



Monday, November 11th 2019



New Mexico State Department of Health
Medical Cannabis Advisory Board
Medical Cannabis Program
PO Box 26110
Santa Fe, NM, 87502-6110

Petition: Requesting The Inclusion Of A New Medical Treatment: Medical Cannabis Therapy For Seizures in Animals

(A medical cannabis card would be issued to a person as a qualified caregiver. Doctors of Veterinary Medicine are allowed to recommend under the current law's requirement and the New Mexico Board of Veterinary Medicine allows DVM's to discuss cannabis options. This Petitioned medical treatment is the missing link.)


- **There is no aspect of the current medical cannabis program laws that would prevent this new medical treatment for Medical Cannabis Therapy For Seizures in Animals from being approved into the Medical Cannabis Program. Doctors of Veterinary Medicine are qualifying medical professionals who can recommend medical cannabis.**
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Table of Contents

Pg. 1	Cover Page
Pg. 2	Table of Contents and Petition Background
Pg. 3 - 13	Petition Narrative and Research
Pg. 13-14	Petition Conclusion

Petition Can Be Viewed in Original Format Online At:
<http://lecuanmmcpmcabpetitions.blogspot.com/>

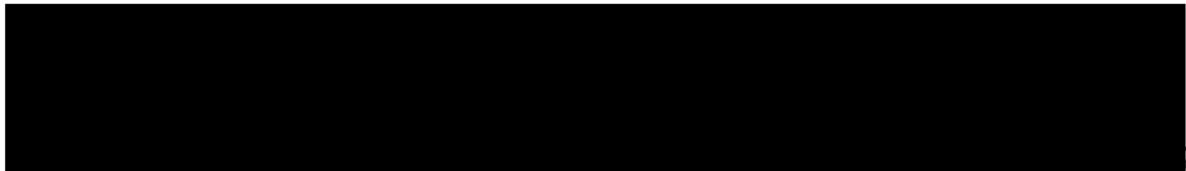
Petition Purpose and Background

Petition: Requesting The Inclusion Of A New Medical Treatment: Medical Cannabis Therapy For Seizures in Animals

(A medical cannabis card would be issued to a person as a qualified caregiver. Doctors of Veterinary Medicine are allowed to recommend under the current law's requirement and the New Mexico Board of Veterinary Medicine allows DVM's to discuss cannabis options. This Petitioned medical treatment is the missing link.)

The purpose of this Petition Requesting The Inclusion of a New Medical Treatment: Medical Cannabis Therapy For Seizures in Animals. And there is no aspect of the current medical cannabis program laws that would prevent this new medical treatment for Medical Cannabis Therapy For Seizures in Animals from being approved into the Medical Cannabis Program. Doctors of Veterinary Medicine are qualifying medical professionals who can recommend medical cannabis.

The use of cannabis as medicine for animals has been getting a lot of attention in the medical, scientific, and pet owning communities. One of the potential uses showing the most promise is in the treatment of seizures. And many of these animals have already been the research subjects enable current qualifying medical conditions in the medical cannabis program today. Ultimately there has been more cannabis research already tested on animals than compared to humans.



Meet Tecumseh, he's my dog and 5 years old and he has the canine version of dravet syndrome - a rare, catastrophic, lifelong form of epilepsy.



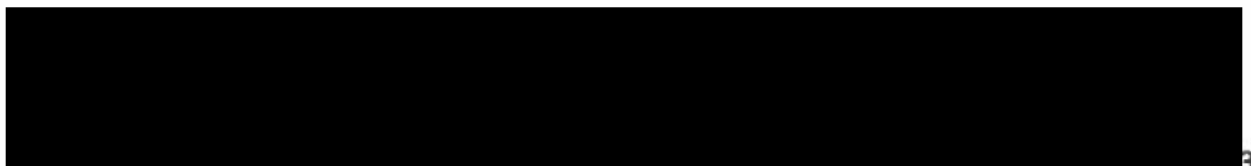
(Tecumseh in pre-seizure state.)

Watch Tecumseh on YouTube suffer a seizure (warning: not an easy video to watch):

<https://www.youtube.com/watch?v=JTYIzYSNBZA>

The intent of [REDACTED] is to establish The Inclusion of a New Medical Treatment: Medical Cannabis Therapy For Seizures in Animals for Veterinary Medical Cannabis access to the states Medical Cannabis Program to:

- (a) Prevent the potential danger of animal abuse by regulating the use of medicinal cannabis on animals.
- (b) Give veterinarians the tools they need to treat their patients effectively without the fear of jeopardizing their license.
- (c) Ensure that access is readily available to animal patients.
- (d) Further research and knowledge throughout the health care system and for health care practitioners regarding medicinal cannabis.



The use of cannabis to treat seizures is nothing new. Cannabis has been described as a therapy for people with seizures for hundreds, if not thousands, of years. ^{1, 2}

In recent years, cannabis, and cannabidiol (CBD) in particular, are once again being considered for the treatment of seizures in both humans and animals.

In ancient times, cannabis was used for seizures based purely on observational data, but today in-depth scientific research is being conducted to determine how and why cannabis is beneficial in the effort to determine how best to limit, and hopefully eliminate, seizures.

THE SCIENCE OF CANNABIS AND EPILEPSY

Despite the renewed interest and availability for research funding, the mechanisms by which cannabis effects seizures are still unclear. One consideration is a specific receptor on neurons, known as “GPR55,” which is thought to mediate seizure activity through regulating the excitability of neurons. CBD appears to limit GPR55’s ability to cause neuronal excitation which is speculated to reduce seizures.

Additionally, some studies have shown epileptic patients to have reduced anandamide (AEA) concentrations in their cerebrospinal fluid and/or alterations in their CB1 receptors. AEA is one of the naturally occurring neurotransmitters in the body that regulates the endocannabinoid system (ECS). CB1 receptors, also part of the ECS, are binding sites for AEA and changes in AEA and/or CB1 receptors are presumed to lead to changes in levels of other neurotransmitters that may ultimately lead to seizure activity. Tetrahydrocannabinol (THC) binds CB1 receptors and, in this way, may reduce seizure activity. ^{3, 4}

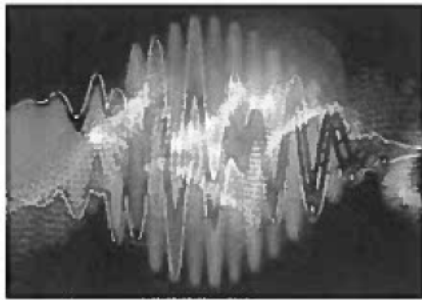
The FDA-approved pharmaceutical Epidiolex is a single-molecule CBD formulation used to treat two forms of pediatric epilepsy.

Pre-clinical research into other cannabinoids and terpenes suggest other compounds found in cannabis may also be effective for seizure treatment. For practical and legal reasons, however, much of the current research focuses on CBD.

Although the exact reasons why cannabis compounds have a positive effect on seizures are not crystal clear, great strides have been made with regards to their therapeutic use.



In 2018, the FDA approved the first cannabis-derived pharmaceutical, Epidiolex. A single-molecule CBD formulation, Epidiolex is approved for the use of refractory seizures in two forms of pediatric epilepsy known as Lennox-Gastaut and Dravet Syndromes. Not only is Epidiolex of great benefit for the children it helps, the drug also represents a huge step forward in the federal government's acknowledgement of the medicinal value of cannabis.



[Related story](#)

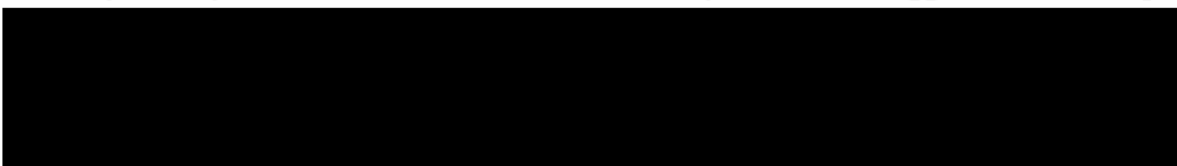
[Epilepsy & Seizures](#)

<https://www.projectcbd.org/cbd-for/epilepsy>

HOW DOES THE SCIENCE RELATE TO ANIMALS?

Veterinary specific research has also taken a big step forward this year with the publishing of the first clinical trial evaluating the effects of CBD on seizures in epileptic dogs. The study, conducted at Colorado State University, evaluated seizure frequency in dogs with and without the use of CBD. Results showed an 89% reduction in seizure frequency in dogs who received 2.5 mg/kg CBD twice daily compared to a 43% reduction in dogs not receiving CBD. Both groups of dogs were receiving other anti-seizure pharmaceuticals at the time of the study which is the reason the group not receiving CBD had a large reduction in seizures, as well. While these results are considered statistically significant, they are certainly not as dramatic as many hoped they would be. The authors noted this in their conclusions and stated further studies are warranted to see if higher doses of CBD may be more beneficial in the treatment of seizures in dogs. ⁵ Dogs who received 2.5 mg/kg CBD twice daily experienced an 89% reduction in seizure frequency.

One specific point to note about the study is the CBD formula used was not a CBD “isolate.” The hemp-based formula contained “trace amounts of other cannabinoids” which may or may not have contributed to its efficacy. Research suggests that multiple



cannabinoids (CBD, THC, and others) as well as terpenes have anti-seizure properties and it may be that greater effects can be found with a “broader spectrum” formulation. Speaking from the perspective of the benefits of “whole plant medicine,” [broad spectrum](#) formulations are usually more effective than single components. That said, from a research perspective, using pure CBD would clarify what effects are specific to the one compound.

Anecdotal reports from pet owners and veterinarians suggest that cannabis can not only reduce seizure frequency, it may be able to lessen seizure severity, shorten recovery time, and potentially even prevent an imminent seizure if the animal is medicated at the first signs of trouble.

Cannabinoid CB1 & CB2 Receptor Locations in Dogs

HOW IT FUNCTIONS

The ECS has two kinds of receptors:
CB1 & CB2

CB1 receptors are mostly in the brain and central nervous system

CB2 receptors are mostly in peripheral organs, especially immune cells

CB2


- Spleen
- Bones
- Skin
- Olfactory cells (parts of brain)

CB1

- Brain
- Lungs
- Vascular system
- Muscles
- Gastrointestinal tract
- Reproductive organs

CB1+CB2

- Immune system
- Liver
- Bone marrow
- Pancreas
- Brainstem




Cannabinoid Receptor Locations in the Dog Brain

CEREBRAL CORTEX
PLAYS A ROLE IN MEMORY, THINKING, AWARENESS AND CONSCIOUSNESS

HYPOTHALAMUS
GOVERNS METABOLIC PROCESSES SUCH AS APPETITE

AMYGDALA
PLAYS A ROLE IN EMOTIONS

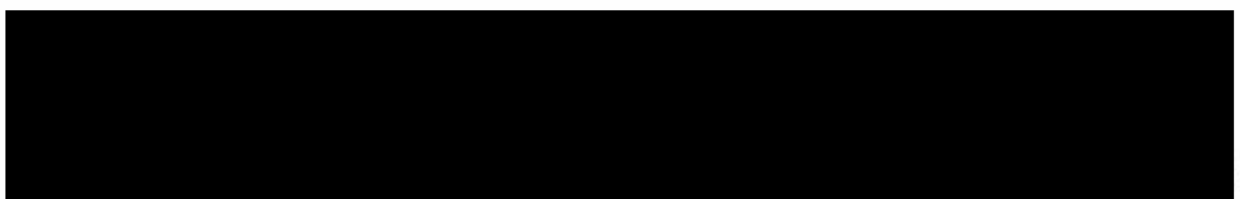
HIPPOCAMPUS
IS KEY TO MEMORY STORAGE AND RECALL



BASAL GANGLIA
GOVERNS MOTOR SKILLS AND LEARNING

CEREBELLUM
GOVERNS COORDINATION AND MUSCLE CONTROL

BRAIN STEM
CONTROLS MANY BASIC FUNCTIONS INCLUDING VOMITING REFLEX, BLOOD PRESSURE AND HEART RATE. ALSO PLAYS A ROLE IN PAIN SENSATION, MUSCLE TONE & MOVEMENT



With research ongoing, we certainly see promise in the use of CBD, and potentially other cannabinoids, for the treatment of seizures in animals. That said, cannabis as medicine should be used with caution. CBD given at moderate to high doses can potentially effect blood levels of other medications, including anti-seizure drugs. Because of this, it may be necessary to monitor levels at the beginning of cannabis therapy. For the safety of your furry family members, always consult with your veterinarian before starting any form of cannabis therapy for your pet.

BY Gary Richter on October 30, 2019 For [ProjectCBD](#)

Gary Richter, MS, DVM, CVA, CVC, GDWVHM, a Project CBD contributing writer, is an Oakland-based veterinarian. His articles focus on practical information for using cannabis to treat medical conditions in pets.

FOOTNOTES

1. Zaheer S, Kumar D, Khan MT, Giyanwani PR, Kiran F. Epilepsy and Cannabis: A Literature Review. *Cureus*. 2018;10(9).
2. Alison Mack; Janet Joy. *Marijuana As Medicine?: The Science Beyond the Controversy*. 2000; National Academies Press.
3. Perucca E. Cannabinoids in the Treatment of Epilepsy: Hard Evidence at Last?. *J Epilepsy Res*. 2017;7(2):61–76.
4. Bazelot, M, Whalley, B, Investigating the Involvement of GPR55 Signaling in the Antiepileptic Effects of Cannabidiol. *Neurology*. 2016, 86 (16 Supplement)
5. McGrath S, Bartner LR, Rao S, Gustafson DL. Randomized blinded controlled clinical trial to assess the effect of oral cannabidiol administration in addition to conventional antiepileptic treatment on seizure frequency in dogs with intractable idiopathic epilepsy. *J Am Vet Med Assoc*. 2019 ;254(11):1301-1308.

RECOMMENDED READING



[Claws and Effect: Cannabis Medicine for Pets](#)



All beings with a backbone have an endocannabinoid system. Is cannabis medicine a good option for the health of your dog or cat?

<https://www.projectcbd.org/cbd-101/cbd-for-pets>



The Legal Status of Cannabis for Animals

There's huge interest in the use of CBD and cannabis therapeutics for animals. But veterinary guidance, and research, is lacking. Vets in California are doing something about it.

<https://www.projectcbd.org/politics/legal-status-cannabis-animals>



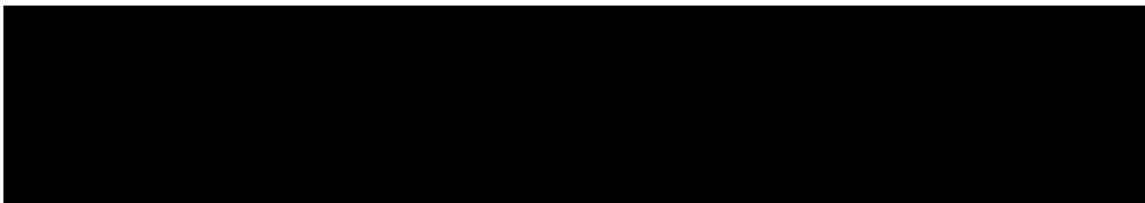
CBD & Cannabis for Pets in Pain

A veterinarian's advice on how to use cannabis to treat pain and inflammation in your four-legged companion

<https://www.projectcbd.org/medicine/cbd-cannabis-pets-pain>

Narrative Link:

<http://www.cannabisnewsjournal.co/2019/11/medical-cannabis-therapy-for-seizures.html>



Research:

Colorado State University's College of Veterinary Medicine and Biomedical Sciences took the lead in veterinary CBD research in 2016. Dr. Stephanie McGrath and her team at CSU investigated the safety of specified combinations and delivery methods of our hemp-hybrid oil extract in dogs. **The results confirmed that dogs tolerated clinical doses of the cannabis oil.** These results were presented at the Institute of Cannabis Research Conference at CSU-Pueblo on April 29, 2017, and were published in the Fall 2018 issue of the Journal of the American Holistic Veterinary Medical Association.

Phase 2 Clinical Trials for Epilepsy and Arthritis

Dr. McGrath completed a pilot epilepsy study in 2018, and the promising results of that study were published in the June 1 issue of the Journal of the American Veterinary Medical Association. A larger epilepsy study, sponsored by the AKC Canine Health Foundation, is ongoing at CSU, as is an arthritis study.

“Randomized blinded controlled clinical trial to assess the effect of oral cannabidiol administration in addition to conventional antiepileptic treatment on seizure frequency in dogs with intractable idiopathic epilepsy.”

McGrath S, Bartner LR, Rao S, Packer RA, Gustafson DL.

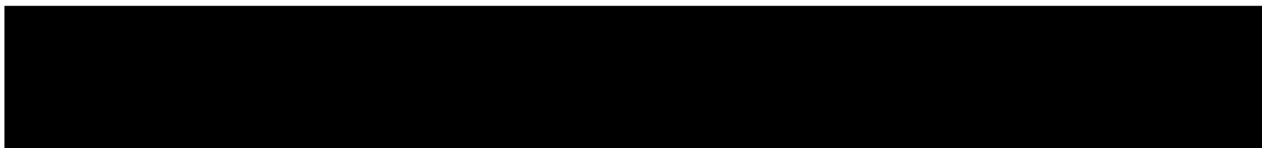
Abstract

OBJECTIVE: To assess the effect of oral cannabidiol (CBD) administration in addition to conventional antiepileptic treatment on seizure frequency in dogs with idiopathic epilepsy.

DESIGN: Randomized blinded controlled clinical trial.

ANIMALS: 26 client-owned dogs with intractable idiopathic epilepsy.

PROCEDURES: Dogs were randomly assigned to a CBD (n = 12) or placebo (14) group. The CBD group received CBD-infused oil (2.5 mg/kg [1.1 mg/lb], PO) twice daily for 12 weeks in addition to existing antiepileptic treatments, and the placebo group received noninfused oil under the same conditions. Seizure activity, adverse effects, and plasma CBD concentrations were compared between groups.



RESULTS: 2 dogs in the CBD group developed ataxia and were withdrawn from the study. After other exclusions, 9 dogs in the CBD group and 7 in the placebo group were included in the analysis. Dogs in the CBD group had a significant (median change, 33%) reduction in seizure frequency, compared with the placebo group. However, the proportion of dogs considered responders to treatment ($\geq 50\%$ decrease in seizure activity) was similar between groups. Plasma CBD concentrations were correlated with reduction in seizure frequency. Dogs in the CBD group had a significant increase in serum alkaline phosphatase activity. No adverse behavioral effects were reported by owners.

CONCLUSIONS AND CLINICAL RELEVANCE:

Although a significant reduction in seizure frequency was achieved for dogs in the CBD group, the proportion of responders was similar between groups. Given the correlation between plasma CBD concentration and seizure frequency, additional research is warranted to determine whether a higher dosage of CBD would be effective in reducing seizure activity by $\geq 50\%$.

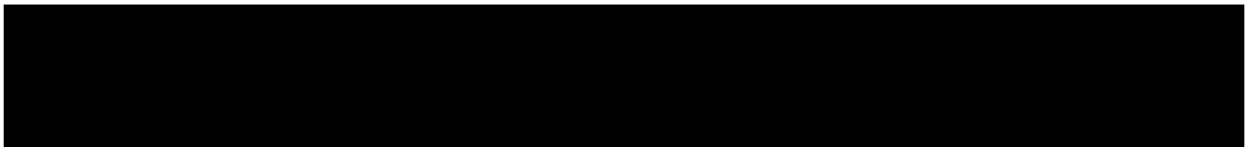
[<https://www.ncbi.nlm.nih.gov/pubmed/31067185>]

The CBD clinical safety and efficacy trials at CSU are highlighted in the recently published ***Nutraceuticals in Veterinary Medicine*** textbook. With over sixty chapters covering supplements and their use in animals, this textbook from Springer is a comprehensive resource for veterinarians and researchers. Chapter 10—entitled “Cannabis in Veterinary Medicine: Cannabinoid Therapies for Animals—delves deep in the science and research around veterinary use of cannabis and CBD.

Comprehensive Treatment of Veterinary CBD Use

The chapter covers everything from the history of veterinary cannabis use and regulatory and legal considerations to a deep dive into the chemistry of the cannabis plant and the pharmacology of cannabinoids such as cannabidiol (CBD). Highlighted topics include:

- The 2018 Farm Bill and its effects on industry and research



- Detailed look at the endocannabinoid system (including a terrific graphic illustrating the feedback loop for the endocannabinoid signaling system)
- Nutritional value of Cannabis/Hemp seed oil – Fatty acid profile has anti-inflammatory properties
- Review of the endocannabinoid system (ECS) in humans – including beneficial effects for sleep, anxiety and stress, obesity and metabolic disorders, cancer, and inflammatory conditions
- Review of the ECS in animals – focuses on dogs but touches on all mammals, birds, fish, and even invertebrates
- Phytocannabinoids, terpenes, and the Entourage effect (importance of full spectrum CBD product to achieve synergistic benefits from all compounds)
- Good manufacturing processes and the importance of organic hemp
- The importance of third party lab testing for potency and contamination
- Completed and ongoing clinical trials at Colorado State University and Cornell
- <https://www.springer.com/us/book/9783030046231>

Reference: Frances R. Sowers, Executive Director of the New Mexico Board of Veterinary Medicine director@nmbvm.org (505) 553-7021

Director Sowers can confirm that DVM can discuss this option when the treatment is approved for medical cannabis therapy for seizures in animals.

<http://www.nmbvm.org/executive-director/>

States Already Doing This:

Colorado: Colorado Veterinary Medical Association has been vocal about its stance on the issue as well. In an official 2016 position statement, the board declared that “veterinarians have an obligation to provide companion animal owners with complete education in regard to the potential risks and benefits of marijuana products in animals.”

http://www.veterinarycannabis.org/uploads/4/3/5/9/43599201/cvma_position_statement_2017-01.pdf



California: (Passed 2018 / Effect 2019) The bill requires the state veterinary board to develop guidelines by January 1, 2020 for practitioners to follow when discussing cannabis with clients. The law does not permit veterinarians to give cannabis or cannabis products to patients or their owners. Passed Bill Link: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180AB2215

Minnesota: Dr. Ilo E. Leppik is an epilepsy specialist at UMP Epilepsy Care Minneapolis and Professor of Pharmacy and Neurology at the University of Minnesota. Article: 'Minnesota doctor pushing the notion of cannabis for canines' <http://www.startribune.com/minnesota-doctor-pushing-the-notion-of-cannabis-for-canines/400398721/>

Connecticut: Lawmakers are looking at a bill that would protect veterinarians from punishment if they discuss using cannabis therapeutically for pets. <https://www.cga.ct.gov/2019/TOB/h/pdf/2019HB-06518-R00-HB.PDF>

Nevada: 2018 Bill - AB 422 (2019 to be Re-Introduced); Same as NY Legislation <https://www.latimes.com/nation/la-na-pet-pot-20150317-story.html>

New York: 2019 Assemblywoman Amy Paulin; Bill A00970- 'Provides access to medical marihuana for animals.' https://nyassembly.gov/leg/?default_fld=&leg_video=&bn=A00970&term=0&Summary=Y&Text=Y

Federal Policy

Case law: Conant v. Walters (2002): The Ninth Circuit Court of Appeals.

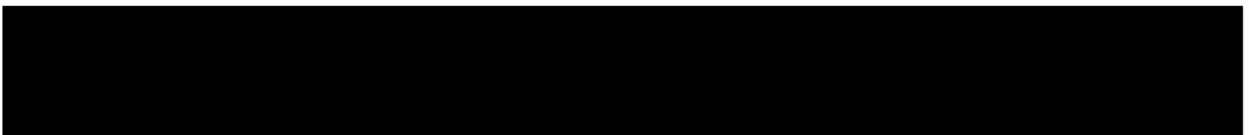
“A physician may discuss the pros and cons of medical marijuana with his or her patient, and issue a written or oral recommendation to use marijuana within a bona fide doctor-patient relationship without fear of legal reprisal.”

(https://www.safeaccessnow.org/landmark_federal_conant_v_walters)

Every year, the federal budget in the US Congress (“omnibus” appropriations bill) includes a rider that continues to bar the DOJ from enforcing the federal marijuana ban in some circumstances pertaining to states who enact their own medical cannabis laws.

This rider is also known as the Rohrabacher–Farr amendment.

Here is the full text of the rider:



“SEC. 538. None of the funds made available under 4 this Act to the Department of Justice may be used, with respect to any of the States of Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming, or with respect to the District of Columbia, Guam, or Puerto Rico, to prevent any of them from implementing their own laws that authorize the use, distribution, possession, or cultivation of medical marijuana.”

In *United States v. McIntosh*, the federal Ninth Circuit Court of Appeals interpreted the quoted language to bar the DOJ from prosecuting individuals who manufacture, distribute, or possess marijuana in strict compliance with state medical cannabis laws.

Petition Conclusion:

Approval of this Petition will Save Many Animal Lives in New Mexico...Tecumseh (my dog) has had 2 different DVM think he should have been put down last year, medical cannabis is saving his life.

Tecumseh's (60 lbs) Current Medications (as of 09/11/19):

Phenobarbital 64.8 mg tablets; 162 mg given in 24 hr period. Tecumseh is given 1 1/2 tablet at 4 am and he is given 1 1/4 tablet at 4:00 pm.

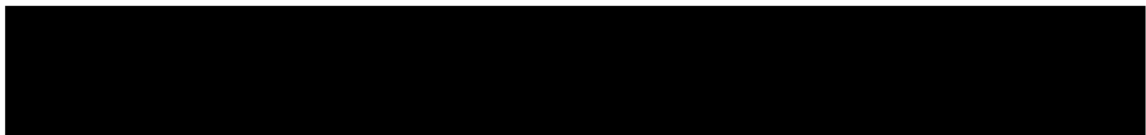
Levetiracetam 750 mg Immediate Release; 3375 mg given in 24 hr period. Tecumseh is given 1500 mg (2 pills) 3 times a day at 4:30 am, 12:30 pm, and 8:30 pm.

Zonisamide 100 mg Capsule; Tecumseh is given 200 mg every 12 hrs. Tecumseh takes the Zonisamide twice a day at 6 am and 6 pm.

Clorazepate 7.5 mg (using/dosing at first sign of any seizure activity) Giving Tecumseh one, 7.5 mg, pill every 8 hours for 6 doses in 48 hrs.

IN Midazolam 1.5 mL of 5 mg/mL (using/dosing for seizure emergency)
[Switching to Diazepam 5mg/ml once Midazolam is used up]

Thats alot of pharmaceuticals...



The approval of this Petition: Requesting The Inclusion Of A New Medical Treatment: Medical Cannabis Therapy For Seizures in Animals- that is being provided to the state Department of Health Medical Cannabis Program so the advisory board can review and recommend to the department for approval additional debilitating medical conditions that would benefit from the medical use of cannabis with the Lynn and Erin Compassionate Use Act.

And there is no aspect of the current medical cannabis program laws that would prevent this new medical treatment for Medical Cannabis Therapy For Seizures in Animals from being approved into the Medical Cannabis Program. Doctors of Veterinary Medicine are qualifying medical professionals who can recommend medical cannabis.- that is being provided to the state Department of Health Medical Cannabis Program so the advisory board can review and recommend to the department for approval additional debilitating medical conditions that would benefit from the medical use of cannabis with the Lynn and Erin Compassionate Use Act.

The approval of this petition will fulfill the intent of the law and uphold the integrity and spirit of the Lynn and Erin Compassionate Use Act, 2007.

Fulfilling both;“ Section 2. PURPOSE OF ACT.--The purpose of the Lynn and Erin Compassionate Use Act is to allow the beneficial use of medical cannabis in a regulated system for alleviating symptoms caused by debilitating medical conditions and their medical treatments”

And of section 6. ADVISORY BOARD CREATED--DUTIES: The advisory board shall:
A. review and recommend to the department for approval additional debilitating medical conditions that would benefit from the medical use of cannabis.”

New Mexico’s medical cannabis history started in 1978. After public hearings the legislature enacted H.B. 329, the nation’s first law recognizing the medical value of cannabis...the first law.

