



## RESEARCH PROGRESS REPORT SUMMARY

**Grant 02323:** Efficacy of Cannabidiol (CBD) for the Treatment of Canine Epilepsy

**Principal Investigator:** Stephanie McGrath, DVM, MS

**Research Institution:** Colorado State University

**Grant Amount:** \$356,022.00

**Start Date:** 12/1/2017 **End Date:** 11/30/2020

**Progress Report:** Mid-Year 2

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*(The content of this report is not confidential and may be used in communications with your organization.)*

### Original Project Description:

Epilepsy is the most common neurologic condition in dogs. Approximately 20-30% of dogs receiving standard therapy remain uncontrolled for their seizures. Additionally, the side effects of the antiepileptic drugs (AED) are often unacceptable. Thus, there is a need for an AED that is efficacious with minimal side effects. Cannabidiol (CBD), a prominent non-psychotropic component of the Cannabis sativa plant, has been shown to have anti-convulsant properties. While CBD offers promise as a treatment for canine epilepsy, controlled studies are needed to prove its effectiveness. In this randomized, double-blinded, placebo-controlled, crossover clinical trial, client-owned dogs with uncontrolled epilepsy will be enrolled following a full seizure evaluation, including bloodwork and magnetic resonance imaging. The canine patients will first receive either a placebo or CBD in addition to their standard AED protocol and then the opposite drug in this crossover designed study. Seizure frequency and medication side effects will be monitored by owners using a seizure log and questionnaire. Regular CBD plasma concentrations, routine bloodwork and serial physical examinations will be monitored by the investigator. The primary goal of the study is to determine the efficacy of CBD in the treatment of canine epilepsy. If CBD is effective in decreasing seizure frequency, it has the potential to improve the quality and length of life for dogs with uncontrolled epilepsy, and add a much-needed tool for veterinarians in the treatment of canine epilepsy.

### Publications:

Hartsel, J. A., Boyar, K., Pham, A., Silver, R. J., & Makriyannis, A. (2019). Cannabis in Veterinary Medicine: Cannabinoid Therapies for Animals: Clinical Efficacy of CBD for Treating Osteoarthritis and Refractory Epilepsy in the Dog: A Pilot Study. In R. C. Gupta, A. Srivastava, & R. Lall (Eds.), *Nutraceuticals in Veterinary Medicine* (pp. 121–155). [https://doi.org/10.1007/978-3-030-04624-8\\_10](https://doi.org/10.1007/978-3-030-04624-8_10)



**Presentations:**

1. AVMA Annual Conference, 2018
2. CVMA Annual Conference, 2018
3. CSU CVMBS Annual Conference, 2018
4. CVMA Big Ideas Symposium, 2019
5. AKC-sponsored VetVine Webinar, 2019
6. AzVMA Annual Meeting, 2019

**Report to Grant Sponsor from Investigator:**

The preparations for the CBD epilepsy study were started in December 2017, including hiring a full-time research assistant and part-time work/study student, creating all of the study documents necessary for the trial, and creating a newsletter/announcement for Colorado veterinarians. We began enrolling patients for the study at the end of January 2018. We anticipated enrolling 20 patients per year; therefore, we are on track with 31 patients in 17 months. Additionally, we have started having outside clinics in Colorado help us in the enrollment process of the study. Local neurologists are conducting the study with CSU's oversight at their hospitals and general veterinarians are helping with the recheck appointments and blood draws. Our study has gained a lot of press, which has helped generate interest in the study from pet owners and veterinarians. At this point in the study, we have not encountered any obstacles. No adverse effects have been noted. For the summer, we had been fortunate enough to hire a summer research veterinary student from Cornell, Samantha Thomas.