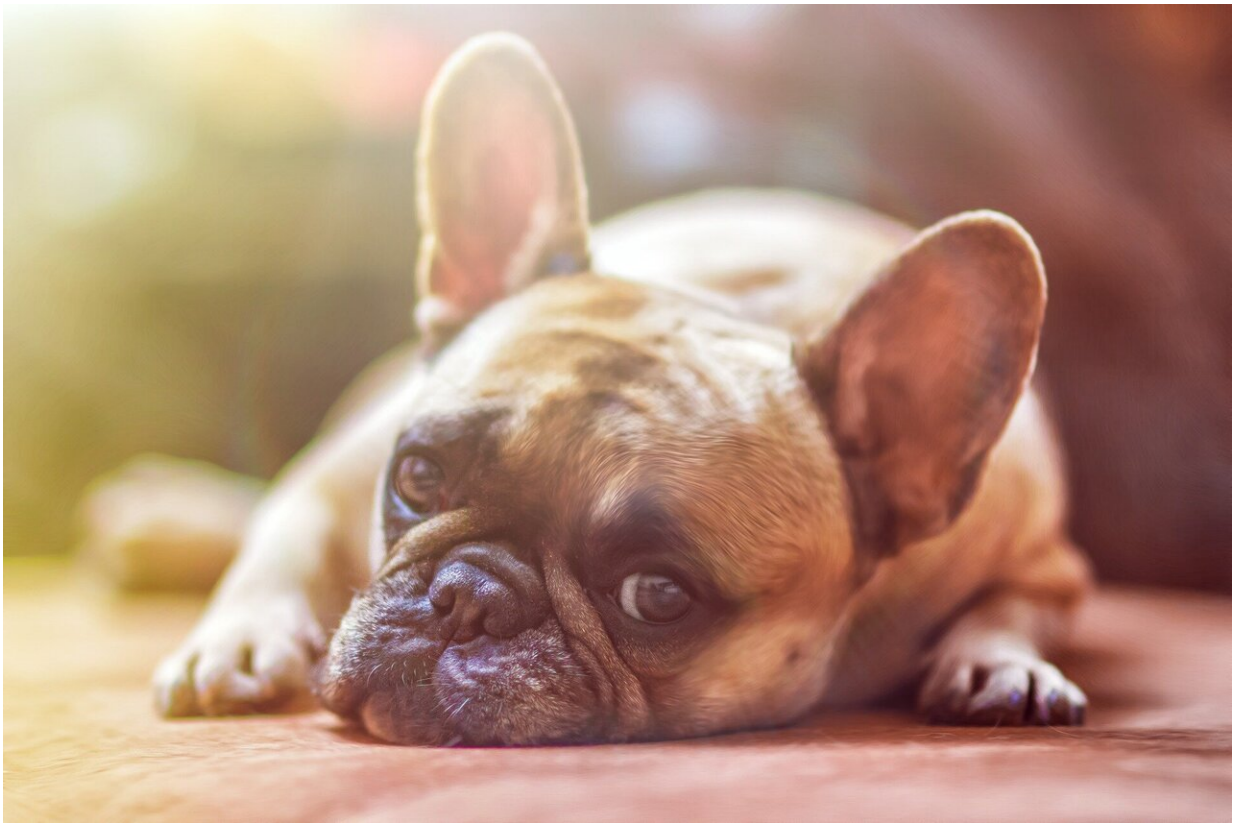


Researchers find CBD improves arthritis symptoms in dogs

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A team led by researchers at Baylor College of Medicine in collaboration with Medterra CBD conducted the first scientific studies to assess the potential therapeutic effects of cannabidiol (CBD) for arthritic pain in

dogs, and the results could lead the way to studying its effect in humans. Researchers focused first on these animals because their condition closely mimics the characteristics of human arthritis, the leading cause of pain and disability in the U.S. for which there is no effective treatment.

Published in the journal *Pain*, the study first showed both in laboratory tests and mouse models that CBD, a non-addictive product derived from hemp (cannabis), can significantly reduce the production of inflammatory molecules and immune cells associated with [arthritis](#). Subsequently, the study showed that in dogs diagnosed with the condition, CBD treatment significantly improved quality of life as documented by both owner and veterinarian assessments. This work supports future scientific evaluation of CBD for human arthritis.

"CBD is rapidly increasing in popularity due to its anecdotal health benefits for a variety of conditions, from reducing anxiety to helping with movement disorders," said corresponding author Dr. Matthew Halpert, research faculty in the Department of Pathology and Immunology at Baylor. "In 2019, Medterra CBD approached Baylor to conduct independent scientific studies to determine the biological capabilities of several of its products."

In the current study, Halpert and his colleagues first measured the effect of CBD on immune responses associated with arthritis, both in human and murine cells grown in the lab and in mouse models. Using Medterra tinctures, they found that CBD treatment resulted in reduced production of both inflammatory molecules and [immune cells](#) linked to arthritis.

The researchers also determined that the effect was quicker and more effective when CBD was delivered encapsulated in liposomes than when it was administered 'naked.' Liposomes are artificially formed tiny spherical sacs that are used to deliver drugs and other substances into

tissues at higher rates of absorption.

Halpert and colleagues next assessed the effect of naked and liposome-encapsulated CBD on the quality of life of dogs diagnosed with arthritis.

"We studied dogs because experimental evidence shows that spontaneous models of arthritis, particularly in domesticated canine models, are more appropriate for assessing human arthritis pain treatments than other animal models. The biological characteristics of arthritis in dogs closely resemble those of the human condition," Halpert said.

Arthritis is a common condition in dogs. According to the American Kennel Club, it affects one out of five dogs in the United States.

The 20 client-owned dogs enrolled in the study were seen at Sunset Animal Hospital in Houston. The dog owners were randomly provided with identical unidentified medication bottles that contained CBD, liposomal CBD, or a placebo. Neither the owners nor the veterinarian knew which treatment each dog received.

After four weeks of daily treatment, owners and veterinarians reported on the condition of the dogs, whether they observed changes in the animals' level of pain, such as changes related to running or gait. The dogs' cell blood count and blood indicators of liver and kidney function also were evaluated before and after the four weeks of treatment.

"We found encouraging results," Halpert said. "Nine of the 10 [dogs](#) on CBD showed benefits, which remained for two weeks after the treatment stopped. We did not detect alterations in the blood markers we measured, suggesting that, under the conditions of our study, the treatment seems to be safe."

More information: Chris D. Verrico et al, A randomized, double-blind, placebo-controlled study of daily cannabidiol for the treatment of canine osteoarthritis pain, *Pain* (2020). [DOI: 10.1097/j.pain.0000000000001896](https://doi.org/10.1097/j.pain.0000000000001896)

Provided by Baylor College of Medicine

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