

Medical Marijuana and CBD: Real life applications

Kuljit Kapur, DO
Medical Director
Apex Hospice and Palliative Care

Objectives

- ▶ Teach the science behind CBD vs Medical Marijuana
- ▶ Discuss Symptom management considerations
- ▶ Present Legal aspects of Medical marijuana
- ▶ Influence patient care: Medical marijuana based practice models, how to get your patient's help
- ▶ Barriers: how to overcome stigma that affects this integrative option to be presented.
- ▶ Case studies

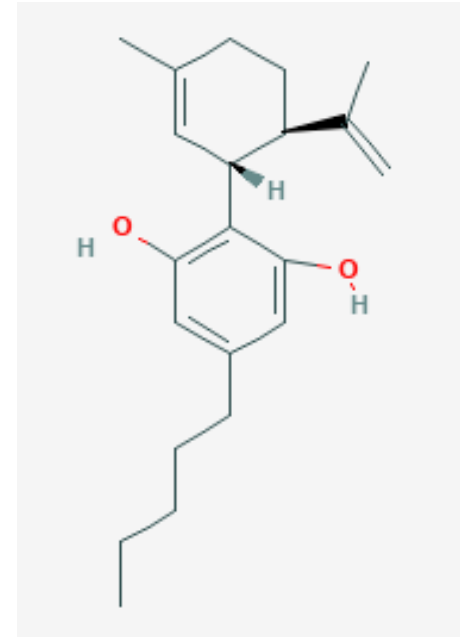
CBD (cannabidiol)

- ▶ Approved to be sold in the United States by the Farm Bill signed in 2018.
- ▶ Farm Bill (Agricultural Improvement Act of 2018):
 - ▶ Failed in 2017, but passed in 2018.
 - ▶ Descheduled Hemp and Hemp Seed products from the Controlled Substances Act.
- ▶ Hemp plant
 - ▶ “cousin” of the Marijuana plant
 - ▶ Both *Cannabis sativa*
 - ▶ Hemp <0.3% THC.



Cannabidiol (C₂₁H₃₀O₂)

- ▶ One of 113 cannabinoids identified in Cannabis plants.
- ▶ Affects the endocannabinoid system (ECS)
 - ▶ CB2 > CB1 receptors.
 - ▶ May affect serotonin and other pathways.
 - ▶ Involved in maintaining homeostasis.
- ▶ First researched for anxiety, pain, seizure disorders.
- ▶ “Full Spectrum” hemp products contain the “whole plant”
 - ▶ Contains multiple types of cannabinoids: CBD, CBG, CBA, etc
 - ▶ Also contains other phytochemicals: Terpenes, Flavonoids, etc.
 - ▶ Terpenes and Flavonoids may benefit CBD and the ECS.
- ▶ Usually well tolerated with very few side effects, though diarrhea, sleepiness, and hypotension have been reported.



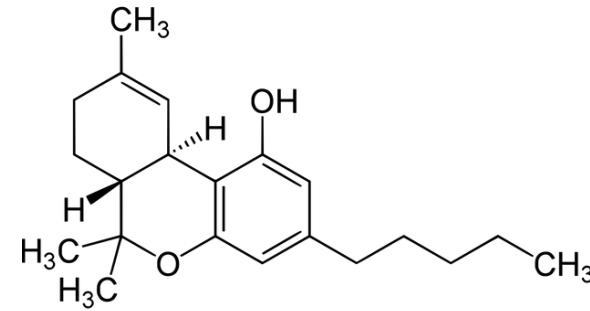
Different types of commercial oils.

Hemp Seed, CBD, and Cannabis Oils			
Variable	Hemp seed oils ⁴⁰	Hemp/CBD oils ²²	Cannabis oils ^{22, 41}
Part of plant extracted	Seeds	Flowers and leaves of hemp plant	Flowers and leaves of marijuana plant
Main components	Omega-6 and omega-3 fatty acids, γ -linolenic acid, nutritious antioxidants	Mostly CBD and BCP with other smaller-quantity phytocannabinoids and terpenoids	Mostly THC with some CBD and other phytocannabinoids and terpenoids
THC levels	None	<0.3% Dry weight	>0.3% Dry weight (often very high amounts such as 80%)
CBD levels	Little to none	More than average cannabis plants (12%-18% CBD, often higher due to postextraction enrichment)	Lower levels (10%-15%)
Uses	Nutritional supplement, other uses of hemp such as clothing and fibers	Medicinal uses of CBD and full-spectrum hemp oils	Medicinal uses of THC

Terpenes



THC (Tetrahydrocannabinidiol)



- ▶ Same chemical compound as CBD, but slightly different atomic arrangement.
- ▶ Binds to CB1 receptors which can produce a euphoria or “high”.
- ▶ Was legalized to sell for medical purposes in Illinois in 2013.
- ▶ Was legalized for recreational sale in Illinois in 2019.
- ▶ Extracted from the marijuana plant.

- ▶ Can be used for: pain, muscle spasticity, glaucoma, insomnia, low appetite, nausea, and anxiety.
- ▶ Possible side effects: increased heart rate, coordination problems, dry mouth, red eyes, slower reaction times, and memory loss.

Medical marijuana

- ▶ Contain varying amounts of THC and CBD.
- ▶ The higher the THC content, the more psychoactive and euphoric potential.
- ▶ Varying strains:
 - ▶ Indica - classically more sleepy/relaxed.
 - ▶ Sativa - classically more energetic/giggly.
 - ▶ Ruderalis - naturally has low THC concentrations.
 - ▶ Hybrids
 - ▶ Not all strains will follow these generalizations.

MARY'S
— —
MEDICINALS

THE NERVOUS SYSTEM

Aids in sleep.

CBN

Reduces seizures & convulsions.

CBD THCV

Tranquilizing.)

CBD

Anxiety reliever.

CBD

DIGESTIVE SYSTEM

Appetite suppressant.

THCv

Appetite stimulant.

THC

Reduces contractions in the small intestines.

CBD

ENDOCRINE SYSTEM

• IMMUNE RESPONSE

Kills or slows bacteria growth.

CBD CBG

Treats fungal infections.

CBG

Reduces blood sugar levels.

CBD

Treats psoriasis.

CBD

CIRCULATORY SYSTEM

Reduces risk of artery blockage - anti-ischemic.

CBD

Increases cerebral blood flow.

THC CBD

WHOLE BODY RELIEF

PROTECTION

Inhibits cell growth in tumors
and cancer cells.

~~THC CBD CBG CBC~~

Reduces or eliminates pain.

THC CBD CBN CBC

THE VISCERA
IN POSITION.

**MUSCULAR
& SKELETAL**

Promotes bone growth.

CBD CBG CBC THCV

Suppresses muscle spasms.

	THC	CBD	CBN
THC	100%	0%	0%
CBD	0%	100%	0%
CBN	0%	0%	100%

Reduces inflammation.

THC CBD CBC

MarysMedicinals.com

Medical marijuana

- ▶ Can be consumed by a variety of methods:
 - ▶ Edibles: dry, butter/spread, gummy, etc.
 - ▶ Can be baked/cooked into many foods and desserts (e.g. brownies).
 - ▶ Smoked: Pipe, bong, or joint.
 - ▶ Vaped
 - ▶ Sublingual oils
 - ▶ Topical rubs or ointments.

Medical marijuana indications



State of Illinois
Illinois Department of Public Health

Illinois Medical Cannabis Patient Program Physician Written Certification Form

Do not use this form for Terminal Illness

DEBILITATING MEDICAL CONDITION

The qualifying patient is diagnosed with and is currently undergoing treatment for the following debilitating medical condition(s) (check all that apply).

- | | | | |
|--|--|--|---|
| ☐ agitation of Alzheimer's disease | ☐ Ehlers-Danlos syndrome (EDS) | ☐ osteoarthritis | ☐ spinal cord disease: including but not limited to arachnoiditis |
| ☐ acquired immune deficiency syndrome (AIDS) | ☐ fibrous dysplasia | ☐ Parkinson's disease | ☐ spinal cord injury - damage to the nervous tissue of the spinal cord with objective neurological indication of intractable spasticity. |
| ☐ amyotrophic lateral sclerosis (ALS) | ☐ glaucoma | ☐ polycystic kidney disease (PKD) | ☐ spinocerebellar ataxia (SCA) |
| ☐ anorexia nervosa | ☐ hepatitis C | ☐ positive status for human immunodeficiency virus (HIV) | ☐ superior canal dehiscence syndrome |
| ☐ Arnold-Chiari malformation | ☐ hydrocephalus | ☐ Post-Traumatic Stress Disorder (PTSD) | ☐ Syringomyelia |
| ☐ autism | ☐ hydromyelia | ☐ reflex sympathetic dystrophy (RSD) complex regional pain syndromes Type I | ☐ Tarlov cysts |
| ☐ cancer | ☐ interstitial cystitis | ☐ residual limb pain | ☐ Tourette's syndrome |
| ☐ Causalgia | ☐ irritable bowel syndrome | ☐ rheumatoid arthritis (RA) | ☐ traumatic brain injury (TBI) and post-concussion syndrome |
| ☐ chronic inflammatory demyelinating polyneuropathy | ☐ lupus | ☐ seizures (including those characteristic of Epilepsy) | ☐ ulcerative colitis |
| ☐ chronic pain | ☐ migraines | ☐ severe fibromyalgia | ☐ cachexia/wasting syndrome |
| ☐ Crohn's disease | ☐ multiple sclerosis | ☐ Sjogren's syndrome | |
| ☐ CRPS (complex regional pain syndromes Type II) | ☐ muscular dystrophy | | |
| ☐ dystonia | ☐ myasthenia gravis | | |
| | ☐ myoclonus | | |
| | ☐ nail-patella syndrome | | |
| | ☐ Neuro-Behcet's autoimmune disease | | |
| | ☐ neuropathy | | |
| | ☐ neurofibromatosis | | |

Indicate the underlying chronic or debilitating condition

Legality of Medical Marijuana

- ▶ Il Compassionate Medical Marijuana Act-Not a pilot anymore.
- ▶ **New debilitating medical conditions for the Medical Cannabis Patient Program (MCPP)**
 - ▶ Autism
 - ▶ Chronic pain
 - ▶ Irritable bowel syndrome
 - ▶ Migraines
 - ▶ Osteoarthritis
 - ▶ Anorexia nervosa
 - ▶ Ehlers-Danlos syndrome
 - ▶ Neuro-Bechet's autoimmune disease
 - ▶ Neuropathy
 - ▶ Polycystic kidney disease (PKD)
- ▶ Superior canal dehiscence syndrome
- ▶ Ulcerative colitis

Legality of Medical Marijuana

- ▶ **Persons under 21 years of age are prohibited from purchasing smokable medical cannabis, including vaping products, paraphernalia and associated accessories - effective immediately**
Note: Licensed medical cannabis dispensaries will be prompted to verify the registered patient's age at the time of purchase.
- ▶ **Advance Practice Nurses and Physician Assistants may complete certifications for qualifying MCPP and OAPP patients - launch anticipated in September 2019**
- ▶ **Veterans with a current prescription for an opioid who are receiving medical services at VA medical facilities shall be eligible to register for the OAPP - launch anticipated in September 2019**
- ▶ **Allow registered MCPP patients to register up to three (3) designated caregivers - launch date to be determined**
- ▶ **Allow "immediate" dispensary changes for registered MCPP patients - launch date to be determined**
- ▶ **Allow a waiver of the allowable amount of medical cannabis for veterans who receive medical services at VA medical facilities** - A qualifying patient who is a veteran receiving medical care at a VA health care facility may establish a bona-fide relationship with a non-VA physician to obtain a waiver to increase the adequate supply of medical cannabis for a 14-day period. The physician shall complete a written certification, including an in-person office visit within 90-days of the date of the waiver submission. Both the written certification and the waiver submission shall be submitted to the Department along with the required fee. The required forms may be viewed at <http://dph.illinois.gov/topics-services/prevention-wellness/medical-cannabis/physician-information> - effective immediately
- ▶ **Allow registered MCPP patients to grow up to five (5) cannabis plants for personal consumption - effective January 1, 2020**

Medical Marijuana in India--Punjab



Legality of Medical Marijuana

- ▶ Patt Quinn-IL Cannibis Program
- ▶ Ronberg-Enacted ability to use to decrease opioid use x 90 days
- ▶ Pritzker-Permanent program which allowed “adult use legislation” AKA recreational use of medical marijuana.
- ▶ Schedule 1 cannot cross state lines. Remember states differ and it is illegal recreationally in Ohio, Indiana, Michigan.
- ▶ Protected if you obtain a medical card for its use.

Legality of Medical Marijuana

- ▶ Certain employers will not tolerate its use in the work place, just as though someone is not allowed to work under the influence of alcohol or narcotics.
- ▶ Cannot discriminate against those who carry the medical card. Lawfully one may make argument to terminate an employee based on use if they do not carry a medical card.
- ▶ However with card, American Disability Association (ADA) can argue it is needed .

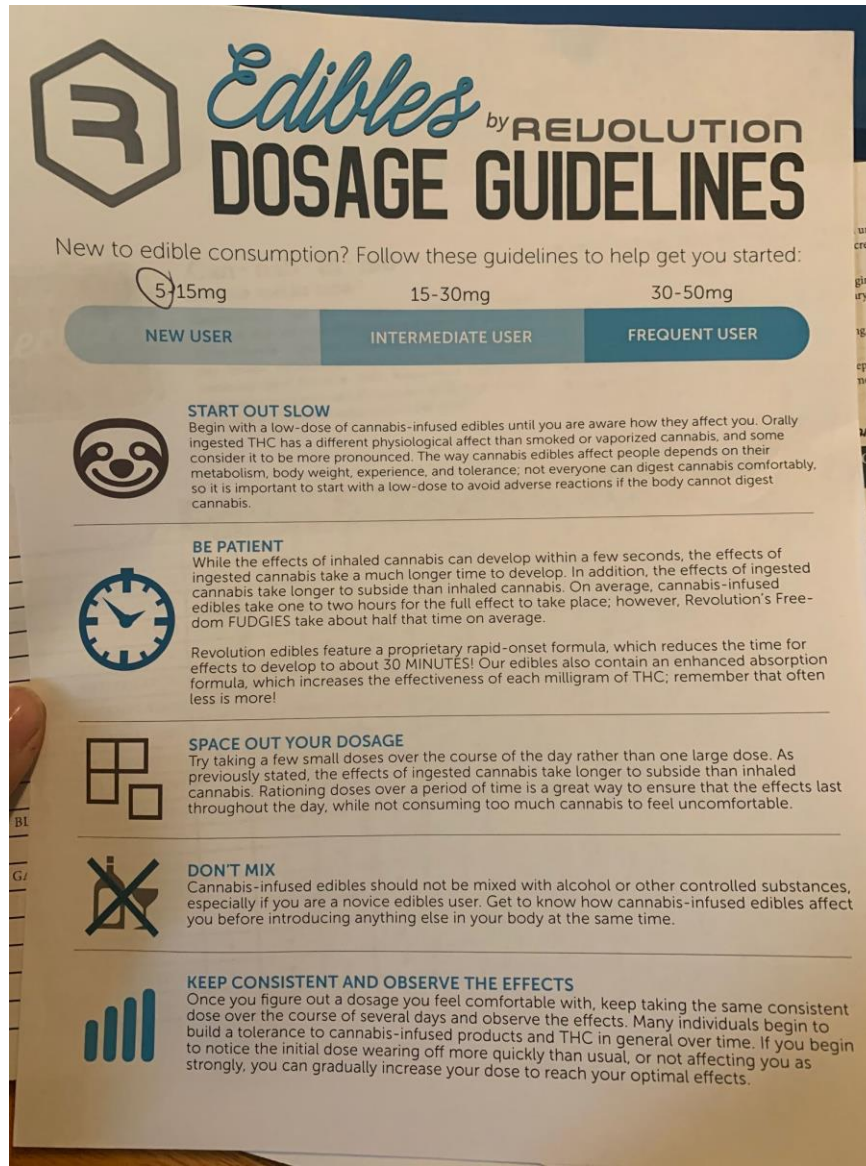
Certification of Medical Marijuana in IL

- ▶ Has increased in numbers . There is a state tax of 30% on recreational use therefore a shortage
- ▶ More people are trying it, realizing it is working, then coming to a physician who can help fine right fit and get certified to have it .
- ▶ Process: Can be done in conjunction with a palliative care program, hospice program, or without depending on need.

IL based Medical Marijuana practices- growing with the need

- ▶ There are a few specialized practices geared toward medical marijuana.
- ▶ Dr. Rahul Khare with Innovative Express, city of Chicago. Offers consultation with a person who works at the dispensary, get the patient the card and answers basic questions, and do the follow-up especially for those greater than 50 or new to cannabis. Telmedicine is an option with his clinics. Quality of life improvement, teaching, and also offers a ketamine center now.
- ▶ George Gavrilos PharmD with Green Care Medical out of southwest suburbs, along with Steven Saltzman MD offers integrative approach to medical marijuana treatments and followup. He offers home visits vs office, has a care coordinator who can come to the home to set patient up as well, and work on strain/type/dosage, along with weaning schedules in conjunction with current provider. He has an in house biostatistician who now has 15 offices in 4 states and still expanding and currently live in 7 states.

Dosage of Medical Marijuana



The infographic is titled "Edibles by REVOLUTION DOSAGE GUIDELINES". It features a logo with a stylized 'R' inside a hexagon. Below the title, it asks "New to edible consumption? Follow these guidelines to help get you started:". There are three columns for user types: "NEW USER" (5-15mg), "INTERMEDIATE USER" (15-30mg), and "FREQUENT USER" (30-50mg). The infographic includes six sections with icons and text: "START OUT SLOW" (smiley face icon), "BE PATIENT" (clock icon), "SPACE OUT YOUR DOSAGE" (grid icon), "DON'T MIX" (crossed-out glass icon), and "KEEP CONSISTENT AND OBSERVE THE EFFECTS" (bar chart icon). Each section provides advice on how to use edibles safely and effectively.

Edibles by REVOLUTION
DOSAGE GUIDELINES

New to edible consumption? Follow these guidelines to help get you started:

NEW USER	INTERMEDIATE USER	FREQUENT USER
5-15mg	15-30mg	30-50mg

START OUT SLOW
Begin with a low-dose of cannabis-infused edibles until you are aware how they affect you. Orally ingested THC has a different physiological affect than smoked or vaporized cannabis, and some consider it to be more pronounced. The way cannabis edibles affect people depends on their metabolism, body weight, experience, and tolerance; not everyone can digest cannabis comfortably, so it is important to start with a low-dose to avoid adverse reactions if the body cannot digest cannabis.

BE PATIENT
While the effects of inhaled cannabis can develop within a few seconds, the effects of ingested cannabis take a much longer time to develop. In addition, the effects of ingested cannabis take longer to subside than inhaled cannabis. On average, cannabis-infused edibles take one to two hours for the full effect to take place; however, Revolution's Freedom FUDGIES take about half that time on average.
Revolution edibles feature a proprietary rapid-onset formula, which reduces the time for effects to develop to about 30 MINUTES! Our edibles also contain an enhanced absorption formula, which increases the effectiveness of each milligram of THC; remember that often less is more!

SPACE OUT YOUR DOSAGE
Try taking a few small doses over the course of the day rather than one large dose. As previously stated, the effects of ingested cannabis take longer to subside than inhaled cannabis. Rationing doses over a period of time is a great way to ensure that the effects last throughout the day, while not consuming too much cannabis to feel uncomfortable.

DON'T MIX
Cannabis-infused edibles should not be mixed with alcohol or other controlled substances, especially if you are a novice edibles user. Get to know how cannabis-infused edibles affect you before introducing anything else in your body at the same time.

KEEP CONSISTENT AND OBSERVE THE EFFECTS
Once you figure out a dosage you feel comfortable with, keep taking the same consistent dose over the course of several days and observe the effects. Many individuals begin to build a tolerance to cannabis-infused products and THC in general over time. If you begin to notice the initial dose wearing off more quickly than usual, or not affecting you as strongly, you can gradually increase your dose to reach your optimal effects.

Gummies 2mg THC each







Papa's Medical Marijuana Care Plan

Spectra Canna-mist (Sublingual Mist)

Spray under tongue. Hold under tongue for 5-10 minutes. Allow 15-30 minutes to feel effects. Use more as needed if no response.

Chocolate Bar

Eat a quarter square at a time. Allow about 2 hours to feel effects.

Vaporizer

Take small hit of vaporizer ~2 seconds. Hold in mouth, then inhale to lungs after a few seconds when vapor is cooler. Allow 15 minutes to feel effects. Take small puffs as needed until effects are felt.

Case studies

- ▶ 47 year old patient with neuroendocrine tumor, advancing slowly with time. Patient now limited by side effects to his narcotic medication. He is still doing chemotherapy while working to keep his insurance. Experiencing large anxiety as well.

Case studies

- ▶ 78 year old patient with terminal diagnosis of parkinsons disease. She admits to her tremor increasing yet concern for increase in her carvidopa/levodopa based on BP concerns.

Case studies

- ▶ 65 year old female with metastatic lung cancer who is maxed out on morphine doses, seizing often, and requiring large amount of anxiety medication which is not calming her dysautonomia.

Thank you for your
attention!

Any questions?