Introduction and episode overview

There's hope. I mean, there's so many things that our bodies can heal on. I mentioned kids are resilient. So I really do see cool changes pretty quickly with kids.

If you find that rate jenga block that you can remove, then they blossom and they flourish, and they have their whole lives ahead of them. And there's so much we can do to really help them heal and grow and flourish in life.

We just have to be able to look under the right rocks and ask the right questions. And so seek it out. And there, if you have a kiddo that you're struggling with, you have concerns, you're not sure what is going on, keep looking for the right doctor or the right provider who will ask those questions and will listen to you and listen to your kiddo and try to find out what's going on.

This is Doctor Talks. Real talk from real doctors on the issues that matter to you most. Welcome back to Lime Bites, Rebuilding Immunity, Reversing Inflammation, and Redefining Recovery.

Today we're joined by Dr. Casey Kelly, a board-certified family and integrative medicine physician, founder of CASE Integrative Health in Chicago, and clinical faculty at Northwestern University's Feinberg School of Medicine.

A nationally recognized expert in Lyme disease, Dr. Kelly has spent her career bridging conventional and functional medicine to treat complex chronic illnesses in both adults and children.

In this episode, we're focusing on Lyme disease in kids, a population that is both highly vulnerable and frequently misdiagnosed. Pediatric presentations often diverge from adult patterns showing up as mood swings, anxiety, OCD, or regression, symptoms too often mistaken for primary psychiatric illness.

As a result, many children are placed on medications or undergo treatments that fail to address the infectious, inflammatory, and immune-driven root causes.

Together, we'll unpack how to recognize, properly diagnose, and treat Lyme and other vector-borne illnesses in children, because early intervention and a comprehensive approach can make all the difference.

This is Lyme Bites. Let true healing begin. Welcome, Dr. Casey Kelly. Thanks for joining us. Yes, thank you so much for having me. Absolutely. So let our audience know the Cliff Notes version of Why You Do What You Do.

You know, I've always been so curious about why people are sick and trying to get to that root cause. So when I found functional medicine and that group of clinicians and holistic medicine and people who are really curious and trying to get to the root cause.

And then in that journey, you start to learn about Lyme disease and these other, you know, chronic vector borne infections.

Dr. Kelly's path to root-cause medicine

And when you start looking for it, you can't stop because you find it so often. And I found it in myself and I had to deal with my own health journey.

And it just kind of blossomed from there. And that's where a lot of the focus of my practice is now kind of expands to chronic complex illness, not just Lyme.

But I do think Lyme and vector-borne infections are a master class in functional medicine. I think you have to know

all of the things about the body to really truly treat them properly.

Yeah, and I think that's true, you know, especially when we're doing root cause medicine and Lyme and other vector borne diseases, they're so prevalent and they affect every single system in the body and they're the great mimicker.

And so, you know, I often argue that Lyme and other vector borne illnesses should really be amongst the differential diagnosis of literally every differential diagnosis that's come up with because it affects everything from the brain to the urinary system and everything in between.

But let's focus on kids. So it's been said that up to 25% of Lyme cases annually occur in children. Why do you think this is? Well, I think kids are outside playing a lot and they're closer to the ground.

So they are running around and getting exposed probably more than adults are. And they're not paying much attention. They're running around in the mud and this and that.

And we don't feel ticks. They don't bother us. You don't notice it. And so it's easy to kind of miss that. But I think more than anything, they're just more likely to get exposed just because of being kids.

Yeah, that's true. Why do you think ages five to nine in particular has such a higher prevalence? You know, I haven't really been able to figure that one out except, you know, maybe once we're five, we're a little more able to run free outside.

I don't know about you, but I grew up just running around the neighborhood, climbing trees and doing all the things. And I didn't do that when I was little.

You know, when you're a toddler, you have a little more oversight. And as we get older, we have a little less, which is important for development and whatnot.

That's my guess. I don't know, have you, I haven't really been able to kind of figure piece part why that particular age group. Yeah, I guess I agree with the first part, there's probably less supervision, a little less supervision once you hit five.

And then, I don't know, as you were talking, I think the first thing that popped into my head that I was thinking of is like, Ooh, I remember, you know, like in fifth grade, which I guess is, you know, when you're 10, the homework starts, right.

And there's all these after school organized activities probably that are stopping us from, you know, being outside. I remember and probably most parents, you know, go play outside, go do something outside, you know.

So, I don't know, maybe that's that window of freedom still ages five through nine before the work piles on. That makes sense too. You know, it's probably all the things that correlate with it, but yeah.

Got to keep an eye on that age group in particular. It's true. So how does Lyme look different in children's versus adults? Yeah, one of the biggest things is that they present in a more behavioral aspect usually.

Why Lyme is common in children

And I think part of it too is that kids don't have the vocabulary and the words to say what's bothering them. Maybe they do have pains and things and they can't explain it.

You know, so it really can manifest then as a behavior change or a school avoidance or something different that's more tangible because they can't, they don't have the words.

They don't have the way to express that they feel dizzy or lightheaded or, you know, something. So they act out.

And so that's usually where, very commonly where we'll see it in kids first and foremost, is more irritability, more anger outbursts, tantrums that can't be consoled.

And it can be sudden too. It can be a really rather sudden adjustment and change in these kiddos. Yeah, that's true. I think also, you know, I can't tell you how many parents will tell me that, you know, the pediatricians just kind of explained away the pain as growing pains, right?

So I think that term is so ingrained into some of our brains. And I mean, it makes sense, and there truly are growing pains, but we can't dismiss every pain, you know, in that way or say, oh, it's just a stage, right?

How many times do you hear that? It's just a stage. It's just a phase. They'll grow out of it. So what are the most common neuropsychiatric symptoms seen in the pediatric population?

So it can vary, but it becomes usually a behavioral changes first. So they're not able to focus or pay attention in class, all of a sudden they're disrupting in class, or they will regress in their behavior and baby talk will start or school avoidance will start.

They can also develop OCD tendencies. and start to touch the handle five times or have to wash their hands 16 times before they leave the house. Anger outbursts, oppositional deviant stuff.

And also, you know, they'll just focus. So ADD type of thing. So it varies across the board in that sense, but there's a lot of behavioral changes. So when your kiddo just no longer feels like your kiddo and there's something changed, and that's where I think mom's and dad's spidey sense kind of goes up a little bit.

And you go, something doesn't feel right. This feels different. This seems a little off. Last year, they weren't getting in trouble in school. And now the teacher's writing me every week.

These are things we have to pay attention to because that might be how it's initially presenting. Right. So why do you think so many of these things are dismissed or misdiagnosed?

Well, ADD is very popular diagnosis these days.

Pediatric Lyme symptoms and misdiagnosis

And especially in boys, little girls tend to get overlooked in the ADD realm. So they present slightly differently, often less hyperactive, more inattentive.

But it's just really easy to kind of chalk it up to that. This is the age, you're just ADD. This is simple, it's just all of our kids are ADD, let's put you on meds.

which doesn't go into the root cause of this, especially if neither parent had ADD, if they haven't had any, you know, signs or symptoms up until now.

You know, it's worth looking in and seeing if this is a symptom of something different underneath it. But there's so many other, even if there isn't Lyme or vector-borne illness in the mix for this child with ADD, there are so many other things, right?

Nutrient deficiencies, food sensitivities, gut permeability issues, toxins. dies, preservatives, right? There's so many other things, or just boredom, or being in the wrong class level.

There's so many other things that fit into it. It's not just a vivance deficiency, right? But anyway, sorry, I digress. So how often or like what percent of kids that you see have been misdiagnosed with a psychiatric disorder or behavioral disorder before the underlying tick-borne illness is identified?

Unfortunately, it's pretty high. I mean, a lot of times by the time people find me, they've been to see two or three

other doctors before they get to me.

So it can be years down the road until they're, you know, kind of looking for a different approach to things. So unfortunately, It's most kids, I would say, the majority have been diagnosed with one thing or another, ADD, OCD, anxiety, depression, these type of symptoms.

And a lot of them have tried medications, too, before they even get to me. And that's a huge red flag. So, you know, parents that are listening, you know, if your pediatrician or specialist puts your child on a medication and then you don't have the typical response, like it seems like every medication, every therapy isn't working, that's a huge red flag that you don't, you know, like it's not a primary psychiatric or behavioral issue that there is something else going on because most of these medications aren't addressing the inflammation and a lot of times these behaviors are coming from the inflammation, they're inflammation driven.

So when you do any sort of anti inflammatory therapy and you see a positive response, that can also be a clue that it's inflammatory and then potentially infection-driven.

So huge red flag if patients aren't responding to treatment. Yeah, it's a good point. It's something to think about and remember, too. Yeah. Okay, so the biggest difference, right, I think we both agree between pediatric presentation and adult presentation is the neuropsychiatric symptoms being somewhat more dominant.

What symptoms tend to mirror adult presentations with kids? Are you suffering from Lyme disease or another complex chronic illness and aren't sure who to trust when it comes to herbal supplements?

Hi, I'm Dr. Mariah Hinchey, founder of Lyme Core Botanicals. As a naturopathic physician specializing in complex chronic infection-driven illnesses like Lyme disease, I needed herbal medicine I could truly trust.

That's why I formulated Lyme Core Botanicals. where our herbal tinctures are handcrafted in small batches right here in Connecticut. We use the whole herb, never isolates, to preserve the full spectrum of medicinal compounds.

Every single step from sourcing to extraction is done with precision to ensure maximum purity, potency, and consistency. These are the same herbal formulas I used to heal myself and have used for years to help my patients and family members heal too.

And now I'm making them available to practitioners and patients everywhere. Lyme Core Botanicals, herbal medicine you can trust from a doctor who lives this work.

Learn more at Lyme Core Botanicals. That's L-Y-M-E-C-O-R-E dot com. Yeah, and kids can still get joint pain and joint swelling. They can present with Bell's palsy, fatigue, new onset fatigue.

They're no longer keeping up with the kids on the playground. They were taking naps again when they stopped napping before. They're going to sleep earlier or having trouble sleeping.

Actually, new onset trouble sleeping can be another one too. And a lot of that's true with adults as well, you know, the joint pain, the fatigue. Adults present with brain fog and neurological and psychiatric symptoms as well, but they can vocalize it differently and kind of help you get to the bottom line a little easier sometimes.

But yeah, so they can present very similarly, but you have to be on the lookout because like you said earlier, sometimes that will just get misconstrued as growing pains.

Right. But if a kid is limping, often they won't even say that they're in pain, but you'll just notice that they're limping or kind of walking funny.

Testing and clinical diagnosis

That can be a sign, too, that they're in pain and they're not telling you. So how often do you see kids where they

come in and their primary symptoms are like stomach pain and growing pain, so to speak?

Yeah. Seems quite common in my practice. Yeah, yeah. You could point with the abdominal pain, too, because that's another one. Especially, I noticed that with Bartonella.

They tend to have a lot of GI complaints and irritability, because those endothelial cells are getting affected. Yeah, and actually, that can sometimes be the only symptom is a good point.

I've had kids in my office just writhing in pain. And their GI doctors say they just don't want to go to school, so they're making it up. Like, this kid is not making it up.

They're miserable, you know? It's wild. You know, how much it just kind of gets brushed off and these poor kids are just crying out for pain in the way, or help in the way that they know how.

And yeah, so pain, gut pain is another one. Or it changes, too. You know, if a kid was pooping all the time and now all of a sudden they're constipated, those are symptoms and things to kind of be mindful and watch for, too.

Yeah, especially any abrupt change, right, with anything. Whether it's physical or mental, it's like, this just is not how my child used to be. And it just kind of like changed overnight.

So what's the biggest challenge in diagnosing Lyme and other vector-borne diseases in children? Well, I think our testing is still limited. And when we don't have the perfect historian, when kids don't have the words always and parents don't always have the words or their interpretations of what's happening is different than the kids.

we have to rely on these labs. And so sometimes we have to do several different kinds of labs to look for several different kinds of immune reactions to the infections before we find it, which can be costly and time consuming.

And so that can be one of the harder issues to really truly get a solid diagnosis because a regular test might look negative initially. So you might have to look under different rocks and try a T cell test, or a PCR test, and look under different rocks until you find it.

So if the clinician has a strong suspicion, they need to be really ruling out and pulling out the stops to try to find it. That can be a big hindrance to diagnosing, and then knowing when you're done, too, if you're done with treatment, is trying to use these tests to the best of the ability.

To see if the infection is still active or not. Yeah. And for our listeners, it's important too to point out that there is a vast difference between a test, no matter what type of test you're doing, if you're doing it through a conventional laboratory versus if you're doing it through a specialty laboratory because You know, it's hard enough to know what tests to do, when and why.

But if you're doing it with a company that doesn't fully assess all of the things that we're looking for, then you're even more likely to end up with a negative result.

And for some reason, it's like once you have that negative result, everyone just wants to say, well, it's definitely not Lyme. You've been tested. That's definitely not what it is.

So, you know, we have other talks that are just coming up on testing itself. So just know that all tests are not created equal. And, you know, it's a big piece of why there are so many misdiagnoses.

And, you know, when it comes to Lyme and other vector-borne diseases, it's really a clinical diagnosis that, you know, laboratory results are helpful in making that clinical diagnosis.

Dr. Kelly, are there any other things that you really look at when you're making a clinical diagnosis of a vector-borne disease? Yeah, so history is important.

We're always asking about, and not just camping, it's not just camping. Are these kids, do they play soccer? Are they out in the yard? Do they live near a forest?

Do they have pets? Do your pets have fleas or ticks? Does the dog sleep in the bed with you? These are other kind of questions we can ask to try to figure out the likelihood of exposure.

And like I said, it doesn't have to be camping in the deep woods. It can just be playing. I know we have ticks here in the city of Chicago. So it's not unique to just those deep woods camping trips.

And so that's a big part of it. And then trying to get that history too to kind of figure out when the symptoms started. Is there anything kind of linking to that?

And then just having a really strong clinical suspicion. So if you have a really strong clinical suspicion do a history and you look at a physical exam.

And, you know, one of the things I'll do too with kiddos on a physical exam is kind of feel their joints. And you want to kind of feel them to try to look for synovitis or any kind of puffiness around the joints.

And sometimes it's painful. You kind of touch their knee and they'll kind of wince a little bit. And sometimes it's not, but that also can kind of clue you into Lyme or tick-borne infections playing a role as stretch marks, potentially, or other rashes that might present with other tick-borne infections.

So you want to get a good history, you want to get a good physical, and then you want to have a high suspicion. And then you want to talk to the parents and the kid about the different testing options and what we can do to try to confirm it.

And then, you know, should we just do a clinical empirical trial, like, based on what we feel is a strong likelihood? for that kid and get consent and kind of walk through that and process because sometimes that's the best way to really figure out what's going on is to try, try the treatments, try the herbs, try the things in a safe, controlled, you know, monitored environment and see how a kid does.

Do they improve? Right, because there's no test that's 100% either. So if you're seeing them respond to treatment, then that would suggest that you're on the right track.

Yeah, yeah. So let's talk a little bit more about treatment strategies. How do they differ from adult treatments? Or do they? They do a little bit. I mean, I think kids are a lot more resilient.

They don't have as much baggage, usually. And, you know, The lime is going to kind of feed on all of your life experiences too. So if you have an overworked limbic system and traumas and these kinds of things, it can be sometimes harder to treat.

Treatment strategies for kids

So often kids are more resilient, they will bounce back. I will use antibiotics in an acute setting because I really want to try to knock it out as much as possible in that case.

But if I have a kid who's been sick for a while, I also really like herbs. I want to try to protect the gut. We have to be mindful about the microbiome and the harm we're doing in treatment as well and try to balance that.

But I have found that kids, I know you know this, kids respond beautifully to herbs and they can do wonderfully and we can protect the gut a little bit better and lower inflammation and kind of get the whole system as a whole.

Yeah, so I go for herbs a lot with my kiddos, actually. Yeah, that's great. I'm glad to hear it. You know how I feel about herbal medicine. But it's also great that there's so many studies that have come out over the past four to six years now really looking at the effectiveness of a lot of these herbal antimicrobials, even in comparison to a lot of

the pharmaceutical antibiotics on the market and showing that They really do work just as well.

And then you get all these side benefits of modulating the immune system and the inflammatory cytokines. And yes, they're not as harsh on the microbiome.

Anyways, I could talk about that forever. All the things. So what considerations do you take into account when you're prescribing antimicrobials, whether they're herbal or pharmaceutical?

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infection-driven inflammatory illnesses. This year's meeting is jam-packed with leading industry experts discussing lung COVID, mycotoxin illness, PANS pandas, as well as Lyme and other vector-borne diseases.

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So join us at Pompano Beach or virtually from anywhere. Register now at LimeBites.com. That's L-Y-M-E-B-Y-T-E-S dot com. Yeah, I mean, it's one of those first do no harms.

So we have to weigh those checks and balances. I mentioned in acute cases, I've had acute tick bite, especially if there's a bullseye rash, a fever, Bell's palsy, that's a pretty obvious acute Lyme disease.

I will reach for the prescriptions. I really do. And I wanna make sure that I'm protecting the gut. So I do use probiotics and I try to be very picky about the probiotics that I use and that they are not going to get disturbed by the antibiotics and that we're separating them and all of these things to do it properly.

I've heard ER doctors, pediatric ER doctors from Southern Illinois say things like, doxycycline saves lives. conventional ER docs are saying this. So there are ER docs out there now who are looking for this and who are in the ER looking for Lyme disease and rickettsiosis and ehrlichiosis and being mindful of that and knowing that doxycycline acutely can change the course of the disease.

So that warms my heart to hear that we've got that. That's amazing. Yeah, I was like with Rocky Mountain spotted fever and anaplasma being, you know, potentially life threatening, you know, in an acute case.

So it's it's super important. And yeah, yeah. I'm glad to hear people out kind of where you are, are taking this much more seriously because, you know, I still have here in Connecticut, ground zero, we still have emergency room medical practitioners and family practitioners and pediatricians who are kind of just doing the watch and wait, or worse in my opinion, giving the one dose of doxycycline and saying, oh, you're covered.

Yeah, you're good. It's mind-blowing to me. It really is. Yeah, it's unfortunate. And we want to try to avoid the antibiotics when we can anyway, but if we need to.

And I actually am not too afraid to use doxycycline. It can cause some teeth discoloration and baby teeth. But when we're outweighing those pros and cons, that non-permanent tooth issue, so they're going to lose their baby teeth is better than a life of lime.

Absolutely. And I mean, it's so much easier to prevent than it is to treat once it becomes disseminated and then chronic, you know? Exactly. Absolutely.

Yep. Yeah. But, you know, I always have to protect the gut, of course, you know, when we're using antibiotics. And I'm very keen to also really support the nervous system and balance the immune system and lower inflammation and protect from overhexane, too much Hexheimer reactions.

And that's where that master class in functional medicine comment comes in. So it's not, you know, you can't just give an antibiotic. for two weeks and call it a day.

That would be a lot easier if we could, but we can't. That's just not how this works. And so you really do, I give a month at least, you know, with an acute infection, then I'll often piggyback herbs, then switch over to herbs after that.

Just depends on the case and kind of what's going on, but it's not just an antibiotic. It's the whole package, right? So talk to us about what role immune support, gut healing, neuroinflammation modulation, all of these things that you're dancing around have to do with the child's recovery.

When patients come in and they're chronic, so they've been sick for a while and their gut is a mess, for example, I will often spend a month or two just trying to get that gut to calm down.

The gut is where most of the immune system is. And so when we're trying to heal the immune system and get the immune system to do what it does, we have to protect the gut.

And so before I launch into antibiotics or herbs, we want to make sure we're doing the best we can to try to kind of heal that. It's not always possible.

Sometimes we have to launch right into the treatment for sure. But prepping and building a better foundation, I will do this a lot in adults as well. Let's kind of prepare you for this.

And talking about diet and changing the diet, which is not easy in kids.

Immune support, gut healing, and lifestyle

especially with, you know, all the birthday parties and the candy and things that are out there, but using food as medicine and trying to cut back on the inflammation is if they've got an inflamed system that's already so irritable that they are irritable and they're kicking and screaming and they're not listening and they're creating a ruckus, if they're eating junk food and dyes and gluten and dairy and things, It exacerbates everything and you can throw as many herbs as you want.

They're not going to get better if their system is just continuously getting lighter fluid on their fire. So it is a really important part to the whole process is trying to heal and repair and kind of calm that down.

So are there specific lifestyle interventions, herbs, nutrients that are your go-tos when you're working with a kid? Yeah, so I talked about diet a little bit too, and I guess that it's tricky with kids.

So I try to kind of ease into it and kind of meet the kid where they are. I think gluten, dairy, and sugar are kind of the three culprits and dyes. Those tend to cause a lot.

And we have ADD. There are studies that show removing the foods that the kids are reacting to will help immensely to help their focus and their brain.

So you can dive deeper and do food testing as well to kind of get a closer look on what exactly they're reacting to. I also really, really like N-acetylcysteine, especially for the OCD type tendencies and anxiety.

It's a precursor to glutathione, which is going to help support detox, but in and of itself, it's going to help the brain. And there are powdered versions for kids.

I found it very safe in kids. They respond really well to it. I also love skull caps. Yep, one of my favorites. It's like, I know it's one of your favorites, too.

It is. Tell us why it's one of yours. Oh, it's just such a great nervine. And it calms the system. And it modulates. It does. You know this. You're going to be able to speak better than me.

Well, I know, but our listeners don't, so you have to tell us. You're the expert on this. I'm like, ah, who am I telling Mariah about this? From just from a…

tolerance place too. I don't find any kickback from kids with it. You know, some of the herbs are pretty gross. And sometimes there's some kickback. I don't ever get a kickback from it.

And it does seem to just kind of soothe and ease. And it's going to help lower that inflammation, especially in the nervous system, but also rebalance and help fight some of the infections too.

It's just like this wonder herb. It really is. Yeah. It really is. It's very, like you said, very calming, very soothing for the brain. One of my favorite facts about it is that it actually contains melatonin, and so melatonin is protective of the brain too.

But then if we give it at night, like you said earlier, a lot of kids have sleep disruption, they're wound up, they can't go to sleep. And so it's really, it's such a beautiful herb to help relax, to help sleep, to help protect.

And then like you said, it also has antimicrobial properties as well. So yeah, it's a wonderful herb. It's a cool one. I didn't know it had melatonin though, so that's awesome.

And I love how protective melatonin is. I do think people get a little scared of melatonin because it's a hormone, but it is very, very nerve anti-inflammatory.

and wonderful to help balance out. So it can be a very useful tool. Yeah, so you want to hear a little nerdy fact about it? It's one of my favorites. I love it when things explain things, right?

So one of the reasons why there's like depression, anxiety, and insomnia in kids and adults, one of the reasons with vector-borne disease is because Somehow the spirochete, so the type of bacteria for the listener, sorry, that don't know, the sort of like classification of Borrelia, which is the bacteria that causes Lyme, they're called spirochetes.

So the spirochetes basically increase this enzyme called IDO. And what IDO does is it stops tryptophan from being converted into serotonin and then into melatonin and instead you make quinolic acid and kinuric acid and both of those things are super excitatory right to the brain.

So skull cap inhibits IDO. So not only does skull cap have the melatonin, but also it inhibits IDO. So if that's a piece of why you're not making melatonin and serotonin, the skull cap can actually inhibit that enzyme.

And then you're able to get that pathway working again. And make your own. And you make your own. Beautiful. Right? It's just beautiful. Anyways, my little nerdy fact.

But I loved that. When I read that, I was like, oh my god, this makes so much sense. Yeah. All right, so what else do you have for us? What other nutrients, herbs, lifestyle interventions do you love?

Good old-fashioned fish oil is another one. And there are some decent brands out there these days that have flavors, too, that are safe, non-toxic, that kids will consume as well, although some of them will just straight up eat you know, liquid fish oil, no problem.

I really do think that good old fashioned fish oil, I see it also just kind of help with the focus, help calm things down, like think more clearly. And so they're not struggling so much to get their thoughts out.

And so much of us are deficient. I mean, we don't make it. That's why it's an essential oil, right? And most kids aren't going to be eating fish. I don't know.

Maybe yours do. True. So yeah, I like that one. What else do I really like in kids? B vitamins are also useful. And folate and B12 are kind of the core.

B6 helps with all of those tryptophan pathways you were talking about, making sure they're not going to the quinolic acid, going more towards the serotonin.

So that can be helpful as well. And there are a good amount of liquid and powder versions of these out there as well. And so, and it can change their, make their urine a little reddish orange, which is always fun.

Yeah, they're getting enough. That's what I tell them. They're like, I'm wasting it. I'm like, no, no, it's just, you know, you don't need all of it. So some of it's going out.

I want to back up because this is one of the hardest supplements for me to get into kids. And I use a lot of it. And we have to do the thing where we pull the cap apart, we put it on the teaspoon, mix it with a little bit of raw honey.

NAC, what brand is it that you have in a powdered form that kids, cause it's one of the, I mean, I, and I've tasted like every supplement on earth, I would argue.

What, what, um, it, it's the most bitter, bitter herbs. So what do you, what do you use that's palatable? There's a trace elements brand. That's a watermelon flavor powder.

Is that what it's called? Trace elements. I've never heard of that brand. Yeah. I'm thinking about the label in my head right now. They make constant trace, so it's that trace minerals brand.

It's a watermelon flavor, so I couldn't sell it last week to a kiddo because they don't like watermelon. So that was the issue there. That's a great tip.

I literally wrote that down. I'm going to need to look that up. Anything else? So we talked about NEC, we talked about EPA, DHA, and fish oil, we talked about B vitamin complex, especially B6, folate, B12, removing gluten dairy sugar.

Yes, yes. I also like Berber Pennella a lot for kids, especially with the more behavioral aspects of things.

Advice for parents and closing remarks

And this is an herb combination and you can take it multiple times throughout the day. But it's great for herxing too and kind of the neuropsychiatric type of side effects and reactions that can happen.

So if they're just being, you know, but also really like Epsom salt baths, if you can get them in an Epsom salt bath, I think that helps really kind of calm the system down as well and helps them calm down for night, which can help with a sleep bit too, because like, because of so many sleep issues that happen.

And if they're not sleeping, They're not clearing these toxins from their brain. They're not regenerating. They're not getting that support that they need.

So sleep is so important in that aspect. So a little skull cap, a little Epsom salt bath, maybe drops of lavender, read a book, calm down, no screen time.

Yep. And the Berber Panela and the Epsom salt baths, both of those things are aiding in detoxification, too, on top of everything else, which is great.

Yep. Yep. All right. So what advice would you give parents who suspect Lyme in their children, but they're being

dismissed by their conventional practitioner?

Yeah. I think this is true for parents as well as adults really advocate. And again, that spidey sense of something doesn't feel right. You are the parent.

You know this kid. For the moms, they were literally a part of you for a bit, and they still are. So if you have a spidey sense that something doesn't feel right, look for an integrative provider.

Look for someone who's going to listen to you and help walk through and find these things. Go through this. Whether it's Lyme or something else, you mentioned there's other things at play here.

But, you know, find someone who will do a stool study, who will look at some of these nutrients, who will do the proper tick-borne testing and really do a thorough look and say, what are the different things playing a role here?

And, you know, do we need medicine? Can we try some other things? some supplements, some dietary changes, some exercise. Are there things we can do to help the kid get back to the kid you know and the kiddo that's in there?

I think that's really important for those parents and not just to not just to take it, okay, well, it's growing pains, okay, but if that doesn't sit right, if that still doesn't feel right, look for another doctor, look for another integrative doc, and you may have to travel a bit to find one, but it's worth it for your kiddo.

Yeah, it's definitely worth it because you can get your child back. Exactly. Yeah. And some of it, you know, it's not necessarily hard per se. I mean, it is not easy.

But if you are looking and you're trying and you are making some of these changes, you will see like the layers come out and your kid will come back and that's really cool.

That's really cool. It is. So if you're struggling to find someone who is line literate, I guess for lack of a better description, you can look at iLads.

So the International Lyme and Associated Disease Society, they're ILADS.org. Or you can check out the Medical Academy of Pediatric Special Needs, which is MedMAPS, M-E-D-M-A-P-S.org.

But then you can also check out Project Lyme. You can check out LymeDisease.org. Most of these places do have the ability to connect you with a vetted Lyme literate professional.

So definitely check those out. And Dr. Kelly, what signs should pediatricians and mental health professionals be more alert to when evaluating children that have sudden behavioral or emotional changes?

Well, it's that sudden change. I think that sudden word is important, you know, if the kiddo hasn't kind of been slowly, progressively all of these changes, although that can still be underlying issues too and should be addressed.

But if there's a sudden change and acute change, the kiddo could go to school last week and they can't go to school this week. The kiddo had normal tantrums last week that it could settle within 20 minutes and now they have a tantrum that lasts an hour and they can't settle them.

Those are changes. Those are acute big changes and that's where you need to go. What happened? What's the change here? And that's where they really need to start with a good history.

Did they have a fever last month? Did they go on vacation? Were they out playing with their dogs? Try to dig into that history. Is there mold in the basement?

Did it rain last week? What other questions can you try to decipher and be curious to really seek that out and not

just slap a Band-Aid on it, which is a medication, which may or may not work and cause other issues, but really be curious about what's going on?

That's great advice. Anything else you'd like to tell our listeners before we wrap up this episode? There's hope. I mean, there's so many things that our bodies can heal on.

I mentioned kids are resilient. So I really do see cool changes pretty quickly with kids. If you find that rate jenga block that we can remove, then they blossom and they flourish, and they have their whole lives ahead of them.

And there's so much we can do to really help them heal and grow and flourish in life. We just have to be able to look under the right rocks and ask the right questions.

And so seek it out. And there, if you have a kiddo that you're struggling with, you have concerns, you're not sure what is going on, keep looking for the right doctor or the right provider who will ask those questions and will listen to you and listen to your kiddo and try to find out what's going on.

Dr. Kelly, why did you want to be a speaker at Limebite Symposium 2025? Oh, you know, I so respect and honor you and love the work that you do and how you tirelessly try to get this information out.

And so I wanted to be a part of that. And I love to teach and I love to educate. And the more that we can get this information out there, the more people we can help, the more kids we can heal.

And just that's knowledge is power. And so getting to be a piece of this and a part of it with you is just an honor and a dream. So I'm really grateful to be there and hope that we help a lot more people.

Thank you. Seriously, thank you so much. Thank you so much for being here. And if our listeners want to hear more from Dr. Casey Kelly, where can they find you?

They can find us on the web. We're at caseintegrativehealth.com. I also have an online healing course, Groundwork for Healing. It's at healwithcase.com.

And you can find us on Instagram and Facebook and all those things too. Awesome. And you also can hear Dr. Casey Kelly at the Lime Bite Symposium, which is November 14th and 15th in Pompano, Fort Lauderdale, Florida.

She will be doing a full presentation on Lyme and pediatrics. You can either tune in from anywhere for the virtual experience or you can come in person.

Yeah, we'd love to see you. Absolutely. All right. Well, thanks for listening to Lime Bites. We hope this brought you one step closer to true healing.

If this helped you, share with someone who needs to hear this too, because together we all heal stronger. We'll see you next time. Thank you for tuning in to Doctor Talks.

We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices that empower your well-being.

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