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# CANNABINOID CHRONICLES

## Medical Cannabis News and Information

### Inflammatory Bowel Disease and Cannabis

Inflammatory bowel disease (IBD) is a group of inflammatory conditions of the gastrointestinal (GI) tract. The two principle, or “classic”, types are *Crohn’s disease* and *ulcerative colitis*. There are a handful of other conditions that fall under the definition but are far fewer in number.

IBD is an autoimmune disease in which the body’s immune system attacks parts of the digestive tract - there is no known cure, short of major surgery for colitis sufferers. It can be extremely painful and often cause abdominal discomfort, nausea/vomiting, appetite loss and other related symptoms; IBD is therefore likely to cause a decreased quality of life for patients.

The primary difference between the two principle types is the location and nature of the inflammation: Crohn’s disease can affect any part, from the mouth to the anus, while ulcerative colitis is restricted to the colon and rectum. Additionally, Crohn’s disease affects the whole bowel wall while ulcerative colitis is restricted to the epithelial lining of the gut.

Treatment of IBD requires prevention of flare-ups, healing of the gastrointestinal tract where damage has occurred, and treatment of symptoms. While there are

various medical and surgical treatments available, patients are reporting relief as a result of cannabis treatment.

A study in 2011 found that with ulcerative colitis, 51% of patients are lifetime cannabis users and that one-third of them had used cannabis to treat symptoms. For Crohn’s disease patients, 48% are lifetime cannabis users and one-half of them had used cannabis to treat symptoms. Another study found that three months of medical cannabis treatment for patients resulted in reports of weight and BMI gain. They also reported improved general health perception, social functioning, ability to work, physical pain, and depression.

Cannabinoid receptors CB1 and CB2 are part of the endocannabinoid system (ECS), a chemical signalling system that plays a major role in maintaining homeostasis within the body. The ECS has been found essential to maintaining proper gut motility, sensation, and inflammation. Both CB1 and CB2 receptors are found in the cells lining the inner space of the colon (epithelium), with CB1 receptor activation tasked with preventing overstimulation of the intestinal movement and secretion which can be caused by excessive inflammation. It can therefore reduce the likelihood of diarrhea. When CB2 receptors are activated, the amount of programmed cell death (apoptosis) increases for T-cells and the number of T-cells decreases. Additionally, fewer white blood cells are called to the site of damage or potential damage. Therefore, damaging inflammation is reduced. There is evidence that THC may be helpful in reducing permeability of the epithelial lining, thus helping to reduce damage and decrease inflammation.

**Sources:** [http://en.wikipedia.org/wiki/Inflammatory\\_bowel\\_disease](http://en.wikipedia.org/wiki/Inflammatory_bowel_disease) AND [www.medicaljane.com/2014/06/28/medical-marijuana-and-inflammatory-bowel-disease-ibd/#](http://www.medicaljane.com/2014/06/28/medical-marijuana-and-inflammatory-bowel-disease-ibd/#)



**cannabISmedicine**

### **CBD extract Epidiolex effective in children with treatment-resistant epilepsy**

An experimental CBD extract of the British company GW Pharmaceuticals has produced promising results in a small study of children with hard-to-treat epilepsy. The latest findings for its new product Epidiolex follow an assessment of 27 children and young adults with treatment-resistant epilepsy who were given the drug in two U.S. hospitals.

Epidiolex is given as a strawberry-lime flavoured syrup twice a day. The medicine does not contain THC. GW said on June 17 that results after 12 weeks of therapy in the open-label study were "encouraging", with a reduction in seizure frequency of more than 50 percent. It now plans to start a Phase II/III clinical trial in the second half of the year. CBD may help children with severe epilepsy syndromes such as Dravet and Lennox-Gastaut, where seizures often persist despite high doses of multiple anti-epileptic drugs.

**Source:** [www.reuters.com/article/2014/06/17/us-gw-pharma-idUSKBN0E51M920140617](http://www.reuters.com/article/2014/06/17/us-gw-pharma-idUSKBN0E51M920140617)

### **Cancer patients may profit from cannabis use**

Cannabis use "is perceived as highly effective" by some patients with advanced cancer. This is the result of the analysis of questionnaires and medical records of adult cancer patients treated at a single institution, conducted by researchers of the University of Tel Aviv, Israel. Of approximately 17,000 cancer patients seen, 279 received a permit for cannabis from an authorized institutional oncologist.

Of 113 patients alive and using cannabis at one month, 69 (61%) responded to the detailed questionnaire. Improvement in pain, general well-being, appetite and nausea were reported by 70%, 70%, 60% and 50%, respectively. Side effects were mild and consisted mostly of fatigue and dizziness.

**Source:** <http://www.ncbi.nlm.nih.gov/pubmed/24937161>

### **CB1 receptor activity tries to fight progression of Alzheimer's disease**

CB1 activity was high in early stages of Alzheimer's disease in certain brain areas (hippocampus, frontal cortex). Researchers wrote that this indicates "an attempt to compensate for the initial synaptic impairment, which is then surpassed by disease progression. These results suggest that initial CB1 stimulation might have therapeutic relevance." Department of Pharmacology, Faculty of Medicine and Odontology, University of the Basque Country, Leioa, Spain.

**Source:** <http://www.ncbi.nlm.nih.gov/pubmed/24890912>

### **THC beneficial in post-traumatic stress disorder in clinical study**

THC causes significant improvements in post-traumatic stress disorder (PTSD). This is the result of an open study with 10 patients by researchers at Hadassah Hebrew University Medical Centre in Jerusalem, Israel. Many patients with post-traumatic stress disorder achieve only partial remission with current treatments. Cannabis is often used as therapy in treatment-resistant patients.

The new study evaluates the tolerance and safety of oral THC for chronic PTSD. Ten patients on stable medication received 5 mg of THC twice a day as additional treatment. There were mild adverse effects in three patients, none of which led to treatment discontinuation. The intervention caused a statistically significant improvement in global symptom severity, sleep quality, frequency of nightmares, and hyperarousal symptoms.

**Source:** [www.ncbi.nlm.nih.gov/pubmed/24935052](http://www.ncbi.nlm.nih.gov/pubmed/24935052)

### **Activation of CB2 receptors reduces bacterial translocation**

A new animal study suggests that cannabinoids, which activate the CB2 receptor, have the potential to treat bacterial translocation through the inhibition of intestinal oxidative stress and inflammatory cytokines in liver cirrhosis. Bacterial translocation is the migration of bacteria or bacterial products from the intestinal lumen to lymph nodes. Bacterial translocation is known to be increased in liver cirrhosis.

National Yang-Ming University School of Medicine, Taiwan.

**Source:** <http://www.ncbi.nlm.nih.gov/pubmed/24953022>

### **CB1 receptors involved in respiration and circulation**

The first systematic study of cardiovascular function in mice without CB1 receptors revealed that CB1 receptors are involved in the control of respiration and circulation. They protect mice from negative consequences of a high-fat diet. For example breathing during the night was irregular in mice without CB1 receptors, especially in those with a high-fat diet.

**Source:** <http://www.ncbi.nlm.nih.gov/pubmed/24861565>

### **No increased risk of lung cancer with cannabis smoking**

In a review researchers found only "little evidence for an increased risk of lung cancer among habitual or long-term cannabis smokers."

Lunenfeld-Tanenbaum Research Institute, Mount Sinai Hospital, Toronto, Canada.

**Source:** <http://www.ncbi.nlm.nih.gov/pubmed/24947688>

## Cerebral Palsy and Cannabis

Cerebral palsy (CP) is a term for a group of permanent (incurable), non-progressive movement disorders that cause physical disability resulting in pain, incontinence, sleep disturbance, hearing, speech and vision impairments, and other symptoms. 35% to 50% of children with CP develop seizure disorders. Cerebral palsy is caused by abnormal development of part of the brain or by damage to parts of the brain that control movement. This damage can occur before, during, or shortly after birth.

To date, no high-quality evidence (e.g. results from studies using double-blinding, a placebo control, and/or randomization) has been gathered assessing the effects of medical cannabis on patients with CP.

However, the potential for cannabis as medicine for patients with CP has been explored in some measure in the medical community with promising results. In a survey study on pain treatments used by patients with CP ([www.ncbi.nlm.nih.gov/pmc/articles/PMC3036542/](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3036542/)), the researchers found, "The treatment that was rated as providing the most relief was marijuana; however, less than 5% of the sample reported ever using this drug for pain."

Additionally, data has been gathered demonstrating the efficacy of strains of cannabis with varying cannabinoid ratios in controlling symptoms of CP, including spasticity, neuropathic pain, chronic pain, sleep disturbance, and seizures. Anecdotal evidence ([www.dailymail.co.uk/health/article-2521791/Woman-cerebral-palsy-says-smoking-pot-makes-better-mother.html](http://www.dailymail.co.uk/health/article-2521791/Woman-cerebral-palsy-says-smoking-pot-makes-better-mother.html)) provides additional support for its use as a treatment for CP symptoms. CP patients with intractable symptoms often need to explore other options when standard treatments fail; cannabis has a relatively low side-effect profile which allows for low-risk experimentation under medical guidance.

**Source:** [www www.medicaljane.com/2014/07/07/cannabis-classroom-cerebral-palsy-and-medical-marijuana/](http://www.medicaljane.com/2014/07/07/cannabis-classroom-cerebral-palsy-and-medical-marijuana/)



## Cannabis Could Slow Tumour Growth

Scientists at the University of East Anglia (UEA) have shown how the main psychoactive ingredient in cannabis could reduce tumor growth in cancer patients.

Research published July 14 reveals the existence of previously unknown signaling platforms which are responsible for the drug's success in shrinking tumours.

Dr Peter McCormick, from UEA's school of Pharmacy, said: "THC, the major active component of marijuana, has anti-cancer properties. This compound is known to act through a specific family of cell receptors called cannabinoid receptors. However, it was unclear which of these receptors were responsible for the anti-tumour effects of THC."

"We show that these effects are mediated via the joint interaction of CB2 and GPR55 - two members of the cannabinoid receptor family. Our findings help explain some of the well-known but still poorly understood effects of THC at low and high doses on tumour growth."

Recently there has been great interest in how cannabis, and specifically THC, influence cancer pathology.

"There has also been a drive in the pharmaceutical industry to create synthetic equivalents that might have anti-cancer properties."

**Source:** [www.sciencedaily.com/releases/2014/07/140714100339.htm](http://www.sciencedaily.com/releases/2014/07/140714100339.htm)

## Six-Year Old Gets Life Back, Parents Run Risk

Six-year old Liam McKnight has Dravet syndrome, a severe form of epilepsy that has resulted in up to 70 seizures per day. His parents turned to medical cannabis upon the suggestion of another father of a child with the same disease.

Liam is now one of the youngest licensed users in Canada and is getting his life back in varying degrees. However, Health Canada's MMPR rules require it to be used in dried form, either smoked or vaporized. As a result, Liam's parents run the risk of criminal charges because they choose to administer cannabis to Liam in a processed oral form (oil infusion), not allowable from licensed producers under the present system.

A dispensary in Montreal, Medical Cannabis Access Society (whose website says that it is temporarily closed), processes the dried cannabis for Liam into an oil extract which is then sent to a BC lab for testing.

Given recent research, it's time for decision-makers to find a better way for kids like Liam and others whose health might benefit from an oral cannabis extract.

**Source:** <http://www.mapinc.org/drugnews/v14/n589/a07.html?180>

## Cannabis and Sickle Cell Disease Pain

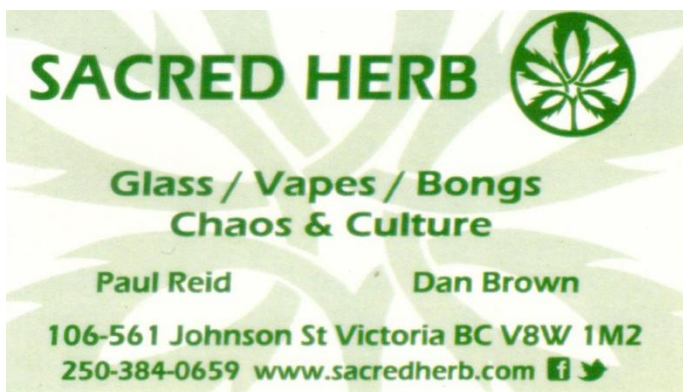
A group of University of Minnesota researchers is testing to see if medical cannabis can help treat chronic pain caused by sickle cell disease, but US state and federal laws are putting a hitch in their study.

As researchers continue with the study's next step - conducting human trials -- they're heading to California, as Minnesota doesn't easily allow testing cannabis on people. The state's recently passed medical cannabis law doesn't include sickle cell disease as a qualifying medical condition, but the University's current research could play a role in how that law changes in the future.

"We find that cannabinoids have good outcomes in treating pain [in mice with sickle cell disease]," said chief researcher and associate professor of medicine Kalpna Gupta. Gupta said the researchers are now ready to expand their study to patients. And in doing so, they will move to California, where medical marijuana became legal nearly two decades ago. Minnesota's stricter version of that law will take effect next summer.

**Sources:** [www.mndaily.com/news/campus/2014/06/10/medical-marijuana-could-treat-pain-caused-sickle-cell-disease](http://www.mndaily.com/news/campus/2014/06/10/medical-marijuana-could-treat-pain-caused-sickle-cell-disease)

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## Whole Plant Cannabis Research Is Necessary

Research into the therapeutic aspects of cannabis has been increasing over recent years with growing evidence that it indeed has medical value (yes, really). This newsletter has tried to inform readers about some of the current research; e.g. the International Association for Cannabinoid Medicines (see page 2).

Research emphasis, however, has typically been on a handful of isolated cannabinoids such as Tetrahydrocannabinol (THC) or Cannabidiol (CBD). Whether derived from the whole plant, or synthesized, they are compounds in isolation. As such, the understanding of how the various other constituents work synergistically is sorely lacking.

Why do whole plant research? *Cannabis sativa* L. has over 480 different chemicals. There are 67 known cannabinoids, 120 terpenes (scent and flavour) and 21 flavonoids. Not all of the constituents may be of value; however, Dr. Sanjay Gupta, in a documentary on medical cannabis, stated that having the "entourage effect" is important for these medicines to be successful. The entourage effect means that multiple cannabinoids working together, no matter the amounts, are more effective than an isolated or synthetic cannabinoid, thus showing why having the whole plant available is paramount.

One of the first two doctors to identify and synthesized THC was Dr. R. Mechoulam, and he found that THC works better in the presence of CBD. In 2011 Dr. E. Russo discovered that terpenes also contribute to the entourage effect. With the recent explosion of interest into CBD strains, it is important to remember that there are no CBD-specific strains, only strains that have a higher concentration of CBD. (Thanks to The BCCCS in Vancouver for this timely reminder)

**Sources:** <http://londoncannabisclub.com/feds-approve-research-whole-cannabis-plant/> AND <https://thecompassionclub.org/>

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#### **AIDS Vancouver Island**

3rd Fl- 713 Johnson St, Victoria  
250-384-2366

#### **VIPWA**

101-1139 Yates Street, Victoria  
250-382-7927

#### **The Action Committee of People with Disabilities**

948 View Street, Victoria  
250-383-4105

#### **MS Society of Canada**

1004 North Park Street, Victoria  
(250) 388-6496

#### **HepC BC**

2642 Quadra Street, Victoria  
250- 595-3892

#### **BC Cancer Agency**

2410 Lee Ave, Victoria  
(250) 519-5500

#### **Canadians for Safe Access**

[www.safeaccess.ca](http://www.safeaccess.ca)

#### **John W. Conroy, Q.C.**

1-877-852-5110 (toll free)  
[www.johnconroy.com](http://www.johnconroy.com)

#### **Kirk Tousaw, Barrister**

604-836-1420  
[www.tousawlaw.ca](http://www.tousawlaw.ca)

#### **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)

#### **Together Against Poverty Society**

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

***"It is easy to perform a good action,  
but not easy to acquire a settled habit of performing such actions."***

**-- Aristotle (Greek philosopher, 384-322 B.C.)**