Clinical Education Initiative
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MEDICAL MARIJUANA 101

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Medical Marijuana 101
[video transcript]

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- So we'll get started. Disclosures Columbia Care New York Medical Marijuana Dispensary.

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And learning objectives basically giving you an overview of the medical use of marijuana, and the health effects of cannabis and cannabinoids.

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Our products aren't approved by the FDA, but it's a state approved program. At Columbia Care we are dedicated to setting the standard of care for medical marijuana with safety, excellence, expertise, scientific leadership, compassion, and care.

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In New York, the New York Medical Marijuana Program now consists of 11 qualifying conditions, chronic pain being the newest added qualifying condition. We're actually just about at 25,000 patients today, and 1,123 registered practitioners. Each of these qualifying conditions must be associated with a complicating condition, severe chronic pain, muscle spasms, nausea, cachexia, or seizures.

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For a patient to get registered in New York they first contact a physician or a prescriber that is able to write them a certificate. And then they would, once they have their certificate, they would go online to the Department of Health website and apply for their card. And so that's a picture of what their marijuana card would look like. And then they're able to bring their certificate and ID to a dispensary to get the medicine.

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So at a New York dispensary most of them, ours all do at Columbia Care, we have a security guard working the front door. Basically making sure patients are allowed to enter as long as they have their certificate and ID card. On their first appointment they would check in with the reception and they are called back by appointment only. They meet with a pharmacist for an in-depth consultation. The pharmacist basically goes over the symptoms they're looking to treat, their current medications, their marijuana history, what ratio might be the most appropriate, and how to use each product.

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So what makes cannabis medicine? Cannabinoids are organic chemicals in the marijuana plant that have the pharmacological properties. There is over 500 compounds and at least 85 of those are cannabinoids. THC and CBD are the two most prevalent.

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So how does cannabis work in our body? Our body produces endocannabinoids, there's also plant derived phytocannabinoids from the marijuana plant, and then synthetic cannabinoids. They all bind to the endocannabinoid receptors, CB1, CB2, and TRPV1. And the endocannabinoid system is responsible for a variety of physiological processes including pain, immune system, mood, memory, and others.

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CB1 is highly expressed in the brain and CNS. It's responsible for neurotransmitter release. It's not as prevalent in the brainstem, which may account for the lack of cannabis-related fatalities, because it's not affecting the respiratory depression. And it's 10 times more prevalent in the CNS as compared to mu-opioid receptor. CB2 is highly expressed in immune cells, and is responsible for immune responses and inflammation. And TRPV1 is highly expressed in the CNS, and responsible for nociception and inflammation.

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THC is a CB1 and CB2 agonist. And CBD is a CB1 and CB2 antagonist. It's also a TRPV1 agonist. This is just kind of the range of our ratios at Columbia Care. But the main uses for THC, it gives an opiate type pain relief. Can also be opiate sparing reducing the withdrawal side effects when a patient is coming off of the opiates. It increases appetite, helps with nausea, vomiting, can be a good sleep aid and muscle relaxer. And CBD treats neuropathic pain, it's a good anti-inflammatory, anxiety, it's an antispasmodic, treats seizures, and has some cytotoxic activity as well.

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The marijuana plant has what we call the entourage effect. And basically all these cannabinoids in the plant, and terpenes as well, are synergistic. And they work better in the presence of one another. So this is the main reason that organic marijuana is more effective than the synthetics.

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At Columbia Care we're actually at about 8,000 patients now. I needed to update these. And about 200 HIV patients. Still about 3% of our patient population. And of these HIV patients most of them are experiencing chronic pain, cachexia, or nausea. And that leads to why the majority of the patients receive a higher THC content in the ratio that they purchase.

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Symptoms treated by cannabis in HIV patients are cachexia, ARV therapy related nausea, neuropathic pain, and chronic pain.

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There's not a lot of research out there based on the restrictions of the government, but what we do have is mainly studies comparing synthetics to the organic marijuana. And organic marijuana in cachexia was showing significant weight gain, versus just an increase in caloric intake with dronabinol. But not an increase in body weight.

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And the evidence for neuropathic pain, or chronic pain, showed a significantly reduced pain levels in the patients that were looked after. So in the study with Abrams 34% had reduced their daily pain levels, and 72% had reduced their chronic pain levels. And in the study with Ellis 46% had clinically meaningful pain relief.

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Of the patients, of all HIV patients in general, approximately 30% are already using marijuana to treat their, for the medicinal purposes, to self-treat essentially. New York products are tested for microbials, fungals, pesticides, and heavy metals. So it's much safer to give them something from one of the dispensaries here than allowing them to continue with their black market. There is no evidence that suggests that cannabis has negative effects on CD4 counts. And patients have reported overall a significant improvement in their disease related symptoms and quality of life.

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So this is a guide just to show how we would pick a ratio at one of our dispensaries. So the ratios are done by high CBD, equal parts of THC and CBD, and high THC and low CBD. So we basically take a look at their main complaints and symptoms, if they're experiencing more neuropathic pain, or anxiety, or having seizures, we would go with a CBD dominant, excuse me. And if they're really just in a lot of pain, and they're on a lot of opiates, trying to reduce the amount of opiates, we would lean towards a higher THC. If they're kind of in the middle, there's sometimes that we would just, or a lot of times, that we would start with the one-to-one, and kind of go from there.

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So we have a patient, JW, with HIV. Main complaints severe neuropathic pain characterized by shooting, stabbing, tingling pain in limbs, and aching back. Also complaining of muscle spasms, insomnia, anxiety, and depression. So current meds, Stribild daily, Gabapentin 800 milligrams twice a day, Lyrica 75 milligrams twice a day, Oxycontin 10 milligrams twice a day, Oxycodone 30 milligrams every four hours as needed, Fluoxetine 20 milligrams daily, Ambien at bedtime, and Xanax one milligram daily. Patient hasn't used any marijuana in over 10 years.

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So we had a few options. We could start with a one-to-one and just use it as needed for symptoms. Some limitations, or the main limitation was drowsiness. In a THC naive patient, they tend to be a little bit more sensitive to THC, in the beginning anyways. And then option two is to have a daytime and a nighttime regimen. So using a high CBD during the day and a high THC either for breakthrough pain or at nighttime. This could get pretty pricey though depending on the regimen.

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So we spoke it over with the patient. The doctor basically had given all three ratios on the dosing recommendation, and said go to talk to the pharmacist and decide what ratios to go with. And so we went with a high CBD regimen during the day, scheduled, and then a high THC vapor for breakthrough pain, or in the evening for sleep. And the outcome within a couple months of treatment he was able to

decrease, or sorry, discontinue his Oxycontin, Oxycodone, Lyrica, Xanax, and Ambien. He cut his Gabapentin in half, so only taking it at bedtime. Still on the Fluoxetine and Stribild. So significantly increasing his quality of life, as well, in terms of side effects.

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In New York we only have four routes of administration that are approved, oral sublingual tinctures, suspensions or solutions, capsules, and vaporization, liquids, or oils for inhalation. In New York edibles are not approved or smoking the actual plant is not approved.

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So this is just a snapshot of the products that we offer at Columbia Care, and the different ratios, three different ratios.

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Vaporization oil has a very quick onset of action. On average within 90 seconds patient is experiencing some relief in their symptoms. And each inhalation lasts one to three hours, in newly, or in THC naive patients it could actually last three to four hours. The sublingual tincture kicks in within about 15 minutes, unless it's swallowed could take up to two hours, and lasts four to six hours. And then capsules take one to two hours to kick in. They're metabolized through the liver, and then lasts eight to 10 hours.

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And so that kind of just depicts the difference. The blue line would be the vaporization oil, the orange line is sublingual tincture, and then the gray is the capsules. So a lot of times we would do sublingual tincture, or capsules, paired with the vapor for breakthrough pain.

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This is what a dosing recommendation would look like if you were to print it for your patient. You can have a maximum of three dosing recommendations on that sheet. And for each recommendation you can get a 30 day supply. The pharmacist does check PMP. So if you are checking anyone's PMP and you notice marijuana in there, or something unusual looking it is showing up there. Patients can purchase less than a 30 day supply at a time. It is out of pocket expense, so this is a big difference between a controlled substance prescription, versus their recommendation. And then there's two expiration dates on this recommendation. There's an end date for the dosing recommendation, and then there's also an expiration date for the whole certificate. The end date is when you would want to see your patient back on the next visit for follow-up.

- [Man] (mumbles) close that.

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- So there are some side effects, however, it's pretty safe overall. The side effects really depend on the patient and also the ratio. So if you're giving a patient a heavier THC they're probably experiencing more sleepiness, dizziness, drowsiness, possibly short term memory loss. High CBD could actually result in insomnia, or a boost of energy. Absolute contraindication that we worry about is schizophrenia, and

unstable heart disease, and pregnancy or breast feeding. But the main takeaway, I think, from this slide is that there is 35,000 opiate overdoses last year resulting in death, and zero from marijuana. So safety wise, very safe.

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There are a few drug interactions. None of these are true contraindications, just more cautions. The drugs metabolized by Cytochrome P450 inhibitors can increase the plasma concentrations of THC and CBD. And inducers can decrease the plasma concentrations. There is a risk of bleeding. Also, it can affect your blood sugar, so we would warn diabetics. And then just increasing the drowsiness factor with opiates, hypnotics, benzos, alcohol, antidepressants.

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