/she is on the floor or ground, there is little chance of harm occurring.

If seizures continue for longer than a few minutes, the body temperature begins to rise. If hyperthermia develops secondary to a seizure, another set of problems may have to be addressed.

**What causes seizures?**

There are many causes of seizures. Epilepsy is the most common and of least consequence to the dog. The other extreme includes severe diseases, such as brain tumors. Fortunately, most are due to epilepsy.

**Now that the seizure is over, can anything be done to understand why it happened?**

When a seizure occurs, we begin by taking a thorough history, concentrating on possible exposure to poisonous or hallucinogenic substances or history of head trauma. We also perform a physical examination, a basic battery of blood tests and an electrocardiogram (EKG) if heart disease is suspected. These tests rule out disorders of the liver, kidneys, heart, electrolytes and blood sugar level.

If these tests are normal and there is no exposure to poison or recent trauma, further diagnostics may be performed depending on the severity and frequency of the seizures. Occasional seizures are of less concern than seizures that become more severe and frequent. In the instance of frequent or severe seizures, a spinal fluid tap and fluid analysis may be performed. Depending on availability, specialized imaging of the head with a CAT scan or MRI might also be performed. Fortunately, these additional tests are usually not needed.

**What can be done to prevent future seizures?**

We generally prescribe one to two weeks of anticonvulsant therapy after a seizure; if the dog does not have any more seizures during that time, the anticonvulsants are gradually discontinued. The next treatment is determined by how long it takes for another seizure to occur, which could take days, months or years.

At some point, many dogs have seizures frequently enough to justify continuous anticonvulsant therapy. Since that means that medication must be given every 12 to 24 hours for the rest of the dog's life, we do not recommend it until seizures occur about every 30 days or unless they last more than five minutes. It is important to avoid sudden discontinuation of any anticonvulsant medication. Even normal dogs may be induced to seizure if placed on anticonvulsant medication and then abruptly withdrawn from it. Your veterinarian can outline a schedule for discontinuing the medication.

**Could other drugs be tried to treat or prevent seizures?**

Some dogs with seizures are known to have non-suppurative meningoencephalitis. This is a disease that causes inflammation in the brain and surrounding tissues. The illness is not caused by infection, but usually responds well to corticosteriods. Therefore, these may be tried when an anticonvulsant is not effective. The only way to make a confirmed diagnosis of non-suppurative meningoencephalitis is with an autopsy.

**What is status epilepticus?**

Status epilepticus bears special note. It is characterized by a seizure that lasts more than five minutes. When it occurs, the dog's life is endangered. Unless intravenous medication is given promptly, the patient may die. If this occurs, you should seek treatment by a veterinarian immediately.