

# Could CBD Oil Reduce Your Dog's Arthritis Pain?

One in five dogs older than 1 year suffers with osteoarthritis, and the risk for the painful condition only increases with age. This just-published study reveals heartening news for dog owners - almost every dog experienced significant improvements with reduced pain and increased mobility.

**Analysis by Dr. Karen Shaw Becker**

## STORY AT-A-GLANCE

- A recently published Baylor College of Medicine study of the effectiveness of cannabidiol (CBD) oil in arthritic dogs indicates it can significantly improve both comfort and activity level and may address underlying inflammatory issues
- Earlier studies at Cornell and Colorado State showed similar results
- Liposomal formulations may enhance absorption of CBD into the bloodstream
- It's important to select a CBD product that comes with a Certificate of Analysis; it's also important to work with an integrative veterinarian to create a customized arthritis treatment protocol for your dog

***Editor's Note: This article is a reprint. It was originally published August 17, 2020.***

According to very recent research, osteoarthritis affects an estimated 20% of all dogs older than 1 year, and as with humans, the risk your canine companion will develop this painful condition increases with age.<sup>1</sup> Because arthritis is so very common in both humans and their animal companions, studies are always underway to evaluate more effective ways to treat the condition.

A newly released study conducted at Baylor College of Medicine and published in the journal PAIN evaluated the use of different formulations and doses of hemp-based cannabidiol oil (CBD) in large dogs diagnosed with osteoarthritis, with promising results.<sup>2</sup> I'll discuss the results shortly.

## Signs Your Dog May Have Arthritis

Most people are aware that a dog with arthritis may limp, is likely to move more slowly or stiffly and can have difficulty standing up after lying down. There can also be spinal issues; muscle atrophy; licking, chewing or biting at specific areas of the body; and general fatigue. Other, less obvious clues dog parents should also watch for include:

- **Changes in appetite or eating habits** — Your dog may begin eating less not because he isn't hungry, but because there's a problem getting to his food bowl or being able to stand and eat without slipping. A slippery floor, a staircase or a long walk to the bowl can make getting a meal a bigger challenge than he can comfortably handle.

- **Less interest in exercising or playing** — One of the classic signs of progressive arthritis in dogs is a decrease in physical activity. Your pet may be less playful than she once was, or she may not want to travel as far as she used to when you take her for walks. If she loves to play fetch, you may notice she seems to be tiring out more quickly or is reluctant to run hard after the ball.
- **Personality changes** — If your dog is uncomfortable much of the time, he'll probably show some irritability. If the pain is allowed to persist and worsen, he might even show some aggression if he's bumped or jostled, or if it hurts when you pick him up or try to move him. A dog who has never shown aggression and suddenly does so is definitely suspicious for a painful condition.
- **Changes in interaction with family members** — Because your dog can't get around as effortlessly as she once could, you may notice changes in the way she interacts with you. For example, she may no longer be waiting at the stairs to greet you when you come through the door. She may not follow you from room to room anymore or jump up into your lap when you sit in your favorite chair.

If you notice your dog stops going up the stairs, getting on the couch or sleeping in bed with you, these are all classic signs she may have pain or another difficulty that's prohibiting her from doing things she used to do.

- **Changes in grooming habits** — Dogs perform certain grooming activities such as shaking their entire body when they're wet or to get rid of excess hair. For obvious reasons, a full body shake will be difficult or impossible for a dog who is stiff and sore with arthritis.

Many dogs also clean the area around their backsides and genitalia, which will be less likely for a dog with joint problems. Also, arthritis discomfort can prevent your pet from getting into the proper posture necessary to pee or poop, which can result in self-soiling.

Since dogs with painful arthritis don't move around as much as they once did, their nails tend to grow longer, faster. This can make walking even more difficult for a dog already dealing with mobility issues.

## CBD May Address Underlying Inflammatory Issues

The just-published Baylor research I mentioned earlier involved a 4-week randomized, double-blind, placebo-controlled study of 20 large breed dogs with diagnosed osteoarthritis. The dogs were assigned to receive one of three different CBD remedies or a placebo. They were evaluated before and after the study by both their owners and veterinarians on measures of pain and mobility.

The results at the end of the four weeks showed that neither the placebo group nor the low CBD dose group experienced any improvement. However, the dogs who received higher doses of CBD, as well as those who received CBD in a liposomal form had substantial improvement in both their mobility and quality of life.

*"I openly admit that I was surprised at how quickly we saw such large results" Matthew Halpert PhD, Faculty with the Department of Pathology and Immunology at Baylor College of Medicine and Senior Scientific Advisor for Medterra (a producer of hemp CBD products) told Forbes. "I would not have expected to see too much of anything in just one month."*<sup>3</sup>

Halpert was part of the research team and designed the study. He told Forbes that in the two higher-dose CBD groups, “almost every dog saw significant improvement in their conditions, in regards to reduced pain and increased ability to move around. And the dogs seemed happier and were able to do more.”

The improvement in those dogs was still obvious two weeks after the experiment concluded, which according to Halpert means the CBD was addressing underlying inflammatory issues and not just masking the pain.

## **Earlier Study: CBD Oil Increased Comfort and Activity**

A 2018 study by Cornell University College of Veterinary Medicine also supports the use of CBD oil in dogs with osteoarthritis. The researchers concluded that 2 mg/kg of cannabidiol oil twice daily helped increase comfort and activity in dogs with osteoarthritis.<sup>4,5</sup> The objectives of the study were to determine how to best administer the CBD oil, evaluate its safety and assess its ability to help manage pain in dogs with osteoarthritis.

The researchers determined the half-life of the oil at both 2 mg/kg and a higher dose of 8 mg/kg to be a little over four hours. The study dogs received a 2 mg/kg dose of oil every 12 hours for four weeks after a two-week washout period. The dogs’ owners completed questionnaires and veterinarians conducted assessments, including a physical exam and bloodwork, prior to beginning treatment and again at weeks two and four.

The Canine Brief Pain Inventory score and the Hudson activity score were used to assess pain and lameness in the dogs, and the researchers observed that the results support anecdotal reports of CBD oil’s benefits. Veterinary assessments, the pain inventory and the activity score showed a significant reduction in pain and an increase in activity in the dogs who received CBD treatment.

## **CBD May Elevate One or More Liver Enzymes**

In another study of 23 medium and large breeds, this one conducted at Colorado State University (CSU) Veterinary Teaching Hospital,<sup>6</sup> participating dogs had arthritis affecting one or more joints and a visible lameness that had been present for at least four weeks.

Each dog received either CBD oil or a placebo for six weeks, after which the CBD group received a placebo and the placebo group received CBD for another six weeks. During the 12-week period, each dog received X-rays, bloodwork, 15 minutes of walking per day and a daily pain assessment.

The published study results indicate that 14 dogs displayed elevation in liver enzymes associated with CBD treatment. Dr. Gary Richter, a veterinarian in Oakland, CA who has seen quite a number of dogs given either CBD or another preparation of cannabis for arthritis do very well, told Forbes:

*“The one side effect that is sometimes seen is an elevation in one of the liver values, the alkaline phosphatase,” but the elevation “does not appear to cause any real world issue, in the sense that it doesn't make the dog sick. And it is reversible if you stop giving the CBD.”<sup>7</sup>*

The CSU researchers noted “significant differences” between treatment groups for several measures that suggest CBD may benefit dogs with osteoarthritis-associated pain.<sup>8</sup>

*“However,” the authors write, “adequately powered studies with a larger sample size are needed to confirm this suggestion. Further evaluation of the clinical implications of the observed liver enzyme elevation, particularly with long-term administration, is necessary.”*

## **Liposomal Formulation May Improve Absorption of CBD**

The Baylor study is interesting in that it evaluated both standard forms of CBD and liposomal CBD. CBD isn't highly bioavailable on its own — the liposomal formulation makes it more easily absorbed into the bloodstream.

*“It's kind of like a Trojan horse, or a water balloon” explains Halpert. “We put the CBD inside of that and the liposome itself, the balloon itself, is actually very bioavailable.”*

The dogs given a daily dose of 20 mgs of liposomal CBD did significantly better than those who took 20 mg of traditional CBD. However, it's worth noting this was a judgment call based on the dogs' behavior and not on tests of CBD levels in the blood after ingestion.

## **Choosing a CBD Product**

If you're considering a cannabis product for your pet, try to get a “Certificate of Analysis” from the manufacturer that shows how much THC it contains (it should never be over 0.3%, how it's made and whether it's organic and free of pesticides and other chemicals.

Emerging research suggests there could be more herbicidal contaminants in these products than originally thought. CBD is best absorbed via the oral mucus membrane, so a liquid tincture that's dropped on your pet's tongue may be preferable.

Other beneficial supplements that can help reduce pain and improve comfort for arthritic dogs include curcumin, proteolytic enzymes, boswellia, devil's claw, and white willow bark. When managing systemic inflammation, it's also important to supplement your dog's diet with a high-quality omega-3 essential fatty acid (**krill oil**).

There are a myriad of effective supplements that address joint pain, and they should be used in conjunction with **chondroprotective agents** to help slow cartilage degeneration. Supplements that manage pain don't slow degeneration and supplements that slow degeneration don't manage pain; you need to supply both types of supplements to your dog, concurrently.

Chiropractic care is an excellent and affordable way to realign your pet's spine after an injury, or on a routine maintenance basis if your dog is a large or giant breed predisposed to arthritis. Proper musculoskeletal alignment prevents your dog's body from shifting into unhealthy positions to compensate for an injured or painful area, which can create degenerative joint problems down the road.

Massage is another good way to treat tissue inflammation and prevent secondary compensation in your dog's body; stretching is beneficial for reducing degeneration and preventing soft tissue injury. It's especially helpful for older dogs and competition and working dogs.

Underwater treadmill and other forms of **movement therapy** are excellent ways to keep stiff or achy dogs moving well into their geriatric years. I also recommend finding an integrative or proactive, functional medicine veterinarian to work with you to customize a comprehensive arthritis treatment protocol for your dog.

## Sources and References

<sup>1</sup> [Anderson, K.L. et al. Risk Factors for Canine Osteoarthritis and Its Predisposing Arthropathies: A Systematic Review. Front Vet Sci. 2020; 7: 220](#)

<sup>2</sup> [Verrico, C.D. et al. PAIN: April 24, 2020](#)

<sup>3, 7</sup> [Forbes, July 1, 2020](#)

<sup>4</sup> [Gamble, L. et al. Front. Vet. Sci., 23 July 2018](#)

<sup>5</sup> [CISION PR Newswire, February 2, 2018](#)

<sup>6</sup> [CSU CVMBS Clinical Trial: Efficacy of Cannabidiol for the Treatment of Osteoarthritis in Dogs](#)

<sup>8</sup> [Mejia, S. et al. Vet Comp Orthop Traumatol 2019; 32\(S 04\): A13-A24](#)

---