

# Epilepsy (Idiopathic, unknown cause)

## What is it?

Idiopathic epilepsy is characterized by chronic recurrent seizures for which there is no identifiable cause. There are two types of seizures: status epilepticus, a seizure which lasts more than five minutes, or two or more seizures where there is an incomplete recovery of consciousness, and cluster seizures (serial or acute repetitive seizures), when three or more isolated seizures occur within a short period of time.



## What causes it?

There is no known cause. It is hereditary in some dog breeds. The most common ages when affected are 1-5 years old; males are slightly more affected than females. Congenital abnormalities in neuronal excitability, or neurotransmitter or receptor function may be the cause of idiopathic epilepsy.

## Signs & Symptoms

There is a loss of consciousness and sustained contraction of all muscles, followed by paddling motions of the limbs or rhythmic muscle contractions, especially of the limbs and masticatory muscles. Milder tonic-clonic seizures, where the dog is conscious, and focal seizures where only part of the body is involved (fly biting movements) can occur. With idiopathic epilepsy the dog acts normal between seizures, and there is no evidence of ongoing neurological defects.

## Treatment:

Status epilepticus or cluster seizures require emergency treatment to prevent hyperthermia and brain damage. Long term treatment involves anticonvulsant drugs. Daily anticonvulsant is not indicated if the dog has only one seizure or has isolated seizures separated by a long period of time. Daily medication is given if more than one seizure per month occurs, there are clusters of multiple seizures per day or the seizures increase in frequency.

Acute treatment: Diazepam is given to stop an active seizure. If the seizure continues after three doses of Diazepam, Levetiracetam or Pentobarbital or Propofol is given. If seizure stops with aforementioned therapy but recurs soon after, phenobarbital is administered followed by a maintenance dose or Diazepam is given with dextrose and saline.

Chronic treatment: Initial therapy given is either phenobarbital or bromide. Phenobarbital and potassium bromide are adjusted based on clinical effects and therapeutic monitoring. Serum concentrations are reached after ten days on Phenobarbital and 2-3 months with potassium bromide. Patients on either drug should be monitored on a regular basis.

## Testing

Sources of intoxication must be ruled out (lead, ethylene glycol, organophosphate, carbamate, metaldehyde). Physical exam is usually normal unless the after effects of a seizure are documented: generalized ataxia, abnormal behavior, temporary blindness. The after effects may last minutes to hours. If there is a neurological lesion causing the epilepsy, there will be persistent symptoms such as abnormal behavior, vesical defects, or hemiparesis (paralysis of one side of the body). Blood tests are usually normal in idiopathic epilepsy. Non-idiopathic epilepsy can be caused by: metabolic disorders, toxins, brain malformations, inherited degenerative diseases, encephalitis, neoplasia, vascular lesions, and head injuries.

Brain computed tomography, magnetic resonance imaging and cerebrospinal fluid analysis are normal in patients with idiopathic epilepsy. Electroencephalography may show abnormalities associated with seizure activity, but are not abnormal in idiopathic epilepsy.

*This information is not meant to be a substitute for veterinary care.  
Always follow the instructions provided by your veterinarian.*

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