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## Participating in the Webinar

All attendees will be muted and will remain in Listen Only Mode.

Type your questions here so that the moderator can see them. Not all questions will be answered but we will get to as many as possible.

Meridith Test  
Webinar ID: 998-221-123  
This session is being recorded.  
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## How to Receive CME and MOC Points

**LIVE VIRTUAL GRAND ROUNDS WEBINAR**  
ACG will send a link to a CME & MOC evaluation to all attendees on the live webinar.

**ABIM Board Certified physicians need to complete their MOC activities by December 31, 2022 in order for the MOC points to count toward any MOC requirements that are due by the end of the year. No MOC credit may be awarded after March 1, 2023 for this activity.**

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## MOC QUESTION

**If you plan to claim MOC Points for this activity, you will be asked to:** Please list specific changes you will make in your practice as a result of the information you received from this activity.

Include specific strategies or changes that you plan to implement.  
**THESE ANSWERS WILL BE REVIEWED.**

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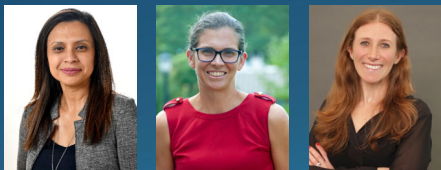


# ACG Virtual Grand Rounds

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**Week 4 – Thursday, January 26, 2023**  
**Managing IBD: Technology Enabled, Resilience-Based Self-Management Solutions (sponsored by GI OnDEMAND)**  
Faculty: David T. Rubin, MD, FACC; Laurie A. Keefer, PhD, and Megan Riehl, PsycD  
**At Noon and 8pm Eastern**



**Week 5 –Thursday, February 2, 2023**  
**Exploring Gender Diversity in GI**  
Faculty: Asmeen Bhatt, MD, PhD, FACC;  
Millie D. Long, MD, MPH, FACC; And Allison R. Schulman, MD, MPH  
**At Noon and 8pm Eastern**

Visit [gi.org/ACGVGR](https://gi.org/ACGVGR) to Register

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## Disclosures




**Linda Nguyen, MD**  
 Alnylam: Consultant (Terminated, August 1, 2021); Ardelyx: Consultant; Eli Lilly Pharmaceuticals: Consultant (Terminated, November 1, 2021); Evoke Pharma: Consultant; Gemelli Biotech: Consultant; Neurogastrix: Consultant; Pendulum: Consultant; Phathom Pharmaceuticals: Consultant; RosVivo: Consultant; Salix Pharmaceuticals: Consultant; Takeda: Consultant


**Steven Carpenter, MD, FACC**  
 Dr. Carpenter has no relevant relationships with ineligible companies.

*\*All of the relevant financial relationships listed for these individuals have been mitigated*


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## Cannabis for Gastrointestinal Disorders: Everything You Wanted to Know, But Were Afraid to Ask



**Linda Nguyen, MD**  
 Clinical Professor  
 Stanford University



@LindaNguyenMD  
@Stanford\_GI



Stanford MEDICINE | Gastroenterology & Hepatology Division  
Department of Medicine

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## Objectives

- Review the Endocannabinoid system & role of cannabinoids in GI disorders
- Discuss the prevalence of marijuana use in digestive diseases
- Explore the risks and benefits of medical cannabinoid use
- Form a framework for discussing cannabis use with patients



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## Our Patient

- 24 yo Female
- CC: N/V, postprandial abdominal pain, bloating and constipation. Can't eat b/c of symptoms
- Symptoms > 5 years but increased past 2 yrs after flu-like illness
- PMH:
  - Asthma
  - Food allergies: hives with shellfish, nuts, milk
  - Migraines
  - EDS
  - POTS
  - Hip dislocation
- SH: no tobacco, no EtOH, occ marijuana, former ballet dancer
- FH: mother with migraines



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## Patient #1

- Structural evaluation: CT abdomen/pelvis, abdominal ultrasound, EGD, colonoscopy, all normal
- Normal labs: metabolic panel, TSH, ANA, ESR, cortisol paraneoplastic Ab panel, GAD ab
- Abnormal Labs: Hgb: 10.1, Ferritin 6
- EKG: sinus tachycardia
- Wireless capsule motility testing:
  - GET 6:15 (Normal: 0.5-5 hours)
  - SBTT 3:24 (Normal: 2.5-6 hours)
  - CTT 70:21 (Normal: 5-59 hours)



Laurie Edwards "The Gender Gap in Pain" NYT March 16, 2013

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## Follow up History

- Diagnoses:
  - Gastroparesis
  - Slow transit constipation
- Abdominal pain better on duloxetine (Cymbalta)
- N/V and constipation worse
- "Occasional marijuana use" recreationally
  - Patient has been using MJ 1-3x per day for the past 2 years for migraines, nausea and sleep



➤ **Patient wants to know if she should continue using marijuana**

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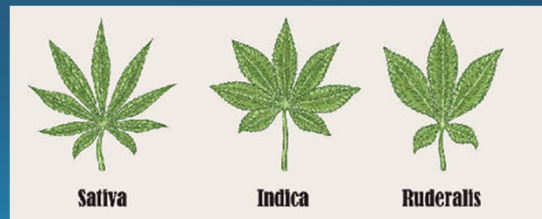
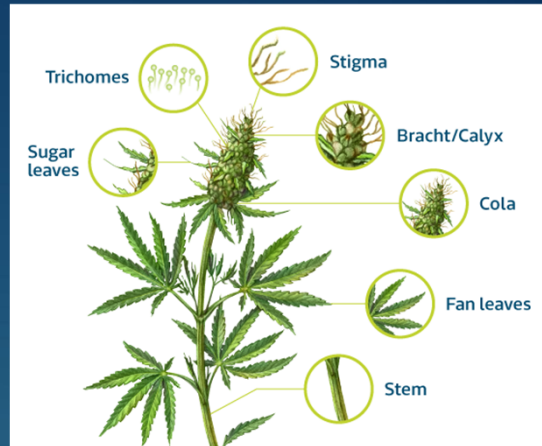


# Anatomy of Cannabis

- Marijuana has > 70 phytocannabinoids
- The bud (cola) contains trichomes (cannabinoids) & terpenes (essential oils)

Cannabis Strains & Components	Characteristics
Tetrahydrocannabinol (THC)	Psychoactive
Cannabidiol (CBD)	Not psychoactive
Cannabis indica	Calming (THC > CBD)
Cannabis sativa	Energizing (THC >>> CBD)
Cannabis ruderalis	Minimal THC, used to create hybrids

	Route of Administration			
	Smoking/Vaping	Oral	Oromucosal	Topical
Onset (minutes)	5-10	60-180	15-45	variable
Duration (hours)	2-4	6-8	6-8	variable



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## The Growth of Mainstream Marijuana

- Medical cannabis legal in 33 states plus the District of Columbia

### Marijuana Legalization Status In The USA

### The Cannabis Conversation Is Growing

**Consumers/Patients: Have you tried medical marijuana to alleviate your chronic pain, or related symptoms (eg, insomnia)?**

Yes	48%
No	52%

**Clinicians: For which type of pain are you allowing or encouraging the use of cannabinoids in your clinical practice?**

Inflammatory (connective, bone, skeletal-muscle)	47%
Neuropathic	26%
Nociceptive (thoracic, pelvic, or abdominal)	8%
Related pain symptoms (eg, insomnia, anxiety, depression)	10%
All types	4%
None	5%

**Clinicians: What percentage of your chronic pain patients have asked about medical cannabis?**

Less than 25%	23%
26 to 50%	34%
51 to 75%	20%
More than 75%	23%

Polls conducted on PracticalPainManagement.com (as of 4/15/2019)

Practical Pain Management vol 19

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## Cannabis Use Increasing in the US with Decreased Perception of Risks

- Cannabis use increased from 4% in 1991-1992 to 9.5% by 2012-2013
- Prevalence greatest in young adults aged 18-25 (F: 25%; M: 27%)

**A. Marijuana Use**

Year	Prevalence (%)
1991-1992	4.0
2002	10.5
2007	10.0
2012-2013	9.5
2014	11.4

**B. Perceived Risk of Marijuana Use**

Year	Prevalence (%)
1991-1992	77.7
2002	78.8
2014	64.1

Carliner H et al. Prev Med 2019;104:13-23

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## Marijuana Cost & Quantity

**in USD per gram**

City	Cost (USD per gram)
Seattle (legal)	7.58
Denver (legal)	7.79
Los Angeles (legal)	8.14
Miami (partial)	9.27
San Francisco (legal)	9.27
Phoenix (partial)	9.35
Dallas (partial)	10.03
Houston (partial)	10.03
New York (partial)	10.76
Boston (legal)	11.01
Philadelphia (partial)	11.3
Chicago (partial)	11.46
Washington DC (partial)	18.08

Sources: weedindex.io Created by AmericanMarijuana.org

**in U.S. dollars per ounce**

State	Price (USD per ounce)
Oregon	210.6
Washington	233.1
Colorado	241.9
California	256.6
Montana	268.7
Nevada	270.5
New Mexico	284.2
Michigan	290.7
Arizona	297
Florida	299.2
U.S. average	320.1
Texas	325.1
Connecticut	333.6
Illinois	354
District of Columbia	600.7

Sources: Price of Weed Created by AmericanMarijuana.org

**Leafly A Visual Guide to Cannabis Quantities**

1 oz = 28.35 g  
 1/2 oz = 14g  
 1/4 oz = 7g  
 1/8 oz = 3.5g  
 1g = 1,000 mg

Note: Size dependent on flower density

<https://americanmarijuana.org/medical-marijuana-statistics/>

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# Medical vs. Recreational Cannabis

- Legal Age: Medicinal (18+) vs. Recreational (21+)
- Higher sales tax
  - Recreational = 23-38% tax: 15% MJ + 7.25% retail + municipal (0-15%) sales tax in CA
  - Medicinal = not subject to retail sales tax
- Access to more dispensaries
- CBD > THC

### Eligible Medical Conditions (California):

- AIDS
- Anorexia
- Arthritis
- Cachexia
- Cancer
- Chronic pain
- Glaucoma
- Migraine
- Severe nausea
- Persistent muscle spasms (ie. MS)
- Seizures

**Medical Marijuana Program**  
WRITTEN DOCUMENTATION OF PATIENT'S MEDICAL RECORDS  
(Please Print)

Note to Attending Physician: This is not a mandatory form. If used, this form will serve as written documentation from the attending physician, stating that the patient has been diagnosed with a serious medical condition and that the medical use of marijuana is appropriate. A copy of this form must be filed in the attending physician's medical records for the patient. If the patient chooses to apply for a Medical Marijuana Identification Card through the county health department or its designee, the agency will call the attending physician to verify the information contained on this form, in accordance with Health & Safety Code Section 11362.72 (a)(3).

Medical Board of California    Osteopathic Medical Board of California    California Board of Podiatric Medicine

is a patient under the medical care and supervision of the above named physician who has diagnosed the patient with one or more of the following medical conditions:

1. Acquired Immune Deficiency Syndrome (AIDS)
2. Anorexia
3. Arthritis
4. Cachexia
5. Cancer
6. Chronic pain
7. Glaucoma
8. Migraine
9. Persistent muscle spasms, including, but not limited to, spasms associated with multiple sclerosis
10. Seizures, including, but not limited to, seizures associated with epilepsy
11. Severe nausea
12. Any other chronic or persistent medical symptom that either:
  - a. Substantially limits the ability of the person to conduct one or more major life activities as defined in the Americans with Disabilities Act of 1990.
  - b. If not alleviated, may cause serious harm to the patient's safety or physical or mental health.

**ATTENDING PHYSICIAN STATEMENT:**  
This patient has been diagnosed with one or more of the foregoing medical conditions and the use of medical marijuana is appropriate.

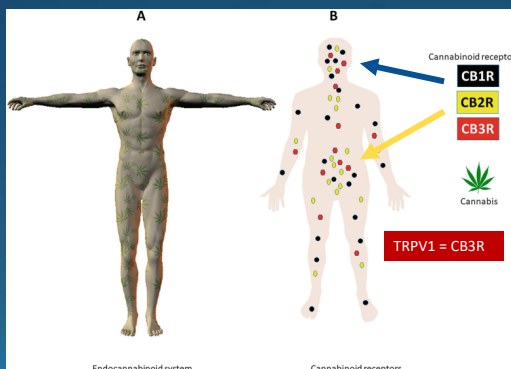
Original—Patient      Copy—Patient's File

<https://www.cdph.ca.gov/CDPH%20Document%20Library/ControlledForms/cdpH9044.pdf>

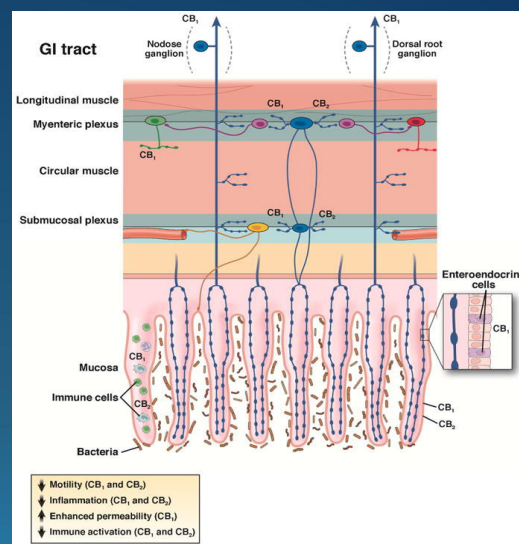
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# Endocannabinoid System and the Gut

- Endocannabinoids
  - 2-arachidonoylglycerol (2-AG) -> CB1 & CB2
  - Anandamide -> CB1 & TRPV1
- THC -> partial agonist CB1 > CB2
- CBD -> CB2



Joshi, Onaivi. *Advanced in Experimental Medicine and Biology* 2019, vol 1162.



Sharkey, Wiley. *Gastroenterol* 2016;151:252-266

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## Chronic Stress, the Endocannabinoid System & the Brain-gut Axis

**Chronic stress**

↑ 2-AG ↓ CB<sub>1</sub>  
 ↑ AEA ↑ TRPV1  
 ↓ FAAH ↓ COX<sub>2</sub>

Colon

Spinal cord

Pain transmission: primary afferent (DRG) nociceptive pathways

**Stress**

↑ CRH/CRHR1 ↓ GR ↓ CB<sub>1</sub>  
 ↑ FAAH ↑ CORT  
 ↓ AEA ↑ 2-AG

Time

Sharkey, Wiley. Gastroenterol 2016;151:252-266

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## Role of Cannabis in Digestive Disorders and Function

**Liver**  
 CB1 increases lipogenesis, upregulated in alcohol liver dz  
 CB2 associated w insulin resistance, protects against fibrosis

**Colon/Small Bowel**  
 CB1 inhibits peristalsis in the small bowel & colon

Possible promote fibrosis

Decrease colonic tone & motility in IBS

Decreases LES relaxation

Decreased gastric motility & contractility

Possible Acute Pancreatitis

Relieves diarrhea, abdominal pain & improves appetite in IBD

**Esophagus**  
 THC & CB1 decreases tLESR

**Stomach**  
 THC & CB1 inhibits peristalsis

**Pancreas**  
 CB1 fibrogenesis  
 CB2 protects against fibrosis

**IBD**  
 Increased epithelial CB2 expression in IBD

Adapted Goyal H et al. Eur J Gastroenterol Hepatol 2017; 29:135-143

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## Marijuana Use in Patients with Gastroparesis & CUNV

- Patients who used MJ had more severe symptoms and decreased QOL
  - 12% patients with gastroparesis or CUNV used marijuana
    - 51% of patients using marijuana used > 2 years
    - 47% were daily users
    - 81% users perceived benefit in relieving GP symptoms

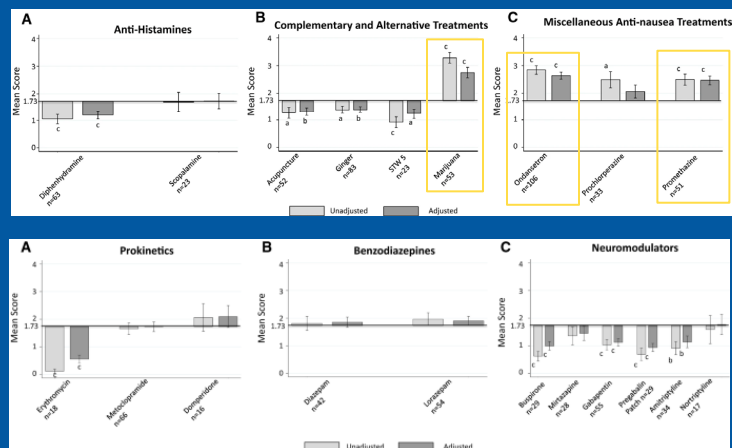
Characteristic	Marijuana Use		P value
	No (n=447)	Yes (n=59)	
Nausea subscore	2.1 + 1.4	2.7 + 1.4	0.002
Abdominal pain	2.9 + 1.5	3.5 + 1.2	0.003
PAGI-QOL	2.6 + 1.2	2.2 + 1.2	0.03
Trait anxiety	41.8 + 13.0	46.0 + 12.1	0.02
Trait anxiety > 50 (severe)	118 (36.4%)	28 (47.5%)	0.0008

Parkman H et al. Dig Dis Sci 2020; 65:2311-2320

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## Patient Perception of Antiemetic Efficacy

- Survey study of 153 patients with chronic nausea
- Efficacy of antiemetic rated (0-5)
  - Mean efficacy of all anti-emetics 1.73
  - **Marijuana** (2.75), **ondansetron** (2.64) and **promethazine** (2.46) perceived to be most effective
  - Neuromodulators had the worst performance
  - More severe nausea responded better to marijuana or diphenhydramine but not metoclopramide



Zikos T et al. Dig Dis Sci 2020

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## Cyclic Vomiting Syndrome vs. Cannabinoid Hyperemesis

- Stereotypic episodes of nausea/vomiting (+/- abdominal pain)
  - Sudden or acute onset (usual duration < 1 week)
  - Absence of vomiting between flares (other sx's can be present)
  - > 3 discrete episodes in one year
- 76% have partial response to TCA
- **Marijuana use associated with lack of response to TCA**
- **Cannabinoid hyperemesis**
  - Marijuana use **preceded** onset of GI sx's
  - Heavy MJ use = use > 4x/week for > 1 year
  - Minimum 4 week cessation required but can require > 6 months of cessation to determine if sx's resolve to abstinence

Characteristics	Responders N=115 (87.1%)	Nonresponders N=17 (12.9%)
Female	52 (45%)	8 (47%)
Caucasian	102 (89%)	15 (88%)
Mean Age	34±4 (20-68)	32.5±3 (18-59)
Age of Onset	22±2	21±1.5
Age at Diagnosis	28±3	27±2
Mean TCA dose	90 mg/day (25-250)	85 mg/day (10-250)
<b>Psychological disorder</b>	<b>12 (10%)</b>	<b>6 (35%)*</b>
<b>Migraine HA</b>	<b>23 (20%)</b>	<b>7 (41%)*</b>
Smoking	32 (28%)	4 (24%)
<b>Chronic Marijuana use</b>	<b>25 (22%)</b>	<b>9 (53%)*</b>
<b>Chronic Narcotic use</b>	<b>17 (15%)</b>	<b>9 (53%)*</b>
4 hour GES	7 ± 4 %	6 ± 3 %

Hejazi, R et al. Aliment Pharmacol Ther. 2009  
Venkatesan T et al. Neurogastroenterol Motil 2019;31, suppl 2

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## Marijuana: Differing Physiology vs. Function

- Background
  - Cannabinoids thought to slow motility via CB1 receptor
  - Hemp seed can improve constipation in CIC
- Findings:
  - Recent MJ users more likely to be male, younger, depressed and use other substances (EToH, tobacco, heroin & cocaine)
  - Recent MJ use associated with 32% decreased odds of constipation (aOR 0.68)

Mode of measuring constipation	Never Marijuana Users (%)	Past Marijuana Users (%)	Recent Marijuana Users (%)
Bristol Stool Form Scale (BSFS)	~8.5	~6.5	~5.5
Bowel Movements per Week	~4.0	~3.5	~3.0
Both (BSFS & Bowel Movements)	~11.5	~9.5	~7.5

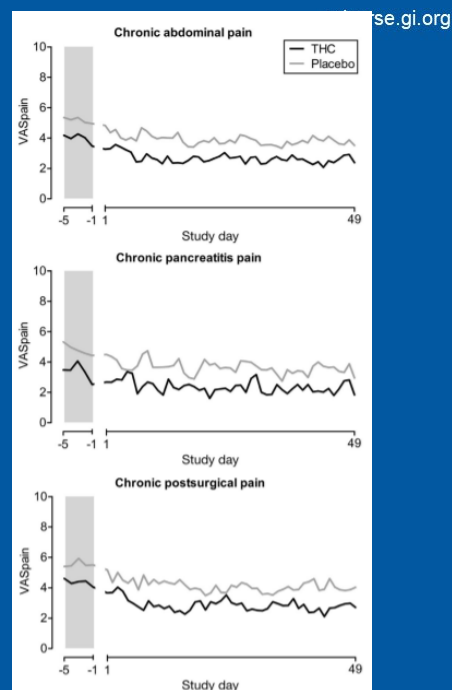
Adejumo A et al. Am J Gastroenterol 2019;114:1894-1903

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## THC for Disappoints in Phase 2 Study of Chronic Abdominal Pain

- THC vs. Placebo for chronic postsurgical abdominal pain or chronic pancreatitis
  - Cannabis sativa up to 8 mg TID x 49 days
- Similar reduction in Pain VAS at end of study 40% vs. 37% (p=0.901)
- Limitations: groups combined due to low enrollment (total n = 65)

De Vries M et al. Clin Gastroenterol Hepatol 2017;15:1079-1086



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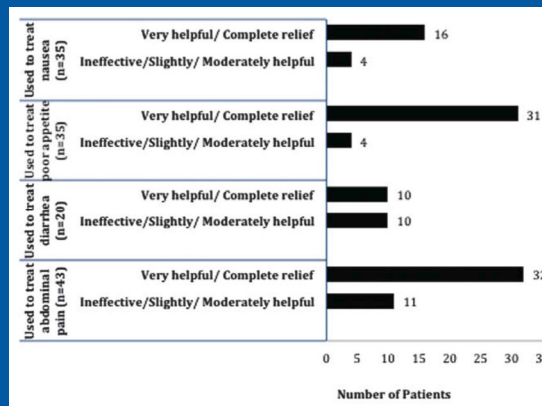
## Marijuana use Common in IBD

- Active MJ use increased from 12.3% in 2012 to 22.8% in 2017
- Younger age and presence of chronic abdominal pain associated with current MJ use
- MJ perceived to be highly effective in relieving symptoms



	Medicinal Users (n = 48)	Nonusers (n = 142)	P
Age, yr	31.4 ± 10.2	41.4 ± 14.7	<0.001
SIBDQ score	4.4 ± 1.3	5.2 ± 1.2	<0.001
CD, n (%)	34 (70.8)	82 (57.7)	0.03
Prior surgery, n (%)	27 (56.3)	52 (36.6)	0.02
Prior hospitalization, n (%)	38 (79.1)	95 (66.9)	0.14
Biological therapy, n (%)	21 (43.7)	56 (39.4)	0.72
Chronic abdominal pain, n (%)	34 (70.8)	45 (31.7)	<0.001
Current narcotics, n (%)	10 (20.8)	10 (7.04)	0.45

1. Merker AM et al. Inflamm Bowel Dis 2018;24(11):2309-2314  
 2. Allegretti J et al. Inflamm Bowel Dis 2013;19(13):2809-2814



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## Cannabis Induces Clinical Response but Not Complete Remission in Crohn's Disease

- THC-rich cannabis (115 mg) smoked twice daily induced complete remission (CDAI < 150) in 45% (5/11) vs. 10% (1/10) of patients with Crohn's disease after 8 weeks (p=0.43)
- CDAI reduction > 100: Cannabis 90% vs. Placebo 30% (p<0.05)

**Figure 1.** CDAI scores in study and placebo groups before and after treatment.

	Cannabis	Placebo
CDAI		
Baseline	330 ± 105	373 ± 94
Week 8	152 ± 109*	306 ± 143*
SF-36		
Baseline	68	71
Week 8	86	79

Naftali T et al. Clin Gastroenterol Hepatol 2013;11:1276-1280

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## Mixed Outcomes with Cannabis Use in IBD

- Cannabis does not induce remission in UC (n=29) or Crohn's (n=21)
- Prevalence of colectomy lower in cannabis users with UC compared to nonusers (4.4% vs. 9.7%, p=0.01)
- Shorter LOS: 4.5 vs. 5.7 days, p < 0.007)

**Figure 2** Failure to achieve remission in Crohn's disease

Study or Subgroup	Marjuana Events/Total	Placebo Events/Total	Weight	Risk Ratio, M-H, Fixed, 95% CI
Naftali 2013	6/11	9/10	59.9%	0.61 [0.34, 1.08]
Naftali 2017	6/10	6/9	40.1%	0.90 [0.34, 1.79]
<b>Total (95% CI)</b>	<b>12/21</b>	<b>15/19</b>	<b>100.0%</b>	<b>0.72 [0.47, 1.12]</b>

Total events: 12 (Marjuana), 15 (Placebo)  
 Heterogeneity: Chi<sup>2</sup> = 0.75, I<sup>2</sup> = 0.39; P = 0.08  
 Test for overall effect: Z = 1.44 (P = 0.15)

**ADJUSTED ODDS RATIO FOR CANNABIS USE AMONG UC PATIENTS FOR SELECTED CLINICAL OUTCOMES**

Desmarais A et al. Ann Gastroenterol 2020;33:495-499 Mbachi C et al. Medicine (Baltimore) 2019;98:e16551

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## Cannabis May Be Associated with Worse Prognosis in Crohn's Disease

- NIS dataset 2010-2014
- Pros
  - Anemia, Colorectal cancer, Need for TPN
  - Shorter LOS and lower total costs
- Cons:
  - Fistulizing disease/intra-abdominal abscess, Hypovolemia, GI bleeding

Complications	No cannabis (n=3,003)	Cannabis (n=2,999)	P value
<b>Disposition of patient</b>			
Routine	2,579 (85.9%)	2,610 (87.0%)	
Transfer to short-term hospital	50 (1.7%)	45 (1.5%)	
Other transfers (SNF, ICF, other facility)	56 (1.9%)	35 (1.2%)	
Home health care	159 (5.3%)	101 (3.4%)	
Against medical advice	159 (5.3%)	209 (7.0%)	
Anemia	903 (30.1%)	767 (25.6%)	<0.001*
Hypovolemia	15 (0.5%)	35 (1.2%)	0.004*
Fluid and electrolyte disorders	1,047 (34.9%)	1,062 (35.4%)	0.664
Active fistulizing disease or intraabdominal abscess	177 (5.9%)	257 (8.6%)	<0.001*
Stricturing diseases	274 (9.1%)	261 (8.7%)	0.570
Intestinal obstruction	575 (19.1%)	614 (20.5%)	0.198
Unspecified lower gastrointestinal hemorrhage	80 (2.7%)	120 (4.0%)	0.004*
Malnutrition	176 (5.9%)	162 (5.4%)	0.441
<i>C. diff</i>	74 (2.5%)	54 (1.8%)	0.075
Colorectal cancer	36 (1.2%)	<11*	<0.001*
Small Intestinal and colorectal resection	197 (6.5%)	183 (6.1%)	0.468
Blood transfusion	173 (5.8%)	171 (5.7%)	0.922
Parenteral nutrition	141 (4.7%)	91 (3.0%)	0.001*
Length of stay (days) (mean ± SD)	5.0±5.3	4.2±3.9	<0.001*
Total charges per admission	\$35,180	\$28,956	<0.001*

\* P<0.05 indicates statistical significance. Cell counts <11 are indicated by \* as per HCUP privacy guidelines. SNF, skilled nursing facility; ICF, intermediate care facility.

Desai R et al. Ann Transl Med 2019;7:252

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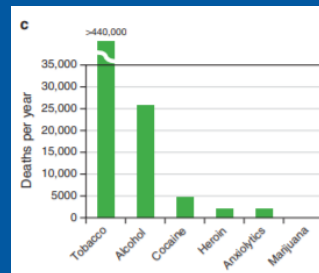
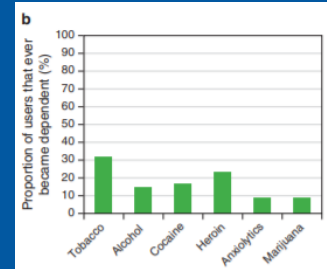
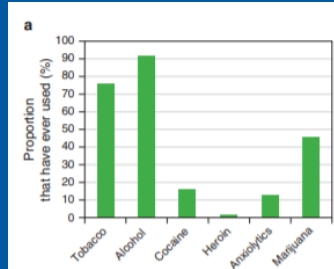
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## Hype, Hope or Hybrid: The Cautionary Tale of Medical Marijuana

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# Adverse Effects of Marijuana

- Acute
  - Anxiety
  - Psychosis
- Chronic use
  - Driving impairment
  - Impaired psychosocial development
  - Dependence
  - Withdrawal

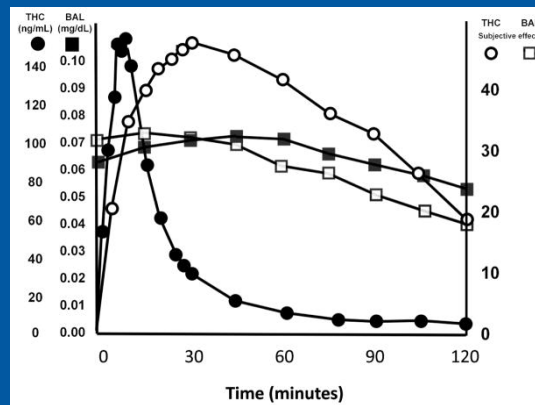


Gerich M et al. Am J Gastroenterol 2015;110:208-214

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# Impact of Cannabis on Driving

- Cannabis with alcohol causes greater cognitive impairment than either alone



Sewell R et al. The effect of cannabis compared with alcohol on driving. Am J Addict 2009; 18: 185-193

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## Cannabis Interaction with Medications

- THC and CBD interact with CYP liver enzymes

**THC and CBD Impact on Medication Concentrations**

THC may decrease serum concentrations of:

Clozapine  
Haloperidol  
Duloxetine  
Naproxen  
Cyclobenzaprine  
Olanzapine  
Cyclosporine  
Theophylline

CBD may increase serum concentrations of:

SSRIs  
Haloperidol  
Antipsychotics  
Benzodiazepines  
Tricyclic Antidepressants  
Calcium Channel Blockers  
Some Statins (Atorvastatin, Simvastatin)  
Beta-blockers  
Antihistamines  
Antiretrovirals  
Opioids  
Clobazam  
Macrolides  
Sildenafil  
Cyclosporine  
Warfarin

Source: Flockhart, DA. Drug Interactions: Cytochrome P450 Drug Interaction Table. Indiana University School of Medicine; 2007. <https://drug-interactions.medicine.iu.edu/main/table.aspx> Watanabe K, Yamano S, Furubashi T, Kimura T, Yamamoto I. Cytochrome P450 enzymes involved in the metabolism of tetrahydrocannabinols and cannabidiol by human hepatic microsomes. *Eur J Clin Pharmacol*. 2007;153:1415-9. doi:10.1007/s00262-006-1229-2

rx.ph.lacounty.gov/RxCannabis0918

<http://rx.ph.lacounty.gov/RxCannabis0918#table2main>

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## Cannabis Misuse Associated with Increased ED Utilization In GI a Tertiary GI Patient Population

- Characteristics associated with cannabis misuse
  - Comorbidities: Neuropathy, Any psychiatric disorder, Other substance misuse
  - GI disorder: GERD
  - Patients with FGIDs less likely to have cannabis misuse
- Cannabis misuse associated with 1.47 fold increased risk of ED use independent of Dx

Gastrointestinal disease	Total patients <sup>a</sup>	Number of cannabis abusers	Percentage
Gastroesophageal reflux disease (GERD)	102,123	1256	1.23
Esophagitis	27,376	343	1.25
Gastroparesis	22,694	257	1.13
Irritable bowel syndrome (IBS)	20,524	169	0.82
Colon cancer	14,006	342	2.44
Peptic ulcer disease (PUD)	9561	201	2.10
Ulcerative colitis	9324	98	1.05
Crohn's disease	9206	81	0.88
Pancreatic cancer	9104	341	3.75
Cyclic vomiting syndrome (CVS)	3080	118	3.83

<sup>a</sup> Some patients with more than one diagnosis

Gubatan J et al. *Dig Dis Sci* 2016;61:1844-1852

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## What do you say to patients when they insist marijuana is the only therapy that helps their symptoms or they prefer cannabis over meds?

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## Counseling Patients on Medical Marijuana Use

**START LOW,  
GO SLOW.**

JON SLOW

- Start low dose and increase slowly
  - Typical marijuana dose: 1-3 g/d (divided)
  - Typical CBD dose: 5-20 mg/d
  - THC dose > 20 mg increased risk of side effects
  - Use strains with lower THC:CBD ratios to minimize psychoactive side effects

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## Counseling Patients on Medical Cannabis Use

- Cannabis can be a double edged sword
  - Can improve symptoms (but data limited & mixed)
    - Optimal dosing & duration not known
  - Can delay motility & secretions
  - Is associated with poor response to TCAs in patients with CVS
  - Associated with greater risk for ED use
  - Long term, regular use associated with CHS
  - Associated with increased CD complications
  - Cumulative costs of chronic use



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## Counseling Patients on Medical Cannabis Use

IT'S NOT THE SIZE OF YOUR DATA THAT MATTERS



IT'S HOW YOU USE IT!

- The Data is still lacking but makes sense
  - Mode of consumption oral > inhaled may help mitigate side effects of cannabis
  - Intermittent vs. chronic daily use
  - Mixed effects in IBD
  - Monitor for changes in mood (increased anxiety)
  - Monitor for need to escalate dose of cannabis
    - May be a sign of dependence, tolerance or misuse
  - Don't inhale and drive
    - Be careful mixing substances

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## Don't Be Afraid to Ask About Cannabis Use

- Be open minded and non-judgmental
- Employ shared decision making
- Consider costs when recommending therapy
- Know the cannabis rules in your state




The answers are all out there, we just need to ask the right questions.

Oscar Wilde

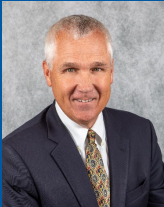
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## Questions?



**Linda Nguyen, MD**



**Steven Carpenter, MD, FACC**

*\*All of the relevant financial relationships listed for these individuals have been mitigated*

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# CONNECT AND COLLABORATE IN GI



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ACG Hepatology Circle



ACG Functional GI  
Health and Nutrition Circle



**GI**

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ACG Women in GI Circle

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