Dr. Mark Donaldson - Cannabis and the Canadian Dentist: Are you ready for the legalization of Cannabis?

Chiraz: Hello and welcome to CDA Oasis. My name is Chiraz Guessaier. Cannabis will be legal in Canada on July 1st, 2018, and we at CDA Oasis are very interested in exploring the many facets this substance has on the profession of dentistry. In particular, we are interested in exploring the various impacts it might have on dental practice namely clinical and legal. So, we have invited Dr. Mark Donaldson, he's a pharmacologist and senior executive director at Visient pharmacy advisory solutions. He is also clinical professor in the Skaggs school of pharmacy at the University of Montana. And, he is here to share with us his expertise on the topic of cannabis. Dr. Donaldson, we're happy to have you again on Oasis, welcome to this conversation.

Dr. Donaldson: Thank you Chiraz. Always a pleasure to sit down with you.

Chiraz: So, my first question is where do dentists stand on the cannabis issue?

Dr. Donaldson: Yeah, this is probably a great question to start off, to start to frame our discussion. So, there's two things to consider from an oral healthcare professional standpoint. The first is, does cannabis, in other words, medical grade cannabinoids play a role in dentistry? Meaning, could dentists prescribe this? Let's say for postoperative pain management, maybe even intra operative pain management or in some of our more complex chronic pain-type patients who may have some type of neuropathic issue; let's say TMJ issues. You know, could there be a role for dentist to prescribe this drug? So, that's one concern.

Dr. Donaldson: The second concern though I think is probably broader and that is with the potential legalization of cannabis, what are some of the oral manifestations that we may see an increase in that dentist are going to have to address? And, we've known for a lot of years that the smoked formulation of any drug, while that can never be condoned as a healthcare professional because whether it's cannabis, nicotine, or anything else that somebody may smoke, we know that the pathology that results in the respiratory tract does not outweigh any potential benefits. And so, with the smoked formulation, what you're certainly going to see as an increase in hypersalivation, xerostomia, and other types of dental pathology, which are going to, you know, necessitate additional interventions. So, you know, this could be something that actually starts to, you know, increase the amount of work that dentists are going to see.

Dr. Donaldson: I think more important though is if we do start to recognize a more pharmaceutically elegant product and that is a kind of a cannabinoid-type pharmaceutical product and not our traditional, let's say Nabilone or Cesamet where we have tried historically to localize to the single most active ingredient
known as THC. So, that’s Tetrahydrocannabinol, because we know that those products really don’t work well as a single cannabinoid entity.

Dr. Donaldson: What we are starting to put more research into is actually the interplay of different cannabinoids. So, what combination is going to work best? And Canada actually leads in this regard because we were the first country to produce, manufacture, and sell a pharmaceutical product known as Sativex. Sativex is a buccal lingual spray. It’s actually a dimer of cannabidiol and tetrahydrocannabinol. And so, it’s that interplay of two different cannabinoids that actually have been shown to have some benefit in managing the pains associated with Multiple Sclerosis. So, you know, this is much more interesting, I think to us, but, while you are not going to necessarily see additional respiratory pathology, given the fact that cannabis can be applied, let’s say orally, topically, many other routes, the systemic effects of cannabis are still going to be a concern to dentists, certainly as a psychoactive substance, if those dentists are currently practicing, let’s say sedation dentistry, so providing some type of anxiety relief in the form of a benzodiazepine or even an antihistamine to relax patients, they’re going to have to be aware of potential drug interactions with patients currently taking cannabis.

Dr. Donaldson: So, as I said, I think, it’s a great discussion because know should dentist prescribe, and I would certainly say no, and we’ll talk more about that. But, uh, will they be seeing more patients on this due to potential legalization? I would say yes; and for that reason, they need to be aware of potential downstream effects.

Chiraz: So, what are the also the legal implications for dentists, for patients coming intoxicated for example?

Dr. Donaldson: Right. Well, again, great question. So, there are certainly legal implications, but I think they’re also, not necessarily even specific to cannabis, they are part of the same sort of differential that I think most oral healthcare practitioners would go through. Now, you brought up an interesting thought and that is, well, what if somebody is an active user? And the nice part about people, patients who maybe smoke cannabis is that, you know, that tends to be fairly apparent when they walk into your office. In other words, you know, there's almost this cloud following the patient and you can smell the drug off of the patient. And, as we typically will do in medicine and dentistry is, unless it’s for an emergent purpose, you know, we never treat active users, we certainly don’t want to add another drug into that milieu that could cause additional problems.

Dr. Donaldson: So, the approach is probably not going to be much different inactive users. Now, if you have an active user who's not smoking, you know, who has let’s say ingested the medication, that's a lot more difficult to predict, a lot more difficult to assume. And then, patients may not necessarily tell you that they're taking
these drugs, whether it's deemed to be licit or illicit. And so, that becomes a bit more of a challenge and it always gets back to the truthfulness, that relationship that you have with the patient as you go through your intake. Every time a patient comes to your office and you update their medical pharmacological history, if your spider senses are tingling and you have a sense of the patient may not be truthful with you, you really do need to take that dental timeout and, you know, sit down knee to knee, eye to eye with the patient and jump into that discussion.

Dr. Donaldson: You know, this is a nonjudgmental area. You know, what I want to do is keep you safe and hopefully give you that smile that you've always wanted. But, I am going to be using needles. I'm going to be injecting medication into you. I'm going to be running a high-speed drill and cutting tissue. You know, a lot of invasive-type procedures. And, I need to ask you again, is there any type of medication that could be in your system that could prevent us from being successful together? So, you really do need to get good information in order to avoid, again, those potential negative downstream effects. And, hopefully, you do get good information from the patient. If it turns out that they are currently using, they admit to that, you know, maybe today's not the day you do some of the dentistry that you were planning.

Chiraz: Yeah. Ultimately, I mean the dentist is after the patient's safety. It's nothing else other than that. Now, dentistry is evidence based. So, what does the evidence tell us about cannabis as a treatment therapy option?

Dr. Donaldson: Yeah. So, cannabis is actually, you know, the original organic plant or the original herbal medication, if you will. And so, we in fact have thousands of years worth of information around it from her very early Chinese writings and within Egyptian mummy sarcophagi, we see that historically people have used this medicinal plant. Now, as you sort of fast forward to modern medicine, we have done controlled clinical trials with cannabis and in fact, if you take a look at all of the data to date, there are certain indications in where medical cannabinoids could play a role. A good example is narrow angle glaucoma, where consistently, we have shown a decrease in intraocular pressures, due to the intervention of providing patients with medical-grade cannabinoids to abate that disease. But you know, not in all situations has the evidence sort of stacked up to promote cannabinoids as an alternative therapy.

Dr. Donaldson: And in fact, I would say in most cases, you know, cannabinoids are probably being relegated to third-, maybe even fourth-line therapy. So, really, again, from a dental perspective, it's highly unlikely that any dentist would ever prescribe these types of medications, regardless of the formulation, just because the evidence really is not there for, let's say, the management of post-operative oral facial pain or even the management of TMJ or neuropathic pain, as I mentioned, some of the more complex dental patients. You mentioned earlier, and I didn't
mean to sidetrack it, but the legal implications and of course the legal implications from a dental perspective is if the product does happen to be legalized in Canada as it has been here in a number of the states, the prescribing of it may be restricted to a certain prescriber population. And so, those physicians, dentists who would like to prescribe it may require a sort of a second level of education in order to be privileged to prescribe.

Dr. Donaldson: If that doesn't happen, certainly I can guarantee that as a controlled substance, you know, this is going to fall under the Controlled Substances Act, which means that there's going to be some significant regulations around this. I think one of our greatest challenges is, as you know, that the current hot topic is the overuse and abuse of opioids, certainly to manage a post-operative and chronic pain in patients. And so, people are looking for alternatives to opioids. And I think this is driving sort of this interest in legalization of cannabinoids. But, you know, that may not necessarily be the panacea, we could sort of be trading one problem for another. And, I would say that that's probably the model that we've seen here in the states that while the taxation of cannabinoids in those states that have legalized it has certainly led to a windfall as far as new income for those states, I don't think that it's moved medical science forward as far as new treatment opportunities for diseases in which we felt, you know, there was a tremendous need.

Chiraz: It's very interesting because you're exchanging one thing for another and we don't even have enough evidence to say yes, this, cannabis could substitute, you know, opioids. However, the question is as much as these voices of, you know, it shouldn't be used in dentistry and the evidence is not there, etc. etc. There are some people who argue that they really need it. So, where do those patients go?

Dr. Donaldson: Yeah. And we certainly do have those case series or even cases in particular singular where this does happen to be the right drug for that patient. Again, the hard part, if you go back to the basic science, it is that cannabinoids are organic matter, you know, they oftentimes contain multiple active ingredients; and the interplay of those different cannabinoids, the different ratios, amounts that the different strains, different cultivars, you know, it's very unclear at this stage in 2018 as to what that perfect ratio of the individual cannabinoids is in order to address the patient's issue in front of us. And so, that's where medical science is today. And the reason I give you that background is because if you do happen to have that patient who, you know, continuously takes this medication for whatever type of disease stated and it seems to help control, the fact of matter is that we're not at that stage where the drug the patient is taking is not only closely regulated but also with regards to potency, you know, that's going to vary from their dose to dose and batch to batch, if you will. And so we're never quite sure of exactly how much or what type of a cannabinoid the patient in front of you may have.
Dr. Donaldson: And, and that I think is probably the greatest challenge for any oral health care practitioner is the unpredictability. You know, when Somebody says, doc, for my epilepsy, I smoke 4 marijuana cigarettes a day. Well that's fine, except you have no idea as to how big those may be, how deeply the patient is inhaling, how long they've been doing that for. And simply through the act of [inaudible] which is lighting a cigarette, we do know that can create over 400 additional new cannabinoids. And, and again, the interplay of that particular strain or cultivar that the patient may be ingesting or inhaling, you know, we just don't know what the repercussions of that could be. It certainly, we have no idea as to what the potential interactions could be between that drug and, you know, the handful of medications, pharmaceutical-grade medications we would use in dentistry, whether that be local anesthesia, whether it be the analgesics, the antibiotics, or even the glucocorticoids that we may use. So, it certainly makes dentistry that much more difficult having that level of unpredictability.

Chiraz: Amazing and it will keep a lot of researchers busy for quite some time in the future.

Dr. Donaldson: It will, I think there's a lot of, you know, there's a lot of excitement though, because if you go back 80 years, and 80 years doesn't really seem like that long ago, you know, we had the poppy plants and from that we had heroin and, you know, there was a significant abuse potential, which still exists today. But, it was through that, through that experience that we discovered the endorphin system and went on to create some of the most potent narcotics which are used in current clinical practice such as morphine, methadone, but Mepiridine, Fentanyl. And so, that's exactly where we are today, where we're recognizing that, you know, cannabinoids from a marijuana, a plant of organic matter actually does have some interplay in the human physiology. and it's because we do have our own cannabinoid system, it's known as the endocannabinoid system, and we do have cannabinoid receptors in our bodies, in fact, we make our own cannabinoids known as Anandamide. And so, it's that interplay between, you know, this plant from nature that seems to interact with our own endogenous cannabinoid system that's having some benefit, but being able to purify, tease out, and ultimately get to a pharmaceutically-elegant and standardized dose that adds predictability, as you said, we're still a long way away from that.

Chiraz: Yeah. So, you live in the US and you experienced the legalization of cannabis in two states, Colorado and more recently in California and you're very much involved in the healthcare system in the US. Can you share with us some of the tips, some of the lessons learned that these two states went through that Canada could benefit from once Cannabis becomes legal?

Dr. Donaldson: Yeah. Great. Great question. So, there, there are still some challenges. So, let's ask from a legal standpoint what the challenges are? Similar to Canada, you
know, the States have two levels of government. So, we have a state system and then we also have a federal system and federally, meaning that covering all states, cannabis or marijuana is still considered to be a level-one scheduled controlled substance. In other words, the definition of a schedule one controlled substance: it has no medical utility. So, right now from a federal standpoint, cannabis is still considered to be illegal. It does not have a medical utility. It's not scheduled less than one. So, that's a challenge because now you have federal law not sort of working in parallel with state law. So, some states, as you correctly mentioned, California, Oregon, Washington state, the evergreen state, has passed legalization of marijuana.

Dr. Donaldson: But, you had a patient that truly needed the drug and they traveled outside of that state to, let's say, Montana, where it is not legal, you know, they could certainly be persecuted for possession because within our states, marijuana has not been considered legal yet, even though in certain states it has been. So, this disconnect between provincial and federal or state and federal law, it is a difficult one because at the end of the day, what it does is it makes the doctor, the prescriber, the gatekeeper. And so oftentimes you will have prescribers who thinks that this is the right medication for the right patient. And in some states it may be legal, in others it may not. And so, in trying to get the right drug to the right patient, oftentimes you know, there's this legal concern from the medical or dental professional. The other challenge that we've seen of courses is, you know, Canada maybe luckier than the US in that, if there is a federal mandate to legalize marijuana, then that should get carried through each of the different provinces and territories.

Dr. Donaldson: So, there should be constancy, in other words, standardization. In the States, because there is this conflict between state and federal law, suddenly in those states that had approved or legalized marijuana, they saw a significant influx of tourism. So, people moving or even just visiting from other states, to go to compassion clubs and other outlets in order to legally within that state purchase, and then of course take that product back to their own state where it is illegal; and therefore, that that's still called trafficking and that's created some additional problems. So, there is a significant social burden here. As I said that the states that have considered moving forward with this part of the reason is certainly not from a medical standpoint, because I don't believe that there is a significant unmet need that the medical cannabinoids will currently solve for us today given our lack of general knowledge around this. But, I would also say states that have made these changes have seen that it has truly been a significant taxation windfall and it's really helped to sort of balance those state budgets because the income from this product has been significant.

Chiraz: Well, it promises to be an interesting time. So, we're waiting for it to happen. It may happen in July, it may happen a bit later. It all depends. So, once again, thank you very much for a rich conversation. I really appreciate it.
Dr. Donaldson: Absolutely. Look forward to speaking with you again.