



## Indications and Use Medical Cannabis in New York State

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## Financial Disclosures

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## Objectives

- Identify which patients qualify for the New York State Medical Marijuana Program (MMP)
- Know how to become a certifying physician in New York
- Understand basic principles of cannabinoids--THC and CBD--in order to recommend medical cannabis for certain medical conditions



## Compassionate Care Act

- Passed in July 2014
- Goal is to provide a comprehensive, safe, and effective medical marijuana program
- Program started in January 2016



## Physicians

To become certified by the NY State Department of Health to certify patients for the MMP

- Complete 4 hours of online CME  
<https://www.theanswerpage.com>
- Register with DOH  
[https://www.health.ny.gov/regulations/medical\\_marijuana/](https://www.health.ny.gov/regulations/medical_marijuana/)



## Patients

To qualify for MMP

- 1 of 11 specific severe, debilitating, or life-threatening diagnoses/conditions
- 1 of 5 specific associated symptoms/conditions



## Severe, Debilitating, or Life-Threatening Diagnoses/Conditions

- Cancer
- HIV/AIDS
- ALS--Amyotrophic Lateral Sclerosis
- Parkinson Disease
- MS--Multiple Sclerosis
- Spinal Cord Injury with persistent spasticity
- Epilepsy
- Huntington's Disease
- Neuropathy
- Inflammatory Bowel Disease
- Chronic Pain



## Associates Symptoms/Conditions

- Severe or chronic pain
- Cachexia or wasting syndrome
- Severe nausea
- Seizures
- Severe or persistent muscle spasms



## Marijuana is Still Schedule I and Federally Illegal

- In states with a legal MMP, physicians “recommend” not “prescribe”
- In 2013, Department of Justice advised U.S. attorneys not to pursue actions against physicians in states that allow medical cannabis

Office of the Deputy Attorney General, US Department of Justice. August 29, 2013. Guidance to US attorneys regarding marijuana enforcement. <http://justice.gov/iso/opa/resource/3052013829132756857467.pdf>



## Physicians Give Recommendation with Ratio of THC:CBD

- THC>CBD
- THC=CBD
- THC<CBD



## Endocannabinoid System

- An endogenous physiologic system
- Affect a number of physiologic process
  - Increased feeding behavior
  - Antinociception
  - Motor control
  - Memory and learning
  - Immune and inflammatory responses
  - Neuroprotection
- “Relax, eat, sleep, forget and protect”

Di Marzo V et al. Nat Neurosci. 2005;8:585-589; Di Marzo V et al. Nat Rev Drug Discov. 2004;3:771-784;  
 Di Marzo V et al. Trends Neurosci. 1998;21:521-528; Di Marzo V et al. Nat Rev Drag Discov.2004;3:771-784



## Components of the E.C. System Include:

- Two well-defined CB receptor subtypes
  - CB1 Receptors: primarily central, also peripheral distribution
  - CB2 Receptors: primarily expressed in immune cells, also peripheral
- Endogenous CB receptor ligands--Endocannabinoids
  - Anandamide (AEA)
  - 2-Arachidonylglycerol (2-AG)
  - Noladin ether
  - Virodhamine
  - N-Arachidonyl-dopamine (NADA)
  - Arachidonyl-serine (ARA-S)

Pagotto U et al. AnnMed.2005;37:270-275



- CB1 Receptors in the Brain

- Cerebral Cortex – Decision making, cognition, emotional behavior
- Caudate Nucleus – Learning and memory system
- Putamen – Regulate movements, influence various types of learning
- Globus Pallidus – Regulate voluntary movements
- Amygdala – Responsible for anxiety, stress, emotion, fear, and pain
- Hypothalamus – Body temperature, feeding, neuroendocrine function
- Hippocampus – Memory and learning
- Substantia Nigra – Important role in reward, addiction, and movement
- Cerebellum – Motor control and coordination
- Dorsal Vagal Complex - Emesis



- CB1 Peripheral Distribution

- Lungs
- Vascular system
- Muscles
- Gastrointestinal tract
- Reproductive organs

- CB1 and CB2 Peripheral Distribution

- Immune System
- Liver
- Bone Marrow
- Pancreas

- CB2 Receptor Distribution

- Spleen
- Bones
- Skin
- Glial Cells



## Phytocannabinoids

- Cannabis contains > 400 chemical constituents
  - Phytocannabinoids--molecules unique to the cannabis plant
  - > 60 identified
  - 2 most prevalent and well-studied
    - THC—Delta-9-Tetrahydrocannabinol
    - CBD—Cannabidiol



- THC
  - The only cannabinoid causing psychogenic effects
  - Analgesic
  - Antispasmodic
  - Antitremor
  - Anti-inflammatory
  - Appetite stimulant
  - Antiemetic
- CBD
  - Nonpsychoactive. Reduces/regulates psychogenic effects of THC
  - Analgesic
  - Anti-inflammatory
  - Anticonvulsant
  - Antipsychotic
  - Antioxidant
  - Neuroprotective
  - Immunomodulator





## NYS Requirements for Dispensary's Products

- Up to five brands
  - Mandatory
    - One brand with THC=CBD ratio
    - One brand with THC<CBD ratio
  - NY dispensaries are carrying similar five brands
    - THC>>CBD
    - THC>CBD
    - THC=CBD
    - THC<CBD
    - THC<<CBD



## Three Legal Delivery Methods

- Oral capsules
- Oral tincture
- Vapable oil
- No smoking allowed



## Side Effects and Adverse Reactions

- Primarily related to THC
- Transient and nonlethal
- Common S.E.—increased appetite, red eyes, dry mouth, dilated pupils, sedation, loss of coordination and motor skills, dizziness, distorted perception, increased heart rate, anxiety
- “Green Out”
  - Panic attack
  - Severe paranoia and fear
  - Hallucinations
  - Severe dizziness
- Cannabinoid Hyperemesis Syndrome



## Treatment for Side Effects

- Reassurance as S.E. are transient
- Hydration
- CBD
- Benzodiazepine
- For Hyperemesis Syndrome – hot bath, Ativan, D/C marijuana use



## Registered Organizations

- DOH awarded five licenses
- Each has four dispensaries across NY State
- Must have pharmacist on site
- Can dispense up to 1-month supply
- Cash only
- Can only dispense to certified patient or certified caregiver

**New York State Medical Marijuana Program Overview**

**Physicians**

- Educate**  
Doctor completes approved online course and submits completion certificate to NYSDOH.
- Register Online**  
Doctor registers online using the Health Commerce System.
- Certify**  
Doctor can now issue certifications to patients with qualifying medical conditions.

**Patients**

- Register Online**  
Certified patient or designated caregiver register online.
- Receive ID Card**  
Patient and caregiver receive registry ID cards.
- Purchase**  
Patient or caregiver purchases medical marijuana from a NYS registered organization's dispensing facility.

Dispensing Facilities are found across New York State. All are registered and regulated by the Department of Health, and all products are tested for quality assurance.

Medical marijuana is only available in smoke-free forms. This ensures the safest delivery methods for patients.

- Capsules
- Liquids
- Oils
- Vaporization

For more information [https://www.health.ny.gov/regulations/medical\\_marijuana/](https://www.health.ny.gov/regulations/medical_marijuana/)

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### Q&A

