When Neurodevelopmental Symptoms Start in the Womb Transcript

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Podcast Introduction

If all the testing is negative, you can't necessarily 100% rule that out, because if mom were treated, and we have study after study showing that, case studies, that moms who were treating still translated those infections to their child, even if they tested negative.

And that's what we see. So it's never 100%. It's neither an either or. You have to be vigilant. Welcome to Demystifying Pans and Pandas. The podcast where we uncover the mysteries, breakthroughs, and hope behind these life-altering conditions.

I'm Dr. Nancy O'Hara, a board-certified pediatrician, educator, an advocate with over three decades of experience helping children and families navigate the challenges of neurodevelopmental and neuropsychiatric conditions, especially PANS and PANDAS.

These disorders can feel overwhelming, but here we'll break down the science, explore transformative treatments, and share stories of resilience and recovery.

If you've ever wondered what's possible for your child, or how to find answers, this is the place to start.

Introducing Dr. Summer Del Signore

Let's dive in. Welcome back to Demystifying Pan's Pandas. I'm Dr. Nancy O'Hara and I am really excited to welcome Dr Summer Del Signore. Summer is a board certified child and adolescent international provider and she's really known for her expertise in the diagnosis and management of complex chronic illnesses in children.

She's developed the reset protocol, which we'll talk about using a root cause lens to treat immune dysfunction systematically. And in addition to being a fellow at MAPS and AAOT and a member of ILADS, her expertise in autoimmune, neuroimmunity, psychiatric manifestations, of infectious diseases, particularly tick-borne diseases is incredible.

She has a master's in nursing practice from the University of Pennsylvania, a doctorate in Nursing Practice from SUNY Upstate Medical University, graduating magna in Summa Cum Laude, and she's completed residencies at CHOP, Penn State, Children's Health in Dallas.

I could go on and on. Summer is near to me in Beacon, New York, and she's the CEO and founder of Hudson Valley Integrative Health. So, Summer, thank you so much for joining me.

Thank you for having me, Nancy. Happy to be here. I've really enjoyed many of your talks as well as a lot of the interaction that I have seen you have on iLADS.

about congenital vector-borne infections. And I think that's an area that is really misunderstood and not talked about enough, whether it be an autism, autoimmune encephalopathy, other neurodevelopmental conditions.

I really appreciate and respect your opinions in all of that. Well, thank you.

What Congenital Vector-Borne Infections Are

So for parents or practitioners that are listening and new to the topic, what are these congenital vector-borne infections and how do they affect the baby's developing brain and immune system?

So a vector-borne disease is essentially transmitted by another organism, so the vector. So it could be a mosquito,

fleas, sandflies, ticks, things like that.

In the news, you kind of hear about like West Nile virus when there's outbreaks of those, or Zika virus, that's very common. But what's less common are things, like Borrelia, which is the culprit for Lyme disease, Bartonella babesia and other not as well-known vectors that can contribute to neuroinflammatory and developmental issues with the kids.

And so that's how we view that. So that is that general overview of that convector-borne. Typically, mom is affected by it, and somehow, either through the cord blood or through a placenta, the baby can be affected.

And we're not talking about opinion, we are talking science. So what does science tell us about how these infections during pregnancy influence that development or communication or whatever it is?

Right. And it's interesting with the studies, it is really dependent upon stage of pregnancy. We know that there are certain components of that brain and neurological system and immune system that are developing at the time.

So it will affect things like neural stem cells. It can certainly trigger early cell death and disrupt cell division and certainly early in that phase one, and that can reduce brain growth and cause some really significant abnormal cortical development and structural brain malformalities.

And many times those moms are having spontaneous abortions, miscarriages very, very early on and not even knowing why. Many times it can be from those infections that are passed very very Later on, you see that when you've got more of the basic brain development out of way and you're moving into more like a second trimester, third, it's infecting and interfering with sort of neuronal migration and synapses formation and myelination.

How Pregnancy Infections Affect Fetal Development

So, those next level things of that brain wiring is then affected and can create some dysfunction as a result of it. And then you end up with certain regions of the brain that are most affected, like motor control and language and social communication and attention, all of those things that sometimes are then misdiagnosed later as a neurodevelopmental or what have you, when we want to look at it from more of an infectious trigger route.

Right. And we also both talk a lot about neuroinflammation, autoimmune encephalitis and all of that. So explain a little bit more because I know you can do it in such simple terms about how that activation of the immune system affects the child's brain.

Right, so, you know, inflammatory cytokines, that's what a mom is going to produce a great deal of if she's exposed. And we talk about the infectious component that could be transmitted to the baby, but also the immune response the mom has, even if we don't transmit an infection.

That inflammation can still trigger more activation of immune cells in that developing brain than microglia, right? And, you know, when those are turned on, they get super hyper, and sometimes they don't know how to stop.

They don' know to turn off. And what's interesting in a fetal brain versus someone who is thriving outside of the womb is that it's developing and the microglia are affecting certain neurons that are developing.

and synaptic pruning and circuits, and it's really affecting that. So when that child's born, we see this alternative pathway that continues on because it has been retrained or reprogrammed from that perspective.

It's a complete disruptor. Yeah, absolutely. And I've heard you talk about, for instance, Dr. Brian Fallon's research and how, you know, myelination, how the myelin sheaths, the nerves can be affected by Borrelia, How the endothelial cells can affected Bartonella, and the red blood cells Can be effected by Babesia and decrease oxygenization.

So all of those three B's in lots of different ways. Correct. Absolutely. And, you know, if you think about it, they may

easily be transmitted. We don't do human studies because it's unethical.

You can do that. But you see it in animal studies and you've seen it a lot of postmortem studies in case studies. the stillbirths and early miscarriages that happen.

And the migration process, if you look at the science, again, not opinion, science. It's very easy to transmit something across that placenta. Its very rich in capillary and blood network, especially things like Bartonella and Borrelia that can burrow through.

They just have to hitch a ride and burro through those cells and they make their way in.

Immune Activation and Neuroinflammation

Things like babesia, which is a cousin to malaria, hijacks the red blood cell right through the cord blood and goes right in. So it's very easy for that to translate over to that baby.

Yeah. And you mentioned briefly the timing. Why is the time of an infection during pregnancy or even early infancy, why does that matter so much? It has a lot to do with vulnerability.

So I think that early pregnancy, there are some thoughts that, or generally there's thoughts, that the placenta is just going to protect the baby no matter what, but it's a fortress.

And to a degree, yes, it is. But early in pregnancy first trimester, is still growing. It's still very vulnerable. And so you don't have that fortification and the mom is naturally in a very inflammatory state on purpose.

That's how nature intended to promote that growth and development. So sometimes inflammation is good and so that's the normal state. This is where those bugs can hijack and take advantage of that situation to say I have epithelial cells and a fortress that isn't quite fortified.

I can wiggle through there. There's inflammation so my immune system is already distracted so I should be able to pass through. Then you moved to something more like a second trimester and early third, you're pretty fortified at that point.

That's the feeding growing anti-inflammatory stage where you would have less risk, not no risk but less of transmitting something. And then late in third trimesters, your at risk again.

It kicks up with the inflammation because now you are looking to push that baby out, bird those things and get rid of it. So again, you've got to not respond, right?

You can't stay in there forever. So that's kind of how you have to look at it. If you just look out from what phase of pregnancy are we in, when was mom exposed?

How Tick-Borne Pathogens Reach the Baby

And then at what developmental stage are with that child? Again, we know most of those organs are developing first trimester. That's not only going to affect the way that they develop, but the ways they function later, if they even make it later depending upon how severe that infection can be.

And then thinking about early infancy, we both agree and science shows that it can get transmitted through breastfeeding. But I think we also agree that the benefits of breastfeeding may well outweigh the pathogenic.

Can you comment on that a little bit? I can, absolutely. There's so much benefit to breast milk and babies and we know that and there's some of the immune benefits.

My thought is that if we're worried about transmitting something through breast milk, there's a good chance that

child's already had exposure in utero.

And at this point, let's just get the nourishment that we can from that breastmilk and we are going to ultimately end up treating that children anyway.

You know, the fewer foreign sayings or formulas, which we know in the news lately, haven't necessarily been the best. And they find a lot of things in it that aren't necessary optimal for healthy growth.

But I do feel that it's still best to push through and breastfeed. I think that if a mother needs treatment, then we have to be mindful of that. knowing that whatever we're giving her to treat is going to translate.

So, you know, there's some caveats to that, but otherwise it's better. It's a better recipe. I would never discourage mom. Yeah, I agree. Now you talked about pregnancy loss possibly being a sign of the mom having vector-borne diseases.

Timing of Infection During Pregnancy

But in the children, and I'm sure the patterns and symptoms could take you an hour to talk about all of them, but what are some of patterns in children that you may see that might make a parent or a practitioner think about vector borne diseases in pregnancy?

Right, which is interesting. When children present, they're very different than an adult. So where adults will say, I have, you know, day sweats, night sweats fatigue, migratory joint pain.

I may have rashes, not necessarily bullseye, but just weird rations all over. They have neuropathy, so that numbness and tingling. Kids don't necessarily present that way, or they don' know that they do.

But what moms and dads would observe is more neurological and behavioral in nature. And we see that quite a bit. So from a behavioral standpoint, it may be as soft design as, well, they're not quite missing milestones, but they were very sluggish and their social interactions aren't that great, But they are still kind of on par and those are the kids that kind get missed and it takes a while to figure it out.

And then, you know, motor skills can be delayed. Find that stamina is a big one. not necessarily chronic fatigue that they're sleeping all day, but kids will push themselves and you'll see stamina.

They can't keep up with their peers. And they may be, from a motor skill perspective, a little kind of floppy, as I call it, so that their tone's just not great.

Their poor feeders, their poor sleepers. they have some reflux here and there beyond. and what you would see with the normal and just inconsolable. I find a lot of irritability with those babies, which can translate later to things like anxiety and OCD and who knows, they could be hallucinating as far as we know as a baby.

They can't verbalize it yet, but it's really that more of that, you know, neuropsych kind of presentation versus the traditional. Right, right. And, you know, this can happen if the child themselves gets exposed to a vector.

But what you're saying is that these symptoms can happens when they're exposed it in the placenta, in a womb. Exactly. We need to think about that whenever we're seeing these systems too.

Anytime you are thinking about a torch workup, for example, or any type of infectious work up, we should be thinking of these congenital vector borne illnesses, We should, and you know as well as I do with classic torch, it's not in the first panels.

It's there, maybe the tertiary panels afterwards after we've worked through. And most of those initial ones are more STD related and certainly viral. But we don't get to tick-borne until later, if at all.

Breastfeeding and Early Infant Exposure

it just depends upon that practitioner and if they're well aware of it and they have that discerning eye and I know that that is something that should be considered.

I would love to see that sort of in forefront in that first panel. Yeah. Yeah, and then signs. I've heard you talk about, for instance, smaller head size, calcifications, maybe even failure to thrive, jaundice that's out of, you know, those can also be signs?

Correct. It absolutely can be a signs, yes. Absolutely. And then, from the laboratory perspective, a child who presents with anemia beyond certainly should be evaluated as well.

So, absolutely. Okay. And recently in a discussion in ILADS, the International Lyme and Associated Disease Society, you were very eloquently talking about testing the placenta.

Talk a little bit about what you need to look at in that if a mom is concerned, because I think some of your points were ones that people may not even think about.

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Right. So sending the cord blood and the placenta samples for testing is important. And you're looking for PCR data. You're look for the DNA of that spirochete or those other infections in there.

That's step one. Understanding it's not 100% foolproof, but it is a good indicator. And then you're looking at the health of that placenta. If there's inclusions, if there are vascular abnormalities, things like that could indicate that there is a lot of inflammation that occurred at that time.

And that can certainly translate into that intra-urine environment and that interpresental environment for that baby to know what that environment may have looked like from an inflammatory perspective.

You can also look at some of those inflammatory markers in some those cord bloods and in that Absolutely. And that needs to be that first step. What I would say as a cautionary component is that if all the testing is negative, you can't necessarily 100% rule that out.

Because if mom were treated, and we have study after study showing that case studies, that moms who were treating still translated those infections to their child, even if they tested negative.

And that's what we see. So it's never 100%. It's neither an either or. You have to be vigilant when there is an exposure. And I would even back it up further to say that when as clinicians we have be excellent history takers and we really have do a really great history physical on that mom and determine her risk that way and then try to

back up with the laboratory testing and the data.

But that would be our indicator to watch that child even after birth.

Testing the Placenta and Cord Blood

So even if everything looks clean, still watch them. Yeah. Because as you said, transmission can occur even with treated moms, where the pathogen low is really low, but the infection still passes.

Right. Again, if you think of things like babesia, it's hanging out inside of that red blood cell and it is not in a high load in the body and the mom is not in a parasitemia state, she's not going to necessarily show you from an immune perspective.

But it's freely riding across the cord blood, feeding that baby, and it is there. And same with those other bugs, you know this just as well as I do, that there are many subclinical cases and there many that we see that have every symptom under the sun and those labs are still negative and they won't pop positive until you have their immune system back online and treated.

Right, you know, and there are so many reasons for that in children. I mean, they may have immunodeficiency developmentally, They may not be able to mount that immune response.

Or they may have, you know, the inflammation, neuroinflammation that you were previously talking about. So it's a very, as we both know very complicated and but important thing to think about, talk about and test for.

And, you know, none of this in this podcast or our discussion today is about medical treatment. But do you, in your opinion, should moms be treated during pregnancy?

You know or suspect there's an infection in mom. How do handle that? I treat. So we're trying to optimize the best outcome for both mom and baby. And I think that if we can reduce that potential vector-borne burden, that we give that developing child the chance at life.

And the risks of not treating outweigh, you know, so I certainly would treat for all of those. And again, we have to look at, risk benefit for every medication to ensure that we're not going to add any additional burden or harm, but we to do something.

There are a handful of meds, and we've had these discussions online and outside, that there are some practitioners who are very nervous at doing it. and who can be locked into certain types of treatment in meds that may or may not be beneficial.

So my take is that if we're going to treat, let's fully treat the most effective way that we can. That's the safest way for that child.

Why Negative Tests Do Not Rule It Out

And, you know, we have to ask yourself the question, are we safer allowing something like Borrelia or Babesia to pass to that knowing that there's about a 30% chance of spontaneous abortion with a babesia or infected baby on top of other things versus treating and maybe having potential side effect or none at all for treatment.

So you don't have to lay it out that way. Yeah. And also, you know, I think we both are respectful of the parents' decision because there may well be parents that are like, "I don't want to treat this while I'm pregnant." And then you would go on to say, okay, then we have to be conscious of how we treat the baby or the child.

Right. And I have had some of those cases, and they didn't want to treat. They were otherwise healthy moms who wanted to wait until the child was born to treatment and said, I'm happy to take the baby when they're born, but I don't wanna risk it right now.

despite having the evidence, it's still a parent's decision. And you have to be there to guide them. So then the way that I flip that from a treatment perspective is to say, well, let me see what I can do to optimize your immune system and keep the inflammation down.

What can we do from that perspective? And then we'll keep you closely monitored. Any changes you follow up will work with you and your OB, but we will just flip it to you know, other inflammatory components or immune components to still optimize the environment for that baby to continue to grow.

Yeah. And then the baby is born, baby comes out looking wonderful. There's no failure to thrive. there's not jaundice, there are no problems. But as you and I both know a lot of these clinical symptoms may be very delayed.

The baby may be infected or impacted, but their symptoms are delayed by months, by years? Correct. Correct, absolutely. And again, you know, with newborns, they're carrying mom's immunity in the beginning, right?

So they are relying on mom. They're not relying their own. You start to see it when there are additional insults. Insults can be other infections.

Treating Moms During Pregnancy

It can be toxins to include, you know, mold and some of the elements that we find in vaccines, heavy metals, other things that could trigger kind of an immune response.

And that's when you start to see the immune dysfunction and then the rise and reactivation of something that is there. Yeah, yeah. And even in kids with pandas, for example, we'll see them, they'll have that strep infection and have the abrupt onset of neuropsychiatric symptoms, anxiety, OCD ticks, whatever it may be.

But then you go and do the testing and you see that there's these vector-borne diseases, I think particularly Bartonella and Babesia in the background.

And that needs to be treated before the child, both immunologically and neurologically, will be better, right? Absolutely. And, you know, it's more of a pet peeve of mine now.

I don't like the term pandas anymore. Because I think it locks into a certain type of infectious trigger when it could be broader from like more an autoimmune encephalopathy or ganglbasia, you know, an autoimmune kind of situation.

And we know that it could be any infection, really, and that when we find strep and streps, absolutely, it is a thing. We know. But when you are digging, like you said, you're finding other things.

It's sort of like streples, the proverbial straw. We look back and you see all of these vector borne things. You see other viruses that have been on board for a while and toxins.

And then it's just sort of like when strep comes along, the immune system raises that white flag and says, uncle, I can't do this anymore. I'm done. I surrender.

Then you have that response that happens afterwards with all those symptoms. Right. And, you know, I interviewed Sue Suido, the original researcher and grandmother of pandas.

I told Sue I wish she had named it the Suedo disease to make it less controversial, but she says she wishes she'd kept the name autoimmune encephalitis of the basal ganglia associated with streptococcal infections.

Not because that's easier to say, But it is really what's going on. But as you said, with all of these kids, it's autoimmune encephalitis, auto immune en cephalopathy, you know, and where it hits the brain, may affect what symptoms you see.

Correct. You know the pans pandas are both kitschy and not really accurate enough.

Delayed Symptoms in Infants and Children

Correct, it's more of a syndrome, more a collection of symptoms, just like we see with autism. It's a connection of symptom that we make the educated guess and assumption that it is neurodevelopmental.

But when you're looking at things biomedically, I like auto-munecephalopathy better because there is a biomedical workup that you can do to identify and treat it.

So, absolutely. Yeah, and it's, you know, parents get so discouraged because they may start out with strep as the trigger and then they find out, well, there's mold and there is Bartonella and Babesia.

Oh my God, my child is so much sicker. But that's not it. It's the immune dysregulation. And we have to drive that home because there are a lot of social media wars between parents that we see.

And I'm looking and I think it's all the same process. What it really is is just the trigger is different or a different pathogen. And again, like you said, depending upon what component of the brain it affects will determine if it's more neuropsych or motor or both.

You know, it is really the overarching is the autoimmune component that is happening. Yeah, yeah. So I know your focus is on children, but of course you've done tremendous work and research in this congenital infection realm.

And from your perspective, I can hear mom saying, well, i've had Lyme disease and I want to get pregnant. I think it's gone. I think I've taken care of it.

Or I have Lyne disease now and i'm coming to you to treat it, is there an ideal time that you would wait? after treating to get pregnant or is there any resources or information about that?

I think that we certainly need to work on developing that. Yeah. And that should be a goal this year. But I that treating and testing certainly during family planning, and it shouldn't be within a couple of months.

PANS, PANDAS, and Broader Autoimmune Encephalopathy

I have a lot of moms who will come to me, I'm not an OB, but I work with them and their OB who say, you know, want IVF and I want this and doing it in two months and treat me so that I can go get that done.

The reality talk about things to say well, one, You're at risk of not having a successful pregnancy depending upon your age and when you're doing this by about 50 to 80% just from the IVF.

That's it. Let's add a tick-borne infection on there where the miscarriage rate is up to 30%. So then you are already, you know, we're toast. So we have to have that talk and we get the tears out and get hugs and kind of come back to the table and say, okay, now, can we look at delaying this?

So we have to really manage those expectations and understanding that treating is, you know, your looking at outliving the life cycle of an infection.

So, at least three months if we kind of have a good sense of where many times much longer. I like to have serial testing, three to six months for a couple of times, knowing that we've gone through several T cell washouts, you know, so with the antibody wash outs about every eight weeks that you're doing that to say, okay, either the load is so low that it's undetectable or it is gone and we can't claim a rate because we just don't know.

They're very stealthy bogs. So, it's just really approaching that with caution and care and not necessarily discouraging a mom from wanting to start a family, but discussing those risks and then having a plan going into it.

So I like to at least have a few serial negatives that appear to be negative and to keep that mom on some sort of preventative treatment, if there's certain herbals or certain medications we could do, whether they're getting pregnant assisted, you know, with IVF or naturally, that we're supporting her knowing that there is a potential that that could still be there and then testing throughout.

Right. And I think the multiple testing is important. You know, as I've talked to Ed Breitschwarz, who's an international expert on Babesia and Bartonella, and really looked at the literature and everything else, you know.

A study that we're doing right now, we are finding one test one moment in time may well miss these almost stealth infections.

Pregnancy Planning After Tick-Borne Illness

So the triple draws or the multiple draws are so key to making sure we're not missing it. And even then, you know, it's still the clinical, the support of the system, right?

Absolutely. Absolutely, yeah. So, you know, there are moms that have had tick-borne infections or vector-born infections and have a totally neurodevelopmentally, neuropsychiatrically healthy child.

What do we know about the brain and the body's ability to heal or adapt when the immune or infectious stretcher… Right. So that is that one word, neuroplasticity.

Yeah. That is the body's ability. Years ago, we thought the brain was cooked. Once it developed, it didn't do anything, was static. But now I know it's always molding.

It's all ways rewiring circuitry as it needs to based upon any kind of inflammation or injury that's there. So we know that if we support that brain with the right nutrients to increase things like BDNF, which we can help with neuroplasticity, the type of healthy fats, you know the brain's fatty, it's not a muscle, but it would want to give the omegas and all those really great things to support.

But the brains is a beautiful thing, not just in childhood but lifelong, where it can heal if you're giving the nutrients and the support So absolutely, it will heal.

And that's the question a lot of parents have is, oh my goodness, is my kid cooked or are they going to have this damage for the rest of their lives? And from an autoimmune encephalopathy perspective, we can comfortably say, no, now we're going work on it.

We're gonna help heal that. Yeah, absolutely. So talk a little bit about practical steps that parents can take, either before, during, or after pregnancy, to support immune health, support neurodevelopmental issues.

All right, so before pregnancy I think that it's important for those moms to be to optimize their own health. To ensure that they have evaluated with their practitioners any underlying infections they may have and not just tick-borne, vector-born, but all, you know, viruses, anything that could contribute to inflammation.

Look at their state, kind of state of the state from an autoimmune perspective. Do they have markers related to a thyroid issue or do they, have you, know ANA markers that may be elevated, which we don't necessarily mean an Autoimmune disease, that can trigger more auto immune process or inflammation.

And then looking at your diet, you know, are you taking in goodness? You know? Are you take in junk that the body has to process and get rid of? So make sure that diet is nice and balanced, that you're getting optimal sleep to support your nervous system, which we could talk about autonomic nervous systems for another hour or two.

and making sure that that's nice and balanced and getting optimal exercise. So all of that prep work that we all should be doing, no matter whether we want to have babies or not, we should all be going that.

Neuroplasticity and the Brain's Ability to Heal

And then during those pregnancy states, Still optimizing nutrition, keeping inflammation down, Keeping the nervous system calm, trying not to stress, you know, all of those things.

So it's common sense type things, and then sort of post would be the nutrition of that baby. You know if you're going to breastfeed, You have to optimize your health knowing whatever you take in, your gonna pass along.

And then those healthy habits with those children later to say, fresh air and sunshine is wonderful, playtime, no screen time, healthy diets. You know, be that anomaly where you're not giving them the processed food and the quick fixes that we're taking the tongue.

And I'm preaching what I kind of practice. I made my own baby food. It was a little neurotic about it with my kids. But really like, you know looking at that in avoiding those extra toxins that could trigger inflammation and affect that immune system.

Yeah, yeah. And as you're talking about the autonomic system, I'm also thinking, you know, hearing parents in my head, oh my God, this is all too much.

I am already totally stressed out. I'm working two jobs.. I have three kids already. How am I ever going to do this? And we both hear that and also want to say, take a breath.

You know, you do what you can do as much as possible because your stress also affects your developing baby, your baby your child, and your whole family's stress.

So we want to honor that and hold you in the light also. Absolutely, absolutely. And it is, it's doing your best because you're going to stress about not being able to do your.

Best, which is going. To calm the situation. So I talked to the parents and say, okay, where can we carve out 10, 15 minutes a day? We can do this. Maybe it's not scrolling on your phone, not watching television, maybe doing some deep breathing.

Practical Steps for Families Before and During Pregnancy

Maybe if the kids are getting a little crazy, if you have others, say, let's go outside and take a walk if it is a nice day. Like little things, you know, having really kind of downtime at dinner just to discuss things.

Whatever that may be, it can just be carved out minutes here and there. It doesn't have to be a spa day, So it can certainly be workable and I think it could work for really any family situation to a degree.

Yeah, so true. And I want to spend a little bit of time talking about your reset protocol and tell me about it. Tell me what it means and what you're doing with it?

So the reset protocol is essentially putting into words a framework that I use. And much like you being integrative, we're looking kind of soup to nuts, you know, every body system and understanding the interplay and interconnectedness of all that.

It was really to help patients to understand kind what I was doing. When they would say, hey, do you have a protocol for this? I would, say no, I have framework and we'll kind of work within it.

So RESET stands for Reducing Inflammation, Eliminating Toxins, Supporting Gut Health, Eradicating Infections, and then Transforming Health. And so essentially we're looking at each of those categories and going through that every time I evaluate a patient to say, if we have inflammation, well, what is the inflammation?

And then what are the contributing factors? So even those are all interplaying among each other. We're looking at

gut health. Is there dysfunction there?

Is their overgrowth of something? Are we not digesting properly? We do infectious disease panels to treat those. And then transforming health is more of a once we've kind of taken care of the bigger level things and we got a better handle on it.

Even if we're not 100% of what's there, we are looking ways to optimize health moving forward. and then creating that plan to parlay this illness into more of a wellness plan later.

And that's essentially the protocol is taking those biomedical treatment steps and integrating things like nutrition and supporting emotional health and healthy habits, generally speaking.

So that is what that protocol in a nutshell is, taking that framework and kind of you know, allowing, creating something that patients can get their head around and understand the method to the madness and why we do what we dare.

And is there some way coming out that people will be able to read more about this? There is, there is a lovely manuscript that we're in the editing phase and hopefully publishing at some point this year.

And I will have that out, absolutely. Absolutely. That's amazing. I think it's so important, you know, when we talk about pans and pandas in, the conventional community, for those practitioners who really understand it and want to treat it, we still often just hear about antibiotics Ibuprofen, steroids, IVIG, and SSRIs maybe or something to treat the symptoms.

Managing Stress and Supporting Parents

But as you and I know, it's so much more than that. And treating the immune system, the detoxification system the gut, so important. I think those are all the things you're getting at with this reset protocol, which is what you are doing every day in your office.

Right. Absolutely. So, yeah, the focus with practitioners and those things you mentioned are not bad things. It's just part of the nutrition, right? So when we're constantly in this sort of kill mode of trying to kill off this bacteria, this pathogen, if we are considering how macrophages work and how clearance works and the body can detox and considering genetics how they can play the role in helping that body maintain sort of a homeostasis as we're treating, we are not going to get anywhere.

We're going still continue to sort circulate this inflammation and that inflammation it begets more. immune dysfunction. So we have to add those other things in to say, okay, great.

We have our nice treatment protocol here for an infection. And with that, you know, as well as I do, we some stealthy bugs that aren't going to necessarily respond to those antibiotics, and we to learn how to outmaneuver that.

That's where herbals come into play.

The RESET Protocol Framework

Things like biofilm busters come in and fiber nest buster to kind of break up the home or the hiding places where these bugs can And then really focusing heavily on detox to get the stuff out and that's a big problem.

And we know that there are certain genetic snips that contribute to poor detox in people and we have to kind of nourish that as well. So you're right, we're not just gonna get there with antibiotics and IVIG, which are great things, but we to make sure that we are rounding out in creating that comprehensive treatment plan to those kids to the finish line.

Yeah, and you mentioned herbals, you mention nutraceuticals, biofilm busters, all of that. I know you also use a lot of other immune-modulating or anti-inflammatory interventions for IVIG that may be very helpful.

Do you want to mention about any of those, too? Absolutely sure. So I utilize ozone therapy, so T and IVPRP, which is true dose, and those all have a, the outcome is essentially the same but a different mechanism for each of them.

We use ozone in the sense it's called MAH ozone, major auto-hemotherapy, where we're utilizing your blood where pulling it out to a certain degree, a certainly dose, we're hyperoxygenating it with the ozone and giving it back to you.

So it's yours. It's not donor, it is your own blood, and it creates more of an enzymatic process that happens where it helping us to rebalance the mitochondrial function.

And if the myocondrial is working well, then it can start to help detox things. They can clear up sort of cells that aren't functioning properly. And then that ozone can also help create something called ozonides.

I describe them to patients as like these biological bullets that can kind of punch through bacterias and viruses and things that don't belong. So it's a nice way of kind having your cake and eating it, too, and not worrying about having something donor-given to you that we may need to deal with that you may have a reaction to.

Utilizing things like SO-T therapy, which is more gene-silencing therapy. And when you talk about gene silencing, that can be scary to parents until you explain it's not touching your child's genetics.

It is solely focused upon a small genetic component of whatever bug we're programming it to go after, and it sterilizing it so that it can't replicate, so then it dies off.

So it doesn't need your immune system to respond, it does it need you to do anything but just allow the pathogens to show up. So we certainly use that, especially for their stealthier cases.

Things like Coxsackie and EBV, which we know are very difficult to get rid of, even though we have medications for EBP. We don't really have anything for Coxacki that's that effective.

And then other stealthy vector-borne diseases, you know, the Borrelia, The Three B's.

Advanced Immune-Modulating Therapies

Borrelia Bartonella and Babesia. And then lastly, we have PRP, and I like to tease that in not necessarily first, but there is sort of a preparatory phase that we go through to ensure that these things are effective.

I describe platelet therapy as a way of utilizing our own body's healing mechanisms but taking the ADHD out of it. So when we're sick, when were inflamed, those platelets are sort of the conductors in the body telling stem cells and growth factor and other cells where to go to heal or to clean up a mess.

But if there's a lot going on, it can do it. So what we do is pull that blood out, concentrate it, and give it back to you. And what's interesting is that it creates this reaction.

So when you take blood, out the body says, I'm missing some blood. I need to make fresh platelets. Then when you consolidate that and citrifuge it down into a consolidated form, you're concentrating all of those extra platelets you just pulled out, the stem cells and growth factor, and you are injecting it back into that patient.

And the body views it as something brand new. It doesn't view it is, I miss this. Oh, wow, You're giving me new goods to work with. So that sort of creates this catalyst for healing.

And that's sort of the preface behind that. Because patients have asked, well, if you're just taking the blood out and

you are just spinning it and giving it back to me, what are we really doing?

So, your science is behind it. And again, the body is a wonderful thing that can heal itself if Yeah, and clinically I have seen so many of my own patients and others improve with the multiplicity of modalities that you offer.

But also what I really appreciate is both your understanding and communication of the science. Because this isn't voodoo. This isn' you know, I'll just pull this out of hat and charge this much money.

And you there really is science behind why We need to treat the underlying trigger, infectious or metabolic, we need treat to the immune system, and we to need the symptoms.

But you're doing that in multiple different ways to really optimize the health of each patient that's coming to see you. Absolutely. And you have to view it very comprehensively in that way and view these kids who are coming in with these conditions as their systems are all tapped out.

We have do it for them for a period of time until they're back online and can take over again. That's the goal. In more of a wellness-focused model, unlike traditional models and traditional, has their place absolutely, 100%.

Hope, Recovery, and How to Reach Dr. Del Signore

It's really just giving a med sometimes to band-aid things. So we're not looking for band aids, we are looking resolution. We're looking replenishing the function that's there.

Yeah. And on that note, are these diseases, vector-borne diseases and others, in your opinion, treatable, recoverable in our kids and in moms? I do think so.

I think that the technologies are advancing and as practitioners we're gaining traction there with the research and I But I do see that we are recoverable and these moms and kids will live full happy lives.

And as I tell all of them, the more we dig with anybody, we're going to find. Everyone has something going on. It's not a death sentence. something that has to be addressed.

And we may have to approach things a little bit differently, but those kids and moms will still have their full lives and happy lives, and make of it what they want.

Yeah, absolutely. So before your manuscript is available, or even after, how do people get in touch with you? They can go to my main website and that's at www.hudsonvalleyintegrativehealth.com or they can follow me on Instagram at nylimesandpans.

And a great place to follow. Great account there too. Any last words of wisdom or hope or experience you want to leave families or practitioners with?

Right. So I like there's a saying that, you know, fear will always travel with you, no matter what, from an infectious disease perspective and just from a life perspective, but you don't have to let it drive.

I love that. I'm going to have to take that one with me, too. Yeah, excellent. And you'll find Summer Lecturing all over the place at MAPS, medmaps.org, at iLADS.

As a practitioner, if you see her lecturing, please join us. and as a parent, there's a lot of hope and a lots of ways that both Dr. Summer Del Signore and others can treat our kids and our families.

Summer, thank you so much for joining me today and look forward to seeing you soon in the future. Thank you, Nancy. Happy to be here. And thanks, everybody, for joing Demystifying Pans Pandas.

We'll see you next time. That's it for today's episode of Demystifying I hope you're walking away with insights, tools,

and hope to help you and your child on this journey.

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And if you have a moment, leaving a review helps us reach even more families who deserve answers. Also, for more information, training, and community, check out our website, drohara.com and join our annual membership.

And remember, every step forward, no matter how small, brings us closer to healing and understanding. Until next time, be present, Be hopeful, And we look forward to seeing you next on Demystifying Pan's Pandas.