CANNABINOIDs: Drug Comparison Chart 1,2

Cannabis contains hundreds of compounds including ~70 cannabinoids, of which Delta-9-tetrahydrocannabinol (aka dronabinol or THC) is most psychoactive. Two less psychoactive cannabinoids are Delta-8-THC & cannabidiol. Another active agent is cannabidiol (CBD), a potential analgesic & anti-inflammatory. These agents at the Cannabinoid receptors (CB1, & CB2). General dosing considerations: start low & go slow.

**Therapeutic Use/Comments**
- Treat severe N/V from cancer chemo
- Treat AIDS related anorexia

**Contraindications & Adverse Events**
- Breastfeeding
- Ataxia, confusion, coordination problems, diziness, somnolence, vertigo, red eyes, dry or hot dogs, palpitations, tinnitus, flushing, panic rx, delusion of persecution, depersonalization, depression
- Organic brain syndrome
- Formulation
- Somnolence

**Initial, Usual, & Maximum Dose**
- Initial: 2.5mg po HS
- Usual: chemo N/V: 2.5-5mg/po TID-QID (5mg/m2)
- New: 100mg/day
- Pain: 2.5mg/day on average (depending on THC) via vaporizer/tea/baking (not smoking)

**Additional Information**
- N/V
- Seizures, psychotomimetic
- (Upper perioddial disease) (Cannabis use & exposure to 2nd hand smoke associated with ~stilifing)
- Dry mouth, N/V, red eyes; heart ↓, lung ↓ &↑ BP
- Mental fx: ↑ anxiety & panic rx, ↑ weight & appetite, hallucinations, flashbacks, 7street
- Sedation; ～Depression & sexual problems; Ticcer testing; gynecomaia; ↑ steatosis with hepatitis C; Psychosis, ↓improvement of driving

**Product & distribution changes in progress**
- Hashish plant resin 16-65mg

**Other issues to consider**: 1.
- Bill proposed to decriminalize/update legislation (possibly fines, no criminal charges for possession, ↑penalties for grow-ops,.can grow at home, ACMPR, by mail)
- New access to Cannabis for Medical Purposes ACMPR Aug 24/16 Regulations (MMAR June/13-Aug/16, MMAR on Mar 1/14).att: ETL-Bid does not authorize cannabis products for medicinal purposes. But: Court challenge!
- Previous MMAR & until Mar 31/14 specific for medical use: Category 3. companionship end-of-life care; MS pain/spasms, spinal cord injury/disease; cancer or AIDS pain/cachexia/anorexia/weight loss/nausea; severe arthritis pain; seizures (epilepsy) [Form B1]. Applied by MP GP specialist in area of condition Category 2. other serious conditions [Form B2]. GP specialist can sign the medical declaration. Care assessment by a specialist needed if the MP is not already a specialist for the condition. New MMAR/No limitations on conditions for which a MP can support the use of marihuana for medical purposes. No set daily limit: max possession is the lesser of 150g or 30 pills the daily amount at any one time. (Cannabis oil, buds & leaves acceptable now)!

**Monetary Allowances**
- ~$10-20/gram
- HC Program ~$15-20/gram
- $5-10/gram
- $5-10/gram


**BROADER CONSIDERATIONS**
- Pain based on very limited evidence: no more effective than codeine, ↑AE & need larger trials ➔ cannabis may be moderately efficacious for chronic pain, benefits are offset by potential harms & complicated by the psychosocial aspects of chronic pain.13,21
- Limitations of the evidence: 1) the indications, 2) what meds were previously used & 3) the context of the “therapeutic trial” of marijuana. These people should have 4) a random urine screen for THC & any other drugs
- Recommended for: age <25, substance use disorder, family hx of psych, suicide, severe mental illness
- Not recommended for: age >25, substance use disorder, family hx of psych
- Observation trial in patients with posttraumatic stress found an association with worse outcomes in those with ↑marijuana use.14

**Limited RCT’s, short trials, differing routes, forms & types of cannabinoids makes assessing efficacy almost impossible.** One observational trial in patients with posttraumatic stress found an association with worse outcomes in those who use marijuana.14

**A close look at:** the effectiveness of cannabis in clinical practice. How many patients are exposed to cannabis? The evidence is still limited.

**References**
- 1-20. ANITA
- 21. HEAL
- 22. Canadian Society of Addiction Medicine Statement: "Cannabis is classified as a hallucinogen in the category of psychoactive substances. Regular use is known to cause harmful health effects, including addiction, with its associated consequences, among susceptible individuals. Available literature & clinical experience indicate more risk than benefit in the use of cannabis products for medicinal purposes. Ongoing clinical research into possible medicinal uses of cannabis products is essential, using the same standards that are applied to any therapeutic agent before intro into general clinical practice. " Oct, 1999

**Screening**
- Pregnancy: should be done before prescribing.
- Breastfeeding & breastfeeding: should be done before prescribing.
- Other: all patients should be asked about current and past drug use.
- past 12 months: are you taking any medications?
- current use: do you smoke, use cannabis, or use any other drugs?
- drug interactions: are you taking any medications that may interact with cannabis?
- potential adverse effects: what are the potential adverse effects of cannabis use?
- potential benefits: what are the potential benefits of cannabis use?
- potential harms: what are the potential harms of cannabis use?
- potential risks: what are the potential risks of cannabis use?
- potential contraindications: are there any contraindications to cannabis use?
- potential precautions: are there any precautions that should be taken before using cannabis?
- potential side effects: what are the potential side effects of cannabis use?
- potential interactions: what are the potential interactions with other medications?
- potential harms: what are the potential harms of cannabis use?
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The College’s bylaw which regulates physician authorization of medical marihuana is now in effect. A summary of the bylaw follows:

1. The bylaw begins with a statement that there has not been sufficient scientific or clinical assessment to provide evidence about the safety and efficacy of marihuana for medical purposes. The bylaw begins with an acknowledgement that federal government regulations have authorized the use of marihuana for medical purposes.

2. A physician cannot authorize the use of marihuana for a patient unless the physician is also the treating physician for the condition for which the patient is authorized to use marihuana. For example, if a patient is to be authorized to use medical marihuana to deal with symptoms of MS, the physician must also be the treating physician for the patient’s MS.

3. A physician must review the patient’s medical history, review relevant records pertaining to the condition for which the use of marihuana is authorized and conduct an appropriate physical examination before authorizing the patient’s use of marihuana.

4. The patient must sign a written treatment agreement which contains the following:
   - A statement by the patient that the patient will not seek a prescription for marihuana from any other physician during the period for which the marihuana is prescribed;
   - A statement by the patient that the patient will utilize the marihuana as prescribed, and will not use the marihuana in larger amounts or more frequently than is prescribed;
   - A statement by the patient that the patient will not give or sell the prescribed marihuana to anyone else, including family members;
   - A statement by the patient that the patient will store the marihuana in a safe place;

5. The physician’s record for the patient must include the requirements for all medical records and, in addition, contain the following:
   - The treatment agreement signed by the patient;
   - The diagnosis for which the patient was authorized to purchase marihuana;
   - A statement of what other treatments have been attempted for the condition for which the use of marihuana was prescribed and the effect of such treatments;
   - A statement of what, if anything, the patient has been advised about the risks of the use of marihuana;
   - A statement that in the physician’s medical opinion the patient is likely to receive therapeutic or palliative benefit from the use of marihuana to treat the patient’s condition.

6. The physician must retain a single record, separate from other patient records, which can be inspected by the College, and which contains:
   - The patient’s name, health services number and date of birth;
   - The quantity and duration for which marihuana was prescribed;
   - The medical condition for which marihuana was prescribed;
   - The name of the licensed producer from which the marihuana will be obtained, if known to the physician.

7. Physicians who prescribe marihuana will be required to provide the College with the information referenced in paragraph 6:

8. The bylaw prohibits physicians from diagnosing or treating patients at the premises of a licensed producer;

9. The bylaw prohibits physicians who prescribe marihuana from having an economic or management interest in a licensed producer;

10. The bylaw prohibits physicians from storing or dispensing marihuana from any location where the physician practices medicine.

The bylaw is numbered Bylaw 19.2 of the regulatory bylaws of the College and is available at the College’s website.

Sample treatment agreement to comply with the College Bylaw

I ______________________ understand that I will be receiving a medical document from Dr. ______________________ which authorize me to purchase marihuana for a medical purpose. I agree to the following:

- I will not seek to obtain a medical document to authorize me to purchase marihuana from any other physician during the period for which the marihuana is authorized;
- I will utilize the marihuana as authorized in the medical document and I will not use the marihuana in larger amounts or more frequently than is authorized in the document;
- I will not give or sell the prescribed marihuana to anyone else, including family members;
- I will store the marihuana in a safe place;
- I understand that if I break any of these conditions, Dr. ______________________ may refuse to provide any future medical authorization to purchase marihuana.

Patient’s signature ______________________ Date ______________________

References Cannabinoids:

4. Natural Medicines Comprehensive Database 2012. CNN: The average potency of marijuana, which has risen steadily for three decades, has exceeded 10 percent for the first time, the U.S. government reported Thursday. Scientists working for the government predict that potency, as measured by the drug’s concentration of the psychoactive ingredient THC, will continue to rise. At the University of Mississippi’s Potency Monitoring Project, where thousands of samples of seized marijuana are tested every year, project director Mahmoud ElSohly said some samples have THC levels exceeding 30 percent. Average THC concentrations are predicted to climb before leveling off at 15 percent or 16 percent in five to 10 years, ElSohly predicted. The average THC for tested marijuana during 2008 was 10.1 percent, according to the government, compared to 1983 when it was reportedly under 4 percent. Even drugs seized at the United States’ southwest border are showing increasing 

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Link to CFPC: http://www.cfpc.ca/Dried_Cannabis_Prelim_Guidance/
5. Campbell FA, Tramer MR, Carroll D, Reynolds DJ, Moore RA, McQuay HJ. Are cannabinoids an effective and safe treatment option in the management of pain? A qualitative systematic review. BMJ. 2001 Jul 7;323(7303):13-6. Conclusion: Cannabinoids are no more effective than codeine in controlling pain and have depressant effects on the central nervous system that limit their use. Further validation randomised controlled studies are needed.


18. Dose of marijuana ranged from 10g to 5g per day via the smoked or oral route of administration. Thirty-three percent of patients reported moderate or greater pain relief. Side effects were reported by 76% of patients, the most common of which were increased appetite and a sense of well-being, weight gain, and slowed thoughts. (Ave dose = 2.9g/day).


20. Dose of cannabis was well tolerated and effectively relieved chronic pain associated with MS-associated neuropathy. The findings are comparable to oral cannabis for other pain conditions.

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Cannabis Rapid Response: Limited evidence suggests that nabilone may be better than placebo in relieving chronic pain but its relative benefits compared to other analgesics have not been proven current guidelines recommend the dosage of nabilone for treating neuropathic pain be titrated gradually until target relief is obtained.


122. Marshall K, Gowing L, Ri R, et al. Pharmacotherapies for cannabis dependence. Cochrane Database Syst Rev. 2014 Dec 17;12:CD008940. There is incomplete evidence for all of the pharmacotherapies investigated, and for many of the outcomes the quality was downgraded due to small sample size, inconsistency and risk of attrition bias. The quantitative analyses that were possible, combined with general findings of the studies reviewed, indicate that SSRIs antidepressants, mixed action antidepressants, atypical antidepressants (bupropion), anxiolytics (buspirone) and nonselective norepinephrine reuptake inhibitors (atomoxetine) are probably of little value in the treatment of cannabis dependence. Preparations containing THC are not recommended. Further studies should compare different preparations of THC, dose and duration of treatment, adjunct medications and therapies. The evidence base for the anticonvulsant gabapentin and the glutamatergic modulator N-acetylcysteine is weak, but these medications are worth further investigation.


Paal J, Sabori L, Copeland J, Le Foll B, Gowling L. Psychosocial interventions for cannabis use disorder. Cochrane Database Syst Rev 2016;5:CD005336. Included studies were heterogeneous in many aspects, and important questions regarding the most effective duration, intensity and type of intervention were raised and partially resolved. Generalisability of findings is uncertain, mostly because of the limited number of localities and homogeneous samples of treatment seekers. The rate of abstinence was low and unstable although comparable with treatments for other substance use. Psychosocial intervention was shown, in comparison with minimal treatment controls, to reduce frequency of use and severity of dependence in a fairly durable manner, at least in the short term. Among the included intervention types, an intensive intervention provided over more than four sessions based on the combination of MET and CBT with abstinence-based incentives was mostly consistently supported for treatment of cannabis use disorder.