Annotated

10 Things Everyone Should Know about Cannabis- March 25, 2018

1. What is Cannabis?

- THC is the main mind altering ingredient found in Cannabis; the purportedly more medically helpful Cannabidiol (CBD) component has not been researched extensively but limited research suggests that it is unknown whether greater CBD leads to improved efficacy or reduced adverse events

  (Canadian Family Physician February 2018 – *Simplified Guidelines for prescribing Medical Cannabis* – Appendix – Part 4b)

- THC levels in US purchased cannabis increased from 3% in 1983 to 12% in 2012

- Cannabis can be consumed in various ways (e.g. smoked, vaped, edibles, oils, candies, etc.); therefore difficult to determine amount consumed.

  - □ THC content in 7 of 12 edible samples varied from package labeling by more than 40%.

  - □ A 100 mg cookie may not be divisible into 10-mg doses.

  - □ Candies and other hardened edibles may not be divisible at all.

- Not approved by Health Canada and no Drug Identification Number ("DIN")

- Canadian Medical Association ("CMA") says marijuana impairs judgment, motor coordination and reaction time.

- Cannabis is addictive; the lifetime risk is 9% versus 15% for alcohol and 32% for tobacco. But addiction rate is 17% for those who start as teenagers and 25%-50% for those who smoke daily

  (*Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* JOEM. Volume 57, Number 5, May 2015. Page 521.)

- Medical marijuana is not prescribed; it is "authorized" currently to about 200,000 Canadians

- Cannabis is different from alcohol – cannabis is not a "sledgehammer" drug – its effects are more subtle and longer lasting. Stored in brain and fatty cells; released over time. Persistence of neurocognitive impairment lasting hours to weeks

> "There is now a large body of evidence to support the persistence of neurocognitive impairment lasting from hours to weeks." (*Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* JOEM. Volume 57, Number 5, May 2015. Page 521.)

> "Marijuana is a drug which has significant effects on psychomotor performance and cognition. These effects can be long-lasting, and persist far after the initial intoxication phase. In some cases they can be measured months later. Some data supports the view that some impairments may be permanent." (*Marijuana and the Safety Sensitive Worker – 2016. A review for CLRA.* Dr. Brendan Adams M.Sc. MD CCFP, FASAM, ABAM. Page 19.)

- Marijuana use in Canada is amongst the highest in the world and highest amongst all nations in youth consumption.

(Government of Canada – 2015)

- Deloitte says 22% of Canadians use occasionally and 7% daily.

> (*Recreational Marijuana Insights and opportunities.* Deloitte. Page 3.)

- EKOS survey in September, 2016 says 58% reported using cannabis at least once in their lifetime, 38% of those have used it in the last 12 months, 22% of users in the last 12 months report using it daily. In other words, of 100 people, 58 have used in their lifetime, 22 used in last twelve months and 5 people used daily.

- Consumption is rising among older Canadians

> "The results suggest that, over time, not only is the overall cannabis-consuming population rising, but that those who are consuming cannabis tend, on average, to be older and consuming more per year than the average consumer did in the 1960s and 1970s." (*Experimental Estimates of Cannabis Consumption in Canada, 1960 to 2015*. December 18, 2017. Page 5.)

- In early days, it was the youth market, but by 2015 two-thirds of the market was older than 24 years

> "In 2015, persons older than 24 account for two-thirds of cannabis consumers while persons aged 15 to 17 account for less than 6%." (*Experimental Estimates of Cannabis Consumption in Canada, 1960 to 2015*. December 18, 2017. Page 4.)

- Marijuana use has a comparably high level of social acceptability

> "Just under half (48 per cent) agreed that marijuana use is socially acceptable, although 32 per cent disagreed. Acceptance is greatest among young adults (53 per cent) and lowest among teens under 16 (19 per cent). Seven in ten (69 per cent) also agree that

> it is something that youth and young adults will try, although youth themselves, particularly those under 16 are much less likely to agree (30 per cent)." (*Baseline Survey on Awareness, Knowledge and Behaviour Associated with Recreational Use of Marijuana – Final Report.* EKOS Research Associates Inc. September 2, 2016. Page 2.)
>
> "While 41 per cent of Canadians see marijuana as a high health risk, 49 per cent see alcohol and 92 per cent see cigarette smoking as high health risk." (*Baseline Survey on Awareness, Knowledge and Behaviour Associated with Recreational Use of Marijuana – Final Report.* EKOS Research Associates Inc. September 2, 2016. Page 2.)

- Statistics Canada says that at $8 per gram, the 2015 illegal market for cannabis in Canada was $5 billion; more than 50% of the beer and 70% of the Canadian wine market.

> "The implied value of cannabis sales in Canada for the year 2015 would be $5.0 billion, $5.6 billion or $6.2 billion, respectively. This would make the cannabis market in Canada in 2015 roughly one-half to two-thirds of the size of the $9.2 billion beer market or around 70% to 90% of the size of the $7.0 billion wine market." (*Experimental Estimates of Cannabis Consumption in Canada, 1960 to 2015*. December 18, 2017. Page 7.)

- Statistics Canada says in 1970, 200,000 tonnes consumed; in 1990, 300,000 tonnes and in 2015, 700,000 tonnes.

> "An estimated 700 tonnes of cannabis was consumed by 2015." (*Experimental Estimates of Cannabis Consumption in Canada, 1960 to 2015*. December 18, 2017. Page 4.)

2. Impact of Legalization of Cannabis on Workplace

- Likely August – September, 2018 at earliest
- Workplaces will be impacted differently based on the extent of cannabis consumption by workplace members.
- Next to BC, Atlantic Canadians have highest level of support for legalization and lowest opposition to it.

> Provincial perspectives show the following percentages of support and opposition throughout Canada: in British Columbia, 42% of the population shows support and 33% are opposed; in the Prairie Region, 41% of the population shows support and 36% are opposed; in the Atlantic Region, 41% of the population shows support and 35% are opposed; in Ontario, 40% of the population shows support and 36% are opposed; in Quebec, 39% of the population shows support and 37% are opposed; and in Alberta, 36% of the population shows support and 39% are opposed.

(*Recreational Marijuana Insights and opportunities.* Deloitte. Page 9.)

- Deloitte says an additional 17% will try if legal (bringing total to nearly 40% of Canadians). Alcohol is consumed by 80%

> "A further 17% show some willingness to try it if it were legal, suggesting the total potential marketplace (current plus potential consumers) is close to 40% of the adult population. For context, Statistics Canada reports that close to 80% of the adult population has consumed alcohol in the last year." (*Recreational Marijuana Insights and opportunities.* Deloitte. Page 3.)

- Use amongst working age adults will increase with legalization.

- In Colorado, one study says that cannabis legalization resulted in a 71% increase in the average past month usage for adults 26 and over (compared to 16% for college age persons).

> (The Legalization of Marijuana in Colorado: The Impact – 2017 at page 1)

- CMA expects increased vehicle crashes, injuries and fatalities as a result of legalization. In Colorado, marijuana related traffic deaths increased 66% in the four year period post-legalization compared to the last four year period pre-legalization.

> (The Legalization of Marijuana in Colorado: The Impact – 2017 at page 1)

3. Occupational Health and Safety Legislation- the risk to the Workplace

- Legislation expects a safe workplace.

- "Studies have linked [cannabis] use directly with an increased prevalence of workplace injury." Postal workers who tested positive for cannabis had 55% more industrial accidents, 85% more injuries, and 75% higher absenteeism rate, compared with those who tested negative."

> "Studies have linked marijuana use directly with an increased prevalence of workplace injury. Normand and Salyards, for example, found that postal workers who tested positive for marijuana on a pre-employment urine drug test had 55% more industrial accidents, 85% more injuries, and a 75% higher absenteeism rate, compared with those who tested negative." (*Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* JOEM. Volume 57, Number 5, May 2015. Page 522.)

- *R v. Metron Construction Corp.* 2013 ONCA 541 – "Toxicological analysis determined that three of the four deceased, including the site supervisor Fazilov, had marijuana in their systems at a level consistent with having recently ingested the drug."; a sentencing factor was that the supervisor had failed to take reasonable steps to prevent bodily harm and death by " permitting persons under the influence of a drug to work on the project" – Employer fined $750,000 and 3 ½ year jail term for Project Manager

> "The Court of Appeal for Ontario has upheld the criminal negligence (Bill C-45) conviction and three-and-one-half-year jail term imposed on Vadim Kazenelson, the Project Manager for Metron Construction. The charges arose from an incident in which four workers fell to their death and a fifth had permanent injuries after a swing stage collapsed. None of those workers was attached to a lifeline." (*R. v. Kazenelson*, 2018 CarswellOnt 891 (Ont. C.A.).)

- *R v. CNR*, 2003 CanLII 38653 –Employer satisfied due diligence defence in a fatality but Court described the safety risks associated with cannabis consumption:

> *There is evidence in this case that the amount of cannabis in Kowalyk's blood suggests possible impairment. …There is evidence that the use of cannabis products may lead to impairment. In particular, effects of cannabis include difficulties with problem solving and tasks that require the use of logic and may affect visual perception and lead to divided attention...*
>
> *It is not illogical to infer based on the evidence, that some of Kowalyk's inexplicable actions in terms of disregarding safety procedures prior to the accident might be explained by his possible impairment. There is no evidence to suggest that his employer was aware of any impairment on the night of the accident. There is also no evidence that CNR was aware of or should have foreseen that Kowalyk might be using drugs while subject to duty.*

4. Impairment Due to Cannabis

- Intoxication (an acute state) and impairment are different.

- Cannabis intoxication is an obvious safety risk and can usually be identified.

> "Marijuana is a psychoactive substance that contains the specific addictive ingredient delta-9-tetrahydrocannabinol (THC) that affects the reward circuitry in the brain and results in cognitive and affective impairment that can affect driving ability, specifically by causing disturbances in perception and in reaction to the environment." (*Determining medical fitness to operate motor vehicles.* CMA Driver's Guide, 9th Edition. Canadian Medical Association. Page 29.)

> "Cannabis use causes acute impairment of learning and memory, attention, and working memory." (*Effects of Cannabis Use on Human Behavior, Including Cognition, Motivation, and Psychosis: A Review.* February 3, 2016. Page 292.)

- Impairment is any decrement in task performance…which contributes to the inadequate performance of that task which could lead, directly or indirectly, to an incident or accident.

> "Typically 'impairment' is confused with 'intoxication', and the two are related but distinctly different. (*Marijuana and the Safety Sensitive Worker – 2016. A review for CLRA.* Dr. Brendan Adams M.Sc. MD CCFP, FASAM, ABAM. Page 3.)

- Employers (both of safety sensitive and non-safety sensitive workers) should be guided by that definition of impairment.

- Impairment can last a long time according to a 2015 World Health Organization (WHO) study:

> *There is ample evidence indicating that neurocognitive impairment from cannabis persists from hours to weeks. A return to a non-intoxicated state does not ensure a full return of neurocognitive function in the workplace…..ensuring safety of workers who are under the influence or who recently consumed cannabis is not possible.*

- The Canadian Medical Association's (CMA) Driver's Guide recommends abstention from driving within 5 hours of smoking a joint.

> "The CFPC paper cited previously recommends that patients refrain from driving for 5 hours after smoking a joint (CFPC, 2013)." (*Determining medical fitness to operate motor vehicles.* CMA Driver's Guide, 9th Edition. Canadian Medical Association. Page 30.)

> "There is a direct dose relationship between blood THC concentration and impaired driving ability due to impairment in judgment, motor coordination and reaction time (Ramaekers et al., 2004). No 'low-risk' level of use has been established, and the dose is difficult to determine when marijuana is smoked. Although the acute or chronic level of THC intoxication is difficult to gauge, it is notable that marijuana is the illicit drug most frequently found in drivers involved in fatal crashes." (*Determining medical fitness to operate motor vehicles.* CMA Driver's Guide, 9th Edition. Canadian Medical Association. Page 29.)

> "ASAM has noted in a white paper (ASAM, 2012) that increased crashes, injuries and fatalities are to be expected as rates of driving under the influence of marijuana increase as a result of increased availability and use by drivers following legislative changes in

> various jurisdictions." (*Determining medical fitness to operate motor vehicles.* CMA Driver's Guide, 9th Edition. Canadian Medical Association. Page 29.)

- Health Canada says that "the ability to drive or perform activities requiring alertness may be impaired for up to 24 hours following use of marijuana…"

> *(Health Effects of Cannabis – Health Canada – 2017)* "The intended and unintended physiologic effects of marijuana on neurocognitive performance range from several hours to beyond 28 days of subsequent abstinence." (*Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* JOEM. Volume 57, Number 5, May 2015. Page 523.)

- "Given that inhaled THC may impair complex human performance for more than 24 hours after ingestion, employer should not assume that [cannabis] use between shifts (such as evening use before return to work the following morning) is uniformly safe."

> *(Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* AMA-JOEM. Volume 57, Number 5, May 2015. Page 524.)

- However, "there is currently no evidence to suggest there is an amount of THC that can be consumed such that it remains safe to drive..."

> *(A Framework for the Legalization and Regulation of Cannabis in Canada: The Final Report of the Task Force on Cannabis Legalization and Regulation ("Federal Cannabis Report"))*

- The duration of impairment can be impacted by variations in strain, crop variation, manufacturer variation, % THC, %CBD, size of Joint/Cookie, depth of inhalation, interaction with other meds, etc.

- Method of consumption also impacts the extent and length of impairment. When ingested orally, there is a lower and longer-delayed peak THC concentration.

- Given the lengthy time of impairment, the assurances that a worker will only take cannabis outside of regular work hours, is of no relevance in determining their fitness to perform safety sensitive work.

- The only safe solution may be to exclude those who consume cannabis, both medical and recreational, from safety sensitive work

> "Any individual seeking to use marijuana on an ongoing basis is unfit for safety sensitive duties." (*Marijuana and the Safety Sensitive Worker – 2016. A review for CLRA.* Dr. Brendan Adams M.Sc. MD CCFP, FASAM, ABAM. Page 18.)
>
> "The use of THC in the safety sensitive work place, based on a preponderance of evidence demonstrating significant psychomotor impairment from various sources, is unacceptable." (*Marijuana and*

> *the Safety Sensitive Worker – 2016. A review for CLRA.* Dr. Brendan Adams M.Sc. MD CCFP, FASAM, ABAM. Page 18.)
>
> "[…] the only safe and equitable solution is to exclude marijuana, both medical and recreational, from the safety sensitive work site." (*Marijuana and the Safety Sensitive Worker – 2016. A review for CLRA.* Dr. Brendan Adams M.Sc. MD CCFP, FASAM, ABAM. Page 19.)

5. What is the best way to determine cannabis impairment?

- Oral fluid (ie. saliva) test is best.
- *Federal Cannabis Report* in the impaired driving context says - a *per se* limit for THC (i.e., "a level deemed to be consistent with significant psychomotor impairment and increased risk of crash involvement") "would simplify enforcement and adjudication by eliminating the need to prove, on a case-by-case basis, that a driver was impaired..."
- The Ontario Superior Court in *TTC v. ATU* (2017) says that a cut off level of 10 ng/ml detected through oral fluid identifies impairment.
- The 10 ng/ml standard may be too lenient and does not capture employees who are likely impaired based upon the broader definition of impairment. For example, the federal government will likely impose 5 ng/ml as the criminal standard for impaired driving laws.

6. When and how should there be a workplace drug test?

- Workplace drug testing is met with suspicion by arbitrators, human rights adjudicators, human rights commissions, and courts due to human rights and privacy concerns.
- The following are the general rules:
    a) Pre-employment testing is generally **not** permitted, but there are some cases where pre-employment or pre-access testing is permitted.
    b) Post-incident including "near miss", and reasonable cause testing in a safety sensitive workplace is generally permitted.
    c) Follow-up testing for persons who are under a return to work agreement is permitted
    d) Random testing is **not** permitted unless in safety sensitive workplace where there is evidence of a general problem in the workplace
- Oral fluid testing is the preferred method of testing because:
    - It may show present impairment (urine tests do not).

- It is minimally invasive (e.g. cotton swab inside the mouth).

- But there is no currently reliable instantaneous oral fluid test

7. Human Rights Considerations

a) Addiction vs. Recreational Use

- Drug addiction (or dependency) is a protected characteristic under human rights legislation and must be accommodated to the point of undue hardship.

- Recreational cannabis users (i.e. non-dependent users) do not suffer from a disability and therefore not entitled to human rights protection.

- Employers will continue to be challenged by:

  - Recreational users asserting addiction when faced with discipline or dismissal.

  - Addicted users denying addiction.

- The determination as to recreational user versus addiction will be determined by reviewing the complete individual context and medical evidence.

b) Medical Marijuana

- Medical marijuana use will rise (expected 450,000 authorizations in 5 years); despite CMA concern when it becomes legal.

> "Medical marijuana use in Canada has grown sharply. On average, the number of registered medical marijuana users in Canada has approximately tripled every year since 2014, from 7914 in April to June of 2014, to 30537 in 2015, to 75166 in 2016, to 201398 in 2017." (*Simplified guideline for prescribing medical cannabinoids in primary care.* Canadian Family Physician. Page 113.)
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> However medical marijuana is not an approved drug and its efficacy remains questionable to scientists and clinicians. (*Determining medical fitness to operate motor vehicles.* CMA Driver's Guide, 9th Edition. Canadian Medical Association. Page 29.)
>
> "There is reasonable evidence that cannabinoids improve nausea and vomiting after chemotherapy. They might improve spasticity (primarily in multiple sclerosis). There is some uncertainty about whether cannabinoids improve pain, but if they do, it is neuropathic pain and the benefit is likely small. Adverse effects are very common, meaning benefits would need to be considerable to warrant trials of therapy." (*Systematic review of systematic reviews for medical cannabinoids.* Canadian Family Physician. February 2018. Page 78.)

> "There is no evidence that the different formulations of medical marijuana, such as cannabis oil, are more effective or safer than dried medical marijuana." (*Simplified guideline for prescribing medical cannabinoids in primary care.* Canadian Family Physician. Page 119.)

- The Ontario College (2016) says a physician must be satisfied that it is the "most appropriate treatment for their patient" after considering addiction and other risks including risk of impairment in relation to activities requiring mental alertness

> "Policy Before Prescribing. – Assessing the appropriateness of marijuana for the patient. Before a physician may prescribe marijuana, he/she must carefully consider whether it is the most appropriate treatment for their patient." (*Marijuana for Medical Purposes.* Ontario College of Physicians and Surgeons. Physician Advisory Service. Reviewed and updated December 2016.
>
> "Physicians must also consider the risks associated with the use of marijuana, which may include, among others, a risk of addiction, the onset or exacerbation of mental illness, including schizophrenia, and – when smoked – symptoms of chronic bronchitis." (*Marijuana for Medical Purposes.* Ontario College of Physicians and Surgeons. Physician Advisory Service. Reviewed and updated December 2016.)
>
> "An important consideration is the impact that the consumption of marijuana may have on an individual's ability to safely operate a motor vehicle. The consumption of marijuana has been correlated with an increased risk of traffic accidents based on epidemiological studies." (*Marijuana for Medical Purposes.* Ontario College of Physicians and Surgeons. Physician Advisory Service. Reviewed and updated December 2016.)
>
> "There can be no assurance that neurologic effects in a given user will not persist from the intershift period into the following workday. As such, the use of marijuana by workers cannot be explicitly endorsed by the pharma and MRO working groups." (*Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* JOEM. Volume 57, Number 5, May 2015. Page 523.)
>
> "Tetrahydrocannabinol (THC) is the primary psychoactive compound found in marijuana. It is responsible for the "high" that users experience when consuming marijuana, but may also be responsible for some of marijuana's beneficial therapeutic effects. At high levels, THC has been correlated with marijuana-related harm and is more likely to produce undesirable psychoactive effects in patients. While some commercially available formulations of marijuana contain THC concentrations as high as 30%, the College of Family Physicians of Canada's Authorizing Dried Cannabis for

> Chronic Pain or Anxiety: Preliminary Guidance document suggests that current evidence does not support prescribing marijuana with a THC concentration greater than 9%." (*Marijuana for Medical Purposes.* Ontario College of Physicians and Surgeons. Physician Advisory Service. Reviewed and updated December 2016.)

- Canadian Family Physicians Guideline (2018) says that evidence supports prescribing for only chronic pain, nausea/vomiting and spasticity and strongly recommends against authorizing for most medical conditions because of lack of evidence of benefit and known harms

> "Although cannabinoids have been promoted for an array of medical conditions, the evidence base is challenged by bias and a lack of high-level research. Two large evidence synopses suggested that only 3 conditions have an adequate volume of evidence to inform prescribing recommendations: chronic pain, nausea and vomiting, and spasticity." (Page 111.)
>
> "We recommend against use of medical cannabinoids for most medical conditions owing to lack of evidence of benefit and known harms (strong recommendation)." *(Simplified guideline for prescribing medical cannabinoids in primary care February, 2018.* Canadian Family Physician. Page 112.)

- Medical marijuana raises the following human rights issues:

  a) Despite concerns about limited efficacy of medical marijuana, some physicians (and employees) will say that medical marijuana is the most effective drug for the employee's disability.

> "The starting recommended dosing in 1 inhalation of a 9% maximum THC 'joint' once per day. This can be increased to 1 inhalation 4 times a day, resulting in approximately half a 'joint' per day (or 400 mg). People should not operate dangerous equipment or perform potentially dangerous activities after use. This includes no driving for 3 to 4 hours after inhaled medical marijuana, 6 hours after oral medical marijuana, and 8 hours if a 'high' was noted." (*Simplified guideline for prescribing medical cannabinoids in primary care February, 2018.* Canadian Family Physician. Page 119.)
>
> "It should be clear that if patients use 5 g (current maximum) of 15% THC, this represents approximately 20 times higher dosing than the recommended 400 mg of 9% THC." ((*Simplified guideline for prescribing medical cannabinoids in primary care February, 2018.* Canadian Family Physician. Page 119.)
>
> "Overall, the PGC believed that medical cannabinoids are not recommended for most patients and conditions by far. In neuropathic pain, palliative cancer pain, CINV, and MS- or SCI-related spasticity, they should only be considered for patients whose conditions are refractory to standard medical therapies."

(*Simplified guideline for prescribing medical cannabinoids in primary care February, 2018.* Canadian Family Physician. Page 119.)

b) Employers have to accommodate a disability, but do not have to accommodate medical marijuana use if it poses safety risk. Based upon many scientific studies, zero tolerance may be justified.

c) Benefits plans may be required to cover medical marijuana because a failure to cover may violate human rights legislation.

"It is reasonable and responsible for employers to ban the use of marijuana at any time by employees, contractors, and other workers." (*Medical Marijuana in the Workplace. Challenges and Management Options for Occupational Physicians.* JOEM. Volume 57, Number 5, May 2015. Page 523.)

8. Policy

- Tailored to workplace. There is "no one size fits all" policy.
- Differentiate between safety sensitive and not, and consider "decision critical" jobs.
- Stipulate that employees must be fit for duty and able to engage in productive and safe work.
- Outline if, when and how testing will be conducted.
- Provide an accommodation process for dependent employees.
- Consider a "No Free Accident" Rule?– *Elk Valley* – SCC

9. Training

- The signs of cannabis use are nuanced.
- Employees and supervisors need to be trained how to detect use and consider whether reasonable cause exists for concern and possible testing.

10. Don't Overreact/Underreact]

- Focus on health and safety and broad definition of impairment; not preconceived notions of cannabis.
- Assess your workplace and the risks that increased cannabis use may bring.
- Based upon that assessment, draft/amend a workplace policy that puts you in the best position to have a safe and productive workplace.

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