

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 from nonresponsiveness to hallucinations
4. Involuntary urination, defecation, or salivation
5. 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:

- 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.
- 3) 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 its mouth, you will do no benefit to your pet and will 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 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 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). These tests rule out disorders of the liver, kidneys, heart, electrolytes, and blood sugar level. A heartworm test is performed if your dog is not taking heartworm preventative very regularly.

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 tap and fluid analysis may be



performed. Depending on availability, specialized imaging of the head with a CAT scan or MRI might be performed. Fortunately, these additional tests are usually not needed.

What can be done to prevent future seizures?

We generally prescribe 1-2 weeks of anticonvulsant therapy. If there are no 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. That may be 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 that 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.

You mentioned status epilepticus. What does that mean?

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.

INSTRUCTIONS

- 1) Call _____ for results of the blood tests and the EKG.
- 2) Administer your dog's prescription as directed for the next _____ days. If drowsiness occurs, reduce the dosage by 50%. If a seizure occurs, double the dosage level and call the hospital for further instructions.