

Impairment at Work or How BC Has Created the Most Dangerous Workplaces

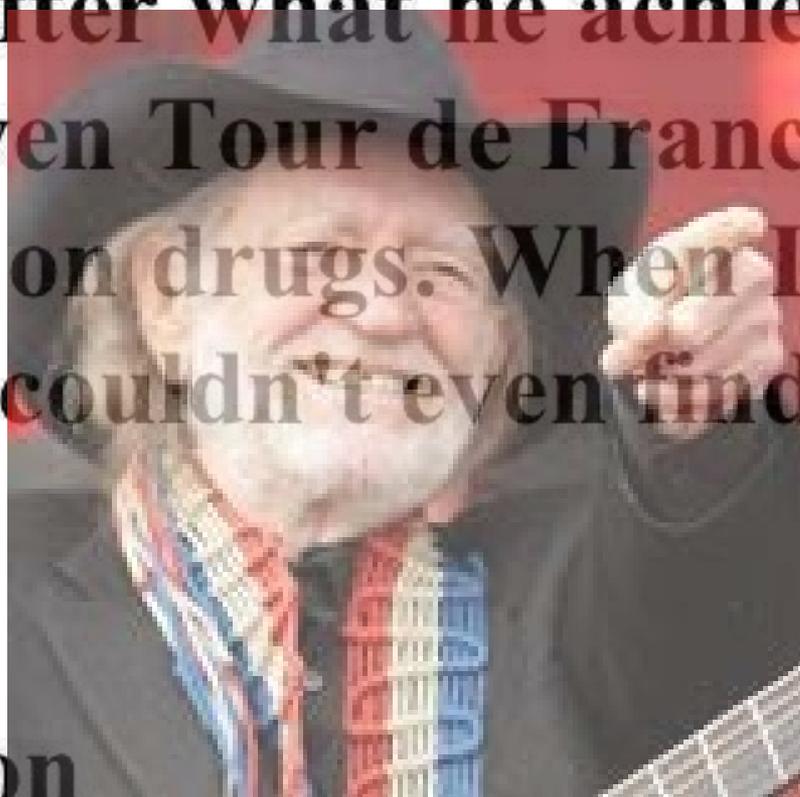
Ray Baker MD
Associate Clinical Professor UBC (medicine)

Speaker Disclosures

- × No financial ties to treatment programs
- × No support from Pharma
- × Person in long-term recovery (32 years)
- × (Big Pharma and Big Cannabis don't like me)



“I think it is just terrible and disgusting how everyone has treated Lance Armstrong, especially after what he achieved, winning seven Tour de France races while on drugs. When I was on drugs, I couldn't even find my bike”....



Willie Nelson

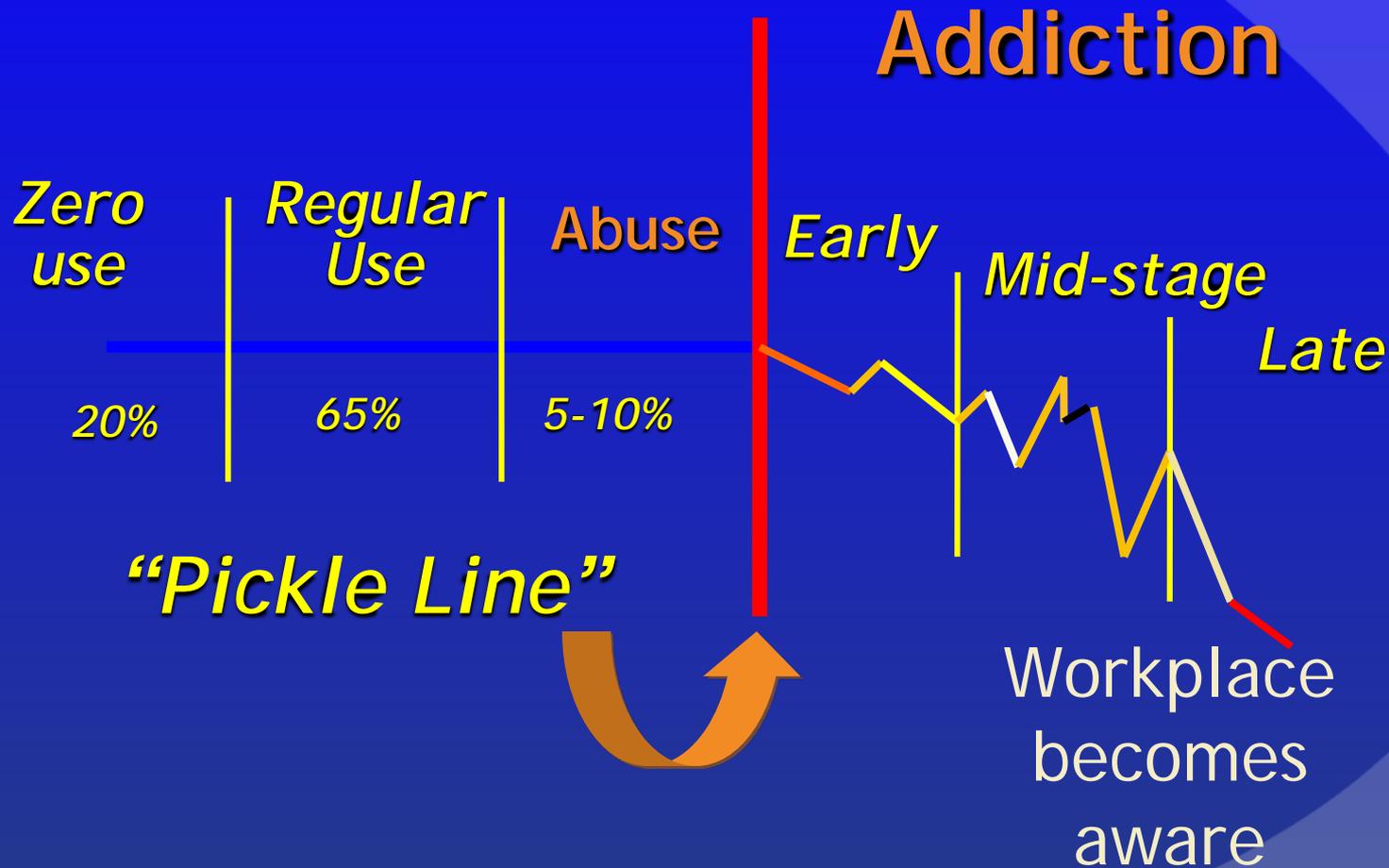
Points

- ✗ Impairment at work: what is it, how do you spot it
- ✗ Common causes of impairment
- ✗ The drugs: it's about to get a lot worse
- ✗ (this afternoon we talk about resolving the issue - accommodation)

Impairment

- × loss or abnormality of psychological, physiological, or anatomical structure or function (WHO 1976)
- × Workplace safety: cognitive impairment most dangerous
- × Commonest causes of workplace cognitive impairment:
 - × sleep deprivation
 - × alcohol, marijuana, opioids
 - × medication side effects
 - × depression/mood disorders, burnout
 - × poorly controlled medical conditions (e.g. diabetes)
 - × dementia
 - × acute/chronic brain injury

Alcohol & Drug Use Continuum



What does it look like at work

- × Attendance abnormalities: medical excuses
- × Personality/behaviour change
- × Inconsistent performance
- × Interpersonal conflict
- × Social isolation
- × Gossip
- × Cover-up

The Drugs: Marijuana

× "my doc prescribed it. I only smoke a single joint"



Medical Benefits of Cannabinoids

- × Definite benefit in treating nausea caused by cancer chemotherapy
- × Some evidence of reduced spasticity in some cases of multiple sclerosis, however adverse effects might outweigh benefits
- × Mild analgesic effect, most effective for neuropathic pain however the benefit relatively small

CBD (cannabidiol)

- × CBD counteracts some of the impairing effects of THC, but not all, and not predictably
- × CBD does not seem to counter THC motor impairment
- × Unless synthetically produced or purified, no MJ strain produces solely CBD - variable THC content
- × Even when pure CBD available, onus will be on employee to demonstrate non-impairment (Occupational Medical Opinion)
- × For safety sensitive workers use safer alternative or may not be considered fit for work

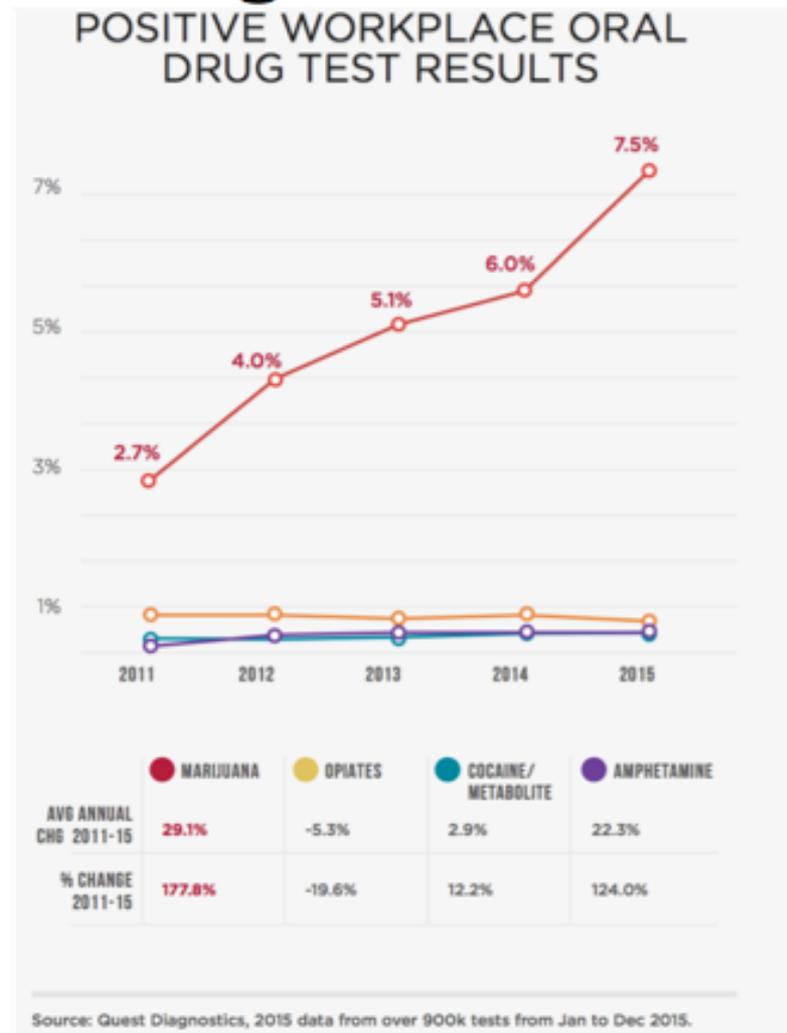
Cannabis Cognitive and Psychomotor Impairment

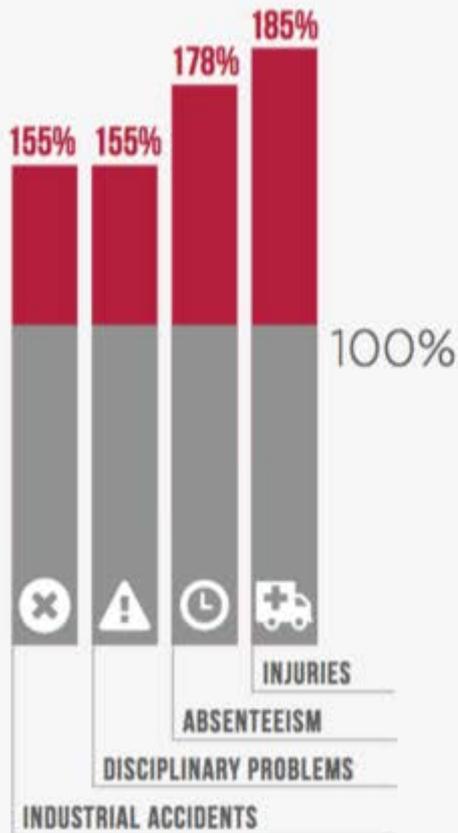
- × Strong evidence cannabis use increases risk of MVA, as high as double after recent use (National)
- × Drivers who used MJ 3-7X more likely to be culpable for the MVA than those who did not use MJ (Ramaekers)
- × In heavy chronic users, impairment could be demonstrated 3 weeks after last use (Ramaekers)

MJ Potency

- × Current THC content in dried plant: 15-20% up to maximum 30% (source: Tilray BC)
- × Oil, Wax, Butter, Crumble, cookies, cakes, gummies - highly variable concentrations
- × Shatter (butane extracted, oil) 80% concentration
- × Most research to date performed on dried plant with under 10% THC concentration
- × With current MJ/THC products it is impossible to determine dose

US workplace drug tests - trends





Accidents, injuries, absenteeism, and disciplinary problems among pot users all increase costs for employers

- POT USERS
- CONTROL GROUP (TESTED NEGATIVE FOR POT USE)

Source: Zwerling et al.



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Information for Health
Care Practitioners -
Medical Use of
Cannabis

Information for Health Care Professionals: Cannabis (marihuana, marijuana) and the cannabinoids [Health Canada, 2013]

Occupational Hazards:

Patients using cannabis should be warned not to drive or to perform hazardous tasks such as operating heavy machinery, because impairment of mental alertness and physical coordination resulting from the use of cannabis or cannabinoids may decrease their ability to perform such tasks. Depending on the dose, impairment can last for over 24 h after last use because of the long half-life of THC. Further impairment may be exacerbated by co-consumption of other CNS depressants (e.g. Bzo, Barbs, opioids, anti-histamines, muscle relaxants or ethanol)

- **No specific reference to use in safety sensitive occupations**

US College of Occupational and Environmental Medicine Recommendations:

- × Cannabis is highly impairing
- × Drug testing must be part of occupational fitness exam
- × Workplace education on cannabis and safety
- × Supervisor training on recognition and referral
- × Require fitness clearance from Occupational Medical evaluation

Most Canadian physicians who authorize marijuana use by patients are unaware and place themselves and the workplace (safety sensitive) at risk

Marijuana and the Workplace

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ABSTRACT

The legal sale and consumption of marijuana for recreational purposes will likely become a reality in Canada in 2017. It remains the most commonly encountered substance in workplace drug testing, and given the substance's impairing effects, the impact of legalization will have on safety sensitive jobs has not been sufficiently explored. Research has shown that marijuana use is associated with an increased risk of workplace injury, including crash-related injuries. Although research is needed, current evidence does not support an argument of precluding marijuana use, irrespective of source of procurement, in safety-sensitive jobs. A formal guideline development process should be initiated to provide evidence-based guidance on the issue of marijuana use in safety sensitive settings.

workplace drug testing¹. In 2000 the Ontario Court of Appeal ruled that the total prohibition of marijuana possession was unconstitutional. In 2015 the Supreme Court of Canada, with arguments from the provinces, ruled that the federal government should be authorized for medicinal marijuana use across the country-wide jurisdiction. In 2016, other jurisdictions following suit. As the regulatory and legislative environment continues to change along with public attitudes toward marijuana - a more permissive approach appears to have developed. As per the Government of Canada's expressed intent, Canada may become the first of the G7 group of countries with countrywide regulations in place to allow for use of both medicinal and recreational marijuana. To date, only Uruguay has fully legalized marijuana. The end of prohibition and the regulated, but legal sale and consumption of marijuana may become a reality in 2017.

Occasional or ongoing marijuana use, legal or illegal, is not recommended for persons who perform safety sensitive jobs!

Can. J. Addiction
Jan 2016

Testing Issues – Detection Times

	Saliva		Urine		Hair	
	Appears Within	Disappears After	Appears Within	Disappears After	Appears Within	Disappears After
Amphetamine	5-10 min	72 hours	2-5 hour	2-4 days	5-7 days	90 days
Methamphetamine	5-10 min	72 hours	2-5 hour	3-5 days	5-7 days	90 days
Cocaine	5-10 min	24 hours	2-5 hour	2-4 days	5-7 days	90 days
Opiates	1 hour	7-21 hour	2-5 hour	2-4 days	5-7 days	90 days
Marijuana	1 hour	12 hours	2-5 hour	15-30 days	5-7 days	90 days
Phencyclidine	-	-	2-5 hour	7-14 days	5-7 days	90 days
Oxycodone	-	-	2-5 hour	2-4 days	5-7 days	90 days
MDMA	-	-	2-5 hour	1-3 days	5-7 days	90 days
Benzodiazepines	-	-	2-5 hour	3-7 days	5-7 days	90 days
Buprenorphine	-	-	2-5 hour	2-3 days	5-7 days	90 days
Barbiturates	-	-	2-5 hour	4-7 days	5-7 days	90 days
Methadone	-	-	2-5 hour	3-5 days	5-7 days	90 days

Testing for Impairment

- Biologic drug testing detects metabolites NOT impairment. Alcohol breath testing correlates roughly with impairment
- Insufficient evidence to support 5 ng/ml THC serum levels
- Computerized, pen/paper cognitive function testing is available, effective, accurate

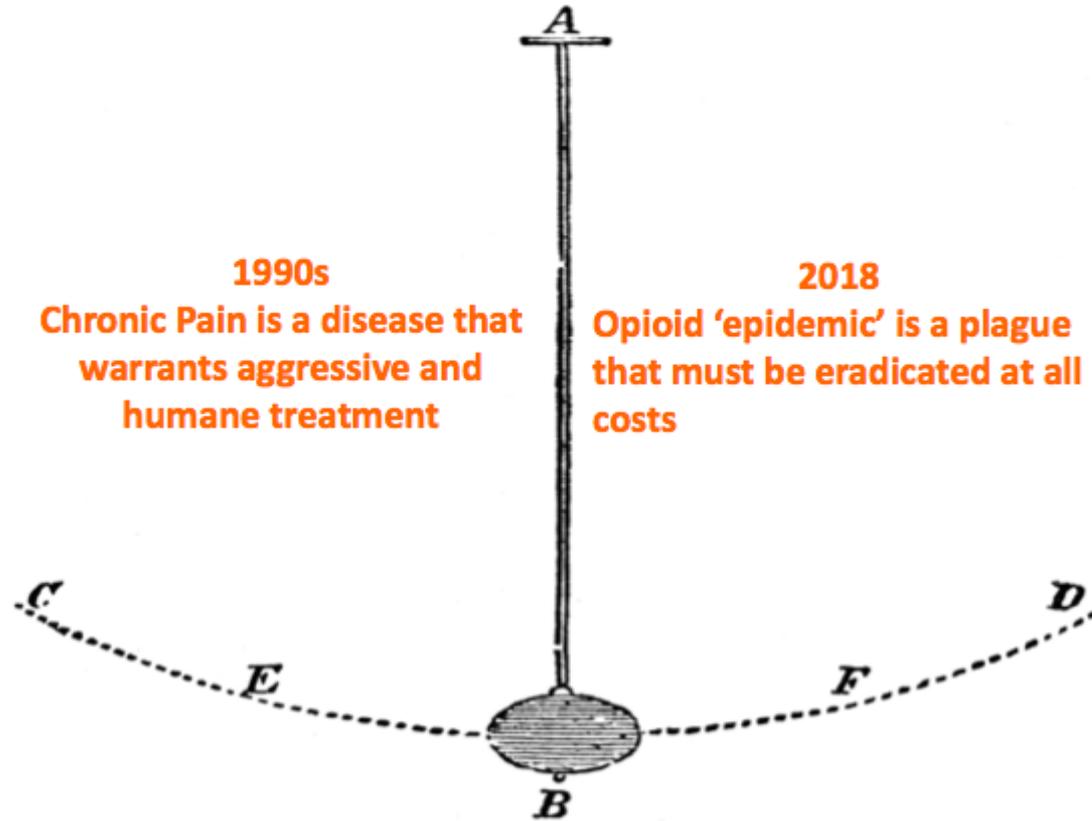
The Take Home on Cannabinoids

- Cannabinoids cause impairment of coordination and cognitive function
- WCB makes clear employee, employer and union responsibilities about safety
- Wide range of cannabis potency and effects
- Without immediate impairment testing, fitness for duty (safety sensitive) impossible to determine
- If policy incorporates testing, oral fluids best
- At this point, recent* cannabinoid use and safety sensitive work likely incompatible
- Manage on case by case basis: it comes down to an occupational medical fitness determination
- Need a clear policy

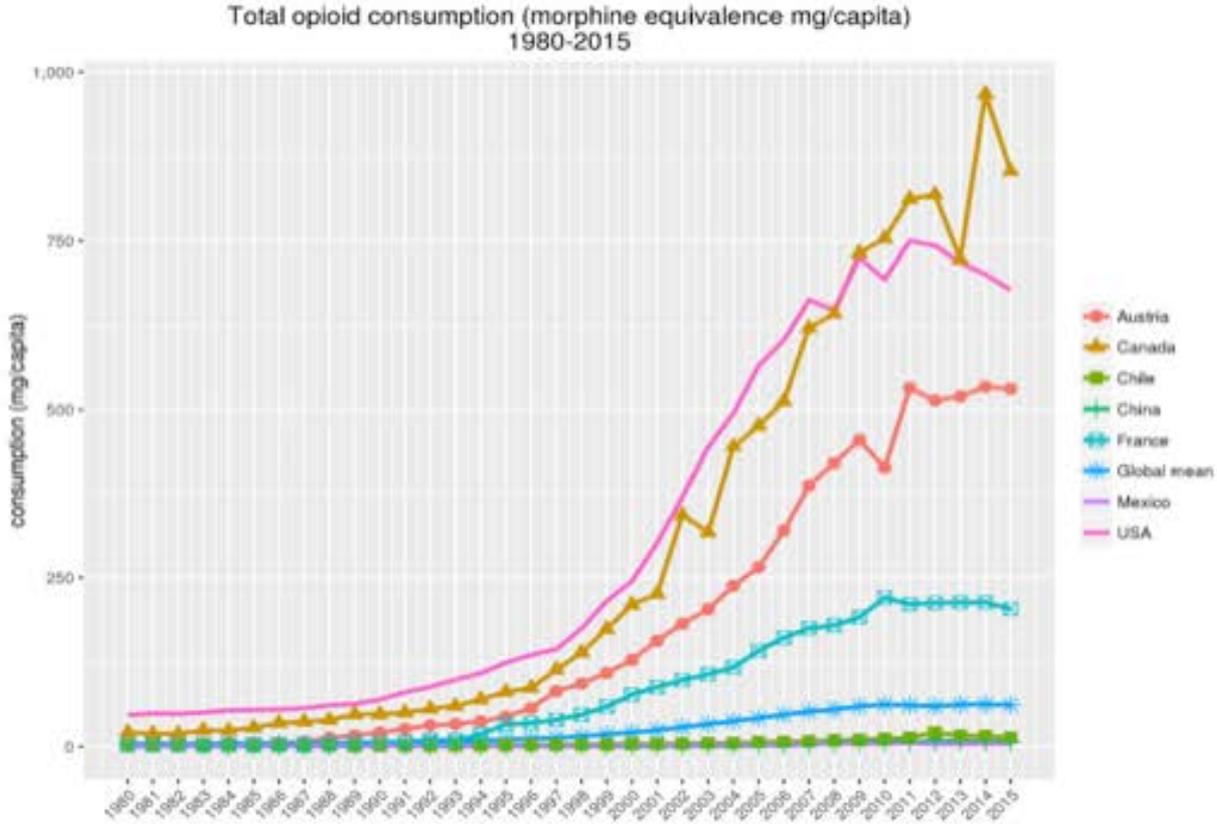
Opioids:

codeine, morphine,
hydrocodone, oxycodone,
hydromorphone
tramadol, meperidine,
fentanyl, methadone,
buprenorphine (suboxone),

The pendulum swings



Opioids - landscape



Sources: International Narcotics Control Board; World Health Organization population data
By: Pain & Policy Studies Group, University of Wisconsin/WHO Collaborating Center, 2017

Impairment by Opioids

Cognitive impairment: thinking, reacting, learning, memory, decision making, concentration

Psychomotor impairment: coordination

Testing:
driving testing
battery of cognitive tests
(paper/computer)

Opioid Tolerant Patients

review of 48 studies on opioid effects on driving skills

Fishbain 2003

Do opioid stabilized patients have impaired psychomotor activities? No: 69% Yes: 31%

Do opioid stabilized patients have impaired cognitive function? No: 45% Yes: 55%

Do opioid stabilized patient demonstrate driving impairment in simulators or road tests
No: 66% Yes: 44%

Summary: Impairment

- Opioids impair cognitive and psychomotor function in a dose/effect relationship
- Safe dose not known
- Methadone, buprenorphine cause cognitive/psychomotor impairment, greater effect prior to stabilization/tolerance, greater effect immediate post-dosing
- concurrent use of alcohol, benzodiazepines in people on opioid maintenance more impairing

Opioid dependence



A Guideline for the
Clinical Management of

Opioid Use Disorder

BCCSU Guideline (opioids)

- × Strong recommendation to start Suboxone as first line treatment of OUD
- × Prescribers urged to inquire whether safety sensitive work, then consult College or CMPA re: notification of employer
- × Naltrexone (opioid antagonist) may be safe alternative in people with strong desire to pursue abstinent recovery or those in safety sensitive occupations

Summary

- Many common causes of workplace impairment
- Workplace impairment due to drugs is common and about to get a lot worse
- Drug testing won't solve the problem
- It will be more important than ever to have a comprehensive workplace policy and process in place (come back this afternoon to learn more)



For Slides
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Thank You
hope to see
you later

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References

- Allan, Michael.** **Simplified guideline for prescribing medical cannabinoids in primary care.** Canadian Family Physician. Vol. 64. February 2018.
- Allan, Michael.** Systematic review of systematic reviews for medical cannabinoids. Canadian Family Physician. Vol. 64. February 2018.
- Broyd, S.J.** Acute and Chronic Effects of Cannabinoids on Human Cognition—A Systematic Review. Biological Psychiatry April 1, 2016; 79:557–567.
- Campbell, Michelle.** Effect of cannabis use in people with chronic non-cancer pain prescribed opioids: findings from a 4-year prospective cohort study. Lancet Public Health 2018; 3: e341–50
- Caputi, Theodore.** Medical Marijuana Users are More Likely to Use Prescription Drugs Medically and Nonmedically. J Addict Med 2018;12: 295–299.
- Crean, Rebecca.** An Evidence-Based Review of Acute and Long-Term Effects of Cannabis Use on Executive Cognitive Functions. J Addict Med 2011;5: 1–8.
- CTADS.** Canadian Tobacco and Drugs Survey 2015
- Decision Critical:** Fan, Xiangning and Els, Charl. “Decision-critical” work: a conceptual framework. Journal of Occupational Medicine and Toxicology (2016) 11:22.
- Hall, Wayne.** The adverse health effects of cannabis use: What are they, and what are their implications for policy? International Journal of Drug Policy 20 (2009) 458–466.

References (cont)

- Hall, Wayne.** The adverse health effects of cannabis use: What are they, and what are their implications for policy? *International Journal of Drug Policy* 20 (2009) 458–466.
- Lopez-Quintero, Catalina.** Probability and predictors of transition from first use to dependence on nicotine, alcohol, cannabis, and cocaine: Results of the National * Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Drug Alcohol Depend.* 2011 May 1; 115(1-2): 120–130.
- National:** The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research. Committee on the Health Effects of Marijuana: An Evidence Review and Research Agenda. Board on Population Health and Public Health Practice Health and Medicine Division. The National Academies Press, Washington, DC.
- Phillips, Jennan. Marijuana in the Workplace: Guidance for Occupational Health Professionals and Employers. *JOEM.* Volume 57, Number 4, April 2015.
- Ramaekers, J.G.** Dose related risk of motor vehicle crashes after cannabis use. *Drug and Alcohol Dependence* 73 (2004) 109–119.
- Tilray.**
www.vancouver.sun.com/health/high+medical+producers+failing+compassionate+pricing+report+card/11109360/story.html
- Zwerling, Craig.** The Efficacy of Pre-employment Drug Screening for Marijuana and Cocaine in Predicting Employment Outcome. *JAMA:* 264.20 (1990): 2639.