

GRR Health

Canine Epilepsy In Golden Retrievers

by Kathy Burton

Foster Coordinator and Bob's "mom"

If Gold Ribbon Rescue had been operational back in 1995 when Bob came along, he would have been the classic rescue story. By the time Bob came to us he was 3 months old and we were his third home. Bob had been a surprise gift to a young woman living in an apartment from an

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ardent suitor. Surprise!, she did not want the suitor and did not want the puppy. His next home was a nice family living in Lakeway in a house with no back yard and a young son they soon discovered was allergic to dogs. I brought Bob home to join our family of one golden girl, age of 6 and a formerly homeless cat. Bob adjusted very well, loved us, loved his companions, and LOVED tennis balls. All was well until late one summer evening when Bob was with us in the backyard happily fetching tennis balls and suddenly collapsed and went into convulsions. We were fortunate the vet's clinic is very close to our home and even though it was after 10:00 pm on a Sunday night, our vet was at the clinic tending to a horse. We waited while Bob, then 4 years old, was examined fearing that he had heat stroke. The vet told us she did not think it was heat related and after running tests could not determine a specific cause.

"Sometimes dogs just have a one time seizure and other times it reoccurs, all you can do is watch him and call me if it happens again". It did and that was the beginning of our life with an Epileptic dog.

What Epilepsy is: An electrical storm which occurs in the brain when there is an over or under firing of nerve-signal cells within the brain. Seizures are a result of muscle responses to this abnormal chaos of nerve-signal bursts. It can be caused by many factors and affects many breeds. The Golden Retriever is among the breeds typically suspected as having a possible genetic link. It is also becoming more common in mixed breeds as well. The age of onset of the seizures can sometime give a clue as to the cause:

Less Than 1 Year of Age: Genetic links, birth defects such as Hydrocephalus (water on the brain), inflammatory diseases such as canine distemper, parasitic, bacterial, or fungal infections, metabolic problems such as hypoglycemia or diabetes, autoimmune thyroiditis, electrolyte disorders, and trauma as a result of an acute injury or accident.

Between 1-5 Years of Age: Inflammatory diseases as listed above, metabolic such as thyroid dysfunction, portosystemic shunt, hypoglycemia, diabetes, electrolyte disorders, toxic exposure and/or sensitivity to lead and chemicals, drug & vaccine sensitivity, and trauma as listed above.

Five Years of Age or Older: Immune mediated infections, vascular conditions such as blood clots, high blood pressure, spasms of the blood vessels themselves, stroke, metabolic causes as listed above, toxic exposure and chemical sensitivity, brain tumor, as well as traumatic injury or accident.

There are tests that should be done to rule out secondary factors before a diagnosis of inherited (primary) epilepsy are made:

- Blood tests to check for lead poisoning, toxins or infectious antibodies present in the blood.
- Glucose tolerance test to check for hypoglycemia.
- Thyroid panel to check for hypothyroidism or low thyroid function (while it is not believed to be a direct link of low thyroid function to epilepsy a recent study did show that out of 634 dogs tested 77% of the dogs that tested as hypothyroid also had seizures). *see August 2002 edition of Gold Ribbon Gazette for Monique's article on thyroid problems in Golden Retrievers.
- Cerebrospinal fluid analysis to check for encephalitis, distemper or other infection.
- CT scan or MRI to check for a brain lesion or tumor.

When a cause cannot be established after testing it is classified as Idiopathic Epilepsy also called primary, inherited, or genetic. It is the most common diagnosis of epilepsy in dogs today. If the seizures occur frequently medication is usually prescribed. There is some controversy in prescribing AED's (anti-epilepsy drugs). One school of thought is drugs should not be prescribed until the seizures become frequent or occur in clusters (more than 3 seizures within a 24 hour period) due to the possible side



effects to liver functions. The other school of thought is to prescribe an AED if seizures reoccur soon after the first one to help prevent what is referred to as “mirroring” in the brain. Mirroring is the theory that seizures which start on only one side of the brain can in time “mirror” themselves on the other side of the brain and therefore increase the frequency of the seizures. This may be why some dogs are more easily controlled with the use of drugs than others.

There are two anti-epilepsy medications commonly used to control canine seizures. Phenobarbital, used to be the most common first line AED. It is a strong, addictive sedative which is processed through the liver (dogs on PB should have blood tests to check liver function on a regular basis as recommended by their veterinarian). Side effects of PB can include increased hunger, thirst, drowsiness, and hindquarter weakness. These side effects usually diminish after the dog has been on the medication for a period of time. Phenobarbital is often effective in reducing the number and/or the intensity of the seizures. Dosage is based on weight and adjusted as needed. Reducing or stopping the administration of Phenobarbital should only be done under the supervision of a veterinarian as severe seizures can result if medication is suddenly stopped or reduced too quickly.

Potassium or Sodium Bromide is used as a sedative itself and often in conjunction with Phenobarbital. Since it is not processed through the liver it is often used when liver damage requires a reduction in PB dosage. It must be prepared by a compounding pharmacy but dosage can be adjusted more quickly than the Phenobarbital without risk of severe withdrawal seizures. There are different types of seizures all of which can be quite unexpected and startling to the person witnessing them.

■ **Petit Mal (Generalized seizures)**—smaller motor movements characterized by facial twitching, staring into space with a fixed



Bob

glaze and/or upward eye movement, sometimes accompanied by loss of bladder (leaking).

- **Grand Mal (Generalized)**—Loss of consciousness, rigid limb extension, may have paddling motion of limbs on one side. In some cases, but not all, there is salivation, loss of bladder and/or bowel control and vocalization (a crying scream). Humans who experience Grand Mal seizures report they do not feel pain (result of loss of consciousness) and it is surmised that dogs do not either, the vocalization is NOT an indication of pain but rather simply an area of the brain that is affected during the seizure causing the vocal outburst. It must be said however that it tends to be very disconcerting to the owners.
- **Focal Seizures (also called partial seizures)**—These seizures affect only a part of the brain and thus just a part of the body is affected. Focal seizures are more likely from secondary epilepsy.

What Epilepsy is NOT is a death sentence, it is not a disability, nor does it curtail normal exercise and play. It does not interfere with the love your dog has for you and your love for your dog. Many owners are even more bonded to their epi dogs than their non-epi dogs. With medication, and sometimes alternative methods, many dogs can be seizure free for long periods of time. Often seizure “triggers” can be identified and

eliminated. Examples are avoiding dog food with artificial preservatives (Ethoxyquin, BHT & BHA) providing fluoride free drinking water by using a reverse osmosis water filter, adding vitamins and minerals to the diet and supplementing high quality kibble with enzymes (see recommended web sites and reading for additional information on canine epilepsy, alternative treatments, diets etc.). Seizure dogs do not necessarily have a reduced life span nor do they have any reduction in the quality of their lives. They live happily like any other dog and just have their days where they sleep through the event you watch wide awake!

And how is the big red dog, Bob? He’s now 7 years old, has been on Phenobarbital for almost two years and has been seizure free for the past 15 months. He still has his girl golden and the kitty as pals and will always have us as his forever family.

Recommended books on Canine Epilepsy (both can be purchased on www.amazon.com):

[Canine Epilepsy](#) by Carol Levin (ISBN 0-9672253-3-7 pub. June 2002)

[Earl Mindell's Nutrition & Health for Dogs](#) (ISBN 0-7615-1158-X pub. 1998)

Recommended Web Sites: www.canine-epilepsy.com and www.canine-epilepsy-guardian-angels.com

