

## What you should know about epilepsy by Dr. Erik Johnson

Epilepsy in dogs is fairly common. The majority of dogs with epilepsy live long and productive lives. Sometimes, epilepsy in dogs is caused by organ failure. These dogs are often sick or not doing very well around the time their seizures begin but this is not always the case. Other times, they never figure out why a dog has a seizure. And in some cases it's a brain tumor.

When your dog has a seizure, there are six important questions for you.

1. Is this the first seizure, ever?
2. How has your dog's *prevailing* health been, leading up to this event?
3. How long was the seizure?
4. Did the animal jerk around, drool, and pee?
5. Was it aware of you, could (s)he respond to stimuli?
6. After the seizure, how long did it take for the dog to get back to something close to normal?

The "acting weird" period after a seizure is what we call the **post ictal phase**.

Long seizures, or seizures that take a long time to get over are much more serious than short seizures from which an animal bounces back quickly.

When you bring me a dog with epilepsy, I will have those questions for you, and perform a thorough physical exam. With very few exceptions, I will also recommend that we do laboratory tests on the blood for organ function, blood sugar, and electrolytes. And from the complete blood count we can gather information regarding infections that may also create problems.

Past that, many doctors will further recommend diagnostic imaging of the brain (CT scan, MRI) to see if there is a mass, tumor, or "vascular events" like a stroke that may have precipitated the problem. I have always wondered about that particular diagnostic, because it's a lot of money to diagnose something that you cannot *practically* fix. In other words, if the bloodwork is OK, and that pet responds to treatment, that is all a person could (or should) reasonably hope for. Unless spending \$2000+ for peace of mind knowing it is (or is not) a tumor is worth it. I don't judge!

Management of epilepsy, often begins with doing nothing.

If a seizure is very brief and to the after math is very short, I actually prefer to give my patients a medication to administer **if** the dog ever even has another seizure. Probably 20 times out of 100, no more seizure activity is noted and dosing of medications turns out to be **unnecessary**.

Conversely, and not unexpectedly, 80% of dogs **will** go ahead and have a second seizure at which point I will have you give the medications sent home for seizure activity (Diazepam plus or minus two others). Usually, these medications are intended to prevent another seizure until we can meet.

If your pet turns out to be an epileptic and the blood work was OK, we will talk about administering any of seven or eight different anticonvulsants. There are two, however, that we will not talk about.

One of them is Keppra, and the other is potassium bromide (KBr).

I will bypass Keppra entirely. Why do I mention it? Because if you Google "dog epilepsy", you will see that Keppra is the **latest and greatest**. Anyone "competent" or "in the know" is using it. And that only dinosaurs **aren't** using it. Well, I am *that* dinosaur.

**I read actual *RESEARCH*, not USA Today,  
Karen Becker, trade magazines or marketing literature.**

Potassium bromide has fallen out of favor, because of the *newer* fad in veterinary medicine: Keppra. Keppra is just popular science.

It's duration of anticonvulsant effect is rather short, meaning that metabolic enzymes are induced and Keppra will stop working before even six months has passed. Keppra can cause significant gastrointestinal upset, and fails to provide initial control of seizures at any dose in probably 30% to 40% of new cases.

At that point, "Cutting-edge Vets in the Know" will then begin \$1000 work up to find out why the seizures are so bad that they can escape from Keppra.

In all probability we will be starting your pet on **phenobarbital**, with back up medications which include diazepam plus or minus gabapentin. We will start with phenobarbital and if that controls the situation well, we may cut the dose of phenobarbital down in a month or two. 6 months later, we will probably transition onto gabapentin and diazepam and hope that that maintains control without liver effect. Subsequent to that, we may cut down the dosing of diazepam and gabapentin. At **some** point, we might even discuss taking your pet off medications completely.

Just so you know, there are *other* anticonvulsants, including natural anti-convulsants like a trio made of St. John's Wort, Bacopa, and Valerian Root. Lamotrigine has anticonvulsant benefits to dogs. But, typically I do not use these, nor do I resort to other forms of epilepsy control, because ***if they fail you may end up at the emergency room spending \$1000 to regain control.***

I believe, and I hope you agree, **that rapid control and then tapering down to the lowest doses of whatever anti-convulsant chosen, is the best way to go.** While we are dealing with this new situation, and we are starting new medications, I would like you to be able to get in touch with me so that we may modify the medication regimen as needed even on the weekends. My email address can be had by visiting:

**johnsonvet.com/email** is a passworded page and enter "jvs" [lower case without the quotes] in the box and you will get my email address, whether it has changed recently or not.

Let's discuss **phenobarbital**. There are two problems with this medication.

1. Problem number one is there are mild liver enzyme elevation's while on phenobarbital. These are what they call induced enzymes and they represent the fact that phenobarbital requires a certain effort on the part of the liver to metabolize. That does not necessarily mean that it is damaging the liver, in fact, it is not supported by *any* evidence that it does. Still, I like to get pets **down** on their phenobarbital dose or off of it.
2. The second problem is that phenobarbital is strongly sedating. This affect lasts from between two weeks and three weeks. It may be so significant that owners call my office asking to stop the medication, or put the dog to sleep. I hasten to inform you emphatically that the initial sedation by Phenobarbital is very, very temporary.

Let's talk about the **diazepam** [and or gabapentin] that I ask you to give after each seizure. The purpose of that medication is to prevent another seizure from happening on the tail end of the

previous one. If the seizures get close together, that is a condition called **clustering**, and can lead to **status epilepticus** which is a seizure that does not stop until the pet is damaged. If your pet has a seizure, please give the diazepam as directed, if it has **another** seizure shortly after, give **another** dose of diazepam.

Diazepam is extremely safe. If you could **kill** a pet with diazepam we would be using it for peaceful, do-it-yourself-at-home euthanasia. It would be just about impossible to kill a dog, and it is your first line of defense against the clustering of seizures.

### **To recap:**

1. If your pet has a seizure and seems healthy we will just do a blood test to confirm that, and prepare you for another seizure, but we will wait to see if it even happens.
2. If it happens, you will give the diazepam and come see me immediately.
3. We will start phenobarbital, and maintain control with that.
4. We will then begin to taper down the medications over the course of several months.

We will not waste your time or anxiety with a medicine called Keppra and we will never use potassium bromide.

We are *not* the latest and greatest. We are time-tested results oriented.

Thank you

Dr. Erik Johnson

## **Questions**

### **What can I do for my pet if and when it has a seizure?**

The best thing to do with the pet is stay away from the mouth because it will bite you unconsciously, put a towel over the pet if it is having a seizure and pat it gently, staying away from the mouth. If the seizure is long, you should *remove* the towel to allow the pet to cool while it is having its seizure. Follow the seizure with a dose of Diazepam.

### **Can my dog swallow its tongue while it is having a seizure?**

No, that is a wives tale. Perhaps it happened 100 years ago that a dog choked on its own vomit (or spit) and perished, but the tongue cannot be swallowed and is no threat. Keep your fingers out of the dog's mouth. Follow the seizure with a dose of Diazepam.

### **What happens if my dog actually *has* a brain tumor?**

Most pets are helped on the short term by medications, but the dogs with brain tumors begin to have seizures more and more frequently despite increases in medications over time. My point is that, if there is a brain tumor, we will lose control of the seizures regardless of medication chosen sooner **than** later. But as I said, the majority of dogs having seizures are naturally epileptic with no discernible cause, and can live as long as any other dog.