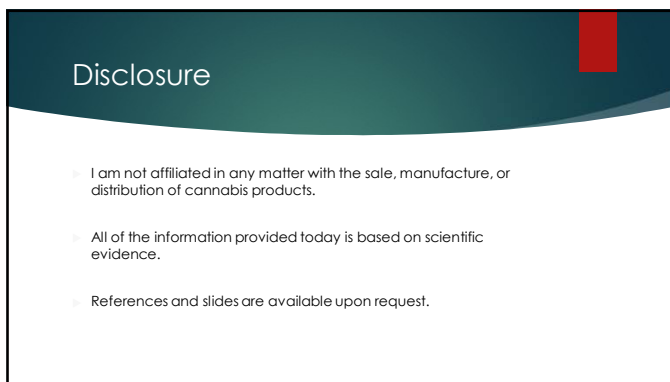
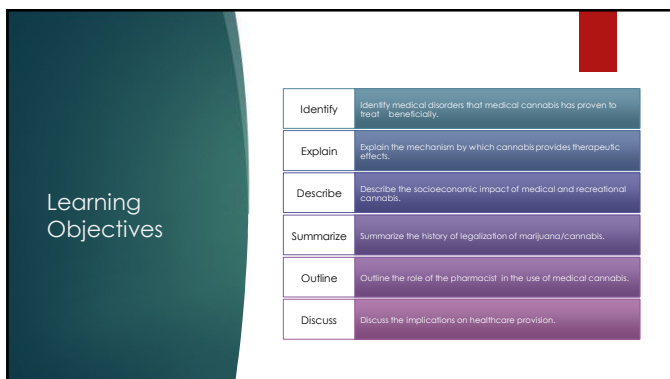




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2



3

Pre-Test Question #1

Which CBD:THC ratio could result in the greatest amount of psychoactive effects?

- A. 10:1
- B. 0:1
- C. 1:2
- D. 1:0

4

Pre-Test Question #2

Which route of administration of medical cannabis has the quickest "onset of action?"

- A. Tablets
- B. Edibles
- C. Smoking
- D. Topical Application

5

Pre-Test Question #3

► All of following are considered qualifying conditions for the use of medical cannabis in the state of Florida *except*?

- A. Epilepsy
- B. Multiple Sclerosis
- C. Alzheimer's disease
- D. Glaucoma

6

Pre-Test Question #4

Pharmacists are allowed to perform the following services for a patient using medical cannabis.

- A. Educate
- B. Dispense
- C. Advise prescribers
- D. Qualify patients

7

The 4 Cannabis Varieties

Sativa Hybrid Indica Ruderalis

8

UNDERSTANDING MEDICAL CANNABIS

Cannabinoids and Their Therapeutic Effects

RAW **HEATED** **AGED**

<https://mnddoctor.com/wp-content/uploads/2017/01/Medical-Cannabis-components-therapeutic-effects.jpg>

9

THC

CC(C)C1=C(C(=C(C=C1)O)C)C2=C(C=C(C=C2)O)C

Medical Benefits

- Psychoactive. Create the high! Euphoria
- Relieves pain and inflammation
- Causes anxiety for new users
- Create sense of relaxation and wellbeing
- Induces sleep
- Appetite stimulant

CBD

CC1=C(C(=C(C=C1)O)C)C2=C(C=C(C=C2)O)C

Medical Benefits

- Non-psychoactive
- Combats inflammation and pain
- Combats anxiety and depression
- Suppresses Seizure activity
- Combat neurodegenerative diseases
- Combat psychosis
- Combats tumors and cancer cells
- Appetite suppressant

www.knowcann.com

10

THC Content of Medical Marijuana

THC 20:1 — 2:1 — 1:1 — 1:2 — 1:20 CBD

Charlotte's Web: Lowest THC content; <0.3%

Cannabis Indica: Lower THC content
Greater body high

Cannabis sativa: Higher THC content
Laughy, active, mind high

Hybrid Varieties

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CBD to THC Ratios

- CBD:THC Ratio 0:1** → Psychoactive effects
- CBD:THC Ratio 1:0** → No psychoactive effects, but enhances mood; potential for treating epilepsy
- CBD:THC Ratio 1:2** → Minimal psychoactive effects. May feel relaxed instead of anxious and paranoid
- CBD:THC Ratio 1:1** → May produce mild psychoactive effects, but promotes relaxation, calmness, euphoria, and tranquility; may help with cancer, insomnia, autism, fibromyalgia, neuropathy
- CBD:THC Ratio 2:1** → Causes minimal psychoactive effects
- CBD:THC Ratio greater than 10:1** → May treat depression, anxiety, pediatric seizure disorders, and spasms

12

Pre-Test Question #1

Which CBD:THC ratio could result in the greatest amount of psychoactive effects?

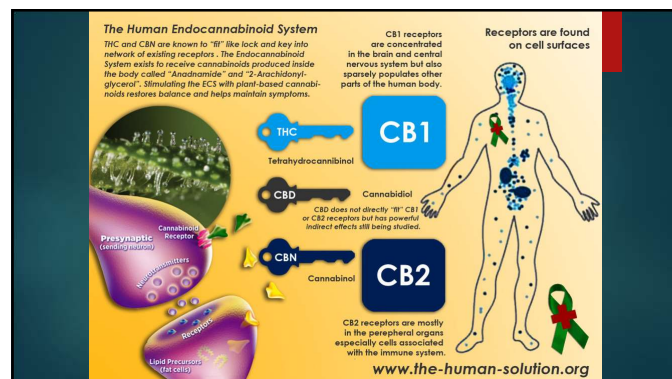
- A. 10:1
- B. 0:1
- C. 1:2
- D. 1:0

13



<https://theweedprof.com/wp-content/uploads/2018/12/how-to-consume-cannabis.png>

14



15

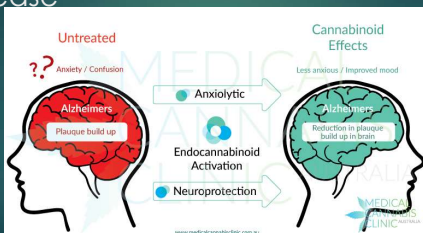
Evidence-Based Efficacy of Medical Cannabis-Glaucoma

- ▶ Use has been studied since the 1970s
- ▶ It temporarily lowers intraocular pressure independent of disease
- ▶ Will affect blood pressure
- ▶ The American Academy of Ophthalmology does not support the use of cannabis for glaucoma, owing to the limited duration of action of cannabis

Flom MC, et. Al. Invest Ophthalmol. 1975; 14: 52-55.
Merritt JC, et al. Ophthalmology. 1980; 787: 222-228.
Hill, et. al. Pol Arch Intern Med. doi:10.20420/pamw.4123

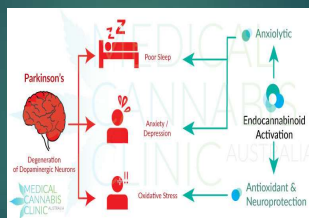
16

Mechanisms that Cannabis may help Patients with Alzheimer's Disease



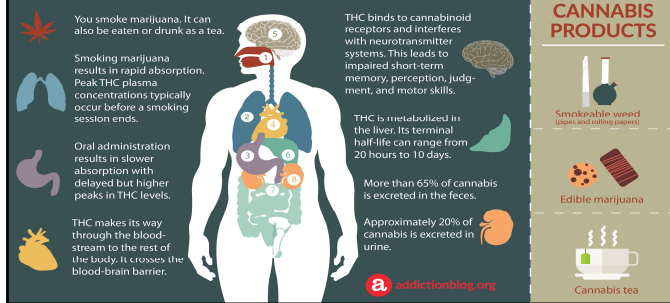
17

Mechanisms that Cannabis may help patients with Parkinson's Disease



18

HOW DOES MARIJUANA WORK IN THE BODY?



19

Pre-Test Question #2

Which route of administration of medical cannabis has the quickest "onset of action?"

- A. Tablets
- B. Edibles
- C. **Smoking**
- D. Topical Application

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Case: How would you counsel this patient in regards to the use of medical cannabis?

- ▶ Mr. BB is an 84 y.o. patient who you are performing a comprehensive medication review. He lives in Denver, Colorado and comes to Florida during the winter months. He is taking the following medications: Ramipril, Aspirin, Duloxetine, Centrum Silver, Atenolol, Claritin, Clopidogrel, Fish Oil, Naproxen, Finasteride, Simvastatin, and oxybutynin.
- ▶ When you investigate his social behaviors, he tells you that he doesn't smoke, but drinks 2 beers a day, and uses cannabis....medicinally.

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Drug Interactions of Medical Cannabis

- ▶ Cannabis is metabolized by CYP4503A4, 2C9, 2C19
- ▶ Cannabis inhibits CYP4502D6 and may inhibit CYP4503A4
- ▶ Additive versus Synergistic Interactions
- ▶ <https://www.leafly.com/news/health/cannabis-cannabinoids-drug-interactions>

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Key Drug Interactions with Medical Cannabis



- ▶ Alcohol and benzodiazepines: may ↑ the effects of alcohol and benzodiazepines
- ▶ Anticoagulants, anti-platelets, herbs, and supplements: may ↑ the risk of bleeding
- ▶ CNS depressants: may cause additive sedative effect
- ▶ Cannabinoid-opioid interactions: may cause additive analgesia with greater-than-additive effects

<https://www.leafly.com/news/health/cannabis-cannabinoids-drug-interactions>

23

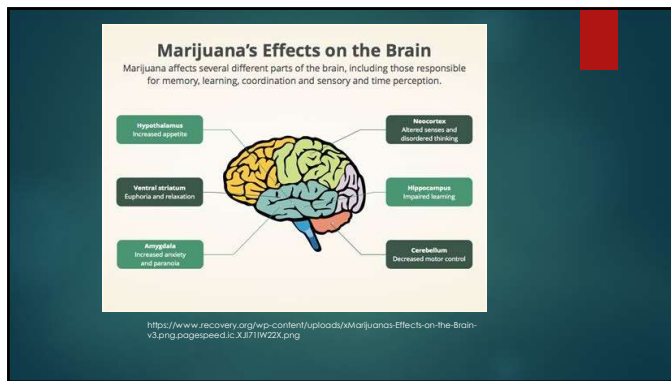
Key Drug Interactions with Medical Cannabis



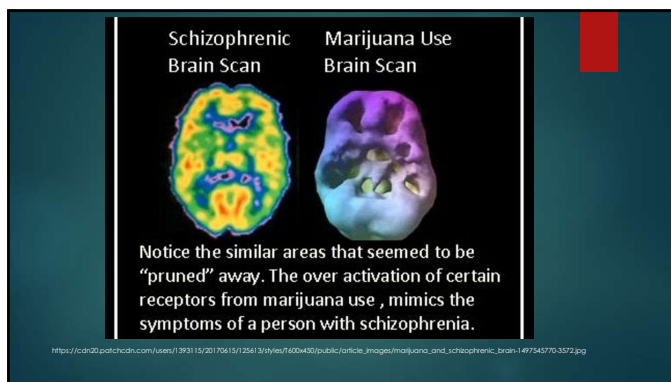
- ▶ Anticholinergic Drugs: this may ↑ the psychoactive side effects of medical cannabis
- ▶ Non-Steroidal Anti-inflammatory Drugs (NSAIDs): NSAIDs may antagonize the effects of medical cannabis
- ▶ Protease Inhibitors: medical cannabis may reduce their effectiveness
- ▶ Selective serotonin re-uptake inhibitors (SSRIs): may increase the risk of mania

<https://www.leafly.com/news/health/cannabis-cannabinoids-drug-interactions>

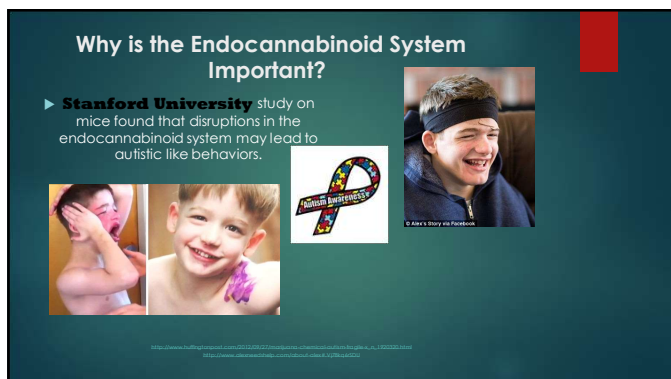
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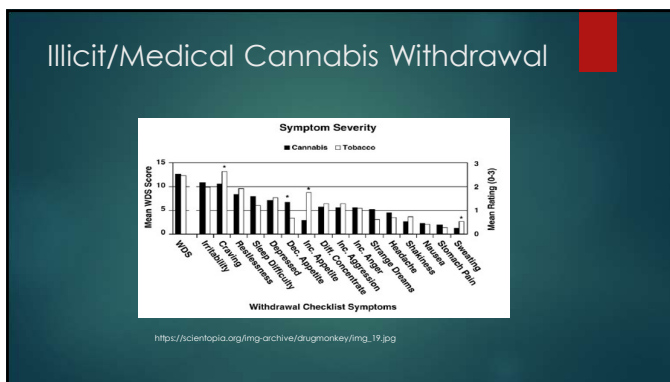
27

Cannabis Side Effects

➤ There's no safe drug, but there is a safer choice

<https://www.washingtonpost.com/news/health/wp/2015/02/23/marijuana-makes-the-drowsy-side-effects-more-obvious-through-researchers-say/>

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Cannabis Smoke Cause Lung Damage?

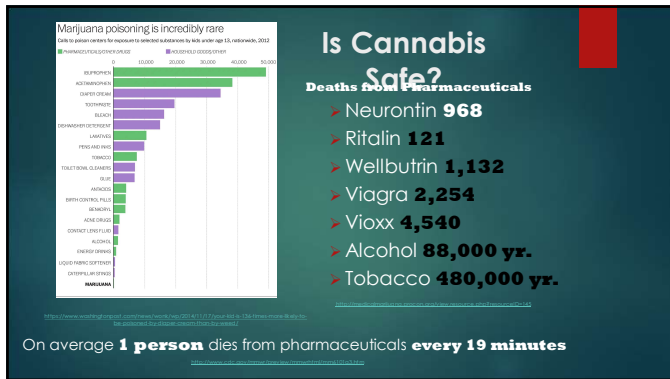
Donald P. Tashkin
American pulmonologist

➤ **30+** year FDA/DEA/NIDA/NIH cannabis lung study with over **5000** patients

- Initially set out to **prove harmful**
- Proved was protective**
- Even very heavy marijuana smokers showed **no increased** incidence of the 3 cancers studied
- Found **protective effect** against cancers possibly due to **the killing** aging cancerous cells
- No** clear link to COPD
- Cannabis use **leads to an increase** in ability to **inhale** while tobacco use leads to decreased ability to inhale

<https://www.washingtonpost.com/news/health/wp/2015/02/23/marijuana-makes-the-drowsy-side-effects-more-obvious-through-researchers-say/>

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Quality of Evidence for Randomized Placebo Controlled

	Moderate	Low
Chronic Pain	GI Disorders	Glaucoma
Spasticity Associated with Multiple Sclerosis	HIV and Acquired Deficiency Syndrome	PTSD
Epilepsy		Parkinson's disease

Hill, et. al. Pol Arch Intern Med.
doi:10.20452/pamw.4123

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State Regulations of Medical Marijuana **Florida**-Qualifying Medical Conditions

Cancer	Epilepsy	Glaucoma
Human Immune Deficiency Virus (HIV)	Acquired Immune Deficiency Syndrome (AIDS)	Post-Traumatic Stress Disorder
Amyotrophic Lateral Sclerosis (ALS)	Crohn's Disease	Parkinson's Disease
Multiple Sclerosis (MS)	Terminal Condition	Chronic Nonmalignant Pain
Other debilitating medical conditions of the same kind or class as or comparable to those enumerated, and for which a physician believes that the medical use of marijuana would likely outweigh the potential health risks for a patient.		

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Pre-Test Question #3

- All of following are considered qualifying conditions for the use of medical cannabis in the state of Florida *except*?
- A. Epilepsy
 - B. Multiple Sclerosis
 - C. **Alzheimer's disease**
 - D. Glaucoma

35

What are Pharmacists Doing?

36

Pre-Test Question #4

Pharmacists are allowed to perform the following services for a patient using medical cannabis? Check all that apply.

- A. Educate
- B. Dispense
- C. Advise prescribers
- D. Qualify patients

37



David Slomski, PharmD

[https://www.pharmacytoday.org/article/S1042-0991\(17\)31946-7/fulltext](https://www.pharmacytoday.org/article/S1042-0991(17)31946-7/fulltext)

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Integrative Medical Cannabis Consulting

Rachel A Strand Pharm.D., M.B.A.
Founder & CEO



Patricia C Frye, MD LLC
Advisor



<http://integrativemcconsulting.com/about/>

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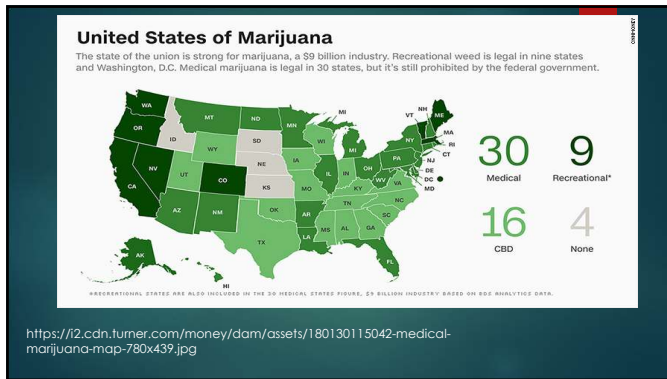
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[illegible]

41

[illegible]

42



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States that Allow Pharmacists to Dispense

- Connecticut**
 - Reclassified cannabis as a CII
 - Can be sold in plant form for smoking
 - Approved for 15 conditions
 - Use is tracked through the Connecticut Prescription Monitoring and Reporting System
- New York**
 - Requires pharmacist to dispense
 - Program bans edibles
 - Approved for 10 conditions for which patients may receive a prescription from a physician
- Minnesota**
 - Cannabis cannot be sold in plant form for smoking
 - Pharmacists select and dispense the product for patients. Minnesota's law authorizes medical cannabis for the treatment of nine medical conditions

<https://www.pharmacist.com/article/pharmacists-allow-medical-cannabis-dispensing-648399>

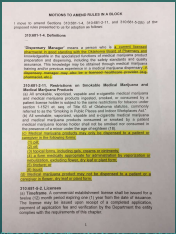
44

Response from Pharmacy Organizations

- ▶ APhA
 - ▶ <https://www.pharmacist.com/sites/default/files/files/Role%20of%20the%20Pharmacist%20in%20the%20Core%20of%20Patients%20Using%20Cannabis%20.pdf>

45

Medical Cannabis Use in Oklahoma (2016)



<https://stateimpact.npr.org/oklahoma/2018/07/11/oklahoma-requires-to-grow-hemp-in-medical-marijuana-dispensaries-and-limits-smokable-product/>

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Top Barriers to Conducting Research on Medical Cannabis

- ▶ Regulatory challenges
- ▶ Product Standardization
- ▶ Variation in Administration
- ▶ Limited Funding

<https://www.pppmag.com/article/2312>

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Agricultural Improvement Act of 2018

- ▶ 2018 Farm Bill
- ▶ Industrial hemp and its derived products now are legal on a federal level, and states may choose how to move forward in this exciting new industry.
- ▶ Legalizes the production of industrial hemp (defined as *Cannabis sativa L.* plants containing less than three-tenths of a percent of tetrahydrocannabinol (THC)).
- ▶ The low concentration of THC makes hemp unsuitable for marijuana production, which remains federally illegal.

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Institutional Policies Pertaining to Medical Cannabis-Hospitals

- ▶ Health care institutions should have a policy in place addressing marijuana use, especially in states where it is legal for medical indications.
 - ▶ The policy should explain who is eligible, storage conditions, indicate who is allowed to administer it, and documentation requirements
- ▶ Hospitals that receive funding from the Centers for Medicare and Medicaid Services could be cited for violations, lose federal funding, and receive fines in the event of permitted cannabis use

<https://www.pppmag.com/article/2312>

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Institutional Policies Pertaining to Medical Cannabis-Hospitals

- ▶ Providers with credentials in hospital are not permitted to prescribe or provide it to patients
- ▶ Joint Commission Standards consider medical cannabis a home medication
- ▶ In states without tightly regulated medical marijuana dispensaries, concern exists regarding how to accurately identify the product for labeling when it is brought into a health care facility.

<https://www.pppmag.com/article/2312>

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Institutional Policies Pertaining to Medical Cannabis-Hospitals

- ▶ **The Minnesota Hospital Association** developed sample policies
http://www.mnhospitals.org/Portals/0/Documents/patientsafety/Medical_Cannabis_Template_Policy.doc
- ▶ **The Washington Health Care Association** released a hospital policy template
- ▶ **Rochester, Minnesota's Mayo Clinic hospitals** have a policy in place allowing continued use of medical cannabis for registered patients
<https://www.pppmag.com/article/2312>

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Considerations for Use of Medical Cannabis in Long-Term Care Facilities

- ▶ Preferences of Prescribers
- ▶ Training of Prescribers
- ▶ Delivery Problems
- ▶ Storage of Medical Cannabis
- ▶ Qualifying Conditions
- ▶ Safety Issues
 - ▶ Health of patient
 - ▶ Involvement of Caregiver
 - ▶ Liability of Facility

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Considerations for Use of Medical Cannabis in Long-Term Care Facilities

- ▶ Federal Law trumps
- ▶ Medicare Funding may be compromised
 - ▶ Nursing Homes vs Assisted Living Facilities vs Independent Living Facilities

53

What are the implications of medical cannabis on insurance coverage?

- ▶ Higher rates typically charged for life insurance for tobacco users
- ▶ Schedule I substances are not covered

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Resources for Pharmacists

- ▶ Thomas Jefferson University (<https://cme.jefferson.edu/lambert>)
- ▶ University of Vermont (<https://learn.uvm.edu/program/cannabis-science-and-medicine>)
- ▶ Centers for Disease Control (www.cdc.gov/marijuana/index.htm)
- ▶ Americans for Safe Access (www.safeaccessnow.org)
- ▶ Society of Cannabis Clinicians (www.cannabisclinicians.org)
- ▶ American Association of Colleges of Pharmacy. Medical Cannabis Toolkit

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For further questions:



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813.974.2551

https://dm-website-qzsh13.amazonaws.com/laboratoryequipment.com/k3b-public/style/content_body_image/public/embedded_image/2016/07/hufferstock_43265443.jpg?tk=1uCHCUV

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