



**ASPEN
MEADOW
VETERINARY
SPECIALISTS**

VETERINARY VOICE

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What's New at AMVS

Spring has sprung at AMVS! Stop by our Longmont location to see our newly-renovated children's area, dedicated to the memory of a special patient, Azzy.



We will be out and about in the community, with our first set of events May 18th, 19th and 20th.

Friday, May 18th, we will be at **Artwalk Longmont** from 6-9 p.m.

Saturday, May 19th, we will be participating in the **Longmont Humane Society's Ella's Walk** at the Boulder County Fairgrounds.



Sunday, May 20th, we will be at the **Rocky Mountain Lab Rescue's 5K walk event**.

We hope to see you there!

In This Issue

What's New at AMVS

Marijuana Toxicity



In addition to our regular ER hours, AMVS provides emergency and critical care services to your patients **Fridays, all day**
CALL
303-678-8844

AMVS is:
PACE certified,
LEED certified,
and
a zero-waste facility.

Marijuana Toxicity

By Mimi Elliott, DVM (Emergency Veterinary Intern)

Practice points:

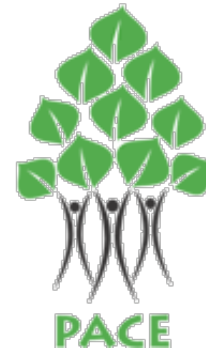
- Marijuana toxicity is a very common small animal emergency.
- Clinical signs include ataxia, listlessness, stupor, dilated pupils, bradycardia, and urinary incontinence.
- Therapy includes induction of vomiting with apomorphine (0.04mg/kg IV), activated charcoal every eight hours for 24 hours, and IV fluid diuresis (maintenance or twice maintenance rate). Respiratory and cardiac function should also be closely monitored.
- The LD50 for dogs is 3g/kg and cats is 200gm/kg, however, research has shown that death is rare even at extremely high doses.
- Veterinarians are not obligated to report marijuana intoxication unless abuse or neglect is suspected.

Marijuana is made by drying the flowers and leaves of the hemp plant (*Cannabis sativa*). The active ingredient in the natural form is delta 9-tetrahydrocannabinol (THC); it is also available in the synthetic form, nabilone. K2 (street name, 'Spice') is a mixture of herbs and spices sprayed with the synthetic form of THC. It is commonly available and purchased in retail outlets, tobacco shops, etc and in humans has been showed to remain stored in the body for long periods of time. The concentration of THC in marijuana ranges from 1-8% and the concentration in hashish is 3-6%. In the brain, THC interacts with norepinephrine, dopamine, serotonin, acetylcholine and other neurotransmitters.




A retrospective study demonstrated that dogs account for 96% of exposures; the LD50 for dogs is 3g/kg and for cats is 200gm/kg. However, research has shown that oral doses of THC at 3000-9000mg/kg were not lethal.

Clinical signs of marijuana toxicity include ataxia, stupor, dilated pupils, bradycardia, and urinary incontinence. Less common signs include gastrointestinal upset, hypothermia, and hypotension. Onset of signs generally occurs 1-3 hours post ingestion, but has been reported to occur from five minutes to 96 hours post ingestion. THC is stored in the body's fat deposits, so the effects of toxicity can last for multiple days. THC is rapidly absorbed from the



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gastrointestinal tract and/or lungs. The drug then undergoes enterohepatic recirculation and hepatic metabolites are excreted in about 24 hours.

When patients present on emergency with an acute onset of neurologic signs accompanied by urinary incontinence, marijuana toxicity is generally the primary differential. Other differentials for suspected marijuana toxicity include exposure to ethanol, amphetamines, nicotine, methylxanthines, ethylene glycol, opioids, etc.



Treatment for marijuana toxicity includes induction of vomiting if ingestion has occurred within 30 minutes.

Apomorphine at 0.04mg/kg IV or 0.08mg/kg IM, SC. 5-10mL 3%

hydrogen peroxide

can be given PO once. Activated charcoal given every eight hours for 24 hours can reduce the severity and duration of signs. In hospital supportive care for symptomatic patients includes intravenous fluid therapy (maintenance or twice maintenance rate), monitoring of respiratory and cardiac function, and temperature monitoring. If the patient is agitated, 0.25-0.5mg/kg diazepam can be given IV.

It is important to note that veterinarians are not obligated to report marijuana toxicities to the local police. However, if neglect or abuse is suspected then the appropriate authorities should be contacted.

Marijuana intoxication is a common small animal emergency, particularly in Colorado. Clinical signs can be severe, but death is rare and patients generally respond to aggressive supportive care.

Thank you for your continued support!
-Aspen Meadow Veterinary Specialists

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