NRC Medical Experts Webinar: Medical Cannabis for Legal Teams, Clinicians & Case Managers

Thu, Sep 21, 2023 11:03AM • 59:51

SUMMARY KEYWORDS

cannabis, prescription, cbd, medical, legal, prescribe, pain, thc, medicine, plant, vape, cannabinoids, doctor, uk, anxiety, drug, role, medical cannabis, psychosis, prescribed

SPEAKERS

Dr Edmund Bonikowski, Prof Mike Barnes

Dr Edmund Bonikowski 00:19
Good afternoon. I'm Dr Edmund Bonikowski, the medical director and founder of NRC Medical Experts neurorehabilitation chambers, for providing expert witness reports in cases of serious neurological injury.

Dr Edmund Bonikowski 01:02
We thought that the concept of cannabis related to medical legal practice would be an interesting topic for the assembled company, and never be better to present that than my co-founder and now, international medical expert in cannabis, Professor Mike Barnes, who has been I think it's fair to say single handedly at the helm of making medicinal cannabis available in this country. And I think one has to take one's hat off to Mike's endeavour over the last five to seven years in this field is he's begun to get some worthwhile worth some, he's begun to get recognition of this, which I'm very pleased to see. So, without more ado, Mike, over to you. Thank you very much.

Prof Mike Barnes 01:51
Thank you, Ed. I'm Mike Barnes. I'm a neurologist and a neuro rehabilitation professional. I did a lot of medical legal work, possibly with some of you on this webinar, mainly in the field of brain injury, spinal injury, and children with cerebral palsy and life expectancy.

Prof Mike Barnes 02:17
I was interested in cannabis from an ethical medical point of view for about 20 years when I initially did some work with a company called GW Pharma when they were developing what turned out to be the first cannabis medicine called Sativex, which was licenced for drug resistant spasticity in multiple sclerosis. There's then a gap of at least a decade because nothing much was happening in the cannabis space. I was asked to do a report for an APPG on Drug Policy, about the efficacy and safety

of cannabis, which I did with my daughter in 2016. And then I was asked to get involved with what turned out to be the first prescription for cannabis medicine in this country with a little boy called Alfie Dingley, who had multiple seizures, rare genetic epilepsy syndrome. Due to the campaigning efforts of his mother, Hannah, to whom I give great credit for a persistent and very successful media campaign as a result of which the law was changed in November 201 8 to allow doctors on the specialist register to prescribe cannabis. And that's where we are. And I will tell you during this talk about where we've got to in pushing five years, which isn't as far as I'd like by any stretch of imagination. But what I'm doing now is just to go through a little bit of the history of cannabis a little bit about how it works within the cannabinoid system a little bit about the plant and the cannabinoids in the plant. Then what we use it for mainly today, particularly relevance to neurological indican pain indications, which is what it's mainly used for. And then we've got some questions at the end that might be particularly relevant for medical legal practice and legal teams and then various case managers but plenty of time hopefully for some questions that will be chaired by Ed at the end to finish up.

Prof Mike Barnes 04:26
So, let's have a quick look at cannabis. We'll start at the beginning. Cannabis has been on this planet for over millionaires have been fossilised seeds discovered, way, way back. It's documented written use of cannabis was first medical, not recreational or social. First Medical use was described as the first medicine written down and described by man about 2700 years BC in southern part of China in the Himalayan foothills - described what turned out to be really the first Pharmacopoeia, which included cannabis use for particularly for pain and for epilepsy. And that was the first described medical use so a long time 5000 years ago so those who say it's a brand-new medicine and we got to be careful about it. It's just wrong because it's the first medicine ever. Its medical use then spread from China, into the rest of Southeast Asia still well BCE, along the Silk Road into ancient India, into it along the Silk Road to the Central Asia, into then Ancient Egypt, ancient Greece and Rome and spread throughout the Middle Ages as again, as a medical use.

Prof Mike Barnes 06:17
This is throughout Europe, relatively recently across the Atlantic 15 1600s into North and South America, because it was there as a plant across the world, in all continents except Antarctica. All that time, but it was documented use of medicine that that's the path it followed. You can see it is historical documentation of the use of cannabis, both as a medicine and as a spiritual aid and recreational aid and for him for fibre and for clothing, etc. is well documented for a long, long time for many millennia, right across particularly this part of the world shown in this slide. I

Prof Mike Barnes 07:08
Just look at the UK cannabis history and that we know that cannabis was farmed and UK in the Bronze Age that's about 850 or so. BCE. We know it was grown in Roman Britain, particularly a hemp is cannabis for those who don't know, hemp is Cannabis sativa is grown particularly for strong fibres. The Anglo Saxons farmed hemp in the early Middle Ages. Hemp was widespread centered on Hampshire; I didn't realise that Hampshire was called Hempshire because it was the centre of the hemp industry. And over that period of time, the very early Middle Ages it was widely used as an anaesthetic, for Gout pain, weight loss and infections, it's known to be I have antibiotic quantities, for example.

Prof Mike Barnes 07:58
Then in the mid-16th century, Henry VIII actually made it compulsory for farmers with more than 60 acres of land to farm at least a quarter of acre of hemp for him, which of course he wanted for rope and sailcloth for the for the ships, particularly in the mid-17th century. Cannabis was included in London College of Physicians Pharmacopoeia, so they were more advanced in the 17th century than they are on the 21st century. Cannabis was simply a part of medicine, an integral part of medicine, not in any way stigmatised, up to about the 1930s when it became eclipsed by the emergent pharmaceutical industry. And then various international laws came into effect that began to stigmatise it really preclude its prescription. I think the next slide just summarises very briefly that history.

Prof Mike Barnes 08:58
So, I think 1925 ish, mid, there was an opium convention in Geneva that added cannabis to drugs that were narcotic drugs they were trying to control internationally. That was its first sort of first nail in its coffin. In 1928 the UK first prohibited cannabis as a drug but the doctors could still prescribe it. And they did so until the 1970s, when the United States passed the Marijuana Tax Act which prohibited most use of cannabis on a federal level. And it's still federally legal in the states even though it's now legal, medically and increasingly recreationally in about 35 states and as in the States at the moment.

Prof Mike Barnes 09:41
All that internationally culminated in the United Nations single convention on antibiotic drugs 1961, which stuck cannabis in schedule one for which made it by definition to have no therapeutic value and significant side effects, which of course is totally untrue and contrary to 5000 years of history. The UK's Misuse of Drugs Act in 1971, as many of you on this call know, and since then it's been listed as a class B drug, except for a brief period, I think it was Tony Blair, where it was a Class C drug from 2000 to 2009. And Gordon Brown moved it back to B, which is more restrictive, of course. And it was only as I said, till the night, early 1970s, when it was not available for prescription. But then following Hannah's successful campaign, the misuse of drugs amendment was amended to include the ability for doctors on the specialist registered to prescribe cannabis and any other doctor to do follow up prescriptions. But a doctor or specialist registered outside hospital consultant effectively has to initiate that prescription.

Prof Mike Barnes 10:50
And so, from 1971 to 2018 it was very much restricted. And it's still fairly restricted today. Non prescribed cannabis is still a schedule one drug, which means by definition it has no therapeutic value. But magically, the same drug changes into something with some therapeutic value after a doctor has signed a prescription for it.

Prof Mike Barnes 11:31
So where are we today? In the UK, not the Channel Islands or the Isle of Man where GPS can prescribe but, in the UK, and mainland UK, doctor on the GMC specialists register can initiate the prescription for a cannabis based medicinal product.

Prof Mike Barnes 11:50

And any other doctor or indeed others such as a pharmacist or nurse who's gone through the prescribing courses can continue that prescription thereafter. In the UK, I think to applaud the people who've changed the law. The Home Secretary then was Sajid Javid. And the health secretary was Matt Hancock, that changed the law.

Prof Mike Barnes 12:19
There are no restrictions on what it could be prescribed for, which was actually quite good. It's mainly prescribed or shown in another slide for pain and anxiety and such like but there are actually no restrictions as long as a doctor feels it's in the best interest of the patient.

Prof Mike Barnes 12:34
It's now legal, or decriminalised, its various shades for medical use in over 70 countries worldwide, including some surprising places like Thailand, where after fairly recently, it was heavily punished, its use or its position. And other places where a big chunk of South America is increasing numbers in Africa. Australia is a big producer and a user, etc. And of course, Canada, where it's a real legal recreationally as well as medically, and most of the states. Predominantly around the world is GP prescribing, so the UK is a little bit of anomaly in terms of insisting it's via consultants in the first place.

Prof Mike Barnes 13:30
We'll look at how it works or how it mainly works. It mainly works with what's called the endocannabinoid system. I'm not going to launch into a complicated description of this system. But let's have a let's have a brief go at it. And the endocannabinoid system is the most widespread neurotransmitter system in the body of all vertebrates, not just man.

Prof Mike Barnes 13:52
It's a complex cell signalling systems. It says there really what it does, it acts as a sort of homeostatic mechanism, a balancing mechanism, negative feedback loop to the other neurotransmitters, it switches things off. Some of you will know this, some won't. You have billions of nerves in the body, and they are joined with each other but where they join, they don't physically touch. There's a gap in between those nerves called the synaptic cleft. When a signal comes down one nerve on this site and this slide is the top nerve or the presynaptic nerve. It doesn't physically touch the next nerve down the chain, which is called the postsynaptic nerve. How that electrical signal is transmitted is by a release of a little packet of chemicals called neurotransmitters.

Prof Mike Barnes 14:48
I'm sure all of you will have heard of some of these neurotransmitters - there are about 100 of them. This slide says glutamate and GABA, others will be familiar like dopamine, serotonin, adrenaline, noradrenaline, etc. And that packet of chemicals is released in response to the electrical signal. It crosses that synaptic cleft, links with the nerve on the other side, which initiates an inrush of calcium which initiates the signal to go down the next nerve to its to its end point.

Prof Mike Barnes 15:19

Now, if you think about it, that signal needs switching off, otherwise it will carry on forever. It switches off by natural degradation of the neurotransmitter of course, but it is also switched off by the endocannabinoid system, and I'll explain these complicated looking arrows.

Prof Mike Barnes 15:34
When that signal is detected an endocannabinoid as they're called is formed on demand. It's not sitting there, it's formed on demand. When anandamide is formed, it gets released on the postsynaptic nerve and goes backwards across the synaptic cleft in the other direction, links with receptors on the other side, called cannabinoid receptors, CB one, CB two, and that linkage of the anandamide, the Endocannabinoid with the cannabinoid receptors switches off the transmission.

Prof Mike Barnes 16:07
I won't go into how it does. And as soon as anandamide has done its job, it gets broken down and waits for the next signal to come along. It's as simple as that. And I hope that's not too simplistic, but that's roughly what it does. It's a negative feedback loop. It switches things off. It restores things to its natural resting state.

Prof Mike Barnes 16:27
What does that mean? In practical terms? Let's see what the endocannabinoid system does this. Remember this has nothing to do with the plant - it's just our own inbuilt natural endocannabinoid system. Well, as I've said already, it's a homeostatic mechanism balancing mechanism balances things that are slightly abnormal. So, pain, for example, is abnormal, it will come down. It regulates for example, anxiety behaviour, as a role and extinction of memory, old memories. You can see a role in PTSD. It increases appetite, which of course, low appetite is abnormal. These are things that you want to be restored to its normal resting state, so it increases appetite. Inflammation is abnormal and it has an anti-inflammatory role. It has an analgesic role. It regulates temperature, it promotes sleep, it reduces overactivity of the muscles, so called spasticity. It has a role in formation of new nerves.

Prof Mike Barnes 17:22
And there is a role in the adjustment or existing there's no called neuroplasticity. It has a function of for example, reducing tone in the bladder and reduces function and the gastrointestinal tract is anti-inflammatory. So, it has a role in things like inflammatory bowel disease, Crohn's disease, ulcerative colitis, is a role of other things like implantation of the embryo and as a clear role as an anti proliferative cell response or an anti-cancer role, a natural anti-cancer role, and a critical role in learning and memory. So that's a huge range of things. Because it works on every neurotransmitter system, you can see why it has a role in virtually every bodily function that is controlled by a nerve. So, it is the most important neurotransmitter system in the body.

Prof Mike Barnes 18:11
Oddly, it's only been known in detail about 30 years and it's still not really taught in medical schools. It's very much unknown amongst most medics and other allied professions. And it's through the endocannabinoid system that the plant cannabis works because those cannabinoids in the plant so called phyto cannabinoids, interact with this endocannabinoid system and modulate it, add to it supplemented etc.

Prof Mike Barnes 18:38
And that's very crudely and not quite accurately how phyto cannabinoids work - I say not quite accurate because the cannabinoids in the plant can also interact with other neurotransmitter systems other than this one, but that's pretty well how it works.

Prof Mike Barnes 18:52
So let's have a look at those cannabinoids in the plant. We've all heard of THC, that's the one that gets you high. But actually the plant has got to have a bit of a bad rap as it were because there are about 147 cannabinoids in the plant of which THC is just one, and only legally speaking 12 of those are controlled cannabinoids, which are meant to those get you high - in fact probably four or five or six of those that the law has determined are controlled probably don't get July in fact, but let's assume that they're right for the moment

Prof Mike Barnes 19:30
There's a there are four clear cannabinoids that do get your high delta 9 THC as the main one which is very high in street cannabis because that's what he's there for to get you high. There's another one called delta 8THC light, another one called THCV but there are others as well.

Prof Mike Barnes 19:48
So let's just look at one of them, THC. All by itself, not with anything else in the plant - it is a really useful medicine. It is analgesic, very strongly analgesic. It protects the brain; its antioxidant level has a role in some of neurodegenerative diseases like Huntington's. And multiple sclerosis, even it relaxes muscles. It's anti sickness, and it's very strongly anti-inflammatory. Twice as powerful as steroids and 20 times as powerful as aspirin for example.

Prof Mike Barnes 20:41
THC is a very good medicine but is limited as a medicine because it gets you high. So, what we do medically, is combine it with some of those cannabinoids don't get you high - particularly CBD. You put CBD with THC and it doesn't get you high, it counteracts the high. So as sensible prescribed medicine, cannabinoid medicine will not get you high. If you get high from it could be considered a failure of prescription of the doctor to do the right job.

Prof Mike Barnes 21:10
Some of those non psychoactive cannabinoids, those that do not get you are the one we've all heard of, because it's all over Boots and Holland and Barrett - cannabidiol, CBD. There are 135 others - CBC, CBG. But let's have a look at what CBD does again, in isolation all by itself, not with the rest of the plant. It's neuro protective, is very strongly anti-anxiety. It's strongly anti-convulsant, anti-sickness. And of course, we've said already it's not intoxicating. So, again, CBD by itself has very useful properties. It also is mildly painkilling, it promotes sleep, wellness issues, who will read over the counter. You know, it helps aches and pains of everyday life like after a gym session helps you recover and reduces stresses of everyday life.

Prof Mike Barnes 22:07

But it's a very useful medicine, medical medicine not just a wellness medicine, particularly designed anxiety and anticonvulsant properties.

Prof Mike Barnes 22:16
The mother cannabinoid, the one that's first formed in the plant is called CBG - for medical properties its really interesting - anti cancer, anti-inflammatory, reduces blood ketones, reduces pressure in the eye. It's antibacterial, it stimulates appetite. And that's just CBG. And that's a legal product and you can buy it over the counter.

Prof Mike Barnes 23:31
CBC is also anti-inflammatory, is very good for inflammatory skin conditions like acne and psoriasis. It's shown antidepressant properties in man, and it has anti-cancer properties. I'm not sitting here certainly saying cannabis is wonderful for cancer. So that's way off in the future, and maybe for some cancers over time. But I'll show you what it's really useful for in a little bit time. We know quite a bit about another half a dozen and precious little about another 130 or so. But all those studies do seem to have very interesting and potentially helpful medical properties.

Prof Mike Barnes 24:13
And the whole plant put together - the full spectrum products, they all seem to work in synergy. And they're better than the isolates you forget you can isolate CBD and isolate THC, which have medical properties as I've shown you, but the whole plant together is better than those individual components as a so-called entourage effect which is scientifically now without any doubt the case. So, when we prescribe cannabis medicine, we're prescribing a full spectrum product.

Prof Mike Barnes 24:42
When you walk down the street and smoke cannabis, you're smelling the thing called terpenes. They're volatile chemicals. There's about 100 of them in cannabis, and I'm not going to go through them but some of them are there. They're also an all plants that have a smell so myrcene smells of herbs for example and hops. Linalool for example has a lavender smell, limonene citrus fruits, Pinene, is pine - not surprising - caryophyllene smells of cloves. Though, those together give cannabis its distinctive smell in various shades because there are over 2000 different varieties of cannabis, and they also have medical properties. Other things that give plants colour are called flavonoids.

Prof Mike Barnes 25:36
So let's have a look at how the cannabis world can help various neurological conditions. Well, first, let's have a look at what is actually prescribed for the moment. This is from a study by Drug Science Professor David Nutt, through a project called T21 which now has nearly 4000 patients on it that have been prescribed cannabis. I won't go through the results of those studies. But suffice it to say that there's now a dozen papers come out which show very convincingly that cannabis has a very positive effect on pain on anxiety on sleep and quality of life.

Prof Mike Barnes 26:13
Let's look at the pie chart. This is what it's used for. There are now about 31,000 patients prescribed cannabis in this country and just over half are using it for pain, chronic pain, it's a very, very good

chronic painkiller. Another high proportion 41% or so we're using it for psychiatric conditions, that's mainly anxiety and related conditions like PTSD, or fibromyalgia that has both pain and anxiety elements.

Prof Mike Barnes 26:42
You've noticed it's not a disease cure. It's a symptom medicine and it helps anxiety symptoms help sleep symptoms, it helps pain symptoms particularly. And then there's a small amount about 10% or so, of neurological conditions when it helps the muscle spasm as well as pain or anxiety, gastrointestinal conditions I mentioned earlier, like Crohn's disease. It's about 10 percent on neurological indications, but mainly is pain and secondary anxiety.

Prof Mike Barnes 27:11
As I said, most evidence, it's a pain anxiety, especially as you sleep. And of course, epilepsy we shouldn't get small numbers of those children are tiny in the scheme of things. But they're really important because going back to Alfie, he had about 400 seizures a month, in intensive care every week, in the year before - admitted to hospital 48 times in the year. And he's now coming up to his fourth anniversary with no seizures at all. And all that's changed. He's been introduced to cannabis. So for some children, the effect is not just excellent, it's remarkable. And that's improved his quality of life and of course his family's quality of life immensely. So it's verging on the miraculous for epilepsy sometimes. But as good evidence base.

Prof Mike Barnes 27:56
There's a lot of real world studies, because we're at the time not to explore it, really. But cannabis doesn't really lend itself to double blind, placebo controlled classic pharmaceutical medicine because it's not a single compound. It's difficult to get a placebo. The people who use it have multiple conditions and such like but I can explore with you if you'd like. But treating it as a pharmaceutical and treating it as accepting evidence as it's a pharmaceutical will never work. Because well it's doesn't lend itself is not a pharmaceutical, it's a botanical. There's overwhelming real world evidence studies, something like 50,000 studies now increasing monthly now it's legal around the world.

Prof Mike Barnes 28:36
Let's explore that a little bit further for what your clientele may be interested in, which is mainly neurological, brain injury or spinal injury. That start with a couple of other things that you may or may not come across particularly, but it's shown efficacy in Parkinson's disease, the motor symptoms of Parkinson's. Remember, it doesn't cure Parkinson's and doesn't slow it down, it just helps the symptoms of Parkinson's, the motor symptoms, the tremor and the rigidity particularly in Alzheimer's. ,It doesn't slow down Alzheimer's disease, but it improves some of the really disabling quality of life issues and outsiders such as agitation, anxiety, sleep problems, appetite problems, depression and such.

Prof Mike Barnes 29:23
Brain tumours. Again, some tumours generally seem to be very sensitive to cannabis, particularly one called the glioblastoma. It showed us better survival. The combination of cannabis with a kind of an acid temozolomide, which is a pente brain tumour chemotherapeutic agent. I think over fullness of time we'll

find out some particular cancers are particularly sensitive to cannabis, probably some types of breast cancer, sometimes of pancreatic cancer.

Prof Mike Barnes 30:00
I'm not promoting it as anti cancer, though there's plenty of that promotion on the web. What I am saying is that it could, I think it could find a very interesting place in the management of cancer. Whatever cancer you've got, it will help symptom control in cancer. So if I had terminal cancer, I would use it because I hopefully will help my anxiety, reduce seizures if I got seizures, improve appetite and sleep, improve prove pain if I have pain associated with a cancer. So as a symptom control, a quality of life improver, it is very helpful for anytime cancer.

Prof Mike Barnes 30:34
For traumatic brain injury again, come back to the same point, symptom control too for anorexia, anxiety, seizures, pain, appetite, psychotic symptoms, behavioural problems, CBD (not THC) but CBD can help those improve sleep. And those things there, as many of you on this call know, are really many of the significant issues associated with long term problems of traumatic brain injury. And it has a neuroprotective role as well. So it's, it's useful as a symptomatic treatment for brain injury. What else increasing evidence is useful in dystonia and Tourette's, Huntington's, we've mentioned sleep disorders, of course, and overactive bladders of for as well.

Prof Mike Barnes 31:24
There is an increasing use for autism spectrum disorder and ADHD, reducing behavioural problems and those conditions. A study has shown about 60% of the children who had taken it with really little side effects.

Prof Mike Barnes 31:43
The side effects of cannabis are very mild CBD. Nothing has no side effects, but CBD has very mild side effects mainly shared with THC - drowsiness, dry mouth and dizziness. CBD can also result in stomach cramps and diarrhoea and THC, of course, can get you high if you're not careful about the prescription. But generally, that T21 study I mentioned earlier showed an extraordinary statistic of 97% of those three months after initiating the treatment had no side effects. And that was a random selection of any type of cannabis, any type of disease problem. So, you know, side effects are there. But they're really they really are very mild and very well tolerated.

Prof Mike Barnes 32:33
Psychiatric conditions - good evidence base for anxiety, as I've said, and PTSD, a little bit of emerging evidence of obsessive-compulsive disorder. Remember CBD is anti-psychotic whereas THC can cause psychosis in certain circumstances, which we'll talk about in a minute. The CBD is anti-psychotic.

Prof Mike Barnes 32:49
There is not that much evidence for anti-depressant properties. Mainly, it helps depression in the sense of better sleep, and less anxiety. And of course, it has good evidence for promoting sleep, which is a big complication in many psychiatric conditions. So, they're the main things it's used for that that build on that pie chart I showed you earlier.

Prof Mike Barnes 33:18
Dave, this is a real case study happens to be from Canada. This was a guy who had a 55 year old brain injury by metal scaffolding front on his head. He has resulting seizures and traumatic headaches, usual issues like memory problems and fatigue. And he hasn't used cannabis before. He's on another medication. I'm not going to go into how you prescribe cannabis today, but the doctor started him as we should do on a low CBD dose, the same stuff you can buy over the counter, except its full spectrum which means it has a little bit of all those other ingredients in including a little bit of THC. When it says 1:20 it's very high in CBD and very low in THC. Dave started a low dose. So often it's the combination that's important not just CBD, not just THC, but the whole plant, so she then added a little bit of THC oil just a tiny bit, just two and a half milligrammes at night, five milligrammes a day - that's tiny dose compared to the CBD, which was 100 she added a little bit of flower for vaping because you can vape legally which is good for getting people off to sleep, its good for very good for a sudden pain like breakthrough pain, or things like trigeminal around your cluster headache or on or have migraine, for example, panic attack.

Prof Mike Barnes 35:42
So with that combination of CBD & THC and a little bit of a vape, Dave was off half of his morphine, increased energy, better pain control, and much improved quality of life. And that's it is a generally typical story, I just wanted to put one out on many other cases, because I could have showed you but I was wanting to one up, that's relevant to brain injury.

Prof Mike Barnes 36:02
So what's next? So this is where we are in the UK now. There are 31 online clinics, all private. With 12 pharmacies, it's now about 120 doctors prescribing in the UK, which you think about it is tiny. There are well over 100,000 doctors in this country and only 120 prescribe. We have no shortage of product. But what doctors will tend to prescribe from all that range is 60% Is for flower for that acute pain.

Prof Mike Barnes 36:44
And we often find that legacy uses - illegal previous users - do prefer regular vaping to a background oil. 40% or so is oil, and we haven't got much else in this country. So you either get a flower for vaping, we get an oil product to put it under the tongue gives a good, reliable, consistent effect.

Prof Mike Barnes 37:14
We will soon have a UK industry as 12 grows now in the UK with licences or will produce back end of this year, early next year, in different parts of the country. And overall, we now have 31,000 or so, UK and Channel Island patients. And we have five in the National Health Service, which is a bit sad, because when the government voted to change the law, I think they were voting to change it and for everybody, not just for those who could afford a private prescription. And that's a big issue. That's the statement of fact, at the moment is three of those children, two of those adults, five on NHS and 31,000 privately.

Prof Mike Barnes 38:02

If you ask people in the street, around two thirds don't know that it's legal to prescribe and interestingly, astonishes me because I've been present five or six years working in nothing but cannabis. But it's astonishing that there's meant to be about 1.8 million people in this country who use cannabis daily for medical conditions as not the recreational market but about 1.8 million for medical use only. Okay, it's an overlap, but mainly for medical use. So we've barely scratched the surface of those who aren't using at the moment but would benefit but don't want to don't know how to get it or don't want to criminalise themselves.

Prof Mike Barnes 38:42
So let's have a look at just a few questions. I'll go through these in five minutes or so and then we'll stop for some questions that might be online.

Prof Mike Barnes 39:30
If you've got carrying cannabis with you, what you should do is keep it in the container and keep the prescription with you. There's many cases that come to my attention and I'm sure yours is from a legal point of view is that the police illegally I think that's the right word sees legal cannabis because they say "that's it's not legal, you're pulling the wool over our eyes" and it is sadly the case that many of the police forces in this country do not yet know that it's legal. So if you've got a cannabis prescription and it's legitimate and is being provided by a proper medical practitioner, use it by all means, but keep the prescription with you and its original container.

Prof Mike Barnes 40:10
There are no restrictions on the method of administration except for smoking, smoking remains illegal in this country. So if you have the flower, it has to be vaped, you cannot smoke it. But any other method of administration such as edibles or oils or patches or suppositories are legal but there is there's virtually none available legally. And it's mainly down to flower for vaping and oils for administering under the tongue or perhaps from swallowing.

Prof Mike Barnes 41:00
The patient should be provided with adequate guidelines and how when to consume it because it does take a quite a thought through process of slow incomes start low and go slow as the usual recommendation in building up slowly so people need that writing down for them to gently build up over two or three months to a good dose. So they should have been providing those guidelines and should have them handy.

Prof Mike Barnes 41:31
Does cannabis impair you in terms your cognitive or motor skills? Well cannabis can do clearly. But I'm not talking about street cannabis, we're talking about medical cannabis and medical cannabis should not cause impairment. Okay, for those with severe pain who might need a high THC dose, they should still be counteracted by the CBD. It's just possible there's a bit of breakthrough highness for those who have very severe pain, and therefore it can impair you for a short period of time, perhaps an hour or two hours after taking but that's unusual. It can occur but generally speaking, medical cannabis does not impair your cognitive intellectual functioning, because the doses are lower than the street cannabis. And the constituent products are different from street cannabis.

Prof Mike Barnes 42:23
Are the contraindications to using it in the first place? Yes, not It's not suitable like any meds. It's not suitable for everybody. I wouldn't prescribe it to those when the active psychosis or history recent history of psychosis, a recent history of heart attack or stroke for about three months because it can affect blood pressure and heart pumping, so it shouldn't be prescribed everybody. Probably you exclude about less 5% or less of those who wanted are not suitable to have it. So it's suitable for most people.

Prof Mike Barnes 42:54
And of course, they should be advised about potential side effects, which I've mentioned about dizziness, drowsiness, dry mouth, in relation to operating machinery or driving if you are dizzy. Or drowsy, of course, don't drive you shouldn't drive if you're impaired or brain machinery. So warning people about the side effects is clearly very important.

Prof Mike Barnes 43:18
History of substance abuse or dependence or psychosis or mania, would you think carefully and it's not an absolute contraindication if you had a history of psychosis as a teenager, you come back in your 40s or 50s with back pain, I wouldn't hesitate to prescribe. I'd start with the CBD, it doesn't get you doesn't have a risk of psychosis and build it up very slowly and cautiously. So there's not much as an absolute contraindication

Prof Mike Barnes 43:42
What you really need to do is be open with employers or educators and tell them I'm on a legal cannabis prescription. Otherwise, all you really need to do for those who need to take it and vape it particularly is provide an area to do so. Like a smoking area outside for example. Obviously people wouldn't particularly want you to vape in the office like you wouldn't want to smoke in the office these days. The Cannabis Industry Council, CIC have now produced a very useful guide for employers which passed through some lawyers so hopefully we get the law right about what employers and can't do in terms of restricting access to legal medicine for those who need it. And that basically they can't restrict that access.

Prof Mike Barnes 45:10
Are there legal restriction about transportation storage consumption? No, there's none, or no legal restrictions about I can carry it around, you can vape it where you like. Let's be sensible about it. And if you do you have to vape cannabis, then go outside and do it. So there's no legal restriction except on private premises when lawyers I'm talking to here can tell me probably the legal owner of the premises can restrict what they want to happen on their premises. So that's I'm straying outside my area. But otherwise, there are no legal restrictions about transporting or storing or consuming the legal product.

Prof Mike Barnes 45:58
A prescription is valid for a month's obviously, if you're not using it all because you don't need to vape every day then you can use it for longer than a month, but the prescription lasts a month. And you should have a review and follow up with a medical practitioner who has started to evaluate

effectiveness and side effects, particularly for the first couple of months till you get a sensible, stable dose.

Prof Mike Barnes 46:26
And finally, the driving regulations. I'm sure many of you will know there is a legal limit for THC is two micrograms per litre, you will be over that limit if you're on a regular medical prescription that contains THC. Why is that? Because THC is stored in the fat reserves of the body and comes out into the bloodstream slowly but surely. So you will be over that limit, but you won't be high, you won't be impaired except perhaps for an hour or so after each dose. You shouldn't drive whilst impaired. But you can drive whilst you are over the limit if you have a medical defence. The medical defence is that you have a legal prescription and you are adhering to what that prescription says. That medical defence means you shouldn't be taken to court for that reason.

Dr Edmund Bonikowski 47:12
Thank you very much, Mike. I mean, a fantastic run through the history and the applications, indications and so forth for cannabis. And I think, you know, from what Mike said, there, we can see why this is such a potentially fruitful source of therapeutics for our patients, particularly complex neurological disorders. I saw a lady in clinic only three weeks ago, who has MS. And then she had an array of the complications and impairments that arise. And she ran me through all the different drugs she was taking and the history of the drugs she'd taken. And one by one, she was ticking off saying, you know, this didn't work. And that didn't work. And that was only marginally useful. And we, you know, we were working through her situation. And I was beginning to sort of summarise in my head. And right at the end, she said, "Oh, by the way I have access to street cannabis. You know, I make cookies out of this. And I, if I take one at night, I sleep brilliantly. I'm not woken up by pain in my hip and my thigh that my bladder doesn't wake me up." And so I referred her to your type of service, because it seems to me the most appropriate thing to do.

Dr Edmund Bonikowski 48:49
I had the privilege of going over to Canada in 2019, to be with Dr. Chris Blue for four days, who's a cannabis expert physician over there. And it was fascinating all that time ago to see what full on cannabis prescribing can achieve in patients with complex problems. And I came back full of hope for the UK cannabis scene. And it's, it's very sad to see that, you know, we have only five patients with NHS prescriptions so far. So those are my those are my reflections on this.

Dr Edmund Bonikowski 49:26
Mike, we've got a couple of questions, just go through them quickly. Can you prescribe people who've got a dependence to drugs like cocaine?

Prof Mike Barnes 49:58
Those dependent on cocaine or heroin can be weaned off by slowly substituting the cannabis. It's not my area of expertise, but I know there are some psychiatrists are now using cannabis as a means of getting off those other drug dependencies.

Dr Edmund Bonikowski 50:16

Do you know any client going through the medical legal process having been prescribed cannabis?

Prof Mike Barnes 50:24
Yes. But yes, it's not uncommon now for that, to be used in mainly Traumatic Brain and Spine. As we've said, they're the people who will tend to go through a medical legal process. And yes, a proportion of those. I couldn't give you a percentage I just don't know, will be on cannabis legally prescribed.

Dr Edmund Bonikowski 50:49
Interesting. My reflection on that particular question is that I haven't come across anybody who's been prescribed it. And I think that's really just speaks to the general incidence of this kind of prescription.

Dr Edmund Bonikowski 51:02
Are there still risks associated with vaping? For example, popcorn lung, when vaping with medical cannabis?

Prof Mike Barnes 51:12
I presume they mean, some of the issues of the vaping in the from mainly from the States. There is I think that was due to the excipients used in those vapes in the States now maybe talking about some question you didn't ask, but I think that's what you mean by that. And the answer is no. Because mainly when it's vaped in this country, nearly always, you just put the dried flower in the vape machine.

Dr Edmund Bonikowski 51:42
Are there other long term side effects associated with medical cannabis, such as psychosis, which I believe is associated with street cannabis?

Prof Mike Barnes 52:16
Just to emphasise, you're quite right. Yes, it's very rare. Even in street cannabis is blown out of proportion by some elements of our press, I have to say, but there's a lovely study by a guy called Hickman, who showed you had to stop 10,000 males and 29,000 females from smoking street cannabis to prevent one episode of psychosis. Yes, it does. And as I said, I wouldn't prescribe someone with an active psychosis because THC can cause psychosis. But again, we're not talking about street cannabis. We're talking about medical cannabis, same plant, different product, if you will. So, say I've never heard of incidence of psychosis from a medical prescription. I'm sure it's happened. I'm sure it will happen. But it's extremely rare.

Dr Edmund Bonikowski 53:01
What are the barriers to obtaining NHS prescriptions? Is it simply lack of knowledge amongst consultants, lack of availability, etc. In fact, I was going to come to this question myself.

Prof Mike Barnes 53:21
The government changed the law and said, we've done our job guys, aren't we lovely is now down to the doctors. Lots of obstacles to actually prescribing. Main one is finances. Matt Hancock did say I will make sure that there's not a financial barrier to prescription on the National Health Service.' Like many

things, that wasn't true. There are a lot of financial barriers to prescribing cannabis on the NHS. Mainly the Trust, if you're working in a trust, they say, well, we're not funded for it. If you work in the GP world they said, We're not funding for it. We're not funding everyone for that. That should be down to local hospital. So we go round and round around in circles. And what we're trying to do is lobbying the industry councils and other bodies is to get the government to organise this themselves and make sure there's a funding pot for cannabis.

Prof Mike Barnes 54:24
That's one thing, a couple of other barriers, like you have to get a multidisciplinary team approval when you prescribe it, which happens to no other medicine as far as I'm aware. So the doctor can't say 'I think I'll do this'. You've got to go off and get approval for it, which is another barrier. Not allowing GPS to initiate prescription is a problem because a lot of this is GP country if you like - sleep problems, appetite problems, anxiety problems, some pain problems, is GP territory, but they can't initiate the prescription. There are things that the government could do to improve things. The other side of that is some of them medical hierarchy bodies are eg. Royal College of Physicians and the British Paediatric Neurology Association, who are implacably against this for reasons one can speculate about, but I don't know why they are so adamantly against it. So much. So they write to doctors and say, if we do this, you'll be harming your career. Many examples of doctors being referred to the General Medical Council, because they started prescribing, by the BPNA. I find that immoral, and the result of that stance to take children, children are dying as a result of their attitude. And I'm quite happy to say that public indeed have said it publicly. So there's a lot of these hierarchy bodies that are being deliberately obstructive. I wish I knew why.

Dr Edmund Bonikowski 55:44
There's a there's an interesting little rider to that. And I won't read the whole quote out, but it says, one of the attendees was told by a defence union, that there should be a pain physician registered under the GMC under pain, and that being a rehab consultant specialist was not sufficient, interesting

Prof Mike Barnes 56:03
Utter rubbish. We do hear a lot of rubbish talked, I'm afraid.

Dr Edmund Bonikowski 56:07
And finally, my question for me, really, and one that I'm asked in clinic by my NHS patients, whose can't access it through the NHS, is how much is this going to cost me?

Prof Mike Barnes 56:19
Yeah, that's the sad thing about it, many can't really afford it. You've got the consultation costs, which are roughly now not wildly expensive, but about £80 pounds on average, now it's gone down. That's still a lot of money for some people, of course. But that pales into insignificance when you look at the cost of buying the CBPMs, the average cost now, which has come down is about £400-£500 a month, for children with epilepsy around £1500 a month, because they need more product. So that's what you're looking at around about £6000 a year and of course these days the majority of the population for no way afford that. So it's very much the you know, the postcode lottery thing, or the private - it is only available to those who can afford it, or those who are prepared to do coffee mornings and mortgage

their house, we've heard all these tales. It's very sad and the government needs to do what it said it would do, which is make it available on the NHS.

Dr Edmund Bonikowski 57:21
And there's no wonder therefore that people tend to homegrown or street cannabis and so forth for their symptomatic relief.

Prof Mike Barnes 57:29
Yeah. It's very interesting statistic actually, that the average street price of cannabis is £9 a gram at the moment across the country. The average price of medical flower prescribed is now £8 a gram. So, it's cheaper to get a medical prescription.

Dr Edmund Bonikowski 57:52
It should be free. It should be free. That's what the Government said.

Dr Edmund Bonikowski 57:57
Can you point to any guidance regarding support workers assisting with clients with THC, a spinal injured client who cannot access independently?

Prof Mike Barnes 58:15
If they feel that it's in the best interest of their client to have this prescription, yes, you can do it. It's all online now. And so, getting a prescription online with the support of the carer of a the expert required, which should be fairly straightforward. But it's not. It shouldn't be an issue as long as you follow the relevant mental capacity like any other medicine, getting access to cannabis is not different from any other legal medicine.

Dr Edmund Bonikowski 58:52
Okay. Well, Mike, we're about a minute away from concluding. So, I think we'll wrap up there. We've got through most of the questions that were showing up in the chat. I've been around you doing this cannabis thing for several years and the story continues to get more detailed and more interesting. And I really do congratulate you on those 31,000 patients, which I think would not have had access to medical cannabis without your leadership and intervention. And I hope that some of those 1.8 million that need it, or two to 3 million who need it, do eventually get it. And if they do, it will be substantially as a result of your leadership. So, thank you very much for your presentation. We wish you well with your ongoing work with cannabis. Thanks very much, everybody, for coming. Good evening.

Prof Mike Barnes 59:48
Thank you.