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CANNABINOID CHRONICLES

Medical Cannabis News and Information

Dispensary Challenges Federal Medical Cannabis Rules

A Toronto-based not-for-profit medical cannabis dispensary (Phytos Apothecary and Wellness Centre) has filed a lawsuit in Federal Court challenging Canada's current medical cannabis access rules. The lawsuit alleges that the federal government is violating the Canadian *Charter of Rights and Freedoms* by unreasonably restricting patient access to medical cannabis. The lawsuit argues that the federal government's system (called the *ACMPR*) does not provide critically and chronically ill Canadians with "reasonable access" to medical cannabis and medical cannabis derivative products.

The *ACMPR* came into effect in August 2016 because of a Federal Court of Canada decision finding that the former regulations (the *MMPR*) were constitutionally invalid and violated the Charter. Justice Phelan of the Federal Court declared in *Allard v Canada* that the *MMPR* was invalid. His ruling touched on storefront medical cannabis outlets, stating that dispensaries were at the "heart of access" for patients.

The *ACMPR* was the federal government's response. According to the allegations in the lawsuit, however, the *ACMPR* failed to include dispensary access and continues to pose unreasonable obstacles to patients obtaining medicine. The *ACMPR* only allows for limited access by way of either growing it for oneself, having a designated person grow it for the patient or by purchasing it via mail-order from a small group of officially licensed government suppliers known as LPs (Licensed Producers). The lawsuit alleges that the LP system is plagued with problems, including supply shortages, lack of physician participation, inadequate choice of derivative cannabis medicines, recalls of product for mould and other contaminants, and restrictive rules on changing suppliers and how medicine is obtained.

"My client is seeking a declaration that the *ACMPR* and the *Controlled Drugs and Substances Act* prohibition on supplying medical consumers with cannabis infringes the *Charter*," asserted Kirk Tousaw, counsel to the Plaintiff and a long-time advocate for access to medical cannabis. "Cannabis patients in this country deserve to be able to easily obtain medicine without the obstacles that prohibition and the overly-restrictive government program create," continued Tousaw, "And no Canadian should face the prospect of being jailed for helping sick people access this safe and effective natural health product."

Raids on dispensaries have become increasingly common as more storefront locations open throughout Canada. "Patients have voted with their feet and their wallets," said Tousaw. "Patients need and want dispensary access, and people have been successfully helping patients in the dispensary model for almost twenty years," he continued. "The Courts, and dispensaries have repeatedly urged the federal government to enact regulations and bring this vital service out of the shadows and into the light. It is far past time that we stopped using the criminal law to prevent access to cannabis medicine."

Statement of Claim: <http://www.tousawlaw.ca/wp-content/uploads/2017/02/2017-02-07.Phytos.Statement-of-Claim-filed.pdf>

Source: <http://www.tousawlaw.ca/2017/02/22/dispensary-challenges-federal-medical-cannabis-rules/>



International Association for Cannabinoid Medicines (IACM) Bulletin

Human: Cannabis use not associated with higher risk of cardiovascular diseases

In a study with 5113 adults aged 18 to 30 years at baseline (1985-1986) from the Coronary Artery Risk Development in Young Adults study, who were followed for more than 25 years, cannabis was not associated with an increased risk for cardiovascular events. Compared with no cannabis use, cumulative lifetime and recent cannabis use showed no association with incident cardiovascular diseases, stroke, coronary heart disease, or mortality from cardiovascular diseases.

National Heart, Lung, and Blood Institute, Bethesda, USA.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28207342>

Human: No association between cannabis use and depression

In a longitudinal study with 2,348 patients with major depressive disorders, level of cannabis use was associated with significantly more depressive symptoms at follow-up. However, after adjusting for baseline confounding factors, no associations were found between cannabis use and suicidality, functionality and quality of life. Authors concluded “that many of the associations between cannabis use and a more severe course of major depressive disorders do not seem to be attributed to cannabis use itself but to associated socio-demographic and clinical factors.”

Ariel University, Israel.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28214781>

Human: The medical use of cannabis could decrease prescription opiate abuse

Medical cannabis use is highly under-researched, according to researchers of the University of New Mexico and their recent findings suggest that it could actually help to battle addiction. Professors Jacob Vigil and Sara Stith, along with pain specialist Dr Anthony Reeve, presented their research on how the New Mexico Medical Cannabis Program has affected prescription opioid use in patients with chronic pain on 3 March.

Vigil said the Medical Cannabis Program is unprecedented because patients manage their own care, since doctors can't prescribe doses of cannabis, but only authorize patients to obtain it. The study compared prescription opioid use in Reeve's patients who were enrolled in the medical cannabis program and his patients who were not enrolled over an 18 month period, Stith said. Their research found a 31% reduction in opioid use after 18 months in patients, who used cannabis, and a slight increase in opioid use in the control group.

Source: www.dailylobo.com/article/2017/03/medical-cannabis-research

Human: Patients prefer cannabis over opioids

In a survey with 271 Canadian patients who received cannabis for medical use, cannabis often replaced other medicinal drugs (63%), particularly pharmaceutical opioids (30%), benzodiazepines (16%), and antidepressants (12%). Patients also reported substituting cannabis for alcohol (25%) and cigarettes/tobacco (12%). University of British Columbia, Okanagan, Canada.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28189912>

Animal: Omega-3 fatty acids increased CB1 receptors and reduced colon cancer growth

In a study with mice dietary omega-3 fatty acids significantly inhibited intestinal polyp growth, correlating with CB1 receptor expression induction.

National Institute of Gastroenterology "S. de Bellis", Research Hospital, Bari, Italy.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28245562>

Animal: CBD improved cognition in a rat model of schizophrenia

Using a rat model of schizophrenia, researchers examined the effect of chronic CBD treatment on cognition and social interaction. CBD treatment significantly improved recognition, working memory and social interaction deficits in this model. Authors wrote that “these novel findings present interesting implications for potential use of CBD in treating the cognitive deficits and social withdrawal of schizophrenia.”

Science, Medicine and Health, and Illawarra Health and Medical Research Institute, U. of Wollongong, Australia.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28230072>

Animal: Exercise and diet influence endocannabinoid levels in the brain

In rats, 12 weeks of training for half an hour induced a significant increase of the level of the endocannabinoid 2-AG in the hypothalamus, a certain brain region. A diet high in fat increased the levels of the CB1 receptor in another brain region, the hippocampus.

Université Lille Nord de France, France.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28283967>

Proceedings from 2016 Annual Symposium of the ICRS now available in Cannabis and Cannabinoid Research

The proceedings from the 2016 Annual Symposium of the International Cannabinoid Research Society are available: <http://online.liebertpub.com/doi/full/10.1089/can.2017.29008.crs>

Plus “Cannabinoids in Parkinson's Disease” at: <http://online.liebertpub.com/doi/full/10.1089/can.2017.0002>

For more info visit: www.cannabis-med.org

Cannabis Use Has Negligible Effects Following Severe Traumatic Injury

Nearly half of all states have legalized medical cannabis or recreational-use cannabis. As more states move toward legalization, the effects on injured patients must be evaluated. This study sought to determine effects of cannabis positivity at the time of severe injury on hospital outcomes compared with individuals negative for illicit substances and those who were users of other illicit substances.

A Level I trauma center performed a retrospective chart review covering subjects over a 2-year period with toxicology performed and an Injury Severity Score (ISS) of more than 16. These individuals were divided into the negative and positive toxicology groups, further divided into the marijuana-only, other drugs-only, and mixed-use groups. Differences in presenting characteristics, hospital length of stay, intensive care unit (ICU) stays, ventilator days, and death were compared. A total of 8,441 subjects presented during the study period; 2,134 (25%) of these had toxicology performed; 843 (40%) had an ISS of more than 16, with 347 having negative tests (NEG); 70 (8.3%) substance users tested positive only for marijuana (MO), 323 (38.3%) for other drugs-only, excluding marijuana (OD), and 103 (12.2%) subjects showed positivity for mixed-use (MU).

The ISS was similar for all groups. No differences were identified in Glasgow Coma Scale (GCS), ventilator days, blood administration, or ICU/hospital length of stay when comparing the MO group with the NEG group. Significant differences occurred between the OD group and the NEG/MO/MU groups for GCS, ICU length of stay, and hospital charges. Cannabis users suffering from severe injury demonstrated no detrimental outcomes in this study compared with nondrug users.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28272189>

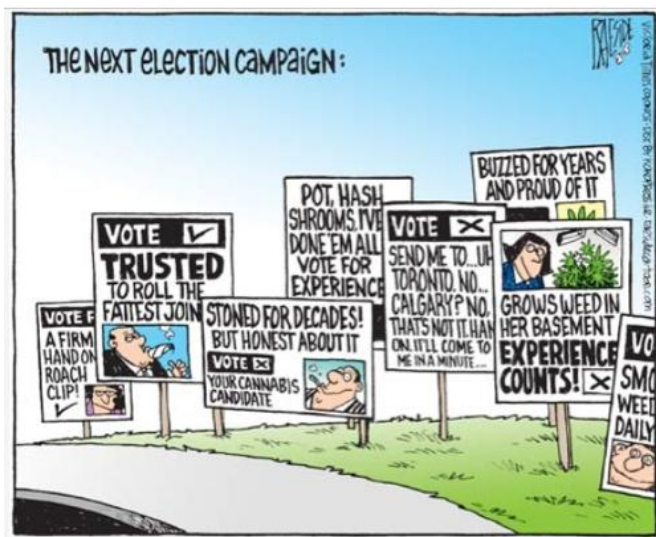
Cannabidiol May Help Treat Anxiety and Substance Abuse Disorders

Learning to associate cues or contexts with potential threats or rewards is adaptive and enhances survival. Both aversive and appetitive memories are therefore powerful drivers of behaviour, but the inappropriate expression of conditioned responding to fear- and drug-related stimuli can develop into anxiety-related and substance abuse disorders respectively. These disorders are associated with abnormally persistent emotional memories and inadequate treatment, often leading to symptom relapse.

Studies show that cannabidiol (CBD), the main non-psychotomimetic phytocannabinoid found in *Cannabis sativa*, reduces anxiety. There is also accumulating evidence from animal studies investigating the effects of CBD on fear memory processing indicating that it reduces learned fear in paradigms that are translationally relevant to phobias and post-traumatic stress disorder. CBD does so by reducing fear expression acutely and by disrupting fear memory reconsolidation and enhancing fear extinction, both of which can result in a lasting reduction of learned fear.

Recent studies have also begun to elucidate the effects of CBD on drug memory expression using paradigms with translational relevance to addiction. The findings suggest that CBD reduces the expression of drug memories acutely and by disrupting their reconsolidation. The study reviews the literature demonstrating the anxiolytic effects of CBD before focusing on studies investigating its effects on various fear and drug memory processes. Understanding how CBD regulates emotion and emotional memory processing may eventually lead to its use as a treatment for anxiety-related and substance abuse disorders.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/28268256>



Don't forget to vote on May 9th (Apologies to Raeside again!!)

THC/CBD Could Extend Lives of Brain Cancer Patients

UK drug maker GW Pharmaceuticals announced Feb. 7, 2017, that it has achieved positive results in the second phase of a clinical study on Glioma, a cannabinoid-based therapy aimed at treating an aggressive form of brain cancer (recurrent glioblastoma multiforme, or GBM).

The study looked at 21 patients with GBM; those given the drug lived significantly longer (83% 1st yr survival rate) than those given a placebo (52% survival).

Gliomas are tumors that arise from glial cells mainly in the brain but can also be found within the spinal cord.

Source: www.gwpharm.com/about-us/news/gw-pharmaceuticals-achieves-positive-results-phase-2-proof-concept-study-glioma

Cannabidiol Potentiates Stem Cell Differentiation into Neurons

Stem cell research has generated countless waves of enthusiasm and controversy throughout the decades. Now and then news emerges of promising new stem cell techniques, only to be followed by negative or mediocre clinical results. Potential applications have included treating heart disease, eye lesions, diabetes, stroke, spinal cord injury, dementia, neurological degeneration and cancer, but to this day only bone marrow transplants have proved feasible.

The technical problems are manifold, ranging from extraction, culturing and implantation challenges, to safety issues and donor rejection. Perhaps the most prohibitive aspect of all is the deep lack of understanding of how stem cells are actually regulated.

This problem is well illustrated by the surprising finding that endocannabinoids could very well play a decisive role in cell maturation and differentiation.

Two recent preclinical studies (see Sources) concluded that cannabidiol (CBD) strongly regulates the proliferation, migration and neurogenesis of mesenchymal stem cells (MSCs). These adult stem cells are able to differentiate into the main types of precursor cells and have demonstrated anti-inflammatory, immune, metabolic and self-renewal properties. As of now, there are over 500 ongoing or concluded clinical trials based on MSCs.

At the turn of the century, researchers found MSCs present in the mouth cavity. Besides being easier to collect, these cells also showed some stronger properties compared to MSCs from other tissues. In light of this knowledge, Dr. Emanuela Mazzon and colleagues became interested in finding out whether oral MSCs were

also responsive to CBD.

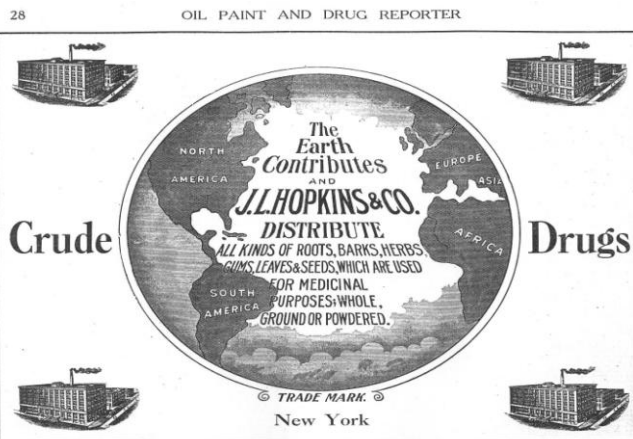
To test the ability of CBD to promote the differentiation of MSCs into neuronal precursor cells, the authors labeled the latter with a colorful marker and proceeded to quantify them. Based on observations, CBD was strongly associated with an increase in neural precursor cells after 2 and 4 days of incubation, compared to the control (DMSO). The relative decrease from the 4th day is explained by the further differentiation of those cells into fully fledged neurons.

These results suggest a strong regulatory role of CBD in the differentiation of stem cells into neurons. Further in vivo studies are required to assess the therapeutic potential of combining MSCs with CBD in animal models of neuronal diseases.

The original study by Dr. Mazzon can be found in the *Journal of Cellular Biochemistry* (<http://onlinelibrary.wiley.com/doi/10.1002/jcb.25815/full>).

Sources: <https://news.lift.co/cannabidiol-potentiates-stem-cell-differentiation-neurons/>
<http://www.sciencedirect.com/science/article/pii/S0006295213007478>:
<http://www.sciencedirect.com/science/article/pii/S027858461530004X>

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Victoria Brain Injury Soc.
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BC Cancer Agency
2410 Lee Ave, Victoria
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www.tousawlaw.ca

DrugSense
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

Media Awareness Project
www.mapinc.org

Together Against Poverty Society
302-895 Fort Street, Victoria
250-361-3521

"Once you lose that sense of wonder at being alive, you're pretty much on the way out..."

-- David Bowie (musician, painter, and actor, 1947 -2016)