



Seizures

Experiencing your pet having a seizure is very frightening and disturbing. Many pets having seizures collapse, lose consciousness, become stiff and rigid with severe muscle tremors and possibly urinate, defecate, drool and vomit. This event is followed by a period of disorientation and often the pet is in a daze. Especially if unexpected, these events are scary for owners and this article will hopefully bring some insight to seizures and their management.

A seizure is excessive electrical activity of the cortex brain causing a wide range of clinical signs. They can be anything from a mood change to loss of consciousness, collapsing, becoming stiff, paddling with voiding of urine and feces. Most seizures are preceded by an aura, pre-ictal period, which is the feeling of a seizure coming on. Many times, this can be recognized by the owner and the pet can be stabilized for the seizure to prevent injury. After a seizure, this same aura effect, post ictal period, occurs and is the hallmark of a seizure. Your pet may act blind, confused, disoriented, aimlessly pace, or be more depressed. Many treatments options are available, and it is important to work with your veterinarian to develop the safest management protocol that fits the owner and pet's lifestyles.

Post-ictal disorientation, aura, is the hallmark of a seizure.

There are three types of seizures:

Generalized (Grand Mal)

- Most common form of seizure
- Total body involvement
- Stiffness with contraction cycles
- Loss of consciousness
- Vocalization
- Urination and defecation are common

Focal (Partial Motor)

- Involuntary action of one part of the body
- May or may not lose consciousness
- "Chewing Gum" fit
- Local muscle twitching

Psychomotor (Mood Change)

- Focal seizure with an episode of abnormal behavior
- Mood change
- Disturbed Mentation
 - Hallucinating, disoriented, aggression, spacing out, "fly-biting"

Causes

Primary Seizure – No known cause is identified (genetic, idiopathic)

Reactive Seizure – Metabolic or toxic cause is identified (normal brain)

Secondary Seizure – A structural brain abnormality is identified

Triggers

- Full Moons
- Barometric Pressure Changes (Cold fronts, Thunderstorms)
- Bright lights
- Loud noises
- Stress

Diagnosis

History – Most seizure pets are clinically normal when coming into the clinic and diagnosis is based off history from the owner.

Bloodwork – Metabolic and toxic causes for seizures are evaluated with bloodwork.

Imaging – The use of radiographs, CT and MRI aid in visualizing structural causes of seizures.

When to Start Treatment

- Two or more isolated seizures occur within a 1-6 month period on a case by case basis
- Cluster seizures (more than 3 seizures withing a 24-hour period)
- Seizures lasting more than 5 minutes
- Severe seizure or post-ictal period
- A history of head or brain trauma or visible structural changes on imaging (Radiographs, CT MRI)

Treatment Options

- Phenobarbital – A first line seizure therapy in animals for years and is twice a day dosing, effective and cost effective. Side effects exist and may not be a good choice for patients with liver disease. Blood level monitoring is required.
- Potassium Bromide (KBr) – A good first line or add on medication for dogs and is a twice a day dosing. Few side effects exist and may not be a good choice for dogs with pancreatitis.
- Levetiracetam (Keppra) – Useful in refractory seizures and has few side effects. Can be used as a first line medication but works best in combination therapy and use of the extended release formula allows for twice a day dosing.
- Zonisamide (Zonegran) – Quickly becoming a first line therapy but is useful in combination therapy and is given twice a day in dogs and sometimes once a day in cats. As a sulfa class medication, it contains side effects that may include autoimmune diseases and dry eye.
- Diazepam (Valium)- This medication is given by injection in the clinic when a pet is actively seizing. A single dose may be sent home with owners for use on pets rectally when a seizure occurs at home.
- Others

Seizures at Home

If your pet is having a seizure, the main goals are to comfort your pet to avoid injuries, while keeping yourself out of danger.

Initial Seizure

Benadryl (Diphenhydramine)– Oral Benadryl can be given to the pet when they get to a point they can swallow. The sedation effect of Benadryl is utilized to help with repeat seizures. This is not a treatment and has variable results but may get owners through a stressful night or until they can get into a veterinarian.

Breakthrough Seizure

If your pet is managed on medications and has a seizure, the same recommendations apply, but your veterinarian may have prescribed Valium (diazepam) to be given rectally, may have you increase your management medication short term, or have you administer Benadryl.

Emergency

Two criteria that help determine if an emergency exists and a veterinarian needs to be seen.

- Non-stop seizures lasting more than 5 minutes
- Cluster seizures – more than 3 repeated seizures in a 24-hour period

Stopping medications

Many seizure medications do carry side effects, and although not commonly discontinued, some medications may need to be stopped if the risks and side effects outweigh the benefits. If the pet has not had a seizure in over a year, the possibility of discontinuing the medication may be an option. Discuss these options with your veterinarian to make the most beneficial decision for your pet's health. Good Luck!

