PANS/PANDAS 101: What Every Parent Should Know About Sudden Psychiatric Shifts Transcript

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Introduction to PANS and PANDAS

Welcome to the Get to The Root podcast with Hope for Healing. Today, we're beginning a three-part series on Pan's Pandas, conditions that can feel overwhelming, overlooked, and often misunderstood.

In this episode, Dr. Paula Kruppstadt introduces what these diagnoses mean, why they can appear so suddenly, And how recognizing brain inflammation as the root cause can change the way families approach healing.

This podcast is for education and encouragement, please consult your health provider for personalized medical advice. Now a note from Dr. K about our sponsor.

Genetics can open the door to understanding what's really going on beneath the surface. At Hope for Healing, we used advanced genetic panels through our partnership with Begron to uncover the factors that drive brain inflammation, mood changes, and immune challenges in children.

This insight helps us move beyond quick fixes and create care that's truly personalized. We're thankful for Fagran's sponsorship of this podcast and for making this kind of root cause medicine possible.

Learn more in the show notes. Hi, Dr. Kay. Thank you so much for being here. This is an episode that I know has been, or this kind of content in general has, been something that has asked from us frequently, which is more information about PANS Pandas or, man, I just wish I had the resources of walking through what it looks like to find the diagnosis, what is looks to kind be at the beginning stages of the diagnoses and how to really see and and run into remission.

So I am so glad to be diving in with this. Thank you for being here. I'm very happy to to talk about this, it's near and dear to my heart too because two of my four children have been affected by this because you are a parent who has seen the effects of Pants-Van as we're definitely going to touching on a lot of that.

for starting that. Before, just in case someone is listening to this episode who has never heard of PANS or PANDAS, can you explain in simple terms what Pans or Pandas is?

Okay, PANs is an acronym that stands for Pediatric Acute onset neuropsychiatric syndrome. So acute means quick or overnight. Pandas is pediatric autoimmune neuropsychiatric disorder associated with streptococcal infections.

When we think about strep, streptic causes streps throat. And that can also, and a really easy way to think If you don't get treated, you can have an autoimmune attack on the heart valves called rheumatic heart disease.

Symptoms and Why Cases Are Missed

So when I first heard about this about 10 years ago, that's how someone explained it to me that instead of it attacking the it attacks the heart valves, then it can cross the blood-brain barrier and attack part of the brain.

And the part the of brain that tends to be affected is called a command and control center that's called the basal ganglia. That controls mood, appetite, movement, bodily sensations.

You might hear things, see things. So that is the acronym name for it. Okay, so I love that you started out with saying both it's pediatrics. So does that mean it only affects kids or can adults like have it and just not have known that they've had it?

Can you talk a little bit about that? Yes. You know, if adults have parents who are alive, they can kind of reflect back and go, you know you have those things, and then an adult, too, when they're exposed to it.

So PANS, even though it says pediatric, the age of onset can be any age, meaning even an adults. But for pandas, this strict diagnostic criteria say age three or above.

In my experience, that the youngest that I've seen pandos is one year of age. I had a parent, a grandparent asked me, Have you ever seen a one-year-old all of a sudden be afraid of the bathtub?" And my question was, does anyone in the family have strep?

And she goes, oh my gosh, the child's mother does. And sure enough, that one year old did too. So I think the criteria need to be adjusted because clinically we see something different.

Hmm. I love that. Well, and that, okay, that kind of helps understand. So that's a little bit about the differences between PANS and PANDAS. Is there any other differences that we should know of when hearing about or learning about PANs and Pandas?

Well when this was first discovered, it was a doctor that was working at the NIH. Her name was Dr. Sue Swedo. And to present something to the medical community, she presented very strict diagnostic criteria.

It is much more common to see, because this is brain inflammation, so we talk about encephalitis. And I don't know about you, but when I hear the word enCEPHALITIS, I think of a person laying back with a fever of 104, hallucinating and sweating.

But you can be walking and talking and going through life and have profound brain inflammation and not stick the strict diagnostic criteria. So Lauren, what was your original question that I started to ramp up on?

No, but it was just so good. I think before we go back to my original questions, which is fine, I just think it is super important to understand because what we'll get into later is that the symptoms are very—can be very dramatic and can be scary, can very overwhelming, but it won't look like what we expect.

And so I think that's why we get into this. But it was just the question of what should we be aware of when the differences between pans and pandas. Yes.

So pandus is a subset of pans, and it has to do with strep. And you tend to see more ticks with it, like movements. But we'll go with what these look like in a little bit.

I love that. Yes. No, that's actually really great. And then, I mean, honestly, what you just said is a big leading question to this, which is, why do we feel like these conditions are often either misdiagnosed or not even looked at at all?

Well, there's a lack of understanding and a lot of belief. And many times until you see a child that this happens to, like a pediatrician, you've known a kid for years and all of a sudden they come in with overnight onset obsessive-compulsive disorder, unrealistic fears, not wanting to wear their clothes.

It's drastic. But there's also a very subtle kind of waxing and waning presentation where these children and or adolescents and even adults get missed and it might get chalked up to social anxiety or oh they're just stubborn oppositional defiant disorder or it's ADD because they have trouble paying attention.

So it can present many different ways and we can unpack that together. Well, and that's exactly what I'd love to unpack. So because there's a couple of things that you're saying that I think will be really helpful.

But before we dive into really getting into the weeds of that, can we just talk about some of the first signs or symptoms a parent might notice? Because I love that.

You mentioned that it's acute, meaning like it will feel like this overnight sensation, just like you were talking about with the patient. Like all of a sudden, there was this fear of water and there is this sudden change and being able to pay attention to those sudden changes in our children.

So can you talk a little bit more about the signs and symptoms? Yes. Yes, so basically it's an abrupt overnight or very quick onset of obsessive compulsive disorder or really severely restricted food intake.

That's the hallmark of PANS. But then you have to have two of the following seven symptoms. And these are behavioral and neurologic, and they occur pretty quickly too.

So one of things that I hear very much, it's like anxiety. But also in little ones, separation anxiety where a mom cannot leave the room or a father can't leave their room.

You can go to the bathroom, you can take a shower without your child right there. Now that's a little different where you know you're a Mom and you just wish you could go into the bath room and pee alone.

OK, right. But this is different. This is like this profound fear. And when you ask children that are old enough to kind of articulate it, many times they're really embarrassed about it.

I ask, now, I'm going to ask you some questions, and I don't want you to feel embarrassed, about what you're going say. You may not have told your mommy or daddy about this, but I want to know, are you afraid that your parents might die?

Brain Inflammation, Triggers, and Testing

Do you feel like you have to be in the same room with them? And so many times they'll say yes. Now that's one of those seven symptoms. The other is emotional ability or really profound mood swings like go get your coat and they throw themselves on the ground.

I don't want to get my coat. It's just ridiculous. And it's not characteristic for your child or depression, like this sadness, this blackness. A lot of times these kids will journal very dark and ugly things.

So those are the first two of seven. The third is irritability, just over simple things, profound aggression. and or severe oppositional behaviors. I mean, there's, it's just like, no, I'm not doing that.

Or they're like in your face and this is not your child. And then the next, and sometimes this can be profound and it has been seen in adults, its behavioral regression, like an older child beginning to talk, baby talk or sucking their thumb.

That has even been observed in adult. OK, which is crazy. Then a sudden deterioration in school performance. And one of the things that we ask children for are handwriting samples.

So sometimes you'll begin to see these are kids that can do copywork and stay on a line. Well, they start going down the page. Also, and I observed this with one my children, Her schoolwork, she was drawing an eye, the dot on the eye.

I said, honey, do you feel like if you don't fill in that eye over and over again, that things aren't going to be right? So an obsession is you're thinking about something and focusing on it.

A compulsion is where you have to do something in order to feel an emotional release. I like that. Then one of the other is motor and sensory abnormalities.

So you might have a wide-based walk. A child might start steering into the wall. And as far as sensory, they may literally have hallucinations. They may be seeing something.

they maybe hearing something, but they also feel like something's on their skin. And then lastly, somatic signs and symptoms, including sleep disturbances, bedwetting, and peeing a lot.

So what do those things mean? Feelings and sensations in their body that cannot be explained by anything else. So a lot of times these children Can't stand tags in there closing.

They don't want to wear underwear. they don' want wear socks So and you can't explain the signs and the symptoms based on anything else. So if someone comes to me and they're hallucinating or visually or auditorily, I'm going to get an MRI of the brain immediately.

And I am also going get a EEG to make sure they are not having seizure activity or they've got a brain tumor. Or you need to determine the age. You can even have Tumors and other parts of your body that has neurologic tissue in it, like a teratoma, can cause someone to have sensations.

So you have to use good medicine, but it's a clinical diagnosis. That's PAMS. Okay. So I really love that you dove into all of this. And so I think there's a very important statement that I want to make before I dive into this kind of line of questioning is hope for healing.

We are big, big proponents of mental health and in having counselors and having psychiatry. Like that is not, we are not anti that, but I do want ask some questions that are really important.

that are, do you think that sometimes it can be misdiagnosed because we write things off as behavioral issues or we don't really look into the adaptive, we just are like, oh, well, he's just a defiant child or she just can't, like I don' know, you kind of talked about this a little bit in ADD that we are so quick to label people in general, but specifically children on their abilities that may not dig deeper.

Yes. Everyone wants to label something. And many times those are the child or the adult may meet the criteria for that diagnosis. But if it's there with these other symptoms, you have to explore more.

So for example, eating disorders. In my practice, every single person that's come to us with an eating disorder meets the clinical criteria for brain inflammation, and many of them meet the strict diagnostic criteria, for either pans, pandas, okay?

That's frightening. These individuals are then exposed to foods and it's like all about having a good relationship with food, but we're giving them inflammatory foods, whereas we are not asking why they have a body image distortion to begin with.

Why do they think they're fat? The other is there's an eating disorder called ARFID, which is Avoidant Restrictive Food Intake Disorder. Everyone wants to give a label to it.

And so the severe restriction, but also just the texturals. You know, a lot of children that are in eating therapy have pans-pandas. A lot children placed on medications and labeled as bipolar.

They have pants, panties, they're not bipolar. And then when you get a family history, oh, grandma, grandpa, but then you go back, you have strep, mono, all these things, influenza A or B that triggered this, or hand, foot, and mouth.

Yes, you are exactly right. And I believe that you use all the tools in your arsenal to help someone get better. So if they need an anti-psychotic or they needed a mood regulator, mood stabilizer, or an antianxiolytic, we'll use it if that's what's gonna help.

But you also don't want to hide what is happening with cover things up with medications. Right. Well, and that, you know, that is actually a conversation I have with parents all the time where they have found something that temporarily will or even a little bit longer than temporarily provide relief for their child but ultimately are coming because they're like, this is fine for right now, but I don't want this to be my child's life forever.

or even like adults that will come to the practice that go, hey, I'm coming with this medication, like, are you going to rip this out of my hands? And you're very quick to go no, we like that it's providing you relief, but what we're trying to figure out is the why.

And again, my favorite statement, and I think you said this, you say this a lot. But it was really impactful the first time that I heard it when like we had just started getting to know each other and I've been with the practice four years now.

And so it is that you said that ADHD is not a Ritalin deficiency. Our headaches are not Tylenol or Ibuprofen deficiency, we are trying to figure out what it that's causing it, but when we need those medications in the in the process.

You are not going to be like, no, you can't have what's giving you relief. And I really appreciate that balance you come to the table with and just to able to help people.

So I never thought about it from here, but this is awesome. That can be extremely dangerous because, for example, taking an SSRI, selective serotonin, reuptake inhibitor, if you pull that away, a person can get serotonin syndrome and die.

So you need to approach things in a very intelligent sequence and do a complete physical, obtain a really good history, and move on from there. I love that.

So before we dive into some of the triggers and what's actually happening within the body a little bit more, can you talk a bit of more about what you're talking about, the waxing and the waning of these symptoms?

And so because it feels acute, right, so it feel sudden, but the whacking and waining could make things a litte bit difficult. Could you about that? Yeah.

Because this is an inflammatory process in the brain, and this something we're going to repeat, Inflammation, think about something that's hot, red, swollen, and painful.

Well, if the child's brain is hot red swollen and pain, they can't unzip their brain and say, look, mommy and daddy, my brain has inflamed. But how does that manifest itself?

Temper tantrums, sadness, an inability to sleep. And we all have good days and bad days. So good day is when the inflammation is lower, bad day's when inflammation's not.

Now if you have an infection that's smoldering in your body and you treat it with antibiotics, You get better, but then what if you get that infection again, say in a reservoir like the tonsils or the adenoidal tissue, or another type of a trigger, a viral infection, and you can continue to assault the brain and there can be damage.

Okay, so I had mentioned that What PAN does is associated with streptococcal infections, but there's the same criteria as PANS, a lot of OCD and or ticks, and there can also be multiple and complex and unusual ticks.

And when you have strep, there's something that's been recognized in the medical literature. It's called choreiform movement. And what that is is like a snake-like movement, like moving the shoulder or moving a neck.

Its worm- like movements. And so in one of my children, this happened when she was one and a half, two years old. And we couldn't figure it out, but she not one these children that would settle, that she would do this.

Then at age six, she got full on strep with a rash, which is scarlet fever, and she developed almost overnight a habit of pulling up her socks on each side and she would say one, two, three, one two three one.

She had to go around her room at night, close all the little drawers or compartments where her things were, turn the lights on multiple times and That is brain inflammation.

And so the other thing, as we said, with pandas, the strict criteria is, say, three years of age that they're evident by. But as I said that little one-year-old, it was overnight.

Many times you'll see this acute onset, then episodic, relapsing, remitting, And so sometimes, as far as some of these somatic symptoms that you'll see, you have to pee.

These kids will have the pee all the time, but they may not pee a lot, or they have this sensation that they had to be. Their pupils are dilated. They're dilated upon exam.

And the parents notice that, too. That may be the only thing on exam that I see. I've done this where I'll see a child for the first time, I notice their pupils are dilating, and I talk to the parent and they say, yeah, we've noticed that.

We swab their throat. They have no fever, no redness, not pus in their throats, they have active strep. And the parents had no idea that, you know, there's no clue until you test.

So, but that child was presenting with pretty high functioning autism. Um, I remember you are actually talking to a patient one time that that was presenting.

They were messaging us because there were presenting symptoms of a flare and they're like, we have no idea what's going on. We've been doing all the things you had had and.

were kind of upset and panicking, and you were like, we need to get them in for a strep test. And they were, like no. You were no, I promise you. Based on everything we're seeing, We need get to them for strept test and turns out it was positive.

They were even like wait, hold on. How do we figure this out? It's very common and that's why I think I like about when people can partner with Hope for Healing.

and other functional providers that have that knowledge to go, let's go here. Even if it isn't a duck, it doesn't waddle like a Duck, It doesn' quack like duck.

But what we are seeing is because we know this other pandas thing. We know the child had pandAS already and the fact that they had strep, everything was coming back up.

And so it was really cool to see the one that because you knew, because You had given them all the tools in the tool belt that we'll talk about later.

they were able to get her back into a calm state and functioning so much faster than they would have. So that was really cool. Yeah, I think it's very interesting that you bring that up because what were her presenting symptoms?

This little girl had some neurologic challenges, genetic neurology challenges. She has a syndrome. She came home from school and she soiled her pants and urinated.

She was laying on the floor kicking and screaming. They're like, what do you think is wrong? They lived far away. I said, go to urgent care. and she was positive and that was the impetus for this family because she had no fever, she has no rash, it was only the behavioral manifestations losing bowel and bladder continence and throwing a huge fit, totally uncharacteristic.

That's what prompted them to do the tonsillectomy and adenoidectomy. The other big thing that we hear is, all of a sudden, my child can't sleep and we're like, get in here.

And we'll do a respiratory panel. Recently, it was a child who had a gut virus and then another child that had respiratory virus that it's a LabCorp nasal swab and their insurance covered it.

We did her physical, we couldn't find anything else. So you never know. You look at those symptoms.

Environmental Factors and Root Causes

Let's dive a little bit into what's actually happening in the body and brain when a child has pan-spandas. I know you just spoke a lot about the brain inflammation a while back about brain We can't see brain inflammation when you're just looking at the child.

And so let's tie in how you were talking about brain information and your desire to get MRIs and neuroquants and of the brain. So can you talk about why we look at those things in brain-inflammation and kind of tie those together when a child or an adult has pans-pandas?

Yes. So, inflammation being hot, red, swollen, and painful and the only way that your child might be showing that is tics or not walking straight or screaming or you must determine if they have an infection.

And it's not just one part of the brain. Yes, pans-pandas were focusing on the basal ganglia, but it is throughout the entire brain, and our brain is supposed to have this nice, tight blood-brain barrier.

Well, the blood brain barrier by definition when you have all these signs and symptoms is not tight like it should be. So another simplistic way of looking at this is anything that could potentially cause a fever in a person whose immune system does work could cause this.

Okay. And so this would be considered other types of infections that can trigger this that are not strut? Right. So this is the umbrella of PANS. So pans can be caused by influenza, A or B.

Pans can caused be by COVID. Oh, wow. Pan's can because by Coxsackie virus, which causes hand, foot, and mouth, or sore throat. It can cause by Epstein-Barr virus which cause mononucleosis.

it can by caused fifth disease which is sloped cheek appearance. Um, it's a herpesvirus family. Uh-huh. It can be caused by cytomegalovirus, and that's just one thing.

It could be cause by Borrelia, which causes Lyme disease. from the cat scratch. It can be caused by babesia, which can caused be by mosquito bites, flea bites tick bites.

And would these be considered like environmental toxins that could affect this system? Or would they still be under the bigger umbrella of infections that just so happen to come from an environmental cause?

Those are infections. Everything I did just came from out. Yeah, so you know, you could go in the woods and your kid gets a bullseye rash that shows up on their scalp.

You know little kids walk close to bushes and you may not even know. So we need to rule all those things in or out but it's a clinical diagnosis. So there's website called the spire.care and it puts PANS and PANDAS.

You can read through that and there is not one specific test for these things. Now there are really rare things like something called anti-NMDA autoimmune encephalitis.

That was the documentary called Brain on Fire. It was about a young woman, 21 years old, that started going crazy, and she stopped talking and was almost catatonic.

They had her draw a clock face, it was just on one side, they did a spinal tap, gave her IVIG, IV steroids, she's back. She's written a book, lectures.

You get labeled as crazy and also like skin picking. If you're, you know, skin-picking, that's like a neuropsychiatric thing. I've even had a beautiful young woman at age 16, second in her class at a very large school here in the Houston area, dissociated and struck and attacked her mother twice.

And mononucleosis was the trigger when blood work was done. She's now thriving. She is a freshman at Texas

A&M, but she had her tonsils and adenoid removed and she's got her brain and her body back.

I love that. Okay, so everything that we had mentioned was infections. And is that always the cause or are there environmental toxins or immune imbalances that can play a role in Pans Pandas?

I am so glad you asked that question because here at Hope for Healing, we treat people for environmentally acquired illness, which is called chronic inflammatory response syndrome or biological toxin illness.

So mold is everywhere, but if you're in a home where the humidity is too high, there's food for mold to grow. But inside the interior of a water damaged building, There's not just mold, but there's also gram-negative bacteria.

I call it poopy water bacteria, think about poop when your toilet overflows, or another bacteria that inhabits the skin and colonizes the In the community of Chronic Inflammatory Response Syndrome, there's Dr.

Richie Shoemaker, Dr Scott McMahon, Doctor Jimmy Ryan, and another naturopath, Jennifer Lewis, I believe is her name, from Arizona, did a retrospective study.

And they've tried to publish this four times. But they took all the children in the practice that met the clinical criteria, diagnostic criteria lab criteria for this chronic inflammatory response.

Retrospectively, the majority of them met the clinical criteria for PANS-PANTAs based on their initial presentation. And so, this has not made it into the entire PANS-PANDAS community.

There's a lot of excellent providers, and we're trying to talk, but there wasn't a world expert on Pans-pandas, the immune system, neurologic manifestations.

to peer review this article. So to go back a little bit for people who don't understand how all that process works is that they want to publish something, but because there isn't an expert yet, because this is new, there is someone to give the stamp of approval for this type of review.

Right, right. But when I read through this, these environmental things can make, they open up the blood-brain barrier and they open up the gut-blood barrier.

So if you have this genetic vulnerability for this biological toxin illness or you don't have the genetic vulnerabilities but you live in a home that's severely water damaged and it oppresses the immune system, By definition, you've opened up the gut blood and the blood-brain barrier.

So SIRS is a precursor, meaning if you meet the criteria for chronic inflammatory response, biological toxin illness, water-damaged home or school or car, yeah, can develop PANS or PANDAS.

Right. So it makes you susceptible, as essentially you're saying, is that now what might not have, you might get strep and that would not've been the cause, but because you have this susceptibility now, streph is now going to trigger a cascading of events.

It could, or one of those viruses. Yeah, that's right. Whether that is a tick, whether that a, okay. Or COVID, long COVID. That's true. Before we go off of this, what's really incredible is that they've shown this in a blood test that is measuring proteins from 177 different genes.

Hope, Advocacy, and Closing Remarks

It's called a genie. So Dr. K, a lot of this sounds really scary and overwhelming. I think as someone who personally has had Lyme disease and has gone through the SIRS in the process, it can make life, um, It can get scared to do life.

It could make it really to life and to like live and exist. What kind of hope for someone whose listening to these

symptoms and going, that's my child or that me?

What kinda hope can we leave them with? That there is hope for healing, that there IS something that they can do about it. What would you say? Yeah, well, awareness is the first part, but then getting a medical provider to believe you.

And if you can't come to hope or healing there's an organization called Panda's Network. There are different ways to treat, but I really love the functional medicine approach, which we'll unpack later on.

But we blend everything, and we do all kinds of things. I would say number one, don't go into the pit of despair, okay? But realize because damage is taking place and inflammation is happening, reach out to a medical provider.

I want to encourage you, and I'm just going to be very vulnerable here. I remember when I was in sixth grade, I had mono and had strep at the same time.

And I have profound OCD and eating limitations, but I am the oldest of four children and there were a lot of things I never told my parents. But I made all these lists and was obsessive and compulsive about it.

So I had the pandas, the classic pandus. I didn't have tics, but I have a lot of the OCD and the sleep disruption. But I was in sixth grade, I did not get my tonsils and my adenoid out, and I hit puberty and things got a little better.

And in fact, just at that time they were talking and they looked back, my dad was at the military, they look back and have 13 documented positive strep infections.

But no one talked about what my tonsils looked like. And when I hit puberty, when they started talking about it, I stopped getting strep infections. But then I started developing the environmentally acquired things with the migraine headaches, my jaw hurt, and all these other things.

The SIRS went undiagnosed and the mono really wasn't addressed and positive Lyme antibodies. I was treated with so many antibiotics, we think that that took care of it.

We'll be right back. I would let you know that as a parent, you need to advocate, but you don't want to bully people. You want reach out and talk to your pediatrician because there's a statement in the American Academy of Pediatrics saying that they believe it's an entity, But you to look on that pandasnetwork.org and try to find someone that can help you or fly to Texas and we'll take good care of you.

Absolutely. You may need to stay a little while. Yeah. Okay, so quick question for you before, because I think there's a couple of things you said in your closing notes that I want to make note of.

How long have you been a doctor? Not specifically with functional medicine, but a Doctor in general. I graduated from medical school 36 years ago. Wow, that's amazing.

So then my closing statement to anybody listening. Actually 35, I'm sorry, 35. So close is that if you are listening right now, you have a doctor who just said, You're not crazy.

You have doctor has been a Doctor for 35 years who has not only walked through their home children has only walk along some patients but have walked along this process herself.

saying you're not crazy and so if you have to fight and kind of she said you don't need to bully people you need a bully to convince that they're listening to you then move on to the next doctor you had your you are right to be able to step into that and sell thank you doctor k for the vulnerability of you just sharing your story and just reminding people that If anything, we are telling you in this episode, you're not crazy.

Your child is not a bad egg or having difficulties in the way, and we're going to get more into that. So please, please stay tuned for the upcoming episodes about how we can have that discussion.

Yes, Dr. Kay? I think another word of encouragement is you are not bad parent because your child behaves this way. You're not a bad parent. No one's walking in your shoes in their house.

They don't know what kind of a parent you are and what kinds of modifications. Like, you may have a bunch of kids and you're like, well, that's just my kid.

I have to do this, but no, no. You are not bad parents. I love that. Well, thank you so much, Dr. Kay, and I'm super excited to continue this discussion as what we look at in treating PANS-PANDAS, what the conventional approach would be.

And it's going to be a great conversation, so y'all are going want to stay tuned. Thanks, Lauren. Thanks for tuning into part one of our Pan's Panda series.

In part two, we'll talk about how functional medicine looks at these conditions differently, focus on root causes like infections, mold and nutrition, and what that means for lasting health.

For resources and support, visit the link in our show notes. And remember, there's always hope for healing.