Introduction to Lyme and Neuropsychiatry

Hello everyone. My name is Dr. Richard Horowitz, and I am co-host of this great online Summit called Healing From Lyme Disease, which is being sponsored by DrTalks.

And it is my great pleasure to introduce to you today a very good friend and long term colleague, Dr. Robert Bransfield. Dr. Bransfield is clinical associate professor of psychiatry at Rutgers Medical School.

And I would say that Bob is regarded in the Lyme community, is really being at the forefront of treating patients with neuropsychiatric symptoms. He's talked extensively about the role of microbes in mental illness.

And, Bob, why don't you tell the audience a little bit about yourself how you got into Lyme disease? And today's talk is going to be about sleep disturbances and Lyme disease.

So that's a it's a great topic. And I learned a lot about this years ago from you. All right. Thank you, Dr. Horowitz. we've been doing this a long time now.

My original training 50 years ago was a psycho as a psychoanalyst. But that's how psychiatrist trained them. And at that time, I thought that someday I'd be looking at psychiatric illness as being caused by tick bites was incomprehensible.

But that's where the evidence has gone. And I've. I've developed a specialty in working with treatment resistant patients and in working with these people.

A lot of them ended up having infections that were driving their mental illness. And, it just kept coming up again and again. And, no matter how I tried it, even if I try to escape it and I say, can I see someone who was in the Lyme patient and I'll see a patient, a new patient who isn't a Lyme patient.

And then I take a history and I think my, my gosh, this is another Lyme patient. And it was missed. So, the old belief, in fact, I was taught schizophrenia was caused by the schizophrenia genic mother.

And what a horrible guilt trip. But that was the thinking at the time. And there were all these so-called dynamic theories. And, so we we when you look at it in a more comprehensive way, infection and immune reaction to infection plays a very big role in mental illness.

And I just, had a journal article that came out with, on microbes and mental illness past, present and future. And, it looked at that in a comprehensive way.

And it was, it really was took almost two years to develop and, with, with my coauthors and, it really was a lot of work, but I think it's a major achievement, and that is on PubMed.

And anybody can see it. Right? So, Bob, just tell them this is in the Journal Health Care. Right. That just yes on Health Care. Yes. Yes. And it's so it's online.

Anybody can find it now. Great. So so question we're mainly going to focus today. And we're going to go through a whole bunch of things on immune dysfunction and inflammation.

Because again we know that that's driving a lot of this. tell me a little bit about sleep disturbances in these Lyme patients and what what forms do they take.

Like what kind of sleep disorders are you seeing these type of patients. Well, I basically see the whole gamut. And

when I think of, trying to get a disease model, I think it's like three interlocking circles and one is infection and other disease contributors.

Two is the immune system. And three or symptoms. So if we look at those three things interact with each other causing disease progression and disease perpetuation.

And when I, I would do these assessments and I've done thousands of assessments and I'd go and ask 270 different symptoms associated with Lyme. And then at the end I'd say, well, what's the worst symptom if I could only how do they all fit together and like a tangled ball string?

And if I could only treat one symptom, what would you want first, second or third? And after doing this for thousands of times, usually the number one symptom retreat is sleep disorders.

Because non restorative sleep is catastrophic with chronic illness. Now if you look at the type of sleep disorders that patients have with Lyme and tick borne disease, it goes the gamut of everything.

Sleep Disorders in Lyme Patients

So you see but the big thing is the failure of the Delta sleep to deep sleep, because that has a lot to do with healthy immune functioning. But you can see sleep apnea, you can see obstructive as well as, neurologically based, sleep apnea.

You can see restless leg, you see nightmares and nightmares comes up a lot because a lot of patients with Lyme disease have these intrusive symptoms, and that can interfere with their ability to fall asleep.

But but it also causes nightmares and, REM sleep later in the night. And then you pain can interfere with sleep. so you break it down. Sleep. You break down into four phases onset and then also middle of the night and then early morning and then quality of sleep.

And that's why when you think what is it? And the fear someone, why aren't you sleeping so well? I just can't sleep. You never leave it at that. You have to dig further.

So if I say, well, in order to sleep, you have to be able to turn off your head, calm your emotions and relax your body. What do you have the most trouble doing?

And and I really have to think about that. And often it's turning off your head. But if it's turning off your head, then you look at what's the thought content.

Is it intrusive thoughts, racing thoughts, obsessive thoughts, worrisome thoughts? Is calming emotion is it hyper arousal? Emotional arousal where they can't dance at their arousal?

or is it something physical? Is it reflux? Is it palpitations? Is it, vertigo? Is it some, shooting pain or neuropathy? Is there something physical? And there may be more than one thing.

And then you methodically look at what causes that. And then you treat it, and then you work your way down the list. And middle of the night is more commonly physical.

Early morning can be depression. Poor quality sleep is like a delta. Sleep. So Bob, you brought up something really real important, which I think everyone I need to highlight for the audience who's listening, which is you're talking about a differential diagnosis of sleep disorders that you don't just say, oh, you can't sleep, here's an Ambien, here's the Lunesta, here's a Sonata, right?

You actually have to go through and say, listen, Lyme causes delayed sleep phase syndrome. It's a circadian rhythm disorder. But you can have slept through sleep apnea even in a young, thin woman.

Right. You could get obstructive apnea or restless leg. So it's very important. Men with benign prostatic hypertrophy. Right. That getting up to pee or menopause.

Yes, I thought so. The differential is really important. Now normally I don't think psychiatrists usually do this, but are you sending people for sleep studies to make this diagnosis?

How are you figuring out the differential? I do, although sometimes, you can tell a lot just by a fairly quick assessment. One thing is just have the patient open their mouth and look in their throat.

Now, some of sleep apnea, which is probably what we think of most commonly, is having a fat neck. So when you gain weight that that causes obstruction.

But that isn't always the case. You can have someone who's underweight with sleep apnea. And when you just simply open the mouth, look in the throat, and is there a high tongue, low power.

And there are some people that have that and they have internal airway obstruction just by their internal anatomy. And it has nothing to do with weight gain.

And, I'll do a simple thing. I'll say, put your chin down and breathe and then put your neck up and breathe. Okay. And when you have your chin up, the airways more open.

A lot of people sleep like this with a pillow. And that's a mistake. They should prop their neck up so that they get better airway. So it's now it's sometimes very expensive for these sleep studies.

Now they're pushing people to do the at home sleep studies first. And it can be about a $10,000 test. And so you need it particularly if someone has narcolepsy and you're trying to prove narcolepsy and you're trying to give one of the narcolepsy drugs that are quite expensive, you have to go through that process.

But also if they have sleep apnea, need a CPAP machine, you have to do it. And you there used to be very few sleep centers. Now there's tons of them everywhere and are competing.

But I do send a lot for sleep study. But you can do a lot yourself without going that far. You know? and I think it's a good point. I mean, I think the sleep studies are really essential, especially in the difficult one. But, you know, I've used.

Have you ever used AccuSom or NovaSom, this is an in-home sleep company that we have been actually recommending to patients, I think for at least a decade.

It's covered by the insurance most of the time. I don't know if you've had experience with them, but we actually have quite a bit of luck using them so people don't have to go into the hospitals to do the sleep studies.

Yeah, no, I'm not familiar with it, although I think these CPAP machines aren't that expensive and you can buy one. And sometimes the cost of trying to get it covered by insurance is greater than the cost of the machine.

If you just buy one. So it's a lot of times people get stuck by insurance barriers, and when they go outside their their insurance plan, a lot of times things are more cost effective and you can't get paralyzed by the limitations of your your plan and your private things like that.

And you talk about that a lot with insurance companies about how to fight back. Right? Like if you're not getting the treatment you need, what to do. But unfortunately, I mean, sleep doctors now are out there.

People have specialized in it. So if they can't get insurance coverage, do you do you sometimes referred to some of the sleep specialists apart from the in-home?

Yes. Yeah. So there's a number of them and there's some that I know in any given area. and, but and sometimes

there's some dentists because some dentists do some work with, dental appliances.

And these sleep studies can differentiate sometimes the categories. And the thing that people don't realize is the commonly prescribed, sleep aids don't help quality of sleep.

The only one like Xyrem xywav. But that's the for narcolepsy. and your average, sleep aid really doesn't improve quality of sleep. It's usually it's drugs approved for other things that help the quality of sleep.

Right. And we're going to get into that in just a second. Because I actually learned this from you a long time ago. There are many classes of drugs, right.

Which are stage three, stage four REM sleep. Right. They help to get the minute, but not ones that you know, in medical school we normally learn. In fact, maybe maybe just mention them briefly that the types of general meds, instead of just using the standards.

What kind of drugs do you actually like that you're prescribing to your patients that you find useful?

Diagnosing Sleep Problems and Sleep Studies

Well, I think if you look at, let's say, statistics on what are the most commonly prescribed sleep aids, the number one sleep aid is, is trizano. And I think that has almost a 50% market share.

Now, the irony is it was never approved for sleep. It was approved for depression. And it's not a very good antidepressant, but it and the advantage to that is it doesn't cause addiction dependance like you have with what's called benzos or non benzos.

The commonly when we think of like Ambien those kind of meds and it doesn't cause weight gain because a lot of your sleep aids like Benadryl and some of the antidepressants that are very sedating cause weight gain.

This causes neither weight gain nor tolerance and dependance. Now it has other side effects, and maybe not everybody tolerates it and it promotes the Delta sleep.

So that's often the that's the most commonly prescribed sleep aid. And that's often where we start. And then we work our way down list. If someone doesn't respond to that.

And the dosage you're using of transit on Bob, you're starting at 50, you're going to 100. Where are you starting with it right now? Normally I would say okay, 50mg one increase to three if needed.

Now a lot of Lyme patients are very, very drug sensitive. So some people need a small fraction of a 50. And you usually know who those patients are. They're sensitive to many meds.

And now what happens? And here's the thing. And I think it's true with many sleep aids when you first started, when you're catching up on sleep deficit, they may feel zonked for a couple of days, but you have to work that through.

And they're catching up on a long term sleep deficit. The other thing is, if they get too much of a drug hangover in the morning, so let's say they're on 100mg of tris down and they get a two hour hangover in the morning.

Then what you do is you give half the dose two hours before bedtime and the other half at bedtime. That way it wears off better and they have less of that hangover or some ratio like that where you split the dose now tries at home, hits you in about 40 minutes.

So you want to be able to get on a train when it's leaving the station. Okay. So when it hits you what what some people do is they they take the sleep aid and then they watching something on TV that's very exciting. And then they missed that window.

So it does help with set. But the bigger thing is the quality of sleep. And that's especially true whenever you're dealing with an infectious disease or any chronic illness.

You want that quality of sleep, which is stage three, stage four delta sleep. That's usually in the first half of that. Mike. Great. And they also learn from you some of the other drugs which I learned from you years ago, like low dose docs, Sapien ten milligrams, especially in people with Marcel, for example.

It's a good histamine block or low dose reamer on. Can you talk a little bit about some of these other meds that you like for sleep? Well, there's a quote from the quote is, the young physician uses ten drugs to treat one condition ulcer quote.

And the older physician uses one drug to treat ten conditions. And I guess you could call me an older doctor now. Okay. So if you look at a drug like Doc's, often it's antidepressant.

Anti-anxiety. It's also antihistamine. It it reduces itch. It is very good as an acid. It's actually it's wonderful for reflux, and irritable bowel. And it's, it's there's something about it with a pacemaker with the GI tract.

So anybody that has GI spasm, usually 30mg, is a magical dose, sometimes a little bit more, sometimes a little bit less. And, it's so that has many uses.

So a lot of times then I can give one thing that helps multiple symptoms that may be driving the illness. and that's a very efficient treatment. And it's a cheap generic besides.

So you're not fighting with insurance companies now. It's actually FDA approved as a three milligram and a six milligram sleep aid. But it's the common dose there come in 1025, 50, 75, 100.

And for depression, we often use 75, 150 higher doses. But for these other uses we give the lower, lower dose. Now it may increase weight gain with some people not with everybody.

So you always have to negotiate. it can do this for you. And these are the potential side effects. You know what trade off for you okay with and some people.

And just because it can doesn't mean it does with everybody. So you always have to have that discussion of risk benefit and individualize how you respond to it individually.

Right. You know, and the trick with it's interesting you mentioned that with the higher doses I found with the insurance companies, they don't usually like the 3 milligram or 6 milligram they want to charge patients hundreds of dollars for them.

But if you take the ten milligram and you open up the capsule, and I've done this sometimes and use tiny doses of it, right, I'm finding that it's a way you can get away with it, because the half life of docs happens long, and you got to be careful with the antihistamine.

It it can make people drowsy the next day. Right? Right. That's what I do. And I also there's a liquid form of it too. And a liquid form allow someone to titrated.

fine. And you can open up those capsules. It doesn't have to be precise, but it is. that's that's because silencer was the brand drug, and I think it's still brand.

I'm not sure if there's a generic version, but even if there is a generic versions, overpriced and you always have to go on on these websites like good or ex to see what the price is and and that you're not using a pharmacy that's going to rip you off.

Right. There could be a big disparity in what different pharmacies charge, especially with generics. Right. But I'll tell us a little bit about because again, one of the ones I learned from you is low dose tremor on an antidepressant.

But high it's it's almost ridiculous because the lower the dose right of the drug, the better it works for sleep. Right. Talk a little bit about that paradoxical effect with it.

Now remember. And then that's another one that you would think of in that category with docs have been very much a unique drug with three different mechanisms.

At a low dose, it's more antihistamine. And then as you go higher, you get more a serotonin effect. And then when you go higher you get an aura generic effect.

So there can be what's called a therapeutic window. But that window is very different in different people. So some people get that best response at a very low dose.

And there were times when we when Vermont first came out, we would take Vermont. It's 15mg would cut it in half, so you'd have seven half milligrams, put it in an eight ounce bottle of water and have the person take one ounce, because some people are very, very sensitive to very low doses and you could very easily overdose.

And that's true with a lot of psych meds.

Medications for Sleep and Deep Sleep Support

So sometimes you had to really titrate it that low. But then there's other people where you can go 30mg and 45. And then it also so, you know, there's still not you get more sedation.

So there's a big variability now that also has a good effect with stabilizing the GI tract similar to the Doc's it. So both of them have a good effect on GI spasm.

It's not and has it doesn't have an acid effect. The docs been has but it, it's and it does promote the deep sleep and it's and it's affordable generic.

Although ironically, the 7.5 is more expensive than the fifteens because it's a less commonly prescribed dose. But it's, you can chop up the fifteens, but it's a good one, and you rarely see someone get manic from it.

Although if you go too high with the dose, that would be a concern. Right. And that's a consideration. So, Bob, just one quick question. If people want to contact you, how do they get in touch with you?

you've been a great member of this community. I know a lot of people are going to probably want to speak to you after this. How can they get in contact with you?

So, please, you know, my, you know, my I feel sorry for the my staff. They get all these calls from people begging. I hope to train other people. This is Everywhere's.

It's, you know, when I organized what we call MMI. Although if it's a physician who wants to learn more, I have a, a discussion group on the internet I've been doing for 25 years.

They could join that and learn more, but I can't do it all. It just too many patients. So to again to learn that it's minus microbes and mental illness right.

Yes, yes. Get their doctor to join MMI. What they need to do is get someone else to learn more about it, and they can learn some different things. Read what I've done 40 different journal articles.

They can read about that, but they need to get their their local doctors more involved. This is too big for you and I. You have the same problem, I'm sure with all the phone calls you get and we can see all these people, we have to educate other people and patients have to advocate for their doctors to learn more about that, and don't feel they can just send all these cases to the handful of us that have more experience.

They need to learn about it. So for are the ones that can't get in touch. Because you're right, Bob, I have the same problem you do, which is only one person.

But you've extensively published in the medical literature on the neuropsychiatric symptoms of Lyme. I mean, almost more than anyone except for maybe Brian Fallon and really highlight, you know, the problems with suicide and how, you can get Lyme psychosis.

That's due to Lyman Bartonella. I mean, I think you've made big contributions to the field. So I would also advise people, read your articles, write to understand that, especially if you're a physician. Join me.

And will you be speaking at any upcoming conferences where people can learn about what you're doing? Yes, I'll be speaking at the American Psychiatric Association yearly convention in New York City and will be talking about psychiatric long hauler syndrome.

And that would be, in addition, Brian Fallon and Rosalie Greenberg, the three of us, we we had a presentation approved. We will touch on Lyme disease and other residual psychic matrix syndromes that you see as a result of these chronic infections.

And, I'm glad that they accepted our proposal because I think this whole thing with long hauler with Covid just identifies something that's always been there with many other infections.

Right. And what's interesting about the long Covid piece, and you mentioned this earlier, infections, immune dysfunction and inflammation is driving the symptoms of alive in co-infections.

But it's doing the same thing and long Covid because we're seeing the same overlaps right. With the fatigue and the sleep disorders and the Potts disorder Nami and adrenal dysfunction, microbiome abnormalities MSL right.

I mean, all of these things, viral reactivation with Epstein-Barr or persistence. Yes. We're seeing exactly the same things with long Covid that we are with.

Lyme long haulers is a new name to a very, very old phenomena that we've been dealing with for a long time. And it's been usually a complex, interactive infection.

It's not a single thing. It's an interaction, complex interaction, infection. Right. And it points it out. It's similar to what you see with Aids. HIV has a similar dynamic.

You can't just look at one. You can't just look at Covid. You can't just look at Bradley. You have to look at the interactive mix right now. You you speaking about inflammation.

You have published actually and I've seen your talks on this on the role of inflammation right. Causing neuropsychiatric symptoms causing sleep disorders.

Can you talk a little bit about the triggers, like what would exacerbate, sleep in some of these patients? What are the underlying inflammatory factors.

You see that? Now think of think of inflammation. If you think how does the immune system work? So if I think of those three interlocking circles infection of the drivers immune and then symptoms.

So we'll talk about immune for a minute. Now if someone sneezes on me I get early inflammation and then I get adaptive immunity. And now I'm fine and it's done.

And we don't see that. We don't see that with a lot of these Lyme patients. Instead, we see early inflammation. And there is not adaptive immunity. So there's persistent inflammation and there's autoimmunity because it's never done.

It's there's not adaptive immunity. And now normally information can be from chronic stress. So anything that gives you chronic stress. So there's a vicious cycle.

You have a chronic illness that limits you. And now you're chronically stressed and you're also sleep deprived. And that contributes to disease progression and perpetuation.

So information can be from other things, other insults. But it's, you know, why is there that failure to shift adaptive immunity? It's, and the immune system reacts to danger.

Now, post-traumatic stress can be a big part of it. Adverse childhood events is the phrase that we've used in recent years. So let's say someone has old childhood trauma.

and now they they they're constantly in that high stress. You're thinking of stress syndrome versus sickness syndrome. Now, stress syndrome is, in a war zone, and I'm fighting you.

I forget internal recovery. I have to deal with my environment. Sickness syndrome is the opposite. Where I came down with an infection yesterday, I stay home from work.

I curl up in a ball, I sleep, I a brain fog, I do nothing, I just vegetate for a couple of days and now I'm fine. So. But the problem is when you have both stress syndrome and sickness syndrome at the same time, right?

And of course, Lyme and you and I see this all the time. Yes. My Lyme Berbizier, Bartonella chronic persistent infections I right there driving inflammation.

And when you don't sleep you get this increase in inflammatory cytokines like IL six. So it's like throwing gasoline on the fire when they're not sleeping.

Right. Pushing in all of those, pushing out all those symptoms you're getting from the common. Like how do these we in medical school we use the phrase sense.

Sebastian Dyer Graham okay. Where you have this big diagram with all these arrows. And what's the vicious cycle that that keeps it going? Where can you intervene that makes the most difference?

And like I mentioned, sleep is a major one, but not the only one. Chronic stress is another one. What drives the chronic inflammation? And you don't want to just knock out the immune system like with the sledgehammer.

That's catastrophic because there's a chronic infection, right? That often happens with some genius who gets clobber somebody with steroid does. They get they get a honeymoon period for a while.

And then when the steroid stops and then they relapse because the infection got worse. So it's you're trying to tweak the immune system. So you have adaptive immune immunity and immune system.

There's not the friendly fire. You know, when we think of friendly fire, part of that's inflammation, part of it's autoimmunity. But it's not targeted towards correcting the danger.

It's harming the body. Instead of attacking the danger. So so Bob, when people have the kind of stress and they all come in and I discuss with people affectionately that the people that come to me, I call them the walking wounded, because so many people have had emotional trauma, whether it's physical sexual trauma, emotional trauma, whatever it is, almost everyone coming to my office has it.

And you're saying it does disrupt the sleep cycle, like I'll do DHEA cortisol testing and finds at night the cortisol levels are off the wall. They've reversed it.

So they're up at night and sleeping during the day. So, you know, I'll use herbs like phosphor, little searing, you know, sometimes to bring down that cortisol response.

What do you like for these people that are so stressed out that their mind can't shut off? You were discussing this earlier. What do you do? You like meditation. Do you like neurofeedback?

What do you say? Anything that works and different things work for other people. White sound and everything. So you. Here's another part of it. With the sleep that I want to mention is, and this is rather unique to my line, patients often get sensory flooding, sensory overload.

It's different than attention deficit disorder. Attention deficit disorder. It's distractibility. You can get that one Lyme too, but it's sensory flooding.

So it's it's you see this with people on the spectrum also where it's too much stimulation.

Inflammation, Trauma, and Circadian Disruption

I can't take it. The noise of the day is too much for me. So a night now, there's less stimulation and now I can hear myself think. So a lot of Lyme patients become night owls because they can.

They they have. It's a lower level of stimulation. They can better tolerate it. That's one group, another group is, let's say someone had sex or trauma at night.

And with the nighttime intruder, that person. Then at night they get hyper real hyper vigilant and they can't relax. And you get a reversal circadian rhythm.

You're trying to normalize a circadian rhythm. You want to be awake when you're awake and functional and productive, and you want to be asleep and recovering when you're asleep. But a lot of these chronic illnesses, you're half awake and half asleep, 24 seven.

And it's it's that's what you don't want. You want. And it's not just nighttime. It's the entire 24 hour cycle. So part of that's habits. What do you do during the day that's energizing and and motivating?

and the timing of it. When do you do your exercise, your diet, those type of things. And, and so that you have a normal circadian rhythm instead of a reverse circadian rhythm or a flat circadian rhythm.

Right. So so, Bob, as far as these, you would talk a little bit about, you'd need to be awake when you're awake, which when I learned this from you years ago, you were talking about activating agents in the morning, using things that I wouldn't have normally thought of, like appropriate to raise dopamine.

Right. And then things at night. So can you talk a little bit about the activating agents of how you get people up in the morning sometimes when they're just completely wiped out?

And, and apart from the transit on docks at Penn REM or on like, what are the tricks do you have at night or whether herbs do you like for people for sleep?

Well, for instance, I think one thing is melatonin is good in making someone's sleepy. So when I was talking about being able to calm, you know, quiet your thoughts, calm your emotions, relax your body, but then you have to feel sleepy.

Some people can do that and not feel sleepy, although you don't want so much melatonin that you get to carry over, and there's too much the next day that then disrupts your cycle.

So you don't want any sleep aid that gives too much of a hangover, any sleep aid, or you don't want an activating agent that works too long in the day that interferes with the ability to fall asleep.

Like like vyvanse and stimulants. Right? Right. You want the right dose in the right timing. Okay, so if someone's a slow metabolize or vyvanse might be bad because it might last too long, they might then do better on Adderall XR

or plain Adderall, although now if you think of the stimulants like the schedule two stimulants, which are amphetamines or methylphenidate, your problem there can be, you know, their schedule to their strong or I.

Some people end up on those. But I don't start with those, Provigil. New vigil. Oh, Wellbutrin. some of the activating antidepressants, they can be good.

And, but you want the right amount and the right timing. And, now that the Provigil new vigil. That's modafinil are modafinil are generic. They used to be, you know, $1,500 or so whenever.

And these pharmacy plans were never approved. Now they're generic so they're very affordable. And when they work, if they work they can help wakefulness fatigue concentrate patient initiative.

So do you know more things or none of those four things. Right. So do you use modafinil or you know, either Provigil and do use it sometimes with appropriate like if they need even more of an activation in the morning.

Yeah. Sometimes. Now the appropriate on the Wellbutrin. What that's good for particularly if there's any Donia. Now, now if I say, hey, let's go do such and such.

Are you up for it? And in order, I'm looking at your motivation here. Okay. Now you think your motivation as a chair with three legs. Okay, now one leg is the anticipation of pleasure.

Okay, so if I say, hey, let's go on a vacation to Key West or whatever. Okay. Now, are you going to say yes or no? Now, part would be what? Do you enjoy it?

Can you anticipate that it would be enjoyable? And if you think, wow, that'd be fun, I'm up for that. I'm psyched up. I want to really go for, So that's one part.

And people that have, for instance, the low dopamine, they have anhedonia and they don't feel the pleasure of life. Now, interestingly, the disulfiram does work in that area in increasing dopamine too.

Okay. So that's a bit of an antidepressant effect. It has in addition to being in type microbial. So that's one leg of that stool. Then the other is do you have do you have the mental and physical energy.

Now if you have fatigue and you're paralyzed by fatigue, I just don't have the energy to do it. It just takes so much energy. Now, fatigue is different than exhaustion.

Fatigue now exhaustion is. I ran a marathon this morning. I got a mile, 26. I was exhausted, but I had something to show for it. Mental fatigue is I wrote a term paper, 30 page term paper and my brain is dead.

But I had something to show for it. Fatigue is up 12 hours and I feel like I ran a marathon and I have no energy. Okay, so fatigue is the second leg. The third leg is executive functioning, the ability to create and sustain goal directed behavior.

And I say, okay, do you have the capability to figure out get your get your, get the tickets, figure out the flights, get packed, organize, get to the airport, do all the planning involved.

So you need those three pieces to be motivated and it's I'm using that as an example, but it could just be day to day activities. You need the pleasure the anticipation pleasure.

You need the energy. And you need the cognitive focus executive functioning to pull it off. And if you have those three things, then you can initiate and attack the world and get go for it.

But if one of those is missing, then you'll be apathetic and it'll be hard to get moving. So in deciding it, if it's more of the lack of pleasure, if I give more to be appropriate, if it's more than fatigue, then I think, well, have I done more to improve deep sleep?

And, that's where I might use the, the new visual Provigil or the executive functioning. It may work there. Okay. Right. And of course, in my population, I think you see it also the overlapping causes of fatigue.

I mean, pastis Nami, a low blood pressure causes fatigue. we see low adrenal function and over 90, 95% of our patients, they don't have the hormones right to give them the get up and go or the mitochondria have been affected, or they've got the wrong bacteria in the gut with mast cell disorder or the infections are still active.

Right. It's it's a huge number of things that affect. Although the low hormones ties in with the lack of restorative sleep because when you get the deep sleep then that triggers growth hormone growth hormones, the master hormone that then helps with the sex hormones and it's not just infection or an immune system.

It also and thyroid and cortisol. It helps to normalize the body's 24 hour clock of hormonal functioning. So that goes back to sleep again. Right? Because men because men with they get low testosterone. Right.

They lose like 15% at least of their testosterone. If they don't get enough sleep. And I mean, now they're even linking up sleep. And this is an important point for people listening.

The reason they have to get to sleep is they're now associated, right, with Alzheimer's disease as being one of these causes dementia later in life. Right. There's a saying sleep like a baby.

And if you look at babies sleep, they have more down to sleep. And if you look older, people, they have less of the down to sleep. And that's when your body repairs.

It's when the brain takes the garbage out. When you're in deep sleep, the space between the neurons and largest intracellular space, it's called. And it helps flush out the waste products in the brain.

If you're not getting that, then you're not recovering. and it contributes to neurodegeneration. And you have to be careful. Like when we were residents or interns, you know, there was a stoicism of go without sleep, just like a military thing, but that's terrible.

It makes you impaired. And it it shortens your lifespan. And, it makes you susceptible to everything, including dementia. Yeah. You know, with the with the sleep meds we're talking about.

And we talked a little bit about, transit docs have been on, one of the other one that you shared with me years ago that I find particularly useful is Lyrica pregabalin, because when I'm doing my daptone protocol now, some of these drugs we've been discussing can affect the interval on the electrocardiogram.

Right. The interact with SSRI this and arise PPIs, etc.. I found that Lyrica pregabalin 50 100mg. It does not interact with methylene blue. And for some people it's good for fibro and it helps with sleep.

One talk a little bit about Lyrica pregabalin. It's like when you have pain you think of the you think of the dope acting antidepressants and they have the serotonin mechanism.

Lyrica can help pain and it's not a serotonin mechanism. So then you don't have to worry about the methylene blue. So Lyrica and gabapentin both and some people do better on one or the other or they tolerate one or the other.

I might get both, but it does help with promoting deeper sleep. And there are studies showing it promotes the deeper sleep, but it also helps pain. Now, if you get better sleep, you have better pain control.

That's another thing about sleep, but separate and apart from that it it helps pain, particularly neuropathic pain and but I think Lyrica it does help.

No deceptive pain to some degree also. So a lot of times that's part of your chronic pain management. And it's something that can work. It also is anti-anxiety.

And it helps with neuropathy. A lot of blind patients have neuropathy. So there's multiple benefits to it. And again you're back to that one drug having ten effects.

That's one of these drugs that can have ten effects. So I use a fair amount of it. Now the way they did the study is they split the dose half in the morning, half in the evening.

Usually I would give the third in the morning and two thirds in the evening. I usually started at night and some people just only give it at night. but then I may give a lesser dose during the day, but it's, the bigger dose.

Daytime Activation, Fatigue, and Motivation

Always at night. I've done the same thing, and I learned that from you. And I'm generally trying just to use it at night. But you're right, it's at least two thirds at night, a third.

So people will get drowsy because already from the co-infections of Lyme. Right. It's a problem with chronic fatigue. And oftentimes, by the way I'll mix it with things like melatonin.

We talked about low dose which also blocks an inflammatory pathway they've seen in Covid Nlrp3 inflammasome. Right. I'll use Gaba l-theanine actually like cabal Theanine.

one of the companies, ortho makes Capcom. I use, valerian root, like I'm mixing in a lot of herbs, and sometimes things to lower down the adrenal at night with these medicines.

And I find oftentimes that approach right, at least works for some of my patients who are very resistant. So I think everybody's different. And there's an argument against some people that is unproven treatments.

But whenever a study is done, it's done on aggregate data. Aggregate patients. We don't treat aggregate patients. We treat one patient at a time. And what work for their twin sibling does it work for them?

A lot of times everything must be individualized, especially the dose. And that's the evidence is more clinical observation. And these studies are interesting, but they only have so much relevance to the patient in front of us.

We all because because it's all personalized, right? Because ultimately it's got to be personalized to the people in front of you. Yes, yes. And public health people get carried away with aggregate data being predictive.

And it never is with an individual patient. It gives a rough estimate that it you can't you can't be dogmatic about it. You always have to individualize. Yeah.

So so one of the important points I think we're bringing up, and not just for psychiatry, was for anyone, you know, I always kind of wondered, why so many psychiatrists miss the effect of Lyme and Bartonella in these co-infections.

In the psych community, you developed a clinical diagnostic system. You were talking, like over 200 questions. You ask, where do people find this questionnaire?

And how do you determine. Because the real thing that I learned, like even from Brian years ago, was that if it's atypical symptoms, add a later age and it's not fitting the classic paradigm and the drugs you're going to use, let's say lithium or whatever for, you know, bipolar, it's not working like how do you determine especially what the physical symptoms.

Right. There is a physical component to the psychiatric, issues that you're seeing. Certainly, the greater the comorbidity, the greater likelihood might be something like Lyme.

Now, it's actually in the American Psychiatric Association guidelines for the treatment of a, for the assessment of adults to consider Lyme disease as a cause.

So the American Psychiatric Association recognizes this in their guidelines. Okay. It's not just the allied guidelines that recognize it's the American Psychiatric Association, a much larger organization than IDSA, I might add.

Okay. Now so anyway, I think a lot of like we have what's called the DSM five, okay. And that's the Diagnostic and Statistical Manual. So it divides different things and say well this is how you're diagnosed.

Attention deficit disorder depression panic disorder, etc., etc. it addresses the clinical presentation, but it not does not address the causality. Okay.

We're looking at causality here, not just the clinical presentation. So if you say, well someone's depressed we can give an antidepressant and that manages it.

But what caused the depression in the first place? If you go further and look at causality and think of it like a row of dominoes, it's easier to stop an avalanche at the top of the mountain than the bottom.

If you can understand causality, you have more treatment options and a lot of doctors are more trained. And not just psychiatry, but I think everywhere to treat the end result and not to go backwards and to say what caused the in the first place.

Now, if we look at what causes mental illness and that's why I wrote this article and, it is it's an interaction of an environmental trigger and a susceptibility.

And there really isn't much in the way of, of mental illness genes. There's susceptibility genes that because you see identical twins and one has illness and the other you, it just doesn't make sense that most of mental illness is genes.

So so all that we saw about schizophrenia years ago and genetic predisposition and stuff, what what you're saying is, is that there may be specific environmental triggers.

Right. And and that especially microbes in mental illness or even environmental toxins. Right. They can also cause a whole host of problems with this.

Right? Right. Like in my in my article with Doctor Greenberg and Doctor Charlot, Mao, Rosy Greenberg and Charles Mao, we looked at schizophrenia and we looked at all the infectious, articles supporting it.

We looked at autism, we looked at bipolar, we looked at depression. We looked at anxiety disorders. We looked at suicide. We looked at violence. And you could see that there were a lot of the same usual suspects that kept reappearing.

And there were a lot of different infections that came up. And for instance, when polio was around, there was a strong correlation of polio and schizophrenia.

But it wasn't just polio. There's a lot of different infections. And then particularly at a critical phase in development, and then that impacts development.

And then you, you, you laid the foundation for it. So some of these are infections like we see where someone's 30 years old and they decline. But others you see where the die may have been cast and congenital in utero or in early childhood.

and now it's the end result of what, a damage that was done years before. But it's it there's an awful lot of infection connecting this. And then it's immune mediated.

You get the infection, you have some degree of genetic susceptibility. And then you have, immune pathophysiology. And you have to look at not just the neurotransmitter system in the brain, but the immune system of the brain, because there are two parallel communication networks.

And when someone goes from health to illness and then recovery, and then you look at genes that are upregulated and downregulated, a lot of those genes that are upregulated downregulated our immune system genes more.

So the neurotransmitter genes, right. By the way, when you're looking at these genetics, I mean, I occasionally do it, but you use things like the genome mine do you look at genetic variants and Comt, you know, all these different pathways when you're giving these medicines to see how they're working, you don't think it's like you think it's a particular just individualized.

No, no. It's like I can tell who's who. For instance, I think a lot of people don't know how to use those. And they they think, well, this is the antidepressant for you.

And it doesn't mean that at all or shows is that we predict that you would be a rapid or a slow metabolize or of this drug. So you need a high dose or a low dose.

But now it may show some susceptibility and it may have some value. But a lot of I've been so used to figuring that out I know who's the rapid metabolize or slow metabolize.

Or I can figure that out. I don't need a test to show it. And, Well, and of course, the problem is when I use drugs like rifampin, that's in every protocol pretty much I'm using.

Yeah, it's changing the metabolic pathways for all these people. Right. As far as their other drugs. Yeah. So it's tricky. Then you have to you have to make a dose and see a lot of people think that with drug interactions it's going to be toxic and scary.

And I think, for instance, serotonin syndrome is often overstated with some of these warnings. But when you add rifampin or whatever okay. So there it's A3A4 drug is metabolized faster.

You just adjust the dose. And then when you stop it you have to know you have to adjust it again. All right. But the problem would be if you're doing a cyclic treatment on and off, and then you have some other 3 or 4 drugs, then you'd be all over the place.

Personalized Treatment and Clinical Assessment

You can't do that. So you you have to know and make the adjustments. some of these drugs, we can do blood levels on and others we don't. So others were some we can go by the numbers and others we just go by the clinical response.

Right. question other other tricks for people. I mean, sometimes when I'm taking a sleep history because, again, the lie patients don't fall asleep, they keep waking up where they sleep for 16 hours and they have to refresh sleep brain mean that's common. Most of them, like I, I didn't used to be so sensitive to caffeine.

I could drink literally an espresso an hour 30 years ago. And now if I do it past 2 or 3:00, I can't sleep. Or if I have dark chocolate at night turning into theobromine, I can't sleep.

can you talk a little bit about food, diet, blood sugar swings, hypoglycemia, things that maybe people aren't thinking about that might also affect their sleep schedules.

Yeah. Well, also, you know, the sleep schedule isn't 12, isn't 24 hours. It's like 12 hours. So what normally happens is let me give a normal sleep schedule.

I jump out of bed at 7:00 in the morning and I say, I want to attack the world and conquer mental illness. Okay, so now I have energy and, now I have it.

Now it's four in the afternoon. So that's a normal bio rhythm slump that we all get. And if I were in Italy or Spain or an equatorial region, I'd have a siesta.

And it is a normal bio rhythm, something we all have. If I were in England, I would have tea and crumpets at 4:00, but if I'm in New York I'd I'd have four glasses of Starbucks and push through it.

Okay. And because that's the culture and that you do now but it is a slump time. So don't do something that requires strong focus at four in the afternoon.

And and then after that then you get a second wind. Now you also get blood sugar fluctuations. So I may put someone, let's say on a, stimulant medication that inhibits their appetite and then they skip lunch and then they that 4:00 drop is even more magnified.

So that's sometimes can make the person worse. And you have to be careful particularly a lot of people go towards, sugar and these things that you get at the convenience stores, these all kinds of junk that's there.

But but a lot of it's high sugar, high caffeine and, and that can cause a hyper and then a crash. Right. So, so in other words, people are listening. They have to be careful that, regular exercises we know really helps with sleep.

Right? You get much better quality sleep. But the timing of it. Right, right. The best sleep I ever had was when I was backpacking in the mountains. And when I would lie down, all of a sudden it would be morning because.

But we're we usually have a rather sedentary lifestyle. And a lot of our younger people, they spend their time exercising their fingers with, you know, video games.

We used to go out and play in the, in the street with other kids. So they're they don't do things that make them tired. So you want to do something physical, you want to do something mental and physical, but you don't want to do it so close to bedtime that it stimulates you, right?

You want to do it at the right time of day, and you have to look at your whole 24 hour clock. Here's the other thing that people do that's a mistake. It's, you lie down and you think of the problems of the day that were unsolved and the issues of tomorrow that you need to attack, that you're not sure about doing.

And all those go racing through your head, and, you know, that's we call that silent, episodic, random thinking. But what you should do is set a time of the day when you sit down and you say, okay, what happened to me today?

How has that affected me? And how am I going to go about things that's different? What's my plan? And you do it and you do it when you can do it right.

And when you're lying in bed at night trying to sleep, you can't do it right? Right. So so your advice really is take some time during the day. If you've got a sleep disorder with a pen and paper and sit and download, what are the issues you're dealing with?

Right? Problem solutions. Get it out of your brain so you're not dealing with it right at 1:00 in the morning. And what you could do is put a pad at the side of the bed.

So if something pops in your head that, oh, I got to think about this. You write it down and that way you can get it out of your head. Okay? That and C silent, episodic random thinking.

Think of it like this. Your heart will beat whether you want it to or not. Likewise, your brain will think whether you want it to or not. You can't make your brain stop thinking, but what you can do is think about more monotonous things.

That's the whole idea of counting sheep. And I don't know if you ever see the movie Amadeus. yes. Many, many years ago, Murray Abraham did a great job in it.

But there was one scene in that movie with Mozart and, other music. It just won't stop. Okay. Remember that scene? Okay. But it's it's a wonderful scene, and some people just have a lot of brain activity, whether it's being

musical creation or coming up with new ideas about how to treat Lyme disease.

And, you know, hey, it's one in the morning, but I got this new strategy that might work. You have to be able to turn it off and your brains contain. And some people have more of this than others, okay.

That that creative, spontaneous thought that just comes. Right? And, but you keep. That pen and paper nearby just so you can download and therefore get it out of your brain so you can get back.

To sleep together and say, I'll think about this tomorrow. I'll think about this when I'm driving on the Parkway. And that way I can put it together when I can really think about it.

Right now, what? I'm trying to sleep. I'm. I can do a good job. That's a mistake a lot of people make trying to sleep. But you have some people do it when they're commuting back and forth to work, but you have to have a time.

You set that aside, and it's not when you're trying to fall asleep. Yeah. So Bob, we're getting to the the end. But that one quickly we're getting to the end of our, our interview.

just last question for you. And then we can kind of recap a bit. what do you think about Lyme leading to other neurological illnesses, systemic issues, sleep and like immune recovery process and Lyme just kind of sum it up a little bit for us.

Medications, herbs, the importance of this, and again, a little bit going back to MMI so people can learn more about the work that you've been doing. Well, of course, all of medicine is based on our modern medicines based on herbal medicine.

And I could think of the example of digitalis that I could go by the side of the Garden State Parkway here and pull some foxglove and chew on it, and I get digitalis, or I could get it from the pharmacy.

It's the same thing, although probably what's next to the parkway maybe has some contamination from all the highway pollution. Okay. But it's it's. And any drug you can trace.

What was the evolution of it okay. So it's it's whatever works. Okay. But I think when you, you know, we're making progress with all this, we're, you have to keep trying and individualizing, and everybody responds to something different, right? So the point is, don't give up.

Closing Thoughts on Lyme, Sleep, and Recovery

I mean, if, for example, in my line community, once I adequately treat the Lyme in the Bartonella, the babesia, and, you know, I've treated their pots and gotten their immune system into water, and I've dealt with the adrenals.

They do get to sleep, but oftentimes I'm using probably 3 or 4 different herbs. I may be using melatonin and CBD and gab, l-theanine and valerian root.

Right. All of these things with some low dose REM Ron and some low dose Lyrica pregabalin, right. And a little trazodone and I have to do my mixing and matching.

So there's a vigil right. Or although you're always trying to think why are they not sleeping. And that answer isn't always that clear. Right. But then it.

Goes back to the need for the sleep studies to figure out, as you were talking about, even if you're a young, thin woman, you can have obstructive sleep apnea or restless legs or narcolepsy cataplexy.

So you've really got to get to the underlying causes. Is it hormonal? Is it trauma? Is it, you know, is it parts disorder? Not many of the infections still active.

It's really getting back to personalized medicine and going down the list. I have seen every single sleep disorder there is associated with Lyme disease, be it restless leg or sleep paralysis or hypnagogic hallucinations or cataplexy or, Everything right.

And and of course, and I know we we touched on this earlier. Now they're showing that chronic sleep deprivation, even starting your 40s, apart from cardiovascular risk of heart attacks and strokes, is being associated with dementia, metabolic syndrome, especially the people who have the, you know, the working the night shifts, right?

I mean, those are some of the ones that have. Some of the. Worst sleep. Disorders, although some of those for instance, with the sleep disorders, there may be someone who's predisposed to sleep apnea and then they get Lyme.

That's maybe why they're not recovering. Or there may be someone who gets time and then gets a sleep apnea as a result. So sometimes with these things, it's like which came first.

But either way you have to untangle it and address it. Right. Bob this was a it was a great conversation. Today I want to really thank you for joining me.

For those of you who managed to tune into this whole conversation, we've been talking with Dr. Robert Bransfield, one of the leaders in neuropsychiatric Lyme and tick borne.

I would say in the this point, we've been talking about sleep disorders, in this Healing Lyme Summit. And Bob, I, I just want to thank you again for taking the time today to speak to me.

And again, don't contact Bob, but get in touch, read us, read his articles. Right. The man needs a break. After all these years reading articles. Go on the MMI forum.

And will you be at. I led later this year, Bob, will you be. Yes, I'll be there and I'll be in the ILADS in Germany. And I hope I kept everybody awake talking about sleep disorders.

Okay. Not not a problem. It it's a great talk, Bob. I always talking to you. So, I want to thank everybody again, and and hopefully we'll see you again for the next episode.

from the Healing Lyme Summit. So thank you so much for joining us today. This is Dr. Richard Horowitz, your co-host, and Bob Bransfield. Thank you again.