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CANNABINOID CHRONICLES

Medical Cannabis News and Information

CBD & Degenerative Disk Disease

Degenerative disk disease causes pain resulting from damage to the discs in the spine and can occur from injury or naturally from aging. Discs serve to stabilize and mobilize the spine, and also to absorb shock resulting from movement.

When intervertebral discs are damaged and degenerate, the spine loses stability and mobility, and several complications can arise, including osteoarthritis (vertebrae start to rub together), herniation (discs bulge out and may compress nerves), and spinal stenosis (the spinal canal, where the spinal cord travels, gets smaller and may also compress nerves). Symptoms experienced with these complications may include pain, numbness, tingling, and disordered movement, and can be severely debilitating.

The results of a controlled animal study published in *PLoS One* suggest that administration of cannabidiol (CBD) may be useful in reducing damage caused by intervertebral disc degeneration. A model of human disc degeneration was created in 19 rats, which in turn were split into three groups. Each received a different concentration of CBD: 30, 60 and 120 nmol. The discs were then examined using MRI (magnetic resonance imaging) and histologically (under a microscope, in order to see the injuries in finer detail).

MRI analysis showed that treatment with 30 and 60 nmol of CBD did not result in improvements. However, the group that had been administered 120 nmol of CBD did experience reduced damage. By MRI, improvements were noted within 2 days of injury/treatment, and they endured until at least day 15 post-injury/treatment (the last day of the experiment) when examined by MRI and histologically.

Sources: www.ncbi.nlm.nih.gov/pmc/articles/PMC4269422/
www.medicaljane.com/2014/12/31/study-cannabidiol-cbd-may-prevent-intervertebral-disc-degeneration/

Safe-Injection Sites Cost Effective

A new Canadian study about safe-injection sites for intravenous drug users concludes that they are cost-effective to the health care system.

Researchers at St. Michael's Hospital in Toronto carried out an analysis that compared the projected costs of maintaining supervised injection sites over a period of 20 years with the potential savings to the health system in averted HIV and hepatitis C infections.

The researchers found that one facility in Toronto would incur \$33.1 million in direct operating expenses over 20 years, but save \$42.7 million in health-care costs because of an anticipated reduction in HIV and hepatitis C infections. This represented a net savings of \$9.6 million.

The study, published in the journal *Addiction*, focused exclusively on Toronto and Ottawa. It found that five facilities in Ontario would be cost-effective.

Presently, only Vancouver has a safe-injection site; Insite opened in 2003 and has had zero fatal overdoses so far. Over 40 peer-reviewed studies have confirmed that Insite and other harm-reduction strategies like free needle exchanges have slashed HIV infections and overdose death rates, and have increased the number of people seeking treatment without contributing to an increase in crime.

Unfortunately, the previous Conservative government passed bill C-2 (Respect for Communities Act) in June 2015 that makes it "nearly impossible" for new sites to open up. Vancouver Coastal Health, which operates Insite, calls the legislation unduly onerous and will make it much more difficult to renew the site's operating exemption coming due in Spring 2016.

Source: <http://montrealgazette.com/news/local-news/safe-injection-sites-are-cost-effective-to-health-system-study>

HARM Reduction

International Association for Cannabinoid Medicines (IACM) Bulletin

Human: CBD extract may reduce seizures by at least 50% in about half of children with epilepsy

Three studies presented at the American Epilepsy Society's 69th Annual Meeting in Philadelphia highlight the efficacy and safety of Epidiolex, a cannabis extract containing cannabidiol (CBD), of the British company GW Pharmaceuticals.

The largest CBD study presented data on Epidiolex from an open study at 16 sites in the USA. The study involves 261 people, predominantly children, who have severe epilepsy that had not responded adequately to other treatments. The average age of the participants was 11. Over the course of 12 weeks, the study participants were given Epidiolex in gradually increasing doses. In all cases, Epidiolex was added to their current treatment regimes.

After three months of treatment, the frequency of all seizures was reduced by a median of 45% in all participants. Almost half (47%) of the participants in the study experienced a 50% or greater reduction in seizures and 9% of patients were seizure-free. Among specific patient populations, patients with Dravet Syndrome had a 62% reduction in seizures and 13% were seizure-free. Patients with Lennox-Gastaut Syndrome experienced a 71% reduction in seizures.

Adverse events occurred in more than 10% of participants with the most common being somnolence, diarrhoea and fatigue and led to discontinuation in 4% of patients.

Source: www.sciencedaily.com/releases/2015/12/151207145856.htm

Animal: Activation of CB2 receptors may reduce body weight in obesity

In obese mice a synthetic cannabinoid (JWH-015), which activates the CB2 receptor, reduced body weight and fat mass. Authors concluded that these "results demonstrate a role for CB2 receptors in modulating energy homeostasis and obesity associated metabolic pathologies in the absence of any adverse impact on mood."

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26588700>

Human: Cannabis use associated with a reduction in obesity-related medical costs

Using data from the 1990 to 2012 Behavioral Risk Factor Surveillance System researchers found that medical cannabis laws were associated with a 2% to 6% decline in the probability of obesity. They concluded that their estimates suggest that these laws "induce a \$58 to \$115 per-person annual reduction in obesity-related medical costs."

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26602324>

Human: THCV inhibits some THC effects in clinical study

In a study with ten male cannabis users THCV (tetrahydrocannabivarin) inhibited some THC effects, researchers of the Institute of Psychiatry of King's College in London, UK, wrote in the Journal of Psychopharmacology. 10mg oral pure THCV or placebo were administered daily for five days, followed by 1mg intravenous THC on the fifth day.

THCV was well tolerated and subjectively indistinguishable from placebo. THC did not significantly increase psychotic symptoms, paranoia or impair short-term memory, while still producing significant intoxicating effects. Recall of presented words was impaired by THC and only occurred under placebo condition suggesting a protective effect of THCV. THCV also inhibited THC-induced increased heart rate. Nine out of ten participants reported THC under THCV condition to be subjectively less intense compared to placebo.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26577065>

Human: Endocannabinoids in human milk

12 endocannabinoids and related compounds were detected in human milk with the highest levels being found for 2-AG (2-arachidonoylglycerol) and 17(R)-hydroxydocosahexaenoic acid, respectively. Concentrations decreased rapidly in storage, depending on temperature.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26656029>

Human: Cannabis use is associated with a lower risk for metabolic syndrome

An analysis of 8478 people of 20 to 59 years of age showed that current cannabis use was associated with a lower risk of metabolic syndrome, researcher of the University of Miami Leonard M. Miller School of Medicine, USA, reported. Among young adults, current cannabis users were 54% less likely than never users to present with metabolic syndrome. Metabolic syndrome is associated with increased risk for developing diabetes, heart attack and stroke.

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26548604>

Science: Bioactive and protective compounds in hempseed

Four new lignanamides (secondary metabolites) were identified from hempseed. Authors wrote that "the new identified compounds in this study added to the diversity of hempseed composition and the bioassays implied that hempseed, with lignanamides as nutrients, may be a good source of bioactive and protective compounds."

Source: <http://www.ncbi.nlm.nih.gov/pubmed/26585089>

Happy New Year from the VICS Staff

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

Is It the End of the US CARERS Act?

The CARERS Act, an American bipartisan bill that would reschedule cannabis from Schedule 1 to Schedule 2 (to recognize legitimate medical value) is languishing and it is expected to fail due to inaction.

The bill, known as the CARERS (The Compassionate Access, Research Expansion and Respect States) Act, would also remove cannabidiol (CBD) from the federal definition of cannabis, allow banking institutions to process transactions with legitimate state regulated cannabis based businesses, allow Veterans Affairs Medical Center doctors to advise and assist patients regarding use of medical cannabis in states where it is legal, allow states to set their own medical cannabis policies, and eliminate federal prosecution of patients, providers, and businesses in states with medical cannabis programs.

Sadly ironic and hypocritical, the chair of the Senate Judiciary Committee Senator Chuck Grassley (R) has stated that he opposes moving cannabis to Schedule 2 but feels that components of the marijuana plant might help children suffering from epileptic seizures and that aggressive medical research is needed(!). However, research is very hard to do while cannabis is a Schedule 1 drug; one of the major reasons to reschedule cannabis is to **allow** more research.

What exactly has Grassley been smoking?

Sources: www.leafly.com/news/headlines/it-may-be-the-end-for-the-carers-act



Topical CBD Treatment May Reduce Central Nervous System Inflammation

A study investigating the effectiveness of a topical cannabidiol (CBD) cream on a mouse model of an autoimmune disorder that leads to demyelination (like multiple sclerosis (MS) in humans) found that the cream helped to reduce damage caused by the disease.

Using healthy mice and mice with experimental autoimmune encephalomyelitis [(EAE)- *encephalo= brain, myel= myelin= fatty nerve covering, itis= inflammation*] as models for humans with MS, researchers applied either 1% purified (>98%) CBD cream, inactive cream, or no cream, to the skin of the healthy mice, and to the skin of diseased mice once symptoms of EAE began to appear. The mice were observed daily; 28 days after EAE had been induced, spinal cord and spleen cell samples were taken.

Researchers found: a back leg paralysis was reversed; a reduction in spinal cord damage indicators such as demyelination and white blood cell count; a reduction in release of lymphocytes from spleen cells; and a reduction in inflammatory signals.

The results of this study provide further support for the potential of cannabinoids in reducing damage caused by autoimmune/inflammatory diseases like MS. More uniquely, however, they show that cannabinoids may produce beneficial biological effects even when only applied to the skin, as opposed to typical internal administration (e.g. edibles, vaporizing, or smoking).

Sources: www.ncbi.nlm.nih.gov/pubmed/26489494

www.medicaljane.com/2015/11/25/study-topical-cbd-treatment-may-reduce-central-nervous-system-inflammation/

Medical Cannabis Patients Gain E-Cigarette Exemption in Ontario


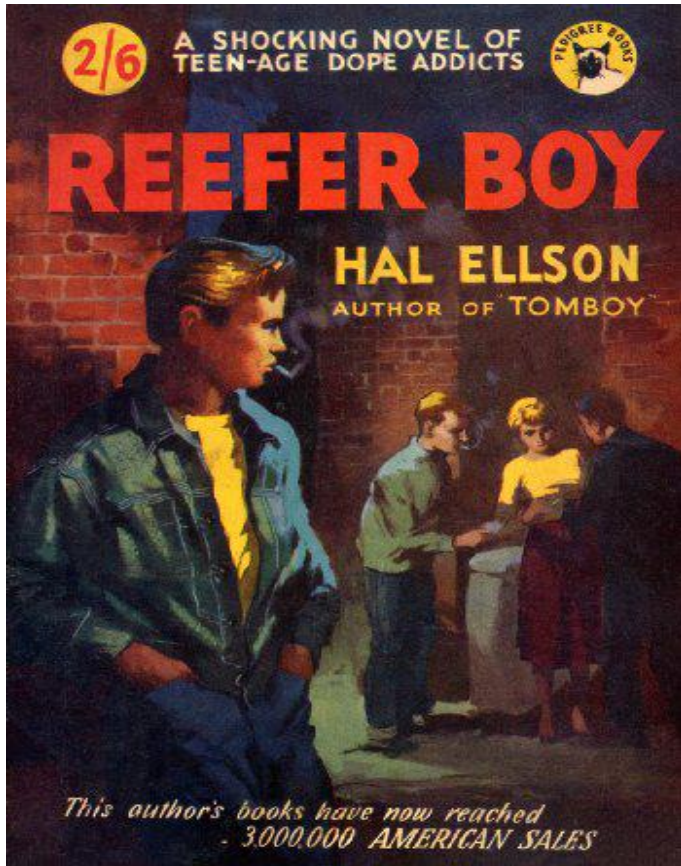
The Ontario Ministry of Health and Long Term Care announced regulations on November 23, 2015 to amend the Electronic Cigarette Act and the Smoke Free Ontario Act to confirm “that the ban on using an e-cigarette in smoke-free places does not apply to a medical marijuana user who uses an e-cigarette for medical [purposes]”.

Canadians for Fair Access to Medical Marijuana (CFAMM) participated in consultation with the Ministry to advocate for an exemption for medical cannabis vaporizer use under the two acts.

“Many patients, including myself, choose to vaporize their medicine, and any prohibition on vaporizer use would have severely limited the ability of patients to use their medication as prescribed,” said Jonathan Zaid, Founder and Executive Director of CFAMM.

Sources: <http://cfamm.ca/2015/11/ecig-reg/>

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Arthritis Society Assembles Group to Assess Cannabis Research Priorities

Cannabis can be beneficial for those that suffer from arthritis. Roughly two-thirds of the patients licensed under the MMAR listed arthritis as their reason for use; dispensaries see it commonly among patients.

The Canadian Arthritis Society has taken notice and has put together a group that includes medical cannabis researchers, patient advocates, cannabis producers and bureaucrats to identify research priorities for the drug and create prescription guidelines for doctors.

The society gathered a cannabis roundtable in Vancouver on Dec. 3 for two days of discussions. It plans to produce a report in 2016 that will identify areas where more research could benefit patients while answering important questions from doctors such as appropriate dosage levels, how cannabis should be administered, and which patients could benefit the most.

Source: www.mapinc.org/drugnews/v15/n686/a04.html

Cannabis Can Reduce Opioid Use

It may only be one study but Bob Deslauriers' opioid reduction by employing cannabis has convinced the Toronto General Hospital to launch a multi-hospital research project on using cannabis to wean off or reduce opioid use in patients. Dr. Hance Clarke, who co-authored Deslauriers' case study, stressed that one case does not prove the effectiveness of cannabis to phase out narcotics, but Clarke and colleagues have begun an observational study involving numerous patients; a more rigorous randomized controlled trial is planned.

A recent study at UBC found that 80% of medical cannabis patients used it to replace prescription drugs for conditions ranging from pain to depression and HIV. The most common reason was fewer negative side effects.

Source: <http://news.nationalpost.com/news/canada/marijuana-eyed-as-safer-substitute-to-reduce-prescription-narcotic-addictions-overdoses>

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"My advice to other disabled people would be, concentrate on things your disability doesn't prevent you doing well, and don't regret the things it interferes with. Don't be disabled in spirit as well as physically."

-- Stephen Hawking (physicist, cosmologist, and author)