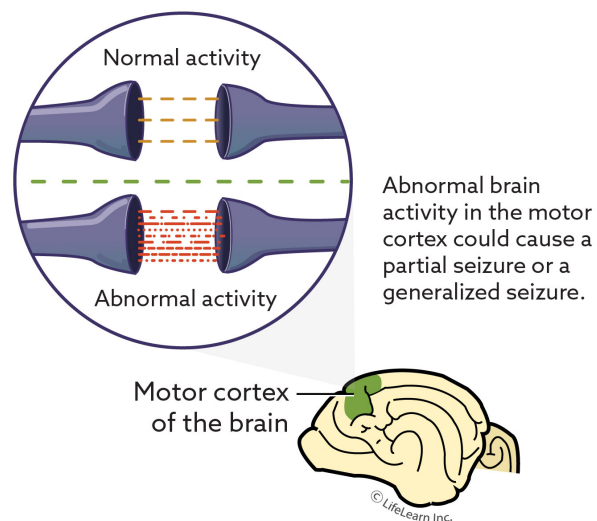


## Seizures and Syncope

### What is a seizure?

A seizure is a sudden, uncontrolled movement of the body caused by abnormal brain activity. Some dogs may have partial seizures, involving only a limited portion of the body. Many dogs have generalized, or tonic-clonic (grand mal) seizures, involving movements of the entire body and a loss of consciousness.

Seizures can be caused by a number of underlying conditions. The most common cause of seizures is idiopathic epilepsy, an inherited condition that results in increased excitability of the brain's neurons (nerve cells). Dogs with idiopathic epilepsy typically have their first seizure between the ages of six months and six years. In addition to idiopathic epilepsy, other causes of seizures include toxins, liver and kidney disease, head trauma, and brain tumors.



### What is syncope?

Syncope describes a temporary loss of consciousness and posture, also known as 'fainting' or 'passing out'. Syncope is caused by a temporary disruption in blood flow or oxygen delivery to the brain. Typically, this is caused by episodes of low blood pressure, although other internal changes can also trigger syncope. Common underlying causes of syncope include heart disease, heart tumors, emotional stress or anxiety, hypoglycemia (low blood sugar), and abnormalities in blood electrolyte levels. Additionally, some episodes of syncope are triggered by specific actions or activities, including coughing, urinating, and defecating.

**"Syncope is caused by a temporary disruption in blood flow or oxygen delivery to the brain."**

### What does a typical seizure look like?

A dog with a generalized seizure often begins showing abnormal behaviors prior to the actual seizure. Dogs may hide, whine, act anxious, tremble, or salivate for anywhere from several seconds to several hours prior to a seizure. This period is called the pre-ictal phase, or aura.

In a generalized or tonic-clonic seizure, the dog will typically be seen to suddenly fall on his side. The legs will first become stiff and this stiffening is often followed by rhythmic/jerky paddling motions. The head is often held back with the neck extended. Dogs may vocalize, will often have repeated chewing or chomping motions of the jaw, and often will salivate excessively. Typically, dogs will also urinate or defecate during seizures.

Seizures typically last approximately one to two minutes, although prolonged seizures can occur and require treatment. Once the seizure has ended, the dog will have a prolonged post-ictal recovery period, lasting up to 24 hours depending on the individual dog. During the post-ictal period, dogs are typically confused and disoriented. They may be observed to pace and wander aimlessly, while some dogs may show further signs such as blindness, and increased thirst and urination.



**"During the post-ictal period, dogs are typically confused and disoriented."**

## **What does a typical episode of syncope look like?**

A typical syncopal episode will start suddenly with no pre-ictal phase, often during physical activity and exertion. The dog may initially appear weak or wobbly and, if observed, this period will be short-lived. When the dog collapses, he will go suddenly limp. Like a dog having a seizure, he may urinate or defecate during the episode.

A syncopal dog may move his legs but these movements are typically associated with the dog trying to get back up. These movements are not like the paddling leg movements that are more commonly associated with a seizure. Syncopal dogs typically will not have chewing motions of the jaw or increased salivation. The episode will end within seconds to minutes and the dog will recover rapidly, with no post-ictal period.

## **How are seizures and syncope treated?**

Treatment is dependent on accurately determining whether your dog is experiencing seizures or syncope. Videos of your dog's episodes can be very useful in this determination.

If you and your veterinarian determine that your dog is having seizures, further workup will depend on such details as your dog's age, seizure history, and other concurrent medical issues. Most likely, the next steps will include blood work to assess cell counts, glucose (sugar) levels, and organ function. Following blood work, your dog may be started on anti-seizure medication or may be referred to a specialist for more advanced testing to assess for possible underlying neurologic causes.

If you and your veterinarian determine that your dog is having syncope, your veterinarian will likely develop a plan to evaluate your dog's heart function. Your dog may need to go on medications to help correct the underlying heart abnormality if one is detected. Based on the diagnosis, there may be other interventions to decrease the frequency of your dog's syncopal episodes.

## What is the prognosis for a dog with seizures or syncope?

Your dog's prognosis will depend on the cause of his seizures or syncope. Young dogs with idiopathic epilepsy typically respond well to treatment, while some other causes of seizures carry a more guarded prognosis. The prognosis for syncope is also dependent on the underlying cause. In some cases, avoiding triggers may be enough to eliminate your dog's risk, while other dogs may have significant heart disease that carries a more guarded prognosis. Your veterinarian will discuss your pet's prognosis more specifically once an accurate diagnosis has been obtained.

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