

**Drugs and Alcohol in the Workplace** 

1.888.730.7821 (Toll free Ontario) workplacesafetynorth.ca



#### Housekeeping notes

- The webinar will begin at 12:00 p.m.
- To access the audio portion of this webinar, please use headphones or ear buds.
- Please note the 'CHAT BOX' to the right of the screen. At any time during the presentation, feel free to type in your questions. We will try to answer some questions as we go, but most will be answered right after the presentation.
- For your reference, this presentation will be emailed to attendees within one business day of the webinar.



#### **Webinar hosts**

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Legal Access to Marijuana – The Workplace Impact

Why it Matters & How to Manage it

Randy Herman









# WHAT IS MARIJUANA?





#### WHAT IS MARIJUANA?

# **//** What is Marijuana?

Cannabis: Sativa, Indica & Ruderalis

The flowering or fruiting tops of the cannabis plant (excluding the seeds and leaves when not accompanied by the tops) from which the resin has not been extracted, by whatever name they may be designated.

1961 United Nations Single Convention on Narcotic Drugs



#### WHAT IS MARIJUANA?

# **// How is Cannabis Ingested?**

- Smoking/vaporization
- Oral (ingesting edibles / sublingual)
- Rectal administration
- Transdermal delivery
- Eye drops
- Aerosols



# FUN FACT... ????



## // Colorado, USA

There are more dispensaries in Colorado than Starbucks, McDonald's and 7-Elevens combined – and the numbers keep growing...



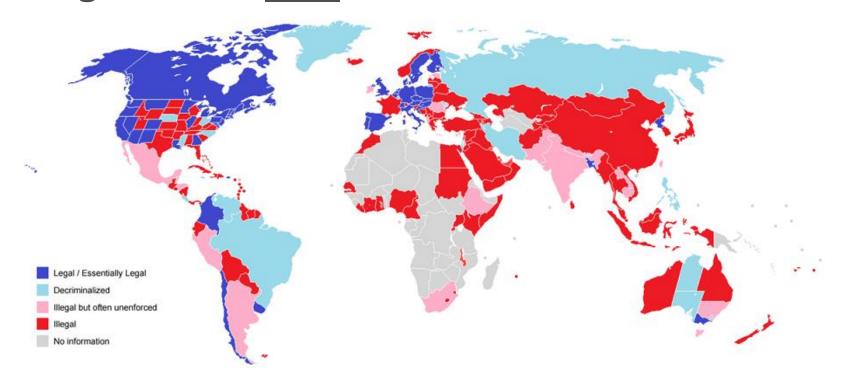






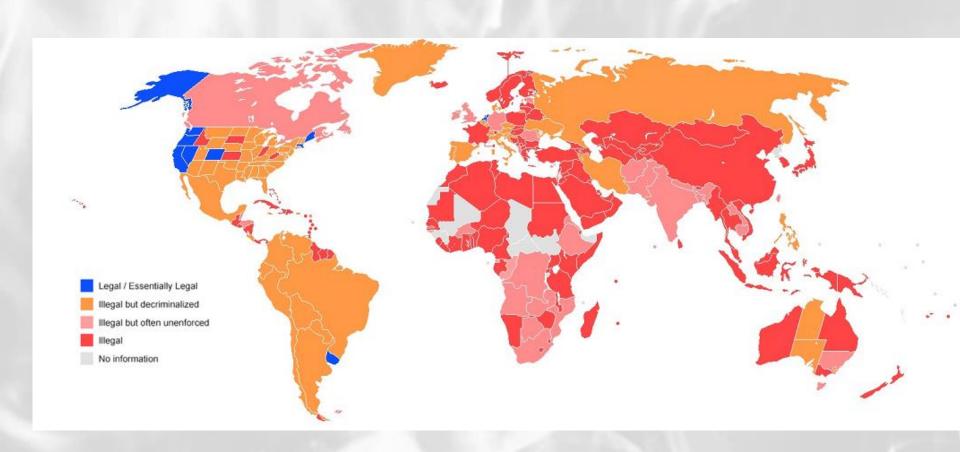
#### THE CURRENT STATE GLOBAL OVERVIEW

### Legal Status with Medical Authorization

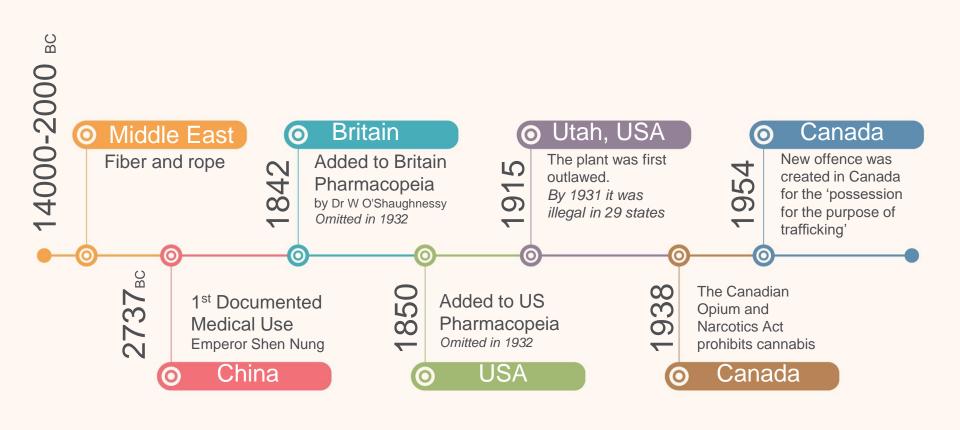


# THE CURRENT STATE GLOBAL OVERVIEW

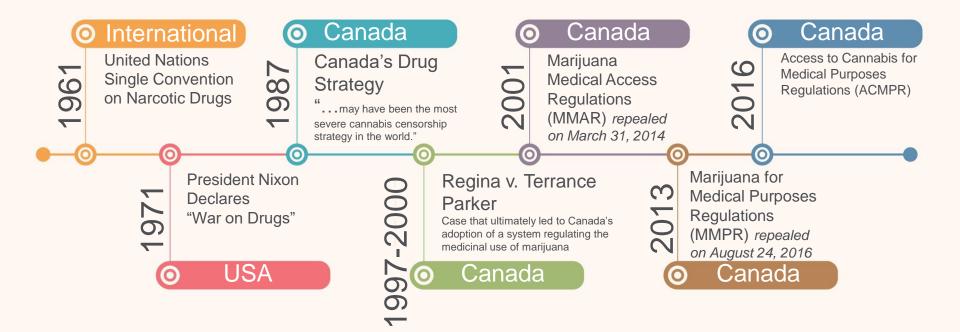
# **Legal Status Recreationally**



# LONG TERM HISTORY



# SHORT TERM HISTORY









#### **//** Cannabinoids

1. Phytocannabinoids

2. Endocannabinoids

- 3. Synthetic cannabinoids



#### // How do cannabinoids work?

- Regulate endocannabinoid system
- Mimics endogenous neurotransmitters
- Targets receptors "Unlocks Doors"







# // The "Big 6" Phytocannabinoids O

- 1. THC Delta-9-tetrahydrocannabinol
- 2. CBD Cannabidiol
- 3. CBC Cannabichromene
- 4. CBN Cannabinol
- 5. CBG Cannabigerol
- 6. THCV Tetrahydrocannabivarin



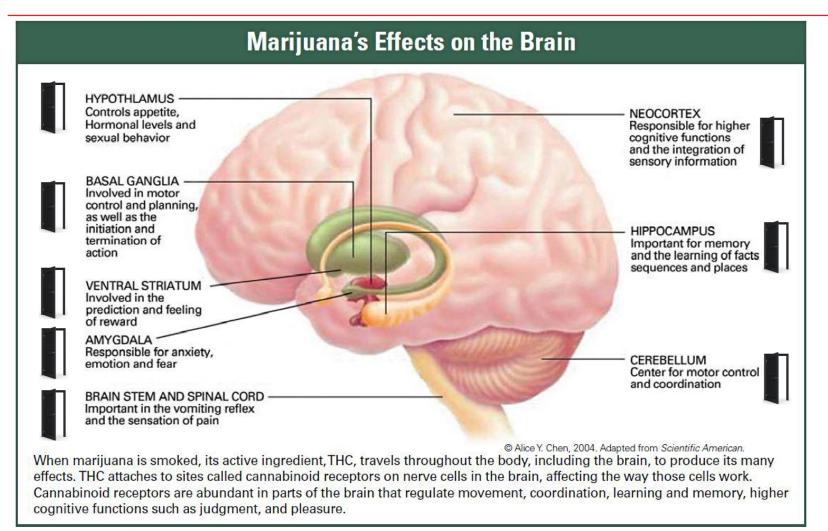






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#### HOW DOES MARIJUANA AFFECT US?



CANNAMM.COM // 1.800.440.0023 22 March 2018



#### Alcohol vs. Marijuana

	Alcohol		Marijuana
Ingestion Route	Commonly Oral (drank)		Commonly Inhaled or Orally (eaten)
Time to Full Effects	Up to 30 minutes		Up to 10 minutes & up to 180 minutes
Pharmacokinetics	Primarily postsynaptic action – blocking a natural neuromediator. Primarily impacts the effects of existing neurotransmitters.		Primarily Presynaptic action. Primarily impacts the regulation/production of neurotransmitters.
Metabolism	Liver		Liver
	Alcohol elimination follows Michaelis-Menten kinetics. 7 grams of pure alcohol per hour which translates to about one drink per hour.		The half- life of marijuana for an infrequent user is 1.3 days and for frequent users 5-13 days.
Effected Brain Regions	Cerebellum, Hypothalamus and pituitary, Medulla, Hippocampus, Striatum, Reticular Activating System, Prefrontal Cortex, Frontal Lobe, Stratum		Neocortex, Cerebellum, Hippocampus, Basal Ganglia, Ventral Striatum, Amygdala, Hypothalamus, Brain stem and spinal cord
Lingering Cognitive Dysfunction	18-35 36-50		3-4% THC - Marijuana may adversely affect complex human performance up to 24 hours after smoking.  Decrements in neurocognitive performance even after 28 days of abstinence. This persistence is generally linked to very heavy use of the drug.
Addictiveness	Lifetime risk of 15% or 3 out of 20		Lifetime risk of 9% or ~2 out of 20





Recently abstinent cannabis users (7 hours to 20 days) may experience impairment in attention, concentration, inhibition and impulsivity during the period in which THC and its metabolites are eliminated. The greatest residual deficits in executive function are found following prolonged use of cannabis. (Whitlow, et al. 2004)





- Complex human/machine performance can be impaired as long as 24 hours after smoking a moderate dose of cannabis and the user may be unaware of the drug's influence.
- (Leirer, Yesavage & Morrow, 1991)





Cannabis (marihuana, marijuana) contains hundreds of substances, some of which can affect the proper functioning of the brain and central nervous system.

Cannabis use can impair your concentration, ability to think and make decisions, and reaction time and coordination. This can affect your motor skills, including your ability to drive. It can also increase anxiety and cause panic attacks, and in some cases cause paranoia and hallucinations.

Cannabis is one of the most widely abused illicit drugs, and can produce physical and psychological dependence. The drug has complex effects in the CNS and can cause cognitive and memory impairment, changes in mood, altered perception, and decreased impulse control

Depending on the dose, impairment can last for over 24hrs after last use



- // Would you work beside someone who had:
  - Decreased attention/concentration
  - Compromised judgement, decision making and impulsivity
  - Decreased working memory
  - Distorted sensory perception
  - Decreased verbal fluency



#### **RECAP – YOU SHOULD NOW KNOW**

 There is profound evidence to demonstrate persistent risk

Neurocognitive impairment lasts beyond 24 hours

How to explain the difference from alcohol



# **Using the Word "Impairment"**





# WHY IS IT OF THERAPEUTIC INTEREST?







#### WHY IS IT OF THERAPEUTIC INTEREST?

# **// Why is Cannabis of Therapeutic Interest?**

- Compassionate end-of-life care
  - Neurodegenerative disorders
  - Severe pain, arthritis, anorexia, weight loss, and/or severe nausea from cancer and HIV/AIDS infection



#### WHY IS IT OF THERAPEUTIC INTEREST?

# **// Why is Cannabis of Therapeutic Interest?**

- Medical applications inclusive of:
  - Attention Deficit Disorder
  - Arthritis
  - Chronic pain
  - Glaucoma
  - Migraines
  - Sleep disorders



# **//** Is Cannabis a Prescription?



Dried marijuana is not an approved drug or medicine in Canada. The Government of Canada does not endorse the use of marijuana, but the courts have required reasonable access to a legal source of marijuana when authorized by a healthcare practitioner.



#### THE MEDICAL COMMUNITY'S OPINION?

#### **\*\* Canadian Medical Association**

"We have little to no evidence-based information about its use as medical therapy... the lack of evidence to support the use of marijuana for medicinal purposes signifies that it is not a medical intervention"



#### THE MEDICAL COMMUNITY'S OPINION?

## Federation of Medical Regulatory Authorities

"The Federation of Medical Regulatory Authorities of Canada strongly believes that the practice of medicine should be evidence-based, and that physicians should not be asked to prescribe or dispense substances or treatments for which there is little or no evidence of clinical efficacy or safety"



# // Is Cannabis a Prescription?

## Characteristics of a prescription drug:

Special Alerts	Generic Equivalent Available: Product Availability	Pregnancy Risk Factor
ALERT: Boxed Warning	Controlled Substance	Pregnancy Implications
Brand Names: US	Prescribing and Access Restrictions	Lactation
Brand Names: Canada	Medication Guide and/or Vaccine Info Statement Admin	Breast-Feeding Considerations
Pharmacologic Category	Use	Dietary Considerations
Dosing: Adult	Medication Safety Issues	Pricing
Dosing: Pediatric	Adverse Reactions Significant	Monitoring Parameters
Dosing: Geriatric	Contraindications	International Brand Names
Dosing: Renal Impairment	Warnings/Precautions	Mechanism of Action
Dosing: Hepatic Impairment	Metabolism/Transport Effects	Pharmacodynamics and Pharmacokinetics
Dosage Forms	Drug Interactions	Drug Identification Number (DIN #)



#### **//** However....











#### What do patients need to know about using SATIVEX®?

SATIVEX® causes irritations in the mouth in 20 - 25% patients in clinical trials. Patients may also experience symptoms of cannabinoid intoxication, including dizziness when they first take SATIVEX<sup>®</sup>. Fainting episodes have been reported as well as feeling drunk, disturbance in attention, dizziness, somnolence, disorientation, dissociation and euphoric mood. THC can cause symptoms such as changes of mood, decrease in cognitive performances and memory, decrease in ability to control drives and impulses, and alteration of the perception of reality, particularly altered time sense. Patients should start from low doses and adjust their doses gradually to get the optimal balance of a good control on their neuropathic pain and minimal intoxication.

SATIVEX® may impair ability to carry out complicated tasks. Patients should not drive or engage in activities requiring unimpaired judgment and coordination.

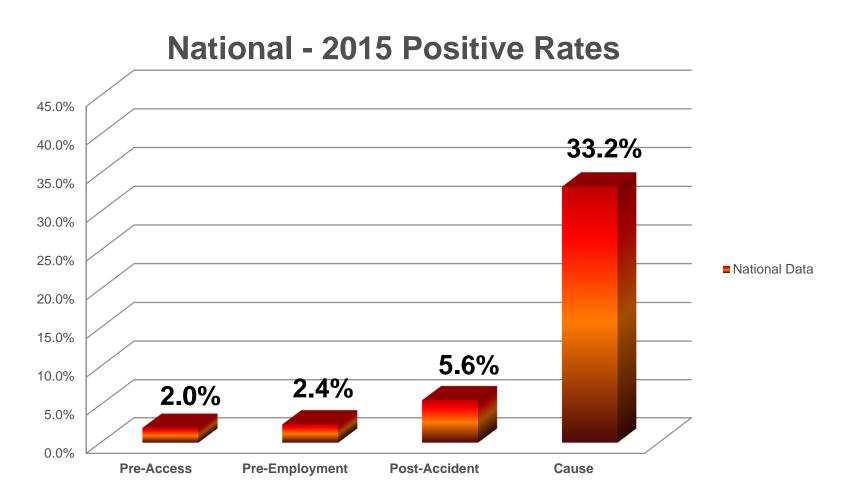


# TRUTH OR MYTH? MARIJUANA IS NOT IN MY WORKPLACE





## IS CANNABIS IN OUR WORKPLACES?



## IS CANNABIS IN OUR WORKPLACES?

## How is Cannabis Contributing to the Positivity Rate?

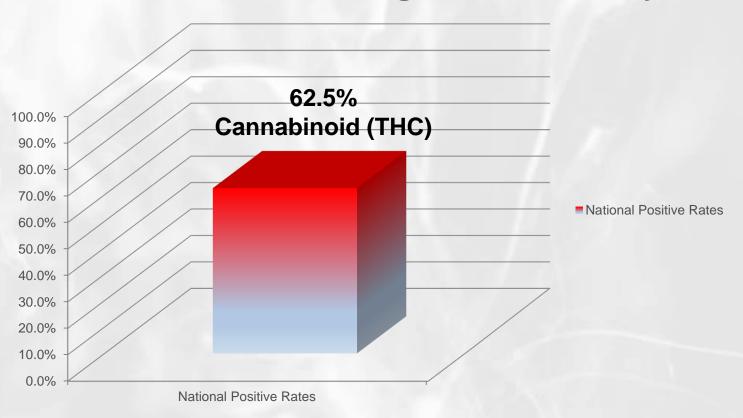
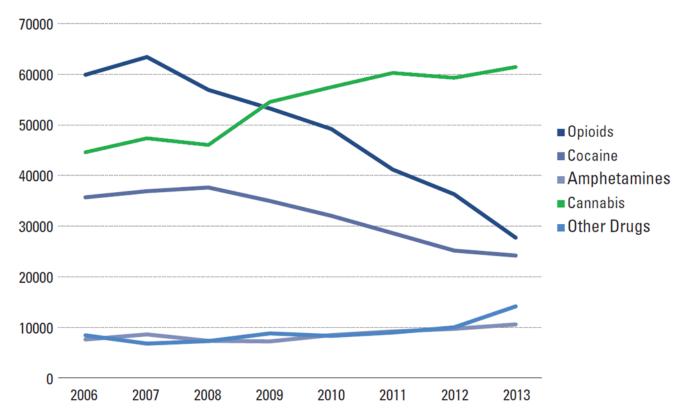


FIGURE 3.2. NEW CLIENTS ENTERING TREATMENT BY PRIMARY DRUGS, 2006-2013



Source: EMCDDA (2015c). Statistical bulletin. Lisbon: European Monitoring Centre for Drugs and Drug Addiction (http://www.emcdda.europa.eu/data/stats2015, accessed 16 February 2016.)



## TRUTH OR MYTH?

MARIJUANA IS THE SAME TODAY AS IT WAS IN THE EARLY 2000's





## HAS MARIJUANA BECOME STRONGER?

**Cannabis Strength** 



The breeding of different strains has yielded plants and resins with dramatic increases in THC content over the past decade, from around 3% to 12-16% or higher (% of THC weight per dry weight of cannabis) with differences in different countries.

(Radwan et al., 2008; Niesink et al., 2015; Swift, et al., 2013; Zamengo, et al., 2014; Bruci, et al., 2012)



## TRUTH OR MYTH?

LEGALIZATION WILL NOT IMPACT WORKPLACES AND ROADWAYS



## WHAT HAPPENS WHEN IT IS LEGAL?

## Accessibility + Lower Perceived Risk =

- Increased total consumption
- Increased frequency of consumption
- Safety consequences



## WHAT HAPPENS WHEN IT IS LEGAL?

## Washington

- Marijuana-related traffic deaths:
  - Fatal crashes involving drivers who recently used marijuana more than doubled from 8 to 17% between 2013 and 2014
  - 1 in 6 drivers involved in fatal crashes in 2014 had recently used marijuana



## WHAT HAPPENS WHEN IT IS LEGAL?

#### Colorado

- Marijuana-related traffic deaths:
  - 48% increase 2013-2015 vs 2010-2012, aggregate increase of 11%
  - Marijuana positive drivers increased from 10% to 21% 2009 vs 2015

Rocky Mountain High Intensity Drug Trafficking Area (RMHIDTA) - Report August 2016



## **RECAP – YOU SHOULD NOW KNOW**

#### That cannabis:

- Is not prescribed, it is authorized legally
- Effects last are longer than 6 hours
- Is very likely to be in your workplace
- Is 4 times stronger than just a decade ago
- Is addictive
- Will likely be recreationally legal by 2018
- Legal access will have consequences to safety





#### **EXECUTIVE OFFICER OBLIGATIONS**

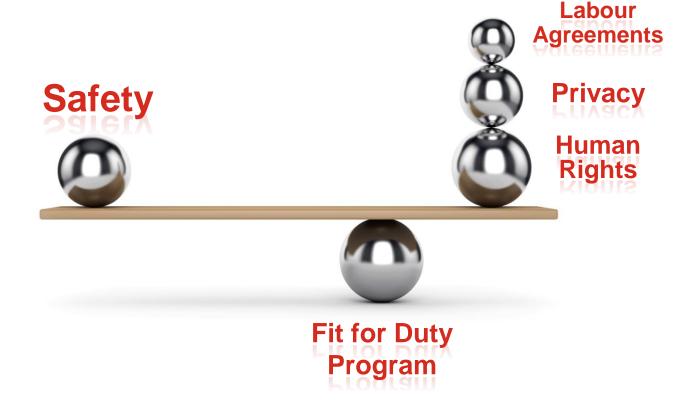
## // Bill C-45 (Westray Bill)

#### Section 217.1 of the Criminal Code

"Every one who undertakes, or has the authority, to direct how another person does work or performs a task is under a legal duty to take reasonable steps to prevent bodily harm to that person, or any other person, arising from that work or task."



## **Finding the Right Balance**





## // Step 1: Determine Workplace Risk Level

Safety Sensitive Position: Performs activities and/or works in an environment where a temporary lapse in concentration, focus and/or judgement could result in immediate serious injury, harm or death.



## **// Step 2: Account for Unionized Environment**

- Not in conflict with collective bargaining agreement
- Reasonable
- 3. Communicated clearly and equivocally
- Brought to employee attention prior to action
- Employee notified of potential consequences addressed
- Consistent enforcement



# // Step 3: Avoid Discrimination by Design

- Verify Bona-Fide Occupational Requirement Exists
  - Rational
  - Adopted in good faith
  - Reasonable necessity



## // Step 4: Adhere to Privacy Legislation

- Privacy legislation authorizes collection, use, and disclosure of personal information to extent necessary for management of/entering into employment relationships (and where consented to)
- Information must be confidential and need-to-know



## // Step 5: Policy, Education & Execution

- Duties of employee
- Prescription/medical treatment disclosure language
- Policy violation and employer action
- Supervisor and employee awareness training



## WHAT YOU MIGHT BE MISSING





#### TAKE HOME MESSAGE

- Marijuana and safety-sensitive work cannot mix safely and reliably
- // The effects of marijuana are longer lasting than what the general public believes
- // Marijuana is not Alcohol. Marijuana use off the job can bring risk onto the job
- // Clear policies and procedures are crucial







#### Disclaimer

- // The landscape of marijuana / cannabis is rapidly evolving. The information contained in this presentation is based from either credible scientific research, relevant case law and/or industry practices currently available and represents the current state as it exists today "as a single point in time".
- // Please be advised that case law or other legal precedent and/or new scientific research may arise subsequent to this presentation which could lead to a different set of recommendations/guidelines in the future.
- // CannAmm advises that this presentation does not substitute legal council and any opinions expressed or insinuated that are not explicitly referenced herein are those of the presenter and not necessarily held by CannAmm LP.



#### REFERENCES

- 1. 4TwentyToday . History of Marijuana in 4 Minutes and 20 Seconds. October 2014. https://www.youtube.com/watch?v=nCETi7Qgqlw (accessed December 2015).
- Bergamaschi, MM, et al. "Impact of prolonged cannabinoid excretion in chronic daily cannabis smokers' blood on per se drugged driving laws." Clinical Chemistry, 2013: 59(3):519-26.
- Blaszczak-Boxe, Agata . Marijuana's History: How One Plant Spread Through the World. October 17, 2014. http://www.livescience.com/48337marijuana-history-how-cannabis-travelled-world.html (accessed December 2015).
- 4. Canadian Human Rights Commission. Bona Fide Occupational Requirements and Bona Fide Justifications under the Canadian Human Rights Act. March 2007. http://www.chrcccdp.ca/sites/default/files/bfore 0.pdf (accessed October 5, 2010).
- 5. Chen, CY, and JC Anthony. "Epidemiological estimates of risk in the process of becoming dependent upon cocaine; cocaine hydrochloride powder versus crack cocaine." Psychopharmacology, 2004: 172(1):78-86.
- 6. Crean, RD, NA Crane, and BJ Mason, "An evidence based review of acute and long-term effects of cannabis use on executive cognitive functions." Journal of Addiction Medicine, 2011: 5(1):1-8.
- 7. Eddy, Mark . "Medical Marijuana: Review and Analysis of Federal and State Policies." Federation of American Scientists. April 2, 2010. https://www.fas.org/sgp/crs/misc/RL33211.pdf (accessed December 2015).
- 8. Elphick, M.R. "The evolution and comparative neurobiology of endocannabinoid signalling." Philosophical Transactions of the Royal Society B: Biological Sciences, 2012: 367(1607): 3201-15.
- 9. Government of Alberta Employment . "Government of Alberta." Occupational Injuries and Diseases in Alberta. 2011. (accessed September 26, 2014).
- 10. Government of Canada. Canada Occupational Health and Safety Regulations (SOR/86-304). October 31, 2014. http://laws-

- lois.justice.gc.ca/eng/regulations/SOR-86-304/ (accessed October 25, 2014).
- 11. Grotenhermen, F. "Pharmacokinetics and pharmacodynamics of cannabinoids." Clinical Pharmacokinetics, 2003: 42(4):327-60.
- 12. Hartman, RL, and MA Huestis. "Cannabis effects on driving skills." Clinical Chemistry, 2013: 59(3):478-92.
- 13. Herkenham, M, AB Lynn, MR Johnson, LS Melvin, BR de Costa, and KC Rice. "Characterization and localization of cannabinoid receptors in rat brain: a quantitative in vitro autoradiographic study." The Journal of Neuroscience, 1991: 11(2): 563-83.
- 14. Huestis, MA, DA Gorelick, SJ Heishman, and KL Preston, "Blockade of effects of smoked marijuana by the CB1-selective cannabinoid receptor antagonist SR141716." Archives of General Psychiatry, 2001: 58(4): 322-8.
- 15. Izzo, AA, F Borrelli, R Capasso, V Di Marzo, and R Mechoulam. "Nonpsychotropic plant cannabinoids: new therapeutic opportunities from an ancient herb." Trends in Pharmacological Sciences, 2009: 30(12):609.
- 16. Kalant, H. "Medicinal use of cannabis; history and current status." Pain Research & Management, 2001: 6(2):80-91.
- 17. Lee, D, et al. "Plasma Cannabinoid Pharmacokinetics After Controlled Smoking and Ad libitum Cannabis Smoking in Chronic Frequent Users." Journal of Analytical Toxicology, 2015: 39(8):580-7.
- 18. Leirer, VO, JA Yesavage, and DG Morrow. "Marijuana carry-over effects on aircraft pilot performance." Aviation, Space, and Environmental Medicine, 1991: 62(3):221-7.
- 19. Loflin, M, and M Earleywine. "A new method of cannabis ingestion: the dangers of dabs?" Addictive Behaviors, 2014: 39(10):1430-3.
- 20. Mackie, K. "Distribution of cannabinoid receptors in the central and peripheral nervous system." Handbook of Experimental Pharmacology, 2005: (168): 299-325.



#### REFERENCES

- 21. Matsuda, LA, SJ Lolait, MJ Brownstein, AC Young, and TI Bonner. "Structure of a cannabinoid receptor and functional expression of the cloned cDNA." Nature Publishing Group, 1990: 346(6284):561-4.
- 22. McPartland, J M, J Agraval, D Gleeson, K Heasman, and M Glass. "Cannabinoid receptors in invertebrates." Journal of Evolutionary Biology, 2006: 19(2): 366-73.
- 23. Minocci, D, et al. "Genetic association between bipolar disorder and 524A>C (Leu133lle) polymorphism of CNR2 gene, encoding for CB2 cannabinoid receptor." Journal of Affective Disorders. 2011: 134(1-3):427-
- 24. Monteleone, P, et al. "Investigation of CNR1 and FAAH endocannabinoid gene polymorphisms in bipolar disorder and major depression." Pharmacological Research, 2010: 61(5):400-4.
- 25. Munro, S, KL Thomas, and M Abu-Shaar. "Molecular characterization of a peripheral receptor for cannabinoids." Nature, 1993: 365(6441).
- 26. Parliament of Canada. Historical and Cultural Uses of Cannabis and the Canadian "Marijuana Clash". April 12, 2002. http://www.parl.gc.ca/content/sen/committee/371/ille/library/spicere.htm#PART I (accessed December 2015).
- 27. Pazos, MR, E Núñez, C Benito, RM Tolón, and J Romero. "Functional neuroanatomy of the endocannabinoid system." *Pharmacology*, Biochemistry and Behavior, 2005: 81(2): 239-47.
- 28. Pertwee, RG. "Endocannabinoids and Their Pharmacological Actions." Handbook of Experimental Pharmacology, 2015: 231: 1-37.
- 29. Radwan, MM, et al. "Isolation and Pharmacological Evaluation of Minor Cannabinoids from High-Potency Cannabis sativa." Journal of Natural Products, 2015: 78(6):1271-6.
- 30. Regina v. Parker. 2787 (Court of Appeal for Ontario, July 31, 2000).

- 31. Rocky Mountain HIDTA Investigative Support Center Strategic Intelligence Unit . 2016. "The Legalization of Marijuana in Colorado the Impact." Rocky Mountain High Intensity Drug Trafficking Area. September. Accessed September 16, 2016. http://www.rmhidta.org/html/2016%20FINAL%20Legalization%20of%20Mari juana%20in%20Colorado%20The%20Impact.pdf.
- 32. Steel, RW, JH Miller, DA Sim, and DJ Day. "Delta-9-tetrahydrocannabinol disrupts hippocampal neuroplasticity and neurogenesis in trained, but not untrained adolescent Sprague-Dawley rats." Brain Research, 2014: 1548: 12-9.
- 33. The British Columbia Government and Service Employees' Union v. The Government of the Province of British Columbia as represented by the Public Service Employee Relations Commission. 26274 (Supreme Court of Canada . 1999).
- 34. United Kingdom Parliament. House of Lords Science and Technology -Ninth Report. November 4, 1998. http://www.parliament.the-stationeryoffice.co.uk/pa/ld199798/ldselect/ldsctech/151/15103.htm (accessed December 2015).
- 35. United Nations. "Single Convention on Narcotic Drugs 1961." February 21, 1971. https://www.unodc.org/pdf/convention 1961 en.pdf (accessed December 2015).
- 36. US Department of Transportation. US Department of Transportation. August https://www.transportation.gov/sites/dot.gov/files/docs/PART40\_20150413.p df (accessed August 26, 2015).
- 37. Wadsworth, EJ, SC Moss, SA Simpson, and AP Smith. "Cannabis use, cognitive performance and mood in a sample of workers." The Journal of Psychopharmacology, 2006: 20(1):14-23.
- 38. Whitlow, CT, et al. "Long-term heavy marijuana users make costly decisions on a gambling task." Drug and Alcohol Dependence, 2004: 76(1):107-11.

#### Information and Resources

#### Is your alcohol and drug policy up to date?

In a series of articles, Workplace Safety North reviews statistics, legislation, policy, and roles and responsibilities of supervisors and workers, including resource information on creating a workplace policy.

- 1. Statistics regarding alcohol and drug use in Canada
- 2. Legislation and balancing due diligence with privacy
- 3. Policy development and implementation
- 4. Roles and responsibilities of supervisors and workers



#### **Information and Resources**

- <u>Let's Take Action on Alcohol Problems in the Workplace</u> Ontario Public Health Association. Includes how to develop and implement an alcohol and drug policy; sample policy; resource list; three checklists: (1) Policy Process; (2) Policy Content; (3) Policy Implementation.
- Alcohol and the Workplace: Toolkit Kingston, Frontenac and Lennox & Addington Public Health
- <u>Canadian Model for Providing a Safe Workplace: Alcohol and Drug</u>
   <u>Guidelines and Work Rule</u> A best practice of the Construction Owners
   Association of Alberta
- <u>Cannabis White Paper 2017</u> Canadian Centre for Occupational Health and Safety (CCOHS)



#### **Information and Resources**

#### Related

- Substance abuse top health and safety risk at sawmills WSN
- Many questions need examining to establish effects of legalized cannabis on work safety...what we know — and don't — about OHS implications of legalized cannabis - Institute for Work and Health

#### **General Information**

- Canadian Centre for Occupational Health and Safety
- Canadian Centre on Substance Abuse
- <u>Canadian Mental Health Association</u>
- Centre for Addiction and Mental Health
- How to prepare an occupational health and safety policy Ontario
   Ministry of Labour
- Policy on Drug and Alcohol Testing Ontario Human Rights Commission



## Thank you for helping make Ontario workplaces safer

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