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CANNABINOID CHRONICLES

Medical Cannabis News and Information

Cannabis & Multiple Sclerosis (MS)

Multiple Sclerosis (MS) is an autoimmune disease characterized by chronic inflammation of the myelin sheath that encloses nerves in the brain and spinal column. When this tissue becomes inflamed for long periods of time, it causes irreversible tissue damage that inhibits the ability of the nerves to communicate with the body through the central nervous system. The result is chronic pain, loss of motor control, fatigue, and muscle spasticity and weakness.

Over the last several years, extensive research has been performed to study the effects of cannabis on MS symptoms. Cannabinoids found in the plant, such as THC and CBD, have proven to reconstruct the natural process our body performs through naturally occurring endocannabinoids.

In autoimmune patients such as those with MS, the body does not adequately produce these endocannabinoids due to the immune system attacking the DNA of the individual. This attack causes a breakdown in normal body processes, resulting in a nervous system that cannot function properly. The compounds found in cannabis connect to the cannabinoid receptors and pain receptors in the body and act as a stand-in to promote this healing process.

Some of the benefits of cannabis for MS are:

It protects the brain - When immune cells activate, they release pro-inflammatory proteins called cytokines. These cytokines cause rampant inflammation in the brain. This ultimately results in the destruction of neurons, and progressively worsening symptoms. The cannabinoids in cannabis, primarily THC and CBD, are potent anti-inflammatories that deactivate the immune system. Cannabinoids promote neurogenesis, the creation of new brain cells. Compounds in cannabis are also potent antioxidants, giving them neuroprotective properties which combat oxidative stress,

Eases nerve pain and reduces inflammation - Cannabis is a powerful analgesic that engages pain receptors in the body, reducing chronic pain. This chronic pain is caused by inflammation of nerve tissue, which leads to pain signals being sent throughout the body. By reducing the inflammation on the nerves, patients find much-needed relief from this pain.

Reduce muscle spasticity and spasms - As mentioned above, cannabinoids are powerful anti-inflammatories. THC and CBD compounds deactivate this immune response that leads to chronic inflammation and stops the attack on the central nervous system. The compounds are also powerful antioxidants which contain neuro-protective properties; this capability protects the cells, tissues, and DNA from damage. THC and CBD are proven to dramatically reduce uncontrollable muscle spasms including the spasms that cause the frequent urge to urinate.

Sativex, a pharmaceutical spray made from whole-plant cannabis with a cannabinoid ratio of THC to CBD at 1:1, is prescribed in several countries for the control of muscle spasticity.

Eases depression - Chronic stress is one of the primary causes of depression in adults; unfortunately for MS patients, there's rarely a shortage of it. Researchers found that rats under chronic stress produce fewer endocannabinoids (endocannabinoids are cannabinoids that our bodies produce naturally). **Continued page 3...**



Image: <https://cannabishealthradio.com/blog/2017/06/07/cannabis-and-multiple-sclerosis/>

Human: There are low blood concentrations of anandamide in patients with autism

In a study which compared 59 patients with autism to 53 healthy children, those with lower anandamide concentrations were more likely to have autism. Authors wrote that “these findings are the first empirical human data to translate preclinical rodent findings to confirm a link between plasma anandamide concentrations in children with ASD [autism spectrum disorder].”

Source: <https://www.ncbi.nlm.nih.gov/pubmed/29564080>

Human: CBD-rich cannabis extract improved symptoms of ulcerative colitis in a controlled clinical study

A CBD-rich cannabis extract may be beneficial for symptomatic treatment of ulcerative colitis. This is the result of a placebo controlled study conducted by scientists of Guy's and St Thomas' NHS Foundation Trust in London, UK. Of 60 patients 29 received a capsulated cannabis extract and 31 received a placebo for 10 weeks. Authors noted that the extract also contained a number of other compounds including up to 4.7% THC. Mean daily doses of CBD were about 300 mg, taken in two doses of 150 mg in the morning and evening, corresponding to an additional dose of about 14 mg of THC.

There was no difference between the cannabis group and the placebo group in the percentage of patients in remission after treatment. However, quality-of-life and global assessment of illness severity was better in the cannabis group than in the placebo group. There were a number of adverse effects, which according to the authors may be attributed to the THC in the extract. Improvements may have also been caused by THC.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/29538683>

Human: Cannabis use was associated with reduced mortality following orthopaedic surgery

In a large sample of 9.5 million US patients who underwent one of five selected procedures in a four-year period, cannabis use was associated with a highly decreased probability of mortality compared to no cannabis use. Researchers of Tufts University School of Medicine in Boston analysed a large database, which included patients undergoing hip, knee, and shoulder arthroplasty, spinal fusion, and traumatic femur fracture fixation. 26,416 (0.28%) were identified with a diagnosis of cannabis use disorder. Cannabis use was associated with a slightly increased risk of heart failure, stroke, and cardiac disease.

Authors wrote “the significance of these findings remains unclear. More research is needed to provide insight into these associations in a growing surgical population.”

Source: <https://www.ncbi.nlm.nih.gov/pubmed/29558287>

IACM: New publications in Cannabis and Cannabinoid Research

New articles have been published in the CCR, the partner journal of the IACM:

“Hallucinations” Following Acute Cannabis Dosing: A Case Report and Comparison to Other Hallucinogenic Drugs by Frederick S. Barrett, Nicolas J. Schlienz, Natalie Lembeck, Muhammad Waqas, Ryan Vandrey.

<http://www.liebertpub.com/doi/10.1089/can.2017.005>

New York Physicians' Perspectives and Knowledge of the State Medical Marijuana Program by Alexandra Sideris, Fahad Khan, Alina Boltunova, Germaine Cuff, Christopher Gharibo, Lisa V. Doan.

<http://www.liebertpub.com/doi/10.1089/can.2017.004>

A National Needs Assessment of Canadian Nurse Practitioners Regarding Cannabis for Therapeutic Purposes by Lynda G. Balneaves, Abeer Alraja, Daniel Ziemianski, Fairleth McCuaig, Mark Ware.

<http://www.liebertpub.com/doi/10.1089/can.2018.000>

Verbal Memory Performance and Reduced Cortical Thickness of Brain Regions Along the Uncinate Fasciculus in Young Adult Cannabis Users by Nina Levar, Alan N. Francis, Matthew J. Smith, Wilson C. Ho, Jodi M. Gilman.

<http://www.liebertpub.com/doi/10.1089/can.2017.0030>

Human: CBD did not improve cognition in patients with schizophrenia

In a placebo-controlled study with 36 patients with schizophrenia, who received stable antipsychotic medication, CBD had no effect on cognitive impairments. Participants received either 600 mg of oral CBD for 6 weeks or placebo. There were no differences in side effects between placebo and CBD with the exception of sedation, which was found more often in the CBD group. Schizophrenia and Neuropharmacology Research Group Yale, VA Connecticut Healthcare System, W.Haven, USA.

Source: <https://www.ncbi.nlm.nih.gov/pubmed/29619533>

Human: The legalization of cannabis reduces crime

According to an analysis of data on crime and other issues in the states of Washington and Oregon, the legalization of cannabis for recreational use was associated with a significant reduction in rapes and property crimes, and in the use of other drugs including alcohol. Four possible mechanisms were discussed by the authors: “the direct psychotropic effects of cannabis; substitution away from violence-inducing substances; reallocation of police effort; reduced role of criminals in the marijuana business.”

Source:

<http://www.sciencedirect.com/science/article/pii/S0167268118300386>

Studies Link Legal Cannabis with Fewer Opioid Prescriptions

Two new studies suggest that legalizing cannabis may help to fight the problem of opioid addiction and fatal overdoses. The new studies don't directly assess the effect of legalizing cannabis on opioid addiction and overdose deaths. Instead, they find evidence that legalization may reduce the prescribing of opioids. Over-prescribing is considered a key factor in the opioid epidemic.

Both studies were released April 2 by the journal *JAMA Internal Medicine*.

One study looked at trends in opioid prescribing under US Medicaid, which covers low-income adults, between 2011 and 2016. It compared the states where cannabis laws took effect versus states without such laws.

Results showed that laws that let people use cannabis to treat specific medical conditions were associated with about a 6% lower rate of opioid prescribing for pain. And when states with such a law went on to also allow recreational marijuana use by adults, there was an additional drop averaging about 6%. This suggests that medical cannabis laws didn't reach some people who could benefit from using cannabis instead of opioids, said Hefei Wen of the University of Kentucky in Lexington, one of the study authors.

The other study looked at opioid prescribing nationwide for people using US Medicare, which covers people 65 years or older and those with disabilities. Every year from 2010 through 2015, researchers compared states

with a medical cannabis law in effect to those without one.

Researchers found that Medicare patients in states with cannabis dispensaries filled prescriptions for about 14% fewer daily doses of opioids than those in other states. Patients in states that only allowed them to grow cannabis at home showed about 7% fewer doses.

W. David Bradford, an economist at the University of Georgia in Athens who's an author of the second study, said the results add to other findings that suggest to experts that cannabis is a viable alternative to opioids. The weight of that evidence is "now hard to ignore," said Bradford, who said he thinks federal regulations should be changed to allow doctors to prescribe cannabis for pain treatment.

The two studies have some limitations. For one thing, they don't reveal whether individual patients actually reduced or avoided using opioids because of the increased access to marijuana. The findings in Medicaid and Medicare patients may not apply to other people. And the results may have been skewed by some characteristics of the state populations studied.

Sources: <http://www.mapinc.org/drugnews/v18/n094/a06.html?1042>
<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2676997>

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<https://www.ncbi.nlm.nih.gov/pubmed/29610827>
<https://www.ncbi.nlm.nih.gov/pubmed/29610897>

Cannabis & Multiple Sclerosis cont'd

From page 1... Cannabis helps by helping to stabilize moods and by alleviating symptoms of depression.

Aids digestion - Constipation, problems with bowel control, and difficulty digesting can make day-to-day life miserable in MS patients. 70% of immune cells are in your gut; unsurprisingly, cannabinoids engage with these immune cells and quiet inflammation in the bowels.

THC is also a well-known appetite stimulant. The cannabinoid triggers the release of hunger hormones and jump-starts metabolism.

Acts as a sleep aid - Patients in pain sleep better with cannabis. According to a study conducted by British GW Pharmaceuticals, the effects of CBD and THC were tested on 2000 patients experiencing pain. The study found that participants got markedly better sleep and experienced less pain.

Cannabis also helps you sleep more deeply. During deep sleep, your body rebuilds bones and muscles. The immune system is also repaired during this sleep phase.

Protects vision - Inflammation can cause blurred vision;

some patients even go blind temporarily or have uncontrolled eye movements. In some cases, MS causes inflammation of the optic nerve. This causes you to lose some or all of your ability to see until the swelling subsides. Cannabis may help reduce the disorienting effects of MS on vision by reducing the inflammation of the optic nerve.

Sources: <https://herb.co/marijuana/news/marijuana-and-ms>
<http://ushealthtimes.com/7-benefits-for-treating-multiple-sclerosis-with-cannabis/>

The Other Coast - By Adrian Raeside



ATTENTION MEMBERS: A fellow member is promoting a 50/50 draw towards the purchase of a vaporizer. The game can be found at the following site:

<https://www.facebook.com/photo.php?fbid=10160254811040243&set=a.10150996434035243.767441.660695242&type=3&theater>

Cellular Agriculture and Cannabis

Cellular agriculture is defined as “the production of agricultural products from cell cultures”.

Experts compare cellular agriculture to the decades-old process of creating insulin. It uses genetic modification to craft products with certain amounts of specified cannabinoids. Proponents have been applying this process elsewhere to uncured meats, while innovators within the cannabis industry espouse another potential target: to efficiently develop products rich in THC, CBD, or other cannabinoids, tailored to treat medical conditions and serve the recreational market with reliable, consistent ingredients.

The cannabinoid CBDV (cannabidiol) has particularly received attention recently for its potential to treat patients with epilepsy, for example, via cellular agriculture. Traditional cannabis farming cannot yield enough CBDV, experts say, but cellular agriculture could.

Hyasynth Bio, in Montreal, PQ, has turned to cellular agriculture in which crops are made from cell cultures. It has added the chunk of cannabis DNA that codes for CBDV into yeast DNA, which turns the yeast into CBDV production plants. This allows for rapid, large-scale CBDV creation with none of the concerns around growing cannabis. Once optimized, using microbes like yeast will make harvesting compounds such as CBDV efficient and cost-effective.

For now, at least, the bulk of cellular agriculture efforts are being directed at the medical market. Take CBDV, for example. A cannabinoid similar but not identical to CBD, it occurs only in small traces of certain strains. GW Pharmaceuticals is evaluating its ability to treat autism spectrum disorders and epilepsy, with the company recently beginning Phase 2 of an epilepsy clinical trial, according to its website.

Sources: <http://www.hyasynthbio.com/>
<https://www.leafly.com/news/science-tech/cellular-agriculture-could-be-the-future-of-cannabis?>

Shortage of Legal Cannabis Will Be a Gift to the Black Market

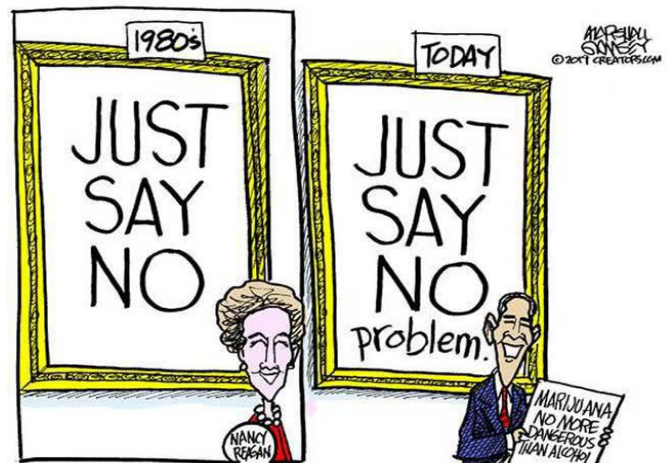
It might seem that the best way to protect Canadians from the evils of cannabis is to restrict supply and discourage advertising. But new research indicates such an intuitive approach may actually have the opposite effect, including making the drug more accessible to kids and diverting supply from people who need it to treat pain or seizures.

Instead, based on evidence expected to be published this year, the best thing the government can do is increase supply and keep prices low.

"At the federal level, supply should be their main concern," says economist and policy analyst Rosalie Wyonch, who helped assemble the new data.

While Canada's legal cannabis industry insists it is on track to squeeze out the black market, research from the C.D.Howe Institute, the Canadian think-tank where Wyonch works, contradicts that claim.

Sources: <http://www.cbc.ca/news/business/cannabis-weed-pot-canada-1.4598560>



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2642 Quadra Street, Victoria
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BC Cancer Agency
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www.safeaccess.ca

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www.johnconroy.com

Kirk Tousaw, Barrister
604-836-1420
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

“The only thing necessary for the triumph of evil is for good people to do nothing.”

-- Edmund Burke, Irish political philosopher