



Vol. 9, Issue 10  
November 2017

# CANNABINOID CHRONICLES

## Medical Cannabis News and Information

### **Medical Cannabis and HIV/AIDS**

Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV). HIV interferes with the body's ability to fight the organisms that cause disease by damaging the immune system, specifically the CD4 cell (often called T cells). Untreated, HIV reduces the number of CD4 cells, or T cells, in the body.

HIV can be sexually transmitted, spread by contact with infected blood, or from mother to child during pregnancy, childbirth or breast-feeding. Without medication, it may take years before HIV weakens one's immune system to the point that one has AIDS.

There's no cure for HIV/AIDS, but there are medications that can dramatically slow the progression of the disease. These drugs have reduced AIDS deaths in many developed nations, but HIV continues to decimate populations in Africa, Haiti and parts of Asia.

Since the beginning of the epidemic in the early 1980's, more than 70 million people have been infected with the HIV virus and about 35 million people have died of HIV. Globally, 36.7 million (30.8–42.9 million) people were living with HIV at the end of 2016. Sub-Saharan Africa remains most severely affected, with nearly 1 in every 25 adults (4.2%) living with HIV and accounting for nearly two-thirds of the people living with HIV worldwide.



Image: <https://www.medicalmarijuanaofhawaii.org/easing-pain-hivaid>s

Symptoms of patients with HIV/AIDS include nausea, vomiting and corresponding weight loss, neuropathic pain, aches, painful numbness, anxiety, and depression. Cannabis has been found to be effective, sometimes very, in managing these symptoms.

As people became aware that cannabis consumption could often cause "the munchies", it was found to be very useful to counter against the wasting syndrome that made early AIDS patients lose lots of weight. Both smoked/vaporized and oral forms of cannabis work to stimulate appetite and increase caloric intake, but the former is typically much faster to take effect.

A 2007 study out of Columbia University found that cannabis significantly increased caloric intake. Cannabis was also found to be a very effective anti-emetic, countering the nausea and appetite-suppression side effects of AZT (a drug used to delay development of AIDS in patients infected with HIV).

Neuropathic pain can be a large component of HIV/AIDS. Dr. Donald Abrams, an American pioneer in the early AIDS crisis, saw firsthand how his patients benefited from using cannabis. A small placebo-controlled study conducted by Dr. Abrams in 2007 concluded that smoked cannabis was as effective as oral cannabinoids for neuropathic pain. Additionally, one of Dr. Abrams studies suggested that cannabis actually boosts T cell counts.

A small study revealed that patients using cannabis showed no additional impact on immune function while using cannabis. And, while cannabis is an anti-inflammatory and can trigger cell death in specific immune cells, no risk associated with using cannabinoids in patients has been discovered. Additionally, drug interaction studies of THC and protease inhibitors used to treat HIV infection found no impact on these protease inhibitors' efficacy. One study found that HIV patients

*continued on page 3....*

# ***International Association for Cannabinoid Medicines (IACM) Bulletin***

## ***Human: Topical cannabis reduced wound pain in a small case series***

The treatment of wounds caused by Pyoderma Gangrenosum (rare condition that causes large, painful sores (ulcers) to develop on skin) with topical cannabis reduced pain and opioid use in three patients, according to a report by researchers of the U. of Toronto, Canada. Cannabis was compounded in organic sunflower oil. Authors noted that “the ideal methods of pain relief for wound patients are modalities that are topical, lack systemic side effects, non-invasive, self-administered, and display rapid onset of analgesia. Extracts derived from the cannabis plant have been applied to wounds for thousands of years.” They concluded from their observations that cannabis “has the potential to improve pain management in patients suffering from wounds of all classes.”

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28818631>

## ***Human: Nabilone reduced cannabis use in cannabis-dependent persons***

In a study with 18 adults with cannabis dependence, 10 received the synthetic THC derivative nabilone and 8 received a placebo. The use of nabilone reduced cannabis use over the study period of 10 weeks.

Beth Israel Deaconess Medical Center, Boston, USA.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28921814>

## ***Science: Differences of concentrations of cannabinoids and terpenes between cannabis flowers and extracts***

After the preparation of a cannabis extract by supercritical fluid CO<sub>2</sub> (SC-CO<sub>2</sub>), cannabinoid potency increased by factors of 3.2 for THC and 4.0 for CBD intensity compared to cannabis flower. Monoterpenes were lost in the extraction process; monoterpene alcohols increased by a factor of about 5-9 and sesquiterpenes by about 4-9.

Results demonstrate that the product of SC-CO<sub>2</sub> extraction may have a significantly different chemotypic fingerprint from that of cannabis flower.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28926863>

## ***Science: “Dabbing” may be associated with the production of harmful substances***

The inhalation of cannabis extracts (“dabbing”) has become popular. A study investigated if terpenes in cannabis may be transformed to other products when heated. Authors wrote that “methacrolein, benzene, and several other products of concern to human health were formed under the conditions that simulated real-world dabbing.”

Dept. of Chemistry, Portland State University, USA.

**Sources:** <https://www.ncbi.nlm.nih.gov/pubmed/28983528>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5623941/>

## ***Human: Daily cannabis use may protect the liver in people with HIV and hepatitis C***

In a study with 838 patients, who are both infected with HIV and the hepatitis C virus daily cannabis use was associated with a significantly reduced risk of fatty liver, researchers of INSERM in Marseille, France, reported. Fatty liver is common in Human Immunodeficiency Virus (HIV) - Hepatitis C Virus (HCV) co-infected patients. Among study sample patients 40.1% had steatosis (fatty liver). Fourteen percent reported daily cannabis use, 11.7% regular use, and 74.7% no use or occasional use. Daily cannabis use was associated with a reduced prevalence of steatosis. Authors concluded that “daily cannabis use may be a protective factor against steatosis in HIV-HCV co-infected patients.”

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28984055>

## ***Cells: CBD inhibits inflammation in the colon***

In a study with human tissue of the colon, both the plant cannabinoid cannabidiol (CBD) and the endocannabinoid palmitoylethanolamide (PEA) were shown to be anti-inflammatory in irritable bowel syndrome and appendicitis.

University of Nottingham, Royal Derby Hospital, UK.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28954820>

## ***Human: Cannabis improved symptoms of Tourette syndrome***

The authors retrospectively evaluated effectiveness and tolerability of cannabis in 19 adults with Tourette syndrome. Tics scores decreased by 60%, and 18 of the 19 participants were at least “much improved.”

Cannabis was generally well tolerated, although most participants reported side effects.

The Hospital for Sick Children, U. of Toronto, Canada.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28464701>

## ***Animal: Cannabinoid treatment may reduce development of tolerance to morphine***

In an animal study, cannabidiol (CBD) prevented the liver from harmful effects of alcohol; CBD attenuates alcohol-induced liver steatosis (fatty liver due to abnormal retention of lipids within a cell), metabolic dysregulation, inflammation and neutrophil-mediated injury. CBD may have therapeutic potential in the treatment of alcoholic liver diseases associated with inflammation, oxidative stress and steatosis, which deserves exploration in human trials.

National Institutes of Health, Bethesda, USA.

**Source:** <https://www.ncbi.nlm.nih.gov/pubmed/28935932>

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

## Medical Cannabis & HIV/AIDS

...continued from Page 1

using cannabis were 3.3 times more likely to adhere to anti-viral therapy than non-users.

One of the main reasons that cannabis is a good choice for HIV patients is that inhaled cannabis doesn't interfere with the effectiveness of the protease inhibitors, a type of medication used to treat or prevent infection by HIV. Studies show that cannabis can offer safe relief ([www.drugscience.org/amu/amu\\_clinical\\_research.html](http://www.drugscience.org/amu/amu_clinical_research.html)). However, one potential danger from smoked cannabis is contamination with bacteria and fungus spores, notably aspergillus fungus, which causes a lung disease that can be life-threatening to AIDS patients. Though rare, these infections have been reported by patients smoking cannabis - therefore, avoid contaminated cannabis.

A recent study, published August 2017 in the *Journal of Acquired Immune Deficiency Syndromes (JAIDS)*, and published online by the U.S. National Institute of Health, Δ9-Tetrahydrocannabinol (THC) may help prevent the progression from HIV infection to the development of AIDS. The full study, conducted by researchers at Michigan State University East Lansing, can be found at: <https://www.ncbi.nlm.nih.gov/pubmed/28692581>

Another recent study, published in the *Journal of Substance Abuse Treatment*, looked at HIV treatment outcomes and cannabis use independent of alcohol and other drug use. Their results "indicate that unlike alcohol, other substances and depression, marijuana use may not be a barrier to the effective treatment of HIV." The full study can be found at: [http://www.journalofsubstanceabusetreatment.com/article/S0740-5472\(17\)30225-8/fulltext](http://www.journalofsubstanceabusetreatment.com/article/S0740-5472(17)30225-8/fulltext)

High-THC and low-CBD strains may be best for those seeking appetite stimulation; CBD is an antagonist of the CB1 receptor and may interfere with THC's ability to stimulate appetite. The same can be said for treating nausea. Marinol, an oral synthetic THC, is sometimes prescribed for appetite stimulation and nausea relief, but the larger number of side effects versus whole plant formulations makes it less desirable for some.

Neuropathic pain, stress and anxiety, however, respond well to high-CBD chemotypes. By alternating cannabis varieties, high-THC vs. high-CBD, a wide range of effects can be achieved.

**Sources:** Backes, Michael (2014). *Cannabis Pharmacy - The Practical Guide to Medical Marijuana*. NY, NY: Black Dog & Leventhal Publishers. pp 208-210

Gieringer, Dale., E. Rosenthal and G.T. Carter (2008). *Marijuana Medical Handbook*. Oakland, CA. Quick American. pp. 44 -49  
<https://thejointblog.com/study-thc-may-help-prevent-hiv-becoming-aids/>

<http://www.thctotalhealthcare.com/category/hiv/aids/>

## THCA and Huntington's Disease

The compound THCA derived from cannabis could be used one day to treat Huntington's Disease and other neurodegenerative and neuroinflammatory diseases, according to a study published recently in the *British Journal of Pharmacology*.

Researchers found that THCA, an acidic precursor of THC, reduced inflammation and served as a neuro-protectant when they analyzed cannabis compounds in animals. In the study, the compound improved motor function and prevented brain degeneration.

THCA is a natural cannabinoid found in the cannabis plant. When harvested, a small amount of THCA is converted to THC due to drying; more is slowly converted over time. Called decarboxylation, this process can be greatly accelerated by adding heat, such as when smoking, vaporizing, or baking - in these cases, most, if not all, THCA is converted to THC.

Unlike THC, THCA does not have psychoactive properties. This makes it similar to cannabidiol (CBD), another non-psychoactive cannabis compound that has been used medically to reduce inflammation and is being studied as a potential neuroprotectant (<https://www.medpagetoday.com/primarycare/alternativemedicine/64606>).

The study's results, the authors noted in their article, qualify THCA "as a lead structure for the development of novel drugs for the management of (Huntington's) and, possibly, other neurodegenerative and inflammatory diseases."

Other acidic precursors within the plant could also be medically beneficial, the authors wrote, but more research is needed. How precisely THCA and the other acidic precursors interact with the brain's receptors to yield medical benefits remains unclear, the authors noted.

Emerald Health Bioceuticals, a San Diego-based company, is developing a THCA-based medicine to treat patients with pain, and cognitive dysfunction such as brain fog and memory loss.

**Source:** <http://onlinelibrary.wiley.com/doi/10.1111/bph.14019/full>



## **Dr. Russo's 'Cannabis: An Unconventional Solution to the Opioid Crisis?'**

Ethan Russo is internationally renowned for his research on cannabis compounds and their roles in the body. As a neurologist and psychopharmacologist, Russo has established himself as a crucial champion of the integral roles plant-based medicine should play in modern therapeutics. After wrapping up a decade-plus run as Senior Medical Advisor for GW Pharmaceuticals in 2014, Russo co-founded PHYTECS, a biotechnology company devoted to researching and developing medical approaches to the human endocannabinoid system, for which Russo serves as Medical Director.

In September 2017, Dr. Russo joined forces with Americans for Safe Access (ASA) to address one of North America's gravest problems: the opioid crisis, which now claims the lives of 60,000 Americans and 2,500 Canadians a year, with opioid overdoses killing 80 people a day. From his webinar discussion ('Cannabis: An Unconventional Solution to the Opioid Crisis?'), six things came out:

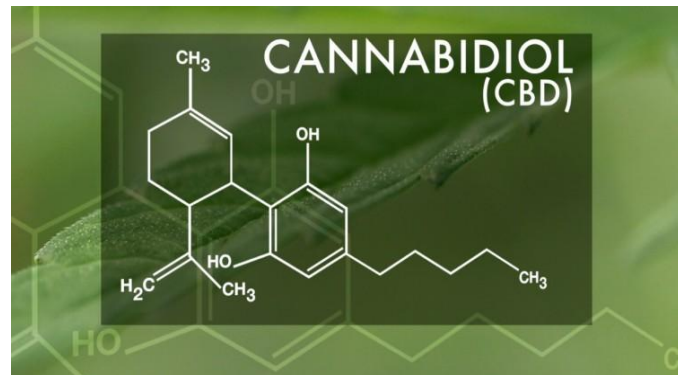
1. Combining cannabis with opioids is nothing new. Cannabis' potential in fighting the opioid epidemic ranges from replacing or enhancing opioids in the treatment of chronic pain to serving as an exit drug for those fighting opiate addiction. As Dr. Russo explained, none of this is unprecedented.
2. A key appeal of early medical cannabis was its ability to kill pain without inducing nausea or sleep. As 19<sup>th</sup>-century Philadelphia physician Hobart Hare wrote, "...I have found the efficient dose of a pure extract of hemp to be as powerful in relieving pain as the corresponding dose of the same preparation of opium."
3. Using cannabis to treat opiate addiction is also nothing new. In 1902, the American doctor Thomas D. Crothers hailed cannabis' "temporary removal of the worst symptoms" of opioid addiction, and in 1944, the LaGuardia Commission tested extracts of cannabis on

incarcerated opiate addicts and found they had much less severe withdrawal symptoms.

4. Opioids kill 80 Americans a day, yet cannabis has never killed anyone. This is because of the way cannabinoid receptors are deployed in the brain. Opioid overdoses routinely cause death by overloading the opioid receptors in the brain's cardiorespiratory centers, with the result being "respiratory depression" that causes users to simply stop breathing and die.
5. It's not just THC; CBD also has a place in fighting the opioid epidemic. Studies of opiate-addicted rats have shown that administering CBD inhibits opiate-seeking behavior. Dr. Russo noted that high doses of CBD can effectively deactivate the drug-seeking part of brain.
6. While the US struggles to get up to speed on cannabis' opioid-replacing potential, 29 other countries are racing forward. Nabiximol (Sativex) is legal in 29 countries, but not the US. Dr. Russo noted the two-week cannabis trial among a European hospice population with opioid-resistant pain, where steady doses of Nabiximol brought a 30% reduction in patients' pain.

See <https://www.youtube.com/user/SafeAccess> for Dr. Russo's webinar.

**Source:** <https://www.leafly.com/news/health/6-takeaways-from-dr-ethan-russos-cannabis-an-unconventional-solution-to-the-opioid-crisis>



**Visit us at [www.thevics.com](http://www.thevics.com)**

### ***RESOURCE DIRECTORY:***

**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

**Victoria Brain Injury Soc.**  
830 Pembroke St., Victoria  
(250) 598-9339

**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

***"I don't want to achieve immortality through my work. I want to achieve it through not dying."***

**-- Woody Allen (filmmaker, writer, actor, and comedian)**