

Spot, Puff, and Mary Jane

As marijuana becomes increasingly legal, what implications does it have for veterinary medicine?

by Jen Reeder

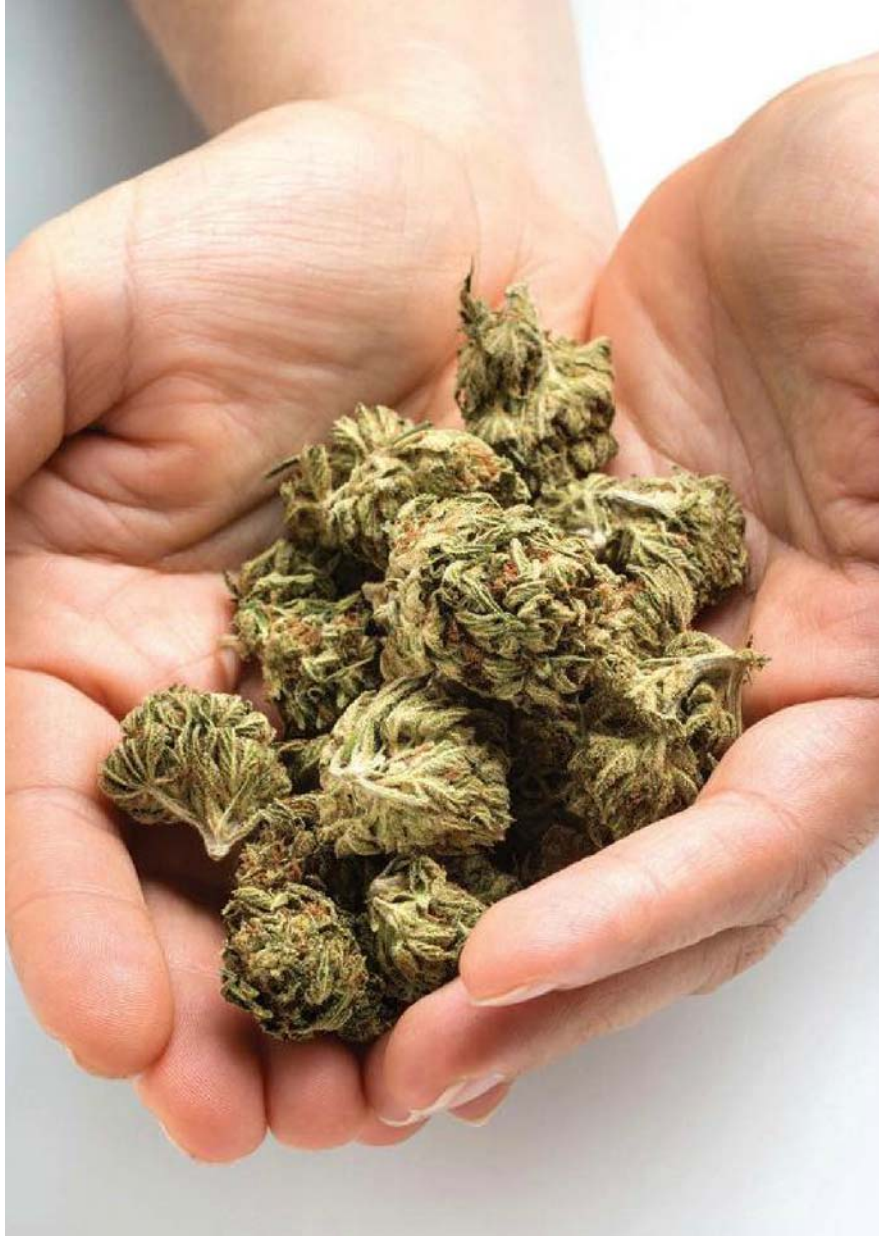
Marijuana ignites debate: whether it should be legal, when it's appropriate for medical uses. But there's one thing on which everyone agrees: Veterinarians and pet lovers are in for a big dose of it in the form of marijuana-related treatment, client communications, and research developments.

The 2012 study "Evaluation of trends in marijuana toxicosis in dogs living in a state with legalized medical marijuana" investigated the possible correlation between an increase in the number of medical marijuana licenses issued in Colorado and the number of marijuana toxicosis cases in dogs at two Colorado veterinary hospitals (AAHA-accredited Wheat Ridge Animal Hospital, a 24-hour specialty and emergency hospital, and Colorado State University Veterinary Teaching Hospital).

Over the 5 years of the retrospective study (2005–2010) of 125 dogs, researchers found a fourfold increase in marijuana toxicosis cases and a 146-fold increase in the number of people registered to use medical marijuana in Colorado. Two



A dog gazes over marijuana plants in a private home in Colorado. As cannabis use becomes increasingly legal and commonplace in America, veterinarians need to understand its implications for the profession.



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dogs died after eating edibles made with marijuana butter.

Stacy Meola, DVM, MS, DACVECC, veterinarian at Wheat Ridge Animal Hospital in Denver, Colo., and lead researcher on the study, said she conducted the research because “clinically, it felt like we were seeing more dogs on emergency for marijuana ingestion, and after treating the dog that ate THC brownies that died, I just wanted to know if we really were seeing more cases.”

Tetrahydrocannabinol, or THC, is the principal psychoactive compound of the Cannabis genus of flowering plants. It is the chemical component that gives marijuana users their high.

Treating bad trips

Meola said the study illustrates the need to educate clients about keeping cannabis products away from pets.

“Even though the vast majority of dogs are going to survive and be fine in a day or two, that does not make

it okay for them to be exposed to it in the first place,” Meola said. “As a general rule, child-proofing and dog-proofing your house are similar.”

She said she hopes as a result of the study that veterinarians will learn the common clinical signs of marijuana toxicosis—such as ataxia (lack of coordination) and urinary incontinence—and treatment.

“The majority of cases can be treated as outpatients with careful monitoring at home,” Meola said. For small dogs and severe cases in which the dogs cannot stand, swallow, or regulate their body temperature, Meola recommends hospitalization on IV fluids with temperature support and close monitoring.

Anecdotal evidence highlights the need for marijuana toxicosis prevention. For instance, in 2010, Randy Hays, DVM, a veterinarian at AAHA-accredited Riverview Animal Hospital in Durango, Colo., treated a 5-pound Pomeranian that had been exposed to marijuana.

The dog presented with an extremely low heart rate and full body seizures, which Hays noted as a peculiar side effect because normally a high heart rate accompanies convulsions. Hays treated the dog with a stomach pump, enema, anti-seizure medication, IV fluids, activated charcoal, and muscle relaxers. After four days of treatment, the dog survived.

“I was treating with anything and everything I had. Fortunately, we were able to save the dog,” he said.

Hays said the case occurred before IV lipid emulsion therapy was available

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for routine use in veterinary medicine. The therapy is the latest tool in treating animals who have ingested fat-soluble edibles like brownies and cookies made with marijuana butter. Because marijuana is one of the most common toxicities treated at Riverview, Hays has hosted several community lectures about marijuana toxicity in pets. He stresses that prevention is the best medicine. He encourages pet owners who suspect their dog or cat has ingested marijuana to, first, ensure the pet's safety while it is under the influence (for example, make sure it won't fall down the stairs). Then the pet owner should call the animal hospital to discuss next steps.

Talk about it

Pet owners may be reluctant to admit their pet was exposed to a drug still illegal in most states and all Canadian provinces.

Eric Barchas, DVM, medical director of North Peninsula Veterinary Emergency Clinic in San Mateo, Calif., sees several known or suspected cases of marijuana ingestion each month. Medical marijuana was already legal in California when he began practicing in 2000, so he is “quite upfront about the matter” when talking with clients.

“I generally emphasize that if marijuana ingestion has occurred I will not contact the police, and often I point out that if I were to contact the police, they'd probably just laugh at me,” Barchas said. “Where I live, the police

have far bigger problems about which to worry.”

Some clients are honest about the exposure, such as a young woman who told Barchas her puppy had consumed a joint and a package of birth control pills—and later told him he was much kinder than the veterinarian who treated her dog “the last time it happened.”

Changes afoot

Jacobi's approach aligns with current efforts by marijuana advocates, who are urging the public to keep cannabis products away from pets and children. Mason Tvert, director of communications for the Marijuana Policy Project, which lobbies for marijuana policy reform in the United States, said his organization launched an ad campaign called “Consume Responsibly” focused on preventing accidental ingestion. The campaign includes billboards and a website that offers tips such as, “If you throw away a piece of an edible (or packaging with pieces of an edible stuck to it), make sure your pet cannot get into the trash and find it.”

“Pet owners should keep marijuana products away from their dogs just like they keep chocolate away from them,” Tvert said.

He also said marijuana poses less harm to pets than countless other legal products and that conversations about increases in accidental marijuana ingestion by pets should be kept in perspective.

Tina Wismer, DVM, DABVT, DABT, medical director of the ASPCA's Animal Poison Control, said the organization's poison control hotline received 352 calls about marijuana in 2013, up from 155 in 2006. However, she also said in 2013, they received 9,556 calls about chocolate, and 11,555 calls about household products like cleaners.

“So marijuana's really a very small part of the phone calls that we take,” Wismer said. “But I would have to say, I've been here 16 years now and most of our older cases used to be, ‘Ah, don't worry about it—watch them at home.’ But they're becoming more symptomatic and need to be treated.”

She said calls used to mainly involve animals getting into plant material. But increasingly they've eaten edibles.

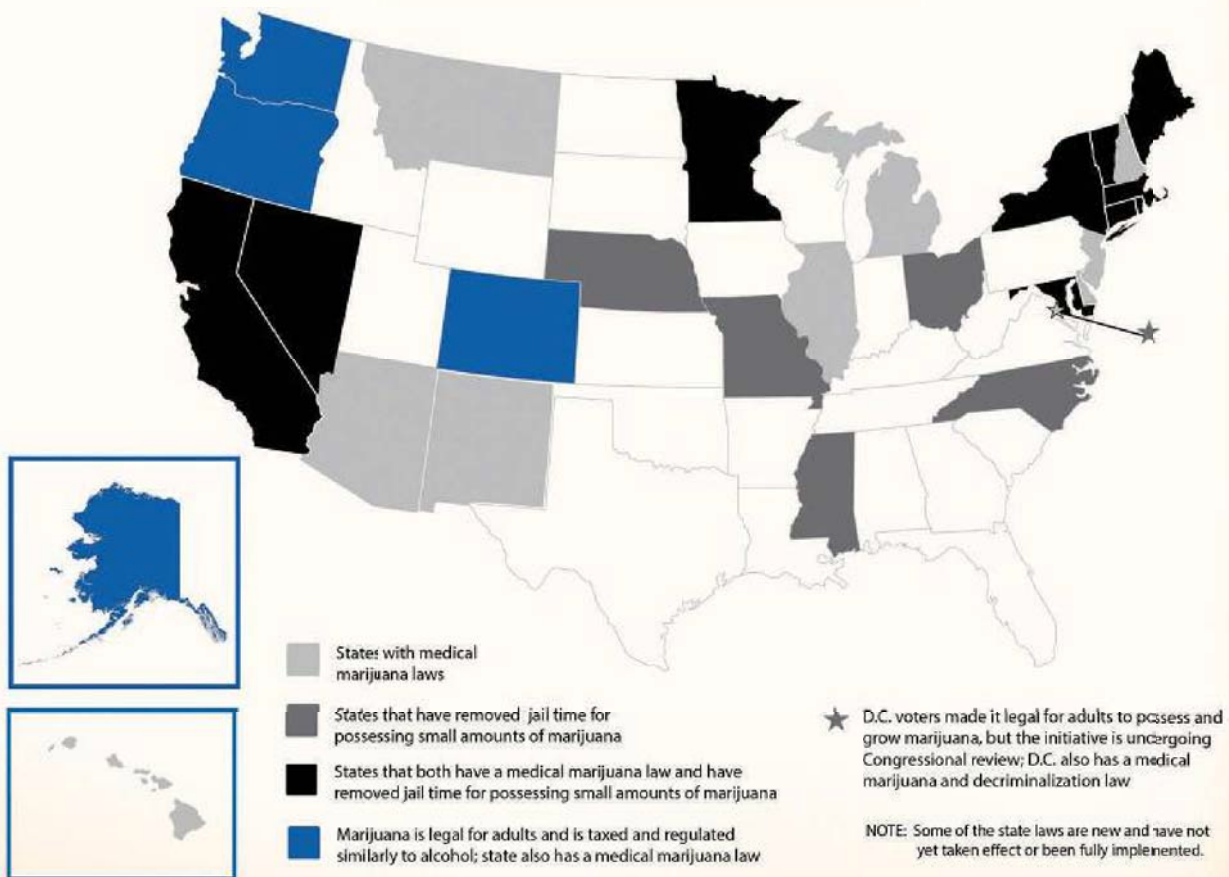
“The issue with these is they have a much, much higher THC content than just the plant material itself because many of these are made with what we call marijuana butter,” Wismer said. “So it's really a much higher concentration of THC in a smaller package. Also, one of the interesting things that happens with these cannabinoids is when you cook them, they make more of this delta-9-THC, which is a hallucinogenic. So not only are they more potent for the people that are ingesting them, but certainly also for the animals that get into them by mistake.”

Spreading Like a Weed

As medical marijuana becomes increasingly widespread in the United States, veterinarians should educate clients about keeping that prescribed drug out of reach of pets, just as they would with other prescribed medications like steroids or heart pills. Or they can compare precautions for recreational pot with keeping liquor, cigarettes, and chocolate safe from pets.

The bottom line on prevention is: “There’s really nothing different now than there was last year or 10 years ago—marijuana is widely available, it’s widely used, and those who consume it need to keep it away from their pets,” said Mason Tvert, director of communications for the Marijuana Policy Project.

And though veterinarians might suggest clients give pets over-the-counter human medications like Benadryl or Pepcid, they should never recommend medical marijuana. As Stacy Meola, DVM, MS, DACVECC, veterinarian at AAHA-accredited Wheat Ridge Animal Hospital in Denver, Colo., said, “Legally, as a veterinarian, we cannot prescribe THC or make recommendations for its use.”



Map Source: Marijuana Policy Project

She added that secondhand smoke inhalation creates a slightly sedative effect and that creams and oils with lower levels of THC can be problematic if a dog eats an entire container, but that ingestion of edibles is the real concern.

Veterinary use

With medical and recreational marijuana increasingly embraced by the public—a 2013 Pew Research Center poll found a majority of Americans favor legalizing marijuana, and 77 percent said marijuana has legitimate medical uses—pet owners are beginning to inquire about and experiment with veterinary marijuana.

Narda Robinson, DO, DVM, MS, FAAMA, director of the Center for Comparative and Integrative Pain Medicine at Colorado State University's Veterinary Teaching Hospital in Fort Collins, Colo., said it could be beneficial to conduct clinical studies regarding the efficacy of marijuana in veterinary medicine.

"As with any other product considered for human or veterinary therapeutic use, we need to know more about the safety, risks, benefits, adverse effects, interactions with other herbs, food, or medications, and quality control," Robinson said. "Scientific research, including clinical studies, is essential for understanding safety and efficacy and therefore is essential for responsible medical use."

She said anecdotal reports indicate that cannabis agents may help with issues like drug-resistant epilepsy, pain, the side effects of cancer and its treatment, and appetite, but potential benefits cannot be



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—MASON TVERT

established with scientific certainty in the absence of research.

Robinson explains in a video (see link at end of article) that pets don't metabolize THC the same way humans do, so pets can become very ill or even die from much lower doses than would affect people.

Marijuana is classified by the U.S. government as a Schedule 1 controlled substance, the most restrictive category defined by the 1970 Controlled Substances Act. However, Robinson said, researchers with Schedule 1 clearance may perform research on medical marijuana under highly specific guidelines.

Rather than fight the legal battle, some veterinary practitioners and researchers are turning to industrial hemp. In the United States, the

2014 Farm Bill allows research on hemp, which is cannabis without a psychoactive agent (defined as having a delta-9-THC concentration of not more than 0.3 percent). This is an option only when state law also allows industrial hemp cultivation and/or use. To see if your state is one of the 22 that have enacted laws relating to industrial hemp, go to ncsl.org/research/agriculture-and-rural-development/state-industrial-hemp-statutes.aspx.

In March 2014, two veterinarians in Washington state, where medical and recreational marijuana are legal but industrial hemp is not, started a company called Canna Companion that sells veterinary hemp supplements. Their goal is to treat chronic pain and inflammation, seizures, and cancer-related symptoms; lower anxiety; support the immune system;

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and reduce bronchial spasms in asthmatics, among other health benefits. Because Canna Companion supplements contain less than 0.3 percent THC, they are legal and sold nationally and internationally. They’re even covered by some pet insurance companies, such as Trupanion.

Sarah Brandon, DVM, cofounded Canna Companion with her husband,

Greg Copas, DVM. She stressed they don’t consider their product a miracle supplement.

“This is to augment other therapies,” she said. “If you have a dog that’s seizing and they’re on four different medications and their liver is having a hard time processing and the dog’s quality of life is very poor because they’re so lethargic or they

can’t walk well, cannabis can come in and help improve the seizure control and allow a neurologist or attending veterinarian to reduce the dosages.”

Brandon said for 10 years she and Copas conducted informal clinical trials on their pets as well as feral cats they trapped and released. They started by avoiding known toxic dose levels and dialing down the effective dose range to avoid any negative clinical signs. They treated the arthritis of their Australian cattle dog cross with Canna Companion, and he was able

What About Creams and Oils?

Cannabis creams used for pain relief and oils used to treat epilepsy contain THC at levels that are generally considered too low to produce a high. But with the variety of THC levels among various oils and creams from different manufacturers, Tina Wismer, DVM, DABVT, DABT, medical director of the ASPCA’s Poison Control, suggests keeping creams and oils out of reach of pets because they can still be toxic.

That’s because, for dogs, “if a little is good, more is better,” Wismer said. “So...they’re going to ingest the entire container, they’re going to lick it off of themselves, or they’re going to eat it, and they can become affected.”



to continue hiking for years. Then they started giving their product to friends and select clients to continue to calibrate dosages.

Now potential clients complete a detailed intake form to help pinpoint the ideal dosage for the pet, and referring veterinarians are welcome to speak at length with representatives from Canna Companion—Brandon said they would like to be an “education center” for the public and veterinarians interested in more information about cannabis and the pros and cons.

They’d also like a full study of Canna Companion with a bigger end number, “not just for our scientific minds but for the veterinary community.” She said they’ve been approached by representatives from two universities about conducting studies.

“I want the veterinary community to be open to talking about cannabis therapy in dogs and cats,” Brandon said. “It really has its place.”

Increasing acceptance of marijuana and cannabis could pave the way for veterinary pain research involving the endocannabinoid system,

Links for More Information

Marijuana Policy Project’s “Consume Responsibly” campaign: consumerresponsibly.org/responsibility/

“Evaluation of trends in marijuana toxicosis in dogs living in a state with legalized medical marijuana”: ncbi.nlm.nih.gov/pubmed/23216842

VIDEO: Narda Robinson’s video about marijuana and pets: vetstreet.com/our-pet-experts/video-pets-and-the-dangers-of-marijuana

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said Duncan Laschelles, BVSc, PhD, CertVA, DSAS (Soft Tissue), DECVS, DACVS, professor of small animal surgery and pain management at the Comparative Pain Research Program, North Carolina State University’s College of Veterinary Medicine.

The endocannabinoid system is a group of neuromodulatory lipids and their receptors in the brains of humans as well as cats and dogs. The endocannabinoid system is involved in physiological processes, including appetite, pain sensation, and memory, as well as the effects of cannabis.

“I see tremendous potential in interacting with the cannabinoid system to provide pain relief in pets, for sure,” Laschelles said. “However, a lot of careful research is needed to get to the point where we know what, when, and how much to prescribe of a given substance—whether a natural extract

or a synthetic drug combination.”

Laschelles said he would “jump” at the opportunity to study how to provide analgesia through interaction with the cannabinoid system. He would start by trying to understand how the system is altered in painful

disease states and then begin to define targets. But, he said, funding is in short supply. “I think the best chances of getting funding are going to come from those individual investors—angel investors—people with money who love animals and want to see good for animals done with that money,” he said. “I do hope that veterinary pain research will move in that direction at some point.” ✨



While researching this article, freelance journalist Jen Reeder heard a neighbor say he was considering giving his dogs marijuana to calm them on an upcoming road trip. She urged him not to do it.