

# Seizures in Cats (Feline Epilepsy)

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Epilepsy is a disorder of recurring seizures. Seizures are described as an uncoordinated firing of the neurons usually within a portion of the brain called the cerebrum. The mechanisms of why these neurons do not function normally in epileptic cats is not understood, but is similar if not identical to the causes in humans. Probably certain substances called neurotransmitters are not in the proper chemical balance, so the nerves do not behave in the normal coordinated fashion. A cat with epilepsy will exhibit periodic bouts of uncoordinated firing of the neurons within the brain. These episodes are called seizures and occasionally are referred to as convulsions or "fits."

## Causes of seizures

When we are first presented with a cat that has had a seizure, we initially attempt to find the cause. Seizures can be caused by many conditions:

- Congenital defects
- Blood glucose levels that are too high (e.g.; [diabetes mellitus](#)) or too low (hypoglycemia)
- Low oxygen levels in the blood that could be caused by anemia, heart problems, or difficulties with breathing
- Kidney disorders
- Liver disorders
- Infections
- Brain tumors
- Toxins, like antifreeze, lead, or chocolate
- Fevers and hyperthermia
- Brain damage resulting from trauma or poor blood flow to the brain
- Certain medications
- Primary or idiopathic epilepsy

## Types of seizures

Partial seizures affect only a small part or one side of the body. These are often caused by a brain lesion.

Generalized seizures affect the whole body and can be divided into two types, grand mal and petit mal. Grand mal seizures are the most common. A cat experiencing a grand mal seizure usually falls on her side and has uncontrollable muscle activity such as kicking her legs as if swimming or paddling. Salivation is profuse and often the cat involuntarily urinates and defecates. The cat is unaware of you, her surroundings, or her own actions. Petit mal seizures do not result in convulsions, but the animal loses consciousness. It may look like the cat just collapsed.

The worst form of seizure is one in which the cat has one or more grand mal episodes without recovering from the first. This cat may actually be in a seizure for hours. This is termed 'Status Epilepticus' and is usually referred to simply as 'Status'. Seizures by themselves are not life threatening unless they progress into Status, in which case medical attention should be sought immediately.

## What are the phases in a seizure?

If you observe closely, you can often recognize three phases to a seizure.

**Pre-Seizure Phase:** The pre-seizure phase is commonly called the aura. Your cat may appear restless, pace, seek affection, salivate, meow, or hide. These signs occur just minutes before the actual seizure begins.

**Ictus:** The seizure itself is called ictus. Your cat may appear excited, vomit, salivate, run in circles, collapse, and have uncoordinated muscle activity. This stage generally lasts less than 5 minutes.

**Post-Ictal Phase:** After the seizure, the recovery (post-ictal) period begins. Your cat may seem disoriented, uncoordinated, and occasionally blind (temporary). This may last several minutes to days.

Rarely does a cat become vicious during a seizure. In fact, most cats will actually feel the seizure coming on and seek out the owner for comfort. During the actual seizure, a cat is unaware of his surroundings so it does little good for the owner to try to comfort the seizuring cat. It is best to be there for comfort when the cat recovers.

## What triggers a seizure?

The actual triggering of a seizure is unknown, but many cats tend to seizure during periods of excitability. Some cats have been known to seizure while sleeping.

How is epilepsy diagnosed?

First, a detailed history is needed. A physical and neurologic exam are performed by your veterinarian, a panel of laboratory tests are run, and sometimes x-rays (radiographs) are taken. If a cause of the seizure can not be identified, the condition is diagnosed as idiopathic or primary epilepsy. There is no test to diagnose epilepsy per se, our tests simply rule out other causes of seizures.

What type of information can the owner provide to help the veterinarian make the diagnosis?

It is helpful if you, the owner, can give your veterinarian answers to the following questions:

- What does your cat look like when he is having seizures?
- What is the duration of each seizure and how often do they occur?
- Are there signs that only appear on one side of your cat (is one side worse than the other)?
- Has your cat had a high fever?
- Has your cat been exposed to any toxins?
- Has your cat experienced any trauma recently or years ago?
- Is your cat current on vaccinations?
- Has your cat been recently boarded or with other cats?
- Has your cat had any other signs of illness?
- Has your cat been allowed outside in the last several weeks?
- What and when does your cat eat?
- Has your cat had any behavior changes?
- Do the seizures occur in a pattern related to exercise, eating, sleeping, or certain activities?
- Does your cat show different signs right before or right after the seizures?

Are some cats more prone to epilepsy?

Epilepsy generally starts in cats 1-4 months of age

Epilepsy occurs in all breeds of cats, including mixed breeds. Epilepsy can be a genetic trait. It can even be familial, which means the epileptic disorder can pass down through generations within one family. It is recommended that cats with epilepsy should not be used for breeding, since this tendency can be inherited.

How is epilepsy treated?

Treatment for epilepsy is usually not begun until a seizure is severe or multiple seizures have occurred and a pattern is observed. It is very important to know the pattern of seizures in your cat so your veterinarian can determine if the treatment is helping.

**TREATMENT IS NEVER CURATIVE.** The goal is to decrease the frequency, severity, and duration of the seizures.

Medications used to treat epilepsy are given orally. Each cat reacts differently to the medications. Your veterinarian may need to try different types or combinations to find what will be right for your cat. Many cats will become sleepy when they first start medication, but this soon wears off after several weeks.

The drugs most commonly used to control epilepsy are [phenobarbital](#) and [potassium bromide \(KBr\)](#), either used singly or in combination with each other. They must be given every day. Blood levels are generally checked periodically, and laboratory testing prior to placing the cat on phenobarbital, especially, is recommended. Once medication has started it is IMPORTANT to NOT suddenly discontinue or 'skip' a dose of medication. Severe seizures could result. In general, most cats on anticonvulsant therapy will need to continue the medication for life. Other drugs that have been used to treat epilepsy in cats include primidone, gabapentin, clonazepam, and chlorazepate.

If a cat experiences prolonged seizures referred to as Status, injectable drugs such as valium are administered intravenous for rapid effect.

Phenobarbital and related anti-epileptic drugs can have side effects on the liver, especially if high dosages are required. We usually suggest liver function tests before we adjust dosages upward. Although this is a good practice, it is very rare to see liver damage even at high levels.

It is common for one dosage level of medication to work for a period of time, then have the seizures increase in length or frequency. In these cases, the drug dosages may be adjusted. If the treated cat goes months with no seizures, then we may try a lower dosage, which may still control the seizures. We might add here that we have all of our clients keep a calendar or log of the seizures, recording the date and length of time they lasted. This makes it easier for us to determine if adjustments are necessary. Obviously, the owner may miss some episodes, since they can not watch their cat every minute, but the calendar is beneficial.

What should I do if my cat has a seizure?

1. Remain calm.
2. Do not put your hand in your cat's mouth. This will not help your cat and you may be bitten. (Contrary to popular belief, a cat will not swallow his tongue.)
3. To prevent injury to your cat, remove nearby sharp or hard objects (e.g.; tables and chairs).
4. If the cat is on a couch or human bed, lower the cat to the floor, if it can be done safely. This will avoid any injury from falls.
5. Remove children and other pets from the area.
6. Observe your cat closely. Call your veterinarian if the seizure lasts more than 3 minutes, or if your cat has one seizure right after another. Severe and long seizures are a medical emergency and can be fatal.

A single, mild seizure is not an emergency and rarely indicates the need for long-term treatment. But at a convenient time, you should call your veterinarian and report what occurred. Be sure to record the date, time, and duration of any seizure.