

Seizures and Epilepsy

- A seizure (convulsion) is the sudden transmission of nerve impulses from the brain that causes involuntary muscle activity.
- Epilepsy is a condition in which seizures occur periodically over the course of weeks or months.
- Treating any underlying conditions may eliminate seizure activity; pets with epilepsy may require anti-seizure medications for the remainder of their lives.

What Are Seizures and Epilepsy?

A seizure (convulsion) is the sudden transmission of nerve impulses from the brain that causes involuntary muscle activity. The seizure may affect just one part of the body, such as the face, or the entire body.

When the whole body is affected, it is called a *grand mal seizure*. A seizure may be a one-time event, but if seizures occur repeatedly over the course of weeks or months, they are categorized as epilepsy. Epilepsy is common in dogs but relatively rare in cats.

What Are the Clinical Signs of Seizures and Epilepsy?

Before the onset of a seizure, many pets exhibit unusual behaviors, such as hiding, seeking out the owner, or acting nervous.

During a seizure, pets may experience a loss or alteration of consciousness, and anything from mild tremors and limb paddling to jaw chomping, salivation, vocalization, dilated (enlarged) pupils, urination, and defecation. The seizure itself usually only lasts for a few minutes.

Following a seizure, pets may appear to be disoriented, restless, or lethargic (tired).

What Causes Seizures and Epilepsy?

Disorders affecting the brain, such as trauma, congenital conditions (defects that pets are born with), tumors, and infections can cause seizures.

Other conditions outside of the brain can affect the nervous system as well. Seizures may be caused by accidental consumption of toxins, such as those

found in pesticides, antifreeze, and some flea and tick products. Conditions such as hypoglycemia (low blood sugar), liver disease, and hypocalcemia (low blood calcium) can also result in seizures. Finally, seizures may be caused by viral, bacterial, fungal, or parasite infections, such as canine distemper virus infection, ehrlichiosis, cryptosporidiosis, and toxoplasmosis.

In many cases, the precise cause of the seizures may never be determined. Pets that have periodic seizures for which no cause can be found are said to have *idiopathic epilepsy*. Idiopathic epilepsy is the most common cause of seizures in dogs. Breeds commonly affected include Labrador retrievers, golden retrievers, Bernese mountain dogs, and poodles. Seizures usually begin before 5 years of age.

Treating any underlying conditions may eliminate seizure activity; pets with epilepsy may require antiseizure medications for the remainder of their lives.

How Are Seizures and Epilepsy Diagnosed?

Your veterinarian will start by taking a medical history of your pet, including possible exposure to toxins, ticks, and infectious diseases. If your pet has had more than one seizure, it is important for your veterinarian to know the pet's age when the seizures first started, and the length, intensity, and frequency of the seizures. Your veterinarian will also perform a thorough physical examination on your pet.

Laboratory tests to help diagnose seizure disorders include blood work, such as a chemistry profile and a CBC (complete blood count), as well as a urinalysis. Additional tests may be required, depending on the suspected cause. These tests may include more specific blood tests, radiographs (x-rays), and ultrasound

Common Conditions

examinations. If your veterinarian suspects that there is a problem inside the brain, he or she may recommend testing the spinal fluid, an EEG (electroencephalography) test, CT (computed tomography) scan, or MRI (magnetic resonance imaging) study.

How Are Seizures and Epilepsy Treated?

Treatment varies depending on the cause of the seizures. If underlying conditions, such as toxicosis, infections, or hypoglycemia, can be treated, the seizure activity may resolve and never recur.

In cases of epilepsy, the pet may need to be on antiseizure medications for the remainder of his or her life. Your veterinarian will discuss potential side effects of these medications and the need for periodic blood testing to ensure that the medications remain at safe, therapeutic levels in the blood.

Even a pet that is successfully treated for seizures may still have occasional episodes from time to time. The goal of therapy is to reduce the frequency, duration, and intensity of the episodes.

Pets with prolonged seizure activity may need to be hospitalized. Treatment may include intravenous

fluids, antiseizure medications, oxygen therapy, and other treatments. Treatment may not be necessary if a pet has had only one seizure, or if seizures happen very infrequently or are very mild. However, pet owners are encouraged to keep a diary of the seizure activity so that the frequency, duration, and intensity of the episodes can be monitored. Increases in any of these three things may mean that medication should be considered.

What Should I Do if My Pet Has a Seizure?

Most seizures only last for a few minutes. Although it can be disheartening to see your pet have a seizure, try to stay calm and comfort your pet. Clear the area around your pet so that he or she doesn't get his or her limbs or head caught in furniture. Keep your hands away from your pet's mouth, to prevent being inadvertently bitten.

If possible, time the length of the seizure. Prolonged seizures (lasting longer than 5 to 10 minutes) can lead to *status epilepticus*, a state of continuous seizures. This can be a life-threatening condition, and pets in this state should be seen by a veterinarian immediately.