

## Could Nutrition Help Manage Your Dog's Epilepsy?

There's a growing body of evidence suggesting food and supplements can affect the disease process in dogs with epilepsy with no known cause, or idiopathic epilepsy. By changing your dog's brain's energy source and other dietary factors, you may be able to improve your pet's disease outcome.

**Analysis by Dr. Karen Shaw Becker**

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### STORY AT-A-GLANCE

- Recent research published in The Veterinary Journal investigated the role of different diets in the management of idiopathic (no known cause) epilepsy in dogs
- The researchers concluded that at this time, “only MCT-enriched diets can be supported with a satisfactory level of scientific evidence in veterinary medicine”
- Anecdotal studies show that achieving the metabolic state of nutritional ketosis with a ketogenic diet (i.e., high fat, adequate protein, very low carbohydrate) is also very helpful in managing epilepsy in pets
- When it comes to epilepsy medications, many dogs’ seizures aren’t well controlled on these drugs, all of which carry potential adverse side effects
- Thankfully, nutritional interventions and potentially beneficial adjunctive therapies, including a well-formulated ketogenic diet and CBD, can prove very successful in managing epilepsy in dogs

An international team of veterinary researchers recently published a literature review in The Veterinary Journal titled “The role of nutrition in canine idiopathic epilepsy management: Fact or fiction?”<sup>1</sup> Their investigation was prompted by a growing body of scientific evidence that suggests diet affects the disease process in dogs with epilepsy that has no known cause (aka idiopathic epilepsy or simply, IE). According to the study co-authors:

*“Diets can serve their functions through many pathways. One potential pathway includes the microbiota-gut-brain axis, which highlights the relationship between the brain and the intestines. Changing the brain's energy source and a number of dietary sourced anti-inflammatory and neuroprotective factors appears to be the basis for improved outcomes in IE.”<sup>2</sup>*

Studies show that the gastrointestinal microbiome plays an important role in both the development and management of epilepsy. Both humans and canines with epilepsy have different GI microbiota compared to healthy counterparts, which suggests that dysbiosis (leaky gut syndrome) plays a role.

In addition, a 2018 study in mice demonstrated that a ketogenic diet increased seizure threshold (resulting in fewer seizures),<sup>3</sup> and another 2018 study showed that performing fecal transplants from stressed to non-stressed rats increased the latter group’s susceptibility to epilepsy.<sup>4</sup>

## Nutrition Should Be Further Evaluated as a Treatment for IE

The research team reviewed scientific literature on ketogenic and medium chain triglyceride (MCT)-enriched diets, along with other types of dietary interventions (e.g., elimination diets and gluten-free diets).

Ketogenic diets were used as far back as the 1920s in human medicine as a treatment for drug-resistant epilepsy. However, as more anti-seizure drugs (ASDs) were developed, the diets became less popular. Nowadays, they are re-gaining traction given that the percentage of drug-resistant patients has not significantly improved. The study co-authors concluded that:

*“It is a fact that nutrition should be considered in the management of dogs with IE alongside ASDs. However, only MCT-enriched diets can be supported with a satisfactory level of scientific evidence in veterinary medicine, whereas scientific evidence for the majority of the nutritional interventions discussed remains limited, thus leaving important opportunities for future research.”<sup>5</sup>*

## Dietary Management of Canine Epilepsy

If your dog has a seizure disorder, nutrition-related health issues can cause or exacerbate the condition. One problem is food allergies, which can cause a systemic inflammatory response that can decrease your dog’s seizure threshold.

Another issue is that most commercially available ultraprocessed pet food contains synthetic chemicals, chemical dyes, preservatives, emulsifiers, and other ingredients that can also cause systemic inflammation and decrease seizure thresholds. In some cases, the potentially seizure-inducing contaminants in pet food are many times higher than the legal human limits.<sup>6</sup>

If done correctly, achieving the metabolic state of nutritional ketosis with a ketogenic diet has proven very successful in managing epilepsy in pets, and in fact, it’s the standard of care for human pediatric epilepsy.<sup>7</sup>

Thankfully, the veterinary community is also recognizing the neuro-metabolic benefits of reducing dietary starch (sugar) and increasing brain-friendly fats (specifically medium chain triglycerides, MCTs), which are increasingly being used in veterinary nutrition protocols (and “prescription diets”) to decrease seizure potential.

This way of feeding respects your dog’s evolutionary biology, and in addition, other symptoms may also improve on this diet, including a reduction in inflammatory disease. By keeping net carbs low, the body’s level of insulin is reset to a much healthier, lower level, which reduces metabolic stress on every cell in the body.

In my 2017 documentary with Rodney Habib we discussed the benefits of a ketogenic diet as a means of controlling cancer, but this diet has also been used to control epilepsy in many dogs. You can read about **Sasha**, a little dog with seizures who was put on a ketogenic diet in 2014. I have also found this strategy useful in helping dogs who have seizures after application of certain flea and tick pesticides.

## Additional Natural Therapies for Seizure Disorders

Seizure disorders are unfortunately fairly common in dogs, and some don't do well on traditional epilepsy drugs like phenobarbital and potassium bromide, and virtually all these drugs produce adverse side effects and long-term consequences that should be concurrently managed. My preferred drug for epilepsy, levetiracetam (Keppra), is often cost-prohibitive for many pet parents who don't have insurance.

The good news is there are several natural adjunctive therapies available that can help increase a dog's seizure threshold. One or more of the following can be used in conjunction with nutrition and conventional medications to decrease seizure potential, including:

- Chiropractic and acupuncture
- Traditional Chinese medicinals (TCM), click [here](#) to find a vet that has TCM training
- Herbal formulas (including cannabis extracts)

In a recent successful pilot study published in the Journal of the American Veterinary Medical Association,<sup>8</sup> a CBD (cannabidiol) product derived from a hemp plant significantly reduced seizure frequency in 89% of epileptic dogs. (Hemp-based CBD typically contains 0.3% or less of the psychoactive component of cannabis, THC.)

The study involved 16 family dogs who received either the treatment (CBD-infused oil) or a placebo for 12 weeks. All the dogs remained on standard anticonvulsant drugs throughout the study.

The researchers found that 89% of dogs who received CBD experienced a significant reduction (median change of 33%) in the frequency of seizures. The research team also noticed an important correlation between the degree of seizure reduction and the amount of CBD concentration in the dogs' blood.

In mild cases of canine seizure disorder, natural treatments plus a dietary change are often all that is needed to successfully manage the condition. For animals with frequent grand mal seizures, I typically create an integrative protocol of natural therapies and drug therapy.

I always ask pet parents to keep a log of the dates, times, and intensity of seizures. Often there are links between seizures and a particular time of month or year. If we identify a cycle, we can develop a plan to control the episodes using the safest effective treatment options available.

Animals with seizures should be titered, not automatically re-vaccinated, and should never receive chemical pesticide application. While seizures can be a very serious and truly frightening condition in pets, the best way to care for your dog is to arm yourself with knowledge about what to expect and how to react, along with designing a proactive preventive protocol with the help of an integrative veterinarian.

## Sources and References

<sup>1, 2, 5</sup> [Verdoodt, F. et al. The Veterinary Journal, Volume 290, December 2022, 105917](#)

<sup>3</sup> [Olson, C.A. et al. Cell, 2018 Jun 14;173\(7\):1728-1741.e13](#)

<sup>4</sup> [Medel-Matus, J-S et al. Epilepsia Open, 2018 Apr 9;3\(2\):290-294](#)

<sup>6</sup> [TruthAboutPetFood.com](#)

<sup>7</sup> [The Charlie Foundation](#)

<sup>8</sup> [Journal of the American Veterinary Medical Association, June 1, 2019, Vol. 254, No. 11, Pages 1301-1308](#)