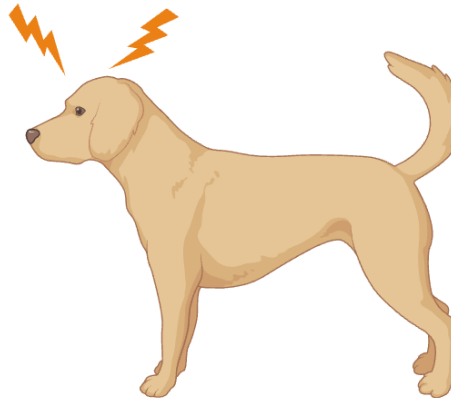


# Seizures in dogs and cats

## What is a Seizure?

A seizure, or fit, is a brief event where your pet may lose awareness and experience abnormal body movements before recovering. These episodes are short and can have a variety of causes, including neurological disorders, structural brain diseases, metabolic issues, or primary epilepsy.



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## Common Causes of Seizures

- Idiopathic Epilepsy (something you are born with)
- Liver disease or liver shunt (abnormal blood flow in the liver)
- Low blood sugar
- Head injury
- Inflammatory brain diseases
- Brain tumours or other types of brain cancer
- Ingestion of toxic substances (e.g., chocolate, chewing gum, antifreeze)

## What is an Epileptic Seizure?

Epileptic seizures often indicate a neurological origin and can vary in type. These may be focal (affecting a specific part of the body, like the face or a limb) or generalized tonic-clonic (involving the entire body).

## What is Epilepsy?

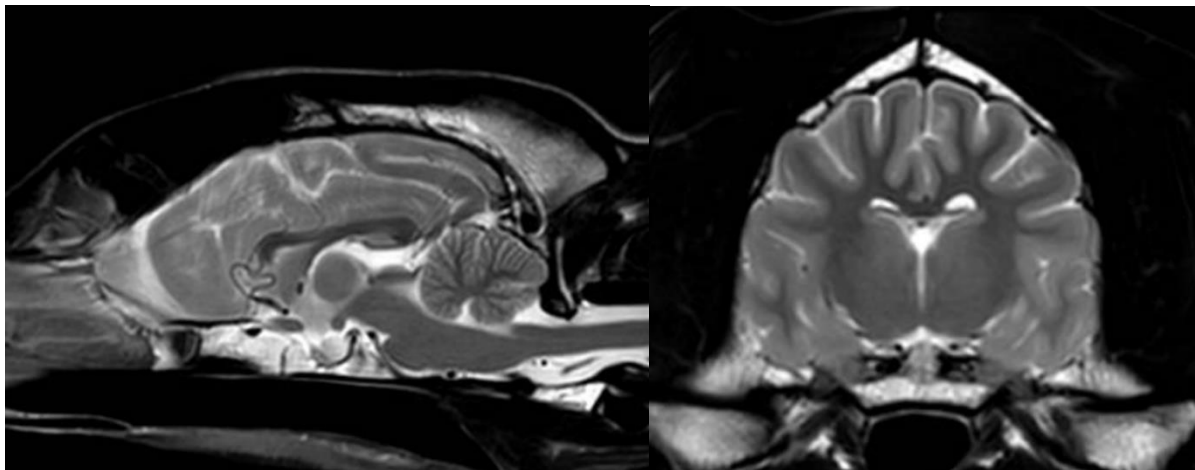
Epilepsy in pets refers to recurring epileptic seizures caused by abnormal brain activity over time. This condition can significantly impact your pet's health and lifestyle.

## What Causes Epilepsy in Pets?

The most common cause of epilepsy is primary epilepsy (also called idiopathic epilepsy), where certain breeds are more predisposed to the condition. Breeds such as Labradors, Golden Retrievers, German Shepherds, and Border Collies are often affected. While their brain structure appears normal on MRI scans, these pets experience abnormal brain function, leading to seizures. With appropriate treatment, many dogs with epilepsy can lead normal lives, though long-term anti-seizure medication may be required.

## Diagnosing Primary Epilepsy

To diagnose primary epilepsy, your veterinarian will rule out other potential causes of seizures, such as structural brain diseases or organ issues. Primary epilepsy is typically suspected in healthy, young pets (usually between 6 months to 6 years old) of breeds predisposed to the condition. Diagnostic tests, including blood work, urine analysis, MRI, CT scans, or spinal taps, can help rule out other causes. In most cases, the MRI of a pet with primary epilepsy appears normal.



## Treatment Options for Primary Epilepsy

While there is no cure for primary epilepsy, it can be effectively managed with medication. Anti-epileptic drugs like phenobarbital, levetiracetam, potassium bromide, and zonisamide are commonly used to control seizures. In some cases, pets may need a combination of medications to reach an acceptable level of seizure control. The goal of treatment is to reduce seizure frequency, but it's important to note that approximately 25% of dogs may have a poor response to treatment.

## When Should You Seek Emergency Care?

Epileptic seizures can become an emergency in the following situations:

- A seizure lasts longer than 5 minutes
- Multiple seizures occur in a short period (cluster seizures)
- Your pet remains unresponsive after the seizure ends

## Life Expectancy with Epilepsy

With proper management, dogs with epilepsy can live relatively normal lives. Seizure control is key to ensuring your pet's quality of life.

## What if There's a Structural Cause for the Seizures?

Seizures may also result from structural brain issues or other organ diseases. To learn more about these conditions, including inflammatory brain disease and brain tumors, please explore our other resources on these topics.

## Recent studies from the SATH Neurology team on these conditions

- Phillipps S, Goncalves R. (2025) High-field MRI findings in epileptic dogs with a normal inter-ictal neurological examination. *Front Vet Sci*, Jan 15
- Danciu CG, Gonçalves R, Caldero CJ, Posporis C, Espinosa J, de Decker S, Gredal H, Wyatt SE. (2025) Comorbidities, long-term outcome and poststroke epilepsy associated with ischemic stroke - A multicenter observational study of 125 dogs. *JVIM* 39(1): e17291.
- Miguel-Garcés M, Gonçalves R, Quintana R, Álvarez P, Beckmann KM, Alcoverro E, Moiola M, Ives EJ, Madden M, Gomes SA, Galban E, Bentley T, Santifort KM, Vanhaesebrouck A, Briola C, Montoliu P, Ibaseta U, Carrera I. (2024) Magnetic resonance imaging pattern recognition of metabolic and neurodegenerative encephalopathies in dogs and cats. *Front Vet Sci*, Jul 30; 11:1390971
- Linder J, Mehra J, Miller S, Lewis MJ, Bentley RT, Thomovsky S. (2024) Use of levetiracetam for the successful treatment of suspected myoclonic seizures: five dogs (2016-2022). *J Small Anim Pract* 65, 402-408.
- Fentem R, de Stefani A, Quintana RG, Alcoverro E, Jones GMC, Amengual-Batlle P, Gonçalves R (2022) Risk factors associated with short-term mortality and recurrence of status epilepticus in dogs. *JVIM* 36, 656-662.
- Nagendran A, McConnell JF, De Risio L, José-López R, Guitierrez Quintana R, Robinson K, Platt SR, Sanchez Masian D, Maddox T, Gonçalves R (2021) Seizure-induced changes: Peri-ictal magnetic resonance imaging characteristics in dogs with suspected idiopathic epilepsy. *JVIM*, 35, 1008-1017.
- Coelho AM, Maddox TW, Sanchez-Masian D, Gonçalves R (2019) Diagnostic value of cerebrospinal fluid analysis in a population of dogs with suspected idiopathic Epilepsy. *Vet Record* 185, 539
- Arrol L, Penderis J, Garosi L, Cripps P, Gutierrez-Quintana R, Gonçalves R. (2012) Aetiology and long-term outcome of juvenile epilepsy in 136 dogs. *Vet Record* 170, 335