During a Seizure

During a seizure event, your pet is not aware of what is happening. Make sure to keep other pets and children away until your pet has become normal, because they may be confused and become aggressive during the event. Dogs will not swallow their tongue during a seizure.

Record Keeping

As a service to our clients, we will advise on adjusting seizure medication dosing. It is important to keep a record of the following information:

- Date of seizure event and severity
- Adjustments made to the seizure medication
- Serum concentrations in the blood
- Side effects of anti-seizure medications

This information is required for us to properly advise you about changes in medication doses. Many owners find it easiest to keep a seizure calendar or journal.

BVNS
BUSH VETERINARY NEUROLOGY SERVICE
The Leading Center For Advanced Neurology

William W. Bush
VMD, DACVIM (Neurology & Neurosurgery)

Deena M. Tiches
DVM, DACVIM (Neurology)

Peter J. Early
DVM, DACVIM (Neurology & Neurosurgery)

Martin G. Young
MS, DVM (Resident in Neurology & Neurosurgery)

Devon W. Hague
DVM (Resident in Neurology & Neurosurgery)

Daniel E. Cuff
DVM (Neurology Intern)

Hospital Location
165 Fort Evans Road NE Suite 103
Leesburg, VA 20176
P: (703) 669-2829
F: (703) 669-2870
After hours emergencies (301) 471-4905
www.bvns.net

Seizure

Who can be affected?

Seizures can happen to any pet, including cats. A genetic basis for seizure has been proven in certain breeds of dogs: Beagle, German Shepherd, Irish Setter, Poodle, Saint Bernard, Springer Spaniel, Malamute, Siberian Husky, Cocker Spaniel, Collie, Dachshund, and Golden Retriever.

Seizures can often be well controlled with medication, but it can also be a frustrating and complicated problem for owners.

BVNS
BUSH VETERINARY NEUROLOGY SERVICE
The Leading Center For Advanced Neurology

Seizure

A seizure event can be divided into 3 stages:

Pre-Ictus: Abnormal behavior prior to the seizure lasting just a few minutes

- Acting clingy
- Staring off into space
- Hiding or acting anxious/scared
- Vomiting

Ictus: Seizure, most likely to occur during sleep, lasting 30-120 seconds

- Jaw chomping and increased salivating
- Dilated pupils
- Stiff in all four limbs with head arched back
- Rhythmic movement or paddling of limbs
- Non responsive
- Urination and defecation

Post-Ictus: After seizure, lasting 5 minutes to several hours

- Becoming aware and responding to noise
- Trying to get up and walk
- Pacing and bumping into things
- Increase hunger or thirst

Cause

If a patient is 1-5 years old and completely normal, with the exception of recurrent seizure, they are referred to as having idiopathic epilepsy. This implies that the patient was born with a genetic make-up where the ion pumps in the brain do not always work properly, resulting in seizure.

If a patient is younger than 1 or older than 5 (or is a cat) then idiopathic epilepsy is much less likely. In older dogs certain causes like stroke or tumor should be considered.

In younger dogs metabolic, infectious or inflammatory disease and malformation are the more common causes of the seizure. These patients often have some behavioral abnormality (eliminating in the house, withdrawn, stumbling or bumping into things, circling, etc.) and/or an abnormal neurological examination.

Diagnostics

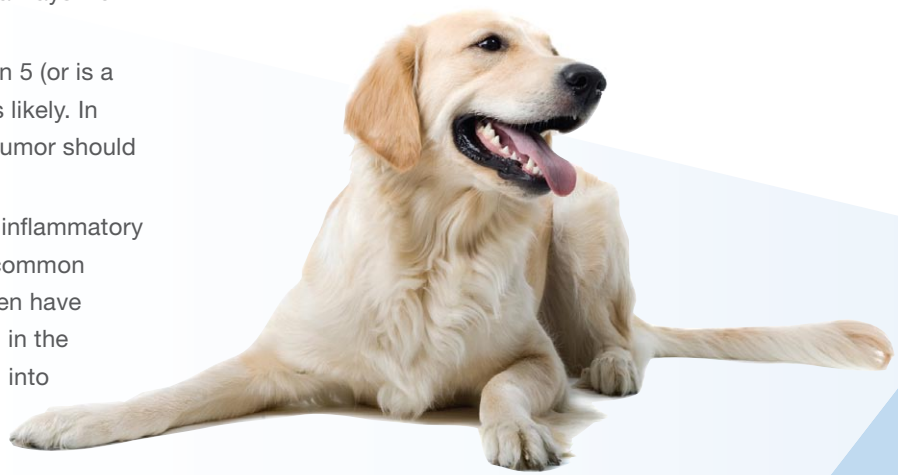
Diagnosis starts with a thorough history and neurological examination. First we need to determine if the events are actually seizure. The following conditions can look similar to seizure:

- Vestibular episode
- Metabolic disease
- Neuromuscular disease
- REM behavior disorder
- Spike of high intracranial pressure
- Neck pain
- Syncopy
- Cataplexy
- Panic attacks
- Myoclonus

At BVNS we have found EEG to be a valuable tool in defining the event as a seizure. The cause for seizure can often be determined using some combination of blood testing, MRI and analysis of the cerebrospinal fluid (CSF). Identification of an underlying cause will lead to better seizure control and quality of life. BVNS has a EEG, MRI, CT scanner, and the ability to perform a CSF analysis at their Leesburg, VA facility called The LifeCentre.

Progression

Every seizure a patient has can make it easier for another to occur. During a seizure, the brain connections and brain chemistry change, permitting or offering less resistance to future seizures. If a patient is having recurring seizures, treatment may be recommended.



Treatment

Treatment is recommended in the following situation:

- Seizures occurring more than every 4 weeks
- Ictal periods lasting at least 3 minutes
- Clusters of more than 3 seizures
- Long or severe post-ictal periods
- Known progressive cause such as a brain tumor or infection

The goal of seizure management is to decrease seizure frequency, and reduce the severity of the seizure and the post-seizure period.

Medications

Phenobarbital and potassium bromide are older, common seizure medication with side effects including more drinking, urination, panting, eating, drunk appearance or restlessness. Phenobarbital can be toxic to the liver and bone marrow and as a consequence routine blood tests are recommended.

At BVNS we have found the newer medications called zonisamide, levetiracetam, and gabapentin to be effective, have few transient side-effects and no organ toxicity. These medications are now generic, affordable and our first choice for seizure therapy in most situations.

Monitoring

Sampling the blood to determine the serum concentration of seizure medication maybe needed:

- To determine whether the current does is providing a protective level
- To assess the effects of a change in dosing regimen
- When seizures are more frequent than expected
- When the side-effects become severe

Generally a serum concentration is recommended within 1 to 3 weeks of starting a seizure medication and then yearly. A serum biochemistry and CBC should be done every 6 to 12 months depending on the seizure medication.