

# APPENDIX TO MEDICAL CANNABIS POLICY: MEDICAL CANNABIS AND CANNABINOIDS BACKGROUND INFORMATION

## 1. THERAPEUTIC USES OF MEDICAL CANNABIS AND CANNABINOIDS

Many cancer patients take cannabis products by a variety of routes for relief of symptoms.<sup>1</sup> Though clinical trials have been restricted for some years, there is evidence that cannabis and cannabinoids are effective for mitigating a variety of cancer-related symptoms, including nausea, anorexia, pain and peripheral neuropathy.<sup>2</sup> Many patients also find certain products helpful for insomnia and anxiety. There is no human clinical trial evidence that cannabis or any cannabinoid has any useful effect on cancer cell growth. The medical role for cannabis and cannabinoids in cancer care is currently only in supportive care.

The cannabis plant produces a large number of active components and the relative amounts of each component in natural cannabis vary enormously from one strain to another. The main ones are tetra-hydro-cannabinol (THC) and cannabidiol (CBD). THC is most responsible for the psychoactive effects, via stimulation of CB1 and CB2 receptors widely distributed throughout the nervous system, but has therapeutic effects in multiple other organ systems as well. CBD counteracts the psychoactive effects of THC and has non-psychoactive therapeutic effects.

Therefore, the balance between THC and CBD is important in determining the therapeutic effects and side-effects of an individual medical cannabis product. Medical cannabis products usually have a higher CBD content than those developed for recreational use, but the details of constituents of an individual product, other than THC and CBD levels in products from Licensed Producers (LPs), are usually not known. There are also many other cannabinoids which vary between products, the function of which are sub-optimally understood.<sup>3</sup>

Medical cannabis is therefore not a single entity; rather a class of compounds with many different potentially pharmacologically active products.

## 2. ROUTES OF INGESTION

Smoking cannabis is not recommended because of possible lung toxicity, though this risk has been shown to be substantially less than that caused by smoking tobacco. Vaporization is potentially safer; however, there is not yet evidence on long term use by this route.<sup>4</sup> Oil extracts are available from a majority of Licensed Producers. Patients can ingest cannabis in custom-made capsules, steeped teas, edibles (foods such as cookies made with the addition of dried cannabis), tinctures, oils, creams or suppositories.

## 3. ACCESS

Medical cannabis can be accessed by four different routes:

- Health Canada approved cannabinoids from a regular pharmacy;
- Medical products from a Licensed Producer (LP);
- Cannabis grown at home by the authorized user, or by a designated authorized grower;
- Medical products from an unlicensed dispensary.

### Approved Cannabinoids

The two cannabinoids currently available by prescription in Canada are nabilone (Cesamet<sup>®</sup>) and nabiximols (Sativex<sup>®</sup>). Nabilone is a synthetic THC analogue tablet for swallowing. Nabiximols is a standardized extract of cannabis containing 50% THC and 50% CBD, administered by spray to the inside of the cheek for transmucosal absorption. Nabilone is usually prescribed starting at 0.5mg q8h prn, and cannabinoid-naïve patients start with once a day, increasing as needed as tolerated. Higher strengths are available. Nabiximols is usually prescribed as one spray q4h prn, adjusting according to effect.

### Licensed Producers

Legal medical cannabis plant products can be purchased by the patient by mail order from a number of LPs. Up to date contact information on LPs is available on the Health Canada website at <http://www.hc-sc.gc.ca/dhp-mps/marihuana/info/list-eng.php>. Medical authorization forms are to be found on each LP's website and have to be completed by a physician. The medical document has to include the period of use (days, weeks or months) and the maximum dispensed daily amount that should be provided to the patient. The patient submits this original medical document to the LP of their choice, along with a registration form provided by that LP. The prescriber should file a copy in the patient's medical record. The LP will fill and ship the applicant's order by mail, based on the daily amount of dried cannabis indicated on the medical document. The medical document must be completed annually or more frequently if the prescriber recommends a shorter period. Extracts such as capsules, tinctures or oils are only very recently becoming approved by Health Canada and are often in short supply with LPs.

### Unlicensed Dispensaries

Cannabis products are available for purchase in person from a large number of storefront dispensaries. The quality of service provided by the dispensaries varies markedly. They are currently unregulated and there are no controls on hygiene, labelling or product quality, including potential contamination with moulds or pesticides. Dispensaries however usually provide extracts in forms such as capsules, tinctures, suppositories, and creams etc., which are not available from LPs. The dried plant product and oils (when available) is often cheaper than through LPs. If a patient requires a product not available through an LP, or is unable to afford a prescribed or LP product, there are well-established non-profit dispensaries in some communities which provide good service.

### Home-Grown or by authorized designated grower

The *Access to Cannabis for Medical Purposes Regulations* allows patients to grow their own cannabis for medical purposes, within some limits, or to designate another person to grow it for them. These growers have to register with Health Canada. This method is not recommended as the product may not be free of mould or other contaminants, and is open to diversion.

#### **4. DOSE**

A reasonable starting dose of cannabis plant product would be 1g/day if to be taken by inhalation (smoked or vaporized) or 1g/day dried cannabis equivalent, if using oils. Patients may require larger amounts if making their own extracts. Between 3 and 5g a day is not unreasonable if a relatively inefficient extraction method is being used, such as a steeped tea. The maximum dose limit for oils should be written in the same way on the medical document, with no need to convert to mg of active cannabinoid. While there are no restrictions under the *Access to Cannabis for Medical Purposes Regulations* on the daily amount to prescribe, there is a possession cap of the lesser of 150 grams or 30 times the daily authorized amount.<sup>5</sup>

#### **5. COST**

Neither nabilone nor nabiximols are covered by Pharmacare. They are expensive, especially nabiximols. Special Authority will not be granted for them, nor are they covered by the BC Palliative Care Benefit Program. Some extended health plans will cover them. Medical cannabis is rarely covered by any reimbursement program, including extended health plans, but the Canada Revenue Agency does allow for tax deduction for receipts for medical cannabis or cannabis seeds without a prescription or certificate in writing, on form T2201.

#### **6. CONTRAINDICATIONS**

The following is a list of possible contraindications/safety concerns.<sup>6</sup> Other concerns may become known in future.

- Unstable angina, (cannabinoids can cause hypotension, tachycardia and may increase the risk of myocardial infarction in the immediate post-ingestion/inhalation period);
- History of psychosis or recent delirium;
- Cannabis-induced hyperemesis syndrome;
- Pregnancy.

#### **7. ADDICTION**

Note that addiction to cannabis or other substances is not a reason to withhold access to medical cannabis during cancer care: cannabis and cannabinoids have been shown to reduce cravings in a variety of substance use disorders and to substantially reduce the risk of opioid overdose deaths in jurisdictions where it has been legalized.<sup>7</sup> It can be particularly helpful for

patients who have challenges complying with cancer treatment due to concurrent substance use disorder.

## 8. MEDICAL AUTHORIZATION

The Supreme Court of Canada has determined that Canadians have the right to access cannabis for medical purposes. The *Access to Cannabis for Medical Purposes Regulations* do not contain limitations on the conditions for which a physician can support the use of cannabis for medical purposes. Health care practitioners can consult the document entitled *Information for Health Care Professionals: Cannabis (marihuana, marijuana) and the Cannabinoids* for further information.<sup>8</sup>

## REFERENCES

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7. Medical cannabis laws and opioid analgesic overdose: mortality in the United States, 1999-2010. Marcus Bachhuber et al. *JAMA Intern Med*. 2014.4005 e1-6.
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Additional information on the role of cannabis and cannabinoids in cancer care is available from a March 2016 focussed edition of Current Oncology; Vol. 23, Supplement 2. This is available for free at <http://www.current-oncology.com/index.php/oncology/issue/view/100> (accessed March 31, 2017)