

# Demystifying CBD: addressing anxiety in veterinary medicine



Anxiety stands out as one of the most prevalent concerns prompting owners to inquire about the potential use of cannabidiol (CBD) for their pets. Traditionally, owners employ diverse approaches, including medications, supplements, and training, yielding mixed results. Stress manifests in various forms among veterinary patients, with common examples such as separation anxiety, travel anxiety, and noise phobias.

Medications, though frequently prescribed alongside behavioural modification, have limitations, including short-lived effects, inconsistent efficacy, and potential adverse reactions. Some owners resist using medications due to concerns about potential harm or the impact on their pet's personality and alertness.

While mild stress is considered somewhat normal, high levels of acute stress or prolonged exposure to stressors can lead to chronic physical and emotional health issues for both pets and pet parents, sometimes resulting in relinquishment to shelters.

A growing body of evidence indicates that the endocannabinoid system (ECS) plays a crucial role in regulating the stress response. The ECS interacts with the sympathetic nervous system, the hypothalamic-pituitary-adrenal (HPA) axis and has a complex relationship with the serotonergic system. Ongoing

research suggests cannabinoids as potent modulators of emotions and anxiety. While the medical and veterinary professions are just beginning to explore this legalized treatment option, historical records highlight the medicinal value of the cannabis sativa plant in ancient civilisations, showcasing its relaxation effects and mood-enhancing properties.

CB1 receptors, are present on both GABA-ergic and glutamatergic neurons. CB1 receptors have also been shown to play a critical role in balancing neurochemical substances associated with anxiety including serotonin, noradrenaline, dopamine and acetylcholine. CBD has been shown to act as a direct agonist, increasing the activity of 5HT1A receptors, which are a primary target for anxiolytic therapy, reducing general anxiety, chronic stress, and fear. Studies suggest that CBD's interaction with receptors in the dorsal periaqueductal gray matter aids in emotional reactivity and regulation during stressful times, while those in the amygdala help reduce responses to fearful stimuli.

A study titled "A single dose of cannabidiol (CBD) positively influences measures of stress in dogs during separation and car travel" demonstrated a significant reduction in canine stress compared to the placebo group. CBD-treated dogs exhibited less sadness, lower serum cortisol concentrations during car travel, and reduced stress, sadness, tension, and discomfort during separation events, indicating a more relaxed emotional state.

When using CBD for anxiety, it's crucial to adhere to the "start low, go slow" dosing principle, as lower doses consistently show the most anxiolytic effects. Co-administration of CBD with other medications may reduce conventional anxiolytic doses or eliminate their need altogether. Caution is advised when using CBD with pets already on benzodiazepines, suggesting a significant reduction or a more conservative approach to the starting dose of CBD.

While variables exist, a general guideline suggests starting CBD dosing at 0.1 to 0.5 mg/kg once to twice

daily, titrating to effect for chronic anxiety, with an expected effective dose rate between 0.25 to 1 mg/kg. For acute anxiety, a suggested dose of 0.5 to 3 mg/kg approximately one hour before the trigger is recommended, with a possible need for a repeat dose.

As we continue to accumulate relevant data, there is strong preclinical evidence supporting the role of cannabis in treating anxiety in animals. Additional consideration should be given for patients with co-morbidities, such as atopy or age-related cognitive decline or osteoarthritis where CBD offers the potential management for not only anxiety but for other presenting ailments concurrently.

#### References:

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*Frontiers | A single dose of cannabidiol (CBD) positively influences measures of stress in dogs during separation and car travel (frontiersin.org)*  
*Cannabis Therapy in Veterinary Medicine: A Complete Guide Hardcover* – 17 May 2021  
by Stephen Cital (Editor), Katherine Kramer (Editor), Liz Hughston (Editor), James S. Gaynor (Editor)  
*Cannabis Therapy in Veterinary Medicine: A Complete Guide* : Cital, Stephen, Kramer, Katherine, Hughston, Liz, Gaynor, James S.: Amazon.com.au: Books

**“A single dose of cannabidiol (CBD) positively influences measures of stress in dogs during separation and car travel”**