



Holistic Approach to PANS/PANDAS

Guest: Elisa Song

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Dr. Clifton: Hello, everyone. Today I am so excited to introduce you and probably many of you already know Dr. Elisa Song, just a leader in the pediatric community. I'd like to share with you her bio and then we're going to have a very fast moving comprehensive discussion on all things information in the kiddo brain. Elisa is a Holistic mama doc, Dr. Elisa Song MD, a holistic pediatrician, pediatric functional medicine expert and momma to two crazy, fun kids.

In her integrative pediatric craft is Whole Family Wellness which you can find at www.wholefamilywellness.org. She's helped thousands of kids to get to the root cause of their health concerns and helped their parents understand how to help their children thrive body, mind and spirit by integrating conventional pediatrics with functional medicine; homeopathy, acupuncture, herbal medicine and essential oils.

Dr. Song created Healthy Kids Happy Kids to share her advice and adventures as a holistic pediatrician and momma. Now everyone can have their very own virtual holistic pediatrician. You can follow her blog at Healthy Kids Happy Kids, which is healthykidshappykids.com or on Facebook at facebook.com/DrElisaSongMD or Instagram, [healthykids_happykids](https://instagram.com/healthykids_happykids). I'm so excited to talk to you because this brain inflammation, the idea of a hot brain and the way that cannabinoids could potentially be valuable in that setting is such an important topic.

Dr. Song: It's so important. And we have so many kids who are so sick and really need all the help they can get. And the more we understand about how

so many of the neurodevelopmental and neuropsychiatric disorders that are kid are facing really have this underlying brain inflammation and immune dysregulation, I think we're going to find more and more how much CBD can benefit for a wide range of healing for our kids.

Dr. Clifton: Absolutely. And the great thing about CBD and all the cannabinoids is that they cross the blood-brain barrier so effectively. You have all of your inflammatory cells in the peripheral nervous system, the macrophages and the B cells and T cells, but the brain has its own immune system through the glial cells. And it's sometimes very difficult to get those glial cells to respond to something that you're putting, for example, in an IV because it just doesn't cross into the brain very easily.

Dr. Song: So this is where really trying to figure out all the different mechanisms, whether it's acupuncture or restorative sleep or the cannabinoids. It's something that's really going to have a direct impact on the nervous system. We know so much about how the gut-brain system is connected and interacts, but we really don't know much about how can we penetrate that blood-brain barrier, which we know isn't completely sealed. We know there're many entry points for things like cannabinoids but also toxins and infections. But the more we can understand, how do we impact that brain directly, how do we help heal that brain, the more we're going to help our kids.

Dr. Clifton: Absolutely I mean the blood-brain barrier thankfully is a little bit easier to penetrate in the setting of inflammation some of the gate ways become a little bit more open and that makes it a bit easier. I wonder how do you do acupuncture on a little squiggly person? I can't imagine how either one of my kids would ever sit still for that.

Dr. Song: Acupuncture is amazing. Most of us as adults if we've had acupuncture, we have this vision of laying on a table, right? Close your eyes and sitting there with some Zen music going on for maybe 20, 30, 40 minutes.

But for kids especially if they're under eight years of age, young kids, I've had babies where I've done acupuncture for colic and reflux symptoms. We don't retain the needle. The needle literally just goes in and out and so the whole session might be two minutes. And I'm on the floor with the kids and whatever part presents to me whether it's a foot or maybe it's a hand, I just go with the flow. And then there's also incredible other tools like laser acupuncture.

So I have a neuro red laser that I'll use for acupuncture points for older kids who're a bit nervous and maybe have had too many needles in their lives; they're a little shy and afraid of that. And I also have a little steam device which I actually have right in front of me. It's this one I use for ear

acupuncture, it's amazing. These tools work incredibly well and children respond beautifully.

I mean children on the one hand, they can get so sick in an early age but on the other hand, they can also move back to healing so quickly. So that's where pediatrics is so rewarding. I mean just these little interventions and little changes in their diet and their lifestyle and supplements and medications or tools like acupuncture we can see these incredible shifts happening.

Dr. Clifton: It is a very pliable system young people and pediatrics is often the care of the well. But with your focus on care of young people who are already experiencing chronic disease it's got to be extremely rewarding to see them turn things around quickly.

Dr. Song: Yeah. It's rewarding and it's disheartening how many of our kids have autoimmunity and inflammation nowadays. We need to focus on prevention but in the meantime, we need to spread the message of all of these tools for kids who are sick so they're not really destined for a lifetime of these heavy-duty medications and immunosuppressants that they're facing.

Dr. Clifton: Developing more autoimmunity and developing at a younger and younger age presumably due to all of these environmental factors because we can't see a genetic shift over the course of two generations.

Dr. Song: That's right. Our genes haven't changed but our ability to handle what we're being exposed to from an early age really is shifting. And reeducating that immune system from the newborn period even in utero towards one that's really holding on to inflammation and not able to get back. And that's where we're seeing autoimmunity in such young kids.

I used to think that my 18-month old child who had all sort of colitis was my youngest patient with autoimmune disease. But I actually saw a six-month old baby who was diagnosed with Crohn's disease. I mean how do you have a six month old baby with autoimmunity? Now thankfully she's doing amazingly well and she's in kindergarten and thriving.

Dr. Clifton: Did you just knock on wood?

Dr. Song: I did knock on wood. She's doing amazingly well. She's thriving and she really has no signs of autoimmunity and that's what we want for our kids. Well, we actually want them to never develop autoimmunity in the first place, but it comes down to really their gut from an early stage is bombarded with all of these environmental toxins, medication at an early age. We know that

antibiotic use and antacid use in the first six months of life can increase our risk for autoimmunity.

So we need to really figure out how to start from the ground up. Get momma's gut healthy so that babies are born with a healthy gut and then that imprinting and education of the immune system is primed to be healthy to deal with inflammation in a normal healthy way because we face inflammation every day. I mean we're encountered every day with something that our immune system needs to clean up whether it's an infection or whether it's some environmental chemical or toxin we're exposed to.

And if our immune systems are healthy, we should be able to go back to that state of health. We should be able to let inflammation do its job and then we should be able to let our immune systems say, "Hey, you've done your job, let's go back down to baseline." And this is where this counter regulatory balancing piece is not happening.

So inflammation just goes up and kids are staying there and we see that with kids' brains too. Kids' brains literally are on fire and these very common childhood infections like strep or influenza or the hand-foot-and-mouth virus instead of recovering and going back to a healthy happy baseline, these kids are tipping over into developing autoimmune brain inflammation or autoimmune encephalitis. And we're seeing this epidemic of something we call PANS or PANDAS.

Dr. Clifton: And you know it's so true on all those points; that we're constantly facing these hits of inflammation. And study after study showing that there is tiny DVTs trying to form and your leg, cancer cells that are turning on in your body that have to be controlled and shut off every day. And so all of these regulatory systems need to be supported really hour to hour so that you have everything that you need to get better. It's just not a matter of taking a spa weekend for yourself once a year. It's something that needs to be supported every day.

Dr. Song: That's right. What I tell patients is, conventional medicine has a time and a place. Of course there's a time and a place for everything. But in conventional medicine, the only tools we really have are immunosuppressants, blast the inflammation and your immune system bring it down with things like NSAIDs, Ibuprofen or Prednisones, steroids. We don't have great tools in conventional pediatrics or conventional medicine to reeducate our immune system, to have that balancing regulatory piece.

And so what happens as soon as the Ibuprofen's off or as soon as the Prednisone's is off, inflammation goes right back up. So this is where I am

fascinated with the research on CBD and how CBD can help with that balancing, that modulatory piece. And in fact with PANDAS which is a Pediatric Autoimmune Neuropsychiatric Disorders Associated with Strep which many of your listeners will be familiar with but many will not. And we need to get the awareness out that this is an increasingly common problem.

But this is where children will become infected with strep let's say in their throat or their skin and suddenly develop these acute onset of neuropsychiatric symptoms including, rages, OCDs, ticks, food restriction, handwriting decline, slow comprehension, urinary frequency. And we know that the Th17 immune response is implicated in PANDAS and in many autoimmune illnesses that is just not being regulated well enough and that CBD can actually help regulate the Th17 arm of our immune system. So I think that has so much potential there.

And then PANS too, PANS is an umbrella term; pediatric acute-onset neuropsychiatric syndrome that can be triggered by infections like strep or Epstein-Barr or Lyme or influenza. But then we can also have PANS triggered by other things like mycotoxins, mold, heavy metals, other environmental toxins.

Dr. Clifton: I think as we go into a conversation more specific to CBD with kids and have to of course remind everyone that using products like cannabinoids in pediatrics is a very brave new world. It's not something that is supported by the obstetric association of family practice or internal medicine or the college of surgeons or the college of pediatrics.

However, the pediatric college did leave a crack in the door by saying that if you're dealing with a very significant disease that is not adequately controlled with current therapies or if you're dealing with a seriously disabling disease that you don't have under control, these products could be considered. And so that's an exciting crack in the door. And then the other exciting thing is the way that these cannabinoids appear to stabilize a lot of inflammation and really try to bring inflammation under control especially in the central nervous system. I mean this situation seems almost tailor-made for a trial off CBD or other cannabinoid to see if it helps with a hot brain in a little one.

Dr. Song: I absolutely agree that we are kind of in the wild west of knowing where to go with CBD, how much to give, the dosing is not clear. And for me when parents ask me, "Well, what about CBD for my kids? Which product should I use? How much should I give?" I have to be honest with them and let them know that I am not entirely clear on that.

And this is where I look to you, Mary, for your expertise to help guide my

conversation with parents. Because as you know there's been this explosion of products on the market and I only want my patients to use the highest quality, CBD products that are not going to be contaminated with mold. Because so many of our kids do have mold illness as well on top of the PANS or PANDAS maybe that's triggering. And of course want to make sure there's no other contaminant. So this is where I think your education here with your expert series and really bringing the education out to practitioners and parents is so critical.

Dr. Clifton: I think finding the right product with someone you trust is very important and especially when you're working in a pediatric environment, making sure that the products are in a protected space and that you have a provider that has all of the poison control data and regular follow-ups scheduled. And has even potentially consulted a legal team just so everything is covered and that they're going to be okay. But with all of that said, CBD appears to be very safe in use of a number of situations. My recommendation always with inflammation or anything else is to start low and go slow and really start at a very low dose and spend at least a couple of weeks titrating.

In all of the studies that I've read where there is benefit and people enjoy a good result, they're giving themselves at least two weeks to slowly increase the dose especially in cases of like seizure disorder where young people who are dealing with recurrent seizures. You know some of these seizure syndromes like the Lennox-Gastaut, the Dravet syndrome. These kids are having a seizure every day or more than one seizure a day. A reduction in 50% of their seizures is really an outstanding result.

And we had six trials, now five that were very well done, randomized control trials that show significant benefit with the administration of just CBD to this community. So there is a definite benefits in an aggravated irritated brain. It's just a matter of accumulating a little bit more safety data around using it in little ones.

Dr. Song: I mean I think that this is as we move forward that parents can really look to hopefully more research and the benefits, potential adverse outcomes. And I have to say I haven't seen in my patients any adverse outcomes except perhaps initially some sleep disturbance which then settles out.

And so every child is so unique and as Dr. Mary said, we absolutely with kids go very slow and start very low because some kids will respond to even very small dosages. I think we also don't really know the long-term data. I mean just like for many things with kids the studies haven't followed them out long

enough. But the results with seizures and devastating seizure disorders like Dravet Syndrome like Dr. Clifton mentioned where CBD has such potential to reduce the devastating impacts of the seizure disorder where in most cases medications really don't work.

I mean I have kids whose medication list, they've tapped them out, I mean they've gone through all of them and there's no other resources. So thank goodness there is a possibility for this other option but actually so many other benefits as well for kids with ADHD or autism or anxiety. And we know that 'mental health disorders' like anxiety and depression and OCD and ODD that we're seeing in kids, it's not just a mental health condition. There is so much underlying brain inflammation going on and we know that there's so much more evidence that even these mental health disorders are driven by inflammatory processes and infectious processes and toxic processes.

Dr. Clifton: And often times by different ways that they're going to impact different parts of the brain. I mean with autism that appears to respond very well to formulations to cannabinoid formulations. There's one really nicely done study out of Israel of over 180 children that showed significant benefit with the addition of a cannabinoid formulation where kids could take some steps towards dressing themselves and much less aggressive behavior. And in ADHD no formal studies, but a lot of survey data where people report that they're feeling better.

And the functional MRI data the PET scans show that in that particular case it appears to be working the same way as Strattera or the Adderall, the other medications that we use in ADHD sort of to slow down the hyperactivity component. It seems to do the same thing with slowing down activity in the movement centers of the brain. Which makes sense because anybody who's ever been exposed to cannabinoids has had an experience where they just don't want to move because we're stuck to the coach.

Once you take a little person who can't sit down and can't settle down and give them an opportunity to sit down, some of that attention deficit component is really hyper activity. And once the hyper activity can be reduced then the kiddo can do better. But there's so many applications across these issues and also recognizing like you said. It's not just the little person, it's the care providers that are trying to manage the person and that are struggling with trying to provide effective care and maintain their patience and some really trying setting sometimes.

I think some of the most interesting work around the pediatric population is how many of these surveys are answered by a care provider in young adults or in adolescents. Because in a lot of cases with the Dravet syndrome, people are

very seriously disabled with their conditions and are relying on a significant amount of care from day to day.

Dr. Song: Absolutely. And this is where I talk so much about momma self-care and it's not always the mommas, there's poppas and many times grandparents involved but it's most often the moms who are up at odd hours of the night, researching what else can help their kids. I'm I doing enough? What more could I be doing? And not taking care of themselves and living on adrenaline and not sleeping. And it's such a high anxiety state and so we really need to figure out ways to support our moms too. And I know moms who use CBD to help with that calming and that relaxation.

Dr. Clifton: I was going to say we got some videos on that. It's so true.

Dr. Song: That's right.

Dr. Clifton: In the adolescent brain I don't know if we'll ever get a straight answer on what's going on in terms of risk of psychosis or risk of the development of depression or any other associated behavior, mood disorders. We're never going to take 10,000 young people and put 5,000 on cannabinoids and keep 5,000 off and then follow them. We're always looking back and it's really difficult even with excellent science to remove all the cofounding issues like the parenting and the socioeconomic status and the educational level and whether or not these conditions existed before exposure.

But it appears that any substance exposure, any hallucinogen or alcohol or even nicotine can trigger the development of the psychosis or the depression in a vulnerable population. So really as we're looking to consider products like this, we really need to think about the vulnerability of the population, if there's a family history of these conditions or if the patient had a previous psychotic break or is already experiencing hallucination. Some of these things need to be taken into account as far as the appropriateness of therapy.

Dr. Song: That's right. And you know I just was having a conversation with another mother in the practice and there is this growing misperception among teenagers with all the benefits of CBD touted far and wide that it's completely safe for them and that vaping is actually good for them. So now, we're seeing so many news reports of death after death or serious morbidity associated with vaping.

So we are not talking about vaping here, we're talking about the therapeutic medicinal use of CBD for kids whose brains are inflamed and really could use that support. As Dr. Mary said, we really need to make sure, especially with the adolescent brain that is growing so rapidly and developing just as rapidly

as their toddler brain was, that we are doing everything that we can during that critical time of neurodevelopment during our adolescent years. That we really give our children, our teenagers, the tools they need to develop their brains into a healthy adult brain that will be happy and thriving.

Dr. Clifton: Yes, exactly. And recognizing that this is one tool in your arsenal and that there's all kinds of other products to use. And also remembering that the other medications that are being recommended through a more western model, the antiseizure medications or the other antidepressant medications, are not without their own level of risks and side effects in terms of their long-term use.

Dr. Song: Absolutely. I mean we are facing an epidemic of teenage anxiety and teenage suicide in the United States. In fact, teenage suicide is the second leading cause of death among our youth 15-25 years of age only behind accidental injury and that is the very top of the list. And then way down are the other causes of mortality in our youth. And so our children are put on a polypharmacy of medications, Lexapro and buspirone and risperidone. And there are so many side effects.

In fact, antidepressant medications have what's called a black box warning that they may actually increase suicidality of our teenagers. The very symptom that we're trying to avoid and prevent. And so it really is about finding a good practitioner who can help you really integrate all of this and really follow along with you closely. Be a partner in your child's health and really be there to manage any side effects and also really help guide you towards understanding what are the risks and benefits of any intervention? How do we put together a plan that incorporates the best chance of healing with the lowest chance of side effects?

Dr. Clifton: Absolutely. You know the idea with using the antidepressants is that you might get an improvement in the psychomotor component of the depression where the child just doesn't want to get off the couch, just too sad to get out of bed. But then they get healthy enough that they can get moving and actually move forward with a suicidal intent before you really clear the depression. There are risks with all of the different pharmaceutical medications. I could talk to you forever Elisa. And I know that probably listening now there are a bunch of other people who feel exactly the same way. So you have great data for us available at your website. Can you tell us again how to find you?

Dr. Song: Probably the best way for parents to learn more about integrated pediatric medicine is through my blog it's healthykidshappykids.com. And we have from there an amazing Facebook community of parents from all over the

world that are coming together to really support parents in this holistic integrative journey. Because some parents don't have a community or friends or family who are interested in this.

Dr. Clifton: I think that's exactly what Facebook is all about. If you're out in a country somewhere you don't have the resources, the therapy that other people might have and you most importantly don't have that community, that's so valuable. That's exactly what Facebook is for.

Dr. Song: It's amazing. And so if parents want more support from their fellow moms and dads and grandparents and practitioners and I'm in the group they can just look up Thriving Child Community Facebook group. And again, a great resource and I hope that moms and dads listening, grandparents and practitioners that you really become encouraged to take this forward into an integrative holistic functional medicine approach, whatever you want to call it. But looking at all the tools that we have at our disposal to help your kid's brain and immune system thrive.

Dr. Clifton: Thank you, Elisa, thank you so much for all this great data today.