

Peptide Potential for Chronic Illness

Dr. Kent Holtorf interviewing
Dr. Amy Derksen, ND



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

Hi, it's Dr. Kent Holtorf with another episode of the peptide summit. Today we'll be interviewing Dr. Amy Derksen and she'll be talking about peptide therapies for the immune driven conditions, including autism, Lyme, and that hypersensitive patient, so that the patient that everyone hates and has the hardest time treating. But Dr. Amy, thank you so much for being on the summit.

Amy Derksen ([00:00:33](#)):

Thank you for having me.

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

I appreciate you taking the time and looking forward to hearing all your tricks and then how you approach these very difficult patients. But just a little bit of background. Dr. Amy Derksen, she's a former competitive athlete and naturopathic physician. She did hurdles for what college?

Amy Derksen ([00:00:59](#)):

For Western Washington.

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

Western Washington, very impressive. But also did studies in biochemistry and did her medical post-graduate training with Dr. Klinghardt. As most people know, well-known Lyme physician, really cutting edge for over 2 years. She's one of the original doctors with him. She specializes in working with both autism, PANS, PANDAS patients, chronically ill. She's been involved in teaching various topics with Dr. Klinghardt since 2004. She looks much younger, so whatever she's doing is very good!

Amy Derksen ([00:01:42](#)):

[Laughing]

Dr. Kent Holtorf ([00:01:42](#)):

She's been also a speaker at autism one, Academy of Comprehensive Integrative Medicine, American Academy of Restorative Medicine with Scott Forsgren, The Form for Integrative Medicine, I think, TFIM, and Hope to Heal Lyme conferences. So she's just really spoken and goes to so many conferences. She's one of the first naturopathic physicians to become a fellow with the Medical Academy of Pediatric Special Needs—wow, that's really nice—and is board certified in Integrative Pediatrics from the American Association of Integrative Medicine, which is typically limited to DOs and MDs. Congratulations. She's also a member of the International Peptide Society, AAM, AKM, so environmental. She's kind of basically—

Amy Derksen ([00:02:43](#)):

A nerd!

Dr. Kent Holtorf ([00:02:44](#)):

Has been everywhere. [Laughing] So name it, she's done it. She's working on really those most difficult patients, the most sensitive, the toxic patients that react to everything. We're gonna get into that. Her typical patients tend to be those that are seen by multiple doctors and specialists. I think you may agree, more and more—like when we did our study 15 or 16 years ago, we published our data, people saw on average 7.2 physicians before seeing us. Now it's like 15.

Amy Derksen ([00:03:19](#)):

Yeah.

Dr. Kent Holtorf ([00:03:19](#)):

Everyone just goes through the—basically specialists. Everyone looks at one little part and they don't get better basically. Her greatest passion is working with PANS, PANDAS patients, and those are very tough and you have the parents and the kids, but I imagine getting them better feels so good. She feels that the more we can understand about our kids, the more we'll understand everyone's health. I totally agree with that. My heart goes out to you and the parents of these autistic kids and the stress that they have to go through. Even the—kind of the courage to go find a doctor like yourself, because they're told, "Oh, there's nothing you can do." How doctors treating autism are maligned, like quackery. It's like, "Well, here's 400 studies showing you this", you know? But anyways, I'm going on. Welcome. Thank you so much for taking the time. She's very good friends with Scott Forsgren, the BetterHealthGuy who is awesome and it sounds like she was instrumental in getting Scott better. So I think that's great. So, yeah, what—we kinda talked about how you got involved in this so-called integrative, alternative space, but when did you find peptides? How did that happen?

Amy Derksen ([00:04:57](#)):

Yeah, so I would go back a little bit. Back in 2014, I started working with low dose antigen therapy. So a little bit about me is I have Hashimoto's, a lot of mold sensitivity, pretty sensitive kiddo, but yet I was a competitive athlete. I feel pretty hardy so I don't—like it's these two dichotomies, right? Of like, "Okay, I'm more sensitive than I want to believe." I think with any of our patients, it's all about the cup is full and it's what's that tipping point that tips them over? Whether it's autism or someone who's exposed to Lyme disease. So I started working with low-dose antigen therapy through the AAM Academy.

Dr. Kent Holtorf ([00:05:39](#)):

Can you just describe that?

Amy Derksen ([00:05:39](#)):

Yeah. So low dose antigen therapy, essentially the whole thought of that—and I'll get into that a little bit later too—but, it is all about retraining the lymphocytes to become more tolerant to the environment and to whatever you expose them to. So it's done as just a little intradermal injection, usually every 7 weeks. As time goes on, you can spread those out further apart. The nice thing is you don't have to do—like in the office, you don't have to do as much testing. You don't have to keep as many antigens there because like the food mix is 300 things mixed together. The environmental mix has molds and pollens and animal dander and all of that same thing, about 300 things together there. So in one little injection you can do all the foods and all the environmental factors. It hurts for like a second, but it's amazing. For me, it was one of those things—I had a goiter for over a year, it was hard and enlarged, I kind of ignored it. You know? I didn't go to a specialist.

Dr. Kent Holtorf ([00:06:37](#)):

[Laughing] You're tough. You're tough, yeah.

Amy Derksen ([00:06:37](#)):

"I'll figure this out. It's gotta be weed or it's gotta be heavy metals or something." But it wasn't changing and my thyroid dose was really inconsistent. I did my first injection of that, not thinking anything, thinking, "Okay, this is another thing I'm excited, but I haven't seen it work and I'm kind of scared of it." My goiter got soft and it shrank within 20 minutes. It was remarkable and it hasn't come back since then. So, although it's actually my [inaudible]

Dr. Kent Holtorf ([00:07:20](#)):

You're like, "Wait a minute. I can breathe."

Amy Derksen ([00:07:21](#)):

I was like, "Oh my God, that's what it feels like to get air in your sinuses." You know? Like a wind—**[Inaudible]**.

Dr. Kent Holtorf ([00:07:27](#)):

Wow. That can make a big difference too. Do you think it was more the foods or the inhalants?

Amy Derksen ([00:07:31](#)):

You know, it was interesting. I think it's the inhalants, but the foods for me uncovered a gluten sensitivity that I had suspected because I had seen the connection with Hashimoto's and all the literature, but it was always this—I wasn't sure that I was really reacting. The whole—when you first do your—you're exposed to your antigens and there's an enzyme in your system, you can be a little more sensitive for a couple of days. I actually ate some gluten and it made me throw up, I thought, "Holy moly." Right? So it was really telling for me, and at that point it's become pretty clear—I also suspect I have a little reaction to potato now over time—that it just wasn't so clear before, but going off that it just really stabilized everything for me.

Dr. Kent Holtorf ([00:08:10](#)):

Wow. I think that's such a great treatment and so safe. I don't know, you may find this too, especially if you have practices that you own with other doctors, like kind of great treatment, but they kind of get away from it for a while, you know? It's just something you use on almost everyone.

Amy Derksen ([00:08:31](#)):

You can use it on almost everyone. So, we're all exposed to foods. We're all exposed to the environment. You can do a chemical mix. Strep is amazing, especially for kids on the spectrum. Like whenever they get agitated or start picking at their lips until they're bleeding or like biting it themselves, the strep or cluster idea can be great. Then I've gotten into the LDI, the low dose immunotherapy, which is more for some of the bugs and you can look up Ty Vincent and the work that he's doing with that. So he's really gone in a great direction with that. So that's a huge part of my entire practice. I have 3 other physicians that work with me. Christopher Wakely will be another speaker for this. So he's in my practice as well and he does a ton of LDA, LDI.

Dr. Kent Holtorf ([00:09:13](#)):

You know what's interesting with LDI? It's—we'll have doctors—like one—people love it or say it doesn't work. I don't know if it's how they're using it. I've been trying to figure it out or if they have enough patience, you know?

Amy Derksen ([00:09:29](#)):

Yeah, I think it's probably how they're using it. And are they using enzyme or are they not? What sort of education are they giving people? What are they watching for? Are they—what kind of doses? Because that's the thing, is there's a wide variety, especially when you get into treating the Lyme organisms. There's a wide variety of—

Dr. Kent Holtorf ([00:09:45](#)):

The complexity is so much more. LDA just—you give it and, you know?

Amy Derksen ([00:09:49](#)):

Right. But when you get into LDI and I've seen some wows with it. Some of my Lyme patients, especially like the Bartonella, the burning gut kind of stuff it's been great. Autologous stool can be really great for the chronic gut issues. For me, learning that then, it just hit home like what an immune component is going on with so many of these infections. Until then I was pretty heavy on antimicrobials, whether it was prescription or herbal. So that really shifted my practice, just seeing how it played out in myself and then trying it with a few of my regular patients was like, "Oh my gosh, this is where you have to start." Calm down the immune system response and then see what's left.

Dr. Kent Holtorf ([00:10:34](#)):

Yeah. I think that's what happened with myself and I can see with patients is that—I was in the massive antibiotics. I'm not giving enough and doing, 5, 7 at a time and just bigger doses if I don't fix the immune system first. I also noticed that like when I would do peptides or any treatment, when I was sick, I would get huge flares, which looked like allergic reactions. But if I wasn't, there was no problem.

Amy Derksen ([00:11:02](#)):

Right.

Dr. Kent Holtorf ([00:11:03](#)):

You know?

Amy Derksen ([00:11:03](#)):

Yeah.

Dr. Kent Holtorf ([00:11:03](#)):

So it shows that—and the problem is the sickest patients are the ones that react negatively, you know? The ones that need it are the ones that react negatively, which makes it tough.

Amy Derksen ([00:11:14](#)):

Yeah.

Dr. Kent Holtorf ([00:11:14](#)):

But yeah, it shows us all the immune system is screwed up. Yeah.

Amy Derksen ([00:11:18](#)):

Yeah. So we integrated that into our practice. Then all of last year and kind of late 2018, I was called in—like probably 25 of us from around the country were called in to work on one case in particular. So someone that could afford this, but that was very sick, a young man who—his symptoms were escalating to the point that he was bed bound, blindfolded, earmuffs—

Dr. Kent Holtorf ([00:11:40](#)):

Oh my God.

Amy Derksen ([00:11:40](#)):

Like basically laying in a bed. So he called all these doctors in to start to brainstorm about that. I was fortunate enough to end up being his managing physician but there was a group. I was co-managing him along with a neurologist who is fantastic.

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

That's an oxymoron, usually.

Amy Derksen ([00:12:01](#)):

Hm?

Dr. Kent Holtorf ([00:12:01](#)):

That's usually an oxymoron, I don't mean to put anybody—

Amy Derksen ([00:12:02](#)):

No, I know. Right? So, I mean, it was so fun. I was—it was like my nerdy dream job.

Dr. Kent Holtorf ([00:12:10](#)):

That's nice. What you said 25 physicians?

Amy Derksen ([00:12:13](#)):

So there were 25 of us, and then it was narrowed down—not that we were like—

Dr. Kent Holtorf ([00:12:18](#)):

Was that the Eric Gordon group? The—I'm forgetting the name. Whatever it was, the guy gave a donation to put all the doctors together was that that group? Or is was separate?

Amy Derksen ([00:12:29](#)):

No, separate group. I can't disclose actually because it was for a private patient.

Dr. Kent Holtorf ([00:12:37](#)):

Oh, okay. Great.

Amy Derksen ([00:12:37](#)):

There were some great doctors involved and I think that was nice. Doctors from all kinds of genres talking about this thing, but then it came down to, there were six of us that were really meeting regularly to talk about this case. We had done all the things we knew, you treat the infections, you look at the labs and, "Oh my gosh, maybe **[inaudible]** is the problem. What is it?" Then one of the doctors proposed peptides and I had never heard of peptides and he laid out a few things and what they could do and how it fit with the labs. I got so excited and the International Peptide Society happened to be having their conference two weeks later. So I got myself on a plane, I got so excited about it and how they started working in this patient who is so sensitive—I mean the thought of just doing injections and some of these things.

Dr. Kent Holtorf ([00:13:19](#)):

Wow.

Amy Derksen ([00:13:19](#)):

Nothing was working.

Dr. Kent Holtorf ([00:13:21](#)):

I'm just imagining getting 25 doctors together. Usually it's a battle, you know?

Amy Derksen ([00:13:26](#)):

Oh, gosh, well, right? You're afraid to do something like LDI because it's tough, you know? You're doing a little bit of a dance, but we started the peptides and we saw some things and we discovered some other things going on with the patient, but it really helped to clarify. Just the fact that we noticed something was so exciting in a patient like him, who was so immune activated, right?

Dr. Kent Holtorf ([00:13:51](#)):

Where you can't do anything and this allowed you to at least try something—**[Inaudible]**.

Amy Derksen ([00:13:54](#)):

It allowed us to try a lot of things.

Dr. Kent Holtorf ([00:13:54](#)):

It allowed him to calm down enough to—that's awesome.

Amy Derksen ([00:14:00](#)):

We saw some changes. Then the other three doctors in my practice also got on board and I'm really spoiled. I have a group, there's four of us, I trust all of them. We all bring a little bit something different to the table and we meet every week. So we've gone to a bunch of conferences, but we meet every week and we get to talk about—especially as we were just getting into this, what were we seeing with our patients? What are we trying on a dose? What's working? What backfired on us? Like, "Oops, okay. This is what it looks like when you do too much." You know? I put myself—I don't like to think of myself as an autoimmune patient—I put myself on 5 peptides at once as injections just to start with, because I can. Flared the heck out of myself!

Dr. Kent Holtorf ([00:14:38](#)):

Yeah.

Amy Derksen ([00:14:38](#)):

It was kind of fun! Right? [Inaudible]

Dr. Kent Holtorf ([00:14:43](#)):

I love that model. You know? It's that collective brain.

Amy Derksen ([00:14:48](#)):

Yeah.

Dr. Kent Holtorf ([00:14:48](#)):

People see this and doctors that can extrapolate, which I have found—and you probably found because you're hiring doctors, so many doctors coming out, they don't understand concepts. They memorize. They can memorize anything, but "Hey, I saw this. Maybe that means this is going on." You know? But meeting with the doctors, that's like an exponential brain and experience. That's amazing.

Amy Derksen ([00:15:14](#)):

Medicine is an art and we deal with pretty sensitive patients. So majority of our practice—so I'm up in the Seattle area, but most people fly in to see us. So, we're not a first stop. I don't have the common cold coming in. I don't have a brand new diagnosed case of autism. We have people who've been through it and they want something. So it's fun to have that and just to have people you trust because this is not easy medicine to do. Right?

Dr. Kent Holtorf ([00:15:39](#)):

No, no, no.

Amy Derksen ([00:15:39](#)):

It's exciting when it works and it's—you question everything when it doesn't.

Dr. Kent Holtorf ([00:15:44](#)):

Yeah. Or it's—I love—we talked about Eric Gordon—I loved one of the lectures he had. "Everything works for somebody."

Amy Derksen ([00:15:52](#)):

Right.

Dr. Kent Holtorf ([00:15:52](#)):

And it is. It's like—and patients go online and you can see they're just almost paralyzed. They have some basically testimonial. "This herb got this patient better." And other people say, "Don't do it." It's tough with all these complex patients. Then they go to their doctor who says, "Oh, it's quackery." You know? So it's tough.

Amy Derksen ([00:16:21](#)):

Right. All you can do is believe in what you do, practice with integrity, do your best to help people.

Dr. Kent Holtorf ([00:16:26](#)):

I think explaining it to the patient, and I tell the doctors, I think first you have to convince the patient they're in the right spot and let them understand why you're doing this and why their Dr. may say, "Oh, that doesn't make sense." Because they don't use that model. But what are some of your favorite treatments? Not peptide wise.

Amy Derksen ([00:16:47](#)):

So, I love—so LDA, LDI. I like low-dose naltrexone. I think it's fantastic. Just if you're looking at something to kind of calm things down.

Dr. Kent Holtorf ([00:16:57](#)):

Immune, you know? Yeah. It's been like—yeah, try that, very safe.

Amy Derksen ([00:17:03](#)):

It's safe. You can do it as a cream. So if it's a child, you can put it on topically if you want one less pill or things you have to mix in. So that's been great. I do a lot of focus on the histamine mast cell piece. So really looking at the variety. I love [\[Inaudible\]](#). I use some Chromelin, but just looking at the variety of the H1, H2 blockers and kind of seeing if you can calm things down and also using some of the natural treatments. Some of the—[\[Inaudible\]](#).

Dr. Kent Holtorf ([00:17:26](#)):

Do you like the bioflavonoids, like Fisetin? I was looking at a study, like all the mast cell guys—like mast cell mastermind guys.

Amy Derksen ([00:17:36](#)):

Yeah.

Dr. Kent Holtorf ([00:17:36](#)):

Afrin, Oh my God, he must do nothing else but answer those questions. But they're kind of stuck on direct mast cell inhibition where I'm like, "Look upstream!" You know?

Amy Derksen ([00:17:47](#)):

Yeah.

Dr. Kent Holtorf ([00:17:47](#)):

And modulate the immune system. Once I looked at—they all have Chromelin, it doesn't absorb well, it's pretty weak. Fisetin—or people pronounce it differently—the bioflavonoids are much more potent, you know?

Amy Derksen ([00:18:05](#)):

Right.

Dr. Kent Holtorf ([00:18:05](#)):

So it's—mast cells are huge, but it goes along with that whole immune dysfunction.

Amy Derksen ([00:18:09](#)):

It goes with the whole immune thing and I think everyone needs to be looking at the gut, you know? So much—I mean, they know so much now about the gut brain barrier, but 80% of our neurotransmitters come from the gut and think of all this stuff that goes in there and the food qualities that have gone down. I've just seen the changes in stool testing over the last 15 plus years. I'm seeing dysregulation of IgA levels now. I'm seeing a lot of **[inaudible]**. Seeing things that I would rarely see before. You're running food allergy panels and it lights up like a Christmas tree. So you're seeing people that are just over-activated, their—

Dr. Kent Holtorf ([00:18:43](#)):

Where they just have like every food, right?

Amy Derksen ([00:18:43](#)):

Every food. It's not—the solution is not taking away every food. It could be let's start some LDA and let's try and heal that gut. Peptides can be great for that. The BPC, I'll talk about that a little bit, but that's amazing for helping to heal that up. But a lot of times, we're having to do some parasite treatments or some herbal antimicrobials, something broad, Rifaximin prescription is

helpful. It's not the end all be all, but it can be a really nice end to your treatment. Then trying to explore—I like the spore-based probiotics. I think they can be good. I'm not a huge probiotic fan in general, just because a lot of them can be triggering but I think there's some newer products coming out that are—[Inaudible].

Dr. Kent Holtorf ([00:19:23](#)):

Yeah. I think that's—we're trying to say, "Hey, the microbiome..." But when you start looking at the virome, you know? I was looking at some studies where it's basically you get these good bacteria where they're making butyrate, which is good, right?

Amy Derksen ([00:19:39](#)):

Yeah!

Dr. Kent Holtorf ([00:19:39](#)):

But if that butyrate level gets too high, it activates a bacteriophage, which is a virus that starts killing that—basically bacteria that's making the butyrate. So the butyrate level doesn't get too high. It's like a computer program, it's nuts. So wait until we get into the virome and everything. But yeah, gut is huge.

Amy Derksen ([00:20:04](#)):

The thing that's been interesting and—I mean, none of us have it figured out yet, but so many of my colleagues—and no bashing of them, but as a naturopath, we're always taught, "Oh, you do some [inaudible] and you do some food stuff." That doesn't always work and you can give all the fancy probiotics in the world and all of this other stuff, and you run a stool test and it still looks terrible. But I've got to say either doing like oral immunoglobulins, like a product that has IgG and IgA in there—

Dr. Kent Holtorf ([00:20:33](#)):

I love it.

Amy Derksen ([00:20:33](#)):

Or doing something like BPC. I have seen some things really significantly change where we're repeating stool tests, but also just looking at symptoms more than anything that things are stabilizing. People are able to eat more food. The other thing to think of is the mental, emotional level and that neural programming. So something like DNRS, Annie Hopper's work, could be amazing. I've had people, when they're ready to do it, it's a hard sell, you know? People want a pill more than a time commitment, at least in my experience.

Dr. Kent Holtorf ([00:21:02](#)):

Yeah. Oh, that's very true. That's **[inaudible]** talking about the gut brain axis, but I think people forget, they talk about how the gut influences the brain, but the brain also influences the gut. So that's where a lot of the studies—you give all these probiotics, but as soon as you stop, it just goes right back.

Amy Derksen ([00:21:19](#)):

Right.

Dr. Kent Holtorf ([00:21:20](#)):

Because the brain—which is kind of like why I like BPC and TB4-FRAG, where it's affecting both sides and you can kind of get, generally, a little more long-term changes.

Amy Derksen ([00:21:33](#)):

Absolutely.

Dr. Kent Holtorf ([00:21:33](#)):

But—and stress, you know? Stress is a killer. How it affects that sympathetic nervous system and causes immune modulation and all that. People kind of think, "Oh, you're stressed, you're a stressed out woman." No, it physically—

Amy Derksen ([00:21:53](#)):

[Inaudible] and it's tough because once you've been ill, your ability to actually make cortisol and handle the stress is less, and less, and less. Then there's also the internal stress of the microbes or the toxins themselves that are stressing you. It's just really taxing.

Dr. Kent Holtorf ([00:22:09](#)):

Yeah, everything is a vicious cycle.

Amy Derksen ([00:22:11](#)):

Right.

Dr. Kent Holtorf ([00:22:12](#)):

I think if people aren't stressed they—I think so many people have Lyme, but whatever you call "Lyme", it can be a lot of things. But if they're not stressed or have these other things, they're probably never going to have symptoms. The body just suppresses it. But as soon as you get layering of all these other things, which often—I'm sure you've seen this, it's like death in the family, divorce, or some trauma, sets everything off and then all of a sudden everything just goes haywire.

Amy Derksen ([00:22:41](#)):

Well, that's what I've seen. I've been in practice now long enough to know that people that we treated for Lyme before—and not to say there's never a bugload, because a lot of times there is—but we've gotten them better and then some sort of family trauma happens. A parent dies, a child is sick, something, divorce, all of a sudden, all those old symptoms come back. Or what I see with my autistic children is maybe we dealt with heavy metals and all these things and they were stable when they were younger, they're coming back to me now that they're going through puberty and all the hormones and now they're feeling different. A lot of those old symptoms tend to come out of the woodwork again.

Dr. Kent Holtorf ([00:23:17](#)):

Yeah. I totally agree. And what—I was thinking, what kind of testing you like to do? We like to do a lot of tests that I've noticed that, especially in the immune sense, like the Lyme patients, chronic fatigue syndrome, and the autistic kids, their lab work looks very, very similar. You know? It's like, "Damn, okay. There's like a very similar underlying issue going on here."

Amy Derksen ([00:23:42](#)):

Right? Yeah. So the autistic child or the PANS/PANDAS kid, or the post-Lyme syndrome patient, or your chronic fatigue fibromyalgia patients, they're all pretty similar. A lot of the labs look good, like pretty darn normal. But if you really look at it, you're seeing a lot of similarities there. I think the simple thing to look at with the CBC is the MEB. So you add up the monocytes eosinophils basophils, if it's over 10 and especially if it's over 15, you know the immune system is overactive and screaming at you.

Dr. Kent Holtorf ([00:24:13](#)):

But everything's "normal".

Amy Derksen ([00:24:15](#)):

Everything's normal! A lot of people can be normal, but man, give me someone's chem panel and CBC and you can learn quite a bit from that.

Dr. Kent Holtorf ([00:24:21](#)):

Yeah. It's just—yeah, looking a little deeper and—"But wait a minute, your CBC and your chem panel and your cholesterol... Oh, your cholesterol is a little high, that's your problem."

Amy Derksen ([00:24:30](#)):

Right?

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

Yeah.

Amy Derksen ([00:24:31](#)):

But the thing that's tough with a lot of this too, is you may have a lot of elevated viral antibodies, which are also "normal" because it just means you were exposed before. But what is normal? And when does that tell you that that's actually something they're still dealing with that has to be treated or killed? Versus it's a healthy immune response. That's where kind of the art of medicine comes in—[\[inaudible\]](#).

Dr. Kent Holtorf ([00:24:55](#)):

Yeah, it's like— I don't—with Epstein-Barr or [\[inaudible\]](#) or HHV-6, they have like 0 to 10 is normal. Everyone's abnormal, but—

Amy Derksen ([00:25:08](#)):

Everyone is abnormal or there's degrees of that, you know? [\[Inaudible\]](#)—

Dr. Kent Holtorf ([00:25:13](#)):

How high? Is 9 normal? Yeah. But it's strange how—or with hormones, like some of the levels of like estrogen, 0 to something.

Amy Derksen ([00:25:24](#)):

Yeah, I know. Right. [\[Laughing\]](#) So you're like, "Okay, I'm 0.1, but the normal range goes up to 60. So I'm normal?"

Dr. Kent Holtorf ([00:25:33](#)):

"Oh, you're normal."

Amy Derksen ([00:25:35](#)):

Yep. I know. No, it's crazy. I do find like an organic acid test, so a urine organic acid test is really telling. It gives you a lot of information about glutathione, your urea cycle and ammonia pathways, all your B vitamins, gut health. So yeast, bacterial markers, serotonin dopamine, really helpful just in a single morning urine sample. I also do a lot of stool testing. I do find it gives me quite a bit of information.

Dr. Kent Holtorf ([00:26:01](#)):

Which stool test do you like?

Amy Derksen ([00:26:01](#)):

I like the GI map, but I also like the Genova GI Effects. I find they have their strengths and weaknesses.

Dr. Kent Holtorf ([00:26:10](#)):

Yeah. What do you—like assuming—I mean, you probably see the same thing. Well, it depends. Some people have been to every doctor, they have tons and tons of labs, but a lot have the same labs over and over and over. Let's say you have a difficult person that, "Okay, what test?" They can't afford every test. But what do you kind of—not insist on—but really encourage? What do you think are some of your key tests?

Amy Derksen ([00:26:39](#)):

Yeah, so especially if it's an adult and drawing blood is not traumatic, there's a lot we can get that would be covered by insurance if they have insurance. So, your CBC, your chem, homocysteine, histamine level, you can look at some hormones, you can look at TGF beta 1, which will give you an idea is there a mold exposure? Or is there some sort of acute inflammatory response happening? You can run your viral titers. You can look at some vitamin status. So red blood cell zinc, red blood cell magnesium, those are so helpful because that's looking at what's inside the red blood cell, average lifespan of that is 3 to 4 months, so that's giving you a nice average that's not just a supplement that they're taking in. A lot of times those two minerals are really low and really impact a lot of other things. Methylmalonic acid is really helpful to know that intracellular B12 level. If you run a serum B12, everyone's going to be high if they've ever taken a B12 supplement, but the methylmalonic acid could tell you a lot. I'm trying to think what else we put in there, we put all kinds of stuff. I do quantitative immunoglobulins. So IgG, IgA, IgM, IgE—

Dr. Kent Holtorf ([00:27:42](#)):

And you mix sub classes too?

Amy Derksen ([00:27:42](#)):

—to know if there's some sort of distortion, right? Because some people are low and some people are sky high. The way that you're gonna approach treatments for those patients is going to be a little different.

Dr. Kent Holtorf ([00:27:52](#)):

Yeah. And that's what—I think our average panel for a sick patient was like 35 Quest tests. Of course the phlebotomist at the draw station—we used to draw in our office, but people would think it was us—but they go crazy. I remember I went in to get my blood drawn, like, "Oh, this is that doctor, that orders all of them".

Amy Derksen ([00:28:18](#)):

[inaudible] all these tubes!

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

Yeah! I'm like, "Hey, I heard he's awesome. I've heard he's really good looking too." But it's funny and they screw up some of the tests. You really want natural killer cell function, [inaudible] transforming growth factor beta, C4A. They tend to screw it up. But, yeah. Then I think they're even better, like now that like Quest, they're doing the immunoblot instead of the Western blot, picking up a lot more, but they'll tend to be "negative", but they gotta band that is only in 0.1% of normal people, like hello!

Amy Derksen ([00:28:51](#)):

Right. So that's the thing is you have to learn how to really read those labs. It's actually something that the doctors that I work with and I have been wanting to go back to Bastyr to teach graduating students, how do you navigate all these labs, right? What can you learn from it? I've presented in other lectures and one thing that I'm going to upload kind of after this is just a PowerPoint on some of this stuff. I can also put those in there too—[inaudible].

Dr. Kent Holtorf ([00:29:17](#)):

Oh, awesome. So you will offer that for everyone?

Amy Derksen ([00:29:21](#)):

Yeah. I plan on recording it too. So if you're a visual person, you'll have the slides.

Dr. Kent Holtorf ([00:29:26](#)):

That's great because it is, it's like that within this range, you know? I think you get such a good picture when this is high, but they can all be normal, but you're like—one glance you're like, "Hello? You're screwed up."

Amy Derksen ([00:29:43](#)):

You can see that it's messed up. So the other thing is, I do autonomic response testing. So I trained with Dr. Klinghardt and that's a skill that he's developed and I've taught for him, gosh, for a long time now. So it's another—it's a second opinion. You know, what is the body having to say? How do you navigate through all this stuff when someone is sitting in front of you and everything's "normal" but they still feel really horrible. You know? What's the priority? Where do you start? It can be a great way to know, especially if someone's really sensitive, what can they tolerate? So it helps us. The other thing is we also look at environment. So, if there's suspected mold exposure, especially, we'll do a detailed intake. I think taking a patient history is the number one.

Dr. Kent Holtorf ([00:30:24](#)):

Oh, yeah. Yeah.

Amy Derksen ([00:30:24](#)):

There's so much there. Learn from the mistakes of the past, learn from what helped them in the past. What made them worse? There's so many clues there and don't assume someone else has already figured that all out, you know? They've come to you, you need to look at it with another fresh set of eyes.

Dr. Kent Holtorf ([00:30:41](#)):

Yeah. Yeah. I think after you do the history is that I like to do a lot of tests and I pretty much know what it's gonna look like, but I feel I have to show the patient that, "Look because everyone else said you're normal, but—" People go, "What if you don't find anything?" Well, it hasn't happen yet. But, yeah, where you can paint a picture, you know? Then decide together what direction to go.

Amy Derksen ([00:31:08](#)):

Yeah. It's also how you present it too. So get excited with someone when you find some abnormal results rather than, "Oh no!" It's all about how you frame it. So, "Great, we found some things. Here we have some explanations for why you're feeling so bad. This we can work on." **[Inaudible]**

Dr. Kent Holtorf ([00:31:23](#)):

Yeah. I'd say, "I got good news. I got bad news. The bad news is you're hypercoaguable. Good news is you're hypercoaguable." You know?

Amy Derksen ([00:31:31](#)):

Right. Good news is we can treat that!

Dr. Kent Holtorf ([00:31:32](#)):

Yeah.

Amy Derksen ([00:31:32](#)):

Absolutely. The other thing is you have to make sure—I mean, it's not a lab—but do ask your patient if they're pooping every day. It is not uncommon that—gosh, I was working with a family last month and I asked about their daughter and they're like, "Oh, she's the best pooper in the family. She goes every 3 days." And I thought, "Oh my goodness, we've got a lot to do." So it's not uncommon, a lot of that sort of bowel laxity and the lack of paracelsus happening because you're stuck in that fight or flight mode with one of these illnesses that you're dealing with and you're not in that nice parasympathetic mode.

Dr. Kent Holtorf ([00:32:05](#)):

Yeah, and it is. I've never seen so many people happy when you tell them they have Lyme. It's like, "Thank God." You know? Because they're just—they want some diagnosis, something to work on. You know?

Amy Derksen ([00:32:18](#)):

But the other thing I would say too—because I know this is going out to other doctors is—even if you don't know Lyme, if someone comes to you saying they're a Lyme patient, it doesn't mean you can't help them. It's just the Lyme organisms, Lyme and all the co-infections are very inflammatory. So they may need someone to help kind of know what things to treat that, but you still know the foundation and how can you work on drainage and detox support and how can you deal with immune modulation and all these things. That's what's going to help them tolerate those treatments.

Dr. Kent Holtorf ([00:32:48](#)):

Absolutely. Because it doesn't mean we—we used to be like, "Okay, you got this, let's just go after it." Now they're like, "Why aren't you giving me antibiotics?" No, we're not. We're gonna give you these other things first. "What!?" To get from A to B, we get there much faster by not doing that first. By doing all the other things first.

Amy Derksen ([00:33:07](#)):

By not doing that, absolutely. If it's an acute exposure, of course, you're gonna jump to antibiotics.

Dr. Kent Holtorf ([00:33:13](#)):

Yeah, yeah.

Amy Derksen ([00:33:13](#)):

It's not our first thing out of the gate. So I'm glad to hear that you're in the same camp.

Dr. Kent Holtorf ([00:33:16](#)):

Yeah. I mean, if it's acute, very aggressive with antibiotics.

Amy Derksen ([00:33:20](#)):

Right.

Dr. Kent Holtorf ([00:33:20](#)):

They say, "Well, that's overkill." I said, "If it was me—" Because I know how horrible the fucking illness is. I wouldn't wish it on my worst enemy. "—That if I can prevent that..." But once you have it, there's better ways of going about it to get to that final resolution.

Amy Derksen ([00:33:36](#)):

Some people need to reduce that load and that's where—**[inaudible]**.

Dr. Kent Holtorf ([00:33:39](#)):

Yeah, and they have their place. Everything has its place, right?

Amy Derksen ([00:33:43](#)):

Yep.

Dr. Kent Holtorf ([00:33:43](#)):

Let's see. What are your favorite peptides? What do you like?

Amy Derksen ([00:33:46](#)):

Oh gosh, we're going to jump down there. All right. So favorite peptides, I'm going to scroll down. Sorry. I have notes in front of me, it's been a long day. So favorite peptides, Thymosin alpha-1, love it. TB4 and the TB4-FRAG—

Dr. Kent Holtorf ([00:33:59](#)):

I'll just mention, Thymosin alpha-1, it's a big TH1 booster, boosts natural killer cell function. It's approved in 30 countries for everything from cancer to auto—infections, approved as an orphan drug in the US. Also for Melanoma, but yeah. It's one of the—immune—the thymic peptides, all similar, but a little different. Yeah.

Amy Derksen ([00:34:27](#)):

Yeah. So I can talk a little—I have some notes here if you want, on the Thymosin alpha-1. So usually it's an injection, it's a subcutaneous injection, tiny little needle. Really no documented side effects, negative side effects, with the Thymosin alpha-1. I would say it's probably your first go-to in your chronic patients or the patient who shows up and is saying, "Oh, I don't tolerate anything. I can't do that supplement because of that ingredient. I can't eat this food. I can't do anything for more than a couple days." Thymosin alpha-1 can be fantastic. I would also say that it's one of the only treatments where more sometimes is better in that patient. Usually that's the patient that we want to be really careful with, but I actually find if right off the gate, you actually go a relatively high dose. So even up to a half a CC per injection every day for a total of 2 weeks before you back off, see if you can get things to calm down and that may be something that you revisit later in treatments too, whenever they're flared, you can go back to that high daily dose there for a couple of weeks and it can be really helpful.

Dr. Kent Holtorf ([00:35:27](#)):

Yeah. I think with that comment is because thing is with the immune system, we're kind of a teeter-totter. So if you raise that TH1, you're lowering that TH2 with the inflammation.

Amy Derksen ([00:35:37](#)):

Yep.

Dr. Kent Holtorf ([00:35:37](#)):

But, as if you asked a chef how to bake a cake you're going to get 5 chefs and 6 different answers. I mean, in general. There's so many ways to do anything.

Amy Derksen ([00:35:48](#)):

Right.

Dr. Kent Holtorf ([00:35:48](#)):

We'll usually use BPC-157 first to kind of calm it down, then add the Thymosins, but there's no right or wrong. It's whatever works, yeah.

Amy Derksen ([00:35:58](#)):

So the Thymosin alpha-1, the other thing I would say is this has been great in the PANS and PANDAS patients, when they're flaring. You're not gonna inject for the very first time in the middle of a raging flare, but it is something when they're more calm. I am a huge believer of talking to my patients, even if they can't communicate that well, to explain, "Hey, we're gonna do this shot with you. And here's why." You know, "This is why I want to do this. This is why I think it's going to help you and why we don't have a better option." And like, "Hey, I'm going to teach mom right now how to do the shot. She's going to do it on me. Do you want to watch?"

Dr. Kent Holtorf ([00:36:29](#)):

Oh it's so tiny too, I say, "Even men can do it."

Amy Derksen ([00:36:32](#)):

It's so tiny and it really doesn't hurt. A lot of kids are actually preferring to have it in their upper arm just to do a little pinch. It's subcutaneous, so you can just do a little pinch there, belly, the bottom, actually—[inaudible].

Dr. Kent Holtorf ([00:36:43](#)):

Have you tried Thymulin?

Amy Derksen ([00:36:46](#)):

I have not.

Dr. Kent Holtorf ([00:36:47](#)):

Yeah. So I would—in some of your patients where you would use the Thymosin alpha-1, try Thymulin. It's much more immunosuppressant, lowering inflammation.

Amy Derksen ([00:37:01](#)):

Okay.

Dr. Kent Holtorf ([00:37:02](#)):

I'll shoot you some studies on it.

Amy Derksen ([00:37:03](#)):

Yeah. With you is it a prescription or is it—?

Dr. Kent Holtorf ([00:37:07](#)):

Yeah, it's the same thing.

Amy Derksen ([00:37:08](#)):

Okay.

Dr. Kent Holtorf ([00:37:08](#)):

It's injectable. We're working for ways to get it orally, but—

Amy Derksen ([00:37:14](#)):

Yeah, cool.

Dr. Kent Holtorf ([00:37:19](#)):

But yeah, I would try it out and see what you think.

Amy Derksen ([00:37:22](#)):

Yeah. I just switched compounding pharmacies and the new pharmacy I'm working with has it as a nasal spray that I'm about to try for myself. So **[inaudible]** experience.

Dr. Kent Holtorf ([00:37:32](#)):

So it's interesting. People are throwing this stuff sublingually and nasally, some are outliers. But we've spent a lot of money with some of the Big Pharma, CRMs, which—and they actually have these programs that will tell you, "Can this absorb?" A lot of the ones that people are using sublingually, "Oh, sublingual, it's gonna work." It's like 0%, you know?

Amy Derksen ([00:38:01](#)):

Right, right.

Dr. Kent Holtorf ([00:38:01](#)):

You even look at like the GLP-1s from Big Pharma, actually, they got absorption up to 1%. That's the big breakthrough. [Laughing] So a lot of these things are very tough to get to absorb.

Amy Derksen ([00:38:17](#)):

Yeah.

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

But look for clinical outcomes, you know?

Amy Derksen ([00:38:21](#)):

I'm curious, I'm gonna try it with myself first and then with the kiddos that are kind of tired of doing injections.

Dr. Kent Holtorf ([00:38:27](#)):

There's some that don't like the AOD. It's pretty long, but it absorbs. We just did testing on some techy peptide,

Amy Derksen ([00:39:07](#)):

The Thymosin alpha-1 is good. It helps with senescence. I'll just put that in.

Dr. Kent Holtorf ([00:39:13](#)):

Yeah, let's talk about that because I think that's an important topic.

Amy Derksen ([00:39:16](#)):

Yeah. I'm going to go to my notes because it's a tough topic. So I'm trying to simplify it because I've been to many conferences talking about this and it sort of makes your head spin, and my background was in biochemistry.

Dr. Kent Holtorf ([00:39:26](#)):

Like, why do I want to kill the cells? [Laughing]

Amy Derksen ([00:39:29](#)):

I know. So I'm gonna simplify it in a way that makes—I don't think I'm oversimplifying it too much, but just that makes sense. Because I've always wondered, like why is it that someone could get

exposed to Lyme disease or a moldy environment and you've treated the infection, you've got them out of that space, but yet they continue to be stuck in this sort of depleted state? Right? The stamina's not there. They're still so tired. They're still not sleeping. Struggling to put on weight and some of those things, and having so much mitochondrial deficiency going on. It's like there's not enough gas to run the car. The senescence piece really makes sense for me. I'm gonna throw my glasses on so I can see this. Okay. So, cell senescence. Essentially there is—it's a cell response to DNA damage, which is typically oxidative stress. It could be infection, it could be a chemical exposure. It could just be normal aging. So if that—in the right environment, sometimes these cells can go into a senescent state. So basically the cell has lost its ability to divide and it's stuck in the state of arrest. The problem with that is it has abnormal cell growth. There's a lack of that apoptosis. So the body can't clean it up and kill off that toxic cell—

Dr. Kent Holtorf ([00:40:49](#)):

Just define apoptosis.

Amy Derksen ([00:40:51](#)):

Yeah, just like that pre-programmed cell death. So it's not able to—so what you have is you have a damaged cell that's stuck, so it's not dividing, it's not proliferating. That's how our body is protecting us from—like that we're not making tumors with every little exposure that we have. But what's happening is inside the cell there's some damage, so the DNA repair machinery isn't working right. It starts to excrete some cytokines and some chemokine. Basically these chemical messengers that are making more reactive oxygen species and it's going down this lactate cycle rather than the pyruvate cycle, which is resulting in this depletion of NAD, which is a big source of energy, especially for the mitochondria. So the mitochondria are getting more damaged, that cell is not functioning properly and it's greedy. It's like, "Hey, I need more NAD. I gotta take my easiest pathway to do that." So it continues down this pathway. So it gets out of kind of the phase of—

Dr. Kent Holtorf ([00:41:51](#)):

Yeah, it's wasting all that energy. Yeah.

Amy Derksen ([00:41:54](#)):

It's wasting all that energy and then it essentially starts to poison the cells around it. So even in the absence of the infection, once that's been treated or the absence of the mold exposure or the chemical exposure, you have these toxic cells that are now over time poisoning the rest of them and making the cells around them now more damaged, creating mitochondrial dysfunction. So you're depleting all that NAD, which is why a lot of our patients need the NAD and why they're so dependent on Denosyl, B12 and B12 shots and all this methylation support. But yet you do the methylation support and it completely tanks them. So it explains to me how these kind of

secondary mitochondrial issues are coming up. That's really the big thing. Once someone's been sick and they're sort of on the road to recovery, they're stuck, right? They want to exercise, but they're too tired to do it, or it makes them feel worse. So you really have to start at the ground level and that's where the senescence was kind of the cause of that. One thing that's nice is like TB4 and TAl are really good at—the TAl will kind of remove this camouflage from those cells so the body can start to clean that up, but both of those can help to repair those senescent cells. Other things that can help with that would be fasting. So that's why intermittent fasting is actually such a great thing. If you can have someone fast for 14 to 16 hours of every day, really helps to reduce that senescence, reduces aging, helps you feel better. Exercise is one thing that can reduce that. Not always a possibility for our sick patients, but for the rest of us exercise is fantastic. One reason why ozone works so well is it actually activates NAD inside those cells. So the NAD that it's needing so much to function is actually getting activated by that, which is why that therapy is working so well.

Dr. Kent Holtorf ([00:43:37](#)):

Yeah, it is. It's like they gotta either—cells gotta heal or die, you know?

Amy Derksen ([00:43:44](#)):

Right.

Dr. Kent Holtorf ([00:43:44](#)):

You gotta get them out of there. Do you use some of the mitochondrial booster peptides?

Amy Derksen ([00:43:52](#)):

Yeah. You know, I've used a little bit. I haven't played with that as much as I want to yet. And I've got to say probably that I'm ready to play more—it's tough—some of the other doctors in my practice have used that and other doctors I've worked with have used that. I find a lot of times people are depleted. So I use a lot of acetylcarnitine, CoQ10, other antioxidants, NAD.

Dr. Kent Holtorf ([00:44:16](#)):

All those, again, back to basics, you know?

Amy Derksen ([00:44:19](#)):

Right. I find that they need that sometimes first or in addition to. A lot of times I'm still dealing with people who are pretty flared. So I'm trying to calm that down first, but yeah, I'm excited to try that. My first peptide conference, probably the wisest words that came out of that were, "Get to know a few peptides really well before you expand the peptides that you use." Because peptides

are a big deal. They're expensive. So that's gonna be one thing that you have to justify to yourself and to your patient if they're reparative. So I always think of these as, these are actually healing. So if you do 3 months of a peptide, it's not like you come off it and you haven't had any gains that you're gonna continue on. I could do 3 months of curcumin and nothing against curcumin, but as soon as I go off curcumin or ibuprofen, I'm back to the same inflammatory state I was in before. I just put a little bandaid on it, but the peptides are healing and reparative.

Dr. Kent Holtorf ([00:45:12](#)):

Yeah, it's like the studies on Epitalon, basically they did it one time a year, once or twice a year, and they got great results in longevity, reduction in cardiovascular disease, mortality, morbidity, all these things. So it really affects the genes that perpetuate. Yeah.

Amy Derksen ([00:45:36](#)):

Should we maybe talk about TB4?

Dr. Kent Holtorf ([00:45:41](#)):

Love talking about TB4!

Amy Derksen ([00:45:41](#)):

Yeah. You know a lot more about TB4 than I do, but I love TB4. I actually love the integrative peptides, TB4-FRAG Plus has been pretty awesome for a lot of my patients. It seems to be also really good with people who don't tolerate things gut wise, that one's been really helpful. Also for people where I either don't trust them to do injections on their own at home. Like, I don't know that they're going to do that in enough of a sterile environment, or it's just too much for them to kind of think of, or it's too scary.

Dr. Kent Holtorf ([00:46:13](#)):

Yeah. For some people it's a big step. I don't want to bash—[Laughing]—but training a doctor how to give a shot sometimes can be—but, yeah. I mean, people think it's a much bigger deal to do a shot, you know? They don't realize it's so tiny but it's—

Amy Derksen ([00:46:27](#)):

It's so tiny, it's so easy.

Dr. Kent Holtorf ([00:46:27](#)):

Especially in—the biggest men usually freak out the most. But, yeah, it's I think very complimentary to BPC, that the TB4 and TB4-FRAG will heal the tight junctions. And it's similar to Thymosin alpha-1, but maybe more rejuvenating factors.

Amy Derksen ([00:46:50](#)):

Right. It can help with bone growth, so that's really good. Like in CCI patients or I have some patients with [inaudible], TB4 can be really helpful there. I see a big—

Dr. Kent Holtorf ([00:47:02](#)):

I don't know if we should get into into that, but yeah, that's such an interesting condition. I really think a lot of the people have the genetics of it, but—because they all have Lyme, right? You know?

Amy Derksen ([00:47:16](#)):

Right.

Dr. Kent Holtorf ([00:47:16](#)):

Then I think the immune dysfunction and infections actually epigenetically activate those genes. That's my sense.

Amy Derksen ([00:47:26](#)):

Yeah.

Dr. Kent Holtorf ([00:47:26](#)):

So then all those—

Amy Derksen ([00:47:27](#)):

You have the genes and then how are they phenotypically expressed? It's all based on environment and exposures for sure.

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

Yeah. It's like, they are just [inaudible] they get cerebral spinal leaks and yeah. I think it all is the epigenetics of it, like why—I was thinking, like, why would those people be so prone to getting Lyme? You know? Are they all hikers or something?

Amy Derksen ([00:47:55](#)):

Right.

Dr. Kent Holtorf ([00:47:55](#)):

But yeah, it's interesting stuff. I think—you probably find this—and the more you dig, the more you realize you don't know! And it just—you go down the rabbit hole, all of a sudden I'm reading studies and the sun's coming up and I'm like, "Oh my God, I gotta be in the office in an hour."

Amy Derksen ([00:48:13](#)):

[Laughing]

Dr. Kent Holtorf ([00:48:13](#)):

So yeah, you probably go through the same stuff.

Amy Derksen ([00:48:14](#)):

I saw you emailed me at 3:30 last night.

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

Oh, did I? Yeah. [Laughing] Yeah, that was early. [Laughing] Yeah. It's when—usually I can catch people because they're getting up and I'm going to bed.

Amy Derksen ([00:48:26](#)):

So yeah, the TB4 works really nicely along with the TA1 or you can use them in tandem. TB4 you should. So the way that it's always been taught to me, and what I've seen is that you should take a break from that, where the TA1 you can stay on long-term but TB4 you should cycle.

Dr. Kent Holtorf ([00:48:43](#)):

Yeah. I think there's no great studies on that. I think just out of abundance of caution you might as well cycle it, you know? Thymosin alpha-1 has more studies. It's been FDA approved now. But yeah, most stuff patients tend to cycle themselves anyways. Like, they'll go off of it, go back on it, but yeah.

Amy Derksen ([00:49:08](#)):

Yeah, and you'll find if you're doing these yourself, like I noticed with TA1, I loved it, loved it, loved it. Then I was like, "Meh". I don't—I wasn't—it was funny after about 3 months, I just had to take a break. I don't know why, it wasn't that it was doing anything bad and it worked a lot better when I went back on it.

Dr. Kent Holtorf ([00:49:22](#)):

Yeah, or—also like supplements, you know? I can give you a thousand supplements that are great and I take a ton. If you were to scan down, this whole desk is full of supplements, but it's just like, I realized, let me just do my core ones and it's like 50. You just get tired of it, you know? So, it's—yeah, it's tough. Which I like peptides because they work in such small amounts.

Amy Derksen ([00:49:51](#)):

They work in small amounts, yeah. I've seen the TB4 can be a little more triggering than the TA1. So in a really reactive patient, I go TA1. TB4—

Dr. Kent Holtorf ([00:49:58](#)):

Have you found that with the full length TB4?

Amy Derksen ([00:50:01](#)):

So I found that with the full length TB4 more so than with the FRAG.

Dr. Kent Holtorf ([00:50:05](#)):

Yeah. So the full length TB4, there's a domain. There's multiple domains on TB4.

Amy Derksen ([00:50:12](#)):

Yeah.

Dr. Kent Holtorf ([00:50:12](#)):

So the FRAG that we have out does not have the domain that stimulates mast cells.

Amy Derksen ([00:50:23](#)):

Oh, interesting!

Dr. Kent Holtorf ([00:50:23](#)):

Yeah.

Amy Derksen ([00:50:23](#)):

That makes sense.

Dr. Kent Holtorf ([00:50:23](#)):

So TB4, overall it's to be good for mast cells because of the immune modulation, but some people go, "Oh my God, I just totally flare." Because it has a section—

Amy Derksen ([00:50:34](#)):

We found we had to ease them into it.

Dr. Kent Holtorf ([00:50:37](#)):

Yeah, that stimulates the mast cells.

Amy Derksen ([00:50:37](#)):

That makes sense, because I was using the TB4-FRAG more where one of the other doctors in my practice was using the injectable TB4 and she was having to be really careful with dosing and I was just jumping into twice a day dosing and having—[\[inaudible\]](#).

Dr. Kent Holtorf ([00:50:49](#)):

Yeah. Yeah. So it eliminates that. It also—that FRAG won't grow hair. There's a different FRAG that grows hair. Although you look at the TB4-FRAG, lots of studies on it, it has the same immune modulatory, antifibrotic, anti-inflammatory effects as the full length, but eliminates some of those negatives. Yeah.

Amy Derksen ([00:51:14](#)):

Okay. So if you want the hair growth help with it, you have to use the full TB4?

Dr. Kent Holtorf ([00:51:23](#)):

No. There's a separate FRAG, because the problem is the TB4, 43 [\[inaudible\]](#) I mean, it's not gonna get in.

Amy Derksen ([00:51:27](#)):

Okay. So the TB4-FRAG that you have will help with the hair?

Dr. Kent Holtorf ([00:51:31](#)):

We—a separate, different FRAG. We will—should be available in 2 months.

Amy Derksen ([00:51:39](#)):

Okay. I'm excited.

Dr. Kent Holtorf ([00:51:42](#)):

Yeah. Then, do you like Cerebrolysin? Did you use Cerebrolysin at all?

Amy Derksen ([00:51:46](#)):

I did use Cerebrolysin.

Dr. Kent Holtorf ([00:51:49](#)):

Yeah. So that, I love. I do it myself. I mean, I had in general—because I had Lyme—I noticed since I was born, like the worst memory of anyone I've ever met, unless it's a medical study. Unless I can make connections, you know? Or if I go to dinner with someone that I don't care too much about and someone asks me about it, I'm like "I never went to dinner with them." [Laughing] It's a little scary, but if it's medical, I can cite all this and that and have those connections. But, the problem is that you can't get Cerebrolysin injectable anymore, but it is bioavailable orally. So, the capsule—one capsule equal about 2 CCs.

Amy Derksen ([00:52:32](#)):

Okay.

Dr. Kent Holtorf ([00:52:32](#)):

So that should have been out a month ago, but with COVID, I think two weeks.

Amy Derksen ([00:52:38](#)):

Oh, I'm excited about that. So a lot of the kiddos were doing really great with this—[inaudible].

Dr. Kent Holtorf ([00:52:42](#)):

Yeah, for the autistic kids, you know?

Amy Derksen ([00:52:46](#)):

Oh my gosh, it was great.

Dr. Kent Holtorf ([00:52:46](#)):

We have one autistic kid, I'm just so excited about—because the mom gave a video of him playing basketball before he came in, which was him standing there and the basketball just went by him. He came in, we had to see him before office hours, because it's F-bombs going and you couldn't touch him. I had to be—now he comes in, he's actually sarcastic, joking says, "Can I have a hug?" He does his own injections.

Amy Derksen ([00:53:16](#)):

Wow.

Dr. Kent Holtorf ([00:53:16](#)):

He's playing basketball. He's doing gymnastics. Just total turn around.

Amy Derksen ([00:53:25](#)):

I mean, those are the sort of things that are amazing, you know?

Dr. Kent Holtorf ([00:53:26](#)):

Yeah.

Amy Derksen ([00:53:26](#)):

The kids that aren't talking and then the next visit they come in and they're like, "Hey, Dr. Amy!" And they're reading off everything that they can see and the parent is like, "Can you get them to be quiet?" [Laughing]

Dr. Kent Holtorf ([00:53:39](#)):

Yeah, "Can you get them to be quiet?"

Amy Derksen ([00:53:39](#)):

"Sorry, we can't turn it off once we've turned it on!"

Dr. Kent Holtorf ([00:53:41](#)):

That is so—and it is. You could not get near him and he's like, "Can I have a hug?"

Amy Derksen ([00:53:48](#)):

Wow.

Dr. Kent Holtorf ([00:53:48](#)):

You know? Just like, damn, you know?

Amy Derksen ([00:53:52](#)):

That's the thing. You'll get these little glimpses, even in the really reactive kids or even in any of your chronically ill adults, there'll be these little windows where they feel normal and they act normal. I mean, for lack of a better word. That's always assigned to me that there's not permanent damage that we have [inaudible] that we can work for to get there and stay there.

Dr. Kent Holtorf ([00:54:11](#)):

I think it's key and you know, trained doctors say, "Okay, really work to get them some improvement. It doesn't have to be permanent, so they have hope because they've been told all these things and nothing ever happens." And people say, "Well, that was probably placebo." Not with these patients! Everything's a no-cebo. It's like, they don't expect it to work.

Amy Derksen ([00:54:31](#)):

Right.

Dr. Kent Holtorf ([00:54:31](#)):

You know? So if you can get them feeling better, even just for a little bit, a glimpse, "Okay, we made it there." Usually you're probably gonna relapse a little bit, but it's never as bad and the next time is gonna be shorter. You're gonna feel better longer. It's just they—just totally different mindset.

Amy Derksen ([00:54:51](#)):

Yeah. But also prepping that they can flare and how that can be a positive, you know? If you're doing antibiotics or you're starting LDA or LDI and you feel worse, "I'm sorry you feel worse, but that's awesome because we found some organisms that are triggering all these reactions in you, so we can work with that."

Dr. Kent Holtorf ([00:55:10](#)):

Yeah.

Amy Derksen ([00:55:10](#)):

It doesn't mean I'm shit, it means, "Yay! Okay..."

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

Yeah, "You're feeling bad?" Oh, great! You know? But I think less and less, we're kind of—yeah, because we've learned to mitigate that feeling horrible.

Amy Derksen ([00:55:22](#)):

Right.

Dr. Kent Holtorf ([00:55:22](#)):

But it's like when I did SOT therapy, I didn't do any of this stuff to mitigate a flare because I wanted to see if it worked. Then I'm like—I thought I was pretty cured—and I'm like, "Damn, I'm getting—this is a perk." I'm like, "Awesome!" You know?

Amy Derksen ([00:55:41](#)):

Right.

Dr. Kent Holtorf ([00:55:41](#)):

Yeah. So, it's interesting. I'd rather see a new treatment flare someone because you know it's doing something, right?

Amy Derksen ([00:55:49](#)):

You know it's doing something, right. Yeah, because we have a lot of people with no reaction.

Dr. Kent Holtorf ([00:55:53](#)):

Yeah. So, I just love speaking with you. I keep—I feel like when you just keep going on and on!

Amy Derksen ([00:55:58](#)):

I know! I didn't have BPC-157, which is one of my favorites.

Dr. Kent Holtorf ([00:56:03](#)):

Okay.

Amy Derksen ([00:56:03](#)):

And integrative peptides offers a great capsule option that's a good price point for people.

Dr. Kent Holtorf ([00:56:09](#)):

But the main **[inaudible]**, it's available, many other places like—

Amy Derksen ([00:56:13](#)):

It's available in many other places. I have it compounded. I love the injections as well. Personal issue is I had a pretty severe Achilles tendonitis, so bad so that I was having a hard time walking around the office. I was meant to be doing this Ragnar relay race that was 8 miles. A lot of moms depending on me, and it was 2 days away.

Dr. Kent Holtorf ([00:56:42](#)):

Ragnar as in vikings?

Amy Derksen ([00:56:42](#)):

What?

Dr. Kent Holtorf ([00:56:42](#)):

Ragnar as in the vikings?

Amy Derksen ([00:56:42](#)):

It's like a relay—**[inaudible]**.

Dr. Kent Holtorf ([00:56:43](#)):

Oh, okay. I was just wondering about the name.

Amy Derksen ([00:56:43](#)):

But it'll go overnight.

Dr. Kent Holtorf ([00:56:47](#)):

Yeah.

Amy Derksen ([00:56:48](#)):

So it was 2 days away, I was having a hard time even walking around and I didn't want to bail on this and took my VPC, injected my own Achilles twice a day for 2 days, pain was gone. And yes, it flared after I crossed the finish line. I was ready to be off that, but pretty amazing just to see firsthand something that—like Achilles tendonitis, my shoe couldn't even touch it. It's a stubborn—with plantar fasciitis, Achilles tendonitis is a bad thing—

Dr. Kent Holtorf ([00:57:15](#)):

Yeah. The other alternative, "Okay. Do steroid injections. Put in a split."

Amy Derksen ([00:57:21](#)):

Right. I mean, there's still other things to do with it, but just to see firsthand how healing it could be. Even after starting injections, I had an old snowboarding injury of a shoulder that I couldn't lift my arm. I had done all kinds of stuff. After just doing subQ in my abdomen for a month, I realized I went to pay like a parking meter and I was like, "Oh my God, my shoulder doesn't even hurt." I hadn't even—it wasn't even on my radar that it could be working for that. So it finds its way to wherever the distresses are in the body.

Dr. Kent Holtorf ([00:57:53](#)):

That's what we find. Like, "Wait a minute, now I can do this or I can tie my shoes." Or whatever it may be.

Amy Derksen ([00:57:59](#)):

So great for injury prevention. Great for those old injuries. The other thing I'm really loving with the BPC—which I'm preaching to the choir here, but is for the gut repair. That's been probably the biggest "Wow", because when I first learned about it, that it was all like sports medicine sort of driven, all the lectures on that. So I was really thinking the athletic sort of piece and sort of feeling better in your body. It was sort of a side note that it could help the gut. What I was seeing with so many people is after years of us being on this train of like, "Oh, a couple times a year we're having to do some sort of parasite protocol or whatever." Like the gut is healing up. Like it really is, which is also translating into them feeling better. So I've been using it a lot now with my autistic kids. I'm using it definitely a lot with a lot of my adults and the people who were sick before and aren't 100% well, but are on their way and trying to get stronger. I find the BPC is excellent for that.

Dr. Kent Holtorf ([00:58:55](#)):

Yeah. Yep, I agree. It's kinda—it's basically a core for us now. Yeah, that and the TB4, TB4-FRAG, it is. We do a lot of other things and it's even like—I love hormones and all the thyroid. There are so many great things, but it's—you start doing what most people get better with, you know? And is the safest, yeah. It becomes the core. Well, awesome. You're obviously doing so many great things with some of the sickest patients and you're having to run a practice with other doctors, which in my eyes—[Laughing].

Amy Derksen ([00:59:39](#)):

It's good. I'm lucky I have a good team.

Dr. Kent Holtorf ([00:59:43](#)):

[Laughing] Yeah, we were joking about that.

Amy Derksen ([00:59:43](#)):

It's a work in progress, always. You know? Luckily the person I'm dating is actually a management coach. So he's helped me through some big office transitions and things just—you know.

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

It is tough. I don't know, this is kind of off topic for the thing, but where doctors want to see patients but you end up managing and I don't know, I'm a bad manager. I'm too nice. I am—you know? That's not what I want to do. It's taking away time from seeing patients. But, yeah. It's like, you can only see so many patients, so you're branching out, you're teaching all these other doctors and I just love the fact how you guys are collaborating together. That's what medicine should be.

Amy Derksen ([01:00:23](#)):

Yeah. It's fun.

Dr. Kent Holtorf ([01:00:24](#)):

It's awesome.

Amy Derksen ([01:00:26](#)):

Yeah.

Dr. Kent Holtorf ([01:00:26](#)):

Congratulations.

Amy Derksen ([01:00:26](#)):

So you can interview Christopher Wakely, he's one of the other doctors in my office. You interview him tomorrow, so have fun with that.

Dr. Kent Holtorf ([01:00:33](#)):

Oh, great. Great. Yeah. Looking forward to—he's really nice.

Amy Derksen ([01:00:36](#)):

Oh my gosh. He is super nice. He is like—if you ever need research, he's your guy.

Dr. Kent Holtorf ([01:00:42](#)):

I love that.

Amy Derksen ([01:00:42](#)):

He's a fantastic clinician, but oh my gosh, he's like always hitting the books and looking at the studies.

Dr. Kent Holtorf ([01:00:49](#)):

That's awesome. Yeah. That's like me. I end up spending all night to find one little piece of information that I can maybe use, you know? But that's awesome. I mean, you're just doing great work and thank you for taking the time.

Amy Derksen ([01:01:03](#)):

Yeah, absolutely.

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

So glad I met you. I met so many great people doing this summit, you know?

Amy Derksen ([01:01:08](#)):

Yeah.

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

Which even at conferences, you don't get to sit down and talk to people.

Amy Derksen ([01:01:15](#)):

No, no you don't. So thank you for this.

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

Thank you.

Amy Derksen ([01:01:16](#)):

Yeah.

Dr. Kent Holtorf ([01:01:18](#)):

Yeah. It's a pleasure. Just the—your passion just exudes. Thanks so much.

Amy Derksen ([01:01:25](#)):

Right, keep up the good work.

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

You too.

Amy Derksen ([01:01:27](#)):

Goodnight.

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

Bye, bye.