

The Marijuana Medical Access Regulations

The Marijuana Medical Access Regulations (MMAR) came into effect in 2001 to enable compassionate access to marijuana for medical purposes for seriously ill Canadians.

Applications to obtain an Authorization to Possess marijuana legally and to obtain a License to Produce marijuana for medical purposes require that the physician complete Form B1 for Category 1 applicants, or B2 for Category 2 applicants. Currently, Category 1 of the MMAR includes the following medical conditions and related symptoms:

MEDICAL CONDITIONS	SYMPTOM
Cancer, or AIDS, HIV infections	Sever pain, cachexia (wasting), Anorexia (appetite loss) weight loss, Severe nausea
Multiple Sclerosis; Spinal Cord Injury;	Severe pain, persistent muscle spasms
Severe Arthritis	Severe pain
Epilepsy	Seizures
Compassionate End of Life Care (Palliative Care)	

People with symptoms related to a condition other than those stated above fall under Category 2 of the MMAR.

Amendments to the Marijuana Medical Access Regulations

In June 2005, the MMAR were amended, allowing family physicians to sign all applications. For Category 2, the family physician must consult a specialist.

The wording of the applicant's declaration and the medical declaration were changed to shift of responsibility from the physician to the patient. The new MMAR no longer require physicians to "recommend" the daily dosage of marijuana, the form, nor the route of administration, though physicians must still indicate the daily amount, form and route of administration the patient intends to use.

Physicians are no longer required to state that the benefits of marijuana use outweigh the risks, though the applicant must declare that he or she has discussed the risks with a physician. The physician must declare that conventional treatment(s) for the Category 1 symptom(s) have been tried or considered and have been found to be ineffective or medically inappropriate for the treatment of the applicant.

Concerns Expressed by the Canadian Medical Protective Association:

In response to concerns regarding medical liability, the CMPA has made available a "Release Form for Medical Practitioners". The CMPA recommends that physicians ask their patient to sign this release and that physicians keep a copy on file. This form is available at www.cmpa-acpm.ca.

Practical Information about Marijuana and Marijuana Use

Potency

Cannabis contains over 60 active compounds known as cannabinoids. The main cannabinoid is delta-9-tetrahydrocannabinol (THC). There are hundreds of varieties or “strains” of cannabis, each with different cannabinoid profiles. Anecdotal reports claim that some strains are more efficacious than others at relieving symptoms. Potency refers to the amount of THC found in cannabis. Health Canada’s cannabis is a standardized and tested source of supply produced under contract. It contains 12.5% + 1.5% THC. According to the RCMP’s data, based on 3,160 THC analyses of street samples requested by Canadian police forces, the average potency of “street” cannabis is 5.7%. Of these samples, 133 tested over 15 percent, while eight reached over 20 percent.

Forms

Cannabis can be consumed in its herbal form, in tinctures, oils, capsules, sprays and concentrates such as hashish. However, the MMAR do not apply to any derivatives of cannabis such as hashish or hash oil.

Routes of Administration

The route of administration of cannabis determines the speed of onset of clinical effects. Each patient will need to determine the route that is best for them.

Inhalation has the most rapid onset, with clinical effects within seconds, and a peak effect after a few minutes. Smoking is the most widely used method and it allows for effective dosage titration as patients can quickly determine when they have consumed enough cannabis to relieve their symptoms. An interesting and promising alternative route is inhalation through a vaporizer. Vaporization consists of heating the cannabis just below the point of combustion, thereby vaporizing the cannabinoids without producing combustion by-products. Vaporizers are widely available wherever cannabis smoking devices are sold.

Baking or cooking with cannabis is a good way to reduce the amount smoked. However, bioavailability through ingestion is complex. The onset of the therapeutic effects can take from 30 minutes to 2 hours. In addition, ingesting THC orally is subject to the first pass effect of hepatic metabolism, yielding 11-hydroxy-THC, which is considerably more psychoactive than THC itself. This

said, the effect may last up to several hours longer. Eating cannabis can be a challenge for someone who is using it to alleviate nausea and vomiting. Each patient will need to determine the route that is best for them.

Tinctures and spray are used through sublingual and oromucosal absorption.

Amounts

A joint (cannabis cigarette) usually contains about ½ gram to 1 gram of cannabis, depending on how it is rolled and whether it is mixed with tobacco.

According to Health Canada’s Daily Amount Fact Sheet(2), the average daily amount approved for over 90% of persons authorized under the MMAR is 5 grams or less per day. Accordingly, 5 grams a day will result in a approximately 5 to 10 joints.

When cannabis is ingested orally, the strain of the cannabis, the potency, the part of the plant this is used (leaves or flowers), the body size of the person consuming, and the experience of the person consuming all come into play when considering a dose. Here are some guidelines for starting doses

OUNCES	GRAMS
1 oz	28 grams
½ oz – a “half”	14 grams
¼ oz – a “quarter”	7 grams
1/8 oz – an “eighth”	3.5 grams

when eating cannabis for a person a of about 68 kg (150lbs) who has some experience with cannabis:

- Cannabis leaf (shake): ½ gram to 2 grams
- Cannabis flowers (buds) with seeds: ¼ gram to 1 gram
- Sinsemilla flowers (buds with no seeds): 1/8 gram to ½ gram

2 Available on Health Canada’s web site at www.healthcanada.gc.ca/mma

Toxicity

There is no known LD50 for cannabis or its major components in humans.

The ratio of fatal to therapeutic has been estimated to be 40,000.

Theoretically, one would have to consume 682 kg (1500 pounds) of cannabis in 15 minutes to overdose. There has yet to be a well-documented case of human fatality attributable to an overdose of cannabis or its components, and as such, no LD50 can be attributed. (3,4,5,6,7)

3 Grinspoon L, Bakalar JB. *Marijuana, the forbidden medicine. Fev. And exp. Ed. New Haven: Yale University Press; 1997.*

4 Mikuriya TH. *Historical aspects of Cannabis sativa in Western medicine. New Physician. 1969;18(November):902-908.*

5 Loewe S. *Studies on the pharmacology and acute toxicity of compounds with marijuana activity. Journal of Pharmacology and Experimental Therapeutics. 1946;88:154-161.*

6 Loewe S. *the active principals of cannabis and the pharmacology of the cannabinoids. Archiv fur Experimentelle Pathologie und Pharmakologie. 1950;211:175-193.*

7 Ethan Russo. *LD50 Figures for Cannabis. Personal communication, January 20, 2006.*

State of Scientific and Medical Knowledge

For the latest research on cannabis and cannabinoids from international literature, please visit the Canadian Consortium for the Investigation of Cannabinoids in Human Therapeutics Electronic Newsletter: available at www.ccicnewsletter.com. As there is no Notice of Compliance for cannabis, Health Canada provides "Information for Health Care Professionals – Marijuana" at www.healthcanada.gc.ca/mma

Some Key studies related to HIV/AIDS:

- Abrams, DI, Hilton JF, Leiser RJ, Shade SB, Elbeik TA, Aweeks FT et al. Short-Term Effects of Cannabinoids in Patients with HIV-1 Infection. *Ann Intern Med.* 2003; 139:258-266.
- Beal JE, Olson R, Laubenstein L, Morales JO, Bellman P, Yangco B et al. Dronabinol as a treatment for anorexia associated with weight loss in patients with AIDS. *J Pain Symptom Manage.* 1995 Feb;10(2):89-97.
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- Chang AE, Shiling DJ, Stillman RC, Goldberg NH, Seipp CA, Barofski I et al. Delta-9-THC as an antiemetic in cancer patients receiving high-dose methotrexate. *Ann Intern Med.* 1979;91:819-830.
- de Jong BC, Prentiss D, McFarland W, Machezano R, Israelski DM. Marijuana Use and its Association with Adherence to Antiretroviral Therapy Among HIV-Infected Persons with Moderate to Severe Nausea. *J Acquir Immune Defic Syndr.* 2005;38(1):43-46.
- Jones Se, Durant JR, Greco FA, Robertone A. A multi-institutional phase III study of nabilone vs placebo in chemotherapy-induced nausea and vomiting. *Cancer Treatment Rev.* 1982;9SupplB:45-48.
- Kaslow RA, Blackwelder WC, Ostrow DG, Yerg D, Palenicek J, Coulson AH et al. No evidence for a role of alcohol or other psychoactive drugs in accelerating immunodeficiency in HIV-1 positive individuals. *JAMA.* 1989;261:3424-3429.
- Orr LE, McKernan JF> Antiemetic effect of delta-9-THC in chemotherapy-associated nausea and emesis as compared to placebo and compazine. *J Clin Pharmacol.* 1981;21:76S-80S.

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