



Albuquerque Animal Emergency Clinic
4000 Montgomery Blvd
Albuquerque, NM 87109

Discharge instructions

Diagnosis: Seizures

Case summary:

What is a seizure?

A seizure is a fit of abnormal neuromuscular activity caused by abnormal electrical activity in the brain. Seizure episodes may range in severity from moments of mental blankness, to minor muscle twitching/convulsion, to full "grand mal" episodes characterized by recumbency, paddling, drooling, urination, defecation and altered consciousness.

There are a variety of causes of seizures in a dog, including problems originating inside the brain (intracranial disease) and conditions outside the brain (extracranial) triggering or predisposing to abnormal brain activity. The age of onset of seizures and the frequency, character and progression of the episodes are often suggestive of the cause. Seizures caused by conditions outside the brain can occur in dogs of any age. These conditions include head trauma, infections, reactions to medications or toxic substances, low blood sugar, derangements in blood electrolytes, liver or severe kidney failure, valley fever, and deficiencies in oxygen/blood flow to the brain. Hence, routine bloodwork to rule out these conditions is an essential first step in the diagnostic work-up.

Dogs whose onset of seizures occurs earlier than 6 months of age are at greater risk of having been born with structural abnormalities in the brain (e.g., hydrocephalus) or liver (e.g., portosystemic shunt). Dogs whose onset of seizures occurs at an advanced age (older than 6 years) are also at greater risk of structural brain disease, particularly brain tumors. Dogs whose seizures begin between the ages of 6 months and 6 years -and in whom no underlying cause has been identified by routine diagnostics-often have idiopathic epilepsy, meaning that no cause can be found. Advanced imaging such as MRI or CT scan of the brain is necessary to definitively diagnose a brain malformation, tumor or other structural brain lesion. For the reasons outlined above, these tests are more rewarding in young or old dogs.

Irrespective of the cause of seizures, there are some general truths about seizure conditions. The first is that each seizure episode tends to predispose to more episodes, as the abnormal brain cells tend to recruit surrounding cells to behave abnormally. Prolonged seizures can be life-threatening, as the muscles of breathing can be paralyzed, hence depriving the brain and other organs of oxygen. The second truth is that intracranial causes of seizure can rarely be cured, so the aim in treatment is to decrease the severity and frequency of the seizures. Treatment generally consists of anti-convulsant medications. If the disease progresses, escalating doses and the addition of other anti-convulsant

medications are often required. Anti-convulsant medications all work by depressing the excitability of brain cells; hence, their side effects include sedation, and the animal commonly experiences a phase of wobbly gait and weakness for the first 2-3 weeks on the medication. Other side effects include increased appetite, thirst, and need to urinate. Periodic blood testing is necessary to ensure therapeutic but non-toxic blood levels of the anti-convulsant medications. Other blood testing may be also necessary to screen for adverse effects on the liver and blood cells.

The decision to begin anticonvulsant medication requires an evaluation of risks and benefits.

Commencement of anti-convulsants is often postponed until the animal has had recurrent seizures and demonstrated a trend of increased frequency and severity of episodes. Early in the disease, owners are encouraged to keep a diary documenting the date, duration, and character of the seizures as well as any observed pre- and post-ictal behaviors. It is also helpful in diagnosis to record the episodes on video. Animals whose seizures occur very infrequently (e.g., every 3-6 months) may require no treatment. Some owners become adept at recognizing in their dog an "aura" or period of altered behavior preceding a seizure; these animals may be managed at home with valium administered orally or rectally upon impending seizure. During any seizure episode, it is important not to put your hands in or near the animal's mouth.

Medications: Please give the oral medications as directed below. Do NOT discontinue anti-convulsant medications without consulting with a veterinarian.

1. Phenobarbital ___ mg tablets – Give ___ tablet(s) by mouth twice daily until directed otherwise. Side effects of this medication include increased hunger, increased thirst/drinking, increased urination, ataxia (drunken gait), and sedation. Some pets may experience an increase in liver enzymes. In rare circumstances there can be changes to the red and white blood cells also.
2. Levetiracetam regular release (Keppra) ___ mg tablets – Give ___ tablet(s) by mouth every 8 hours until directed otherwise. Side effects of this medication include decreased appetite, sedation, and ataxia
3. Levetiracetam EXTENDED release (Keppra) ___ mg tablets – Give ___ tablet(s) by mouth twice daily until directed otherwise. Side effects of this medication include decreased appetite, sedation, and ataxia
4. Zonisamide ___ mg tablets – Give ___ tablet(s) by mouth twice daily until directed otherwise. Side effects of this medication include decreased appetite, sedation, and ataxia. This medication can also (rarely) cause liver issues. We recommend that liver bloodwork be rechecked regularly when on this medication.

Owner Home Care Instructions:

1. MONITORING: Monitor for lethargy, vomiting, diarrhea, decreased appetite, excessive panting, difficulty breathing, weakness, collapse or anything else, which may be of concern to you. If noted, please contact your regular veterinarian or us right away.
2. REASONS TO BE SEEN ON EMERGENCY:
 - A. More than 2 seizures in a 24 hr period
 - B. A seizure lasting 5 min or longer
 - C. Lack of return to normal mentation between seizures. Please also watch for head pressing, abnormal behavior or changes in mentation
3. Please keep your pet away from stairs, balconies, or bodies of water to avoid injury in case of a seizure. You may consider keeping your pet confined when you are not home in case a seizure occurs they are less likely to injure themselves.

Recommended Follow Up:

1. We recommend a recheck in 3-4 weeks for examination, bloodwork, and adjustments or refills of medication. If you wish to pursue advanced diagnostics or have a specialist manage your pet's seizures please consult with The Animal Neurology and Imaging Center or Veterinary Neurology Center.

Thank you for entrusting us with the care of your pet. If you have any questions about the care or treatments, please call us at (505) 884-3433. Please see your regular veterinarian as noted for a follow up visit. Always feel free to contact our hospital should you need further assistance.

Sincerely,

Clare Hyatt, DVM, DACVECC

I, owner or authorized agent, have received, read, and understand the above take home instructions. I further understand that it is my responsibility to follow the discharge instructions as directed. Failure to do so may require additional veterinary care and charges for which I will be fully liable.

Client Signature _____ Date _____

Veterinary Technician/Assistant Signature _____ Date _____

We are proud to be a locally owned and operated veterinary practice that cares about you, our community, and the well-being of all pets. The dollars you spend to care for your pet are kept right here in New Mexico. Thank you for trusting us with your pet's care.