

“Cannabis: Stigma versus Science”

Webinar Questions Answered by Janice Newell Bissex, MS, RDN, FAND

Please note that these are brief answers to complex questions and are not meant as medical advice. Please seek medical advice from a qualified healthcare professional for more complete information.

- Does the phosphorus content vary in marijuana?
 - I’m not aware of cannabis being a significant source of phosphorus.
- Do you know the effect cannabis has on vitamin K and INR levels?
 - There is limited research on this. There are some case studies showing a potential drug-drug interaction between cannabis and Warfarin. Nothing about vitamin K levels being impacted by cannabis use as it is dietary vitamin K from food sources consumed by mouth that can interact with blood thinners.
 - [https://jcannabisresearch.biomedcentral.com/articles/10.1186/s42238-021-00112-x#:~:text=A%20third%20case%20report%20also,\(Hsu%20and%20Painter%202019\).](https://jcannabisresearch.biomedcentral.com/articles/10.1186/s42238-021-00112-x#:~:text=A%20third%20case%20report%20also,(Hsu%20and%20Painter%202019).)
 - [https://www.researchgate.net/publication/26296884 Probable Interaction Between Warfarin and Marijuana Smoking](https://www.researchgate.net/publication/26296884_Probable_Interaction_Between_Warfarin_and_Marijuana_Smoking)
- Can you explain what Delta 8 is & how it relates to cannabis?
 - Delta-8 is a form of THC that is typically made synthetically from hemp CBD. It is generally less psychoactive than the THC found naturally in the plant (Delta-9). There have been issues with the quality of some of these products (contamination, people consuming too much, etc.) and I do not recommend Delta-8 THC. I prefer the naturally-occurring Delta-9 THC.
- Are you aware of any interaction between cannabis and Tamoxifen?
 - According to Drugs.com there is no interaction between cannabis and Tamoxifen.
- Is dosing initiation and maintenance lower for patients with long-term deficits from a traumatic brain injury? Or other neurological diseases/injury?
 - It really depends on the individual, but the general rule is to start low and go slow and increase the dosage until symptom management is achieved.
- Is there a minimum age that you would recommend when using Cannabis?

- In general, it's best to wait until at least 21 years old to use cannabis. However, if used carefully for medical reasons there is no minimum age. A microdose of THC in a child experiencing severe nausea with chemotherapy could be very effective, and CBD can be used quite successfully in children with epilepsy.
- Is cannabis contraindicated for those with advanced kidney or liver disease? If not, what are some things to consider in these patient populations?
 - Kidney research recap: may help with symptom management in advanced stages of CKD, including chronic pain, nausea and vomiting, anorexia, pruritus, and insomnia. However, research is limited on potential benefits vs limitations.
 - Chua J et al. Endocannabinoid system and the kidneys: from renal physiology to injury and disease. *Cannabis Cannabinoid Res.* 2019;4(1): 10-20. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6653784/>
 - Ho C, Martinusen D, Lo C. A Review of Cannabis in Chronic Kidney Disease Symptom Management. *Can J Kidney Health Dis.* 2019;6:2054358119828391. Published 2019 Feb 22. doi:10.1177/2054358119828391 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6388458/>
 - Park F, et al. Cannabinoids and the kidney: effects in health and disease. *Am J Physiol Renal Physiol.* 2017;313(5):F1124-1132. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5792153/>
 - Liver research recap: no evidence of worsening liver disease - rather have seen improvements in fatty liver indexes with cannabis use. Promising, but more research needed. <https://cannabishealthnews.co.uk/2021/03/25/no-evidence-of-liver-toxicity-in-adults-using-cbd/>
 - <https://norml.org/news/2021/02/25/study-cannabis-use-associated-with-reduced-fatty-liver-index-scores-in-patients-co-infected-with-hivhcv>
- When talking about CBD and THC is it only with smoking or would you get some of the same results with edibles?
 - The results would be similar, depending on dosage. The effects from smoking occur within minutes while edibles may take an hour or more to take effect. Cannabinoids, including CBD and THC are present whether the cannabis is smoked or ingested. The bioavailability differs a

bit based on method of consumption. Edibles are the least bioavailable of all the ways to use cannabis.

- Can you speak to the issues associated with 1) strength of marijuana available today (vs a decade ago), the increasing rates of 'edible' overdose by child and others who accidentally ingest due to their sweet flavor/candy-like look, purity/potency of CBD available in almost every store - what can consumers look for to ensure they are buying actual CBD vs fillers?
 - The potency of cannabis now is much higher than in decades past. While there was 2-5% THC in cannabis 50 years ago some cultivars contain 20% or more THC now. Buyer beware!
 - Edibles do pose a challenge when they are in flavors that appeal to children. It is incumbent on any cannabis user to keep their products out of the reach of children. Bear in mind that there have been no cases throughout history of any deaths because of a cannabis overdose. One way to temper the effect of consuming too much cannabis is to chew on a couple of peppercorns. This will help to bring down the "high" and mitigate other unpleasant symptoms.
 - Many CBD products on the market are of inferior quality. Here are general guidelines on what to look for in a CBD product:
 - Choose CBD products from plants organically grown in the USA.
 - Avoid isolate products that contain only CBD without the synergistic compounds in the plant.
 - Ask for independent lab testing results to document that the label claims are accurate.
 - Purchase CBD from a company with knowledgeable people who are willing to answer your questions about products and dosing.
 - I do my best to ensure that my Jannabis Wellness hemp CBD products are of the highest quality. Each product's certificate of analysis is available on JannabisWellness.com so you can confirm that the label claims are accurate.
- I've worked with many physicians who demonize cannabis, say it leads to cannabis hyperemesis syndrome among other things. Is there evidence that some people don't tolerate it? Or is it dependent on dose or additives?
 - It is not uncommon for physicians to demonize cannabis, mostly due to a lack of education. It is true that some people do not tolerate cannabis as well as others and some people do have adverse reactions to cannabis. That is why we start low and go slow. Cannabis hyperemesis

syndrome may occur in a small percentage of long-term heavy cannabis users. This cyclical vomiting is relieved by a hot bath or shower. Abstinence from cannabis is the treatment. Some can go back to using cannabis while others cannot. One way to avoid this is to take tolerance breaks from using cannabis by not using cannabis one day a week or one week every couple of months. This will reset the cannabinoid receptors so that are not oversaturated, requiring the user to use more and more for the same effect.

- Are there any promising studies with gastroparesis?
 - Research recap: there is promising research being conducted that has shown that cannabinoids may play an important role in the management of gastroparesis—related abdominal pain. Studies have also shown that cannabis users with gastroparesis have better hospitalization outcomes, including decreased length of stay and improved in-hospital mortality
 - <https://norml.org/news/2022/09/01/study-cannabis-mitigates-pain-in-patients-with-refractory-gastroparesis-is-associated-with-improvements-in-in-hospital-mortality>
 - <https://norml.org/news/2021/04/01/study-gastroparesis-patients-who-use-cannabis-possess-better-hospitalization-outcomes>
- Are there particular strains or dosages that you recommend for specific conditions? I have a lot of patients with insulin resistance for instance, but I would have no idea what products to recommend.
 - For insulin resistance I'd recommend a full or broad-spectrum CBD product. If using cannabis look for a cultivar containing THCV, such as Durban Poison, Girl Scout Cookies, Doug's Varin, and Pineapple Purps. THCV has been shown to improve insulin resistance.
- When looking at the studies, I notice that most are very small cohorts and/or don't have a control arm. Do you find the same thing?
 - There are many randomized controlled trials looking at the use of cannabis and CBD for a wide variety of conditions. That said, we need many more! Legalizing this plant will help to allow more research studies to take place.
- Why aren't oncologists recommending CBD in states where THC is still illegal?
 - This is a mystery to me! Lack of education is my only guess.
- This seems like a miracle cure and something that is too good to be true. Is it as good as it seems or is more strong research needed?

- Both! Cannabis and CBD can be very effective in helping people with pain, anxiety, insomnia, IBD, IBS, and many other debilitating conditions. However, it is not a miracle cure and does not work for everyone. Absolutely more strong research is needed!
- Can you elaborate on the use of cannabis to help prevent diabetes in prediabetic patients if they are already maximizing their diet and lifestyle changes?
 - Most of the studies are longitudinal looking at populations that use cannabis versus those that do not and they have found that cannabis users have less diabetes. This is not to say that starting to use cannabis will prevent diabetes. More research is needed but based on what I know it seems like CBD and cannabis (choose a cultivar/strain high in THCv) may decrease risk.
 - <https://pubmed.ncbi.nlm.nih.gov/27573936/>
 - <https://pubmed.ncbi.nlm.nih.gov/34981965/>
- Just like other critical, healthy phytonutrients (carotenoids, polyphenols, etc.), do you think that phyto cannabinoids should appreciate a renaissance and the same value/honor for our DAILY health? And that perhaps we've all been lacking this important botanical for almost a century! And if so, for what daily, overall health support? Endocannabinoid system (ECS) support, endocannabinoid tone, etc?
 - Absolutely! The more I learn about how phytocannabinoids interact with the endocannabinoid system which affects all the major systems in our body and how they are anti-inflammatory and neuroprotective the more I think we should all be getting a daily dose.
- Are there interactions with THC/CBD with SSRI anti-depressants?
 - There is a potential interaction with some. Here is a good tool to check for interactions: <https://www.drugs.com/drug-interactions/cannabidiol.html>
- Is it necessary to take a tolerance break with CBD, as well?
 - No, there is no indication that we develop tolerance from CBD.
- Are there guidelines for duration of the breaks from usage?
 - For THC users, it's best to abstain one day a week to reset our receptors. if someone has used cannabis for a long time it may be necessary to stop for a couple of weeks to reset the tolerance.
- Could you share recommendations to decrease inflammatory cytokines that characterize Long Haul Covid?

- CBD has been shown to decrease cytokines in the body. See study below. Cannabis also decreases inflammation and could very well be helpful.
- Weiss L, Zeira M, Reich S, et al. Cannabidiol lowers incidence of diabetes in non-obese diabetic mice. *Autoimmunity*. 2006;39(2):143-151.<https://www.ncbi.nlm.nih.gov/pubmed/16698671>.
- Is there any interaction with thyroid medications, i.e., Armor, Synthroid, NP Thyroid?
 - <https://www.drugs.com/drug-interactions/cannabidiol.html>
- How long is "long term" use, for the people that experience nausea/vomiting?
 - When I did my training I learned that it was an average of 16 years of heavy use that increased risk of cannabinoid hyperemesis syndrome. Everyone is different and it is certainly possible that people could develop this syndrome earlier than that.
- Colorado has legalized recreational marijuana. If I go to a dispensary, how do I know what to buy? My adult kids bought some and were told that different products cause different responses - some are calming, some are the opposite. So how would a person know what to look for?
 - This is the problem! Not every dispensary worker is qualified to advise on these matters. Cannabis in low doses may promote relaxation while in higher doses can cause anxiety and paranoia. I recommend that people start with a very low dose, about 2 mg of THC to start. Then they can increase slowly until they find the amount that gives them the desired effect without causing impairment. The terpene content of the cannabis will also play a role. Linalool and myrcene might be calming and sedating, while limonene and pinene are more energizing.
- Do you have certain high-quality brands/products you recommend?
 - The brands available at each dispensary are very variable for cannabis products so it's hard to recommend a specific brand. For CBD products, of course I would recommend my Jannabis Wellness brand since I did all the research to source organically grown hemp-based products and assure quality by doing third-party testing on my products.
- Can you share about the potential side effect of dry mouth and its cause?
 - THC can cause dry mouth in many users. I have been unable to find the mechanism responsible for this side effect. My advice is to be well hydrated when using cannabis.

- Is CBD also present in products with THC such as edibles? Or do both CBD and THC need to be listed on the product?
 - Typically the labels list the amount of THC and CBD in a product. If CBD is not listed then the product probably contains just THC.
- Where can I get more information about proper dosing for the various uses?
 - I offer dosing guidelines on my website for all my products: <https://www.jannabiswellness.com/dosing-instructions>
 - Healer.com also has great information on dosing.
- I have mentioned it for many people to stimulate appetite, however I do not document this because of possible legal issues, is that the right thing to do?
 - This is a conundrum for healthcare practitioners. I think it's important to document clients' use of cannabis and CBD. However, if you live in a state where it is illegal it poses a challenge.
- An MD I'm with says doctors will not prescribe because it is federally illegal and facilities receiving federal funding feel they cannot utilize it. Your thoughts?
 - This has been the feeling for some time now and poses a significant challenge to getting the word out about the potential benefits of cannabinoid therapy. I have been told that this is a myth and there should not be a problem discussing cannabis therapy, in particular in legal states.
- Can you go over more about what differentiates hemp from cannabis? Do hemp supplements contain terpenes and flavonoids? Is it just the amount of THC that differs?
 - The hemp plant contains a maximum of 0.3% THC. Cannabis can contain up to 30% THC. Hemp supplements vary widely, and hemp seeds and hearts do not contain CBD. For hemp CBD supplements, some contain just CBD and others contain the broad spectrum of cannabinoids, terpenes, and flavonoids found in the plant.
- Is there an impact on cannabinoids when incorporated into "cooked" (heated) food?
 - Cannabinoids in the plant are in the raw or acid form. When heated, or decarboxylated, they become the active forms such as CBD and THC. Once the cannabinoids are activated incorporating them into heated food should not impact the potency.
- How do you talk with patients about the difference between buying marijuana off the street somewhere vs medical cannabis that is being monitored by a

qualified medical professional? It seems like a lot of patients don't know there is a difference. Some patients have also mentioned a cost barrier as cost generally goes up with quality.

- This is a challenge. I certainly do not recommend that people buy cannabis off the street because you just don't know what is in there. Unfortunately, sometimes it's cheaper on the streets. If it is legal, I recommend that people grow a cannabis plant for themselves! I wrote a book to help people grow their own medicine:
https://www.amazon.com/Simple-Guide-Cannabis-Gardening-Seed/dp/B09WHS65Q/ref=sr_1_1
- How do you deal with the fact that cannabis is so expensive to take on a regular basis for management of i.e., pain, anxiety, appetite, etc? It seems cost-prohibitive for most people.
 - Yes, this is an issue. It is less expensive than the cost of pharmaceuticals, but people typically just have a co-pay and don't realize how expensive their meds are. There are ways to get the biggest bang for your buck when using cannabis. For example, people can grow a plant on their own if it's legal in their state. With a medical card many dispensaries give discounts, plus you do not have to pay the sales tax. I often work with people who have limited funds by offering them a discount on my CBD products.
- In all these studies showing reduction in inflammation and improvement in health outcomes, what form and dosage were used? I'm assuming it was different between studies. Where would you recommend patients start?
 - There are hundreds of studies, using a variety of administration methods, some using CBD soft gels, some using tinctures, some using inhaled cannabis. Check out my website where I list hundreds of research articles by medical condition.
<https://www.jannabiswellness.com/resources>
- What is the best ratio for THC/CBD for chemo side effects: nausea, fatigue, pain?
 - For chemo induced side effects THC is typically more effective to deal with nausea. CBD and THC both can be helpful for pain and fatigue. CBD is better for managing anxiety. Working towards a one-to-one ratio of THC to CBD might be best but it depends on the individual.
- Can you address the research showing that THC inhibits the ability to properly go into REM sleep?

- Heavy cannabis use may lead to a decrease in REM sleep:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2442418/>
- Here are a couple of studies looking at CBD and sleep:
- Shannon, S., Lewis, N., Lee, H., & Hughes, S. (2019). Cannabidiol in Anxiety and Sleep: A Large Case Series. *The Permanente Journal*, 23, 18–041. <https://doi.org/10.7812/TPP/18-041>
- Shannon, S., & Opila-Lehman, J. (2016). Effectiveness of Cannabidiol Oil for Pediatric Anxiety and Insomnia as Part of Posttraumatic Stress Disorder: A Case Report. *The Permanente Journal*, 20(4), 16–005. <https://doi.org/10.7812/TPP/16-005>
- Babson K, Sottile J, Morabito D. Cannabis, cannabinoids, and sleep: a review of the literature. *Curr Psychiatry Rep*. 2017;19:23. <https://link.springer.com/article/10.1007/s11920-017-0775-9>. Accessed February 27, 2020.
- So, with your degrees offered at JPU, can a person sit for the RD exam? How does that work with states with licensure?
 - Our MS program at JPU would meet the new requirement that those who sit for the RDN exam must have a MS but we are not an (ACEND) accredited Didactic Program in Dietetics (DPD). We have partnered with several internships to provide interns with a pathway to a master’s degree along with their internship requirement.
- What can we do to move the government to reschedule cannabis from sched 1?
 - Call your elected officials! They need to hear from their constituents that this is important. There are many factors involved, and entities with deep pockets who want to keep this plant federally illegal. We must make our voices heard!
- I work in a cancer center and patients ask me about dosing and ratio of THC:CBD. Any guidance for starting someone out?
 - It really depends on the person and what they are trying to achieve. Relief from nausea? pain? sleep? anxiety? neuropathy? Typically, THC is better for nausea and CBD is better for anxiety. A 1:1 CBD:THC ratio might help some people while others prefer a 10:1 ratio.
- What level of intake of CBD or THC is considered effective right after a stroke?

- Most of the research has been done on CBD as a neuroprotectant after a stroke. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4036658/> “We have previously reported that CBD (3 mg/kg) has a potent and long-lasting neuroprotective effect when administered both pre- and post-ischemia”
- <https://www.projectcbd.org/hub/stroke>
- <https://www.ahajournals.org/doi/10.1161/STROKEAHA.118.023587> “Accumulating preclinical studies suggest that cannabinoids have significant therapeutic value in stroke. A recent systemic review and meta-analysis by England et al⁹ demonstrated that all subclasses of cannabinoids, cannabis-derived, synthetic, specific CB1R, and CB2R agonists, significantly reduced infarct volume in transient and permanent ischemia and improve both early and late functional outcome in experimental stroke when given after stroke onset.”
- Would it show on drug test we take required by employers?
 - A broad-spectrum CBD product contains zero THC while a full spectrum product can contain up to 0.3% THC which could result in a positive drug test.
- Which Master’s Degree would you recommend to an RD who is interested in learning more about functional medicine but not limited to cannabinoids research?
 - The MS in integrative and functional medicine at JPU offers concentrations in lifestyle medicine, nutrition, alzheimer's, dementia, and memory care, sports medicine, and precision medicine and bioinformatics in addition to cannabinoid medical sciences.
- Can you share about the safety of cannabis during pregnancy & nursing?
 - <http://viewer.zmags.com/publication/9400c0b8#/9400c0b8/23>
 - <https://www.crxmag.com/issues/2020/fall/cannabis-use-during-pregnancy.shtml>
 - <https://norml.org/marijuana/fact-sheets/maternal-marijuana-use-and-childhood-outcomes/>
 - <https://theemeraldmagazine.com/medicinal-cannabis-mothers-children/>
 - <https://cannabishealthnews.co.uk/2022/06/24/medical-cannabis-pregnancy-what-you-need-to-know/>
 - <https://www.sciencedirect.com/science/article/pii/S0376871621004932>

- <https://www.the-scientist.com/features/prenatal-exposure-to-cannabis-affects-the-developing-brain-65230>
- Does an online resource exist with THC or CBD dosage recs for various conditions? Also, has an upper intake level/limit been identified for THC or CBD?
 - Because dosing for various conditions is so individual and dependent on the person, the condition, medications, and other factors it is hard to provide blanket advice on dosing. A general guideline is to start low and go slow until you find the relief you are looking for. I do offer dosing guidelines on my website for all my products: <https://www.jannabiswellness.com/dosing-instructions> and Healer.com also has information on dosing.
 - I have not heard of an upper limit. No one has ever died of a cannabis overdose but if you take too much it can be very uncomfortable.
- When you speak of "cannabis" are you referring to the whole plant?
 - Cannabis may refer to the whole plant, but can also be used to describe just the bud or flower part of the plant that is used by many people to smoke or make tinctures or edibles with.
- If we do want to recommend cannabis to our patients, where do we direct them to purchase it?
 - If you live in a legal state I would refer them to a dispensary.
- Would you describe how long it takes for a person to feel relief from topical salves? Does it take a few days?
 - It depends on the person! I have had clients apply a topical salve to their knees and within 10 minutes tell me they are walking with less pain. A topical should be effective within a few days, whereas some other CBD and cannabis products taken internally may take weeks to see the full effect.
- I am an RDN CDCES with a master's degree already-- what would be the best path for me to become certified as a cannabis coach? I personally use medical cannabis for menopause symptoms and would like to specialize in that population.
 - The Institute of Cannabinoid Medicine offers a Diplomate in Medical Cannabinoid Science certification. You can check it out here. <https://tiocm.org/>
- Would you recommend CBD for someone who is on dialysis and with IBS?

- There is a significant amount of research showing that CBD may be helpful for IBS symptoms. I am not aware of any contraindications with dialysis.
 - Ho C, Martinusen D, Lo C. A Review of Cannabis in Chronic Kidney Disease Symptom Management. *Can J Kidney Health Dis.* 2019;6:2054358119828391. Published 2019 Feb 22.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6388458/>
 - M. Yeshurun et al. Cannabidiol for the Prevention of Graft-Versus-Host-Disease After Allogeneic Hematopoietic Cell Transplantation: Results of a Phase II Study. *Biology of Blood and Marrow Transplantation* 2015;21(10):1770-75.
 - Park F, et all. Cannabinoids and the kidney: effects in health and disease. *Am J Physiol Renal Physiol.* 2017;313(5):F1124-1132.
 - <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5792153/>
- What method and dosage of CBD or THC would you recommend for someone with asthma?
 - Low dose (start with 2.5mg) THC in a tincture, vaporizer, or edible would be a good place to start. The terpenes limonene (OG Kush, Sour Deisel, Super Lemon Haze, Bubba Kush cultivars) and pinene (Jack Herer, Dutch Treat, Blue Dream, and OG Kush) have broncho-dilatory effects.
 - Worth, H., & Dethlefsen, U. (2012). Patients with Asthma Benefit from Concomitant Therapy with Cineole: A Placebo-Controlled, Double-Blind Trial. *Journal of Asthma*, 49(8), 849–853.
<https://doi.org/10.3109/02770903.2012.717657>
 - I worked in a substance abuse rehab facility for a while. While I interviewed the clients about their history, I asked if they started with marijuana, and they all said yes. Asked if they thought it was a gateway drug to other drugs, they all said YES. Can you comment?
 - I'm sure there are some who feel this way. It is possible that they used cannabis heavily without taking tolerance breaks and therefore it became less effective, and they felt the need to move to stronger drugs.
 - I've heard an MD talk about research that shows that smoking THC is just as harmful to your vascular system as smoking nicotine, so he was recommending edibles. What are your thoughts?
 - It is known that persistent cigarette smoking is associated with reduced airflow. A recent study from the *Journal of Respiratory Medicine* looked

at the long-term effects of cigarette vs cannabis smoking. Researchers found that cannabis use does not appear to be related to lung function, even after years of use. PMID: 36682602 Edibles are certainly a great administration method for those who are concerned with smoking cannabis.

- <https://norml.org/news/2023/01/26/study-cannabis-smoke-exposure-not-associated-with-impaired-lung-function/>
- <https://www.atsjournals.org/doi/pdf/10.1513/annalsats.201212-127fr>
- Tashkin DP. Effects of marijuana smoking on the lung. *Ann Am Thorac Soc.* 2013;10(3):239-247. doi:10.1513/AnnalsATS.201212-127FR
- <https://lunginstitute.com/blog/can-cbd-cure-my-lung-disease/>
- <https://jpet.aspetjournals.org/content/353/1/169>
- What is the cheapest form of using cannabis that is effective?
 - Growing and harvesting your own plant is the cheapest way to use cannabis. Here is a simple guide I wrote to help teach people how to do this: https://www.amazon.com/Simple-Guide-Cannabis-Gardening-Seed/dp/B09WHS65Q/ref=sr_1_1
- For someone wanting to experiment with CBD tincture/drops to help with improving sleep what starting dose would you recommend?
 - A certain percentage of people find that a low dose of CBD is actually energizing while a higher dose is sedating. That said, I have clients that use just four drops, or about 4 mg, of water soluble CBD and they swear it helps them sleep. Everyone is different so it will take some trial and error. I have a peppermint tincture that contains some added myrcene, a terpene that can be sedating, that many people like for sleep. A 2.5mg dose of THC can also help with sleep.
- How about tongue cancer, is there a better choice - vape pen vs gummy or other?
 - I would probably recommend a tincture or edible. A water soluble tincture that is dissolved in a liquid might be a good option.
- How do you determine if there are heavy metal or pesticides/solvents in the CBD product?
 - Ask for a certificate of analysis on any product you are considering. This should be done by an independent lab.
- Is cannabis native to a particular country/continent? How long has it been around?
 - Cannabis has been around for thousands of years, starting in Asia.

- Best form of CBD for 5yo high energy ASD child? Where to start?
 - I have young clients who use my water-soluble tincture because it is easy to dose and you can start with just a drop or two in any liquid. A gummy is another option but you would need to keep them secure in case they love the taste and decide to eat too many.
- Is THC safe for hormone positive cancers?
 - THC can help with chemo-induced nausea and vomiting and may possess anti-tumor properties
 - <https://www.medicalnewstoday.com/articles/marijuana-breast-cancer#how-it-works>
- Is CBD or THC better for IBS with diarrhea and constipation?
 - Both cannabinoids may be helpful. Here are a few resources/studies:
 - <https://www.projectcbd.org/medicine/cannabis-gastrointestinal-disorders>
 - Desai P, Mbach C, Vohra I, et al. Association Between Cannabis Use and Healthcare Utilization in Patients With Irritable Bowel Syndrome: A Retrospective Cohort Study. *Cureus*. 2020;12(5):e8008. Published 2020 May 7. doi:10.7759/cureus.8008
 - Choi, Catherine MD*; Abougergi, Marwan MD†,‡; Peluso, Heather DO§; Weiss, Stanley H. MD*; Nasir, Umair DO*; Pysopoulos, Nikolaos MD*,|| Cannabis Use is Associated With Reduced 30-Day All-cause Readmission Among Hospitalized Patients With Irritable Bowel Syndrome, *Journal of Clinical Gastroenterology*: January 20, 2021 - Volume - Issue - doi: 10.1097/MCG.0000000000001498
- What are the differences between Indica and Sativa cannabis?
 - Some say that sativa cultivars are more energizing and indica cultivars are more sedating. However, these terms are a bit outdated. It's best to look at the cannabinoid and terpene profiles to predict the effect of a particular cultivar/strain.
- What about in states where medical THC is still illegal, how do you trust a CBD shop?
 - Ask for a third party certificate of analysis and make sure the CBD product is either broad spectrum or full spectrum and not an isolate, which would likely not be as effective.
- Does CBD need to be taken with fat to be absorbed?

- Both CBD and THC from edibles are better absorbed with a fat source. I recommend that people eat a small handful of nuts to increase the absorption.
- Can you share any names of prescription medicinal CBD's which physicians may prescribe/recommend?
 - The only prescription CBD is Epidiolex, and this is prescribed for seizure disorders.
- What about using it for social anxiety/depression/ADHD- is THC okay as needed?
 - Many people find relief from anxiety/depression/ADHD using CBD or a small amount of THC. Too much THC can actually induce anxiety in some people so it's best to be careful with the dosage, starting with just two milligrams. THC can be very useful when used properly.
- What are your thoughts on people using THC while trying to lose weight? Is it contraindicated?
 - Some people do get the munchies when they use cannabis and THC. If this is a concern it's best to find a cultivar that contains THCV such as Girl Scout cookies, Doug's varin, pineapple purps, and Jack the Ripper, since THCV can actually suppress appetite.
- What are your thoughts on HHC?
 - HHC (hexahydrocannabinol) is a hemp-derived cannabinoid that is made using a chemical process to hydrogenate CBD. HHC is less psychoactive than THC but there is little research on the immediate or long-term effects of HHC ingestion. Like Delta-8 THC I don't think there is enough research to recommend this cannabinoid.
- Is it best to start with gummies or tincture? And what should the starting dose be?
 - This depends on the individual person and condition they are trying to treat. Often, it's just a personal preference. A tincture is faster acting than a gummy but the gummy may provide longer lasting relief.
- Is it true that edibles create more psychotropic effects?
 - Yes, this is true! Ingested Delta-9 THC is converted to 11-hydroxy THC which crosses the blood brain barrier and is therefore more intoxicating. Most of the time when I hear that someone has had a bad experience using cannabis it is because they consumed too much of an edible.

- I've been told Marinol is ineffective for the elderly population, so we haven't been using this as an appetite stimulant. Is it typically effective for those with Dementia/Alzheimer's?
 - I much prefer a whole plant cannabis product since they are typically more effective and come with less side effects. However, there have been some studies showing that pharmaceutical THC may be effective.
 - Patel S, Shua-Hain JR, Pass M. Safety and efficacy of dronabinol in the treatment of agitation in patients with Alzheimer's disease. *Inter Psychogeriatric Assoc Eleventh International Congress*, 2003. https://www.cannabis-med.org/studies/ww_en_db_study_show.php?s_id=61&&search_pattern=anorexia
 - Shelef A, et al. (2016) Safety and Efficacy of Medical Cannabis Oil for Behavioral and Psychological Symptoms of Dementia: An-Open Label, Add-On, Pilot Study. *J Alzheimers Dis* 51(1), 15-9. doi: 10.3233/JAD-150915
 - Ahmed AIA, Geke A. H. Van Den Elsen, Colbers A, et al. Safety, pharmacodynamics, and pharmacokinetics of multiple oral doses of delta-9-tetrahydrocannabinol in older persons with dementia. *Psychopharmacology*. 2015;232(14):2587-2595. doi:10.1007/s00213-015-3889-y
 - Iuvone T, et al. Neuroprotective effect of cannabidiol, a non-psychoactive component from cannabis sativa, on beta-amyloid-induced toxicity in PC12 cells. *J Neurochem* 2004;89(1): 134-141.
- What ratio do you recommend for healthy active adults. For preventative measures?
 - In general, a full spectrum CBD product is something any adult could take for general health and wellness.
- Is there a way to find local cannabis practitioners?
 - Best way might be to do an online search or ask friends and healthcare professionals for a referral.
- For a state where only CBD is permitted, what would you suggest for sleep? And does CBD stimulate the appetite as much as something with THC?
 - Many people find that CBD helps relax them and decreases pain so they can get a good night's sleep. Dosing is variable with some people finding relief with 5mg and others needing 25mg or more. CBD does not stimulate the appetite the same as THC but for some the decrease in

- pain and anxiety and increase in serotonin may motivate them to eat more.
- Who does the Independent Lab Testing? Are there specific companies you recommend?
 - Each state has their own labs for testing cannabis and CBD products so it's best to do an online search for a lab in your state.
 - How are the employees in dispensaries trained?
 - There is a huge variation in the training and education of dispensary workers. Some simply have "experience" using cannabis. It would be great if there was a minimum requirement to work in a dispensary. We need more health care professionals to get educated in cannabinoid therapy so we can guide our patients in the best way to use this plant medicine.