Mold, Lyme and dealing with toxic overload

Dr. Neil Nathan

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Kirsty Cullen - [00:00:15]

Welcome to the Fatigue Super Conference, I'm Kirsty Cullen, CEO at the Optimum Health Clinic, and today I'm joined by Dr. Neil Nathan.

Dr. Nathan has been practicing medicine for almost 50 years. He has been board certified in family practice and pain management and is also a founding diplomat for the American Board of Integrative Holistic Medicine. His work has included working with those with fibromyalgia, chronic fatigue, chronic Lyme disease and co-infections and chronic pain. He is the author of '*Toxic: Heal Your Body from Mold Toxicity, Lyme Disease, Multiple Chemical Sensitivities, and Environmentally Acquired Illness*'

Dr. Neil Nathan, welcome.

Dr. Neil Nathan

Thank you.

Kirsty Cullen

The book is fascinating and a really important read for clinicians and patients alike, and I would love to pick out some of the key messages raised within it.

The first being, of course, that chronic fatigue is the end product of a very complex interplay of factors, isn't it? And so why is it that traditional medicine, the traditional medicine approach, should I say, to medical care, does not always apply to these cases?

Dr. Neil Nathan

Very interesting question. It's always difficult to understand why colleagues think the way they do or don't think the way they do. It may have to do with the history of chronic fatigue, as it appeared. We began to see it at the beginning of an epidemic in the early 1980s and when it first appeared on the scene. It was not really understood by colleagues. And as medical people do, some of the first assumptions was, well, you're just a malingerer, this is in your head, this is not real. You're not really fatigued. And stop being a slacker. Get up and get going.

It did not appear to me, starting to work with those patients the way I did, that there was anything psychogenic about it at all. This was very real. It's always fascinating to me how some medical practitioners will cling to an idea even when the information that they're getting or their senses being with these people would make it clear, no, no, no, this is not psychogenic, this is very real. And yet a number of important politically based entities, both in the U.K. and in the United States, have long maintained that chronic fatigue syndrome is a psychological illness. Hence, why look for any causes? That's silly. Take whatever antidepressant or anti-anxiety agent you want and go away. Leave me alone.

And unfortunately, even though it has become increasingly apparent over the years that this is not true at all, that chronic fatigue is, as you are saying, it's an end product of a wide variety of physical assaults on the body, that still has not been fully embraced by medicine. And that's being kind.

Kirsty Cullen - [00:03:58]

I would agree. And you in your book, Neil, you refer to a quantum leap in the level of ill health that you see in practice today, and you see patients who have been ill for many years and despite their best efforts and numerous protocols, they still struggle with an array of symptoms and acute hypersensitivities. How do you explain that shift in health that we see in clinic now?

Dr. Neil Nathan

Again, a good question. When we first realized that we needed to look for physical causes of chronic fatigue so that we could treat it, some of the earliest obvious players were adrenal issues, thyroid issues, sex hormone issues, magnesium deficiency, reasonably simple things to measure and treat. And we began to get wonderful results treating patients. It went from a condition that many of my colleagues have felt was untreatable to very rewarding because we could help the vast majority of people that we treated.

I was working in this arena with my friend Jacob Teitelbaum, who wrote one of the classic books, *'From Fatigue to Fantastic'*. And Jacob and I were in pretty close agreement about the kinds of medical conditions that we could diagnose relatively easily and treat relatively easily. And we were thrilled that we were helping a lot of people who were being told, even by academic medical centers, oh, you can't be helped. We have no cure for this. We do not know what we're doing. And we were seeing a very different entity here. We were seeing something we could treat.

But it got more complicated over time. So it went from the late 80s and early 90s when I could help the vast majority of these patients just by giving them adrenal support, magnesium, thyroid support, etc. To, I could do those same interventions, but patients weren't getting well in the same timeline. They were still struggling. So it became obvious that there were other things we needed to be looking at that we hadn't realized were also players here.

And then we began to recognize Lyme disease. Then we began to recognize mold toxicity. And then we were again able to help the majority of patients. But the treatments became more complicated. Treating Lyme disease and mold toxicity is a lot more complicated than giving a little bit of adrenal support. And our patients began to get increasingly more sensitive and more toxic. So they went from, they could take anything I wanted to give them easily, to even my new doses of the medications and supplements that should work would really throw our patients under the bus. They would react very badly to them, even tiny doses of homoeopathics would have that effect.

And so, for most of us it seems clear that what's been happening is the world that we are living in is becoming increasingly toxic at a rate that is not being appreciated. In a sense, we've always called our patients with chronic fatigue and fibromyalgia the canaries in the coal mine, a reference to when miners in West Virginia would go down into the coal mines, they would bring canaries with them so that canaries would pick up toxic gases sooner than the miners and they would topple over and the miners would see the canary topple over and go, oh, my God, it's toxic down here, get out of here.

So we are now seeing an epidemic of chronic fatigue and fibromyalgia and Lyme disease and mold toxicity and neurodegenerative diseases and autism and on and on and on and on. And for most of us, it seems clear that we're talking about a global pandemic of toxicity, in addition to our current pandemic of COVID. So to me, that is the issue. And unless we wake up immediately to this level of toxicity, we're all going to be sick before long.

Kirsty Cullen

And as you quite rightly say, this isn't an area of health care that is for the faint hearted, is it? It really is a health journey and it really is the remit of the health detective now, in identifying those key drivers.

How do you prepare your patients for that journey? And what sort of expectations do you set in place about what the duration of that journey might look like?

Dr. Neil Nathan - [00:09:11]

Well, at my first visit, I usually tell patients, I hope you like me because we're going to be spending a lot of time together. I tell them that depending on what the cause turns out to be, for example, if it's mold toxicity, it's at least a year of ongoing treatment. If it's Lyme disease, it's a year or more of ongoing treatment and so on. So they need to understand from the get go, that what they have is treatable. I've helped the vast majority of people I've treated over the years, but it is a long journey. It could take us three to five years to get well, occasionally longer.

And so the physician has to be on board and has to be patient and willing to understand that bodies can't heal from these infections and toxins quickly. It takes time. A lot of the work I do is in the category of a pep talk in which patients get frustrated over time. They get tired, oh, come on, Neil, do I really have to take all of this stuff? And the answer is yes, you do. If you don't, you won't get well, if you do, you will get well. And I know it's a long journey. We're going to do it together.

Kirsty Cullen

Absolutely, and in our ability to clear toxins, mycotoxins, for example, may be in part, due to our genetic makeup. Can you explain a little bit more about that and how that impacts on the 25 percent who don't hit that genetic jackpot?

Dr. Neil Nathan

Well, we've often quoted with mold toxicity that about 25 percent of the population can't clear mold toxins very well. Perhaps that's correct. I don't know that the percentages matter, but I think it helps to understand that genetically you may have more difficulty clearing toxin than other people. And when it comes to toxin, it's critical that people understand the concept of toxic load. That means all of the toxins we're exposed to.

So we have been exposed to toxins since we were in our mother's uterus. There are very well known studies showing that when they take cord blood and they measure the toxins that have been going into the fetus from the mother, there isn't a child that doesn't have hundreds of toxins already present in their body from that experience. And that's only because we're only measuring hundreds. There are, in fact, 80,000 chemicals to which we're being exposed, the vast majority of which we can't even measure.

So, to put this in some perspective, there are 50,000 to 60,000 chemicals in our environment that weren't in our environment 50 years ago. So, it's an extraordinary leap of toxicity. Think of our exposure to electromagnetic frequencies, EMFs, the amount of those in our environment have gone from trivial to minimal, 70 years ago, to every child in the world has a cell phone glued to their ear or they're sitting in front of it. Our exposure is extraordinary and we are seemingly oblivious. We say, oh, that doesn't affect people. This is fine. We don't want it to be known. We were afraid to know what it is we're being exposed to.

And we take heavy metal toxicities, mercury and lead particularly, all of these chemical toxicities, mold toxicity, which is huge. It's estimated that in the United States there are 10 million patients that have some degree of mold toxicity. And given the arid desert-like quality of the U.K. in which there are no old, musty buildings that have gotten damp over the years, I know for a fact that the U.K. is a hotbed of mold. It is not easy to find a safe place to go there.

And then we have these infections, of which COVID is rearing its ugly head as an example to us that not only Lyme disease, but and again in many European countries, Lyme disease is not recognized as a reality, doesn't exist there. Doctors are told, we don't have that there. And we, I mean, some doctors say that in the United States. And the data is our CDC recognized recently that there are 400,000 new cases of Lyme every year. So we're talking about an epidemic that makes HIV look minor.

And now we have COVID. And I believe that all of these things are an example of how our immune systems have gotten profoundly weaker and more fragile over these last 50 years, and it's something we can't just blow off, oh, yes, when the vaccine comes out, we'll all be fine. This time, what about the next viral infection coming down the pike, and there will be. I mean, the history of humankind is such that we know that.

Kirsty Cullen - [00:15:21]

And Neil, in complex case management, where there are several factors at play, as you point out, you identify the importance of finding public enemy number one. Can you describe what that is and why it's so important?

Dr. Neil Nathan

Of course. The more we've learned about all of these factors that go into chronic fatigue, exposure to viral infections like mono or HHV-6 in the past. Again, adrenal, thyroid, sex hormone deficiencies, dental issues, magnesium deficiency and so on and so on. Some of these are now emerging as not the cause, but the result of the toxins and the infections that we're seeing.

So, I'll give you a couple of quick examples. It's very common for patients to come to me and be told, I'm not methylating, that's why I'm, that's why I've got chronic fatigue. Or I have mitochondrial dysfunction. My mitochondria aren't working, that's why I have chronic fatigue. And to me, that's not an answer. That's, well of course you have those things. Chronic fatigue causes methylation dysfunction. Chronic fatigue is mitochondrial dysfunction. They are one and the same. So to put a label on it, as if you're understanding it and saying, oh, I know what you have and I know how to treat it, you're doing a patient a disservice.

And I bring up these examples because I have had hundreds of patients referred to me in the last 20 years by their treating physician or health care provider who told them these things. And they've been treating the methylation and the mitochondria for years and they're not making any progress.

So, that's what I mean by identifying the cause. If you are treating a downstream event rather than what is actually triggering it, you're not going anywhere. And to me, this seems blatantly obvious, which is, if you're going to cure something, you've got to cure what's causing the illness.

So, for most of our patients these days, not everybody, an infection or a toxin is the primary issue that's going on here. And so, that is what we need to look at. So, yes, we can identify mitochondrial dysfunction and methylation dysfunction, previous exposure to viruses, but you're not going to get your patient well treating that. You need to find what's really causing it. And I'm not suggesting that it's easy or simple. I have suggested that in the past and people have gotten upset with me for saying it. And in point of fact, it does require, on the part of health care practitioners, a great deal of study and knowledge and experience to begin to look at the symptoms that the patient presents with, so that you can begin to hone in on what is making my patient sick.

Kirsty Cullen

And when we have a number of enemies, so to speak, so say, for example, Borrelia, Bartonella, mycotoxins, how do we prioritize? Is there a pecking order when it comes to toxins, virus and bacteria?

Dr. Neil Nathan

I think there is. And the pecking order is a practical one. It's not based on, this is the most important thing to treat. It's based on my observations that, if you don't treat in this order, you're not going anywhere fast. And what I mean by that is, it is much, I'll use the word easier or straightforward, to treat mold toxicity, and other environmental toxicities, than it is to treat Lyme infection or co-infections or chlamydia pneumonia or mycoplasma pneumonia. Our patients are generally already compromised. They're already in a difficult area and if you give them the antibiotics that they're going

to need, their microbiome is already messed up and you run the very high risk that they will not be able to tolerate the antibiotic and that they will get worse.

So, from a very practical point of view, and I'll give you several practical issues here, it's more useful to treat mold first. One of those practicalities is, the symptoms of mold toxicity are almost identical to Bartonella and Lyme. So if you're just studying the symptoms, you could easily go, well, you could have Lyme, you could have a co-infection and you could have mold toxicity. For many, not all, for many patients, mold predominates. If you cure the mold, what looked like Lyme or Bartonella under it, goes away.

And so by treating the mold first, you can often eliminate the need to ever have to go after or use long-term antibiotics on patients. So it is safer. It is more practical. If they turn out to have Lyme or co-infections, if you remove the mold layer, you're removing a whole layer of inflammation from an already inflamed system and it is much easier to treat, you can treat for shorter periods of time and your treatments for Lyme and Bartonella will be more effective.

So, my bias is, mold first and let the dust clear, it's like peeling off the layer of an onion and then, OK, if there's something still under that, if your patient's been treated and they're 70 percent better, but they're still not well, now, what is the layer underneath that? And at that point, their symptoms may shift and change to become even clearer. So it's no longer muddied by, I'm globally inflamed. Now we can hone in on, ah, those are symptoms of Babesia and I think that's what we need to treat next.

Kirsty Cullen - [00:22:10]

Makes a lot of sense, and I think you said before that you see such a high prevalence of mold and infections such as Bartonella and obviously, we're very aware that things like mycoplasma, chlamydia, Epstein-Barr virus, herpes simplex virus, may feature, but often they're not the primary driver. They're there sort of, alongside, as it were.

Dr. Neil Nathan

And, once, the effect of mold and the effect of Lyme on the immune system is profound. So that, it strongly disables that patient's immune system. If you remove the mold and, their immune system rebounds. Now they often don't need to have the viruses treated because their immune system is back intact and they can bring those viral infections back under containment. And so you're going to save them a long and difficult treatment program by fixing what their body needed to have fixed.

Kirsty Cullen

Absolutely.

Neil, can you spend a few moments just explaining the difference for us, between toxicity and sensitivity?

Dr. Neil Nathan

Sure. Sensitivity refers to how a nervous system is wired. So sensitivity refers to sensitivity to stimuli, light, sound, touch, chemicals, food, EMF. So, patients who are sensitive will be unusually reactive to sounds that don't bother anyone else, to light, so that they may need to wear sunglasses inside their home. EMFs, they may be unable to use a computer for anything longer than a few minutes a day. Chemical sensitivity where they could get unbelievably sick within seconds walking down the detergent aisle of a grocery store, as some of those odors and scents are extremely toxic to sensitive patients.

So that's sensitivity. Toxicity is also what it sounds like, which is that, chemical toxins, heavy metal toxins, as we've talked about, are incredibly prevalent in the world in which we live and we all have a different toxic load. So, for some people, they could be exposed to a toxin and show no obvious negative effects. And for other people, in the same environment, they can be really, really sick.

And fortunately, toxicity and sensitivity go hand in hand. The more toxic you get, the more sensitive you get. The toxins trigger inflammation and dysfunction of the limbic system and the vagal nerve system and mast cell activation, so that someone who is toxic, over time will almost certainly become limbic dysfunctioned, vagal dysfunctioned and also have mast cell activation. And I think it's important that we talk about that in more detail.

Kirsty Cullen - [00:25:39]

Absolutely. So the very next question I was about to ask actually, was, can we talk a little bit about the limbic system and exactly what it is and what it does within the body?

Dr. Neil Nathan

The limbic system is a part of the brain that includes a number of different specific brain areas. And what its job is, is to monitor, balance and inform your body about anything in your environment that may or may not be safe. So it's a monitoring system for safety. And so, the limbic system has a number of super important functions, it also regulates and balances emotion, it regulates and balances sensitivities and to a certain extent, affects cognition and energy and pain.

But the two that are unique to, and specific to the limbic system are emotion and sensitivity. So it's no shock that the majority of our patients with mold and Lyme disease and Bartonella will have unremitting anxiety or depression or OCD or even bipolar or you name it. Virtually any mood disorder or emotional dysfunction can be regulated or dysregulated by the limbic system. And that same thing is true for sensitivities, if someone tells me that they're sensitive to light or sound or chemicals or food or, they're already telling me my limbic system is messed up, definition. And the two go hand in hand, it's extremely common for people to have both emotional and sensitivity issues together.

That's limbic and that is just beginning to be recognized as a critical component of virtually any chronic illness. It's not unique to mold or to Lyme disease. And COVID is lighting that up for us. We have had a global PTSD in this past year and so, we don't feel safe. We're not sure when we'll feel safe. We're not sure when we'll be able to get our lives back or travel or be with our loved ones or, it's completely thrown us topsy turvy in a way that we are, I don't know, maybe never before in human history have we been so profoundly affected from a fear perspective, where we don't know who's safe or who to trust. And so we've isolated ourselves. And if you want to really feel awful, go isolate yourself. You're talking to people who are already sick and now they're isolated and sick. And this is not a recipe for healing.

Kirsty Cullen

And I know you've mentioned quite a few tools that you like to use around the limbic system, and I know you've found Dynamic Neural Retraining System to be useful. Can you tell us a little bit about how that works?

Dr. Neil Nathan

I can. The two systems that I use the most are the Dynamic Neural Retraining System, which was developed by Annie Hopper and the Amygdala Retraining System developed by Ashok Gupta. They're both different. They're not at all the same, and they're both very, very effective. And I wind up using that earlier and earlier in my treatment with most patients.

The Annie Hopper system is based around a way of literally walking through a set of pieces of information while you use hand gestures and you say certain phrases repeatedly, which she calls rounds. And the method is based on the latest research on neuroplasticity. It may sound childlike or sophomoric when you go, really, you want me to say these words over and over and over again? Uh-huh, that's what I want you to do. And for those people who will embrace it and do it, it's very effective.

The Ashok Gupta program is somewhat more meditatively based. It doesn't use quite the same phrases or languaging, but is still based around changing our understanding of fear in our body. Is that, when our limbic system is messed up, we are afraid and we become negative and we don't even realize it. So to the point of, oh, that won't work and oh, that won't work, and gosh, I don't know if I can handle that or I don't know about that. And our thinking process, without us realizing it, is messing with our ability to be positive. And unless we can be positive, we can't reboot the limbic system. We actually can reinforce the negativity by thinking these negative things over and over again. And for many patients, it's a nasty, vicious spiral in which they are afraid, they've got this negative thinking going and, you've got to break that cycle. If you don't break the cycle, you're not going anywhere.

Kirsty Cullen - [00:31:51]

It's really self-perpetuating, isn't it? Because you can have a case where you've identified the key triggers, the mold or the infections, but then you can have the hypersensitive that comes, sensitivity that comes along with that, that results in reactivity to the protocol tools that you're trying to use and then that becomes a roadblock. And that's where this kind of work can be absolutely key to calming the nervous system down and reducing that hypersensitivity so that we can actually really begin the work around the key triggers.

Dr. Neil Nathan

Yeah, absolutely. Literally, if the limbic system isn't cooperating, and it works hand in hand with what we call the vagal nerve system, both of those, although they are different parts of the brain, they both work together to monitor the body for safety. And it's not psychological, it's really important that patients understand that, it's neurological. So, your nervous system is out there monitoring your environment. And if it's not convinced it's safe, it's not going to let you do the things that you may need to do to get well, literally, it won't let you take the supplements you need to take to treat mold toxicity. So, it's increasingly clear that we've got to treat the limbic system and the vagus nerve first or it's not letting us go anywhere.

Kirsty Cullen

And the polyvagal theory really adds to our understanding of the fight or flight mechanism, doesn't it? Because it kind of adds another dynamic to that.

Dr. Neil Nathan

It does. And it gives us more treatments. So there are limbic based treatments and then there are treatments that are more vaguely based so that, it gives us more concrete things to do to quiet it. And I've personally found that it's really important to use a limbic strategy and vagal nerve strategies, the more the merrier, in order to get this quieting down. Many patients are shocked to discover that once they've worked on their limbic system and vagus nerve, they feel a lot better and then their positivity changes. It goes from, I've been sick for years, no one can help me, no one understands me. To, wow, I feel better. Wow, maybe there is hope for me. And that is the beginning of turning around that negativity and allowing healing to take place.

Kirsty Cullen

And of course the vagus nerve determines safety but it also innovates so many key organs, doesn't it? So it has potential for real physiological impact within the body. I think that's important.

Dr. Neil Nathan

Oh, absolutely. The vagus nerve is a key nerve in regulating the gut, for example. Vagus nerve controls intestinal motility. If your vagus nerve is not working, you're going to be constipated, sometimes severely. It affects breathing. It affects your heart rate, it affects all intestinal function. And it is a major component of the autonomic nervous system.

So, the fight or flight process or the shutdown process or when people develop POTS or things of that nature, those are manifestations of an autonomic nervous system that is dysfunctional and needs to be literally rebooted.

Kirsty Cullen - [00:35:31]

And going back to those public enemies, as we sort of phrase them, it can be important to clarify, can't it, that it's not just the mold, the virus or the bacteria themselves that are problematic, it can be more about the biotoxins that they're capable of producing that become the issue. Can you explain a little bit more about what biotoxins and mycotoxins are and how they can become a recirculating issue within the body?

Dr. Neil Nathan

Sure, mycotoxins are relatively small molecules. They're simply made by molds species. Now, almost all molds make mycotoxins, but only some of them affect us. These mycotoxins are intended in an ecological system. For example, I'm talking to you and out my window here is a redwood forest. And so, we've got redwood trees and tanoaks and azaleas and rhododendrons and all kinds of stuff right out here. There's probably a thousand mold species out there somewhere. And all of these mold species have their preferred ecological niche. So, some like the redwoods, some like the rhododendrons, some like the tanoaks, and they make toxins, not to make us sick, but to keep other molds out of their ecological niche. It's a self protective mechanism.

So we get into trouble when, not when we walk around in the outside environment, most of the mold species out there are not making toxic species. We get into trouble when there is a water damaged building. When inside of a building, in which there are no ecologically natural predators or no enemies for these mold species, in those buildings, if a toxic mold species grows unopposed, that means it just makes more and more mold spores and just goes to town and we breathe them in and they make us sick.

These are small molecules and they are easily absorbed into our lungs. They start going through our body. And so, the way we process all toxins is the body moves all toxins to the liver, where the liver, that's its function, is to detoxify it. And so the liver binds these toxins to bile and then squirts bile. If you have a gallbladder you still make, you make bile. And if you don't have a gallbladder, you still make bile in your liver cells. It squirts it down into the intestine. And here's where the problem comes. So toxin is bound to bile. It's on its way out of the intestinal system as it goes through the tract. But we have, what's called the enterohepatic circulation, which is a system in which bile recirculates.

In our bodies bile is a very precious resource. It's not easy to make it. It's not easy to store it. So we take this bile, bound to toxin, recirculate it back to the gallbladder, so the toxins don't get out of the body. OK, now some people are much better genetically wired to get rid of those toxins than others. But if you're one of those unfortunate people that is not getting rid of toxins very well, then the mold will not leave unless we get it out of there. And so, that's where we get into using binders, these materials like clay, charcoal, chlorella, cholestyramine, which bind better to the toxin than bile does, so it pulls it away from the bile and then goes out the GI tract.

Kirsty Cullen

And it's fair to say, isn't it Neil, that you spend a long time within a protocol setting up the binder support, before you'll progress onto the next stage.

Dr. Neil Nathan

Yeah, you have to. You've got to be sure you're using the correct binders, and we have learned a lot about mold toxins over the years, the specific toxins are bound better by certain binders. So, ochratoxin is one of the most common and it's best bound by a medication called cholestyramine. But cholestyramine is not a very good binder for a lot of the other common toxins like, aflatoxin, trichothecene, gliotoxin. So, it's important that the treating physician understands, on the basis of

getting a urine mycotoxin test, this is what's in you, now I know how to treat this, I will give you these binders. And if the patient is lucky and they have not colonized, we'll talk about that in a second, then just taking binders may be sufficient to pull the toxins out of their body, provided that that person has remediated or moved from their moldy environment.

So, there's three basic principles to mold treatment, which we're kind of getting into here. One is you've got to be in a mold free environment. It's got to be safe. You cannot get well if you stay in a moldy environment. So either move or get it remediated. I know it's expensive and I know it's difficult. There is no compromise. You cannot get better if you stay in a moldy environment. Now, I know that that's kind of obvious. And yet this is one of the biggest stumbling blocks for all patients, which is, well I can't move, my lease on the apartment doesn't come up for months. My landlord won't let me out of it. Or, I can't afford to move. And these are very real and very difficult, but you can't get well unless you get into a safe environment.

The second principle we've started talking about, which is taking the correct binders for the toxins that are present. And the last piece is, for quite a few patients, binders are not enough. What I mean by that is the mold has actually colonized in that patient, meaning it is growing in their sinuses and gut. And so, even if they leave a moldy environment, they are carrying the mold, and the toxins made by that mold, in their body. And so the third stage of treatment is we need to use antifungal treatments as a nasal spray for the sinuses, orally for the gut in order to get it well, that's kind of basic.

Kirsty Cullen - [00:43:02]

And given all that, we've said, inflammatory symptoms may be expected when we're considering this kind of toxicity, but maybe less considered is the impact on the endocrine system and hormone balance. Can you just explain a little bit more about the link between those two?

Dr. Neil Nathan

Sure. It's a direct link. Mold toxin and Bartonella and Lyme directly inflame the pituitary, which is the master gland regulating hormone balance. And so, it is almost universal that if you've got these conditions, you're going to have difficulty with your pituitary regulating your adrenal, thyroid, sex hormone and several other important hormones as well. So in the old days, which I started talking about, fixing the adrenal, thyroid and sex hormones was basic. If those were out of balance and we fixed it, people got well, we're now realizing you can't get them well unless you fix what's causing the endocrine imbalances in the first place.

So, again, we're coming back to cause and effect. And it's pretty much routine, virtually all of our patients have some degree of imbalance in the major adrenal, thyroid, sex hormone areas.

Kirsty Cullen

And in your four step approach Neil, you talk about the importance of testing both the environment and the body when it comes to mycotoxins, what are your preferred tests for those areas?

Dr. Neil Nathan

You mean for diagnosing mold toxicity?

Kirsty Cullen

Yeah.

Dr. Neil Nathan

There are urine mycotoxins tests available and they are available in the U.K. and in Europe, not always easy to get, but you can get them. One is through Great Plains Laboratory and one is through RealTime. There are several other labs available. I'm not convinced that those tests are as accurate as

the other two, which are the two that we've used primarily. And so it's very simple. You can collect a urine specimen and the lab runs the urine and we can tell you what's in there. If you have a substantial amount of mold toxin in you, you have mold toxicities, really not much of an argument.

Kirsty Cullen - [00:45:37]

And can you explain why sometimes using those urinary tests can be a challenge in terms of what we see and maybe how a practitioner might need to carefully prepare a client for a test like that?

Dr. Neil Nathan

Yes, and that's a very good point. So one of the main issues with mold toxins is that they interfere with the body's ability to detoxify. With translation, you can have a boatload of toxin in you and you can't get it out into your urine. So, early on we recognized that we were missing the diagnosis in too many patients, we would get a negative test on them and that patient would go, I know I have mold toxicity. And we would go, I know you have mold toxicity. And we realized that we needed to, if possible, provoke a result by improving their ability to get mold toxin into their urine, so we could actually see what's there.

And two very simple things are, number 1, doing something that makes you sweat, a sauna, hot bath, a hot tub, any of those things done the night before you collect your urine will give us a more accurate reading. The second, which is a little trickier, is taking glutathione, usually liposomal glutathione. A standard provocation is taking 500mg twice a day for a week before you collect your urine. The tricky part is, insensitive patients, glutathione may make them much, much worse immediately. So it works. It will increase that patient's ability to mobilize mold toxin, but they may do so faster than their ability to actually get it out of their body. And it is not unusual for a patient to get worse when they take glutathione.

So if a patient can do that, we like it. If they can't do that, we'll just leave it alone. I've had patients get so sick from a single dose that it takes weeks before they get better. So if someone already can tell me, I'm sorry Neil, I can't take glutathione, it's OK. Don't. Just do something to make you sweat. We'll do the best we can.

Kirsty Cullen

It brings us full circle, doesn't it really, to the importance of the relationship with your practitioner and working so closely over what becomes quite an extended period of time, to have that knowledge to know where some tools may be appropriate and when they might not be.

Dr. Neil Nathan

Correct. One of the most important things I do at my first visit, is I try to get my patient to help me to understand to what degree they're sensitive or not, because my whole treatment point will depend on that. What testing can I do? What testing will they let me do? And usually patients have already had lots of experiences to clarify that question, if you ask.

And, the other question is, how do I start with binder dosing? And the answer is, it depends on how sensitive my patients are. Many of my patients are so sensitive that I'm talking about minute doses as a startup. So I'm talking one drop of liquid bentonite clay to get started with. However, if I think my patient has a very strong constitution and some do, I can start right away with one capsule of clay and then bump it up to two or three, right from the get go. So, what I, in an attempt to protect my patient, I need to know, get a flavor for how sensitive are you?

Kirsty Cullen

Neil it's been fascinating and we could talk all afternoon, but I'm conscious we must let you go. But if people want to hear more about your work, where can they go?

Dr. Neil Nathan - [00:49:56]

Oh, boy, I have done more podcasts in the last two years that I can shake a stick at. If you simply Google me or whatever, they'll pop up. I've done lots and lots and lots of podcasts.

I am having a two day in-depth practical workshop for healthcare practitioners coming up April 24th and 25th. And I'm doing it with Jill Crista, who is a world renowned naturopathic physician. So we are going to combine our methods of diagnosing and treating mold toxicity into a very comprehensive program. Again, that's April 24th and 25th. We're actually trying to, I would almost use the word, target Europe as a place that desperately needs this information. So if you have your listeners or healthcare providers, if you go to my website, which is simply neilnathanmd.com, very complicated, we list that workshop and how to register and work for it.

We're hoping to, not only do this workshop, but then do a follow up workshop every three months to improve clinician's ability to do this work by having case presentations every three months. And do like a three or four hour program with some new information that we're going to add to our basic information package, but really walking people through this. OK, what do you do exactly? And actually have practitioners present cases to us where we can walk people through that and go, OK, this is what I would do. I would do this in this order. And that would be how, I mean otherwise.

If listeners would like to know more about these things, several of my books, you mentioned, *'Toxic',* goes over this in a lot of detail. One of my earlier books could be helpful for patients with Chronic Fatigue Syndrome. It was designed with our earlier information. We were just learning about Lyme and mold then. So that's included in that book. But it's a very readable, put together process of patients with chronic fatigue and fibromyalgia. What things need to be looked at? What do you need to learn about? How do you measure it? And that book is called *'Healing is Possible'.* So, I will provide that as resources.

Kirsty Cullen

Superb. Many resources there for us all to enjoy and much gratitude again, Neil for joining us today and sharing your wisdom with us.

Dr. Neil Nathan

Thank you for having me. I appreciate it.