



## Cannabidiol (CBD) in the management of musculoskeletal pain

Thank you for your recent enquiry about the use of CBD in veterinary practice. This informal note is intended as a summary of the current situation at the time of writing. No recommendation should be inferred from this note and please see the final section regarding the VMD's recent statement.

CBD is legally available in the UK and anecdotal claims have been made for efficacy in a range of conditions affecting people and pets. Unsubstantiated claims for efficacy are policed by the medicines regulatory bodies <sup>10, 13, 14</sup>.

### Efficacy in dogs

Gamble et al (2018) reported a crossover & blinded study demonstrating CBD oil had efficacy treating dogs with osteoarthritis (OA)-related pain.

- Each dog was treated for 4 weeks with both CBD (2mg/kg BID p.o.) and placebo.
- The dogs' response to treatment was assessed with the Canine Brief Pain Inventory scale and Hudson activity score <sup>6</sup>.

Some observations on Gamble's paper:

- OA is a chronic disease and a longer period of treatment would have been more instructive, e.g. several months.
- The study was funded by a [CBD producer](#). This is not necessarily a flaw but should be noted.
- ALKP doubled in dogs treated with CBD. As you know, potential mechanisms include direct CBD-mediated induction of ALKP, cholestasis, or an idiopathic mechanism. The long-term effect of CBD on liver function is unknown.
- In this study a high-grade product was mixed with oil and placed in capsules. Blood levels may vary with factors affecting GI absorption and with GI administration there is a marked first-pass effect. Anecdotal reports describe lower doses may be effective if placing the product under the tongue for transmucosal absorption, bypassing the enterohepatic circulation.

### General points about CBD

- At the time of writing a Google search for 'CBD UK' gives ~200M hits, at varying prices. This is an expensive product when dosing at the dose suggested by Gamble et al (2mg/kg BID).
- The US-based 'Pet Poison Helpline' has reported toxicity related to CBD products <sup>2</sup>.



- Anecdotal reports from a UK-based veterinary cardiologist describe profound CBD-related cardiovascular effects, which resolved after withdrawal.

- CBD has demonstrated analgesic efficacy in pre-clinical and clinical trials <sup>8, 9, 11</sup>, although 'further work is needed' <sup>12</sup>.

- The legal form of CBD in the UK should have very low levels of THC (the illegal fraction of cannabis) and high quantities of CBD. CBD products are unregulated and the content of TCH &

CBD can be variable. If clients want to buy CBD they should be encouraged to buy 'zero-THC' product, from sites providing laboratory-certified results for each batch of product <sup>1, 5, 13</sup>.

Recent reviews summarised the current evidence for efficacy of CBD <sup>7, 8</sup>, highlighting areas of uncertainty:

- Whether CBD causes interactions with other drugs. For example, coadministration of CBD with therapeutic doses of paracetamol caused hepatopathy in mice <sup>3</sup>.
- CBD-mediated inhibition of hepatic cytochrome P450 (CYP450) may alter the efficacy of other drugs by enhancing, or inhibiting, their metabolism by CYP450.
- The pharmacokinetics of long-term administration are unknown, for example CBD is lipophilic and there may be a cumulative effect on tissue concentrations <sup>7</sup>.
- In the human field, the [FSA issued advice](#) in February 2020 that people who are taking prescribed medicines should avoid using CBD <sup>4</sup>.

### Advice from UK veterinary organisations

Although freely available on the High street, [advice from the VMD](#) is that vets recommending the use of an CBD product should issue a prescription, to protect their legal liability. The [BSAVA issued a technical note on CBD in 2021](#).

### Summary

- CBD has demonstrated efficacy treating OA-related pain in dogs.
- Products may contain varying amounts of CBD.
- The effects of long-term use have not been determined (e.g. liver function, drug interactions, or effects on the metabolism of other drugs).
- Any recommendation for owners to treat their pets with CBD should be supported by a prescription.
- Recommend owners use 'zero-THC' products, with batch-specific laboratory certification.
- There are few reports of CBD-related toxicity.
- There is no 'silver bullet' in pain management.

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