



Top Takeaways: #316 Are CBD Oil Purported Benefits Really Supported By The Research with Dr. Mary Clifton

1. CBD is a distillation from the hemp or cannabis plant with varying concentrations of cannabinoids the most common being THC and CBD.
2. CBD is the workhorse of the plant and can help with muscle spasms, seizures, chronic pain, anxiety, and insomnia to just name a few.
3. Humans already have an endocannabinoid system that lays over every cell of your body with high concentrations of CB1 receptors throughout your central nervous system and immune system, and CB2 receptors in most other locations in the body.
4. Your body has a naturally occurring endocannabinoid system that it dials up and down to manage stress or inflammation either generally or locally.
5. During a test on Canadians who had insomnia from severe PTSD, half were given a cannabinoid formulation that allowed them to sleep seven hours on average and reduced their nightmare frequency.
6. CBD can be used to alleviate medication withdrawal, and reduce the anxiety during the process, even with opioids addiction.
7. CBD helps one nerve communicate with another nerve in a slightly different way, so if there's an area where there's a lot of serotonin or dopamine depletion or depletion of GABA, and the nerves are not sending healthy signals to each other, the stimulation of the CB1 receptors allows for a higher level of those feel good neurotransmitters to stay in the neurotransmitter junction for longer, so that nerve-to-nerve communication is smarter and better.
8. CB2 receptors are found in our immune system on our T cells, which maintain healthy immune systems, and B cells, which create all of the immune cells that respond to infection.
9. CBD can reduce the cytotoxins and cytokines, which cause aches and pains from cold and flu.
10. Because CBD reduces anxiety, it can allow the body to sleep better and promote a more healthy circadian rhythm, in some cases eliminating the need for anxiety and sleep medication.
11. Dr. Clifton recommends using CBD products that use 3rd party testing, are organic, tested for pesticides, and distilled correctly without harmful additives.
12. Dr. Clifton is the host of the CBD Health Revolution featuring over 40 speakers on the

topic of CBD and its many uses and benefits happening FREE January 13-19th, 2020. [Click Here](#) to learn more and sign up!

13. One of Mary's top choices for CBD products is Lock and Key Remedies. To check them out, [click here!](#)

Wendy Myers: Hello. My name is Wendy Myers. Welcome to the Myers Detox Podcast. You can check my website out at myersdetox.com, and on that site, in this podcast, we talk about everything related to heavy metal and chemical detoxification, how to detox, the best detox supplements and protocols, but today on the show, we'll be talking about CBD, all of its many benefits, how to take it correctly, what to look for when buying a product, should you vape, should you not, all the different health conditions that are helped with CBD, and should you buy organic, what should you look for in a product, just lots of really amazing tips and information from Dr. Mary Clifton coming on the show. She's got a series coming up called the cbdexpertseries.com where she interviews over 40 experts about CBD, so start with this podcast. It's a great primer on CBD and all of its many benefits, and then you can graduate onto the CBD Expert Series to really do a deep dive with all the different experts.

Wendy Myers: I hope you guys had an amazing time at ringing in the New Year. It's so exciting to have, not only just a New Year but a whole new decade, a whole new opportunity to reinvent your life. I had a lot of time to think about this in my New Year's resolutions over my vacation. I went to Sayulita, Mexico, which is just north of Puerto Vallarta and on the Pacific side of Mexico and just had such a relaxing time and doing a digital detox and not working at all, which is hard for me to do, and walking on the beach and swimming in the ocean and getting some sun. I love chasing the sun over the Christmas holiday, and just had such a wonderful time with my fiancé and his 21-year-old son. Winter spent some valuable time with her father and spending time with him.

Wendy Myers: So, I just wanted to say that I hope you guys really focused on writing down New Year's resolutions, writing out your goal, what you want for yourself, what you envision for yourself, what is your life purpose, who is it that you want to be, how do you want to show up in the world, and write down those goals, and look at them every morning, and make that happen. Manifest your dreams. That's a big thing for me that I started working on very early in my life, was writing down goals, my three-month, one-year, five-year, and 10-year goals. It's just amazing how they come true when you really focused on those and have something to work towards, something to look forwards to. So, I wrote down my 2020 vision for the year on a blogpost on myersdetox.com. Just type in 2020 New Year's resolutions on myersdetox.com, and you can see those, see what I'm doing right now and what my New Year's resolutions are.

Wendy Myers: I know some of you guys listening to the show are looking to detox heavy metals and are not sure where to start, so I created a quiz. Go to heavymetalsquiz.com. You can take a two-minute quiz, and then after that, get a free video series on how to detox, what testing to do, where do you start with detoxification. I give you lots of simple tips and tricks so that you can detox correctly. A lot of people make mistakes, so go to heavymetalsquiz.com.

Wendy Myers: On the show today, we have Dr. Mary Clifton. She is a board certified MD practicing in Manhattan in New York. She's a recognized expert in CBD and cannabis and the highly respected professional certification course, the Cannabinoid Protocol. She's worked with several pharmaceutical CBD and cannabis corporations on product development and has provided medical and scientific directorship in the U.S., Europe, Asia, and Africa. She speaks at major cannabinoid events around the world. Dr. Clifton is the bestselling author of The Grass is Greener: Medical Marijuana, THC, and CBD Oil: Reversing Chronic Pain, Inflammation and Disease, and the author of Get Waisted, as well as five companion cook books. Dr. Clifton is the host of the upcoming CBD Health Revolution, featuring over 40 speakers on the topic of CBD and its many uses and benefits, happening free, January 13th to the 19th, 2020, so you can learn more and sign up at cbdexpertseries.com. Mary, thank you so much for coming on the show.

Mary Clifton: Oh, thank you for having me, Wendy.

Wendy Myers: Why don't you tell a little bit to us about what you do and how you got into the health industry?

Mary Clifton: Oh, sure. I've been an internist for almost 25 years now in Michigan, and now, in Manhattan, doing hospital-based medicine and office-based medicine in a general practice and just having a lot of fun for years. I got involved in cannabis and CBD after I had some very special personal experiences with some important people in my life.

Wendy Myers: Yeah. Can you tell us a little bit about that?

Mary Clifton: Well, I'd been working with patients for years that were dealing with chronic pain or with malnutrition that had gotten excellent results with using cannabinoid products, cannabinoid formulations over the years and had asked me for cards. I was happy to do that, but I wasn't really thinking about a broader idea around those products until I went through the death of my brother from colon cancer. That death was unusual for me because I'm an internist. I mean, I see people dying all the time. I take care of old people, so it's not unusual for me to have somebody in hospice or several somebodies in hospice at once, but I've always managed my hospice from a distance with a nurse or family member at the bedside.

Mary Clifton: This was probably the first experience of my life that I personally was at the bedside managing the symptoms of the patient. Unfortunately, in the case of my brother having a really difficult time, I had a lot of uncontrolled symptoms. I felt like I never really got a good handle on things before he passed away in terms of his hunger for air, some of his pain symptoms. I felt bad about the process, but I really did everything I could medically with everything that I had in the Western medicine model.

Mary Clifton: Then, about four months later, one of my girlfriends had recurrent ovarian cancer, and I ended up at that bedside experience too, but this time, she focused on just using cannabinoid formulations to control her symptoms, and we had such a smoother process. So, I went back, like I always do, to research, and see if I could prove to myself that this was just a coincidence, and then the more I research, the more I realized it wasn't a coincidence at all that there really is a lot of data around using CBD and cannabinoids in these settings. So, I decided to start learning more and creating videos that would help people be able to educate themselves, both healthcare providers and ordinary people, and I am still doing that, haven't gone back to regular medicine yet.

Wendy Myers: Yeah. Your story resonates with me so much because I personally use CBD, and I recommended it to my brother, and his brother's wife recently passed away from lung cancer, had a very aggressive form of lung cancer. She passed away two months of diagnosis. She was vaping, thinking it was healthier than cigarettes, and I instructed him to use high-dose THC and CBD to manage her symptoms, and I think it really helped tremendously, giving her more comfort and managing symptoms, and so that's why I wanted to do the show with you and talk about the many, many, many benefits of CBD that's backed up in the research, but let's just start out with the basics here. For anyone that's maybe never heard of CBD or isn't sure about what it does exactly, what exactly is CBD?

Mary Clifton: Well, CBD is just a distillation from the hemp plant. The hemp plant or cannabis plant grows with varying concentrations of cannabinoids. The most commonly known cannabinoids are THC and CBD. We all know THC because it's the cannabinoid that gets you high, but the CBD, we all know now as the cannabinoid that is sort of the workhorse of the plant that does the work in muscle spasms and has been studied in seizure and also studied in chronic pain, anxiety, and insomnia. So, there's a lot of different potential applications for CBD where it could be helpful in so many cases.

Mary Clifton: What growers do is grow a plant that is concentrating CBD in the plant, and then distill that off. You can either distill it off and then run it through a distillation typically with an alcohol so that you can have a pure CBD isolate, or you can distill off a CBD, what's referred to as broad spectrum or full spectrum that's sort of ... It's more of an essential oil of the plant. It contains all of the things that are in that hemp plant, in addition to the CBD, so some other phytonutrients that may contain a touch of THC. It

may also contain some other cannabinoids like CBG or CBN or CBC. So, there's a couple of different products available on the market for CBD.

Wendy Myers: Okay. Fantastic. We'll get into some of those details in a second about how to choose and all the kind of details about CBD and products and things like that, but let's talk about some of the benefits of CBD. So, I've used CBD successfully for getting sleep when I had a very stressful period of my life. It helped me tremendously with stress management, with anxiety, with just feeling more calm. What are some of the other top benefits of CBD?

Mary Clifton: Well, the amazing thing about CBD is that you already have this endocannabinoid system that lays over every cell of your body. It's already present in high concentration, CB1 receptors throughout your central nervous system, and it's present throughout, especially your immune system, but also everywhere else in your body in the CB2 receptors. Your body has this naturally occurring endocannabinoid system that it dials up and down to manage stress or inflammation either generally or locally.

Mary Clifton: So, if you, for example, take a biopsy of an inflamed colon, then you'll find higher concentration of CB receptors in the lining of that inflamed colon and also in the smooth muscle cell that is lining that part of the colon, or if you draw up some fluid from a rheumatoid knee, some inflammatory fluid from a swollen knee, you will find a higher concentration of the naturally occurring endocannabinoids, that 5Ag and anandamide. Excuse me, 2Ag and anandamide. I don't know why I sometimes slip and say 5Ag, but 2Ag and anandamide. Those are the naturally occurring endocannabinoids. So, your body's already using this system to dial inflammation or stress or add some peace and quiet to an inflamed system, already manage the endocannabinoid system.

Mary Clifton: The exciting thing about this system is that we're just now learning about it because of the prohibition. So, we know systems that work like this already. We know about the thyroid system and the adrenal cortical axis where changing your cortisol levels affects your entire body in all kinds of minute ways. We're finding that the endocannabinoid system is operating in the same way as these other systems, just overlaying everything and helping to provide some stability and restore homeostasis.

Wendy Myers: Yeah. So, we already have the system in place. We might as well take advantage of it, and execute it, light it up, put some CBD.

Mary Clifton: Light it up. I think the whole system is so awesome that it's there, and it's ready to be stimulated. It just shows evidence that we are not here to suffer and to be in misery for our life, that everything is in place for us to be balanced and restored and calm, and that there's no reason not to honor the fact that that system is there.

- Wendy Myers:** Yes, and so, what are some of the benefits? What are some of the symptoms that people can find relief with in using CBD in?
- Mary Clifton:** Well, there's some really valuable research, like you've said, around sleep. One of my favorite studies is around a group of a Canadian population that dealt with severe PTSD. They gave the patients a cannabinoid formulation and were able to ... These people were so sick with insomnia and PTSD, intrusive nightmares. They were sleeping five hours a night on average which, as you know, is just not sustainable. They were having nightmares five times a week on average. So, this population, with treatment, went to seven hours on average a night of sleep, which is just a day and night difference. On top of that, they reduced their nightmare frequency all the way down from five a week to one a week. So, they had this wonderful restoring of sleep, and the group of researchers that worked with these patients said that the results were so dramatic that they were able to start withdrawing other medications, really powerful medications that they were using to manage the PTSD because the patients finally were getting some uninterrupted sleep.
- Wendy Myers:** Yeah, that's another amazing benefit, is actually medication withdrawal like even coming off of painkillers or antidepressants or other things. The people that have a lot of anxiety in that process, and using CBD or even THC can really help with that, correct?
- Mary Clifton:** Oh, it's very exciting in those processes of anxiety or pain and in study after study, we see really impressive reductions in the use of opioids and other pain medications when people add a cannabinoid formulation. There's one Israeli trial that I love to write about and think about where, I think it was 156 patients they followed. None of these trials are huge. That's the problem with the research around cannabinoids, is that nobody has \$10 million in 15 years, but people are putting together some really elegant small studies that I think have quite a bit of value, and when you look at the weight of a number of small studies that show the same outcome, that's very exciting.
- Mary Clifton:** So, there's research on people with chronic uncontrolled pain in Israel who were able, half of them, to stop their opioids. Many of them were on maximum dosages and still not getting relief with their symptoms. There's a nice study out in University of Michigan on fibromyalgia patients that showed something similar, very good pain control. There's a lot of ongoing pain research being done at the University of Michigan surrounding cannabinoids. They have a very dedicated team there working on that.
- Wendy Myers:** Yeah. Can you talk about some of the physiological mechanisms of CBD, like how it works by impacting levels of neurotransmitters and the way nerves communicate pain?
- Mary Clifton:** Exactly. That's exactly what it does. It helps one nerve communicate with another nerve in a slightly different way, so if there's an area where

there's a lot of serotonin or dopamine depletion or depletion of GABA and the nerves are not sending healthy signals to each other, the stimulation of the CB1 receptors allows for a higher level of those feel good neurotransmitters to stay in the neurotransmitter junction for longer so that nerve-to-nerve communication is smarter and better. That works especially in settings of chronic pain or chronic inflammation when people are dealing with symptoms that are lasting three months or longer. You start to see these subtle shifts in the way that pain or stress is transmitted across the whole system.

Mary Clifton: Wendy, you're an expert on all of this. You don't need me to talk to your community about all of the ways that long term stress negatively impacts the body's physiology, but particularly with pain, there's an amping up that can happen as chronic pain is being transmitted up the spinal cord. Then, when the pain gets into the central nervous system when it's in the brain and on the cortex of the brain, it'll expand itself across a larger area of the cortex, so that if you, for example, just burn your finger, you may feel strange or a little funny all the way up to your elbow because your brain is expanding that area of injury a little bit.

Mary Clifton: So, imagine if your finger was sore for years, you'd have these weird reactive, reflexic expansion of pain just from that cortical process. Then, when the pain comes down the spinal cord, you have further opportunity to amp up the pain, so in all of those places, patients can potentially see very nice reductions.

Wendy Myers: Yeah. CBD also helps with the inflammation as well. We know that inflammation equals pain. Can you talk a little bit about inflammation and CBD reducing that?

Mary Clifton: Oh, absolutely. The CB2 receptors are located throughout the immune system, and they're found on the T cells that have been popularized through HIV or AIDS but T cells are really important to all of us for maintaining really healthy immune system. They're found on the B cells, which are the cells that create all of the immune cells that respond to infection. What I think is most interesting, like you've seen cannabinoid formulation when you're sick, is how they change your cytotoxins and your cytokines.

Mary Clifton: You know when you get sick, for example with the flu, and you get sick with a bad flu and you have a cough and a fever, but then you also have aching in your back, nausea, loss of appetite, none of that makes any sense. Why is any of that even happening? You don't really go to bed because of an infection with a virus in your upper respiratory tract. You'd go to bed because your bones ache, and you're just too nauseous to go to work. All of that is the result of the cytokines, which is just this sort of hyperimmune response that your body makes when it's exposed to infection or inflammation. Early rat trials are showing reductions in certain cytokines by up to 80% when the rats are taking CBD before they're exposed to flu.

Wendy Myers: Wow.

Mary Clifton: So, there's, I think, potential especially within cold and flu season to get yourself on a great CBD product and potentially reduce the intensity and severity of an illness for yourself because you're going to get sick in the winter. I mean, virtually everybody does.

Wendy Myers: Yeah. So, let's talk a little bit about chronic fatigue syndrome. I mean, I know there aren't any new studies on cannabinoids and chronic fatigue syndrome yet, but can you talk about CBD and anxiety and how that could impact our circadian rhythms?

Mary Clifton: Oh, sure. I mean, I think a lot of sleep and circadian rhythms and being able to be ready to fall asleep has to do with being able to settle your brain down, and a lot of people ramp up with anxiety. That can cause an initial insomnia where you can't fall asleep. The anxiety can pop up in the middle of the night, and we, just the middle of the night, re-awakening, a secondary insomnia, and if the anxiety is severe, it can actually lead to a tertiary insomnia where people wake up a few hours ahead of their alarm and can't fall back asleep. So, anxiety is a real problem for managing a healthy circadian rhythm.

Mary Clifton: There's some really exceptionally good studies looking at anxiety and how it can be reduced with CBD. My favorite one is where these researchers took this poor young men who were college-aged who had generalized anxiety disorder already, diagnosed with generalized anxiety disorder to where they were having trouble getting to class, much less having a full college experience or having trouble leaving their apartment. It's a very small study, but they had half of the men just show up and get a IV, followed by an MRI, which is, both of those things, so anxiety provoking. They watched how the brain lit up on the MRI and where the anxiety from the MRI was concentrating activity within the brain.

Mary Clifton: Then, they took the other half of the young men and gave them a high dose of CBD before they started the IV and the MRI. At every point in time when they examined the kids who had CBD, they had a lower level of anxiety compared to people who didn't. Then, they crossed over the study where they took the kids who hadn't gotten treated and treated them and took the kids who were treated and did it without CBD. The really neat thing is they finished it with an MRI, so we could see exactly how their brains were lighting up, and we could, in fact, see that there's a difference in the way people respond to anxiety-provoking experiences when they're pre-treated with CBD.

Wendy Myers: Yeah. I think that's great because a lot of us have stress in our lives. Sometimes, we have stress that, or we all have stress that we don't realize is acting upon us like EMFs, electromagnetic frequencies and nutritional stress. There's just a lot going on in our environment. By using CBD, I think it's just an amazing way to control anxiety when we can't control the stress in our lives or when we're transitioning from a stressful

period and trying to get to a less stressful state in our lives. I think it's just an amazing way. It's helped me so, so much when I've had stressful periods. I'm very lucky, I live in California, so I've got a marijuana pharmacy shop on every corner, and they're just everywhere. I use a product called Chill that's amazing. It's a chocolate that has THC in it just to help you fall asleep and then CBD to help you stay asleep and prevent night waking. It's just helped me tremendously.

Mary Clifton: A lot of people that are using these products for nighttime are using a small amount of THC in the product and sometimes, a large amount. People are really finding that some of the ... especially the indica strains where when you're thinking about different strains of cannabis, you can lean more toward sativa, which is stimulating, or an indica hybrid, which is more sedating. The indica hybrids will be very nice before sleep, generally speaking. It's not a 100% deal, but generally speaking, using an indica hybrid with a bit of THC does a really nice job of helping most of my patients get to sleep and stay to sleep, which is so lucky because the medications we were using all these years, the benzodiazepines and Ambien and Restoril and Elavil, the sedating antidepressants, they all have so many side effects. They impact-

Wendy Myers: Yeah. They're terrible.

Mary Clifton: They do. They impact the person's driving. They put older people at increased risk for falls. There's a lot of side effects with them, and they don't work right. So, it's nice to have another option that is really effective. Having a good night sleep is a critical part to getting yourself healed and well in whatever you're working on.

Wendy Myers: Yeah. I had a girlfriend that was taking Ambien, and she started sleep eating. She gained like 15 pounds because she was waking up and then like eating and had no idea that she'd see the evidence in her kitchen like wrappers everywhere. She can't control it because that's just what she was doing when she-

Mary Clifton: There is. There's this weird amnesia experiences on those meds where you're like, "What?" I admitted a patient to the hospital who got in a terrible car accident. It was lucky that it was just man versus lamp post rather than car to car. He came in, just goofy as could be, and then all of the symptoms resolved after his medication wore off, but he had taken a hypnotic prescription before bed and gotten him ... and then, for whatever reason, decided he was supposed to get in his car and go somewhere. Then, there we have this big mess, so ...

Wendy Myers: Oh, gosh. That's terrible. Yeah. I have been addicted to Xanax before where I didn't know I was addicted. I just was having some sleep problems, and I asked my doctor, "Is there something for this?" They gave me Xanax. I was taking like 0.25 milligrams. I mean, just a tiny amount-

Mary Clifton: Just a little one, yeah.

Wendy Myers: ... and just had a horrible time getting off of it. I mean, it was agonizing getting off. It was horrible.

Mary Clifton: The benzodiazepines are really hard to stop. They're really hard to stop. I mean, they have like an immediate withdrawal problem when you stop them like right away, the first night, but then even if you get through the immediate problem, it is not unusual for people to have another withdrawal like six or eight weeks later and be right back into it. So, those are very addictive and powerful medications. They're a controlled substance, and then you've got to be worried that somebody is going to ... a friend or somebody could come over and take them out of your bathroom. It's just kind of a crazy thing that we've gotten ourselves into.

Mary Clifton: 25 years ago, when I was sitting in medical school, our dean came and did a lecture for us. I mean, the dean of our medical school, not just a professor. She told us that we have these opioid medications right now. We have powerful medications that we can use to manage people's pain and sleep, and if you don't do it, you're committing medical malpractice.

Wendy Myers: Wow.

Mary Clifton: It's not right to make people suffer. So, you'd give the pain medication in escalating doses. You give people a pain medication for breakthrough symptoms so that if the pain is worse on a particular day, they can have more. I mean, we just got a very, very clear encouragement to use these drugs whenever it was appropriate. So, we have very much contributed to a big mess we've created.

Wendy Myers: Yeah, but the fact is that people want these medications. They want to sleep. They don't want to be in pain. I went to my doctor specifically. "Doctor, give me something to help me sleep. I can't sleep." So, it works both ways as well. So, CBD is just, I mean in my opinion, a wonder drug. I mean, you don't have withdrawals symptoms from it. There's tons and tons of studies and benefits, but if someone doesn't understand dosing it, it can prove ineffective. Can we talk a little bit about dosage and like, you mentioned an isolated CBD and then like a full spectrum? Can you talk a little bit more about that?

Mary Clifton: Oh, yeah. We should talk about the different types of CBD, and we should talk about the modes of administration and then how to titrate them up. So, the first thing to think about is exactly what kind of CBD product do you want because if you're in a situation where you can't have any THC or if there's any questions surrounding your drug testing and the safety of using CBD, you, of course, want to have a conversation with your employer or your HR department about adding some CBD for sleep. It doesn't pick up on a drug test, but there is a potential that if you use enough broad spectrum CBD and you get tested within 12 or 14 hours of the last dose, that you could possibly fail that test.

Mary Clifton: So, a CBD can either just be pure CBD, which is nothing else in the product you're buying, and that's referred to as a CBD isolate. So, the CBD has been distilled off the plant, usually, the leaves and buds. Then, that CBD has been further distilled, so it's just a pure CBD molecule. Then, you can go up to either a broad spectrum or a full spectrum, which includes all of the other or some of the other chemicals in the plant, a little bit more of a complicated mixture because a lot of people feel like a whole plant or a whole food is better than a component. I personally believe that an apple or an orange is a lot better than a vitamin C tablet, so I feel the same way about CBD, that the CBD is good, but it's also in the plant concentrated around a whole bunch of other things that may be helping it to be even better.

Mary Clifton: So, a lot of people like that entourage effect, this effect of having a lot of different chemicals potentially working together. That's what you get with a more broad spectrum or full spectrum CBD. However, you do get a risk that you may have some THC 0.3%, which is three parts per 1,000. A very small amount THC could be in there. Like I said, at high dose, if you're tested shortly after, you could trip a test on it. So, it's important to not just recognize any risk that you may be under with using that.

Mary Clifton: So, you can use either of those products, and then after you thought about what kind of CBD you want, you want to think about how quickly you want it to hit your system. Most people want a fairly rapid onset of action because you don't want to be anxious or have some pain you're trying to treat or want to go to bed and then take your product, and it kicks in an hour later. At that point, you don't even really know if it worked, but if you can take a CBD product and get an onset of action in eight or nine minutes, that's going to give you quite a bit more data on how it's working for you. So, I usually recommend that when people are starving, they start with a tincture. If you drop the oil in your mouth, hold it under your tongue or on your cheek, you can get very rapid absorption, and you can get data on if it's working very quickly. You should get absorption and some results happening in as little as eight or nine minutes.

Wendy Myers: Yeah. What about dosage as far as milligrams? I was in Europe over the summer and went to a pharmacy, and they had CBD ranging from like five milligrams all the way up to, I think it was almost 5,000. No, I'm sorry. I think it was five-

Mary Clifton: 500, probably?

Wendy Myers: It was 500 milligrams. Yeah, and it was like 120 euros for a vial that it was really expensive, but it was very, very concentrated.

Mary Clifton: Very concentrated. I like those products. I work with some companies that do those because when you get up into the quantities for, specifically for bipolar disorder or for seizure disorder, we're oftentimes going up pretty significantly. I mean, the research would support, in a lot of cases, between 300 and 500 milligrams a day in those settings. It's not unusual

for anxiety to be looking at about 300 milligrams a day, although I also have patients managing their anxiety on a lot less, on a third of that.

Mary Clifton: So, I just recommend that you get a product that's at least 1,000 milligrams per container, and then try starting with half a dropper full. Choose a good product that you want to stick with, and try starting with a low serving size. We can't call it a dose because the FDA will be irritated if we call it a dose. So, you start with a low serving size like a half a dropper full, and then just inch it up from there. If that doesn't give you the result you're looking for, you can go to a whole dropper full. Just start with what you're comfortable with, and go up slowly.

Mary Clifton: I'm designing a app, a titration tool app that I'll be able to share with your audience soon. It's actually going to be amazing for CBD and cannabinoid formulations, but it'll be great for any product you're thinking about using, see if you get a result. It'll help you keep track of any of your supplements that you're using to see if they're working. Anything at all.

Wendy Myers: Oh, that's fantastic, yeah, because I mean it's a little bit like the wild West out there with a lot of the marijuana, medical marijuana and CBD, THC products. So, we have to be very, very discerning when it comes to choosing the product and the dosage and what it says on the label. So, what is the difference ... because I've seen a lot of hemp oil products out there, and I'm like, what is that, because it's not saying CBD on the label, so what do we need to look for when we're looking for a CBD isolate versus CBD broad spectrum versus hemp oil? What is the difference there?

Mary Clifton: I mean, the nice thing about hemp is that it's been protected under the Farm Bill in two separate passes, so it's seems pretty protected that you can grow hemp without going through all of the misery that surrounds growing cannabinoids that have higher concentrations of THC. Then, you can grow hemp for use in making fabric or for making CBD, and you don't have to put it up under a certain fence with a certain amount of surveillance and all of those kinds of things. So, when you can get a concentrated CBD product from that type of hemp, you can oftentimes manufacture for a lot less. That market is really exploding.

Mary Clifton: You should expect a very high level of transparency from whatever company you work with. Your company should be able to provide you with third party testing. My favorite companies have third party testing on every single bottle where you can flip the bottle over, and there's a QR code that you can scan, and then it should open you up right away to the testing. Now, some companies say, "Oh, we third party test every batch," and all they give you is the CBD and THC concentration because if the THC concentration is too high, they have to throw it out. So, they have to test for that, but I'm also interested in insecticides and pesticides. I'd like to know the profile of any other cannabinoids that are in the bottle. So, those types of questions are important to me. They may not be important to somebody else, but that third party testing is important to me so that I

know exactly what I'm getting in a bottle. So, I expect companies to do that.

Wendy Myers: Yeah, because products can have chemicals in them especially if ... because there are different methods of extraction. There's carbon dioxide extraction, which is considered organic. Then, there's hexane in chemical extractions, which all leave chemical toxic residues in the product, and so do you want your CBD products to be labeled organic?

Mary Clifton: I think so. I think it's pretty important to be looking for people. I think it's just important to know who's making CBD and to rely on a very good producer. It's not something you just want to buy on a whim and grab a bottle and then get involved with a company that doesn't have very high standards. I mean, with that said, I've been to so many trade shows all over the country and actually all over the world. I was in Europe myself this summer doing some presentations in Vienna and in Africa surrounding CBD and cannabis, and there is so much integrity in this community because the people that are fighting against the prohibition really want it to be done right and adopted across the world. So, everybody's working really hard to keep things above board, but there are a lot of companies out there that are just looking to differentiate themselves based on some interesting packaging and not really on much else.

Mary Clifton: I saw somebody with a motivation thing where you could have it increase or decrease from the patch you wear on your arm through the Bluetooth to your phone. That seemed a little unnecessary. We can just put a drop under your tongue. I'm not sure why you need to Bluetooth your phone to your patch. Maybe I guess it's cool, but I'm not sure that that's how I want a company to differentiate for me. For me, I'd really like to make sure that it's super clean, and the product I bring to my body is really, really good. Then, I'll take it from there.

Wendy Myers: Yeah. So, a product may not have the USD organic label on it, but there are certain questions you want to ask. Is it carbon dioxide extraction? Is it grown ... that marijuana grown without pesticides and insecticides and herbicides and things like that? Is it tested for heavy metals? I know a lot of companies out there are doing basic heavy metal testing like cadmium, lead, mercury and arsenic, and that's suitable.

Mary Clifton: That's really important. That's a very good thing to bring up for your audience, Wendy. I didn't think about that until just now because CBD hemp and the cannabis plants that concentrate THC, they all do a very good job of cleaning the soil of heavy metals. They're chelators, and they draw a lot of heavy metals up into the plant. I mean, I was just talking to somebody about this in Boston a couple of weeks ago that it's surprising how many companies don't test for heavy metals and how many of these products probably do have a pretty high concentration of heavy metals just because when you want to clear a field of heavy metals, you plant it with hemp.

Wendy Myers: Yeah, because it draws up cadmium from the soil. Tobacco and marijuana are amazing at drawing up cadmium, which causes more cancers than all of the other metals combined. It's one of the reasons cigarettes cause lung cancer, so you have to be careful in your choice of medical marijuana and CBD because there's a little like hidden surprise and it-

Mary Clifton: It occurs to me that all of the tobacco companies should be doing third party testing on every batch so that you could see the heavy metals on the tobacco. If you're inclined to smoke cigarettes, we should be trying to make you have a healthiest choice possible, and if you don't even know what your heavy metal concentration is, that just occurred to me. What a valuable point. We should expect that from all of our tobacco too.

Wendy Myers: Yeah. What about vaping CBD? I mean, there's a big craze of vaping, and there's lots of CBD vape products out there. Are you for, against that, or is it just better to take it in a [crosstalk 00:43:26]?

Mary Clifton: The vaping has been such an interesting process to watch because I live in New York City. I'll go sit in a restaurant and look out the window and watch people go by several times a week while working and eating, and after the vaping thing hit, all of a sudden, I start to see people smoking cigarettes again. It didn't seem like anybody smoked, like smoking disappears like, "Wow. We're making a big dent on that." Then, after vaping, everybody's smoking. It's just that they used to be vaping, but here we go again. I never see anybody smoking anymore. The vaping is just so simple, so I think we've got to be really careful about figuring that out.

Mary Clifton: The vaping was really brought to the United States to try to reduce the amount of smoking. The idea was that vaping would reduce the amount of tobacco use. Actually, it's done nothing but ramp it up with all of these delicious flavors and things. People are using a shocking amount of these products. That's part of the problem with the crisis with certain people, is that they're using it at such high concentration. The major constituents that keep the product in fluid form, the propylene glycol and the glycerin, both burn to carbon-OS, and the other one burns into acetaldehyde and formaldehyde, which is all stuff that you already get from cigarettes at about the same level, so none of that is particularly interesting.

Mary Clifton: What it may be causing a large part of the problem is these vitamin E contaminated ones, but also, the diacetyl and the other artificial flavorings because none of those artificial flavorings are designed to be ingested through your lungs. You can swallow them, and they're proven safe, but if you put those artificial flavorings in a vape and put them in your lungs, we have well-known occupational hazards with that as far back as the early 2000s. There were people being diagnosed with popcorn lung when they were working in occupational settings around these flavoring ingredients. So, we know that they're not safe to inhale. Unfortunately, they were allowed to get into the vaping products. They do cause irreversible lung

disease in an otherwise healthy lung. They also made asthmatics worse. They make people with chronic bronchitis or cystic fibrosis get worse. They're real bad actors. So, if you're vaping, you absolutely should not use any products that are flavored, and you should just, I really think, try to stick with something else until we get a very good understanding of what's going on with vaping.

Wendy Myers: Yeah, exactly, because that's what killed my brother's wife, was she switched from smoking cigarettes bad to vaping. All of these companies do marketing, "Hey, vaping's healthier than cigarettes, right? You're not getting all the toxins. You're just getting your nicotine, pure nicotine," but in case of CBD, number one, if it's not organic, you're going to maybe have hexane in it and in the flavorings. She got a very aggressive form of lung cancer, and I believe it was the vaping that did it. She probably would have been better all smoking, so you really have to be careful about that. I mean, why not just go with the liquid tinctures because it's just ... I don't think there's enough research on the vaping yet and the benefits.

Mary Clifton: Yeah. I did a three-part series on vaping, and I think a lot of the benefits were very much overplayed in order to get the FDA clearance on it. Yeah, I mean I am avoiding vaping until we get more data. My daughter is also a doctor, and she messaged me one day and said, "I'm going to tell all my patients to never vape again." Just like that. She read a little bit about it and got ... So, I think it's just wise for everybody to take a little step away, and look at what we were doing.

Mary Clifton: I mean, these products are all smokable. They've been smoked for 4,000 years for management of what looks to be in those ancient hieroglyphics things like abdominal pain or end of life issues, so we have a lot of safety data over 4,000 years. If somebody was going to grow a third eyeball on this stuff, they would have done it by now, so you're probably okay to smoke it. You know what, I mean we're using CBD or cannabis. You might be talking about eight inhalations a day. This is a different story than somebody who's taking 400 inhalations a day with one pack a day of smoking. I mean, that's a lot of exposure for you lungs.

Mary Clifton: So, a lot of times, when they're saying, "Oh, smoking's terrible for you," they're doing this overarching smoking is terrible. That includes cigarette smoking and cannabis or CBD smoking and not really looking at the fact that CBD is actually anti-inflammatory and tobacco is very inflammatory, and you're doing eight inhalations compared to 400. So, when you really try to tease out what happens to the lungs of people who are using CBD and cannabis regularly, we just don't have the data to support that that's particularly damaging to your lungs.

Wendy Myers: Yeah. There are certainly some people that are smoking a lot of marijuana, but for the most part, people that are doing that recreationally, but for people that are using it medicinally, they're not using it nearly as much typically.

Mary Clifton: Yeah. A lot of times, you can get a concentration of a product where if you like to smoke a lot of marijuana, if your plan is to get really lit, you can do that with one or two or three puffs in a lot of cases, just choosing the right product.

Wendy Myers: Yeah, exactly. They have very, very strong strains now and whatnot. So, are there any CBD brands that you recommend and trust to people because I know there's a lot of products out there. I get this question a lot from my clients. Are you comfortable talking about brands that you recommend?

Mary Clifton: Yeah. I mean, absolutely. I have a number of different brands. I think probably we should make sure that your clients have a link so that they can sign up with a special discount. If you are comfortable with that-

Wendy Myers: Yeah, absolutely.

Mary Clifton: I'd love to be able to share those links with you, but I use several different companies. So, yeah, let's make sure that you have those. I just want to make sure that people have a few selections on some great products that are very, very high quality for sure.

Wendy Myers: Yeah, so if you go on myersdetox.com, search for Dr. Mary Clifton, and we'll have that list of recommended products on the podcast post for you, guys. So, why don't you talk to us about some of your favorite stories when working with patients and CBD?

Mary Clifton: Oh, wow. I have one patient that I love dearly who has been dealing with bipolar disorder for a very long time and has had so many side effects with the medications that we were able to take off the bipolar medication, so it was CBD with just really excellent results, really, really great results. That's one of my favorites. I really love to talk to all kinds of people that are dealing with some mild anxiety or chronic pain that they just don't want to take narcotics for. I mean, my whole life has really been, in general, internal medicine. I haven't been re-attaching limbs or taking out kidneys or some really bad ... I've been sitting across from a person who's been having a really hard time sleeping because they're getting a divorce, and so trying to give them the right products so that they can get through what they're dealing with, with a minimum amount of harm, I'm always trying to do the least amount of harm, so it's just great to have these products for all of those conditions to see if people can get some benefit from them.

Mary Clifton: I mean, it's not for everybody. It's about 80% of the time that people can get some improvement. 20% of the time, people just don't like it. They don't like the taste. They don't like the idea of putting an oil in. They don't want to fiddle around with trying to figure out what dose works for them because your number of CB receptors, your response to the product is different because we have, genetically, different numbers of CB receptors, and you also have different concentrations of the fatty acid and

the hydrolase, the enzyme that breaks it down. So, one person may take a dose and get a four-hour response. Another person may take that same dose and get a two-hour response and be like, "Well, this doesn't work for me," but you just have a different genetic makeup.

Mary Clifton: There's also changes you can do to the tone of the endocannabinoid system. It's not just CBD that stimulates it. You can get stimulation from certain essential oils like limonene and linalool, beta-caryophyllene from black pepper, the pinene from pine seeds or basil. All of those things also stimulate the system, so everybody's coming to the table with a different endocannabinoid system too, so we just can't really say that this is the serving size that works for you.

Wendy Myers: Yeah. Then also, people, say if you do a broad spectrum CBD, there's a little bit of THC in there. People have the AKT1 gene if that is homozygous, they can't metabolize THC, and that can be problematic for them. So, again, like you mentioned, there's genetic differences in certain people. I found out my status on 23andMe where I can handle THC where another person can become very paranoid or whatnot, so some people just cannot tolerate THC at all.

Mary Clifton: We have so much genetic data to help people understand how they're going to respond to stress or how they're going to be able to heal most effectively. I mean, we know enough about PTSD now to know before we ever put you on a battlefield if you're going to have PTSD from that experience when you're done, what the likelihood is for different people. I mean, you come to the party with a different adrenal cortical axis and with a different set of life experiences. Some people handle stress, and some people just don't. So, we have a lot of data around that, but we still don't have a great panel for how to figure out how you're going to respond to the CBD.

Mary Clifton: I have one fellow tell me that he bought it, and he was like, "I thought it smelled weird. I gave a dose to my dog, and he still barks, so I don't think it works for me and my family." I was like "Wait a minute."

Wendy Myers: Why don't you try it on yourself?

Mary Clifton: I'm not really sure that we couldn't say that your dog's response is ... That was the funniest one yet.

Wendy Myers: Just try it. It's not going to hurt you. CBD is not going to hurt you. Just try it, and see if it works. If it doesn't, maybe titrate up a little bit. You can't lose.

Mary Clifton: Yeah. My best advice until we get this app out is to take a serving size and then set an alarm for 25 or 30 minutes later on your phone. Then, when the alarm goes off, just think about on a one to 10 scale where you're at. Measure where you're at 25 minutes later. Measure where you're at, and you'll feel like, "Well, there you go. My anxiety was an eight,

and now, it's a four," or you had to wake up to shut off your alarm on your phone. Then, those are all good signs. If that doesn't happen, then you got to go back and look at that serving size, and see if you can make a modification, go up a little bit, and get a better result.

Wendy Myers: Yeah, it's fantastic. So, in a world where when you go on Google, and you search, or I hope that you're going on a different search engine, but you search for CBD, there's any million entries. So, what made you-

Mary Clifton: So ridiculous.

Wendy Myers: Yeah, so what made you want to do a CBD expert series on this topic?

Mary Clifton: Oh, that's exactly why I wanted to. I wanted to bring out some of the very best people. I mean, I am so lucky to live in Manhattan because you get, every once in a while, to see a random movie star. That's great. There [are 00:56:39] so many people that are moving and shaking in all kinds of fields, in finance, in banking, in medicine. They're all here. We have these amazing people here, but also of course, in Colorado and California and in Israel, there's a lot of great work being done.

Mary Clifton: So, I brought together everybody I could think of that could give me some really valuable data around this topic and created this expert series. Then, we're just going to keep bringing it whenever I can find somebody who has really valuable data that can contribute. We'll just keep talking about the topic, and then, make sure that people have what they need so that they can make great healthy decisions on how to use the product, or if you need some ancillary help with other stuff because there's a lot more to sleep, as you know, when even just taking your CBD. There's a lot more to managing a chronic fatigue syndrome or an anxiety than just taking your CBD. So, there's broader conversations that will be fun to have with people too.

Wendy Myers: Yeah. I noticed Dr. Judy Mikovits is on. She's going to be talking about CBD and how it helps with detoxification, which I thought was incredibly interesting because it does help with that. So, there's so many different uses of CBD. Are there any other talks that really stand out for you on the summit?

Mary Clifton: Well, I really liked the talk with Arnaud from Blinc Group who talked quite a bit about vaping but in very positive way. That was an interesting talk to try to try to corral and also the work with the Ann Arbor team on pain. I had some good conversations with the doctor that runs ... He's the medical director for one of the major dispensaries in Ann Arbor, so he was wonderful too. I thought we had a nice crowd of high quality researchers.

Wendy Myers: What dates are this free online event happening?

Mary Clifton: Well, it's available now for pre-order, and I think you can watch some of the videos early if you pre-order now. Then, it launches more robustly sort of end of January, beginning of February, but the pre-order is a really exciting time because we have all the free gifts lined up from all of the speakers, which is really remarkable. Then, in addition to that, you're all set and ready and on your feet for when it launches.

Wendy Myers: Yeah. You guys can check this out at cbdexpertseries.com. Go there right now. Sign up, and like I said, from January, I believe it's 13th to 19th, it's totally free online. If you just can't wait, you got to have it right now, you can buy it early, and purchase the series, and have it ... listen to all the ... It's over 40 talks, right?

Mary Clifton: Oh, yeah. We have a bunch of really great talks. Then, I co-host it with [Nica Paldi 00:59:50], and she brought in all these amazing rock stars from the CBD and cannabis community, and it got to have a lot of conversations more on a plane of everyday use and bringing it in cooking and all kinds of stuff.

Wendy Myers: Fantastic. Yeah, I actually signed up for this series before I even met you and did this podcast with you, so a girlfriend of mine called me up and said, "Hey, you've got to do a podcast with Mary." So, here we are, but I actually signed up for it myself because I'm really interested in this topic. I mean, I had been helped so much by CBD, and I recommended it to so many of my clients. I think it's just a miracle medicine that can truly, truly help people. I think we really need to take, educate people to remove the stigma around CBD. It's not marijuana. You're not smoking marijuana when you're taking CBD. It's just an amazing thing with tons of benefits with almost zero side effects. So, that's why we need to be talking about it more.

Mary Clifton: It's been such a great thing for me to get involved in. It's so heartwarming really to read and also to talk to individuals. I was working at my mother's house last summer. She's in my childhood home, and one of my friends ... I was having dinner with one of my friends from high school, and I was finishing up on tics and Tourette's. I mean, I'm an internist. I don't know anybody with tics and Tourette's. I take care of old people with diabetes and high blood pressure, and I have a series of videos coming out on how it helps with diabetes and high blood pressure.

Wendy Myers: Oh, wow.

Mary Clifton: The tics and Tourette's, I don't know who I may be doing this video for, but anyway, I got the video done, got cleaned up and fixed my hair and then went out to dinner with my friend. He said, "Do you mind if I bring my kid?" I said, "Of course not. That'd be great." So, he brings his kid who is loaded with tics, just busy all the way through the whole meal with all of these motor tics. It was so distressing. They've been dealing with that since he was like, I think 10 when it finally really surfaced heavily. He's brilliant. The kid is brilliant. He's just got a terrible amount of tics and

Tourette's. He left dinner a little bit early. Then, my friend said, "Do you know of anything that can help him?"

Mary Clifton: I had just read all of the studies, and there's not a lot of data. There's case reports really out of Germany, so I shared the case reports, and I said, "I'm just going to share you my material before it's produced and prepared and put up on the site. I'll just give it to you and your son because he can handle it. He's smart enough to read this himself." Anyway, he went ahead and started some CBD with just a remarkable improvement in his symptoms. It's so lucky. We were afraid because of he's such a gifted mathematician. We were afraid that it would throw him off there, but it hasn't at all. His memory hasn't been impacted in any significant way.

Mary Clifton: There's a lot of of the stuff that you'll become a stone or pothead, and you'll have no short term memory, that when you actually do look at the research, there's not a lot of research to support that. If there are any major changes in memory, they completely resolve after as little as three weeks. The most recent data is saying it's three weeks, not three months before your memory returns fully restored. So, I've been so excited to have experiences like that one on top of another. There's a video in my library for everyone. If there isn't one, then you can just message me, and I'll make it.

Wendy Myers: Yes. That's fantastic. I mean, you have other programs as well where you teach. Is it that you teach practitioners or laypeople about incorporating CBD into their life?

Mary Clifton: Yeah. I have a certification course that people can use. It's still in its launch mode. We're affiliating it with other products that have a business portion to them and other things so that we can have a more rounded out program, but it does a really nice job of supporting the clinical. It's probably something that we'll break into smaller pieces for different communities because 60 minutes of cancer and how cannabis and CBD works with cancer is not of interest to everybody, but it's of interest, a high level of interest to certain people. So, I want to be able to make it available to the people who benefit from hearing about it.

Wendy Myers: Yeah. A great place to start is the cbdexpertseries.com. So, guys, go check it out.

Mary Clifton: Absolutely.

Wendy Myers: Dr. Clifton, thank you so much for your time today.

Mary Clifton: Oh, Wendy, thank you.

Wendy Myers: Yeah. So, everyone, thanks for tuning in this week to the Myers Detox Podcast. I was so excited to do this show and get it out to you guys as quickly as possible because I just, like I said, I love medical marijuana

and CBD oil, and there's so much amazing, promising research and benefits to these products. So, thanks for tuning in guys, and I'll talk to you next week.