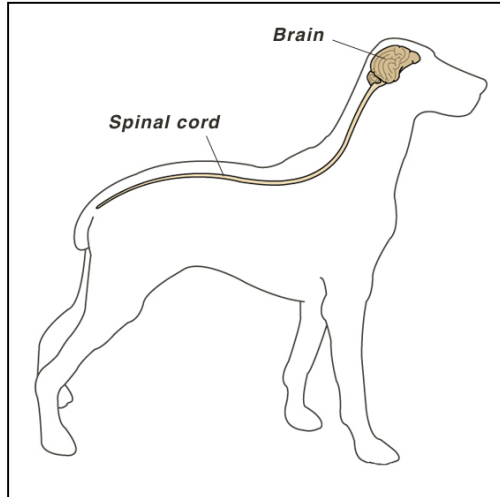


# SEIZURES IN DOGS

## **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:



1. Loss or derangement of consciousness
2. Contractions of all the muscles in the body
3. Changes in mental awareness, varying from unresponsiveness to hallucinations
4. Involuntary urination, defecation, and/or salivation.
5. Behavioral changes, including not recognizing the owner, viciousness, pacing, snapping at invisible flies and running in circles

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

Seizures consist of three components:

- 1) 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. It may be restless, nervous, whining, shaking, or salivating. This may last a few seconds to a few hours.
- 2) 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 its 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, which can be very dangerous.
- 3) During the *post-ictal phase*, there is confusion, disorientation, salivation, pacing, restlessness, 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 its mouth, you will not help your pet and you run a high risk of being bitten very badly. The important thing is to keep the dog from falling and hurting itself. As long as it 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 rising body temperature (hyperthermia) develops secondary to a seizure, another set of problems may have to be addressed.

### ***What causes seizures?***

There are many, many causes of seizures. Epilepsy is the most common cause of seizures in the dog. Other causes include liver disease, kidney failure, poisoning, brain tumors and meningitis.

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

After a dog has a seizure episode, your veterinarian will begin by taking a thorough history, concentrating on possible exposure to poisonous or hallucinogenic substances or history of head trauma. The veterinarian will also perform a physical examination, blood and urine tests. These tests rule out disorders of the liver, kidneys, heart, electrolytes, and blood sugar level, which can cause fits which are similar to seizures. A heartworm test is performed if your dog is not taking heartworm preventative monthly.



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 when the seizures are becoming more severe and frequent. In this instance, a spinal fluid analysis may be performed. Depending on availability specialized imaging of the head with a CT scan or MRI might be performed.

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

Treatment is usually begun only after a pet has more than one seizure every 2 months, or particularly severe seizures. Once antiseizure (anticonvulsant) medication is started, it often must be given for life. There is evidence that pets who have epilepsy and are started on anticonvulsants which are then stopped may have a greater risk of developing more severe and dangerous seizures. 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 gradually discontinuing the medication, if and when it is medically indicated.

### ***You mentioned status epilepticus. What does that mean?***

Status epilepticus is a serious and life threatening situation. 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. If your dog is a very severe epileptic and has status epilepticus periodically, your veterinarian may dispense medications to give into the rectum at home, which can work similarly to IV medications given at a veterinary office. Most owners can learn to do this without very much difficulty.

### ***What regular check-ups are needed for my dog who has seizures?***

When seizure medicines are first begun, follow-up visits will be required in order to test drug levels in the blood, and verify that your pet is on the correct dose. It takes at least 2 weeks after a dose change for phenobarbital levels to become stable enough test, and at least 6 weeks after a dose change for potassium bromide levels to become stable enough to check. Please see separate handouts on these drugs, for more information.

Once proper dosages of drug(s) are determined, and seizures are well controlled, then your pet will need regular check-ups at least twice yearly, In addition to routine preventative health care needed for all dogs. Of course, extra visits may be needed if and when the dog is having more than 1 seizure every 2 months, or seizures last more than 5 minutes.

At these check-ups, we will take a seizure history, do a neurologic exam, and do bloodwork. Bloodwork may include routine bloodwork to check the health of the internal organs, as well as drug level testing.

### ***What is the future for my dog who has seizures?***

Many dogs who have epilepsy lead long and happy lives, as long as they take their seizure medications. The best case scenario is that the seizures resolve, and your pet is eventually weaned off of all seizure medications. The worst case scenario is a dog who has such severe seizures that they are impossible to limit to less than 1 every 2 months and less than 5 minutes in length, or side effects to necessary medications cause problems that eventually affect quality of life. And of course, everything in between these two extremes is possible. With time, you will learn about the seizure patterns in your dog, and may learn to identify and avoid things that trigger seizures in your pet.