“MEDICAL MARIJUANA” AND THE WORKPLACE

IMPACT ON AND ROLE OF THE OCCUPATIONAL MEDICINE PHYSICIAN

Dr. Barry D. Kurtzer
Workplace Medical Programs

Presenter:

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Medical Marijuana and the Workplace: Impact on and Role of the Occupational Medicine Physician

(Part 1)

September 28, 2015
DISCLOSURE OF COMMERCIAL SUPPORT

• Potential for conflict(s) of interest:
  – Dr. Barry Kurtzer has receives salary, bonuses, and benefits from DriverCheck Inc., an organization whose drug testing services are being discussed in this program.
  – Dr. Barry Kurtzer is an officer and director for DelShen Therapeutics, a medical marijuana Licensed Producer applicant. DelShen currently does not grow or sell medical marijuana, and Dr. Kurtzer currently does not receive any compensation from DelShen except for out of pocket expenses.
• Faculty: Dr. Barry D. Kurtzer

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MITIGATING POTENTIAL BIAS

- Open declaration of potential conflicts
- Professional educational session to be delivered to physician colleagues and all other attendees
Session Theme

A Health & Safety approach for evaluating Workers who use Medical Marijuana ...........

Challenges and benefits moving forward........
NOTE:
The content of this presentation is based upon the best available knowledge we have relating to Medical Marijuana at this time. That said, scientific information, medical applicability, and legal matters relating to Medical Marijuana can change at any time, thereby negating any or all information presented. Attendees to this session and/or readers of these materials are advised to watch out for such changes and to update their knowledge and action plans accordingly.
Information Acknowledgement and Thanks To:

- Health Canada
- CCIC (www.ccic.net)
- The College of Family Physicians of Canada
- DelShen Therapeutics
- Vector Medical
- Fellow Colleagues
Key Workplace Health & Safety Program Objectives

- To promote & deliver quality health & safety initiatives
- To enhance the image of employers, workers, and health care professionals as key stakeholders in and contributors to workplace health and safety initiatives
- To comply with applicable Regulations and/or Contract Requirements (eg: Canada, U.S., clients)
- To reduce preventable Workers’ Compensation cases
- To reduce preventable General Disability cases
- To protect Corporate Image
Workplace Health & Safety: Ultimate Goals

Balancing Good Health with Good Business:

- Healthy and Safe Employees
- Healthy Productivity
- Healthy Bottom Line
Session Objectives

• To understand what Medical Marijuana is, its clinical applications, and what it can do for patients
• To understand Health Canada’s Medical Marijuana Regulations
• To understand how those regulations impact Health Care Professionals
• To understand how those regulations impact the Employer, the Worker, and Safety in the Workplace
• To identify possible solutions for determining whether or not a Worker is medically qualified and fit to perform safety sensitive work
Session Objectives

And to develop an effective...

Game Plan!
"MEDICAL MARIJUANA"
(MM)
HEALTH CANADA REGULATIONS
• MMAR: Marihuana Medical Access Regulations (2001)

_replaced by_

• MMPR: Marihuana for Medical Purposes Regulations (2013/2014); full implementation by April 1, 2014
OTHER REGULATIONS REFERENCED:

• Controlled Drugs and Substances Act (CDSA)
• Food and Drugs Act
OTHER REGULATIONS & STANDARDS

- Licensing Bodies/Colleges Policies and Standards
- CMPA
- Medical Associations (CMA, Provincial, etc.)
- Health Disciplines Acts
- Occupational Health & Safety Acts
- Industry Specific (Trucking, Rail, Aviation, etc.)
- International Law (eg: U.S. DOT Regulations)
Under MMAR (2001), Health Canada directly licensed patients who could then:

- Purchase Medical Marijuana (MM) directly from Health Canada (HC had its own designated marijuana producer); or,
- Grow their own MM; or,
- Have someone else grow their MM for them.
Health Canada
MMAR LICENCES

- **A**TP: AUTHORIZATION TO POSSESS LICENCE
- **PUPL:** PERSONAL-USE PRODUCTION LICENCE
- **DPPL:** DESIGNATED-PERSON PRODUCTION LICENCE

**ALL LICENCES HAD AN EXPIRY DATE, AND A VALID “UP-TO” DATE; NOT NECESSARILY THE SAME DATE**
Under MMAR:

- Complicated Health Canada patient license application process; lengthy approval time
- Approval by 2 physicians needed
- Many patients believed to still purchase product from the street rather than go through the Health Canada application process
MMAR Issues:

• Product growth, quality, safety, and distribution controls

• What should the government’s role be?
• MMPR fully replaced MMAR as of/by April 1, 2014 (transitioned in from 2013)

• Health Canada (HC) will no longer approve/license patients nor distribute MM directly; will only act as regulatory overseeing body

• Only HC Licensed Producers (LP) allowed to grow and distribute MM as the sole source of MM in Canada
Health Canada

MMPR

• Patients can no longer grow their own MM or have others grow it for them as per MMAR; under MMPR, patients can only acquire Medical Marijuana from Health Canada Licensed Producers (LPs)*

• *BC federal court has temporarily provided relief to MMAR authorized users and growers pending further judicial review
Physicians & Nurse Practitioners

MMPR

• Only Physicians and Nurse Practitioners can authorize MM (subject to provincial authority);
• Only 1 Physician/Nurse Practitioner authorization needed
• Authorization form with specific information to be completed
Sample Medical Document for the Marihuana for Medical Purposes Regulations

This document may be completed by the applicant’s authorized health care practitioner as defined in the Marihuana for Medical Purposes Regulations. An authorized health care practitioner includes physicians in all provinces and territories, and nurse practitioners in provinces and territories where prescribing dried marihuana for medical purposes is permitted under their scope of practice. If another document is used, it must contain all of the information below.

Patient’s Given Name and Surname

Patient’s Date of Birth (DD/MM/YYYY)

Daily quantity of dried marihuana to be used by the patient: ______ g/day

The period of use is ______ day(s) ______ week(s) ______ month(s).

NOTE: The period of use cannot exceed one year

Health care practitioner’s given name and surname:

Profession:

Health care practitioner’s business address:

Full business address of the location at which the patient consulted the health care practitioner (if different than above):

Phone Number:

Fax Number (if applicable):

Email Address (if applicable):

Province(s) Authorized to Practice in:

Health Care Practitioner’s Licence number:

By signing this document, the health care practitioner is attesting that the information contained in this document is correct and complete.

Health Care Practitioner’s Signature:

Date Signed (DD/MM/YYYY):
MMPR Physician/NP
Authorizer Issues

- Specific patient education required to be given
- Safety and efficacy warnings to be given
- **MM not to be a primary treatment**; only to be considered and authorized when all other treatment deemed ineffective or contra-indicated, and MM could be beneficial for the medical issue needing treatment
- Monitoring/follow-up plan needed
• LPs can only sell dried marijuana, fresh buds and leaves, or marijuana oil to patients
• No solid edibles (cookies, etc.) can be sold by LPs
• Patients can only possess 30 times the authorized daily dose of dried MM, up to a maximum of 150 gm
• LPs cannot sell oil exceeding THC concentration of 30mg/ml
• Rigorous product security and label warnings to be in place, along with content of THC and CBD in mg
• Re: Oils – Equivalence to dried MM to be identified
• Rigorous LP record keeping required
• MM only receivable directly from HC authorized LPs;
• Or, Physician/Nurse Practitioner can receive MM on behalf of patient (but cannot charge patient for receiving, storing, and/or dispensing services)
DRIED MM FYI

- Average Joint: 500 mg (0.5 gm)
- Equates to 2 joints/gm
- 5 gm/day equates to 10 joints/day
- Equates to 300 joints/150 gm

(150 gm is the maximum patients are allowed to possess at any given time under MMPR)
2.4 Million Marijuana Users in Canada

- Recognized Medical Users: 1.6%
- Non-Recognized Medical Users: 16.1%
- Other Marijuana Users: 82.3%
Health Canada estimates 450,000 authorized patients by 2024, up from the current ~40,000

As of March 31, 2015: 1284 Licensed Producer (LP) applicant submissions have been received by Health Canada

As of March 31, 2015: 5 product recalls
• Lengthy, complex, expensive, multi-staged Licensed Producer (LP) application & approval process
• Rigorous operations, quality control, and security requirements must be met
• As of July 17, 2015, 17 approved LP facilities can grow and sell; 2 can only sell; 6 can only grow
• Full listing available on Health Canada’s MM Website
• Many LP applications have been denied
LEGAL ISSUES
Medical Marijuana Legal Issues

• In Canada: Automatic job termination without case by case review could result in Human Rights complaints, or other legal consequences

• Legal and medical review input needed

• All of this subject to modification based upon judicial arena decisions, and the law
United States

- **Federal:** MM is Illegal;
  - U.S. DOT bans MM use in safety sensitive positions;
  - No protection for MM users under ADA
- **States:** 23 States & DC have approved use of MM;
  - 4 states have approved recreational use;
  - Some states have MM job protection laws, but some of these states prohibit use or impairment at work

* If you do business in the U.S., and a worker uses MM, you must know & comply with all applicable laws!
Medical Marijuana

Cannabis
Cannabinoids

• **Endocannabinoids (endogenous ligands):**
  - Naturally present in the human body
  - Anandamide, 2-Arachidonyleglycerol (2-AG)

• **External Source Cannabinoids:**
  - Valid Prescribed Medications: Sativex (nabixomols), Marinol (dronabinol), Cesamet (nabilone)
  - Illicit Street Drugs: Marijuana, hashish
  - Medical Marijuana
Cannabis

- Family: Cannabaceae
- Genus: Cannabis
- Species/Subspecies:
  - Sativa
  - Indica
  - Ruderalis
Cannabis

- Separate male and female plants
- Female plant flowers used for medical marijuana production
- Produce cannabinoid acids which must be heated to be activated (heat causes decarboxylation)
• There are 40 to 60 different cannabinoids found in marijuana.....known as phytocannabinoids

• 2 Major Therapeutic Cannabinoids:
  - THC (tetrahydrocannabinol): most psychoactive ingredient: gives the “HIGH”
  - CBD (cannabidiol):
    - therapeutic without the significant “HIGH”

Rx Goal: Higher CBD to THC ratio if and where possible
Medical Marijuana

- Medical Marijuana Plant Types:
  - Sativa: Higher THC content
  - Indica: Higher CBD content
Cannabis Sativa

• Marijuana
  • Contains higher amounts of THC

• Hemp
  • Contains lower amounts of THC
Cannabinoids

• In addition to cannabinoids, there are non-cannabinoid chemicals (terpenoids), too.

• The interaction between the cannabinoid chemicals and non-cannabinoid chemicals in MM may be relevant to the beneficial therapeutic effects obtained, as opposed to the lack of therapeutic effects that may be experienced by some patients from pure pharmaceutical product cannabinoid medications.
Information for Health Care Professionals

Cannabis (marihuana, marijuana) and the cannabinoids
Medical Marijuana

- Body Cannabinoid Receptors:
  - CB 1: Central Nervous System (CNS)
    - Mainly brain;
    - Some peripheral
  - CB 2: Immune System, Peripheral (eg: GI)
    Some CNS (low abundance)
Marijuana’s Effects on the Brain

When marijuana is smoked, its active ingredient, THC, travels throughout the body, including the brain, to produce its many effects. THC attaches to sites called cannabinoid receptors on nerve cells in the brain, affecting the way those cells work. Cannabinoid receptors are abundant in parts of the brain that regulate movement, coordination, learning and memory, higher cognitive functions such as judgment, and pleasure.
The Endocannabinoid System in the Nervous System
MEDICAL INDICATIONS
Ask your doctor if MARIJUANA is right for you!
Non-psychotropic plant cannabinoids: new therapeutic opportunities from an ancient herb.
Cannabinoids

Examples of MM Applicable Disease States
- HIV/AIDS
- Epilepsy
- Chronic Non-Cancer Neuropathic Pain
- Multiple Sclerosis
- Cancer chemotherapy induced nausea
- Post-traumatic Stress Disorder
Cannabinoids

Examples of MM Treatable Symptoms

• Neuropathic Pain
• Spasticity
• Insomnia
• Anxiety
• Nausea
Medical/Therapeutic Applicability

- Antiemetic
- Appetite Stimulant
- Antispasmodic
- Analgesic
- Sedative
<table>
<thead>
<tr>
<th>Body System/Effect</th>
<th>Detail of Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Central Nervous System (CNS)</strong></td>
<td></td>
</tr>
<tr>
<td>Psychological</td>
<td>Euphoria (“high”), dysphoria, anxiety, depersonalization, precipitation or aggravation of psychosis (64,117,118,138,139,140,141,142,143,144,145,146,147,148,149,150,151,152,153,154,155,156,157,158).</td>
</tr>
<tr>
<td>Perception</td>
<td>Heightened sensory perception, distortion of space and time sense, hallucinations, misperceptions (151,156,159,160,161,162,163).</td>
</tr>
<tr>
<td>Sedative</td>
<td>Generalised CNS depression, drowsiness, somnolence; additive with other CNS depressants (opioids/alcohol) (117,142,157,158,164,165,166,167,168,169,170,171,172,173,174).</td>
</tr>
<tr>
<td>Motor function</td>
<td>Incoordination, ataxia, dysarthria, weakness (117,162,168,174,182,183).</td>
</tr>
<tr>
<td><strong>Cardiovascular and Cerebrovascular System</strong></td>
<td></td>
</tr>
<tr>
<td>Heart rate/rhythm</td>
<td>Tachycardia with acute dosage; tolerance developing with chronic exposure (117,119,120,121,157,158,223,224,225,226). Premature ventricular contractions, atrial fibrillation, ventricular arrhythmia also seen with acute doses (121,174,227,228,229,230,231).</td>
</tr>
<tr>
<td>Cardiac output</td>
<td>Increased cardiac output (227) and myocardial oxygen demand (232).</td>
</tr>
<tr>
<td>Cerebral blood flow</td>
<td>Increased with acute dose, decreased with chronic use, region-dependent variations (225,235).</td>
</tr>
<tr>
<td>Myocardial infarction</td>
<td>Increased risk of acute myocardial infarction within 1 h after smoking cannabis especially in individuals with existing cardiovascular disease (121,232).</td>
</tr>
<tr>
<td>Stroke</td>
<td>Increased risk of experiencing stroke after an acute episode of smoking cannabis (227,236,237).</td>
</tr>
<tr>
<td><strong>Respiratory System</strong></td>
<td></td>
</tr>
<tr>
<td>Carcinogenesis/mutagenesis</td>
<td>Cannabis smoke contains many of the same chemicals as tobacco smoke, and cannabis smoke condensates are more cytotoxic and mutagenic than condensates from tobacco smoke (68,70). Conflicting evidence linking cannabis smoking and cancer (238,239,240,241).</td>
</tr>
<tr>
<td>Histopathologic changes/inflammation</td>
<td>Chronic cannabis smoking associated with histopathologic changes in the lung (basal cell hyperplasia, stratification, goblet cell hyperplasia, cell disorganization, inflammation, basement membrane thickening, and squamous cell metaplasia) (242). Long-term smoking associated with...</td>
</tr>
<tr>
<td>Body System/Effect</td>
<td>Detail of Effects</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>cough, increased production of phlegm, and wheeze (243).</td>
</tr>
<tr>
<td>Bronchodilatation</td>
<td>Acute exposure causes dilatation; possibly reversed with chronic exposure (by smoking) (243).</td>
</tr>
<tr>
<td>Pulmonary function (FEV₁; FVC)</td>
<td>Acute, low-level exposure possibly stimulatory; long-term, heavy smoking possibly associated with increased obstruction and decreased lung function (243,244,245,246,247).</td>
</tr>
<tr>
<td><strong>Gastrointestinal System</strong></td>
<td></td>
</tr>
<tr>
<td>General pharmacologic actions</td>
<td>Decreased gastrointestinal motility, decreased secretion, decreased gastric/colonic emptying, anti-inflammatory actions (31,157,189,248).</td>
</tr>
<tr>
<td>Liver</td>
<td>Increased risk of hepatic steatosis/fibrosis, especially in patients with Hepatitis C (33,249,250,251). Increased Hepatitis C treatment adherence resulting in a potential sustained absence of detectable levels of Hepatitis C virus (252).</td>
</tr>
<tr>
<td>Pancreas</td>
<td>Acute risk of pancreatitis with chronic, heavy, daily use (253,254,255,256).</td>
</tr>
<tr>
<td><strong>Musculoskeletal system</strong></td>
<td></td>
</tr>
<tr>
<td>Eye</td>
<td></td>
</tr>
<tr>
<td>General pharmacologic actions</td>
<td>Decreased intra-ocular pressure (264,265).</td>
</tr>
<tr>
<td>Immune System</td>
<td></td>
</tr>
<tr>
<td>General pharmacologic actions</td>
<td>Complex immunomodulatory effects with suppressive and/or stimulatory effects (acute and chronic dosing) (24,266).</td>
</tr>
<tr>
<td><strong>Reproductive System</strong></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>With chronic administration: anti-androgenic, decreased sperm count and sperm motility, altered sperm morphology in animals (and possibly in humans) (267,268). Tolerance to these effects may develop. Possible inhibitory effects on sexual behaviour in men (269).</td>
</tr>
<tr>
<td>Females</td>
<td>Effects inconclusive in women (possibly due to tolerance) but changes in menstrual cycle, suppression of ovulation, and complex effects on prolactin secretion observed in female animals (268,270,271). Dose-dependent stimulatory or inhibitory effects on sexual behaviour in women (269).</td>
</tr>
</tbody>
</table>
Cannabinoids

SIDE EFFECTS & CONTRAINDICATIONS
Adverse (Side) Effects

• Euphoria
• Anxiety
• Changes in alertness, short term memory, and sensory perception
• Negative coordination and movement changes
Cannabis

Adverse (Side) Effects

- Cognitive function effects
- Reproductive system effects
- Changes in alertness, short term memory, and sensory perception
Adverse (Side) Effects

- Carcinogenic/Mutagenic
- Cardiovascular System Effects
- Gastrointestinal System Effects
- Psychiatric Effects (psychosis trigger for those predisposed; eg: schizophrenia)
Contraindications (non-exhaustive)

- Psychosis
- Unstable ischemic heart disease
- Uncontrolled hypertension
- Arrhythmias
- Pregnancy
- Known sensitivity
- Addictive tendencies/behaviour
Cannabinoids

- Precautions (non-exhaustive)
  - Motor Function, Coordination, Judgment impact
  - Enhancement of CNS depressant affects
  - Potential for abuse
  - Potential interaction with other psychoactive drugs
  - Known sensitivity
  - Adolescence
Cannabis Tolerance/Addictive Tendencies

- Larger amount used than intended
- Unsuccessful attempts to reduce or stop
- Excessive time spent using
- Cravings
- Use despite social consequences
- Use despite physical consequences
- Abandonment of activities
- Use in hazardous situations
Cannabis Withdrawal (1-14 days)

- Irritability/anger/aggression
- Nervousness/anxiety
- Sleep disturbance
- Decreased appetite/weight loss
- Restlessness
- Depressed mood
- At least one physical symptom causing significant discomfort
- Stomach pain/tremors/sweating/fever/chills/headache
Low, Slow, and Steady

- Affected by route of intake (lungs, GI tract)
- Affected by cannabinoid mixture (THC, CBD)
- Affected by personal metabolism, personal response, and longevity of use tolerance factors
Authorizing Dried Cannabis for Chronic Pain or Anxiety

September 2014
preliminary guidance
Recommendation 1

• There is no research evidence to support the authorization of dried cannabis as a treatment for pain conditions commonly seen in primary care, such as fibromyalgia or low back pain.

• Authorizations for dried cannabis should only be considered for patients with neuropathic pain that has failed to respond to standard treatments.
Recommendation 2

If considering authorizing dried cannabis for treatment of neuropathic pain, the physician should first consider

a) adequate trials of other pharmacologic and nonpharmacologic therapies, and

b) an adequate trial of pharmaceutical cannabinoids.
Recommendation 3
Dried cannabis is not an appropriate therapy for anxiety or insomnia.
Recommendation 4
Dried cannabis is not appropriate for patients who:
a) Are under the age of 25
b) Have a personal history or strong family history of psychosis
c) Have a current or past cannabis use disorder
d) Have an active substance use disorder
e) Have cardiovascular disease (angina, peripheral vascular disease, cerebrovascular disease, arrhythmias)
f) Have respiratory disease, or
g) Are pregnant, planning to become pregnant, or breastfeeding
Recommendation 5
Dried cannabis should be authorized with caution in those patients who:

a) Have a concurrent active mood or anxiety disorder
b) Smoke tobacco
c) Have risk factors for cardiovascular disease, or
d) Are heavy users of alcohol or taking high doses of opioids or benzodiazepines or other sedating medications prescribed or available over the counter.
Recommendation 6
Physicians should follow the regulations of their provincial medical regulators when authorizing dried cannabis.
Recommendation 7
Physicians should assess and monitor all patients on cannabis therapy for potential misuse or abuse.
Recommendation 8

Before signing a medical document authorizing dried cannabis for pain, the physician should do all of the following:

a) Conduct a pain assessment
b) Assess the patient for anxiety and mood disorders
c) Screen and assess the patient for substance use disorders
Recommendation 9
The physician should regularly monitor the patient’s response to treatment with dried cannabis, considering the patient’s function and quality of life in addition to pain relief. The physician should discontinue authorization if the therapy is not clearly effective or is causing the patient harm.
Recommendation 10

Patients taking dried cannabis should be advised not to drive for at least:

a) Four hours after inhalation
b) Six hours after oral ingestion
c) Eight hours after inhalation or oral ingestion if the patient experiences euphoria

NOTE: Health Canada has stated impairment can last up to 24 hrs. following use!!
Recommendation 11
When authorizing dried cannabis therapy for a patient, the physician should advise the patient of harm reduction strategies.
Recommendation 12
The physician should manage disagreements with patients about decisions around authorization, dosing, or other issues with unambiguous, evidence-based statements.
Recommendation 13

The physician who is authorizing cannabis for a particular clinical indication must be primarily responsible for managing the care for that condition and following up with the patient regularly. Physicians seeking a second opinion on the potential clinical use of cannabis for their patient should only refer to facilities that meet standards for quality of care typically applied to specialized pain clinics. In both instances, it is essential that the authorizing physician, if not the patient’s most responsible health care provider, communicate regularly with the family physician providing ongoing comprehensive care for the patient.
Recommendation 14
Given the weak evidence for benefit and the known risks of using cannabis, the only sensible advice for physicians involved with authorizing dried cannabis is the maxim “Start low, and go slow”.

College of Family Physicians of Canada
Recommendation 15

Although it is not required by the MMPR, physicians should specify the percentage of THC on the medical document for all authorizations for dried cannabis, just as they would specify dosing when prescribing any other analgesic.
THC Concentration Starting Targets/Recommendations

• Health Canada under MMAR: 12.5%
• College of Family Physicians of Canada: 9% or less

* Note: Licensed Producers grow and sell multiple products containing varying concentrations of THC and CBD
Subjects in one trial experienced relief of pain with one inhalation of 9.4% THC cannabis smoked three times per day. The single inhalation produced a serum level of 45 μg/L, a level slightly lower than the level associated with euphoria (50–100 μg/L).
Starting

It is useful to consider some broad considerations of these cannabis inhalation techniques to guide these discussions and decisions:

• Based on WHO estimates, an average “joint” contains 500 mg (0.5 g) of herbal cannabis. A typical tobacco cigarette, by comparison, weighs 1.0 g.

• Studies of smoked cannabis for neuropathic pain conditions suggest effective doses ranging from one single inhalation from 25 mg of herbal cannabis containing 9.4% THC three times daily using a pipe, 11 to 9 inhalations from a 900 mg “joint” of herbal cannabis containing 7% THC. This translates into current evidence for a daily inhaled dose of 100–700 mg of up to 9% THC content dried cannabis.

• It is worth noting that in all studies the incidence of adverse events increases with increasing THC level.
Starting

Until further dose and delivery system information becomes available, these data may be crudely fashioned to provide patients with the following guidance and information:

1. They are advised to consider using vaporized cannabis over smoked cannabis.
2. They should use inhaled cannabis in a well-ventilated, private, and calm environment.
3. The authorization for dried cannabis will be for the lowest effective level of THC available.
4. They should start any new cannabis product with a slow single inhalation, and then wait four hours so that they can fully appreciate the effects.
Table 2: Relationship between THC Percent in Plant Material and the Available Dose (in mg THC) in an Average Joint

<table>
<thead>
<tr>
<th>% THC</th>
<th>mg THC per 750 mg dried plant material* (“average joint”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.5</td>
</tr>
<tr>
<td>2.5</td>
<td>18.75</td>
</tr>
<tr>
<td>5</td>
<td>37.5</td>
</tr>
<tr>
<td>10†</td>
<td>75†</td>
</tr>
<tr>
<td>15</td>
<td>112.5</td>
</tr>
<tr>
<td>20</td>
<td>150</td>
</tr>
<tr>
<td>30</td>
<td>225</td>
</tr>
</tbody>
</table>

* WHO average weight

Cannabis (marihuana, marijuana) and the cannabinoids
Table 4: Quick Reference of Smoked to Estimated Oral Doses of $\Delta^9$-THC

<table>
<thead>
<tr>
<th>“Smoked Dose”†</th>
<th>Estimated Oral Dose (mg $\Delta^9$-THC)‡</th>
</tr>
</thead>
<tbody>
<tr>
<td>% THC in a 750 mg cannabis cigarette (Total available mg $\Delta^9$-THC)</td>
<td></td>
</tr>
<tr>
<td>1 % THC (7.5 mg)</td>
<td>18.8 mg</td>
</tr>
<tr>
<td>2 % THC (15 mg)</td>
<td>37.5 mg</td>
</tr>
<tr>
<td>2.5 % THC (18.8 mg)</td>
<td>46.8 mg</td>
</tr>
<tr>
<td>3 % THC (22.5 mg)</td>
<td>56.3 mg</td>
</tr>
<tr>
<td>5 % THC (37.5 mg)</td>
<td>93.8 mg</td>
</tr>
<tr>
<td>7.5 % THC (56.3 mg)</td>
<td>140.6 mg</td>
</tr>
<tr>
<td>10 % THC (75 mg)</td>
<td>187.5 mg</td>
</tr>
<tr>
<td>12.5 % THC (93.8 mg)</td>
<td>234.4 mg</td>
</tr>
<tr>
<td>15 % THC (112.5 mg)</td>
<td>281.3 mg</td>
</tr>
<tr>
<td>20 % THC (150 mg)</td>
<td>375 mg</td>
</tr>
</tbody>
</table>

† A “smoked dose” is defined as the total available amount (in mg) of $\Delta^9$-THC in a standard cannabis cigarette (750 mg joint)
‡ An oral dose is defined as the total amount (in mg) of orally ingested $\Delta^9$-THC

Numbers in the table are rounded to the nearest decimal place
Starting

5. They should allow for several single inhalation trials of a product to observe and then discuss their responses with their physicians, before either increasing the number of inhalations or changing their order with the producer.

6. As with all psychoactive drugs, they must be informed of and alert to cannabis’s potential mood-altering, euphoric, or sedative effects, which can occur and present risk even at very low doses.

7. They should keep notes on effects and experiences throughout the therapy to facilitate discussion with their authorizing physician and other health professionals.
Increasing dosage: go slow

Although the MMPR allows physicians to authorize as much as 5.0 g of dried cannabis per patient per day, we expect that analgesic benefit will occur for most patients at considerably lower doses. We expect that the upper level to the safe use of dried cannabis will be on the order of 3.0 g per day, and that even this level of use should be considered only in very circumscribed conditions:

• This dosing level would apply to experienced users of dried cannabis only, never to cannabis-naïve patients
• It must only be arrived at through a careful process of assessing the patient’s response as dosage is slowly increased, weighing analgesic benefit, improvement in function, and presence or absence of adverse effects
Increasing dosage: go slow

Furthermore, physicians considering authorizing dried cannabis at doses higher than the current evidence supports (an inhaled dose of 100–700 mg of no more than 9% THC cannabis daily) are strongly advised to:

• Discuss the decision to increase the dosage, either approaching or exceeding a 3.0 g/day level, with a trusted and experienced colleague

• Document in the patient’s record the reasons that support the increased dosage
College of Family Physicians of Canada:
- Patient must undergo pain history and assessment (if analgesia is the treatment goal)
- Patient must be screened for addictions behaviour (eg: CAGE) and psychiatric history
- Patients must be educated about marijuana’s effects and impacts on health and safety
Medical Cannabis Authorizing

College of Family Physicians of Canada Recommends:

• Patient should be at least 25 yrs. old
• Patient should be screened for addictions behaviour (eg: CAGE) and psychiatric history (psychosis)
• Patient should be screened for cardiovascular disease
• Patient should be screened for respiratory disease
• Female patients: must not be pregnant, planning to become pregnant, or breastfeeding
CAGE-­‐AID	
  Tool

Yes No

• • Have you ever felt you ought to Cut down on your drinking or drug use?
• • Have people Annoyed you by criticizing your drinking or drug use?
• • Have you ever felt bad or Guilty about your drinking or drug use?
• • Have you ever had a drink or used drugs first thing in the morning (Eye-opener) to steady your nerves, get rid of a hangover, or get the day started?

Scoring: One “positive” response indicates the need for further assessment.

A urine drug screen (UDS) is also suggested.

• College of Family Physicians of Canada (CFPC) recommendations:
  • Use the lowest dose necessary.
  • Do not “breath hold” or take more cannabis than the dose your doctor has specified.
  • We (CFPC) recommend you ingest (that is, eat) your cannabis or take it using a vaporizer instead of smoking it, to reduce your risk of exposure to toxins that result from burning the cannabis in a cigarette. This is important to help protect you from heart or lung disease.
  • Do not use dried cannabis with alcohol or other sedating drugs.
  • If you are smoking cannabis, do not mix tobacco into the cigarette.
PATIENT SAFETY AND HARM REDUCTION ADVICE (CFPC)

• Do not give or sell your cannabis to others—it is both dangerous and illegal.
• Store your dried cannabis in a locked container, out of reach of children and hidden from visitors and from adolescents at home.
• Avoid smoking cannabis in your house, to limit exposure of family members to second-hand smoke.
• Do not drive for at least four hours after any use by any route, and for at least six hours after oral ingestion. Do not drive for at least eight hours after using cannabis if you experience euphoria when you use it.
• Do not use cannabis of any kind if you are pregnant or plan to become pregnant, or if you are breastfeeding.
Medical Cannabis

Authorizing

College of Family Physicians of Canada

• Patients must have undergone all other applicable treatment regimens (pharmacological and non-pharmacological) prior to using medical marijuana, and either failed to respond, or the alternative treatment was contraindicated) before considering MM
Medical Cannabis MONITORING
Medical Cannabis Monitoring

College of Family Physicians of Canada suggests:

• Frequent monitoring at the beginning of treatment

• Some jurisdictions require follow-up visits no less than once every 3 months

• Periodic urine drug testing should be part of the monitoring program
Medical Cannabis Monitoring

Role of Drug Testing:

• May help identify consistency of and compliance with medicinal use
• May identify multiple substance misuse/abuse
• When To Test:
  • As part of ongoing monitoring during treatment
  • As part of assessment when treatment is discontinued and worker is returning to safety sensitive duties
Medical Cannabis Monitoring

Urine Drug Testing:

• May identify multiple substance misuse/abuse
• Cannot be used to verify impairment at the time of the test
• Periodic testing should be included as part of a monitoring program
Medical Cannabis Monitoring

Oral Fluid Drug Testing:

• May help identify consistency of and compliance with medicinal use

• May identify multiple substance misuse/abuse

• WITH A POSITIVE TEST CUTOFF LEVEL OF 10 ng/ml, MAY BE USED TO IDENTIFY LIKELY USE OF THC & IMPAIRMENT WITHIN THE 4 HRS. PRIOR TO TEST!

• Shorter time window of detection for THC than urine
Medical Cannabis Monitoring

Blood Specimen Drug Testing:

- Recommended by ACOEM to identify impairment
- Not routinely used in standard workplace drug testing programs; not authorized by US DOT for regulatory testing, except in special circumstances
- A physically invasive specimen collection process
- No Canadian regulatory guidance
Clinical features of cannabis use disorder in patients with chronic pain:

• Insists on a medical document for dried cannabis rather than trying other treatments known to be effective for his or her condition
• Uses cannabis daily or almost daily, spending considerable non-productive time on this activity
• Has poor school, work, and social functioning
• Is currently addicted to or misusing other substances (other than tobacco)
• Has risk factors for cannabis use disorder: is young, has current mood or anxiety disorder or a history of addiction or misuse
• Reports having difficulty stopping or reducing use
• Reports cannabis withdrawal symptoms after a day or more of abstinence: intense anxiety, fatigue
• Has friends or family members concerned about his or her cannabis use
Questions:

• CAN YOU RELY ON THE GENERAL HEALTH CARE SYSTEM TO UNDERSTAND ALL THE WORKPLACE IMPACT ISSUES RELATING TO MEDICAL MARIJUANA ??

• ARE YOU IN CONTROL OF YOUR DESTINY??
MANAGING MEDICAL MARIJUANA IN THE WORKPLACE: “THE GAME PLAN”
Medical Cannabis Workplace Safety Program

Core Components:

• Medical Marijuana Policy
• Employee Education
• Supervisor Training
• Medical Marijuana Fit For Safety Sensitive Work IME (IME = Independent Medical Examination)
• Periodic drug testing
• Monitor Outcomes of Follow-Up Physician Assessments
• Accommodation if Not Fit for Safety Sensitive Work if possible
Know Your Profession’s Rules and Guidelines

Key Resources For Physicians

• College of Family Physicians of Canada website:
  – www.cfpc.ca/medical_marijuana/
  – Includes links to provincial licensing body policies & positions
  – Includes link to CFPC Preliminary Guidance

• CMPA

• CCIC – The Canadian Consortium For The Investigation of Cannabinoids
  – www.ccic.net
Know Your Profession’s Rules and Guidelines

Additional Resources For Physicians:

- CCMTA “NATIONAL SAFETY CODE”
- CMA “DRIVER’S GUIDE”
- RAC “CANADIAN RAILWAY MEDICAL RULES HANDBOOK”
Medical Cannabis Workplace Safety Program

*Policy Issues for Consideration:

- Statement of Purpose (health & safety, etc.)
- Self declaration of use, change of dose, change of strength, change of frequency, and side effects reporting requirements
- IME and monitoring provisions for safety sensitive workers
- Adherence to Human Rights and Privacy law provisions
- Accommodation if Not Fit for Safety Sensitive Work if possible (automatic termination may cause Human Rights complaints)

* OBTAIN EXPERT/LEGAL ADVICE WHEN CREATING POLICY
Medical Cannabis Workplace Safety Program

*Policy Issues for Consideration (continued):

- Identify means and methods to be used to verify authenticity of MM use:
  - Verify MD/NP Authorization
  - Verify Registration with Licensed Producer (LP)
- Determine state of health problem being treated
  - Is it under control?
  - Is it safe for the worker to perform safety sensitive work?

* OBTAIN EXPERT/LEGAL ADVICE WHEN CREATING POLICY
Policy Issues for Consideration (continued):

- Will you allow Medical Marijuana to be used at work?
- If “yes” ....... where? Security issues?
- How will you monitor side effects and performance?
- Can you accommodate?
- What about safety to and from work?

* OBTAIN EXPERT/LEGAL ADVICE WHEN CREATING POLICY
*Policy Issues for Consideration (continued):

• **Cost Coverage Issues**
  - Worker/Patient?
  - Government
  - Employee Benefit Program

* OBTAIN EXPERT/LEGAL ADVICE WHEN Creating POLICY
Potential Cost Factors (dried MM):

Average Dose/Day: 2 gm
Average Cost/gm: $7.50
Cost/day: $15.00
Cost/year: $5,475.00

* OBTAIN EXPERT/LEGAL ADVICE WHEN CREATING POLICY
Medical Cannabis Workplace Safety Program

Potential Cost Factors (dried MM):

Average Dose/Day: 5 gm
Average Cost/gm: $7.50
Cost/day: $37.50
Cost/year: $13,687.50

* OBTAIN EXPERT/LEGAL ADVICE WHEN CREATING POLICY
Fitness for Duty
IME
(INDEPENDENT MEDICAL EXAMINATION)
Core Components of MMIME:

- Should only be conducted by qualified experienced medical marijuana, addictions, and occupational medicine physicians
- Examiners should be knowledgeable about health, safety, and workplace matters relating to medical marijuana use
- Examiners should be provided with a detailed job description and physical demands analysis, along with identification of any and all safety related functions
- A detailed review of the health condition being treated should be done, with an evaluation of its impact on health and safety
Core Components:

- A review of all current medications being used should be done.
- Risk of addictive behaviour should be evaluated (medication, street drugs & alcohol).
- Reviewing the potential for alternative treatments should be done.
- A full physical examination and any required/applicable tests should be done.
- Validation of the need for medical marijuana should be undertaken.
Core Components:

- Safety issues (work and non-work) should be reviewed
- Fitness for Safety Sensitive Work status should be determined
- A detailed report outlining the key issues and fitness for work recommendations should be generated
- Advice for the employer and the patient should be made where necessary regarding follow-up medical care and assessments
- Appropriate consent and authorization forms need to be signed by the patient for information release and exchange between all stakeholders (patient, IME examiners, employer, primary care/medical marijuana prescribing physician, and any other applicable third party)
Medical & Non-Medical Marijuana

THE FUTURE

• Edibles & “Lunch Box Safety Risk”
• Arbitration, Court, & Human Rights Commission Decisions
• Decriminalization?
• Full Legalization?
Objectives

Today’s Session Examined And Offered Strategies For:

• Understanding what Medical Marijuana is, its clinical applications, and what it can do for patients
• Understanding Health Canada’s Medical Marijuana Regulations
• Understanding how those regulations impact Health Care Professionals
• Understanding how those regulations impact the Employer, the Worker, and Safety in the Workplace
• Identifying possible solutions to determine if it is safe for a Worker to perform safety sensitive work
Why a Medical Marijuana "GAME PLAN"?

Common Sense and Good Business !!

• Healthy and Safe Employees

• Healthy Productivity

• Healthy Bottom Line
Workplace Medical Programs

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