Introduction and Speaker Background

Hello, everybody. This is doctor Bob Hoffman from the Master Circle Global. And welcome to the Practice Upgrade Summit. Please pay attention. And we have an amazing class with an unbelievable presenter.

Today we're going to be talking about the coming epidemic, the shocking future of children without chiropractic care. If you have any need to focus on children, neurology, neurodegenerative conditions, raising a healthy, drug free family, you're going to want to be providing your undivided attention to this.

And our special guest today is the one and only doctor, Monica Berger, who graduated from Live Chiropractic College West all the way back to 1991. She also has her undergraduate degree in exercise physiology from California State University in Fresno.

She has enjoyed extensive postgraduate training in the areas of neuro development, functional neurology, neuro nutrition and functional medicine. Monica currently has a private practice in Idaho and is dedicated to serving those with neurodevelopmental challenges, neurodegenerative disorders, and chronic health issues.

She's a pioneer in the chiropractic profession when it comes to working with children that have neuro sensory and neurodevelopmental disorders. She is a contributing author to the textbook Pediatric Chiropractic, both volumes one and volumes two, with chapters on pediatric history and physical exam, neurodevelopmental disorders and sensory processing disorders.

She's been lecturing nationally and globally for over 20 years, and is the founder of the intersect for Life educational seminars, mentoring and online learning academy with various continuing continuing ed classes focusing on functional neurology.

Neurodevelopment. Methylation. Biochemistry. Functional nutrition. This is a wizard. You're going to want to listen to what she has to say. She's collaborated with Heidi Harwick on bringing online C classes to chiropractors with the Harvest Burgers seminars.

Her newest exciting adventure is her Developing Minds Certification and C program in Childhood and Adolescent Neurodevelopment, where she has brought her 30 years of research, teaching and clinical experience into one amazing program.

Monica. It is just a pleasure. A joy and a privilege to have you on the Practice Upgrade Summit. Welcome. Oh, it's my pleasure. Actually, I'm. I'm honored that you asked me to, join you.

And, I'm just ready to spread some word and have some fun. Great, great. And our listeners are going to eat you up with a spoon. So let's begin the process.

You know, we're in month six of a pandemic. And the title of your conversation with us today is The Coming Epidemic. What are you referring to when you say the coming epidemic?

Thank you for that question, because this is something that is incredibly near and dear to my heart and kind of practically near and dear to my heart.

And I think all of us need to really get a good grasp of what this is. So the coming epidemic, it's not heart disease, not cancer, not directly. It is prenatal stress.

And if you bring I'm kind of weird, I like to I like to study a lot and read a lot, but I like to bring from different arenas. Right. So the neuroscience literature from the medical world, the neuroscience from the chiropractic world,

neurodevelopment, sensory modulation and and pulling all these entities together.

And what we're seeing now in regard to neural development and the neurobiology of disease, this is the neuroscience. So this is exciting. It's exciting for us as chiropractors.

We have the ability to to to interject before this becomes a problem.

Prenatal Stress as the Coming Epidemic

But what they're saying is the foundation of most all disease, physical disease and especially mental health and autism. They throw autism in that world lies in prenatal stress.

Wow. The foundations. It's it is so profound, Bob. But at the end of the second and the to the third trimester is, the what we call the critical window of development, these critical windows of development.

Things need to happen during this time. They they need foundational things need to happen. But that end of the second and into the third trimester is the foundational development of the autonomic nervous system.

That's when vagal tone, heart rate variability is developing in that little bit of heart, that fetus. If mom's under stress, think about what's happening now, okay.

We can talk about a couple studies that are out there with regard to pregnant women right now reporting their stress and anxiety levels. We'll get that. Get to that in a minute.

But stress, we know stress has been profound before this whole Covid crisis. And now it's just upregulated that much more. So what's happening is these little fetal farts are being born already in a very much stress compromised status.

And their vagal tone, their autonomic nervous system. We in the neuroscience world, they refer to it as this maturation of the autonomic nervous system.

Interestingly, this is huge because what's the whole adaptability? The neurological adaptability relies on what good vagal tone for us to adapt to our environment.

So these little ones are being brought into the world already unable to adapt to their stressors. And then the stress load that's that comes upon them in various forms, inoculations.

The big V word is, is one of them. But we see this cluster, we see this cluster of symptoms, right. These little floral parts, they're they're distressed.

They don't feed well or, or or breastfeed at all because they're so distressed. They're quote unquote colicky. They don't sleep well. They're agitated.

It's this cluster of symptoms. But it all boils down to that. Their nervous system, they're in such a sympathetic shift because of this mask, this maturation within that within the autonomic nervous system, because of the stress of the mom and the prenatal period.

And therein lies, then what happens is that it sets the tone in, in neurodevelopment. They know now that this stress sets the tone of the HPA axis of the offspring.

And if that HPA axis is dysregulated, then everything, you know, consequences, hormones. They're in a cortisol kick. That sympathetic dominant shift neurotransmitter transmitters are dysregulated.

It's a whole domino effect. And this is the basis of disease. So that's so fascinating and so interesting. And it makes so much sense. Unfortunately. You know, when you and I went to school we were taught that the sympathetics are

about fight flight.

But today we're taught it's about fight flight or freeze. We're we're trapped into sympathetic dominance. So you're basically saying that there's so many new, not even born unborn fetuses that are already in the freeze state in sympathetic dominance.

And that's affecting their their development? Yeah. You want to know something interesting. So okay. So we have this all this all is if we if we look at the state Steven Porges is probably vagal theory.

This is really really it comes to light. So we have we have like a three pronged approach. Right. We have what I refer to as the turtle. That is the emergency brake portion of the vagus nerve.

That's what we call the the vegetated of old vagus. It shuts down. It's the visceral vagus. It shuts down digestion shuts down everything. It just puts the brakes.

Then we have like the sympathetic arm, I call it the squirrel. You know, squirrels always out there on edge, looking for, you know, to be safe. And then the higher realm is what we refer to as the new or smart vagus.

Eventful vagus I refer to that as the gorilla because that's what makes us human, makes us conscious. All right. So we all need to dance within the regulation of these three arms on, on a daily basis.

But we need to do that in a healthy realm. That's that, that's what gives us adaptability to stressors. Right? So yes, these little fiddle farts, if we don't have good vagal tone, we can't modulate between those three systems.

And we have a couple choices. We can stay in squirrel mode sympathetic dominant, fight or flight, or especially like in the neurodevelopmental realm, the autistic kiddos, they'll either be in that squirrel zone or that freeze and associate the turtle going in your shell and hiding because the world's too much, too crazy.

And so this, you know, shuts down our digestion and so forth. But what's interesting is they've done, in the neuroscience world, they've looked at. So when when there's these prenatal stressors, those are so often associated with premature birth and low to low birth weight, which the basis of most of these diseases will have, this the the preterm and the low birth weight, especially the metabolic diseases.

But what they show to they have found that little ones that are born premature.

Vagus Nerve, Autonomic Regulation, and Development

They especially really like we're talking about less than 30 weeks, but they were in Nick. You and when we list, they, they looked at those that would return because of what they referred to as a life altering event.

They stopped breathing. They were cyanotic. They were okay. Those little fetal farts had they were in a parasympathetic dominant state, not a sympathetic dominant state.

They were in turtle mode because they don't have that adaptability. When we have a dysregulated nervous system and we have too much sensory chaos coming into our world, we're staying in that red squirrel, that squirrel fight or flight mode.

We can only stay there so long until the nervous system says, I need a timeout, I need to reset, and we'll go into that freeze and dissociate form. But what we find on these little fetal farts is that can be life threatening or compromising, because they shut down so much.

That makes sense. Yeah. Makes sense. When I learned about Porges work, what you're referencing is the ventral and the dorsal branch of the vagus nerve.

And I always remember it in my own head is the ventral vagus V creates vitality, another V. And when we actually

and actually when we go internal become depressed or we lose our social skills, we don't like being around people.

That's the dorsal activation of the of the, the vagus nerve. Yeah. And that and so if you want to, if you really want to tie more things together, which I love to do ventral bagus it doesn't fully myelinated mature to about 6 to 12 months after birth.

And if we look at these primitive reflexes when we're born, we should have these survival based reflexes, right? They're based brain stem based. There's primitive reflexes.

Those should be integrated. They should no longer be active by 12 months of age. This event Tobago's system is going to as it myelinated. It's going to help mature our balance between sympathetic and and parasympathetic.

And it's going to help us not stay in these what we in the neuro neurodevelopmental world, we talk about fixed action patterns. The baby offspring will adopt mom's stress responses.

So she's stressed out and she reacts, not appropriately. You know, overreacts or stress is real easy. Baby will adopt those same stress patterns. And these reflexes are hard to integrate, as is that ventral Bagus is hard to myelinated to mature when they're staying in this fight or flight all the time.

Well, I want to dive deeper into fixed action patterns that you just mentioned, because that's a new phrase for me, and I'm sure almost everybody watching and listening to this.

But before we go there, Monica, you know, you've made mention now at least a half a dozen times about the vagus. And I think the vagus is the most important nerve in the entire body that nobody ever even knows about or talks about, including chiropractors.

Could you, could you just share a little bit about why the vagus is so critical in general, and why it's so critical to healing for doctors of chiropractic?

Yes. Because, I refer to it as the big bad voodoo daddy nerve. So over 15 years ago, I kid you not, over 15 years ago, I when I was with the ICP, I would talk about the vagus nerve.

This was when I was writing the second edition of the pediatric textbook. And this is when it was just coming to the forefront. And I actually got a nickname in our profession because people go, oh, Berger, just call her Mrs.

Vagus because and they're made fun of me. They're like, oh, she's going to talk about the vagus nerve, you know? Now fast forward how many years later?

And this but this is what gets my goat as chiropractors. This is this is so huge to us. This neuro adaptation, basically, the vagus nerve is what it controls.

Our neuro adaptation to life to stressors. Right? Okay. So it takes about 17 years of what we call translational science to become accepted in the medical world.

That means that studies that we have. Consistently showing the same results, the same findings. It takes about 17 years before it becomes known and accepted in the medical paradigm.

And then it has to become accepted in the in the laypersons paradigm. Right. All right. So now we're seeing osteopaths, MDS, physical therapists, all these other entities taking the ball and running with vagal tone.

And my biggest beef, I hopefully I can be forgiven if I get a little ranty here. But my biggest beef is as chiropractors, we should have been on the ball.

We need to be the forefront of this message because what we have to offer and regulate neural adaptation and stress responses is phenomenal. And if we look at if we can set the tone, okay, so we have these little set of parts

that are born in dysregulation.

This maturation of the nervous system, autonomic nervous system, this maturation of vagal tone they're born to. And they arrive to the world like this.

We should arrive in a bit of a sympathetic dominance, by the way, that when we're born. But again, that should mature in that, especially in that first 6 to 12 months.

Why aren't chiropractors understanding this? And those little ones need to be under care because if we can broaden their neuro adaptation from the get go, if we can set the stage on that, the life of that human being is changed forever, physically and mentally.

But so we need to look at our neuroscience. We need to look into it. We we have work to do in that arena. We. Right. I mean, but we see it in our offices every day of what happens at the adaptability that you want to know.

The fun stuff is, you know, that Heidi and I are very good friends and look at her work with the prefrontal cortex, that a chiropractic adjustment affects processing in the prefrontal cortex.

What regulates vagal tone? The media, particularly the medial prefrontal cortex. So what we have in our hands is it's like it's life changing for the rest of the life of that human being.

And in my opinion, we need to grasp this and understand it and and own it and get the word out there and lead the way rather than what is the medical paradigm have to offer.

They're talking about it right and left. Well, they, they, you know, they talk about breathing exercises and they're all the things mindfulness and meditation, they're all great things.

But what do we have that they don't have? We have the adjustment. Have not yet. Listen, you were a prophet in your own time because you were right on all those years ago, Mrs.

Fixed Action Patterns and Intergenerational Stress

Vegas. But I talk about the Vegas all the time as well. I look, you probably forgot more about neurology than I have ever known, but I'm pretty much convinced that if you can increase vagal tone, reduce some dural stress.

Unlock the speaking void, adjust the occiput Atlas. Yeah. You're probably. You could take good nutrition or supplements to heal the gut microbiome. You're probably going to fix 95% of what ails humanity.

I mean, it's just critical. And what connects all of that is the vagus nerve. And when there's actually research out there, Monica, that I'm sure you're aware of, that says the number one predictor of survivability of cancer is vagal tone.

You know, vagal tone is cool stuff. It's your your vagus nerve, your number one in my immune modulator. So it, it, it is, what we call the cholinergic anti inflammatory pathway.

Everybody cholinergic anti inflammatory pathway. We have our that's our immune system that he's it. So then number one I mean modulate. We have to have pro-inflammatory cytokines and anti-inflammatory.

But we have to have a balance. If the pro-inflammatory guys a sympathetic arm of the immune system takes over. Think of Covid right now. What is everybody talking about.

The cytokine storm okay. So vagal tone your your immune modulating your your gut modulator okay. It's your big gut controller 80% of your immune systems in your gut bagel tones down.

Gut is down. You have the gut brain brain that connection that everybody knows about. Now, it it regulates

stomach acid. Stomach acid is your gateway into the gut health.

It regulates bile production. I mean, you know, and and if we just take those, if we just take immune and get right there, how many diseases can we help modulate?

It's just unbelievable. And yet chiropractors have been modulating vagal tone for 125 years and weren't even aware of it exactly. That's why we saw it.

That's why we see, you know, that's why we have all these stories, right? About not only physical, changes, but emotional mental changes. Right. How many, you know, people reporting, you know, better clarity, less anxiety, better sleep all those things.

All those are because we're modulating that HPA axis, because you're modulating vagal tone. So it's a huge kahuna. It really is. And you know, the number one council, the first council it ever got developed in the chiropractic profession happened in the 40s.

And chiropractors are shocked to learn that it was called mental health and chiropractic, you know, and BJ Palmer had the clear view sanatorium taking care of mental health patients.

And yet that's a whole section of healing that has basically vanished from our profession. And sadly, so one of the benefits of summits like this is world class speakers and experts and icons like yourself.

We get to discuss this and bring out some of our history and how to prepare for our future, which I just think is just monumental and essential. So thank you for that.

All right. Well you're welcome. Go ahead. I mean I'm I'm I'm excited about our future. You know, this this this what we're doing right now. I believe that this is a huge pivoting point where we can we can be the truth, the light, the hope.

And, and if we can get everybody on board to chiropractors on board to understand what they have and go out and spread the message, this is huge for people right now.

Totally agree. Totally agree. All right. Let's let's get back on point. Even though I don't think we got off point. Give me some more examples of these fixed action patterns in children and infants that you had mentioned earlier.

Okay. So basically they refer to them as these primitive reflexes. So if mom is in a stress out state, it what happens is in during pregnancy cortisol moms cortisol only about 1,020% max should be allowed to cross the placental barrier.

There is an enzyme a gene that basically breaks down cortisol. The cortisone, the less neurotoxic form when mom's too stressed out, or if she's eating crappy like not enough protein.

Protein helps support this enzyme. Too much cortisol gets across the placental barrier. And that's what this regulates. The HPA axis essentially of the offspring.

So babies will be born in a lower threshold. And baby will also adopt mom's stress responses. So if we really want to get crazy as we have research, one of the biggest studies is known as the cherry blossom study.

I don't know if you've heard about it before. Have them. Okay, so what they did was they took, male male mice. They they gave them the smell of cherry blossoms, and then they gave them an electrical shock.

And they wanted to see their stress response. And of course, they showed a stress response. Right. Higher cortisol. Okay. Fear response. Then they bred that bred them and they looked at the second generation or the first generation, their offspring, and they gave them the smell of cherry blossoms, but did not give them the electrical shock.

How did they respond to the smell of cherry blossoms the same way as their daddies did? They bred those that those mice. And so now we're talking second generation grandkids.

Same thing. Gave them the smell of cherry blossoms. No electrical shock. They responded the same way as their grand daddies did. Now, we know that these responses to environment to stressors can go back as far as 14 generations as they're hand-me-downs in our DNA when we're when we can at conception, DNA methylation is wiped out except for DNA methylation associated with, stress and emotional responses.

That's programed in us. What was interesting is they found this the male mice study, they found it very interesting. So they went back, they did the same thing, but then they deconditioned their fear response.

So they gave the smell. Cherry blossoms, gave them the electrical shock, saw how they responded, but then they deconditioned them before they bred them again.

And in those cases, the offspring didn't have that same stress response. Wow. Okay, so what happens with little fiddle parts in the humans is that can be programed in our DNA and the way mom perceives her environment, her internal environment, what we call interception, vestibular, proprioceptive, visceral sensations and our external environment.

Prenatal Stress Outcomes Across the Lifespan

The five five senses, the way she perceives this information coming into her brain, the way she adapts to it, depending on her vagal tone, is going to be hand-me-down it into generations to come, mom stressed.

It has these stress patterns to different environmental situations. Baby will have the same stress responses and we call those fixed action patterns. Their response or action patterns are the same, particularly of mom's.

Interesting. How interesting is that? Boy? Well, you want to know what's scary? Go ahead. Is the fact that. So why did I call this the coming epidemic?

What's scary is what are we seeing right now? Stress and anxiety is what it's going to be. The all time high we have so far. We have two studies that have come out since this whole Covid thing.

One came out in June and we're in we're in September now, right? I think the other one was August or September. What they found was they they looked at pregnant mamas, and in the first one that came out in June, they looked at anxiety.

What were anxiety rates since Covid. So now at this point we were what, March, April, May, June, three months into it, in June, they saw that pre-COVID reports of anxiety was about 29%, and in this study was up to 74%, well, pregnant moms.

So moms anxiety. Her adaptability is down. Baby's adaptability is down. The second study that came out showed pretty much the same thing there. They looked at depression and anxiety.

I think it was 39% report did clinically relevant signs of depression and 59% of anxiety. Now, what's important to understand here are two things. One, in both of those studies, they looked at exercise.

And in the first study in particular, women reported a decrease of about 64% in their daily exercise since the lockdown. Since Covid 15% reported an increase in exercise.

What we know is that maternal exercise exercise during pregnancy will increase fetal heart rate variability. Fetal made up, vagal tone. So it's important for us to understand that these are things we can be advising our patients on for the development of that offspring, right.

But the other thing is, There's a lot of studies from other natural disasters out there from the back as far as the

Holocaust, earthquakes. 911 there's one famous one.

Called Project Ice Storm. It was an ice storm that occurred, I think it was in Quebec, Canada. I think it was late 70s or 80s. Anyway, they were out of electricity for about 41 days, and they looked at the lack of good nutrition during that time and so forth.

Bottom line, all of these studies, because they can take natural disasters and they can place that. They know what time that happened and what where the woman was in her pregnancy.

Right. So they can say this disaster happened. Then these women that were studying this group was in their first trimester. This was in their second. This was in their third. They have that roadmap.

But what they found is pretty much across the board in any of these natural disaster times, those that were pregnant in their second and third trimester, the fetal of the offspring, even years later into adulthood, had more risk, higher risk of being, having PTSD, anxiety, depression, etc.

following me. That's so amazing. So this is scary. And so this is why this is why I'm saying this is the coming epidemic. If we understand what's happened.

And the even scarier thing, Bob, was from the Holocaust studies, they said that even those that conceived two years after this tragic event, the baby was even conceived yet, but conceived within two years after that time, still had those long term consequences.

Because if mom if mom is, is it once, once that system has been, so stressed out. Look, we're all walking around and I call it frontal lobe flip. Right now, we're all stuck in our amygdala right?

That becomes an ingrained emotional response mechanism, a PTSD response mechanism. It's really hard to change that response. So it make we live our lives through our brain and nervous system and it records everything if you're conscious of it or not.

Yeah. Yeah, yeah. And so these these imprints that mom's getting now if we go back this Covid thing, that imprint is going to stay with the offspring.

Crazy. Let's drill down a little further. What are some of the lifelong consequences both physically and mentally, that are associated with prenatal stress?

Like how does that show up physically and mentally later in life? What what's what do we see as doctors in our clinic that should give us that clue? Our antennas should go up.

This is a patient had prenatal stress. Let's let's kind of go from little bit of fights through, okay. If you don't mind. So little ones, little ones we talked about you know, the agitated state but they don't feed. Well they don't hit their they don't tend to hit their motor milestones.

If you what's really fascinating is they look at neuromuscular development and prenatal stress that neuromuscular neuromuscular doc's neuro muscular development is compromised if there's been prenatal stress.

So what you might see is these little fiddle parts have low muscle tone. They don't like tummy time. They're not good on rolling over. On sitting up. I'm getting pinged a lot on social media with regard to why isn't this little one wanting to walk?

Why are these little ones wanting to walk? Sometimes they'll they'll but scoot instead of cross crawl, which is abnormal. These are maladaptive neuro plastic programing that's happening.

They're not wanting. They're walking on their knees instead of getting up and wanting to walk upright and so forth. So we're seeing these maladaptive neuro, neurodevelopmental motor milestones.

What's very fascinating is this can lead to what we call postural instability or gravitational insecurity. Not being able to be upright in the world against gravity.

This is a lot of vestibular and proprioceptive and visual processing dysregulation. The these are I can I can lay out a number of labels later on in life.

What can this look like as a label? Autism is a big one. ADHD, Tourette syndrome, scoliosis anxiety, a number of psychiatric illnesses. So back to your whole mental connection with chiropractic.

Chiropractic Assessment and Practical Care Strategies

This is where we lay out that whole paradigm. Because if we have poor processing of our environment. We have a disconnect between the limbic system and that prefrontal cortex.

We have posture instability, fear of being upright against gravity. So motor stone, milestones wise we see those motor milestones. But then label wise we see these different labels.

Then we go bit further. Neurodegenerative disorders Alzheimer's Parkinson's dementia as the timeline goes. And this is all from prenatal stress. Wow. I think this is such essential information that a it should be taught in every school and every doctor should have this as part of their continuing ed so that they're up to date with all this.

I'm sure things like, walking on toes and poor concentration and attention deficit and maybe even terrible eating habits and fussiness and the list goes on and on, or just all associated with the same thing.

Absolutely. So in our clinics, what we we might see, we might abnormal gait patterns. Toe walking is a big one. A broad based wide stance or a longer time in a stance phase because they are insecure in their environment.

They're not processing particularly visual, vestibular and proprioceptive information. So it's scary to be upright against gravity. So they're doing these maladaptive behaviors in order to gain more security.

You know, this wide based flat footed gait gives me more stability under my feet to kind of figure out where I am in space and, and how to move through space, you know, where do I fit in the context of my environment and how do I move through that?

Well, one of the key roles of the brain is to comprehend itself in its environment. And when it can't comprehend its environment, we got a problem. We got a problem.

And if you just saw, what, last week, a couple weeks ago, Heidi's new study that came out with the stroke, the new stroke study with the default, the default mode network was where they saw.

So we look at now in neuroscience, now in neurodevelopment, not so much in a single brain regions. We look at the connectivity how they communicate these different regions.

And in the prenatal period, if you want to tie two things together, you try her. Her recent study where she found processing in the default mode network, primarily what we call the the posterior singlet gyrus or cortex and the parahippocampal.

So that posterior singlet is very important in, visual spatial relationship and memory of where we are kind of how do we fit into space? Okay. That default mode network is one of the key areas that's being studied in fetal development and how prenatal stress is affecting the maturation of that system.

Well, Monica, and in the little time we have left, because we're starting to get towards the end, I'd love to get down into more of the practical material.

You know, you speak of chiropractic as being able to turn the tide on this epidemic. You know, we talked about a

variety of signs and symptoms, diseases that kids, adults have, seniors have as a result of prenatal stress.

How how should the chiropractor watching and listening to this? How should they go about assessing? And even more important, correcting these types of problems?

How do we start to neuro adapt better through chiropractic care? So some of these prenatal stress syndromes start to clarify or improve or heal themselves?

Great question. So first of all, I think understanding you don't have to dive deep into the neuroscience. You can at least listening to different people and understanding what we what we have out there in the neuroscience world as far as chiropractic goes, because that gives you confidence and certainty.

And and looking at patients a different way are my what is the postural control of any body you work with. All right. Simple screening like can they balance on one leg.

Can they tandem walk. That'll give you an insight into how a little bit of their integrity of their, of their vestibular and proprioceptive systems. Okay.

Knowing that those, those systems are critical in the disease process. Okay. Well kind of keep that simple. So how do we how do we create a program in our offices around that.

Well first of all, get them adjusted. That adjustment is life changing because it changes the sensory input from the body to the brain and the brain back down to the body.

So get them. Underwriter chiropractic care. If your bag of chips isn't kiddos or isn't pregnant population, please understanding why they need to be adjusted and sending them to a colleague is first step critical, or bringing somebody in to your office that wants to do that kind of work.

But please don't negate their need for chiropractic because that isn't your area familiar. Yeah, comfort. So get them adjusted. Look at adding some mindfulness and meditation, some, yoga, some ways to start fostering a relationship between the top of the brain, the prefrontal cortex, and the emotional part which we know has to happen for optimum health to occur.

So whether you have somebody you, affiliated with in your, in your, in your community that has these kind of programs, you, you bring them into your office or you have books or apps.

Hart math is a great app that you might want your patients to to take on. Understand if you measure heart rate variability in your offices, if you have a low heart rate variability, that means that person is spending more time in their limbic system, in their amygdala, and less time engaged in their prefrontal cortex, our conscious part of our brain.

So understanding what you're what you're looking with when you're taking heart rate variability, that means you may that person the lower the heart rate variability, the low adaptability they have, you might want to talk to them about some stress mechanisms that they can put in place about exercise, about eating right.

The, if you want to throw some supplements into your repertoire, one of the basic things basic supplements is a good brain probiotic probiotics, particularly the lactobacillus strains, are known to enhance vagal tone.

There's two particular strains that you should know about. One is called lactobacillus REM gnosis, and one is called Lactobacillus retary. Both of those, a vagal tone is adequate, will change, will have an effect on the brain, particularly with depression, anxiety.

We get that under control. That'll also help regulate vagal tone. Zinc. Zinc is another key nutrient in the prenatal period, and it also fosters healthy, vagal tone development and frontal lobe development, and zinc and probiotics two simple ones.

You can employ. I'm going to put you on the spot, even though that's not really my intention, but with your your knowledge and experience. Monica, are there certain key vertebra to focus on?

Is there one technique that's more effective than others? Is there a frequency of care that seems to be more advantageous than other frequencies? I know this is a pink elephant and hardly anybody likes to attack it, and you don't have to.

But if you would, I would be thrilled. Okay, so a couple things. Less is more in today's world because people are so tapped out there at threshold. Their adaptability is down.

So my philosophy is less is more, especially with the little bit of arts, because I say for every action there's a reaction, every supplement you give.

It might be a good thing, but it might be too much. If they don't have enough ability to adapt to that point, it might be too much for their body. The adjustment is so powerful metabolically to the brain.

It is so powerful that I go low, slow and safe. Start slow, start low. Now I was raised chiropractic, raised as a dead practice. Okay, so I do a lot in the, you know, stay within the sympathetic or parasympathetic and and try to do that within each you know visit with the neuroscience we have we we need to maybe look at another shift our thought process a little bit.

Because as Heidi will tell me frequently and all the studies, it didn't matter which segment they adjusted they or what technique. They found changes in the prefrontal cortex.

And that's that's right. The prefrontal cortex. If it's engaged your it'll help modulate inflammation, digestion, help modulate vagal tone. Right. So I do be honest with you, I, I grapple with that because 30 years of practicing constant and you know so bottom line is I don't do a lot of segments at one time.

And I explain to my patients why because a lot of them if if they come from another practitioner, they might like, well, doc, why don't you just do them all and I'll explain to them is I, I come from a more neurologically based home and, and I, you know, I explain that different your body has to adapt to everything we're giving it.

And I don't want to blow any circuits. It's a good way to put it. It's, you know, you know, you you can blow too many circuits. So now, if I do have somebody, let's.

Okay. Let's take stomach acid. Just because that's a big gateway. If I don't have enough vagal tone, I might not have enough stomach acid. And that's really important for me because the gut is one of my big areas.

So I might say, I'm going to I'm going to stay in the parasympathetic to try to get this upregulated. If they have pale poop, I talk to people. I, you know, that might not be enough.

Bile. And so maybe the vagal tone is down and not going to be enough bile. So I want to stay in the parasympathetic. So I do things like that. But find subluxation, fix it.

Closing Thoughts on Chiropractic's Future Role

Leave it alone. Find it, fix it. Forget it. That's that all the way. Monica, you are brilliant, well versed, a delight. Your practical information today is mind blowing.

Anyone who watched and listened to this has got to be not only impressed with you, but with why neuroanatomy and, prenatal stress is so important. Look, the answer to the question is, when's the best time to start chiropractic here?

Before conception? Yes, before conception, throughout pregnancy and immediately after birth. And then for the rest of your life. And if you don't get that, geez, I don't know what to say to help you, but because to me, that's as

crystal clear as it can possibly be, I, I want to thank you for taking time out of your crazy busy schedule to contribute to the Practice Upgrade Summit.

Love and appreciate you and all that you do for our profession, and continue to do for our profession. I'm sure you have a parting comment. You know, we've all been through quite a year, and I know a lot of people are tired and thinking, why?

Why keep going? Why? You know, the why is because we are going to be the hope for the future, for across the globe, for future generations. It's not just the now, you guys.

It's not just the now. This is generation after generation after generation. And to the world. You may be one person, but to one person you may be the entire world.

And then you're going to be the entire world to another person. And to another person and to another person. And if not us, then who else said, thank you so much?

Have yourself an amazing day and keep well. Thank you so thanks. You do the saying thank you, bye bye.