

## Secrets to Fatigue, Brain Fog, Mood Disorders, and Pain

Dr. Kent Holtorf interviewing  
**Dr. Christopher  
Wakely, ND**



Dr. Kent Holtorf ([00:00:02](#)):

Hello. This is Dr. Kent Holtorf with another episode of the peptide summit. Today we welcome Dr. Christopher Wakely and he's speaking about secrets to fatigue, brain fog, insomnia, mood disorders, and chronic pain. I'm so excited to hear about how to solve those problems. So many patients are suffering and doctors just can't put it together. I'm looking forward to this hour and I want to say thank you so much, Christopher, for being on. I appreciate how busy you are up there in Washington. Any riots or anything going on up there?

Christopher Wakely ([00:00:49](#)):

Not in my little neighborhood, but yeah, Seattle's a little bit of a mess.

Dr. Kent Holtorf ([00:00:53](#)):

Yeah. Well, you have the news, and we always see the worst. Right? Just a little bit about Christopher, he was born and raised in Maine, which I think, man, that must be cold. Then he moved to Washington where he pursued a doctorate in naturopathic medicine from Bastyr University. His practice is dedicated to helping patients with complex chronic illness who have typically been seen by between 11 and 17 physicians. We published our results, and we had had 7.2 physicians before seeing us, and that's become more and more so that 11 to 17, I think, is right on, especially in our vector-borne illness, including Lyme, Babesia, Bartonella and the list keeps going, basically keeps being added to. Pain, environmental medicine, autism. I'd love to hear a couple of things about your experience with autism.

Dr. Kent Holtorf ([00:01:54](#)):

Of course that's just skyrocketing. There's a wide variety of tools, including homeopathics, antigen therapies, drainage, injections, herbs, peptides, and pharmaceuticals. He's a member of AAEM, ACAM, and the National Peptide Society. In his spare time, what little there is, he enjoys spending time with his wife and two daughters strength training, reading and watching the Boston Red Sox. So, awesome. I think the World Series is on game three or something? But tell me, how did you kind of get into treating these "sick of the sick", these patients that no one can figure out?

Christopher Wakely ([00:02:44](#)):

Well, in Bastyr, when you're going through naturopathic medical school, you seem some complex patients, but you don't see a lot. And in my preceptorships, which is like an apprenticeship that you do, I worked in Dr. Klinghardt's clinic with Dr. Katie Dogra and Dr. Michelle Grindstaff, who I work with now. And man, they were seeing some really sick patients and they were using tools that I had never heard of back then. So I think, for me, it's kind of like going to a different plane in medicine and you start to see that it's not as simple as just giving somebody a B12 shot or glutathione. Diet isn't going to fix these people. They've already tried that, they did that 20 years ago. So I think the curiosity in me and kind of that endeavor to always be learning more is really what got me into treating patients with complex chronic illness.

Dr. Kent Holtorf ([00:03:51](#)):

Yeah. Do you regret it?

Christopher Wakely ([00:03:54](#)):

No. I'm blessed. It's challenging, you know? I mean, you do it too, and it's not easy, but it's not boring. I never go home and say, yeah, today was boring.

Dr. Kent Holtorf ([00:04:07](#)):

It's true, especially more and more, it's like, one, cause, one illness, one treatment, you know, and that whole paradigm is just falling apart. And with standard medicine, the patient is in a box and they get this and if they're outside the box the standard practitioner just kind of gives up. Right.

Christopher Wakely ([00:04:33](#)):

Yeah. Refer. Just refer between specialties.

Dr. Kent Holtorf ([00:04:36](#)):

It's just a psych referral, and they don't believe them. We have so many patients like cry the first visit and she said, you believe me, we're like, of course, and we'll show you on paper that you have all these problems and the doctor says nothing's wrong with me. Yeah. When you don't do the right test, that's what you're going to find. Right. But when you see these patients, what are some of the first things that you think of?

Christopher Wakely ([00:05:02](#)):

Well, because I'm a naturopathic physician, my approach is a little bit different. The first thing that I'm always looking for is how are their organs of elimination working? Because they'll come in and

they'll tell you. And I always say to patients, you're coming to me with a full bucket and a clogged spigot. So if you've got stuff coming into your bucket, whether it's aluminum or gluten or stress in the home or whatever, and your spigots clogged, then you're just going to keep spilling over and making a mess on the floor. And those are the symptoms that they're coming in and talking about, right? Oh, I have headaches, I've got pain, I've got gut stuff. So I'm looking at the spigot first thing. And you know, the spigot is the liver, the kidneys, the gut, the brain. Are these things able to detoxify in a sense. So I'll start there. I'm always looking at immune system because that's a huge, huge thing, especially when you're dealing with patients who have complex chronic illness. I mean, if it was just as simple as treating somebody's *Borrelia*, which, even standard of care you have to have them on antibiotics for like three years. And then you've got persister cells and it doesn't even work.

Dr. Kent Holtorf ([00:06:24](#)):

Yeah, you look at the relapse rate, two to three weeks of Doxycycline and you drive it into the tissues and it's like 80% come back, and those are the ones that they're even documented, but they come back gradually as, Oh, I got migraines now I got Chronic Fatigue Syndrome, I've got MS, and they go, Oh, you had Lyme. Even like Michael J. Fox, he's got Parkinson's, and we called, like I'm sure so many people did, and said, have you checked for Lyme? And they're like, Oh yeah, he had it and cured it, you know? But you know his doctors think, Oh, that's crazy, you know?

Christopher Wakely ([00:07:06](#)):

Well, so that should tell a physician, if they're thinking, that should tell them that they need to look at how the immune system is functioning. All of our patients come in, most of them are TH2 dominant, or they've completely lost tolerance to things that are sort of normal. How many people have Epstein-Barr? How many people have HHV6 antibodies, right? It's not an AIDS defining condition. So is it even really an infection? That's when you need to be looking at the immune system, trying to restore some balance and hopefully initiate some tolerance in those cells so that you can kind of live in the world and breathe air.

Dr. Kent Holtorf ([00:07:49](#)):

Yeah. When you have five, six, seven infections was the problem that you just happened to get all those infections. Yeah, No. I'm sure you've seen the patients that come in with 22 separate diagnoses. Well, okay, . Like, you are the most unlucky person or there's some common thing going on. What tests do you like to do to assess the immune system?

Christopher Wakely ([00:08:17](#)):

Well, we're always looking at blood work, so we're always looking at CBC, CMP. I run a natural killer cell assay on just about all of my patients. I think that's really important.

Dr. Kent Holtorf ([00:08:29](#)):

Do you do a Quest or LabCorp outside of that?

Christopher Wakely ([00:08:33](#)):

Usually LabCorp. We'll write labs for Quest if that's what is close to the patient or that's what their insurance covers. But typically I like to use LabCorp, especially for that natural killer cell activity test. Because it's kind of finicky, they have to send it out to Arup, and it's gotta be done Monday through Thursday and, you know...

Dr. Kent Holtorf ([00:08:52](#)):

Yeah, that's the biggest problem. And it's disheartening. I'm going to tell you just a real quick story. We sent our, media guy, just for standard labs. There's LabCorp and a Quest, right on top of each other. He went and did a basic CBC chem panel, insulin, hemoglobin A1C. , Quest, LabCorp, I forget which one was on top, he didn't eat in between. At one he was diabetic. The other one his hemoglobin A1C was 5.2. A.

Christopher Wakely ([00:09:25](#)):

Yeah, unreliable.

Dr. Kent Holtorf ([00:09:25](#)):

And that's a basic test. And so you get these more complex tests and people hang their hat on any one test. I like to do a lot of tests and paint a picture. You can't say well, this test is negative, so I'll forget that. No. The tests might be very specific. In general, if you're positive, you're very likely positive, but if you're negative, it doesn't mean much.

Christopher Wakely ([00:09:52](#)):

Well, I think, even just running a CBC, if you're looking at the ratio of neutrophils to lymphocytes, it should be like 60/30, right? And if somebody comes in with a neutrophil level of 74, or they're flip-flopped and their lymphocytes are 60% or something like that, well then, you know probably something viral is going on or, if the neutrophils are high, probably something bacterial is going on. A platelet count can tell you a lot about their coagulation status. I guess I'm agreeing with you and saying that, yeah, it's nice to have a lot of tests, but in the end, your patient's either going to be spending money on tests or they're going to be spending money on treatment. If they've got all these chronic complex issues, I would rather treat empirically and just kind of march about the process and use as limited lab work as possible.

Dr. Kent Holtorf ([00:10:52](#)):

I agree with you, but with a caveat. One, I totally agree that most doctors say Oh, everything's normal, right? But you look at, Hey, you're the lowest two and a half percent look at this ratio.

Christopher Wakely ([00:11:09](#)):

Right.

Dr. Kent Holtorf ([00:11:09](#)):

You can glean a lot of information from the basic tests. But in some patients I'll do very little tests, but it depends on the patient. Like a lot of times I feel I have to convince the patient that they have something going on. Because if you don't, then they go back and they go, wait, okay, I'll take the treatment. Their doctor says, Oh, that's ridiculous, you don't have that. Their family members say that. So sometimes I over test even though I know what the test is going to come out or very likely. I do a little defensive medicine too, also, so they have bought into it. So there's medicine and there's medicine.

Christopher Wakely ([00:11:54](#)):

We always look at thyroid, I always run a heavy metal profile. LabCorp has that test, this heavy metal profile too that looks for mercury, lead, arsenic and cadmium. That's been really, really useful.

Dr. Kent Holtorf ([00:12:09](#)):

So that's a serum test?

Christopher Wakely ([00:12:12](#)):

Yep. Or maybe plasma, I don't know.

Dr. Kent Holtorf ([00:12:15](#)):

Yeah. So how sensitive have you found that? Because, you know, generally it has to be pretty damn high for those to come up.

Christopher Wakely ([00:12:23](#)):

Yeah. Well, you know, it's interesting. I had these patients who live on the Western seaboard, the Gulf side of Florida and they live really close to a golf course and their arsenic levels always come back elevated and their cadmium levels are high too. And they're using a ton of fertilizers that have a lot of those metals in there. And that's been pretty consistent. I would say there's a lot of times where I'll get blood lead levels back that are somewhere between two and eight, which,

that's not 40, but it means something. When you get a blood lead level of two and you know that you're going to be hanging on to 40% of that it's going to go to the bones or the brain or the liver, over time that's going to become an issue.

Dr. Kent Holtorf ([00:13:15](#)):

And that's not where it is. And you're finding all that.

Christopher Wakely ([00:13:17](#)):

Right.

Dr. Kent Holtorf ([00:13:20](#)):

Yeah. That's huge. We find mercury, sometimes, if people eating sushi. But it's like you could spend all your money on tests, and some of the things are so common, you know. How many people have no heavy metal issue, you know?

Christopher Wakely ([00:13:40](#)):

Yeah. I mean, I haven't seen any patient yet really that doesn't have something. And then you've got the forest fires that were going on in California and blowing all over the country. Those pine trees and everything else are bio accumulating metals and toxins too.

Dr. Kent Holtorf ([00:13:55](#)):

Yeah. In California you can't have a wood-burning fireplace, but you can have thousands of acres go up.

Christopher Wakely ([00:14:02](#)):

Right.

Dr. Kent Holtorf ([00:14:02](#)):

It's where those too, with respect to the heavy metals, the patients with not enough cellular energy, they need the cellular energy to kick that heavy metal out of the cell. And if they don't it's all sitting in the cells. So like everything, a vicious cycle. And like autistic kids, you look at their urine, it's low because they're not excreting it.

Christopher Wakely ([00:14:24](#)):

They're not excreters. Right. They're going to accumulate it, hang onto it, their mitochondria aren't working. So yeah, it's an issue.

Dr. Kent Holtorf ([00:14:34](#)):

Yeah. A vicious cycle. And so you mentioned when we briefly talked about that complex patient, pathogenic pie.

Christopher Wakely ([00:14:48](#)):

Oh, yeah. Pathogenic pie. I think if we see patients with chronic complex illness, we all kind of either develop our own little thing around this or hear somebody else talk about it. But, yeah, pathogenic pie. So somebody comes in and they've got this profile of toxicity. And like we said earlier, it's not just one thing. One thing may be primary, like maybe they have *Borrelia* or maybe they have elevated Epstein Barr, or maybe they have heavy metals. But what ends up happening, and I think the reason why so many people go to so many doctors is that they're not thinking about this. They're not thinking about the interplay between these different pieces of the pie. And when you treat one piece of the pie, like if you put somebody on Sporanox, whatever antifungal, Nystatin, it doesn't even matter. Even oregano oil. Well, those fungal species bioaccumulate heavy metals in their biofilm, so when they die off, not only are you going to be dealing with an antigenicity problem from dead fungal species or (inaudible) mold or whatever it is, but now you've also liberated heavy metals in the blood. So one thing that I try to do in my practice is make sure that if we're treating one thing, we're kind of looking four, five, six steps ahead to make sure that we're accounting for the interplay between toxicity or toxins.

Dr. Kent Holtorf ([00:16:29](#)):

Yeah. Because you know, everything's connected, right?

Christopher Wakely ([00:16:32](#)):

Totally.

Dr. Kent Holtorf ([00:16:32](#)):

And in standard medicine, it's like, Oh, well, you don't do that part. You said that over there, you said that over there, and that just doesn't work.

Christopher Wakely ([00:16:41](#)):

Nope.

Dr. Kent Holtorf ([00:16:41](#)):

And you've got to think about all of them. And there's so many different areas, you just think about, how mitochondria dysfunction, from the infection, from the inflammation, from immune dysfunction, you get little hormones which causes the mitochondria to be worse, which then you get hypercoagulability from the infection. Now the organism is hiding under that, you get gut issues, everything's a vicious cycle. So how do you decide where to start?

Christopher Wakely ([00:17:19](#)):

Well, you start with the organs of elimination, the emonctories, you start with building or modulating their immune system. And then you start trying to peel back layers of this pathogenic pie.

Dr. Kent Holtorf ([00:17:37](#)):

Can you go back to when you say you look at detox, what are your favorite things to look for for detox?

Christopher Wakely ([00:17:48](#)):

That's a good question. There's a lot of different drainage remedies that you can use. Some of them are energetic, you know, homeopathic drainage remedies, like UNDA numbers, I've found to be really useful. They're a little complex to get into, cause there's like 78 of them. But if you learn them and you figure out that, when you put UNDA 1 and UNDA 243 together, patients don't have liver pain anymore. Right? Or you give them some other number and then their urinary excretion starts to increase. So I think homeopathic drainage remedies can be really helpful.

Dr. Kent Holtorf ([00:18:28](#)):

It just made me think that for you to treat this one section, what you had to learn to do that, and you were willing to do that, and learn this very common 78 things to treat this one section, but knowing how to do everything else, so you wonder why not many doctors go into this

Christopher Wakely ([00:18:50](#)):

It's not taught. I mean, it's not even taught in naturopathic medical schools. You've got to go get additional training when you bump up against patients that are really complex and you don't switch specialties, then you've, gotta get after it. Herbs can be really helpful too. Like greater celandine Chelidonium for the liver can be really helpful. Juniper, you know, the berry that they use to make gin, that's an herb, that's a great thing to help open the kidney emonctory.

Dr. Kent Holtorf ([00:19:21](#)):

All right, I'll change from vodka to gin.

Christopher Wakely ([00:19:21](#)):

There you go. Yeah. Get on the gin. So herbs and homeopathics, bioenergetic remedies are what I'm kind of using to get the emonctories working. I do a lot of neural therapy. So using like 1% procaine and specific patterns over different organs to treat the autonomic nervous system, get those sodium potassium ATPase pumps working. That has been really, really helpful. It's an injection, so it's a little invasive, but most patients really like it.

Dr. Kent Holtorf ([00:20:02](#)):

When you do that, I'm just very interested in the autonomic nervous system, it's a major issue. And what do you do to kind of diagnose that? And what do you see when you do that treatment?

Christopher Wakely ([00:20:15](#)):

Well, there's a couple of different things that you can do to diagnose it. Obviously you can look at labs. If you've taken a good history, they're going to tell you what's going on. They're going to tell you, Hey, you know, my urine stings all the time, I've had a history of bladder infections. Or, yeah, I had to have my gallbladder removed. My digestion is really slow. My stool is green. So then you can say, okay, well, I'm going to use neurotherapy over the liver. The other thing you can do is if you're trained in muscle testing or autonomic response testing or something like that, even though that's controversial, that can be helpful. It's helpful in my practice. So that's what I do.

Dr. Kent Holtorf ([00:21:01](#)):

Like you have to say, when I went up to see a mutual patient with Klinghardt, and I'll try to be very brief, I had bad Lyme where I was basically dying, but I had parotid gland inflammation, just terrible pain in my parotid glands, and spasms. I went to the ENT and he goes, yeah, it's inflamed, it's infected. You couldn't see it. But, he's like take antibiotics. I'm like, I'm on seven IV antibiotics, you know? And then I happened to go to Klinghardt with a mutual patient, I didn't go up there for treatment, but I'm he's like Hey, let's see what's wrong with you. I.

Christopher Wakely ([00:21:42](#)):

Did you quiz him?

Dr. Kent Holtorf ([00:21:42](#)):

I'm like, I'm going to see if he can...but I didn't expect him to pull that. And he goes, you got parotid gland inflammation. I'm like, shut the heck up. It wasn't in my chart. You know, he didn't even look at my chart and he picked that out. You can't argue with that, you know?

Christopher Wakely ([00:22:02](#)):

Yeah. It's definitely a good tool. I mean, you've got to couple it with science and a good history and good physical exam and good life laboratory studies, but I think it can be helpful.

Dr. Kent Holtorf ([00:22:13](#)):

Yeah, it's another tool. And I think some people are really good at it, like himself, some people may be abusing a little bit and are not that good, but I've seen it. And also when they come and say, Oh, we think the patient has this, this and this, more times than not the labs, what they said the infections were, they have.

Christopher Wakely ([00:22:37](#)):

Yep. Well, you can bias it. You know? And when use ART to test patients, I try and blind myself as much as possible to it. And the other thing that I think, and maybe this is just me, but I think if you're not being honest with yourself or with your patients, your patients aren't going to get better. Right. And then they're going to bounce. They're going to move on. They're going to go find somebody else. So if you're really trying to serve the patient, you're going to do a good job regardless of what tool you're using to dive into it.

Dr. Kent Holtorf ([00:23:15](#)):

You're not there to prove that it works or not, you know, you're there to get them better. Yeah.

Christopher Wakely ([00:23:21](#)):

Right.

Dr. Kent Holtorf ([00:23:23](#)):

So, you also said detox, and then what was the second thing you were saying?

Christopher Wakely ([00:23:33](#)):

Yeah, we were talking about immune system,

Dr. Kent Holtorf ([00:23:37](#)):

So the immune system, what do you like to do for the immune system?

Christopher Wakely ([00:23:42](#)):

There's so many things, I was talking about natural, natural killer cell activity. I use quite a bit of mushrooms in my practice. So like turkey tail, ganoderma, lion's mane, things like that. Turkey tail

has been shown to increase natural killer cell activity. I think that's a really big deal. It's pretty well tolerated.

Dr. Kent Holtorf ([00:24:08](#)):

Turkey tail, and some lion's mane

Christopher Wakely ([00:24:10](#)):

It's so good. I take it, my kids take it, especially around this time as we're getting into...

Dr. Kent Holtorf ([00:24:17](#)):

The study of lion's mane, It's incredible.

Christopher Wakely ([00:24:20](#)):

Yeah. It's a big deal. It's a really big deal. You've got to treat the gut when you're looking at the immune system. I mean, most of our immune system is in our guts.

Dr. Kent Holtorf ([00:24:31](#)):

So is that where you start introducing peptides?

Christopher Wakely ([00:24:34](#)):

So peptides are definitely a piece, I think BPC 157 is definitely in my top three things to use for treating the GI. I like it when it's with TB4, too, just because you're healing, those leaky junctions in the gut. You're healing those leaky junctions that are in the brain

Dr. Kent Holtorf ([00:25:02](#)):

Leaky gut equals leaky brain.

Christopher Wakely ([00:25:05](#)):

Totally. I think LDA and LDI can be really helpful too. If you're working with immune system and people have a failure of tolerance, they can't tolerate them...

Dr. Kent Holtorf ([00:25:14](#)):

Can you explain what those are?

Christopher Wakely ([00:25:17](#)):

What LDA and LDI are? Yeah. So the theory behind LDA and LDI is that you end up in this vicious cycle of something comes into your system, an antigen, a protein, whatever you want to call it. That's what I say to my patients. It doesn't matter what you call it. It's a protein, it's antigen, it's stuff, whatever it is. And that goes to the dendritic cells, the dendritic cells in your immune system, see that, and they say, Hey, yo, you know, not supposed to be here, we're going to go down to the lymph nodes and let those naive T cells know, right? Which turn into effector cells. And then you start developing immune cells against these antigens. And then you end up with tons of degranulation, tons of histamine. And what does that do? Well, that creates more inflammation, right?

Christopher Wakely ([00:26:18](#)):

So there's your cycle right there. Where LDA and LDI come in is if you can kind of retrain those naive T cells to behave a little more appropriately to these things that are "normal", right? Normal ish. I mean, everybody's got strep in them. A lot of people have Epstein Barr and have no symptoms at all. So if it's really not an infection and you can teach the immune system how to become tolerant to it, then you're going to reduce inflammation. You're going to get out of that huge TH2 shift and people are going to feel better. I mean, it's been a huge game changer for me personally. It's been a huge game changer for my wife too.

Dr. Kent Holtorf ([00:27:05](#)):

I think it's nice. And I don't, my sense is, if had to guess say how many people it works and all covers, 50, 60% of patients get 50 to 70% better. I would say, that's my guess. What's your sense?

Christopher Wakely ([00:27:24](#)):

In just one little shot.

Dr. Kent Holtorf ([00:27:25](#)):

Two little shots. Yeah. So inhalants and foods.

Christopher Wakely ([00:27:31](#)):

I would say the majority of patients get better. The timeframe is what kind of irritates me inside, you know, because I'm a guy who, I want my patients to be better yesterday. Right? And I always say retraining, the immune system is like training a three-year-old to pick up their stuff. You know, it's going to take a really long time to get those T-cells to a place where they can be tolerant to things for a long time. And one of the other problems is you can upset that tolerance if you get an

acute virus, a lot of times that can undo that treatment and you have to get a booster. So usually what I tell patients is this is probably going to help you. But I want you to give it a year before you're willing to say, I'm not going to do it anymore. Or this therapy sucks. Now, most people get better way before that. But me, for example, it took me 18 months to get over my environmental allergies. You know, my hay fever, the grasses, the dogs, the trees, the bushes, the shrubs, all of that,

Dr. Kent Holtorf ([00:28:46](#)):

You stuck it out. But the thing is, it's not incredibly expensive. It's not a huge hassle.

Christopher Wakely ([00:28:51](#)):

Yeah, it's once every seven weeks.

Dr. Kent Holtorf ([00:28:55](#)):

Yeah. And it's just so tiny. In fact, I brought some, I went to a conference a couple of weeks ago and one of the docs hadn't done it, I said, I'll just bring some in my bag and give it to you. Yeah.

Christopher Wakely ([00:29:10](#)):

It's been really helpful for strep, especially in kids because you can do it sublingually you just give them a squirt and I have had scores and scores of parents tell me, wow, that strep remedy that really helped with their agitation, with their mood...

Dr. Kent Holtorf ([00:29:29](#)):

That for kind of general kids, or is this like the PANDAS kids and PANS?

Christopher Wakely ([00:29:36](#)):

Yeah. I mean, I don't do any well child exam, unfortunately. So the kids that I see are usually PANDAS, PANS, somewhere on the spectrum. But it can also be good for, you know, patients who say, Oh yeah. I have strep throat twice a year. My tonsils are a hot mess.

Dr. Kent Holtorf ([00:29:56](#)):

Yeah. That's what I was wondering if you're talking about, I haven't seen someone use it for that. That's what I was wondering. So, about autism, tell me about your experience with autism. What are some things you've found helpful? And let's say, I think that there are so many parents and the standard, what you do for your autistic kid is terrible, barbaric. When they come in what types of things do you generally do and what you generally see and tell them what to expect?

Christopher Wakely ([00:30:34](#)):

Boy, that's a good question. And it's obviously going to be different in every kid. I'm always looking at the gut, because usually they're gut's a mess. A lot of times we will put them on either Ketotifen, that old school antiallergic, because usually there's a little bit of a mast cell piece, which is just another symptom of something bigger. And one of the biggest things that we've seen to be helpful is treating infections. And that's hard to diagnose, right? Because they're little kids, they don't like to get their blood drawn. We'll do an OAT test, an organic acid urine test on them. We'll usually do a stool test. I like the GI map right now. I mean, no stool test is perfect, but I think that one's pretty good.

Christopher Wakely ([00:31:27](#)):

We're checking for things like parasites, candida, different neurotransmitter issues. But really infection. And when you start treating the infections they'll sometimes get a little bit worse. You know, you get a little bit worse before they get better, but once you get that load down and you can use a whole bunch of different things to treat them, I mean, you can use herbs, you can use peptides, you can use tinidazole or albendazole or biltricide . Not really so much antibiotics. I don't use a lot of antibiotics.

Dr. Kent Holtorf ([00:32:08](#)):

How young do you treat?

Christopher Wakely ([00:32:11](#)):

My youngest patient right now, I think he's going to turn four in a couple months.

Dr. Kent Holtorf ([00:32:19](#)):

Do you like stem cells exosomes?

Christopher Wakely ([00:32:22](#)):

You know, I do, but I don't have any experience with it yet. Just theoretical experience. So unfortunately I can't speak to that, but I've heard great things about it. I think, from what I have seen, now this is just my own personal bias, sometimes I feel that parents will take their kids to get stem cells too soon and it can flare them. And to me that means that there's some sort of infection there, a latent infection, that hasn't been treated and they get a flare and I've had a couple patients say, yeah, my kids were way worse after that.

Dr. Kent Holtorf ([00:33:07](#)):

And that's the last thing you want to do. And it's like looking at their labs. I was, when I first started treating autistic kids, it was just kind of like started out with a Lyme parents saying Hey, can you treat my autistic kid? I was like, okay, let's see, I was like damn these labs look just like your labs, you know?

Christopher Wakely ([00:33:25](#)):

Right.

Dr. Kent Holtorf ([00:33:26](#)):

And they got that immune dysfunction and I think a couple of things really, where I love exosomes and stem cells in those kids, but we really started with peptides first, C Lank, C-Max, inaudible, TB4, PPC, Pitocin, which is like the bonding hormone, love that, gut, of course, you know, so their gut...And it's just, I think even more satisfying, like treating a Lyme patient, getting them better is satisfying, but seeing an autistic kid get so much better. It's like, that's a feel good thing it's like, wow. You know, because it affects so many people's lives, not only the kid, but the families and it is so stressful. Yeah.

Christopher Wakely ([00:34:19](#)):

Well, I couldn't imagine. I mean, you've got a kid that you want to get better so that they can live a healthy and happy life. And, even above that as a parent myself, I'd be worried like I'm going to die someday, you know? So I'd love to get you to a place where you could be normal, typical, and kind of function on your own.

Dr. Kent Holtorf ([00:34:45](#)):

Yeah. And I mentioned on a our previous one, one of our patients that brought her kid in you could not touch him, could not get close to him, F bombs so you'd bring him in beforehand, she sent videos of him playing basketball, which is just him looking forward and the basketball going by. After, I'm not sure how long, but maybe six months, we started seeing big improvements, like nasal exosomes, peptides, gut stuff on T3, T3 works great in those kids. Low cortisol, growth hormone is great. They're almost all low growth without (inaudible) dysfunction. He now comes in and says can I have a hug, he gives his own shot. He jokes, he's sarcastic.

Christopher Wakely ([00:35:35](#)):

Yeah, that's huge.

Dr. Kent Holtorf ([00:35:35](#)):

He's playing basketball, gymnastics. And it just like, you can't believe it's the same kid.

Christopher Wakely ([00:35:47](#)):

Right? It's amazing. I feel like these kids are harder to treat than what they were, I mean, I wasn't practicing medicine 20 years ago, but from what I've heard from other doctors who do a lot of autism, one of my colleagues, Dr. Dirkson, I work in her clinic. She's treated autistic kids for a long time. And she said, yeah, it's more complex now than it used to be. You know, you used to put them on a little bit of B12 and a probiotic and they would get better. And now it's much more complicated. And I think that's...

Dr. Kent Holtorf ([00:36:23](#)):

I think they're being poisoned even more and more. And one thing I couldn't believe, looking through studies, and so many studies are pointing to Tylenol maybe being the number one cause of autism. I'm like, why isn't this all over the news? And they're handing out Tylenol like crazy, like don't get Advil, give Tylenol. It's nuts. And of course the whole vaccination controversy become crazy anti vax. I'm not anti vax, but why are we giving kids hepatitis B vaccines, right when they're born, what are they going to start going into prostitution and doing IV drugs? I mean, it's crazy.

Christopher Wakely ([00:37:04](#)):

When you look at the immune system of a kid, I mean the immune system doesn't really fully 100% develop until they're about seven years old. So I don't know. I think it's a little nuts, but time will tell.

Dr. Kent Holtorf ([00:37:16](#)):

Yeah. And it really depends on, also the mother's stress level. We're starting kind of a vaccine risk mitigation looking at the kids immune system. And if their immune system's way off, they're much more likely to get vaccine damage. And then you look at a huge risk factor for autism that is not controversial, maternal infection. Right. And so the baby now has the same immune response. Cause all of those same cytokines are in there. So the response is very strange to me. They say, well, see, that's why they need to get a vaccine. Well, wait a minute, the vaccine is making them think they have an infection. So it's just like mind boggling, but yeah. You know, you get into that and you become...

Christopher Wakely ([00:38:17](#)):

Yeah, gotta watch out.

Dr. Kent Holtorf ([00:38:17](#)):

It's the politics, unfortunately. And I love medical debates, but unfortunately, it's rare. Everything becomes very political and..

Christopher Wakely ([00:38:21](#)):

Right. People take it very personal too, you know?

Dr. Kent Holtorf ([00:38:24](#)):

So back to the title. So how about fatigue. A person comes in, I'm fatigued, Oh my God. I'm just so tired. it's been progressive over the last three, four years. What type of things do you look for?

Christopher Wakely ([00:38:38](#)):

Well, aside from the things that I've already talked about, immune system and making sure that their organs of elimination are working and treating latent chronic infections, and you mentioned hypercoagulation, that's a big deal in my practice. You've got to look at that thick layer of fiber that's getting laid down. I think heparin is great. Even sublingual heparin I've seen work. But if somebody is coming in with fatigue, then obviously I'm going to be thinking about, well, what's going on with your mitochondria. What's going on in your intracellular and extracellular environment that you're not able to kind of function at the level that you want to. So, you know, we'll do a lot of different IVs. We'll put them on different mitochondrial formulas. I think there's some peptides that have been really helpful aside from the ones that we've already talked about. I think thymosin alpha one, when a patient first comes in, is a really good opener just because you're dealing with senescence and kind of removing that camouflage, if there are any latent infections there. I think Mont SC, you know, as an exercise mimetic, it ramps up AMPK, there's been a lot of different things.

Dr. Kent Holtorf ([00:39:56](#)):

Yeah. So, talking about Mont SC, there's so much research now going on on mitochondrial dysfunction and you look at just about every condition, especially diseases of aging, neurodegenerative diseases, diabetes that mitochondrial dysfunction, the mitochondria aren't burning energy, they're basically causing inflammation. And so some of these peptides, like Mont C, 5 Amino 1 MQ, I don't know if I put Dihexa in there, can really make all the difference. There are a lot that are in clinical trials for Alzheimer's and these things, but we've had great results with some of those mitochondrial peptides.

Christopher Wakely ([00:40:49](#)):

Yeah. The problem I had with Mont SC, well, I didn't have the problem, my patients had the problem, is that the form that we were using seemed to be a little bit finicky, you've got to draw it

up, you got to use it within a certain time and having to reconstitute different things. And, I don't think that their...that's not working great.

Dr. Kent Holtorf ([00:41:08](#)):

Yeah. 5 amino 1Mq is great, but it's really a new drug, you know.

Christopher Wakely ([00:41:18](#)):

Yeah, I haven't used that.

Dr. Kent Holtorf ([00:41:19](#)):

Yeah. And, I won't go through the politics of that, but, I've had peopel with OCD, two days it's gone.

Christopher Wakely ([00:41:30](#)):

Wow.

Dr. Kent Holtorf ([00:41:31](#)):

I've had one of our employees kids, she was in college, pulled out all of her eyebrows and within just a couple of days on it, she stopped. . Crazy. And seeing like diabetics their triglycerides coming down, their energy levels going up. Also the thyroid, all these people are living with thyroid dysfunction, which comes from mitochondrial dysfunction, the thyroid is not getting into the cells. So it's all that vicious cycle.

Christopher Wakely ([00:42:06](#)):

Yeah. I think T3 is really helpful. When I dose it with patients I always, I try and do it twice a day. I don't know. You're much more well-versed in the thyroid stuff than I am.

Dr. Kent Holtorf ([00:42:19](#)):

There's arguments to everything. Like, it's good for this, but you give up, you know, anytime you do something twice a day the patient rarely does it, but yeah, you want to be perfect, good. I'm not trying to, I guess it doesn't sound right, but I know there's a lot of ways to do it. That's kind of like asking a chef what's the best way to bake a cake. Right, you ask five you're going to get six different answers.

Christopher Wakely ([00:42:52](#)):

You know, the other thing just to get back to the fatigue, that I haven't really mentioned is looking at heavy metals. I've seen that be a big cause of fatigue. I know that's been around in alternative medicine for a really long time and I feel like more and more practitioners are starting to kind of get away from it just because there's some heat associated with the treatments, you know you've got to be careful...

Dr. Kent Holtorf ([00:43:17](#)):

Anything that works, there's going to be heat. And I've kind of mentioned this maybe too much, but everything's at risk of going away.

Christopher Wakely ([00:43:25](#)):

Yeah, and what are you going to do?

Dr. Kent Holtorf ([00:43:26](#)):

It's gonna kill all these patients that it's changed their lives. Then also all the practitioners, all the suppliers, all the compounding pharmacists, and it's the FDA, it's basically big pharma owns them. They're the Bulldogs for the FDA. And especially if something is helping someone and is safe, they're going to try to shut it down.

Christopher Wakely ([00:43:54](#)):

Well, we we've seen that even with some of the, some of the peptides.

Dr. Kent Holtorf ([00:43:58](#)):

Yup .And the politics I could certainly do without. Let's see, brain fog. What are some of your things that you like?

Christopher Wakely ([00:44:11](#)):

Well, since I'm thinking about peptides, obviously C Lank and C-Max would be a really good place to start. I think C-Max is really important for cognition. You've probably read that mouse model study that was done, where they gave rats the infusion of lead and then put them through a maze test. Right. And their learning and memory went way down. And then they split the group. They gave half of them C-Max and the other half high dose vitamin C based on their weight and the group that got C-Max, their cognition improved just as well as it did with high dose vitamin C. So I think that's a really big deal. I think making sure that patients, if they've got fatigue, chronic pain, fibromyalgia, they need to be on a good diet. You know, you can't be feeding your body a bunch of crap and expect to get good gas mileage out of it. Right. You need to be living a clean life. You need to be exercising. Exercise is a huge thing.

Dr. Kent Holtorf ([00:45:18](#)):

We got peptides now that makes your body think that you're exercising and that you're fasting.

Christopher Wakely ([00:45:22](#)):

Right, who needs it?

Dr. Kent Holtorf ([00:45:25](#)):

I Wake up religiously and do a shot (laughs). But with the C Max and the C Lank, they're interesting, and the C Lank really seems also help tolerate stress as well. And, [inaudible], ever use [inaudible].

Christopher Wakely ([00:45:44](#)):

Yeah, when we could get it, yeah.

Dr. Kent Holtorf ([00:45:47](#)):

Which really can't get injectable anymore, but you will be able to get it orally, which has shown to work with EEG studies, where one cap equals about two ccs. But that's been around forever and tons of studies on that. I think too, we're going to find, with all these chronic illnesses, people are living longer, there's going to be so much dementia or Alzheimer's and you look at the studies with, oh, what's his name, Harvard brain bank, but he found Lyme in all these Alzheimer's patients. And, you're getting, basically prions or these misfolded proteins, which are actually part of Alzheimer's from infections. And, it's crazy. The more we know it's a little scary. But it seems like there's things that we can do to start now, instead of waiting till there's basically nothing you can do

Christopher Wakely ([00:46:55](#)):

Right. CBD has been pretty helpful for a lot of my patients too, like 20 to even 40 milligrams a day. It's kind of high. They say it doesn't make them drowsy.

Dr. Kent Holtorf ([00:47:08](#)):

Now do you find a difference broad spectrum versus...

Christopher Wakely ([00:47:14](#)):

We use the broad spectrum. That's the one that we have in our clinic. Am I allowed to say brand names here?

Dr. Kent Holtorf ([00:47:23](#)):

Yeah, that's fine.

Christopher Wakely ([00:47:23](#)):

We use the Endoca product. I don't have any affiliation with it.

Dr. Kent Holtorf ([00:47:29](#)):

As long as you're not selling it, you don't own the company, so.

Christopher Wakely ([00:47:31](#)):

Nope. They've said that's been really helpful.

Dr. Kent Holtorf ([00:47:35](#)):

Endoca? There's actually, I mean, they know their stuff, it's amazing but I found, I think some people do better with a little TCH. If I have the most minute amount of THC I'm like freaking out, you know? So that's not for me, but some of the Lyme patients, they do better with the THC. But I think CBD is another great anti-inflammatory and has a lot of great properties.

Christopher Wakely ([00:48:05](#)):

I think binders are a big deal too. We haven't really talked about binders. I use a ton of binders. I mean, almost every single patient that I have is on some sort of binder and they...

Dr. Kent Holtorf ([00:48:17](#)):

Which ones in particular, do you find for one patient you use a particular type, cholestyramine or...

Christopher Wakely ([00:48:23](#)):

Yeah. Cholestyramine's tough. You know, I like it. I mean, it's probably the best binder there is, especially when you're talking about mycotoxins and things, but it's so constipating, smells like crap, patients don't like it. So I'll use Tox-Ease Bind, that's a product. Again, I don't have any affiliation with any products at all. That's been really good and it's non constipating.

Dr. Kent Holtorf ([00:48:50](#)):

Can you go back and say what is a binder?

Christopher Wakely ([00:48:54](#)):

Yeah, a binder is a sponge. That's what a binder is. A great example is charcoal. Charcoal is a binder, right? It's going to bind up toxins that are in the gut and put it in the sponge and then you're going to excrete it. Patients will say, well, how is that going to help me systemically? You know, if it's just staying in the gut? Well, there's only one cell layer between the lumen of the GI tract and the blood system. So I think that it's having some synergistic effects with how people are feeling neurologically. I think Zio bind is helpful. Sometimes chlorella is really good, even if they swallow it and not chew it. That's been really helpful for brain stuff. Charcoal is a big deal.

Dr. Kent Holtorf ([00:49:46](#)):

Yeah. [inaudible] What are some of the mild ones that people can start with?

Christopher Wakely ([00:49:51](#)):

Well, if we're talking about mild, yet effective, I would put chlorella in that category. And the way I dose it is usually like nine tablets, three times a day, modified citrus pectin...

Dr. Kent Holtorf ([00:50:09](#)):

That's a lot, and then this binding, all the other stuff drawing a bunch of stuff...

Christopher Wakely ([00:50:14](#)):

The thing is if you're doing it three times a day, it's a pain in the tush because you've got to take it..I always tell them, take it 20 minutes before you take anything else. That seems to be enough time for that binder to get in the GI tract and not bind up other things. 20 minutes before or 60 minutes after. And I know there's controversy around that. Modified citrus pectin, I think is a fantastic binder. There's been research on that showing, what is it I'm having a brain fart here, I think it inhibits galectin three, which we know is important in cancer progression.

Dr. Kent Holtorf ([00:50:50](#)):

Yeah, that's a [inaudible] product. Yeah.

Christopher Wakely ([00:50:54](#)):

Yeah, exactly. And then there was that study that they did in China, where they looked at lead excretion. It wasn't a great study because there was no placebo group, but their urine metal levels went down, their cadmium, their arsenic and their lead levels. And that one's easy. It tastes good. You know, if you use the clinical synergy or something like that, kids love it, that little orange flavored tablet.

Dr. Kent Holtorf ([00:51:16](#)):

I haven't used that in awhile. It's been in my bathroom for a long time. But yeah, it is. I mean, the problem is there's so many great supplements, but it reminded me, you were talking about sublingual heparin, and it's very low absorption, but I read a study last night or maybe this morning, but they gave ultra low molecular weight heparin with kythosin and they got significantly more absorption and they were looking at mast cells. And, you know, if you talk to the mast cell guys heparin's evil, right? Oh my God, they check it with mast cell activation and it's high, and the mast cell group are very intelligent people. And I'm like, you can kick me out of the group, but I use heparin on these mast cell patients, and I'm telling you they do better.

Dr. Kent Holtorf ([00:52:12](#)):

And even they kind of convinced me, Oh, you can't do that. I started trying to take the patients off and switch them to, like, Lovenox, and they said I'm not going off. Are you crazy? But this study actually showed with sublingual with kythosin, suppressed mast cells with the heparin. So that's part of the effect that we find, and I think you find that treating someone with shortness of breath, you give them a little heparin, my shortness of breath is gone, you know? And obesity patients and things like that.

Christopher Wakely ([00:52:44](#)):

Well, we've had patients in the IV room before who feel like they're going to vasovagal. They have a little bit of a panic attack and we'll give them a squirt of sublingual heparin and it'll pull them right out of it. I mean, maybe it's placebo. I don't know, but I, haven't not had it work yet.

Dr. Kent Holtorf ([00:53:03](#)):

I love that. What made you do that?

Christopher Wakely ([00:53:07](#)):

I was at a conference a few years ago and Butch Schrader, Dr. Schrader, was talking about LDA and LDI and what to do to pull somebody out of a flare. And I kind of pulled him aside, I think, and asked him, I don't think he said it in front of the group, but he said, give them a sublingual heparin and see if it works. And so I just said..

Dr. Kent Holtorf ([00:53:28](#)):

You're like Say What?

Christopher Wakely ([00:53:28](#)):

Yeah. And it's so easy, you know what I mean? Very low risk when you do it.

Dr. Kent Holtorf ([00:53:36](#)):

All right, and I was going to say, I feel vindicated. I'm telling you, it's been thought to be bad and it's a mainstay. When people have coagulation I have to tell them there's bad news and good news. The bad news is that you've got coagulation. The good news is you've got coagulation problems and we can clear this up, heparins, use enzymes as well, nanokinase, lumbokinase. But I think that you can use them together. I'd say for someone that has active, I think heparin really just outperforms the enzymes, but to keep it away, I think enzymes are great.

Christopher Wakely ([00:54:17](#)):

Yeah. How are you, how long are you having somebody on enzymes before you start to see coagulation stuff turn around?

Dr. Kent Holtorf ([00:54:27](#)):

Uh, you're putting me in a tough place. I mean, I usually will start heparin right off the bat. I try to find a reason to give heparin.

Christopher Wakely ([00:54:38](#)):

Yeah. I think it takes too long with the enzymes. I love them. I love the idea of it. And Coursin's work is amazing. She's wicked smart. Sorry, that's my New England coming out.

Dr. Kent Holtorf ([00:54:47](#)):

Yeah. I'll add it with it and sometimes not, and then kind of use that to keep it away. Because once you kind of get it away, they do pretty well for awhile. Unless they have reactivation of it, because it really only comes up - if it's just sitting there and lying in the vessels and the infections are hiding in there. And so for everyone listening, so what happens, it's called reactivation of coagulation, a number of infections can do it, especially Babesia is a big one. Lyme, even some of the viruses, is that the body tries to lay down this fiber to wall off the infection, which is good in the short term. But now it has, it's not a clot, but it's kind of a pre clot. So now hormones can't get through nutrients, can't get through waste products can't get out.

Dr. Kent Holtorf ([00:55:35](#)):

and the body can't really get at the infection. Then also oxygen that takes usually two seconds to get in the cells, not it takes up to two minutes. So people get short of breath. And a little parlor trick that you can do to show patients, and it's pretty consistent but it does depend on the people, basically how motivated they are, is you put a Pulse ox on them. Right. You blow up all your air

and hold your breath. And so a normal person, you have the oxygen now normally comes from your lungs into the blood, goes into the cells and gets used up. Okay. So that would go down. But you're breathing and it replenishes. So if we cut that off, that saturation should go down. So they start dropping, but people with coagulation, they barely drop. They'll stay at 96, 95, they don't go down. The standard Doctor will say well, that's great, you've got all this oxygen in the blood, but it's not getting into the tissues. And so it's a little thing to show the patient, we'll deal with the patient and then their friend, and they'll see, there's basically it's flat line and their friends goes down and they think, well, mine's better. No, because the oxygen is not getting where it should be.

Christopher Wakely ([00:56:58](#)):

I think ozone is really helpful too for increasing oxygen utilization. And plus it stimulates NAD, which is a big deal. That's been a big help in our practice for mast cell activation syndrome.

Dr. Kent Holtorf ([00:57:11](#)):

Yeah. We love ozone and you're right. It's an immune modulator, what's weird, you're giving an oxidant but it stimulates antioxidants. It converts to oxygen in the tissues

Christopher Wakely ([00:57:27](#)):

Instantly, instantly like within milliseconds.

Dr. Kent Holtorf ([00:57:31](#)):

And, so, there's so many great properties and, you know, Rowan going over to Sierra Leone to treat ebola.

Christopher Wakely ([00:57:40](#)):

I know that was cool.

Dr. Kent Holtorf ([00:57:41](#)):

Yeah. And, it's pretty much a mainstay for our practice. It works with a lot of things. Auto-immunity, immune dysfunction, chronic infections, mitochondrial dysfunction. Yeah. You name it.

Christopher Wakely ([00:57:59](#)):

Even we've had patients with PANS/PANDAS flares, they come in and they get a little bit of ozone. They walk out better.

Dr. Kent Holtorf ([00:58:08](#)):

Yeah. I love that for auto-immunity. The BPC TB4, [inaudible] is also great, it kind of gets a little complicated, but...and then stem cells. Awesome. And then the bone marrow ones, the one thing I think they're better at doing is immune modulation for autoimmunity. Most standard doctors think that you can't do much about it, Oh, you've got autoimmunity, dah dah, dah, but almost always you can reverse it. And when you look at the studies almost always there's a chronic infection driving the autoimmunity. And you look at the Lyme patients and they go to the rheumatologists, they say, Oh, they got mixed connective tissue disease, which means they have all these different antibodies, but it doesn't fit in any category and they get, [inaudible] lipid syndrome and they go, Oh, all these things are genetic. No, they go away, you know? Again, it's a part of that immune dysfunction.

Christopher Wakely ([00:59:14](#)):

Well, and if you've got viruses that are living inside your cell, because the virus is just a parasite, that's all it is. Right. It needs a host in order to be able to do its thing then, or even the Spirochete, then of course your immune system is going to become activated and say, Hey, you're a bad cell. Right. And then if you add on to that, you're looking at things like all of the toxicants that are in the environment from chlorine to whatever, you know, chlorine is displacing iodine in the thyroid cell. And of course your immune system is going to look at that and say, Hey, you're not functioning right.

Dr. Kent Holtorf ([00:59:54](#)):

And highly associated with auto-immunity. And it's interesting. And they did some studies on obese children and looked at Hashimoto's and they found that majority of obese children had Hashimoto's with negative antibodies. And also another study, they did thyroid biopsies on people who were just fatigued and they found inflammation in the thyroid treated with thyroid regardless of their thyroid levels and the overall majority got significantly better. Another study showed that people with chronic fatigue syndrome did biopsies had active HHV 6 in their thyroid, but nowhere else in their body. Yeah. And the TSH, of course, is normal...

Christopher Wakely ([01:00:51](#)):

Right. Yeah. Your thyroid's fine. Don't worry about it.

Dr. Kent Holtorf ([01:00:55](#)):

Yeah. And let's see, neurologic symptoms. What type of neurologic symptoms? I always tell patients that the weirder, the symptoms, the more likely it is it's Lyme.

Christopher Wakely ([01:01:09](#)):

Yeah. I'd agree with you. So are you wondering what kind of neurological symptoms that I see in my practice?

Dr. Kent Holtorf ([01:01:17](#)):

Yeah. What do you see?

Christopher Wakely ([01:01:18](#)):

I mean, we, we see a lot of it, so, you know, anxiety..,

Dr. Kent Holtorf ([01:01:22](#)):

You do a lot of injection, you're saying

Christopher Wakely ([01:01:24](#)):

I do a lot of injections. I guess I don't understand the question. Can you ask it again? I want to make sure I'm clear.

Dr. Kent Holtorf ([01:01:31](#)):

Yeah. Like what type of neurologic symptoms you see with Lyme patients, I kind of switched the question too, Do you do a lot of injections, what injections do you like for pain. So I kind of mixed the two. Okay. So you can do part A or B

Christopher Wakely ([01:01:47](#)):

Yeah, well I can hopefully briefly answer both of them. So for neurological stuff, we run the gamut. You know, we have everything from anxiety, depression, anger, irritability, OCD, paranoia, I mean full on paranoia, to just kind of your regular anhedonia and not really feeling good about life, other neurological things like twitching, muscle cramps. Usually our patients, when I do a muscle strength test on them or check their reflexes, they're always abnormal.

Dr. Kent Holtorf ([01:02:27](#)):

Do you see fasciculation a lot?

Christopher Wakely ([01:02:29](#)):

Yes. Especially early in treatment. And then when we work on the infections, that gets way better.

Dr. Kent Holtorf ([01:02:40](#)):

Yeah. And so that's basically where your muscles kind of look like a bag of worms type thing. And it's basically [inaudible] for an upper neuron disease. And I had terrible fasciculation, so I'm like, Oh my God, I've got upper neuron disease. But it's amazing everything that Lyme does, but it's attacking the nerves, you know?

Christopher Wakely ([01:03:01](#)):

Right. Yeah. What did you - so that happened to you?

Dr. Kent Holtorf ([01:03:03](#)):

I had terrible fasciculation, yeah.

Christopher Wakely ([01:03:03](#)):

And what was the thing that helped treat that for you?

Dr. Kent Holtorf ([01:03:11](#)):

Well, yeah, three and half years of antibiotics did squat, really peptides STEM cells, ozone, we did a lot of things, but those were the three key things that got me better, and throw T3 in there too.

Christopher Wakely ([01:03:30](#)):

Yep. Okay. Cool

Dr. Kent Holtorf ([01:03:32](#)):

and heparin, so I did a lot, but those, I remember I went into heart failure and I couldn't stand up straight, it would take me 40 minutes to go upstairs. I went and did ozone, stem cells. I didn't do it on the same day, but I did, stem cells and peptides, and then I got home and I just walked up the stairs. I'm like, Holy crap. I just walked up the stairs, you know? And then the cardiologist said that you can maybe get 10% better in 10 years and I'm hunched over in his office not being able to walk and he's like yeah, maybe 10% better in 10 years. I'm like, that's a death sentence, you know? Then I go back in a year and I'm like normal and he goes, Oh, that's nice.

Christopher Wakely ([01:04:24](#)):

Yeah. That's crazy. Thanks for sharing that. I was curious what your experience was with that. In terms of your second question, treating pain. Yeah, I do a lot of injections. I'll do Prolozone. I'll do neural therapy I'll just do injections with 5% dextrose. Sometimes I'll mix in a little bit of procaine.

Sometimes I'll do a little bit of lidocane. Injections have been really helpful because you're bypassing the gut when you do an injection on somebody, and if you do it intradermally, right underneath the skin, then you're treating the nervous system, right? Because, you know, that's where the autonomic nervous system is, and there's not a place in the body that isn't being fed in some respect by the autonomic nervous system.

Dr. Kent Holtorf ([01:05:16](#)):

And then when you're doing ozone are you going into articular or soft tissue, or..

Christopher Wakely ([01:05:22](#)):

Yep, all of the above.

Dr. Kent Holtorf ([01:05:25](#)):

All of the above? You know, what's interesting, and now I'm very used to it, and even talking to some anesthesiologists who are now doing more of thism like my buddy, who does stem cells, exosomes, he just does subcutaneous and he will give the people's money back if they're not significantly better before they leave the room, not even the office. And we have one doctor say oh that's crazy, and he goes "come here," and he had a frozen shoulder, which I didn't know. I knew him, but I didn't know. And so he does it and he's like, well, nothing's happening. And he goes, okay. And it's like (raises arm), then he goes, ah, I dunno, then he walks out.

Christopher Wakely ([01:06:10](#)):

And that was just subcutaneous exosomes?

Dr. Kent Holtorf ([01:06:13](#)):

Yeah. Yeah.

Christopher Wakely ([01:06:13](#)):

Unbelievable.

Dr. Kent Holtorf ([01:06:15](#)):

Yeah. And no, he added some peptides to it too, but, and it just he consistently gets it, he gives that guarantee. And I know a lot of anesthesiologists who are converting to that, which is like heresy, you know?

Christopher Wakely ([01:06:31](#)):

Right. Yeah. I think injections are really helpful. It's a little bit of a barrier for the patient, it's an added cost sometimes and somewhat barbaric, right?

Dr. Kent Holtorf ([01:06:46](#)):

But Hey, sub Q is a lot easier than intraarticular.

Christopher Wakely ([01:06:52](#)):

Yeah, but when you've got somebody who's got chronic knee pain and you've got infection that's living in the joint because it's immune system poor, and there's a ton of highly uronic acid in there, which we know bugs love to eat, if you can go in there and put a little bit of ozone, they're going to respond really well. I mean, I would say I probably had 85 to 90% success rate just in terms of people being able to walk downstairs and bend down and get stuff out of the cupboards. Sometimes it's just after one injection.

Dr. Kent Holtorf ([01:07:31](#)):

Yeah. Yeah. I mean, I was, this was 20 years ago, told I needed a hip replacement. And I was however old I was, young, and the orthopedist is limping by the way, and he's like, yeah, you need a hip replaced. I'm like what about PRP and Stem cells and ozone, he said it doesn't work. And then I'm like, what are you recommending? He's like, so this is the surgery we're going to do. And he goes, I had the same surgery. I'm like, well, what's wrong with your leg? He says, well, my bone collapsed, I was in traction for four months, I got nerve damage. I'm like, okay. And then I go and do combination initially PRP, stem cells, ozone, then later on we did silver peptides. And those were probably within a year, I mean, three or four injections, 70% better. I couldn't even tie my shoes. And then second year, 80%, 90% now I haven't got an injection and five years, you know?

Christopher Wakely ([01:08:39](#)):

Wow.

Dr. Kent Holtorf ([01:08:40](#)):

Yeah.

Christopher Wakely ([01:08:42](#)):

We've talked a little bit about TB4, but TB4 has been great for pain and BPC 157, whether you're doing it interdermally or I hve found that to be really, really useful.

Dr. Kent Holtorf ([01:08:59](#)):

Yeah. And it's actually equally potent orally for systemic, yeah...and they both, there are more studies on TB4, but a lot of people feel BPC. They tend to have the same effects with different mechanisms. So their great to use together.

Christopher Wakely ([01:09:12](#)):

Yeah. I love it. Yeah. There's a lot of studies on TB4. I was reading some stuff it's anti-fibrotic, we know it's antiviral. There was that study that found it to be liver protective.

Dr. Kent Holtorf ([01:09:26](#)):

Your partner was saying, I guess, she uses more TB frag and I think you use more TB4

Christopher Wakely ([01:09:32](#)):

I'm switching now though. I like the frag better. I feel like patients tolerate it a little bit better. When I was doing TB4 the injection, I was doing that big loading dose in the beginning, and then 20 lines or 0.2 mls every other day or however I was rolling it out. I was having a lot of patients Herx on that.

Dr. Kent Holtorf ([01:10:02](#)):

Yeah. Yeah. So I talked to you about how TB4 [inaudible] acid, has multiple domains and one of the domains stimulates mast cells. And so, in general, you give TB4 to mast cell patient and in general, they're going to do better because of the remodulation, but you've got a competing effect if it's directly stimulating the mast cells. So the TB4 frag takes out that domain of stimulated mast cells, but if you have a look at the studies, the immunomodulatory, anti-inflammatory, the healing, anti-fibrotic. Then there's a different frag in a different domain that stimulates hair. So, if you want to grow hair, it's probably better to use the frag cause it can get into the scalp better than the long peptide chain.

Christopher Wakely ([01:10:54](#)):

Very cool. I didn't know that about the hair.

Dr. Kent Holtorf ([01:10:56](#)):

Yeah. So, I mean, I would be bald. I've had hair transplants I don't know how many years ago? And I'm not good looking enough to pull off the Vin Diesel. And then I got a big scar, looked very like I had brain surgery, so I'm like, I gotta get my hair growing. So this is actually the thickest it's been in 30 years. Wow. That's awesome. And is that just from taking it orally, doing the TB4 frag orally?

Dr. Kent Holtorf ([01:11:28](#)):

And I do a serum on it.

Christopher Wakely ([01:11:31](#)):

Oh yep. Cool.

Dr. Kent Holtorf ([01:11:34](#)):

I do sometimes injections, but I'm wimpy with that, plus with the scar it makes it hurt a lot more. So I don't do that many injections, but I have.

Christopher Wakely ([01:11:44](#)):

What about the GHKCU? Have you seen that helpful cosmetically?

Dr. Kent Holtorf ([01:11:49](#)):

Yeah, I think it's good. It's interesting though, the literature is mixed on really how much it absorbs. So, the GHKCU does seem to absorb much better than the GSK. So if you get that, make sure you get it with the CU on it, but yeah, that's great. Then you had a PTD you can adapt to peptide sometimes to make them absorb better, but you get an increased cost and things like that. Now that sometimes become new drugs. But yeah, I love GHK,, thymulin may be even better than TB4, but the TB4 frag for hair is smaller. So it's going to get in better than thymulin, although thymulin absorbs better than you would think, because it has non-polar amino acids. Oh yeah. You can tell we've been working on this, but we have good results with different serums. So we made the whole gamut, we went from fatigue, pain, brain fog, all the way to hair.

Christopher Wakely ([01:13:05](#)):

Yeah. Toes to head.

Dr. Kent Holtorf ([01:13:08](#)):

So awesome. Yeah. We're in LA, so it doesn't matter how you feel. It's how you look. Right?

Christopher Wakely ([01:13:13](#)):

You got it.

Dr. Kent Holtorf ([01:13:13](#)):

Here with my tooth from Amazon and superglue. Hey, great talking to you. I think we came across a bunch of different pearls and love your approach and you're just helping so many people.

I think your group is awesome, which is rare to get awesome doctors together. So that's great. Thank you for taking the time to be on I'm sure they'll get a lot out of this and we appreciate it.

Christopher Wakely ([01:13:50](#)):

Hey, you're very welcome. Thank you, too, for having me and thank you for everything that you're doing for medicine. You're doing a lot.

Dr. Kent Holtorf ([01:13:58](#)):

Oh, Thank you. Thank you. I appreciate that. You too. Keep up the great work.

Christopher Wakely ([01:14:02](#)):

All right.

Dr. Kent Holtorf ([01:14:03](#)):

All right. Take care.

Christopher Wakely ([01:14:04](#)):

Thanks.