

Epilepsy in dogs

Emilie Royaux DVM, MRCVS, Dip ECVN
RCVS and EBVS® European veterinary specialist in neurology
Davies Veterinary Specialists

Epilepsy is the most common neurological disorder affecting dogs (1-2%). A dog has epilepsy if he experiences two or more epileptic seizures with more than 24 hours in between. An epileptic seizure is a result of synchronous depolarization of neurons in the brain. This is the result of an excessive neuronal excitability.

How can I recognise an epileptic seizure?

Different types of epileptic seizures exist. The most common type is a generalised epileptic seizure.

Typical characteristics of generalised epileptic seizures:

- Loss of consciousness.
- Involuntary muscle contractions.
- Salivation, urination or defecation can occur.
- Short duration (couple of seconds up to 5 minutes).
- The dog is at rest when the seizure happens.

Another type of seizure is a focal seizure. Only individual parts of the body are affected when a dog has this kind of seizure, this can be the head or a leg.

After an epileptic seizure, a dog returns back to normal quickly. If a dog has many seizures or a very long seizure, the recovery will be slower (hours, days). During the recovery period, a dog can behave abnormally (excitation, obtundation, aggression), be unsteady on his feet and also blindness can occur. Luckily these changes are only temporarily.

Is an epileptic seizure dangerous for my dog?

One generalised seizure is not harmful for your dog. An epileptic seizure lasting longer than 5 minutes (status epilepticus) or multiple seizures in one day (cluster seizures) are a danger for your dog's general health. If that happens, you need to contact your vet.

What do I have to do if my dog has an epileptic seizure?

- Provide a safe and quiet environment for your dog.
- Keep other animals and children away from your dog.
- Try to obtain a video of the seizure. This can be very helpful for your vet.
- If your dog has experienced seizures before, your vet can provide medication to stop the seizure.

What causes epilepsy in dogs?

Based on possible underlying cause, we divide epileptic dogs in 3 big groups:

- Idiopathic epilepsy
 - Most common form.
 - First seizures between 6 months and 6 years of age.

- Completely normal behaviour in between the seizures.
- Normal blood tests.
- Normal MRI of the brain and examination of the spinal fluid.
- Possible underlying genetic mutation.
- Structural epilepsy
 - Caused by brain disease
 - Congenital brain disease such as hydrocephalus
 - Brain tumour
 - Inflammation of the brain
- Reactive seizures
 - Caused by metabolic problems such as liver and kidney injury or an intoxication.

Is there a genetic test available for dogs with idiopathic epilepsy?

To date, two genes underlying canine idiopathic epilepsy have been identified: *LG12* on chromosome 3 for benign juvenile epilepsy in the Lagotto Romagnolo breed, and *ADAM23* on chromosome 37 for focal and generalized adult-onset epilepsy in the Belgian Shepherd breed.

My dog has had an epileptic seizure, do I need to visit my vet?

Yes, it is best to make an appointment with your vet. During the consult your vet will need a detailed description of the seizure. A video of the event can be very helpful as some episodes can look as an epileptic seizure but aren't epileptic seizures. Your vet will do a thorough physical and neurological examination of your dog. A blood test will be done to rule out underlying metabolic disease. If your vet suspects a brain problem, he might advise an MRI scan of the brain and examination of the cerebrospinal fluid.

When does my dog need to be started on anti-epileptic drugs?

The general rule is that dogs need to be started on anti-epileptic drug if they experience 2 or more seizures within 6 months.

What is the best anti-epileptic drug for my dog?

Unfortunately, the ideal anti-epileptic drug does not exist. Each drug has advantages and disadvantages. The choice of anti-epileptic drug will depend on many factors. Your vet can explain you why a certain drug is the best choice for your dog. It is important to know that anti-epileptic drugs suppress the seizure activity in the brain and do not cure your dog's epilepsy. Most epileptic dogs need lifelong treatment. Only a minority of the epileptic dogs will achieve seizure freedom. The majority still experiences epileptic seizures but less frequently.

Does epilepsy affect my (dog's) quality of life?

Normally an epileptic dog has a good quality of life if the seizures can be reasonably well controlled. An epileptic seizure is a stressful event for the dog and the owner but most dogs recover well and fast. An epileptic dog can do the same activities as a normal dog and therefore can have a perfect normal dog life. Taking care of an epileptic pet does require some extra work. The majority of dogs will need lifelong medication and regular vet checks. In very rare occasions the seizures cannot be controlled with medication. These dogs continue to have frequent and severe seizures despite medication.

For more information: www.canineepilepsy.co.uk