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# CANNABINOID CHRONICLES

## Medical Cannabis News and Information

### **Cannabinoids Could Help Manage Epidermolysis Bullosa-related Pain**

Oral ingestion of cannabinoids could help manage pain and the urge to scratch in epidermolysis bullosa (EB) patients, according to a study that evaluated three case reports. The study was published in the *British Journal of Dermatology*.

EB is a genetic skin disorder characterized by skin tearing and blistering at the slightest touch, leading to chronic pain and itchiness that are difficult to manage. It usually occurs at birth, but sometimes the symptoms are mild and detected only when the child is older.

There are four major types of EB based on the site of blister formations within the skin layers: Epidermolysis bullosa simplex (EBS), junctional EB (JEB), dystrophic EB (DEB), and Kindler syndrome. Within each type, there are many subtypes; to date, researchers more than 30 EB subtypes have been recognized,

To deal with the pain, EB patients typically take opioids, both orally and topically. The use of opioids often starts when patients are young, and can lead to complications such as resistance and dependence.

Of interest to EB-sufferers, cannabinoids have been used as an alternative to opioids in various chronic pain-related conditions. Researchers reported the cases of three adults with different types of EB who used a combination of cannabinoids (THC and CBD) as an alternative therapy to manage EB-related pain.

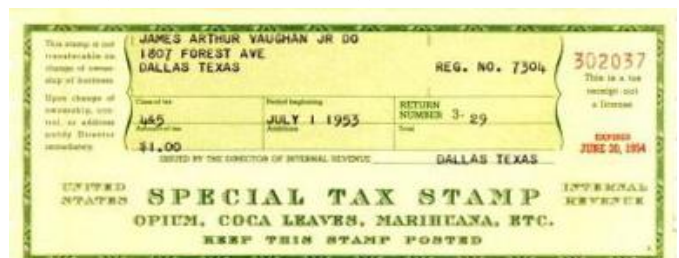
The first patient was a 64-year-old woman diagnosed with junctional EB who reported pain of 9/10 on the visual analogue scale (VAS). She used acetaminophen and opioids such as oxycodone, as well as morphine applied on the skin to manage the pain. During the study, she tested a mixture of cannabidiol (CBD) and tetrahydrocannabinol (THC) applied each day sublingually. Three months after treatment, her pain decreased to 1-4/10 on the VAS scale, and after six months, she stopped using

oxycodone every day. In the following year, topical morphine was replaced with a topical cannabinoid. This not only helped manage pain, but also reduced itchiness. The second patient was a 41-year-old man diagnosed with junctional EB. He had been treated for pain for over 10 years with acetaminophen, ibuprofen, and oxycodone, as well as topical morphine. The use of a mixture of CBD and THC applied sublingually caused his pain to decrease from 9/10 to 3/10 on the VAS scale. He also stopped using oxycodone and topical morphine and reported less urge to scratch his wounds.

The third patient was a 36-year-old man diagnosed with recessive dystrophic EB. He had chronic pain and itchiness, junction of the fingers, and skin cancer on his hands. His pain treatment included topical morphine, oxycodone, acetaminophen, and a locally injected corticosteroid. His pain improved after he started smoking cannabis, which allowed him to stop taking opioids. After a cancer-related crisis, he combined the smoked cannabis with sublingual cannabinoid oil. The treatment caused a significant reduction in pain and itchiness. The patient reported that the combination of cannabinoids was superior to any previous treatment.

It is worth noting that the cannabinoids reduced not only EB-related pain, but also the urge to scratch - these symptoms are the most difficult to manage. Further studies are needed to fully understand the potential of cannabinoid-based medicines in pain management for EB.

**Sources:** <https://onlinelibrary.wiley.com/doi/full/10.1111/bjd.17341>  
<https://epidermolysisbullosanews.com/2019/02/08/cannabinoids-could-help-manage-eb-related-pain-study-suggests/>



## ***Human: Cannabis may be helpful in autism***

In a study with 53 children suffering from autism, about two-thirds profited from a treatment with a cannabis extract high in CBD and low in THC. Authors from the Clinical Pharmacology and Toxicology Unit of Assaf Harofeh Medical Center in Tel Aviv, Israel, published their results in *Frontiers in Pharmacology*. The median age was 11 (range: 4 to 22) years. The median age was 11 (range: 4 to 22) years. They received a cannabis extract with a CBD:THC ratio of 20:1. The median dose of THC was 7 mg and of CBD 90 mg. Median duration of therapy was 66 days.

Self-injury and rage attacks improved in 68% and worsened in 9%. Hyperactivity symptoms improved in 68%, did not change in 29% and worsened in 3%. In a comment, Dr Franjo Grotenhermen, Executive Director of the IACM, noted that the denomination of the extract as CBD oil is misleading. "I have seen several patients with autism in my medical practice profiting alone from THC, while I've never seen a patient with autism significantly profiting alone from CBD," he noted. "These children received a normal and effective THC dose in the range of about 5 to 10 mg and only a moderate CBD dose. Thus, I have the impression that study participants may have profited mainly from THC and less from CBD."

**Sources:** <https://www.ncbi.nlm.nih.gov/pubmed/30687090>  
<https://www.frontiersin.org/articles/10.3389/fphar.2018.01521/full>

## ***Human: Cannabis may be helpful in anxiety disorders according to large survey***

In a survey completed by 2032 patients, of whom 888 reported authorization of cannabis for medicinal purposes, nearly half reported replacing a standard medication by cannabis. Scientists of Neuroscience Graduate Program at McMaster University in Hamilton, Canada, wrote that the "vast majority perceived symptom improvement" by cannabis.

Rates of probable disorders were high (Generalized Anxiety Disorder: 46%, Social Anxiety Disorder: 42%, Major Depressive Disorder: 26%, Panic Disorder/ Agoraphobia: 26%). 63% met screening criteria for more than one disorder. Most (92%) reported that cannabis improved their symptoms, despite continuing to endorse moderate-level severity. Nearly half (49%) reported replacing a non-psychiatric (53.7%) or psychiatric medication (46.3%) prescribed to them by their physician with cannabis.

**Sources:** <https://www.ncbi.nlm.nih.gov/pubmed/30738930>

## ***Cannabinoids may influence glioblastoma cell invasion***

In a study with glioblastoma cells and slice cultures of the hippocampus, cannabinoids reduced invasion of cancer cells and this effect was mediated by cannabis receptors.

**Sources:** <https://www.ncbi.nlm.nih.gov/pubmed/30709059>

## ***Human: Medical cannabis users reduce their intake of benzodiazepines***

According to an analysis of 146 medical cannabis patients who used benzodiazepines, 30% discontinued the use of these drugs within 2 months. Researchers of Dalhousie University Faculty of Medicine, Halifax, Canada, published their research in the IACM partner journal *Cannabis and Cannabinoid Research*.

Average age was 47 years, 61% female, and 54% reported prior use of cannabis. After completing an average 2-month prescription course of medical cannabis, 30.1% of patients had discontinued benzodiazepines. At a follow-up after two prescriptions, 65 total patients (44.5%) had discontinued benzodiazepines. At the final follow-up period after three medical cannabis prescription courses, 66 total patients (45.2%) had discontinued benzodiazepine use, showing a stable cessation rate over an average of 6 months.

**Source:** <https://www.liebertpub.com/doi/10.1089/can.2018.0020>

## ***World: The World Health Organisation (WHO) accepts the medical value of cannabis and cannabinoids***

In a letter dated Jan. 24, 2019, to the Secretary-General of the United Nations, Antonio Guterres, the Director-General of the WHO, Dr Tedros Adhanom Ghebreyesus, informed the UN about suggested changes within the international Drug Conventions. These suggestions followed meetings of the WHO Expert Committee on Drug Dependence (ECDD) in June and November 2018. WHO acknowledges the therapeutic potential of cannabis and cannabinoids and changes its position from 1954 according to which "there should be efforts towards the abolition of cannabis from all legitimate medical practice." The new international scheduling proposed by the WHO provides an increased possibility for countries to provide legal and safe access to the medical use of cannabis and to research into its medical value. Now 53 UN countries have to approve these WHO recommendations, thus amending the Convention's schedules if the simple majority vote, that is 27 countries, is positive. Initially planned for March 2019, it is entirely possible that the 2-months delay in the publication of the results postpones the vote until March 2020.

**Source:** <http://faaat.net/blog/ecdd41-outcome/>

## ***World Health Organisation publishes report on cannabis***

The WHO makes available the report by its Expert Committee on Drug Dependence (ECDD) of 2018.

**Sources:** <http://www.who.int/medicines/access/controlled-substances/Cannabis-and-cannabis-resin.pdf>

<https://www.who.int/medicines/access/controlled-substances/en/>

**More info: [www.cannabis-med.org/](http://www.cannabis-med.org/)**

## A Healthy Endocannabinoid System

As we understand it, the endocannabinoid system (ECS), a chemical signalling system in the human body (consisting of endocannabinoids, cannabinoid receptors CB<sub>1</sub> and CB<sub>2</sub>, and enzymes), is concerned with maintaining balance, or homeostasis. It is recognized as playing a significant role in regulating our physiological and neurological systems, and it has been shown to regulate sleep, appetite, psychological well-being and other vital functions, and also help reduce the likelihood of certain kinds of diseases. A recent approach to health (or perhaps a very old approach) views an unhealthy endocannabinoid system as a contributing factor in certain human diseases.

Cannabinoid receptors, discovered in 1988, are known to exist in the nervous system of animals more advanced than hydra and mollusks. It is estimated that the ECS evolved over 500 to 600 million years ago. In addition to the numerous phytocannabinoids from plants such as *Cannabis sativa* L., there are at least five known endocannabinoids in the body, and over a dozen synthesized cannabinoids.

Most of us don't realize that our bodies are making endocannabinoids all the time. These molecules function a lot like THC and the other phytocannabinoids found in cannabis. Beyond cannabis, however, certain foods and activities can also help the ECS function optimally, improve your health, and enhance the effectiveness of medical cannabis.

Endocannabinoid-enhancing foods, such as essential fatty acids, chocolate, herbs, spices, and tea, can naturally stimulate the ECS.

A healthy ratio of omega-3 and omega-6 essential fatty acids can enhance the activity of the ECS. Endocannabinoids are produced from arachidonic acid, an omega-6 fatty acid. Having enough arachidonic acid is essential for endocannabinoid production, but having too much may lead to down-regulation of cannabinoid receptors. Omega-3 fatty acids are needed to balance the omega-6 fats so that the ECS can function properly. These fatty acids are much harder to come by in the diet, and are also proven to have cardiovascular and neurological health benefits. An ideal ratio of omega-6 to omega-3 in the diet ranges from 4:1 to 1:1 (latter is best); the typical western diet often has a 10:1 or higher ratio. Some sources of endocannabinoid-enhancing fatty acids include hemp seeds and hemp oil, flax seeds and flax oil, chia seeds, walnuts, sardines and anchovies, and eggs (pasture-fed or omega-3 enriched only).

Cacao powder contains three compounds that are structurally very similar to endocannabinoids. These compounds can inhibit the breakdown of your body's own endocannabinoids, resulting in higher endocannabinoid levels, and may have some cannabinoid

activity of their own. The content of cannabinoid-like compounds in chocolate varies widely and is highest in dark chocolate and raw cacao.

Numerous herbs and teas contain compounds that can enhance the ECS. Beta-caryophyllene is a terpene found in black pepper, lemon balm, hops, cloves, cannabis, oregano, cinnamon, and several other herbs. It selectively stimulates the CB<sub>2</sub> receptor, a sought-after property in the development of treatments for inflammatory disorders. Echinacea, often used by herbalists for up to two weeks to stimulate the immune system during infections, also contains CB<sub>2</sub> agonists. *Camelia sinensis*, commonly known as "tea," contains a compound that prevents the breakdown of endocannabinoids, and another that may stimulate the cannabinoid receptors. Turmeric contains curcumin, which also raises endocannabinoid levels amongst numerous other health benefits.

Certain pesticides (e.g. chlorpyrifos and piperonyl butoxide) are known to disrupt the ECS. It's important to choose organic foods when shopping for meat, dairy, and produce.

Phthalates, frequently added to plastic and tin food containers and water bottles, are known to block cannabinoid receptors and disrupt the body's hormonal system. Choose glass or stainless steel food containers and packaging whenever possible.

Regular use of moderate to high quantities of alcohol can also impair the ECS. For optimal health and endocannabinoid function, moderate alcohol consumption or avoid it entirely.

Certain activities can naturally enhance the ECS's function, improve your health, and increase the effectiveness of medicinal cannabis: Social interaction, unstructured play time (adults too), meditation, yoga, massage, osteopathic manipulation (OMT), acupuncture, breathing exercises, and any voluntary and enjoyable exercise.

**Sources:** <https://www.ewg.org/foodnews/>  
<http://www.thevics.com/publications/vol6/VICSNewsVol6Issue2.pdf>  
<https://www.leafly.ca/news/health/how-to-stimulate-the-endocannabinoid-system-without-cannabis>  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3951193/>



## Cannabinoids and Bone Regeneration

Bone is a complex tissue with unique properties such as high strength and regeneration capabilities while carrying out multiple functions. Bone regeneration occurs both in physiological situations (bone turnover) and pathological situations (e.g. fractures), being performed by osteoblasts and osteoclasts. If this process is inadequate, fracture nonunion (failure to heal) or aseptic loosening of implants (failure of bond between implant and bone) occurs and requires a complex treatment.

Exogenous factors are currently used to increase bone regeneration process when needed, such as bisphosphonates (class of drugs that prevent the loss of bone density) and vitamin D, but limitations do exist. The cannabinoid system has been shown to have positive effects on bone metabolism. Cannabinoids at bone level mainly act on two receptors called CB-1 and CB-2, but GPR55, GPR119, TPRV1, TPRV4 receptors may also be involved. The CB-2 receptors are found in bone cells at higher levels compared to other receptors.

Endocannabinoids represented by anandamide and 2-arachidonoylglycerol, can stimulate osteoblast formation, bone formation and osteoclast activity. CB-2 agonists can stimulate osteoblast proliferation and activity, while CB-2 antagonists can inhibit osteoclast differentiation and function. CB-1 antagonist AM251 has been shown to inhibit osteoclast differentiation and activity, while GPR55 antagonist cannabidiol increases osteoblast activity and decreases osteoclast function.

An optimal correlation of dose, duration, moment of action and affinity can lead to an increased bone regeneration capacity, with important benefits in many pathological situations which involve bone tissue. As adverse reactions of cannabinoids haven't been described in patients under controlled medication, cannabinoids can represent future treatment for bone regeneration.

Sources: <https://www.tandfonline.com/doi/abs/10.1080/03602532.2019.1574303?journalCode=idmr20&>

## NHL Most Lenient About Cannabis

Of the four major North American sports leagues, none is more lenient about cannabis use than the National Hockey League (NHL).

According to in-depth reporting by two Canadian journalists, NHL players can consume roughly a joint a day and never run afoul of the cannabis policy

Other than educational initiatives, the league doesn't seem too concerned about cannabis. Fines and suspensions for cannabis users don't exist in NHL. Cannabis is banned and labelled a "drug of abuse," but only test results that reveal what is considered a dangerously high level of cannabis lead to any kind of outcome, usually a referral to a substance abuse program. The policy was negotiated between the league and the NHL Players Association, and neither side has expressed interest in changing the terms.

Cannabis is used widely by players to manage pain and reduce anxiety. Retired NHL enforcer Riley Cote, co-founder of Athletes For Care, has no problem with the NHL's lax approach to cannabis, calling it a safer option for players than a steady diet of pills and opioids.

Source: <https://www.leafly.ca/news/lifestyle/nhl-most-lenient-major-sports-league> <https://www.athletesforcare.org/cannabis>



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#### **DrugSense**

[www.drugsense.org](http://www.drugsense.org)

#### **BC Coalition of People With Disabilities**

1-800-663-1278

#### **Health Canada**

<http://www.hc-sc.gc.ca/dhp-mps/marihuana/index-eng.php>

#### **Drug Policy Alliance**

[www.drugpolicy.org](http://www.drugpolicy.org)

#### **Media Awareness Project**

[www.mapinc.org](http://www.mapinc.org)

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302-895 Fort Street, Victoria  
250-361-3521

***“What lies behind us and what lies before us are tiny matters, compared to what lies within us.”***

**-- Ralph Waldo Emerson (American essayist, lecturer, philosopher, and poet; 1803 - 1882)**