

Medical Cannabis

In The Setting Of Palliative Care

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Disclosures

I will be discussing a product that is legalized for medical and recreational use by the State of Maine but still illegal by federal regulations. There are no FDA approved uses for medical marijuana at this time.

I have no vested interest in any of the products discussed in this lecture.

Objectives:

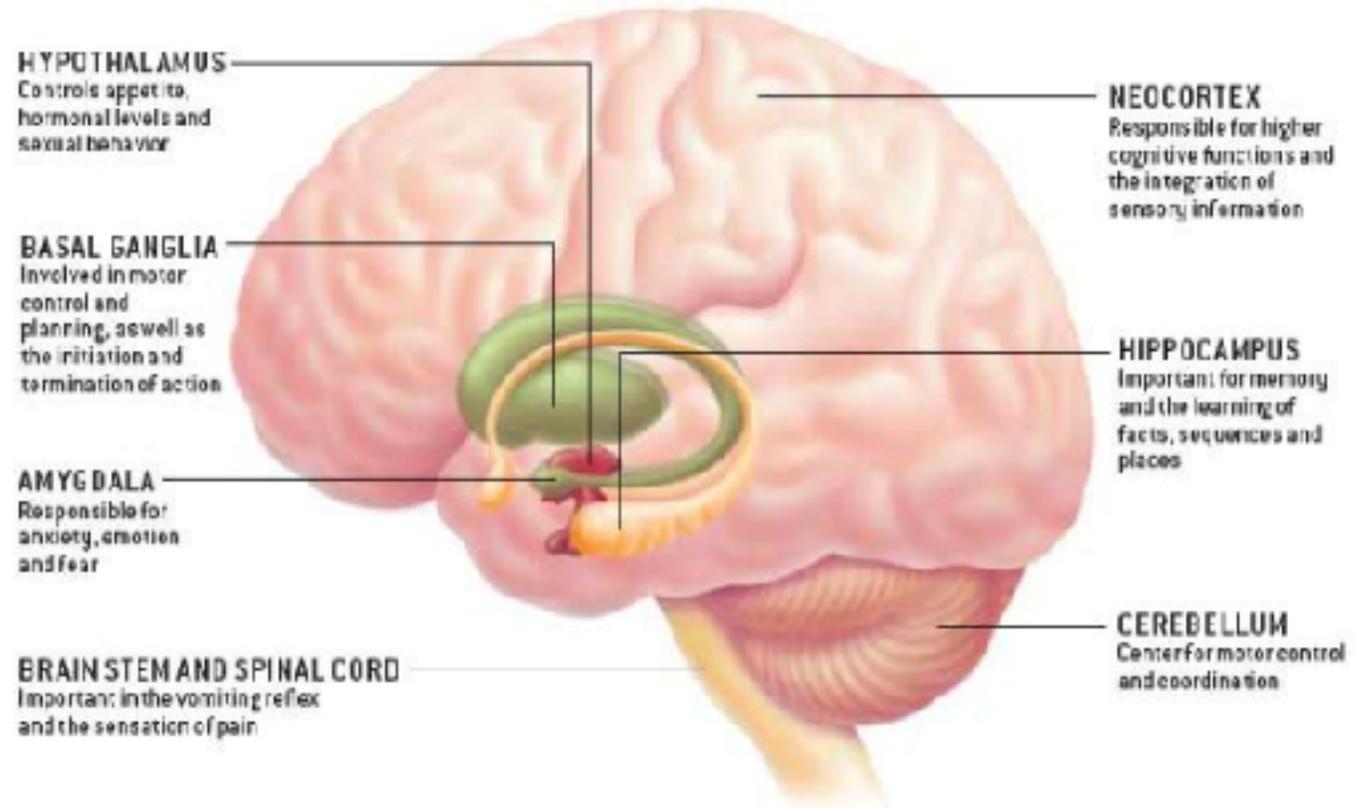
At the end of the presentation, the learner will be able to:

1. Understand the complex nature of the endocannabinoid system and why it is important for healthcare professionals to know about the nature of this system as it relates to normal homeostasis.
2. Acknowledge the challenges that are present when determining whether or not to consider cannabinoid therapy.
3. Apply evidence-based and logical approaches to advising patients in taking cannabinoids, as purchased in a marijuana dispensary.

Endocannabinoid System

Role of the Endocannabinoid System

- ❖ Memory and learning
- ❖ Appetite
- ❖ Metabolism
- ❖ Stress response
- ❖ Social behavior and anxiety
- ❖ Autonomic nervous system
- ❖ Sleep
- ❖ Immune system



Challenges In Considering Cannabis Therapy

Challenges

- ❖ The chemical composition (including potency) of cannabis is determined by plant genetics, cultivation, harvesting, drying, and other manufacturing processes³
- ❖ The profile of any product will differ greatly from another which can make prescribing challenging³
- ❖ Various routes of administration as well as different pharmacokinetic profiles depending on route, dose, and inter-patient variability



Routes of Administration

- ❖ Inhalation (dried flower or oils)
- ❖ Oral ingestion
 - Tablets/capsules
 - Edibles (candies, cookies, brownies, gummies)
 - Oils
 - Concentrates
 - Infused beverages (tea, beer, etc)
- ❖ Sublingual/oral mouth sprays
- ❖ Topical application



Pharmacokinetics

Absorption^{1,2,3,6,13}

	Onset	Peak effect	Bioavail
Inhal	1-2min	3-10min	2-56%
Oral	~1hr	1-6hr	4-20%

Metabolism^{1,3,15,19,20}

CYP	Substrate	Inducer	Inhibitor
THC	2C9, 3A4	1A	3A, 2D6, 2C9
CBD	2C19, 3A4	1A	1A, 3A, 2D6, 2C9, 2C19, 2C8

Distribution^{1,2,3,6}

Vd: 4-14L/kg

Found in placenta and breast milk

Excretion^{1,3,6}

T^{1/2} initial: 6 min (inh), 2-4 hours (oral)

T^{1/2} terminal: 20-33hr

Indications for use

MOST COMMON USES^{2,5,9}

- ❖ Pain
 - Chronic
 - Neuropathic
 - Cancer related
- ❖ Nausea/vomiting
- ❖ Appetite stimulant
- ❖ Epilepsy
- ❖ Multiple Sclerosis

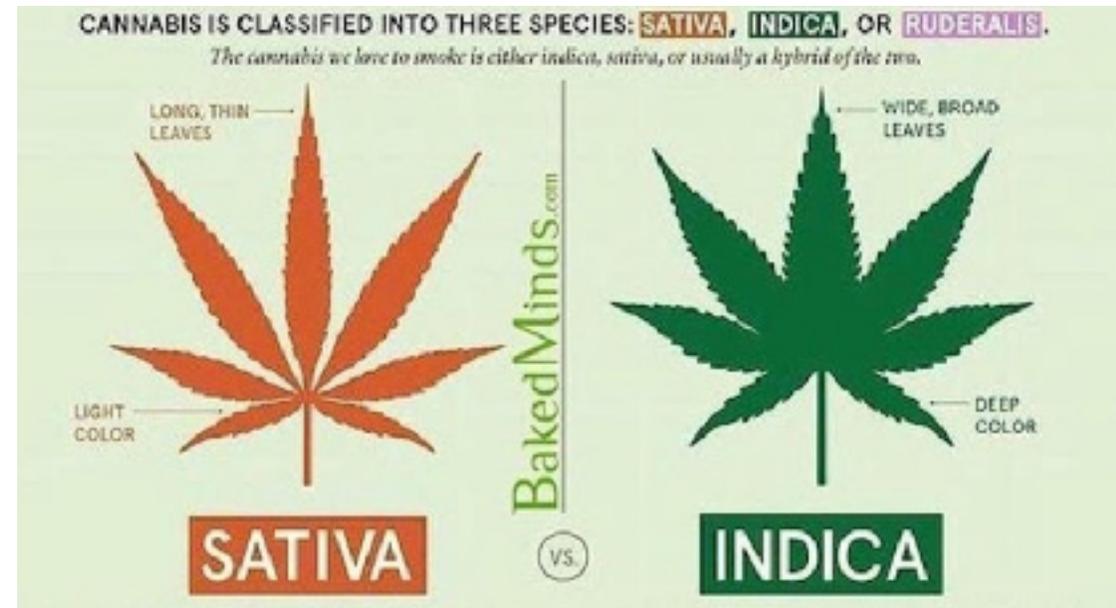
OTHER REPORTED USES^{2,5,9}

- ❖ Other neurodegenerative disorders
- ❖ Gastrointestinal disorders (IBD, CD, UC)
- ❖ Rheumatoid arthritis
- ❖ Headaches
- ❖ PTSD
- ❖ Anxiety
- ❖ Insomnia
- ❖ Muscle spasms

Patient Education

Considerations when recommending cannabis

- ❖ Due to the lack of concrete clinical data, it is generally recommend as a last line therapy or as adjunct to current therapy, not as monotherapy in lieu of currently accepted medical practice
- ❖ If it is to be prescribed, several factors should be taken in to consideration including (but not limited to):
 - Medical history/comorbid conditions
 - Drug interactions with current therapies
 - Dosage form
 - Dose
 - Cost



Dosing: Start low, go slow

- ❖ My recommendation for dosing THC +/- CBD:
 - Start patients at 5mg per dose, twice daily
 - This will be low for some patients and they may will require dose increases to reach max benefit with minimal adverse effects
 - Titrate daily by 5mg per dose
 - If the relief is sufficient but it wears off before 12 hours, consider increasing frequency
 - If patients are not receiving enough relief, increase dose
 - Sometimes a little can be more effective than a lot
 - Tolerance can develop due to receptor desensitization

Side effects

- ❖ The following side effects have been noted but were not reported to be problematic to patients^{4,6,7,13}
 - Euphoria
 - Relaxation
 - Hunger
 - Enhanced sensory input



Side effects - undesirable

❖ Psychiatric^{4-10, 12-14}

- Dysphoria
- Anxiety, depression, mood changes
- Headache, migraine
- Somnolence, fatigue, dizziness, drowsiness, lethargy
- Confusion, mental clouding, memory impairment
- Insomnia

❖ Cardiac^{6,7,10}

- Hypotension
- Elevated heart rate

❖ GI/GU^{7,10,13,14}

- Nausea
- Vomiting
- Constipation
- Cannabinoid hyperemesis syndrome
- UTI
- Dry mouth, dry eyes

❖ Motor⁵

- Tremor

❖ Laboratory³

- Elevated LFTs
- Elevated INR with warfarin

Serious side effects

❖ Psychiatric

- Paranoia, hallucinations, thoughts of self harm¹⁰
- May worsen mania or give rise to new onset manic symptoms¹⁴
- Possible psychotic relapse/treatment failure³
- Adolescent use interferes with development of key neuronal pathways and may result in increased risk of psychiatric conditions and decreased intellectual performance and IQ^{6,9}

Recommendations

- ❖ Due to limited clinical trial data, it is not currently recommended as first line therapy over other medications that have proven clinical benefit
- ❖ Discuss expectations and perceptions with patient to help determine acceptance of therapy, realistic outcome goals, acceptable side effect profile, and the proper dosage form for initiating therapy
- ❖ Discuss therapy with the dispensary the patient will be purchasing product
- ❖ **Start low, go slow**

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Thank you for this opportunity.

I WELCOME ANY QUESTIONS, COMMENTS, OR
FEEDBACK.