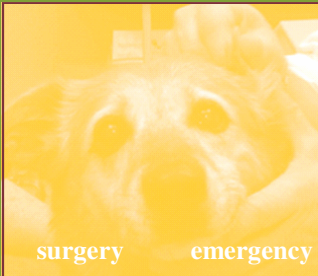




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Seizures in dogs and cats

A seizure is a neurologic event in which excessive electrical brain activity occurs. Seizures may be partial or generalized; partial seizures include facial twitching and bizarre behavioral activity such as “fly-biting” and more often are the result of a focal brain lesion. Generalized seizures are more common and are either convulsive (“grand mal”) or nonconvulsive (“petit mal”). Convulsive seizures are characterized by impaired consciousness coupled with symmetric stiffening, paddling, or even loss of movement of the limbs. Nonconvulsive seizures can manifest as a “spacing-out” episode. The severity of the seizure does not necessarily match the cause; dogs with brain tumors may have mild seizures and dogs with epilepsy can have severe seizures.

The first step with a patient who has seized is to confirm whether a seizure has likely occurred and to classify the seizure type. The second step is to perform diagnostic testing to determine the underlying cause of the seizure. This usually includes a complete physical and neurologic examination and laboratory evaluation. Several metabolic problems such as low blood sugar, low calcium and an elevated red blood cell count can cause seizures. If the laboratory evaluation is normal, then a primary brain problem is more likely. Inflammation, stroke, and tumor, and epilepsy can all cause seizures. Cats, in general, do not suffer from seizures as frequently as dogs. There is a higher likelihood of a structural brain problem in cats having seizures. Further steps, which can be pursued to look for a structural brain problem, include imaging studies such as CT and MRI, and spinal fluid analysis.

Epilepsy is a common cause of seizures and is most common in dogs from 1-5 years of age. It is a diagnosis of exclusion when no other cause of seizures is found. Neurologic examination, laboratory evaluation, imaging studies and spinal fluid analysis are all normal or negative. Though any dog can have epilepsy, purebreds with inherited epilepsy include: beagles, Belgian Tervuren, keeshonds, dachshunds, Siberian Huskies, German shepherd dogs, border collies, Irish setters, and golden retrievers. Epileptic seizures are separated into three components: an *aura*, or the initial manifestation of the seizure, which can last minutes to hours. The animal can exhibit recurrent pacing or licking, excessive salivation, vomiting, excessive barking, and increased or decreased attention seeking. The *ictal* period is the actual seizure event, which can last seconds to minutes and includes involuntary muscle tone or movement or abnormal behavior. The *postictal* period is the time after the seizure when an animal can exhibit unusual behavior, disorientation, inappropriate bowel or bladder activity, excessive or depressed thirst or appetite, or blindness.

The decision whether to start anticonvulsant therapy is based on the underlying cause, the type and frequency of the seizure, and postictal effects. Maintaining a seizure-free status without unacceptable adverse effects is the goal of therapy. This optimal balance is probably achieved in half or less of all dogs with epilepsy. Seizure control does not necessarily equal seizure elimination. A more realistic goal is to decrease seizure frequency and severity, and increase the interval between seizures. An owner needs to realize that medications will need to be given once or twice daily, reevaluations are required, and that there is a potential for emergency situations to arise. In addition, there are inherent risks and side effects associated with the anticonvulsant drugs. The two most widely used anticonvulsant medications are phenobarbital and potassium bromide. Bromide has the benefit of reduced liver toxicity but may not work as quickly as phenobarbital. Periodic measurement of the amount of drug in the bloodstream is necessary to determine whether the dose is appropriate. Blood tests to evaluate liver function may also be recommended. In general, patients receiving anticonvulsant medications should be evaluated at least once or twice yearly, even if seizure control is adequate.

What can an owner do when a seizure occurs?

- Ensure that the pet is on the floor away from any objects. Do not allow it to fall off furniture or down stairs. Use mild restraint with a blanket to place the pet on the floor. Place a blanket underneath the pet's head to prevent facial trauma if the head is hitting a hard surface during the seizure.
- To prevent choking, ensure that leashes or collars do not get caught on any protruding objects.
- Animals cannot swallow their tongues. Keep your hands away from the animal's mouth during a seizure. The animal will not knowingly bite during a seizure, but it has no control of its jaw muscles and may bite anything put into its mouth.
- Urine and stool may be passed involuntarily during a seizure. Your pet may vocalize and salivate excessively. Keep the area clean by placing absorbent towels around your pet if necessary.
- Most seizures last less than a minute. Time the seizure using a second hand so you can give an accurate report of the seizure length.
- If the animal has repeated seizures or fails to regain consciousness between seizures, or a single seizure lasts longer than 10-15 minutes, the animal is in status epilepticus. This is an emergency and your pet should be taken to a veterinarian immediately.

Breed related inherited epilepsy has been documented in the following breeds: beagle, Belgian Tervuren, keeshond, dachshund, and Siberian Husky dogs. Other breeds with an inherited component include: German Shepherd, border collie, Irish setter, and golden retriever dogs.

WHEAT RIDGE OFFICE

3695 Kipling St., Wheat Ridge, CO 80033
Tel 303-940-1239 ● Fax 303-420-8360

WESTMINSTER OFFICE

945 W 124th Av, Westminster, CO 80234
Tel 303-350-4733 ● Fax 303-350-4734

BOULDER OFFICE

1658 30th ST, Boulder, CO 80301
Tel 720-974-5802 ● Fax 303-440-0649