

## Dog Seizures Start in the Brain

**An expert answers your canine healthcare questions.**

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**Q.** Lacey, my 3-year-old black Lab, has had seizures since she was 6 weeks old. My vet put her on phenobarbital six months ago after a prolonged seizure. The episodes are not as long or bad as they were before the phenobarbital, but Lacey has a 10- to 15-minute seizure almost every day. Blood tests have come back negative and, except for her seizures, she is a normal, playful dog. What causes seizures? Do they cause her pain? Will she ever be free of them?

**A.** Seizures are episodes of uncontrolled musculoskeletal activity caused by a series of faulty messages from the brain. They are caused by overstimulation or irritation of certain areas in the brain or by abnormal inhibitory controls and connections between nerves. When obvious causes are ruled out, idiopathic epilepsy is a common diagnosis.

The condition has a genetic component common in Labrador Retrievers. However, seizures usually begin between 6 months and several years of age. Lacey's early onset suggests the possibility of other conditions, such as congenital brain deformities (birth defects), abnormal glucose (sugar) metabolism or abnormal passage of blood through the liver. The liver is essential for removing toxins from blood; without the filter, toxins may affect the rest of the body and cause seizures. The filtering process is most important after a meal; seizures associated with abnormal liver function are seen shortly after eating.

You mentioned blood tests but did not indicate specific tests or if they were run close to the time of an episode. Some cases require blood work at the time of an episode. A veterinarian should check Lacey's blood-glucose at the time of a seizure and specific liver functions if this has not been done. The doctor also can test for abnormal toxin buildup by checking the blood-ammonia level at the time of an episode. Hypothyroidism (low thyroid levels) also can cause or contribute to seizures.

If idiopathic epilepsy is indeed the diagnosis, phenobarbital is the mainstay treatment. Though Lacey's seizures are not fully controlled, she has responded to the drug and might benefit from an increased dosage. Prior to any adjustment, however, check her blood level of phenobarbital at the time of a seizure or at the lowest point of the day, right before the next pill is due. If levels are low, the dosage should increase. If within or higher than the desirable range and seizures persist, try additional or alternative medications. Ask your veterinarian about diazepam (Valium) or potassium bromide.

Seizures are not painful for dogs, though injuries may occur during an episode and some dogs seem stiff or sore afterward. Given her history, Lacey probably will never be completely seizure-free, but continue working with your veterinarian to control her quality of life.