“Seizures”

Hi, this is Dr. Karen Becker, and today we’re going to discuss seizures in pets. A seizure is an unanticipated abnormal electrical activity that happens in your pet’s brain. This can range from symptoms of a minor twitch to a complete grand mal seizure, where an animal loses consciousness. Seizures can last from just a few seconds (you’re not even sure if it’s a seizure; it minor head bobble or it could look like a tremor, spasm, or cramp) to lasting many, many minutes.

Inside the brain are electrical impulses, excitatory impulses, and inhibitory impulses. Throughout the day, there’s a ratio of excitatory to inhibitory impulses. When the excitatory impulses overtake the inhibitory impulses, your pet can have a seizure. Depending on what part of the brain it happens in and how many excitatory impulses are released, your pet can have minor twitches to grand mal seizures.

This ratio where there’s an overtaking of excitatory impulses is called seizure threshold. The goal for all of us is to have pets with high seizure thresholds, which means that there are a very few things that could stimulate a potential seizure in our pets. But there are some things that do influence where your pet’s seizure threshold lies. Genetics, head trauma, and infections -- as well as toxic exposure -- can all influence potential seizure threshold in pets.

Three Phases of Pet Seizure

Every seizure has three phases. The pre-ictal phase is the phase just before seizure. It can last a few second to maybe a couple of minutes. People sometimes know that they’re going to have a seizure. We know that this is also probably true in pets. During the pre-ictal phase, your pet may act abnormal. He or she could become restless or nervous. Sometimes dogs will come to their owners and want to be soothed because they can tell that their body’s having some abnormal electrical activity.

Then the seizure happens -- it’s called ictus. After the seizure, there’s a post-ictal period that can range from a few minutes to several hours. In the post-ictal period, you can see a whole variety of different responses. Your pet could be confused, afraid, stumble, or act blind. She could bump into things. You could see her nervous, tense or just want to be all by herself. I think it’s so confusing for pets because they don’t know exactly what just happened to their body. That post-ictal phase can last up to many hours after a seizure.

Types of Pet Seizure
There are different types of seizures that pets can have. A petit mal seizure or mild seizure could be as minimal as just an abnormal eye flicker or eye movements in pets. A grand mal seizure is where an animal becomes unconscious and typically falls down. There can be paddling and vocalization. Some pets can lose bowel and bladder control. The animals are unconscious during this time, and there could be jerking and twitching associated with the seizure.

Status epilepticus is a grand mal seizure that doesn’t stop. It is a medical emergency, as animals don’t breathe during the seizure and can die during this period. If your pet has a grand mal seizure and is not coming out of it, it’s critical that you get your dog or cat to the animal ER immediately to be able to save its life.

Kitties commonly have focal motor seizure, where only part of their body can have a seizure. You can see a twitch or a tremor. It almost can look like a cramp. Most common in cats and small dogs are focal motor seizures.

Cluster seizures are seizures that occur multiple times in a day. Many cluster seizures are urgent-care situations. If you have a pet that has seized more than once a day, we would recommend that you visit your veterinarian. There’s a likelihood that your pet could continue to seize or have progressively more intense seizures.

**Causes of Pet Seizure**

There are lots of different causes of seizures. Obviously, there’s head trauma -- if there’s swelling on the brain, there could be seizure. Brain tumors are an incredibly common source of seizures for dogs and cats that are older. So it would be very unlikely that your dog develops epilepsy at 12 years of age. If you have an older dog that’s beginning to have abnormal electrical activity, chances are you need to be thinking of it as brain tumor.

Bacterial, viral, fungal, and parasitic causes can also cause seizures. Cervical subluxation is a cause that many pet owners don’t realize. I see a lot of dogs that are chained out. They run out the chain after a bunny, causing high cervical trauma. And so C1, the atlas or C2, the axis can be traumatized. C1, the first cervical vertebrae in animals, articulates with the brain stem. If there’s increased cerebrospinal fluid pressure in their brain stem, it could lead to a seizure.

So we recommend harnesses for animals not only on walks, but also those who are chained out. It’s important that there not be any pressure on their neck because high cervical subluxations or chiropractic issues in the neck can cause increased seizure potential.
Congenital malformation of the brain stem is common. The Cavalier King Charles Spaniel is a breed that’s well known to have birth defects in the alignment of the brain stem or cranium, which affects the body’s ability to effectively circulate cerebrospinal fluid.

Liver disease, in a roundabout way, can cause seizures. The liver is designed, obviously, to process toxins. If it’s not effectively removing toxins, toxins can build up in the bloodstream and cross the blood-brain barrier. Pets can have a condition called hepatic encephalopathy, which can lead to toxin-based seizures.

Heat stroke, as well as low blood sugar, could also be a factor. Diabetic animals can have low blood sugar-based seizures. Other metabolic conditions such as hypothyroidism can also cause seizures. Interestingly in one study, 70 percent of dogs that were clinically hypothyroid had a history of seizures. That’s something to think about.

Lots of different types of poisoning can cause seizures. Lead poisoning, mercury poisoning, plant poisoning -- marijuana, sago palm and castor bean plants can all induce seizures in pets. Fertilizers, pesticides, insecticides, and herbicides are all well known to cause seizures in pets. Human drugs like non-steroidal anti-inflammatory medications, antihistamine, antidepressants, and human diabetic medications can all cause seizures in pets.

Veterinary drugs are also well known to cause potential seizures. In fact, neurotoxic topical chemicals like flea and tick preventives are potentially included in reasons why dogs and cats can seize.

**The Consequences of Vaccines**

Last but not least, vaccines can create seizure problems for pets. First of all, we still use thimerosal or the organo-mercury compound as an adjuvant in most veterinary vaccines. Needless to say, heavy metals cross the blood-brain barrier. There’s no liver in your pet’s central nervous system, so there’s no removing of those heavy metals.

The second way that vaccines can cause seizures is their implication in autoimmune encephalitis. They can spark an autoimmune reaction that can cause secondary swelling in the brain. In turn, this can cause seizure disorders in your dogs and cats.

**The Role of Diet and Nutrition**

Nutritionally related issues can also cause seizures. This is one that a lot of people don’t think about. Diet has a two-fold potential implication when it comes to seizures. First is if your pet has systemic allergic responses. If your pet has food allergies, there could be a systemic inflammatory response that can decrease your pet’s seizure threshold.
There can also be synthetic chemicals, preservatives, emulsifiers or other ingredients in your pet’s food that can cause reactions or systemic inflammation that can decrease your pet’s seizure threshold. This is something to think about if your pet has been on the same diet – or has a diet that is highly processed.

On a side note, for humans, they’re using ketogenic diets. Ketogenic diets are no-carbohydrate, moderate-fat, high-protein diets. What’s interesting is that a ketogenic diet for a person is actually a species-appropriate diet for pets. They’re using ketogenic diets to help control seizures in humans.

When I see seizuring patients at my practice, I highly recommend that they stop the carbohydrates and put their pets on moderate-fat, high-protein, no-carb diets. It’s not just because it’s a species-appropriate diet, but because getting those pro-inflammatory carbohydrates out of the diet is a good idea for helping to control systemic inflammation.

There are also herbs that can decrease seizure threshold. Herbs themselves don’t cause seizures, but if your pet has seizures or a low seizure threshold, there are herbs and essential oils that can potentiate seizures.

Herbs like kava-kava, skullcap, evening primrose oil, borage seed oil, goldenseal, ginkgo, ginseng and wormwood have all been implicated. Essential oils such as eucalyptus, fennel, hyssop, pennyroyal, rosemary, sage, and tansy have also been implicated in decreasing your pet’s seizure threshold.

**What To Do During Pet Seizures**

If your pet has a seizure, it’s important to let your veterinarian know. Obviously if your pet doesn’t come out of a seizure, you need to seek emergency veterinary care immediately. Once your veterinarian rules out all of these of these potential causes when it comes to why your pet could be seizing (or if your pet passes all the tests that determine that none of these potential causes are the problem), then your pet is left with a diagnosis of idiopathic epilepsy, which means it’s a seizure of unknown origin.

Idiopathic epilepsy means that we don’t have a foundational reason why your pets seize. Most of the time, veterinarians will discuss with you starting anti-seizure or anti-epileptic medication.

At my practice the rule of thumb is this: pets need to have more than one grand mal seizure a month in order to even consider drug therapy. It’s important to realize that there are whole hosts of natural substances that can help increase seizure threshold and decrease seizure potential. At my practice, we use acupuncture and herbs – as well as chiropractic care and neutraceuticals therapy – to help extend seizure threshold.
We can either use this as a sole treatment group for mild seizures, or, for animals that are having consistent grand mal seizures, we can blend an integrative protocol with some drug therapy to be able to reduce the dose of drugs needed to help control seizures.

If you have a dog that has had a seizure, it’s important that you’re tracking date, time, and the intensity at which your dog seizes. We’ve seen correlations at my practice between monthly or seasonal seizures, or seizures at certain times of the year, month, or the full moon.

Strange, but true.

If we’re able to track a potential cycle with your dog’s seizures, we’ll be able to help you formulate a plan that can actively control your dog’s seizures, of course starting with the most natural treatment option first.