



NORTHPARK Animal Hospital

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 unresponsiveness to hallucinations
4. Involuntary urination, defecation, or salivation
5. Behavioral changes, including not recognizing the 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 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 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 and brain tumors.

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, blood and urine 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 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 CAT 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 a month, clusters of seizures or grand mal seizures. Once anticonvulsant medication is started, it must be given for life. There is evidence that pets started on anticonvulsants and then stop 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 discontinuing the medication.

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.

INSTRUCTIONS

- 1) Call _____ for results of the blood tests.
- 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.