

Medical Cannabis Offers New Hope for Those With IBD

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✓ Fact Checked

April 19, 2023

STORY AT-A-GLANCE

- › Marijuana contains more than 60 different cannabinoids; chemical compounds the human body is uniquely equipped to respond to. Two primary ones are cannabidiol (CBD) and tetrahydrocannabinol (THC)
- › Cannabinoids interact with your body by way of naturally occurring cannabinoid receptors embedded in cell membranes throughout your body
- › Your body also has naturally occurring endocannabinoids that stimulate your cannabinoid receptors and play a role in a variety of physiologic processes, including metabolic regulation, pain, anxiety and immune function
- › The endocannabinoids produced by your body appear to perform signaling operations similar to your body's neurotransmitters such as dopamine and serotonin
- › Recent research reveals endocannabinoids play an important role in controlling inflammatory bowel diseases by preventing excess white blood cells from entering your gut and causing damage

Editor's Note: This article is a reprint. It was originally published August 29, 2018.

The marijuana plant contains more than 60 different cannabinoids; chemical compounds the human body is uniquely equipped to respond to. The two primary ones are cannabidiol (CBD) and tetrahydrocannabinol (THC), the latter of which is the psychoactive component.

Cannabinoids interact with your body by way of naturally occurring cannabinoid receptors embedded in cell membranes throughout your body. There are cannabinoid receptors in your brain, lungs, liver, kidneys, immune system and more.¹

The therapeutic (and psychoactive) properties of marijuana occur when a cannabinoid activates a cannabinoid receptor. Your body also has naturally occurring endocannabinoids similar to THC that stimulate your cannabinoid receptors and produce a variety of important physiologic processes.

So, your body is actually hard-wired to respond to cannabinoids through this unique cannabinoid receptor system, and research has proven cannabinoid receptors play an important role in many physiological processes, including metabolic regulation, pain, anxiety, bone growth and immune function.²

The earliest references to cannabis for medicinal purposes are found in the Chinese Materia Medica, which dates back to 2800 B.C. Indeed, cannabis was one of the 50 essential plants used in Traditional Chinese Medicine for thousands of years. It was only removed from widespread use in recent times due to its controversial legal status.

Medical Cannabis Shown to Treat Gut Problems

Considering the wide distribution of cannabinoid receptors, it's no surprise that cannabis can help alleviate common gut problems. For years, marijuana users have reported improvements in inflammatory bowel diseases (IBD) such as Crohn's disease and ulcerative colitis.

Now, a study^{3,4,5} by researchers at the University of Massachusetts and the University of Bath – said to be the first of its kind – confirms there's a scientific basis for such experiences. They were able to identify the actual mechanism through which cannabis affects these gut conditions. According to Popular Science:⁶

"Although numerous IBD patients use cannabis products to help treat their illness, and the phenomena has been subject to some medical research, nobody knew exactly how the medically active parts of marijuana (known as

cannabinoids) had an anti-inflammatory effect on irritated bowels before this study.

Ironically, however, the researchers weren't even looking for this precise answer; they just happened upon it in the course of trying to understand how the healthy intestine regulates itself."

Earlier research⁷ had revealed the presence of a chemical pathway in the epithelial layer of the gut lining that allows neutrophils (white blood cells) to cross into the gut, where they then help eradicate harmful microbes. The question was: How is balance maintained? What prevents excessive amounts of neutrophils from entering and causing damage?

The answer is described in the featured study. It turns out there's yet another pathway in the epithelial cells that produces endocannabinoids, and these naturally produced cannabinoids perform the converse function – they prevent neutrophils from entering the gut.

According to the researchers, patients that do not have this second pathway are therefore at increased risk of ulcerative colitis. The existence of this endocannabinoid pathway can also help explain why marijuana has a positive effect on autoimmune disorders, as epithelial cells exist not only in your gut but also cover internal organs. As reported by Popular Science:⁸

"Although the current research is in mice, it points to a possible result in humans as well. It would help explain why cannabinoids seem to provide relief for people with IBD, because they perform basically the same regulatory function as the endocannabinoids would if the body were producing them itself."

What Else Can Cannabis Treat?

The fact that your body produces its own cannabinoids – albeit in smaller amounts than what you get when using cannabis – helps explain the medicinal effect of this ancient

plant. The endocannabinoids produced by your body actually appear to perform signaling operations similar to your body's neurotransmitters, such as dopamine and serotonin.

Even though research has been limited by its classification as a Schedule 1 controlled substance, its list of medicinal benefits is still quite long. For example, cannabis has been found useful in the treatment of:^{9,10,11,12,13}

Spasticity, dystonia and tremors

Rheumatoid arthritis

Heart disease

Multiple sclerosis and other autoimmune diseases

Autism

Chronic fatigue syndrome

Nausea, vomiting and lack of appetite,¹⁴ including anorexia and cachexia (wasting syndrome)

Glaucoma

Insomnia

HIV/AIDS and hepatitis C

Amyotrophic lateral sclerosis

Asthma

High blood pressure

Pain — Medical cannabis has a long history as a natural analgesic.¹⁵ In 2010, the Center for Medical Cannabis Research released a report¹⁶ on 14 clinical studies about the use of cannabis for pain, most of which were FDA-approved, double-blind and placebo-controlled.

The report revealed that cannabis not only controls pain but in many cases, it does so better than pharmaceutical alternatives. In one study,¹⁷ three puffs of cannabis a day for five days decreased chronic nerve pain.

Seizure disorders such as epilepsy — In January 2015, the American Academy of Pediatrics updated its policy statement on cannabis, acknowledging that cannabinoids "may currently be an option for ... children with life-limiting or severely debilitating conditions and for whom current therapies are inadequate."¹⁸

Mental disorders such as depression, anxiety, stress, post-traumatic stress disorder and Tourette syndrome — In one study,¹⁹ medical cannabis reduced symptoms of depression and perceived stress by 50% and 58% respectively. Of those who inhaled cannabis, over 89% reported a reduction in depression; nearly 94% reported lower anxiety and over 93% reported fewer stress symptoms.

The greatest stress reduction was achieved after 10 puffs or more, while just two puffs reduced symptoms of depression and anxiety. Other studies have shown cannabis can be very helpful for post-traumatic distress disorder.^{20,21} Cannabis suppresses dream recall, so for those having nightmares, it can be transformative. Cannabis is also reported to help individuals stay focused in the present, which is beneficial for those experiencing flashbacks.

Neurodegenerative diseases such as dementia, Alzheimer's disease and Parkinson's disease²² — The U.S. government, through the Department of Health and Human Services, actually holds a patent on CBD as a neuroprotectant.

More specifically, animal research²³ has shown THC — the psychoactive component of cannabis — has a very beneficial influence on the aging brain.^{24,25} Rather than

dulling or impairing cognition in the elderly, THC appears to reverse the aging process and improve mental processes.²⁶

According to one of the authors, neurobiology professor Andreas Zimmer, University of Bonn, "The treatment completely reversed the loss of performance in the old animals. We repeated these experiments many times. It's a very robust and profound effect." Even more remarkable, gene activity and the molecular profile in the brain tissue was that of much younger animals.

In another study,^{27,28} researchers found low-dose THC directly impedes the buildup of beta amyloid plaque in the brain, which is associated with the development of Alzheimer's. THC also enhances mitochondrial function in the brain.

Medical cannabis is also known to reduce some of the nonmemory-related symptoms typically experienced by Alzheimer's sufferers, including anxiety, irritability and rage,²⁹ so cannabis may well have multiple benefits for those with dementia and Alzheimer's. It may also slow neurodegeneration caused by alcohol abuse.

Opioid dependency and withdrawal — In one study,^{30,31,32} seniors with osteoarthritis, stenosis or chronic hip or knee pain were prescribed medical cannabis to assess the effectiveness of the herb against pain, and whether it would have any impact on opioid use.

Eighteen percent of the patients moderately decreased their use of other pain killers; 20% significantly reduced opioid use and 27% stopped using opioids altogether. In all, 91% said they would recommend cannabis to others.

Forty-five percent of the patients in this study used vaporized oil; 28% used pills; and 17% used cannabis-laced oil topically. Twenty-one percent used cannabis once a day; 23% twice a day; and 39% used it more than twice daily.

Considering the fact that cannabinoids often work when pharmaceutical drugs fail, cannabis is often a more effective alternative. Another major benefit of cannabis

over opioids is the fact that there's no risk of overdose or death.

On the contrary, research shows a 20% decline in opioid overdose deaths in states that had legalized medical cannabis, suggesting legalizing medical cannabis nationwide could save up to 10,000 lives a year.

The reason a cannabis overdose cannot kill you is because there are no cannabinoid receptors in your brain stem, the region of your brain that controls your heartbeat and respiration. Together, these benefits make it a lead contender in the fight against rampant opioid abuse and escalating overdose deaths.³³

Cancer – Not only does cannabis help with the unpleasant side effects of traditional chemotherapy (including pain, nausea and insomnia) – actually increasing the effectiveness of chemotherapy (best results were obtained when the cannabinoids were paired with the leukemia drugs cytarabine and vincristine)³⁴ – but the cannabis itself also appears to be a natural chemotherapy agent.³⁵

Researchers have found cannabis is proapoptotic, meaning it triggers cellular suicide of cancer cells while leaving healthy cells untouched, and antiangiogenic, meaning it cuts off a tumor's blood supply. One study³⁶ found cancer cells were actually "differentially sensitive to the two main active compounds in cannabis – THC and tetrahydrocannabinolic acid (THCA)."

Dozens of studies point to marijuana's effectiveness against many different types of cancer, including melanoma, leukemia and cancers of the brain, breast, colon,³⁷ prostate, lung, head and neck,³⁸ thyroid and pituitary. Harvard researchers found THC cuts tumor growth in lung cancer while significantly reducing its ability to spread.³⁹

Other recent research suggests CBD extracted from hemp may be helpful against ovarian cancer. Hemp and cannabis plants are in the same family but differ in their THC content. Hemp contains very little or none of this psychoactive ingredient.

In one study,⁴⁰ Kentucky hemp was found to reduce the ability of ovarian cancer cells to migrate, suggesting it could eventually be used to help prevent ovarian cancer

metastasis.

In a second study,⁴¹ Kentucky hemp reduced secretion of interleukin IL-1 beta in ovarian cancer cells, thereby lowering inflammation associated with cancer progression. What's more, the researchers found Kentucky hemp "slows ovarian cancer comparable to, or even better than, the current ovarian cancer drug Cisplatin."

Educational Resources

Cannabis is now legal in 30 U.S. states, plus the District of Columbia.^{42,43} While a majority of states allow limited use of medical cannabis under certain medical circumstances, only a few have legalized recreational use. Before you consider using a cannabis product, make sure you understand the laws and rules governing its use in your state.

If the thought of legalizing medical cannabis still makes you uncomfortable, I would urge you to look at the actual research, and how doctors are using the herb in clinical practice. Dozens of studies are referenced in this article alone.

The clinical use and benefits of medical cannabis are also discussed in my interviews with Dr. Margaret Gedde and Dr. Allan Frankel, while Todd Harrison, an attorney specializing in food and drug law, discusses the legal status of CBD oil. Other helpful resources include:

The International Association for Cannabis website, which maintains a clinical studies and case report page⁴⁴

Cancer.gov,⁴⁵ the U.S. government's cancer website, contains research relating to the use of cannabis

PubMed⁴⁶ is a searchable public resource containing a vast amount of medical literature, including studies involving cannabis

The Journal of Pain⁴⁷ is a publication by the American Pain Society with a long list of studies on the pain-relieving effects of cannabis

National Institute on Drug Abuse⁴⁸ provides information about preclinical and clinical trials underway to test cannabis and various extracts for the treatment of a number of diseases, including autoimmune diseases such as multiple sclerosis and Alzheimer's disease, inflammation, pain and mental disorders

ProCon.org lists 60 peer-reviewed studies on medical marijuana and cannabis extracts published between 1990 and 2014, listed by the condition treated⁴⁹

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