Introduction and summit context

Hi everybody. And welcome back to the Reverse Alzheimer's Summit. I've just as I have, I've been having an absolute ball talking to a number of my heroes, people who are just doing such interesting work from, you know, Richard Horowitz to David Perlmutter to Jeffrey Bland to Kara Fitzgerald to all, you know, on and on and on.

Just such fantastic people to talk to. So I really appreciate it. And I have another one of them here today, Dr. Neil Nathan, who's actually a been consulting on some of the patients and really helping get best outcomes.

So we want best outcomes. That's the single goal always. And so just absolutely great to have you. Dr. Neil Nathan, thank you so much for joining us. Thanks for having me. My pleasure.

And maybe let's start. You've got a book coming out very relevant to what we're talking about today, which is how do we Reverse Alzheimer's Disease? How do we how do we improve people's symptoms?

And we've got actually got a paper now coming out that shows a sustained reversals for over ten years in some people. So, again, it comes back to when you're actually addressing what's causing the problem, then you can expect long term improvements.

So very excited about that. But if you've got a copy of the book, please hold it up. Let's take a quick look at this. Okay. Here it is. I'm very excited about it.

So this The Sensitive Patient's Healing Guide and it's I have over 20 guest authors join me in writing this book and it's to help patients who have gotten mold toxicity and Lyme disease and bartonella and many other conditions.

Over time, their nervous system becomes affected, specifically the limbic system, the vagal nerve system and massive activation.

Sensitive Patient's Healing Guide and nervous system sensitivity

And that trifecta will often make people sensitive to light, sound, chemicals, food, EMF, touch pretty much everything. And as you know, there are many of those patients have been told, oh, it's in your head.

You can say that's sensitive, that's not possible. And I've tried to champion those patients over the years, and I'm really excited that we now know enough about the neurology and biochemistry so that we understand why it's happening, and that tells us how we can help.

So I'm very excited about this. So this is really interesting because, you know, you could argue that someone who is APOE4 positive is essentially hypersensitive.

They're developing Alzheimer's to the same things that are affecting others that are not developing Alzheimer's. And I've been thinking of this in terms of conceptually and biochemically as something where what we think of as Alzheimer's is really a network in sufficiency.

It's driven by too little support, blood flow, you know, oxygenation, mitochondrial function. And as you had said before we started here, too much inflammation.

So you're you're asking too much of this system. So it is a network insufficiency. And their response is you downsize the network, you start with the 500 trillion synapses and work down from there.

Unfortunately, those who are apoe e4 positive have a hyper response, more inflammation for a given insult. And so

they are now downsizing earlier and unfortunately leading to Alzheimer's disease.

So we want to obviously reduce the drag, reduce the inflammation, reduce the toxicity, reduce the stress and improve the energetics and the neurotransmitters and the neurotrophic.

And this is a huge, what you're working on is a huge part of that. There. The there's a very interesting Netflix documentary right now, highly relevant for your new book.

And it's called Afflicted. And they have, for example, one of the patients, they follow these follow these patients over time. One of them is someone who is clearly very sensitive to EMF.

And, you know, and people, again, as you said, they look and say, come on, this has got to be a fact. Her father in law said, you got to toughen up like, well, wait a minute, it's not that simple.

Another one highly sensitive to mold species, as an example, and in fact, actually was, I think was the mold species where he said, you just got to toughen up.

So it's pretty clear that these people have. And then when they finally find they go from doctor to doctor to doctor to doctor who just has, you know, virtually no help.

And finally find some that actually can start to make these people better, where so many people have doubted their their disease and said, you know, what are you doing? You're trying to live in the desert.

You're trying to get away from mold. You're trying to get away from EMFs. The one woman goes to a place where they they bar EMFs because of a local radio telescope.

And she's clearly better. She clearly notices the difference. And there are others there who've come for the same reason and said, oh, my gosh, you know, we're we're doing so much better.

So maybe since I think, you know, there are some relevance here to tell us a little bit about the biology of sensitive to, for example, EMFs. Well, the sensitivity to anything is regulated and controlled in the brain by two major systems, the limbic system and what we call the vagal nerve system, which consists of the vagus nerve or the cranial nerves that are connected to it.

Right now there are two different parts of the brain, but they work synergistically very hand-in-glove to monitor the body for safety. So all about safety.

So they're out there scrutinizing the stimuli that you are being exposed to. Yeah, from a safety perspective, if they don't think you're safe, they're going to shut you down not to hurt you, but to protect you.

And the way they shut your down may not be pleasant, but that's not their job. The job is hate.

Limbic and vagal system biology

This thing that you're getting exposed to EMF or some smell or some chemical or light or sound. I don't know if that's safe for you and I'm not going to let you do it.

So it's a protective mechanism. It's kind of gone off the rails. And so what we have to do then, and this is, by the way, not psychological, this is neurological.

So so many of our patients have been told, oh, this is in your head, you're making this up. It's how come I'm in the same room with you and I'm not feeling it?

That's because you don't have the same triggers that are affecting me. So it's very real. And here's the good news. It's treatable in the same way that we can influence all of those patients with Alzheimer's, because we can look for

the inflammatory causes and treat them and a whole lot of our patients can get better to the point of being.

Well. That's very interesting. So talk if you could a little bit about what is the difference between what's being delivered by the vagal side and what's being delivered by the limbic side? That's that's a good question.

So the limbic system's primary job is to monitor stimuli for that have to do with sensation and emotion. So the symptoms that would tell you that your limbic system is being affected or any sensitivity of any kind like sound touch, chemical food, EMF, all of that is limbic.

The emotional side is really important because anyone who has not been particularly anxious but now is or depressed or feels hopeless or despair or even has OCD behaviors or has depersonalized or demoralization, all of that is limbic, and all of that can be triggered by mold toxicity.

Lyme, Bartonella. And there are some other important causes as well, but those are the big issues on the vagal side that more has to do with the autonomic nervous system because the vagals is a primary component of the parasympathetic nervous system, the sympathetic and the parasympathetic being the two branches of the autonomic nervous system that regulate and the trouble breathing, heart rate, digestion, all of the major parts of the body.

So someone who had a vagal issue might for example, have constipation or intestinal issues because the vaguest regulates intestinal motility or the vacancy also regulates heartbeat.

If you have tachycardia that could be vagal or patch that can be vagal or temperature dysregulation. So all of that quite common in our patients with mold and Lyme disease.

And often people will go to specialists like they have pots, clinics where you can go and get elaborate testing for, okay, you have parts, but most of them don't realize that there are actual triggers for it that affect the Vegas.

And that's one of my messages, which is it's all well and good to put a label on it, but it's really important to back up from that label and go, Yeah, but what's triggering that?

And that's where the real help can come for patients. Very, very interesting. Okay. So you know, the other the thing that jumps out at me is says, okay, well, now one of them, the vagal, of course, more and more information suggesting gut related changes in microbiome, even prions can move up the Vegas and you end up in the brainstem, which is where you see Parkinson's.

And interestingly, where you see locus truly is an early change in Alzheimer's disease, where you're losing all that nor adrenergic projection to the cortex.

And you see, so of these people who are very passive, you ask them a question, they turn you know, they turn to their partners all the time. So you've got the vagal side, which is more related to the G. I.

As we're hearing more about microbiome and movement of prions and things that are vagal g.i to brain connections and really gi to to brain stem connections.

And on the other hand, you've got a system with a limbic system that you're really associating more with the nasal input. And interestingly, you know, the neuropathologist told us years ago, whatever you guys find out for Alzheimer's, it's going to have something to do with the nose, because it's the Rhine and Cephalon, it's the so-called nose brain that tends to be affected.

That's the distribution. So, you know, is is there a sense that the some of these things that are attacking and affecting these two, that one is more on the ingestion side and one is more on the inhalation side?

Mold colonization, mycotoxins, and treatment debate

Or is that not the case? Well, one of the things that a lot of people don't know about mold toxicity, for example. Yeah. Is that once you've been in a moldy environment, not so much food ingestion is possible, but once you're in a moldy environment, you're taking in mold spores.

Yeah, yeah. Compressors, you're swallowing them. And so you've got a reservoir of mold that grows colonizes in our sinus and gut areas. So a lot of people think, well, I used to live in a moldy environment, but I'm out now.

I don't feel any better. I'm yeah, I'm out of that moldy environment. Yes, but you're carrying that moldy environment with you. Yeah. So an important part of treatment is recognizing that you're not only have to get the mold out of your body, but you have to get the mold that's growing in you out of your sinus and gut areas.

Yeah. So, so there is a connection. And you bring up a really good point because this is an area, as you know, this is a really difficult field. I have to say nothing.

When I was training in neurology ever suggested that Mycotoxins were going to be the important players that they are or tickborne illnesses and things like that.

And yet they've turned out to be major players in cognitive decline. So now, of course, as you well know, you as as as a leader in this field, there is the idea that kind of the shoemaker approach of this is chronic inflammatory response syndrome.

You don't need to use the antifungals and you're in if you measure something in the urine, it's probably coming from your gut. And then there's what I would call the Dr.

Nathan approach, which is, yes, you do want to use some antifungals, and yes, you do want to check the urine for, you know, for for mycotoxins. So for those of us who, you know, who listen to you as a teacher wide, I guess the question is, do you get better outcomes when you are including antifungals and address that part of the illness?

But I would say, yes, I have Doctor Shoemaker, who I worked with for many years before deciding that we had different views on the matter. I think it kind of boils down to the fact that for reasons known to him, he's never embraced urine.

Mycotoxins testing. He's always thought that it was related to food, which most of us don't believe that's the case, and he's never included it in the otherwise scientific way.

He's evaluated sirs or chronic inflammatory response syndrome. Because of that, I think he's missed how to do this whole process more comprehensively.

His objection to antifungals is partly theoretical because of a single line in a single paper that was published that suggested if you take anti phonecalls regularly, it will do some harm to your to your body.

I've read the paper, I've looked at that line, I've run that past hundreds of my colleagues. None of us think that occurs. Generally, antifungal medication is quite benign.

There is very rarely any resistance to it. And my big problem is with outcome wise, if you don't get rid of the colonized mold in your sinuses, you're not going to get better.

So my different way of looking at treating it is that I, having tried his method for many years, I found and by the way, I did not invent this method.

It was created by a whole team of us, including particularly Doctor Joe Brewer, an infectious disease specialist in Kansas City. Shows were profoundly influenced by our way of looking at it.

His papers, published about 12 years ago, began to get us thinking of, Oh, there is colonization here, and if we don't treat it, that might explain the people we haven't helped.

So again, my experiences having treated probably hundreds of people, have tried Dr. Shoemaker's method and have not gotten well. Is that when we got them on the correct binders, when we treated them with antifungals, they recovered completely.

So that's my bias. And I know Ritchie well enough that if he were standing next to me, he would have a compelling argument of why I was completely wrong.

Yeah, and one of the things I've found throughout the years is dealing with, you know, the top experts. Sometimes they have two different approaches and they're both right and they both have reasons for why that they are saying what they do.

And, you know, each one of them. Yeah. So mine is practical they'll. Yeah. And I've as Ritchie has, I have taught those concepts to hundreds of physicians and they have shared that they have so many people getting well that they have not been able to help before.

So I know there's at least something in what I propose or teach that works and I'm completely open to learning how to do it better. Yeah, I mean, because that's the bottom line. Yes.

And that's what we all want. And I have to say, it has been so exciting for me since the very first patient with Alzheimer's reported her improvement back in 2012.

It's been so exciting to see people who had no hope, who are actually now improving. And we have, you know, many, many of them now and actually a number of them, of course, have consulted with you and hadn't really been helped by what you do.

And we come back to the conceptual model. I mean, this came from the test tube that if you look at the actual signaling of amyloid precursor protein, you know, it is this change in and network sufficiency that's really mostly brought about by three groups.

It's reduction in energetics, increase in inflammation, as you've indicated, an increase in toxin exposure, some toxins that you now having to deal with that are that are adding to this.

And, of course, these things can interact with each other. So, so so everything you're saying would fit beautifully into Bob Neville's concept of cell danger.

Response to stress, toxins and infection all have a choreographed roll on of the cells in the body to shut down the mitochondria to deal with that stress or toxin infection.

So that energetic void that you're talking about is a natural consequence of all the things that can trigger that cell danger response. It's a great point.

And the other thing we found is that, you know, there are these modes. It's very much like what you were just talking about. So your, you know, your limbic system in your in your vagal system are telling you you've got to go to a different mode.

You're not going to be normal. I'm protecting you by shutting things down. What we're finding this same thing plays out at the molecular level with AP amyloid precursor protein has to it's a beautiful switch and it, by the way, has a pre onyx loop.

So it either goes to one side or goes to the other side by having positive feedback. But what's interesting is one side is connection. It's making synapses, it's keeping synapses.

When things are bad, it switches to protection. So you literally go from connection mode to protection mode. And the protection mode is where you make the amyloid because it sequesters and kills microbes.

It also binds to metals. So it is, as you said earlier, it's not trying to hurt you. It's trying to help you. It's trying to save you in this case from various insults that are happening.

And you can trace the molecular pathways beautifully. You activate nf Kappa B, it enters the nucleus has a effect on hundreds of genes.

Bartonella, Babesia, and tickborne symptom patterns

And two of the genes that where you increase the production are the beta and gamma secretase you make more amyloid. Dr. Alexei Kuryakin, who is my colleague who works with me on and he's an Interact OMICS expert, has pointed out that a beta is really part of the memory component of the innate immune system.

So it's very much what you said when you set it high because of stress, because of APOE4, because of saturated fats, because of inflammation, then you're going to be making more amyloid.

You are hyper responding to try to protect yourself because you're at risk of being exposed to insults. On the other hand, you know when you can relax it with some extra virgin olive oil and fewer, you know, fewer bartonella and babies and things like that or your apoe e4 negative, you've got it's the set point itself is lower so that you're not so much dealing with this hyper response that occurs with in the inflammatory side with Alzheimer's.

And of course on the adaptive side, it's the basis of mouse. So we see these same sorts of cellular responses time and time again. And as you say, very much like Professor Natsios work, really, really interesting.

Let me ask you about some specifics. You mentioned in your wonderful book on on Toxins that Bartonella was a common one that you see with with with people who are chemo sensitive.

Sensitive to various things. What is Bartonella doing? And I'm assuming when you say this, you're talking about Bartonella that is presumably coming. Is this mostly from tick bites or is this from other things?

Well, we tend to think of it more as coming from tick bites, but it also can come from fleas, cat scratches, cat bites, virus mosquitoes. You don't have to get it from a tick.

So many people, people think of Bartonella as being intimately connected to Lyme, but you could have Bartonella without having Lyme. Okay. And what are the typical things you are seeing and do you have a sense for why it's so good at producing?

Is it because it is interacting with the vagal system and or the limbic system, as you were talking about before, what is it about Bartonella that seems to give you these interesting symptoms?

So like many infectious agents and viruses, they intentionally we're going to call intentionality here, intentionally inflame us so that our immune system runs around putting out fires.

It doesn't get around to actually recognizing the bartonella to deal with it directly. It's one of the. Evolutionary intention. That it's been around longer than we have.

Yeah. And it has mechanisms of protecting itself so that this is about inflammation. So you might for example, mole toxicity, bartonella Lyme disease have very, very similar symptoms in patients.

And you can go, why would a toxin have the same symptoms as an infectious agent? Yet the answer is they both create a reaction in our immune systems, a cytokine reaction, so that the cytokine patterns that we see are extremely similar, so that toxins can do the same things as infection soldiers because they're inflaming us in a similar way and depending on our own personal biochemistry and genetics, it affects whichever organ systems that are weakest.

And we're off to the races. Okay. Interesting. All right. Let's talk about some actionable items here. One of them

would be called a styrene as a binder.

A lot of people say it's very aggressive, save and can actually make some people sick. And of course, some of the preparations tend to have some some glucose or some some at least some some carbs in there that people that is making it difficult for them to stay in ketosis or to get into ketosis.

What do you like for binders? Again, I know in your book you actually have specific ones for specific pathogens. Do you try in general to avoid coal dust, I mean, or do you use it frequently?

It's about the patient. For me, I work with a lot of sensitive patients because I've kind of gravitated into a specialty area where physicians send me their more sensitive patients that they're having difficulty figuring out how to approach them.

So for sensitive patients, I find they can only tolerate tiny amounts of cholesterol, I mean, or not at all because it is strong and B, it has side effects more than some of the other things we use as binders.

I tend to use low doses of Welleco, which is a pharmaceutical cousin of cholesterol. I mean, because most of my patients can tolerate it better, it has a very similar effect and it doesn't overwhelm our patients.

So but again, as you point out, and I have this listed in my book, Toxic, all of the mycotoxins that we can measure, they are and tell us how as a blueprint to treat it.

So in other words we know that coli Sterman or Welleco is an excellent binder, particularly for okra toxin or for zero unknown. But it's not a particularly good binder for some of the other toxins.

So it's not a standalone. Yes, we give this to everyone and that's all you need. So if you head, for example, trichotillomania or aflatoxin, which are very common toxins in the body, things like charcoal, clay, chloro are excellent binders for that.

If you had glial toxin and zero in on the best binders for that would be bentonite, clay and the good yeast. Saccharomyces, Baladi. So there is a way of understanding what's as measured the toxins in your urine.

Once I know what's in your body, I know with some precision exactly what I can give you to pull that out of your system. Fantastic. Yeah. So critical.

All right. And then when when do you like to use intranasal antifungals again? I don't do that for everybody. Some patients, if they're lucky, have only been exposed to mold briefly and are sick from that.

And the mold may not, of course, if it hasn't colonized, there is no reason to give out their phone calls. If you simply give them the binders that will pull this out of your body, provided they're no longer in a moldy environment.

I want to emphasize that then that's all they need. But if, for example, they have persistent symptoms of runny nose and sinusitis and recurrent infections and difficulty of stuffiness in this area, or you name the GI effect, particularly gas, distension, bloating, diarrhea, constipation, abdominal cramping, then we'd probably look at giving them some oral antifungals as well.

Gotcha. Okay. And then how many of these people so you're seeing, obviously, as you pointed out, a lot of people with chemical sensitivities, a lot of people with chronic illness.

How many of these people have brain fog or frank cognitive decline? Almost all of them. It's if if they don't, I'm going to question my diagnosis because brain fog or cognitive impairment is almost universal in our patients with mold and Lyme and bartonella.

And the things that are universal are fatigue and cognitive impairment for almost everybody. Wow. All right. And are you seeing when you treat them, do you see improvements in their cognition?

I would say that the vast majority and I have successful we treated over 40,000 people with mold toxicity. Vast majority are well when they're done. Yeah.

Now, if they have early cognitive decline, if they're working towards Alzheimer's disease, the sooner we treat them, the more likely it is we can reverse that.

The longer it goes on untreated, the longer it just kind of sets in and it's harder to reverse. Yeah. You know, I think that one of the huge changes now is now the availability for the first time of good blood tests that can tell you where you stand.

So things like P-Town 217 and to a lesser extent GFP and Nflx, which are now you can get blood tests rather than having to do spinal taps, will really be able to tell us, hey, first of all, for example, did your latest Bartonella patient, even though they had some, you know, modest changes, were they headed for Alzheimer's?

You know, were again, Alzheimer's is not something special. It is something where you've got that you've got something that's changing that that support of your brain.

You're starting to go down that pathway. Now, you may never get a diagnosis. Typically a diagnosis is 20 years down the road, but you'll be able to see whether these Barton LA patients, babesia patients, you know, Mycotoxins patients actually have increases in their face.

Photo One of the studies that was fascinating to me a few years ago was where rodents were given we're given Candida just to see how long could they exclude this from their through the blood brain barrier.

And the thought was, you know, would it be a month? Would it be two months? The answer was about 5 minutes. So the candidate got access to the break, boom.

They're quite good at that. And as they pointed out, the immediate response looked very much like the earliest changes in Alzheimer's pathology. Yes, you've got something, you've got an insult, you've got a response.

This is early on now with your innate immune response and you're trying to sequester it and you're trying to kill it. So, you know, you'll be able to see, are these people headed in that direction?

And I think it's going to be fascinating to see. And at the same time, we can also follow the Alzheimer's patients as you're dealing with them, as people are now improving their their status.

So that is really interesting. Are you seeing a lot of long COVID with cognitive decline as well? Absolutely. And I would add to your excitement about some of the newer tests that are coming down the pike.

I'm excited about the fact that some of the tests that were developed for long COVID will probably be relevant for this patient population because it's a much more elaborate évalué version of the cytokine response that we've ever had access to before commercially.

Testing, binders, and treatment strategies

So, for example, Bruce Patterson's testing for long COVID through the Radiance Lab lights up a whole bunch of cytokines that point towards long COVID.

But he's also discovered surprisingly, that long COVID, which some people are calling long COVID, is actually unmasking mold, toxicity and Lyme disease.

And you can see in his cytokine panels that there's a different panel of cytokines for Lyme than there is for long. COVID hasn't quite looked at it from old toxins in the air, but working on it.

So we are developing tools and I think applying this to our patients will help us to pinpoint what just what does this

patient with early Alzheimer's need to work on?

Is it long COVID, which can trigger it? Because once again, another inflammatory response that the body's not controlling is it mode Lyme combinations.

So that will help us to be more pinpoint in our treatment as we go. And I just want to add to this discussion for anyone listening to it might take home message is everything we're talking about today is potentially treatable.

So that's my most important take home message that we're talking about a lot of things and they're treatable. Yeah. Now I know that you consulted on the patient recently who has some leg pain as a as a severe consequence, and it has what's called posterior cortical atrophy and and is doing well.

Where do you see a lot of and is bartonella something that is a cause? I mean I have to say I hadn't heard of Bartonella as being an important cause of leg pain.

Is this something that you see a lot? And I've seen it with mold toxicity. Interesting. I'd almost say that if you have a patient with all kinds of symptoms and weird pains, think molds, think Lyme, think bartonella, because it can just affect the body in all kinds of ways that we didn't realize.

Visual disturbances of every type mold lyme bartonella people with floaters with snow in their eyes, with all kinds of things that ophthalmologists say, boy, that's fairly rare.

I don't normally see that when you treat that, these things tend to go away. Very interesting. Okay. Could you talk for a minute a little bit about Babesia, another COINFECTION, as you pointed out, Bartonella is not just a co-infection with Lyme, but but Beja is the most common co-infection with with Lyme disease.

And certainly we've had patients where they've treated their Lyme in the past, but now they're having a decline again. And it turns out, oh, they had babesia, which was untreated.

What sorts of things have you seen with Birbiglia? But, you know, and that's the history of Lyme disease first. We first there was Lyme. We treated that some people got well and then we found but this year and then we found Bartonella.

And then we found and it goes on. Yep. I know that there are more things than there that we haven't figured out yet, but we know enough that we can help a whole lot of folks.

So with the patient it can again present with fatigue and cognitive impairment as a primary symptom, but it tends to to cause three other things what's called air hunger, where you feel like you just can't take a deep breath, frontal frontal head pressure, which patients keep reassuring me, it's not a headache.

It's head pressure right here and night sweats. So those three things are more characteristic of the patient. But there's such an overlap that I can get all three with mold toxicity.

So it's by symptoms alone. It's really hard to tease these things apart. The good news is our testing is getting better. Yeah, so we have better tests now than we have ever had for Lyme and Bartonella.

And so we can begin to to more quickly jump to yes, I know what you have and I know how to treat you. So great point. And this is an important actionable item for all of us.

So you know, as you said, someone comes in, they're having let's say they're having cognitive decline, they're having brain fog and it's getting worse.

And they're saying, okay, you know, you're thinking could be mold, could be Lyme, could be other things. What are your best tests that you like? So what do you like best for mold?

What do you like best for? Babesia For Borrelia, etc.? Did you go through those? Yeah, I'll even back it up one step further, which is from my clinical perspective of the people with cognitive impairment that I've helped over the years, the four most common treatable things that I've come across in addition to mold and things in the world which we've been talking about, are heavy metal toxicity, particularly mercury and lead, and for women, hormonal deficiencies, particularly estrogen.

So I just want to add, there are a couple of things that have been particularly helpful. When we treat those things, we see remarkable improvements in some patients in getting their cognitive impairment resolved.

So to answer your question more specifically on the mold side of things, very simply, a urine mycotoxins test. Okay. There are several labs doing it. Having looked at ten tens of thousands of these tests over the years, I think that the real time test has been the most consistent, reproducible and accurate of the tests, if that's not possible to get that.

Other tests from Mosaic Lab, which is a rename of Great Plains and Fiber and Health, are okay tests. No matter what test you use. If it comes up positive, that's actionable.

That's something we can treat on the Lyme Bartonella front. I think that the I Gen-X laboratory has been the leader throughout the labs. Right. Things like an immunoblot for Lyme and Bartonella are extremely accurate.

Tissue tests for babies and Bartonella are accurate and pretty much brand new is the is the new is see PCR testing from a Gen-X in which we can now culture lyme bartonella and be patient and enhance that culture using enhancing tests and know if it is actively in.

The reason that so important is that tells us that yes, that organism is growing in your body. All the other tests that we've had for so long are immunological tests they tell us have have have we seen this organism?

Have we had a reaction to that organism? But it doesn't tell us, is it still there? Did we fix it? Is a con? Is it still active? The new is a PCR test.

Well, tell us. Yes, that's and you're right now. Now does the PCR, is it going to pick up all these different species as as Dr. Horowitz has pointed out, you're not looking at just Borrelia burgdorferi anymore.

You've got all these different species that you've got to consider. Supposedly it will pick up most. Again, it's so new that I'm excited about it. I want to I'm a you've got to show me kind of guy.

We're just let's see how it actually translates to patients. But I will say that the Lyme test is a remake of a test that used to be done 2010 years ago by a laboratory called Advanced Laboratories, which grew it out.

They didn't do a PCR enhancement, but they actually grew the Lyme out. And it was at the time the most accurate test we've ever had. So I'm excited that they've actually improved that test and have expanded it to Bartonella and Bbca, and you're absolutely right, there are so many species of herpes and Bartonella and Lyme, we can measure more of them.

We're still not able to measure all of them. Yeah. And is your sense that, you know, that these are ultimately going to turn out to be part of the microbiome?

Or are these still infections coming from exogenous sources? These are infections. These are infections coming. I don't think it's part of our microbiome.

It's too toxic. These are uniquely toxic agents which have multiple ways of evading our immune system and surveillance and making it hard for us to treat them now where we're staying, maybe one step ahead of the organism as it evolves.

But at this point we still have the tools to treat it successfully in most patients. Yeah. Fascinating paper recently showing you you go back a little over a century and you go through all the things that syphilis does to your brain.

Of course, all that I learned all those years ago about Gomez and about neuro syphilis and about tabbies, dorsal has all these sorts of things which we, you know, you rarely see.

Now, you just go through the same thing. Now you're looking at things where Borrelia is taking the place and actually causing many of the same pathophysiological looks in the brain.

So here is, you know, yet another thing you have to be concerned about in kind of it is the neuro syphilis of the 21st century. So, you know. It is. And it begs the question, do as to why have we all become more familiar epidemics of these things.

Yeah. Like is an epidemic more than toxicity is an epidemic. Autism is an epidemic. There are so many conditions which revolve around inflammation and Alzheimer's is an epidemic.

That why now? Why in the history of humankind are we having it?

Immune support, inflammation, and closing remarks

And I would submit to you it's because our immune systems aren't as robust as they used to be. They've been weakened powerfully by, I would suggest, some the exposures and toxicity of the planet as we're creating it.

There are tens of thousands of chemicals in our environment that weren't here 50 years ago. They have the MF exposure we have now. This didn't occur 50 years ago to anything but to the most minor, and I think we've been blowing it off like.

Yeah, yeah, yeah. So what? Yeah, I think it's time for us to stop blowing that off and to take a serious look at what kind of a world are we creating in which we are all so prone to an inflammatory process?

Great point. So along those lines, what do you do for your patients to optimize their immune systems? But first, I want to get rid of what's trashing their immune system, which is I am a broken record.

Mold and Lyme are the biggies, but that's heavy metal toxicity. But then there's also their diet. Are they eating organic meaning of clean air and and water to drink and to be exposed to what kind of a strain is on their liver by the life that they're eating and what they're doing to it?

Are they getting enough sleep? Are they getting exercise to any adequate degree? I mean, those are basics that everybody can have, but in the fairly crazy stress filled world that we live in, I would say the majority of people that I've treated over the years don't feel like they've been able to do that.

Many know they should. But I mean, that's that's great, Neil. But I've got kids to take care of. I have family responsibilities. I have a job to hold down.

When exactly am I going to exercise or find the time to eat properly and blah blah blah? Right. However, if you don't, you're really setting yourself at risk for being pretty miserable as you get older.

Absolutely. And so along those lines, how often do you use low dose naltrexone? Some people obviously swear by this. I mean, obviously see it is impacting your immune responses.

I mean, for some people, of course, much better in terms of just allowing their thyroid to to to it to improve how much is this a common thing you're using with these diseases or not?

I'm not as big a proponent of LDN as other people are. I've probably given it to a couple of thousand people and it's helped a few. Okay. But not to the extent that some of my colleagues are absolutely in love with LDN and they give it to everybody and it has several different uses.

One is there is some evidence that it will help reverse autoimmune conditions. Right. I have used it for that with

some success, but a lot of people are using it to their inflamed patients, be it lyme or mold or whatever is inflaming them.

COVID and I haven't seen it do much to make my jump up and down and think it's the greatest thing since sliced bread. Just my take on it. Gotcha. Have you used resolvers and did you find that help there in terms of reducing inflammation?

Not enough to have an opinion that I but I would voice publicly just I just don't have as much experience with resolvers. Gotcha. Okay. And okay. And so when you're going after, then let's say you're going after a tickborne ls let's say Bartonella, do you antibiotics or do you favor more of a of a natural medicine sort of approach or what has given you the best results?

Well, my naturopathic friends often feel that they can get good results with botanicals. I've tried that and I have had very few successes in that realm.

Okay. I have found that as Lyme disease has evolved, which it has, we've had to go to stronger and stronger antibiotics to get any results at all. So personally, I have found that antibiotics are essential in the treatment of Lyme and Bartonella, and I'm a huge fan of Dr. Horowitz. That's on program. I've had quite a few patients over the years who could function much better if they were on antibiotics, but if they went off antibiotics, they just crashed.

And so it's not something I ever wanted to do, but if I didn't keep them on antibiotics, they just couldn't function Very interesting. His program has enabled many of those patients to be done with that.

So I think Rich is really honored to something and I'm a huge fan of what he's been researching and studying these last few years. So do you use the pulses and do you use the double doses that he's he recommends?

Okay. So I have basically followed his protocols or however I work with unusually sensitive patients. Right. And usually sensitive patients sometimes respond surprisingly well to small doses.

So I typically start them on very, very tiny doses of his protocol and then only work up as they are able to tolerate it. And many of them will respond to lower doses and don't need to go to that extreme.

So again, I, I come at it from a different perspective. Exactly. I mean different patient population. And what do you do for those people in terms of making sure that their gut microbiome stays robust?

Lots of different kinds of probiotics of every type. Okay. I think a single probiotic isn't as likely to replenish the microbes biome as multiple ones.

So I would usually ask people to take different kinds of probiotics to give their gut a chance to not react. Yeah, and I will say, having given lots of antibiotics to lots of people for years, which was never my intent when I started, that wasn't the idea that was necessary to help these people with Lyman Bartonella and Propecia.

Yeah. They if you take plenty of probiotics, it is rare for you to really mess up a gut biome. Most of these patients can do it reasonably comfortably without being messed up.

I will confess there are a few that really, really did get messed up by taking antibiotics, but the vast majority are able to take antibiotics comfortably and well.

When they're done, they're their gut is still functioning and well. So I think the fear that the antibiotics will really mess up doesn't apply to most people.

Yeah, fantastic to know. Okay, Dr. Neil Nathan, I could talk and discuss these things with you for hours, but I want to be cognizant of the time. I really appreciate your input as always.

I love the fact that you are so focused on best outcomes. This is what we need for all the patients. I really

appreciate that and thank you so much. I'm going to stop the recording here.

And again, grateful for your time. l