KRESSER INSTITUTE FOR FUNCTIONAL AND EVOLUTIONARY MEDICINE

ADAPT Functional Medicine PTP Q&A with Chris Kresser

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15. I know we talked last time about maybe working with a physician or something. So what are your suggestions on that? So there's a lot in me for that, but not, like, what's in there for them so they can say yes, and let's work together? (41:21)
16. What dose do you recommend for [low-dose naltrexone] (LDN) and is it okay to stay on this for long-term for years? (48:08)
17. How much of a contribution does oral health have to the common presentations? And do we cover any analysis or testing to deal with this? (50:44)
18. Do you usually start with Cyrex Array 3 and then 4 and then 10, if needed? Or if people are highly reactive and have already eliminated grains, dairy, etc., do you feel it's helpful to go straight to the [Cyrex] Array 10? (53:58)

Chris Kresser: Hey, everybody, welcome to the Q&A for December. [I'm] expecting very low attendance today, given that we're three days from Christmas and a lot of people are running around doing last-minute stuff, or even just hunkering down. We're in the midst of a pretty significant snowstorm here in Utah right now. So I'm just going to throw that out there in advance. So far, the internet connection has been pretty solid today. But it's 40-, 50-mile per hour winds and heavy snowfall, so that could change.

Sorry about the last-minute reschedule last week. I had a family health emergency that, fortunately, turned out okay. So everybody's fine. And I've only had to do that twice in four years of running this program. So hopefully, it [won't] happen again. [I] appreciate your flexibility.

All right. So there are only a few questions that were sent in and [I'm] happy to answer questions from those of you that are on the live call. **So I'll start with one that was sent in by Samantha. "From this week's action steps, if for Cyrex Array 4 and 10, if reintroduction of positive food does not cause symptoms, is it safe?"**

I would say [it's] probably pretty safe with Cyrex [Array] 4 and 10. As I think I indicated in the content, I have (audio skips 1:31) levels of confidence in the clinical validity of Cyrex panels from 3, 4 to 10. So with the [Cyrex] Array 3, with gluten and wheat proteomic analysis, I'm pretty confident in that and it matches very well with my clinical experience. And I think there are pretty good data on that. Cyrex Array 4, which is the cross-reactive proteins like dairy and eggs and potatoes and corn and things like that, I think that can definitely be helpful in clinical practice. But there are a couple of considerations there.

One is if somebody is exhibiting this polysystemic, cross-reactive autoimmunity, where they're just lighting up everything, and everything is, they've got like half the foods on [Cyrex] Array 10 and almost all the foods on [Cyrex] Array 4 are positive or equivocal, I don't think it's a good

approach to ask people to remove all those foods from their diet, because that's not going to solve the problem. It's going to make their diet overly restrictive and it's not really addressing the root issue there, which is whatever is causing that polysystemic hyper-reactivity to all of those different food antigens. But if a few come up, like corn and dairy products, and you have them remove them from their diet, and then they do a careful controlled reintroduction and don't notice any difference, I might put that into the caution or question mark category. And I don't feel confident enough about [immunoglobulin G] (IgG) and [immunoglobulin A] (IgA) food intolerance testing to tell somebody to avoid food, especially for the rest of their lives, solely on the basis of those test results, especially if they have reintroduced, eliminated, not felt better, reintroduced, not felt worse. I just don't feel confident enough in those tests to make that recommendation.

Okay, next question from Teresa. "What are the healthy blood sugar ranges you're looking for on [the] blood sugar tracking sheet you sent in week four? [It] is the form that has the morning fasting prior to lunch 45 minutes post, one hour."

Well, it should just be 45 post, one hour and 45 post, and two hours and 45 post. There should be a key with the ranges. If we didn't provide that, Katie, you can reach out to Jill and ask about that so we can make sure they get it? I can tell you the ranges just off top, right now, but there should be some kind of document that has them.

So for the glucometer testing, we're using that in lieu of oral glucose tolerance testing, which is pretty nasty for a lot of people, especially if they've been following a lower-carb diet and they have some carbohydrate sensitivity, which a lot of people that you will recommend this kind of testing for, do. It'd be very unpleasant drinking that 50 gram solution of glucose, and doing that test can produce a lot of uncomfortable side effects. And I also don't think it mimics very well real-life circumstances, right? Most people, at least the patients that we're going to be working with, aren't going around drinking 50 grams of glucose. But they are eating a normal, their typical diet, and some days they might have a higher carbohydrate intake than others. And that's what the glucometer testing is meant to assess and simulate is what is their post-meal glucose response to a typical day in the life of their diet.

So on day one and two, we tell them to eat normally; on day three, we ask them to eat a higher-carbohydrate lunch than they typically would. We might ask them to have a half a cup or a cup, depending on their weight, size, activity level, of white rice without a lot of fat to slow down absorption or anything like that. And then they (inaudible 6:03) their blood sugar after a meal.

So this can be really useful. Kind of a third basic data point to add to fasting glucose that you'll get on a typical vein draw and hemoglobin A1C, which is more of a three-month average of blood sugar more closely weighted to the last six weeks. And when you put all of those data together, that can actually give you a pretty, along with things like fasting insulin, triglycerides, HDL, it can give you a pretty good snapshot of their blood sugar control metabolic health. So

the targets are for 45 minutes, you don't want to see values above 140. For two hours or an hour and 45 minutes later, you don't want to see values above 120. And then two hours and 45 minutes later, you want to see them back to their baseline, their fasted value that they were at before they ate lunch. That's kind of a general rule.

Now, if you see just one excursion that's just a little bit above the recommended value, that's not the end of the world. We're looking for patterns. But if you're seeing people that are consistently either bumping up against those limits or exceeding those limits, then that tells you that there's a significant issue and you need to look into that. And it's worth noting that you won't always see concordance between fasting glucose values and post-meal glucose values. So, in other words, you might see somebody with relatively high fasting blood sugar, but their post-meal blood sugar is totally normal. And conversely, you might see somebody who has relatively, you're seeing high post-meal blood sugar values, but normal fasting glucose. Those are actually two different scenarios and that can have to do with different mechanisms within blood sugar control; insulin sensitivity, different phases of the insulin response being impaired.

So just keep that in mind because it can be falsely reassuring to see just a normal fasting glucose value, and if you see an A1C that's on the higher end, that's a good signal to make sure to test the post-meal blood sugar. Because if you see a high A1C and a normal or low fasting glucose, it could mean that what's pulling up that A1C are the high post-meal blood sugar values.

Okay, next question also from Teresa. "For sufferers of histamine intolerance, do you have recommendations for getting protein without all the hassle of making sure the meat's previously frozen prior to cooking or having limited processed meat? Is Designs for Health PurePaleo protein powder okay?"

Yeah, with histamine intolerance, it really varies from person to person. Most people that we've worked with will be able to tolerate some animal protein even just bought at the store, not frozen right after it's killed. People with more severe histamine intolerance might be on what you're referring to, Teresa, where they can't tolerate any seafood at all unless they're, like, literally on a boat, catch it, and eat it right there. Even with beef, they have to get it from a farmer and know that it's been frozen very shortly after it's butchered. That's on the extreme. We've definitely, of course, my practice being what it is, we've seen people at that extreme over many years, but it's certainly not the norm. Most people with some level of histamine intolerance don't have to go to that length in terms of limiting their animal protein.

You'll typically find that people tend to be sensitive more to the fermented foods like sauerkraut and kimchi and kefir and kombucha and things like that, or some of the fruits and vegetables. And yes, preserved meats like bacon or salami, dried fruit, those sorts of things. But if they're eating meat and it's relatively fresh, then they're generally okay with that.

The Designs for Health PurePaleo protein powder is okay, but it's not a substitute for animal protein like whole food, because it's not going to have any of the vitamins and minerals that that animal protein will have. And in the case of PurePaleo, it's mostly going to be collagen protein and not the methionine, other proteins that are found in the actual whole food protein source. So it's best to continue to do things to investigate the underlying cause of histamine intolerance, which tends to be methylation issues and gut problems, both of which you're going to be learning about in this course. And get people back on track to a place where they can start tolerating more histamine-producing foods.

Okay, next question from anonymous. "What blood sugar values may be indicative of reactive hypoglycemia?"

There's not necessarily particular values there. But what you're looking for is, obviously, as the name implies, you'll see fluctuating glucose values. So, for fasting, it could be high, it could be low, or it could be normal. But then with the glucometer testing, you'll see some really high values, and then you might see some really low values, as they go back into the fasting state. So a glucometer is super helpful for tracking down reactive hypoglycemia. And if you want to take it to the next level, a continuous glucose monitor (CGM) is even more helpful. Because then you're getting basically continuous data throughout the day and you can see very clearly when you look at their data, you can really see the spikes and the dips.

So there are companies that are working to make this more accessible. Levels Health is one. And basically, you can refer your patient. I'm not sure if they're out of beta yet. They may not be, but they will be soon. So you refer a patient, they have like a 15-minute consult with one of the Levels physicians, and it's just for, CGMs still require a prescription. So this is just how they do it. And then they get set up with the CGM and with the Levels app, which is a really great way of visualizing the data. So that's another option there. But you don't need to do that. The glucometer testing will often catch it, as well.

Lynette asked, "Did BioHealth Labs change? [The] link didn't work yesterday."

Yes, they went out of business. So we are actually in the process of updating the content. I don't know if I mentioned this [to] you all yet, but I take the lab recommendations very seriously. So when there's a big change like that with a lab going out of business, I don't just switch to a new lab and then start providing teaching material based on that right away. Because it takes me time to vet the new lab. We do a lot of split sample testing, where we'll have a staff member, volunteer, whatever, do a sample, two samples, send it in with two different names, and we'll see if the results are the same. So we're checking for reproducibility, of course, in that situation. We'll also do split samples with other labs.

So, for example, if it's a saliva test, we'll send one in to, for evaluating a lab, we may send it to Genova. And then we might send in the new lab result, the results of the new lab, and then cross-reference those and see how well or not well they agree. So we're currently doing that

with BioHealth. Or in terms of replacing BioHealth, we've been stress testing a few different stool tests. The Diagnostic Solutions GI-MAP, which many of you might be familiar with. Also the Genova GI Effects, which has had some big improvements in the last year. Many of my initial critiques about the Genova stool test [have] been addressed. And I think that's probably one of the best tests that's available right now. And that's good news, because Genova has always been better than almost any other functional lab at getting insurance coverage, at least for some patients in some states with some insurance plans.

So we're actively at work on that, and when we have the new content available, we will release it and you will have access to it. And this is probably a good time to say that's also true down the line. So if I update something, and you've already graduated from the program, and it's two years later, presuming we're still running the program, everything's normal with it, then you will have access to all of those updates. So people who graduated from the 2016 cohort will see these, will have access to these new updates with this new testing that I'm evaluating right now. So that's one of the benefits of the program beyond your graduation date.

Rich asked, "Where does time-restricted eating and intermittent fasting fit in with Paleo and prescription for patients?"

That's a great question. It's an add-on in situations where we feel like the patient would benefit from it, A and B, where they have the wherewithal to take that on. So some of you have already worked with patients for a long time. Others are just in school or finishing school and just starting out. For the newer folks, you'll soon learn, if you haven't already in your residency and internship, but there's often a gap between what the ideal prescription or therapy would be and what the patient is able to take on. And I think one of the biggest mistakes I made early on in my career is trying to do too much all at once, and also not matching the treatment with the patient.

So if somebody comes in, for example, and let's say they're overweight, and they're pre-diabetic, they've got high blood pressure, they've got dyslipidemia, you know exactly what to do to help them, right? Ketogenic diet or low-carb diet, intermittent fasting, with periods, longer fasts once a month to supercharge the metabolic function, high-intensity interval training, combined with an increase in non-exercise physical activity, getting eight hours of sleep. Like, you've got it all down and you've got the perfect treatment plan for them. But this person has been eating a Standard American Diet for, let's say, 30 or 40 years, [and] their partner at home is not on board. They're not the main person who prepares food. They're working 60 hours a week, and they're super busy, they've got two kids, and there's going to be a big gap there between what you know is ideal and what is possible.

So over time, I've learned a lot about how to scale back my own expectations, and at least initially, just to spread them out over a longer period of time, and really try to meet people where they are. So time-restricted eating and intermittent fasting is something we'll do if those two conditions are met. If it's something we feel could enhance the treatment, which it often

does in cases of metabolic dysfunction or cardiometabolic dysfunction, dementia, neurological issues like Parkinson's disease, for example, epilepsy, both in kids and adults. Although you have to be careful with fasting kids. So [there are] a number of situations where we'll consider it. So that's the first question. And then the second question is, is the patient willing and can they take it on based on where they're starting from and what else is going on in their life? So that's how we tend to think about it.

Rich asked, "Why do PPIs work on reducing symptoms of GERD if low HDL is often the cause of the problem?"

That's a great question. So here's how it works. This isn't necessarily the case in all people with GERD; there are a very small number of people that do produce excess stomach acid. But that is a small percentage and that's been validated with Heidelberg testing of [the] HCl level. It's not widely available, but there have been some studies that have been done and they've largely found that excess stomach acid is not the issue. And that's even pretty well acknowledged in the conventional medical settings now. I think if you look on UpToDate, and their entry on GERD and stuff like that, you're not going to see a lot about excess stomach acid.

But what happens is whatever is causing the GERD, let's say, a bacterial overgrowth in the small intestine that causes overproduction of gases, that then creates pressure on the lower esophageal sphincter and makes that sphincter incompetent, so it's not able to fully close or you start getting reflux of the contents of the stomach into the esophagus, then acid will come through and cause that symptom of GERD. So, in that scenario, if the patient takes a PPI, which in some cases [has] been shown to suppress stomach acid production to nearly zero, then there's not going to be any acid or very little to reflux. So even if the problem is not excess stomach acid, by suppressing the stomach acid to almost zero, whatever is causing the dysfunctional lower esophageal sphincter is not also then going to send whatever small amount of acid there is in the stomach into the esophagus. So that's why they can help and provide some temporary relief.

But the irony there is that PPIs, by suppressing stomach acid, will increase the risk of bacterial overgrowth in the small intestine. And if that's the underlying pathology, then that's actually going to make the problem worse over time. And I can't tell you how many patients I've seen over the years that this has been exactly true for and they've told me that each time they go on PPIs and try to get off, it's worse the next time that they try to get off. And I think that's what's happening there.

Aspen Medical Practice. Follow-up question. "If a patient has been on [a] PPI long term, how long do you take to phase out [the] PPI and at what stage do you reduce HCl and pepsin?"

Good questions, and it can really vary from patient to patient, but the general guideline is always bring on the additional support first. So that would mean like, okay, we test for [small intestinal bacterial overgrowth] (SIBO) and they have SIBO. We treat the SIBO and we retest, and we confirm that the SIBO is better. Or if it's some other cause, we're doing the same thing there. And patients, even if they're still on the PPI, they will notice a difference almost always when that underlying condition starts to improve. And then you can use that as a guide to start slowly tapering off a PPI.

They're not like [selective serotonin reuptake inhibitors] (SSRIs), in the sense that you have to be extremely careful because of the underlying biochemistry. And it can be guided primarily by the patient's subjective experience. So, in some cases, once we clear the SIBO, we've had people who've been on PPIs even for a couple of decades get off them pretty quickly. In other cases, it's taken months. So it really does just seem to depend on the patient.

And then with the HCl and pepsin, that's also as needed, depending on the patient. Some people will start out having to take five or six capsules, and they really need that to be able to digest and absorb their food properly. And then after maybe a couple of months, they can start titrating down, and then within maybe six months total, they're down to zero. For other people, it goes faster. Other people continue to take HCl. That's a lesser number of people. But I think I have a few patients that just feel better when they take one HCl capsule with a meal and I don't have a problem with that. I don't think there's any long-term risk with that.

You know, I forgot to invite you to ask a question in person, or as in person that we're going to get right now on the Zoom call. So if anybody is on the live call and wants to ask a question and wants to come on and say hello and ask it, you're welcome to do that. And as for questions, one way or the other if in the Q&A box on the live call, we are out of them. So if anyone on the call has one, feel free to put it in there. We only had three questions that were sent in. Again, we've been doing this [for] four years, I think six cohorts. It's pretty predictable that the December Q&A session is thin, given what everybody has on their plate.

Okay, anonymous, "I've heard that just taking a bite of gluten-containing food for those reactive to it can trigger an autoimmune response. Is this true? Given the guidelines to follow prior to Cyrex Array 4, 4, and 10 suggests eating for seven days, 25 to 30 days out. I wondered if trivial amounts of the food really could elicit an autoimmune response in those that are highly reactive."

It could in those that, that's the key phrase, in those that are highly reactive. Not in most people, probably not significant enough to pick up on a test, which is why we suggest a small amount over a week-long period of time. So the caveats to that are if someone already knows they're extremely sensitive, we don't tell them to eat gluten for seven days straight. If they know that that's gonna wreak havoc on their system and make them miserable, we don't do that. And in fact, we typically just don't even recommend the test in that situation. Because how is that really going to change the treatment plan? Those people usually already know

they're really sensitive. They're usually avoiding gluten pretty strictly because of that, and there's not much value to do the testing.

I've had some of those patients who are highly sensitive. So actually, this is a friend that I'm thinking of right now who traveled, she has celiac [disease] and whenever she'd go somewhere, she would travel with her own kitchenware. So she'd have her serving spoon and other stuff because even when other people's kitchenware had been cleaned, if it hadn't been really scrubbed, if there was a speck of gluten on it, she would have a massive response. She can go to a barbecue and if there was a bun on the grill earlier in the day, even if the grill had been scraped in some way, and she ate a burger that was sitting where that bun was, she would have a severe reaction. So yeah, for somebody like that, certainly a bite of gluten-containing food is going to cause a pretty significant reaction. But that's not generally the case.

All right, back to Aspen here. "When do you choose bitters over HCl pepsin?" Sam.

Okay, great. Now I have your name. No, I totally get it. My Adapt180 Health™ account, I think, says Adapt180 Health™ and not my name. So no worries. All right. So bitters, we will often gravitate toward if it seems like there's gallbladder involvement. So if people have clay-colored stools, or stool[s] that float, or they're very sensitive to fat, I think bitters can be a good addition. You can use them in addition to HCl or pepsin or sometimes instead of them. Or we'll use them if somebody can't tolerate HCl. So sometimes people have, like the reflux is so bad that if they take HCl, that actually makes it worse.

Another contraindication would be in somebody that has an active ulcer, we wouldn't use HCl and you could use bitters in that circumstance.

I was taking a look at the blizzard snowstorm that's happening outside. I hope all the connection lines stay up. **All right, anonymous. "Are you aware [of] what might be happening when a patient's digestion seems to stop or slow after eating red meat or pork in moderate amounts, i.e., two days in a row? They describe a feeling of blockage higher up in the abdomen and therefore complication. They avoid eating a lot of these for this reason, but [I'm] curious as to what might be happening."**

Yeah, it's funny, we're on a theme here. I think low stomach acid is a pretty strong possibility there. Pork and beef, I think, are just harder to break down and digest than chicken or fish. And so if someone's able to eat some chicken, especially lean chicken and fish, but they're not able to eat beef and pork without feeling congested like that, then I think poor stomach acid with or without bacterial overgrowth in the small intestine [is] something that should definitely be investigated. And you could have them, as an experiment, can take up to six, seven, even eight capsules of HCl. (Audio skips 30:21) you wouldn't want to do that continuously. And you would want to start at a lower dose, of course, to see if there's any adverse reaction. But you could

do that and see if it makes any difference. And if it does, that's not the long-term solution, but it could give you some insight into what might be going on there.

Anonymous says, "Can you review which food proteins are known to mimic human tissue? So, if they get a Cyrex Array 5, which tissue autoimmunity on that panel correlates with specific foods?"

I don't know that off the top of my head. I have some of the material that I use in the course that answers that. But one thing I will say about [Cyrex] Array 5 is it fits, to me, into the category of interesting, but maybe not that clinically useful. The situation where I do think it's clinically useful is if somebody, again, like I said before, that thing it lights up like a Christmas tree, and you see antibody production to like, most of what's tested there. That would indicate what I referred to before as polysystemic hyper-reactivity. And it suggests that autoimmunity is a strong part of what's going on.

Also, really high values for a single tissue type, especially if it correlates clinically with symptoms would be of interest. But I want to do additional testing, always, to follow up on that and see if there are any actual clinical manifestations of what's going on there, or any signs or symptoms at all that would correlate with that. So I don't know how long that's been, [I've been] practicing for 11 or 12 years now, I think that's been out for about five years. I don't find myself using it that often because I don't find that it changes the treatment plan. And that's really, I think, the most important guide for determining whether to order a test and whether a test is going to be clinically useful.

I just read an interesting analysis of this by some clinicians, a group of clinicians that analyzed available COVID[-19] testing. And that's the lens that they were looking at it through is which of these tests like [polymerase chain reaction] (PCR), [loop-mediated isothermal amplification] (LAMP), rapid antigen, antibody testing, which of these is actually going to alter how I work up and treat a patient for COVID[-19]? That was the fundamental question. Yes, sensitivity and specificity is crucial and informs the answer to that question. But there is a difference between test performance in a lab or research setting and test performance in the clinical setting. And I think that's a really useful concept to keep in mind as clinicians. If there's a test and it provides information, but that information is not likely to guide or change the way we're going to treat, how valuable is that test?

Okay, so this one is from Patricia. And Patricia, if you could ask those in the Q&A box, it'd be helpful just so I can mark them off instead of in the chat. "Reactive arthritis versus rheumatoid arthritis versus osteoarthritis. Is there an ADAPT Facebook page?"

So Katie can respond to your Facebook question in the chat. And then the difference between those different types of arthritis is that, I think, the primary difference would be that rheumatoid and reactive arthritis are considered often, well, certainly with rheumatoid and also with reactive and we could add psoriatic arthritis, they're all strictly autoimmune or have

autoimmune elements to them. Whereas osteoarthritis [is] usually a degenerative condition that's not autoimmune in its nature. So let's take rheumatoid arthritis as an example. If we have a rheumatoid arthritis patient, everything from the testing that we'll perform to the treatment that we'll do is going to be totally different than with an osteoarthritis patient. So, with rheumatoid arthritis, we'll be looking through the Functional Medicine lens to see what underlying causes there are that contribute to autoimmunity.

So we'll look at their gut, we'll look at their HPA axis, we'll look at nutrient status, we'll look at heavy metal toxicity, mold, biotoxins, chronic infections. All those things that can interfere with normal immune function and contribute to autoimmunity. And then we'll address those, we'll see what's happening. Often, there's significant improvement. If we still need additional improvement beyond that, then we will also look at treatments that help balance and regulate the immune system, which we'll be talking a little bit more about later in the course. So things like low-dose naltrexone, high-dose curcumin, boswellia, baking soda, which is a really interesting one. I don't know if you saw an article on that in the past, and some other stuff that we'll discuss. So that's the approach that we would take for the autoimmune.

For the degenerative, we'll look at inflammation because inflammation can be a cause of that kind of degeneration. We'll look at collagen and nutrient status that promotes healthy collagen formation, just to provide support for the structures around the bone. We'll look at osteopenia, osteoporosis; we'll look at structural stuff. So it is really a pretty different clinical picture there.

Okay, so Patricia, I hope you saw Katie's link in the chat box there to the Facebook group for the course. Anybody else? Any questions?

All right, anonymous, "How do you work with patients who are highly reactive to foods and supplements (i.e., if they can't tolerate the supplements for healing the gut or even calming the nervous system where you start)?"

That's a really good question. And I have had a lot of those patients over the years, so I've had a lot of time to try different strategies there and work on it. The most important thing to do in that situation is to get some kind of handle on that polysystemic hyperactivity. And there are different ways of doing these and doing that, and different approaches will appeal to different patients. So one thing would be focusing more on things that balance and regulate the immune system initially, like low-dose naltrexone. Of course, if they're hypersensitive, they might not even be able to tolerate that. But it's a very simple substance. And many people who are sensitive to herbs and other supplements that are more complex, LDN is not a supplement; it's a medication. They're often able to tolerate LDN. And then LDN can really reduce that hyper-reactivity.

Other approaches are more geared toward direct[ly] working with the nervous system and inducing a parasympathetic response. So that could be something like [the] Dynamic Neural Retraining System (DNRS). I've done a podcast with the founder of that work, Annie Hopper.

I've talked about it and written about it a little bit, so you can Google that for more information. There are other similar modalities that are based in neuroplasticity and ways to really calm that nervous system response. Because often, when someone is in that kind of hyper-reactive place, they're in a fight-or-flight response, basically. Their immune and nervous systems are seeing everything as a threat. And they're reacting in that way. So calming that nervous and immune system response is the starting place. So we will typically not try to do a lot of supplements. We might try to find one or two that they can tolerate even in really small amounts. And we might focus on these other methods and interventions to help put the brakes on that response.

Oh, good. So we have Carla with her hand up and we have a live question here. So I think Katie will bring her on. Carla, I can see that you're there, but I can't hear or see you yet. I think you're still on mute.

Carla: Okay, sorry.

Chris Kresser: Oh, there you are.

Carla: And I don't know why the video is not working, but it's okay. Sorry about that. Yeah, okay.

Chris Kresser: That's okay.

Carla: Thank you for taking my question. So I am a licensed acupuncturist and I've been trying to sign up with all these labs that you've been talking about. And of course, they're not accepting. So because I'm a licensed acupuncturist, not a physician, I don't have the license to be part of them. **So "I know we talked last time about maybe working with a physician or something. So what are your suggestions on that? So there's a lot in me for that, but not, like, what's in there for them so they can say yes, and let's work together?"**

Chris Kresser: Carla, I'm getting some feedback. So maybe you could mute while I'm talking and unmute if you're going to speak again. You had it on mute there. There you go, great. Yeah, good question. And this will depend state by state. Like, as a California acupuncturist, I'm actually able to order quite a number of the labs, but that might be different for acupuncturists in different states. Some labs require a physician, [but] some might be okay with a physician assistant or nurse practitioner as the ordering clinician. And so there are a few different ways to set that up. One would be to form an actual partnership with a nurse practitioner or a physician assistant or a clinician. And I think that's a great option for an acupuncturist. It's what I've done for years, because it opens up a lot of possibilities that otherwise are not open, as you discovered in terms of testing and also in terms of treatment.

So Tracey, who you know from the course who had worked closely with me for almost five years, if a patient needs thyroid hormone, or low-dose naltrexone or any other prescription,

then Tracey is the one to do that. And we work very closely together. She sees a lot of my patients for their follow-ups. And so it's been really helpful to have that kind of partnership. And for her, the benefit was working with me and being able to learn in that process and establish herself. If you're just starting out, Carla, or if you're not as experienced, then one option would be there are a lot of people, physicians, nurse practitioners, physician assistants, who want to provide a higher level of care and [a] more integrative and functional approach to their patients, but A, they don't have time, B, because of A, they can't learn; they don't have time to do what you're doing now and educate themselves. And maybe they're in kind of primary care or they're just, the nature of their practice is such that they just don't have the bandwidth to do the more complete functional workup.

So what some acupuncturists previously in the course have done is to find someone like that and say, hey, look, I have a functional integrative approach, I'm in this course. And I would love to provide this kind of support for some of your patients that you think need it. And in exchange, I often have patients that I want to order, or you could just say in order to be able to order the labs for those patients, they require a physician's or physician assistant['s] or nurse practitioner's name on the requisition, and would you be willing to do that for some of my patients that I want to order those labs for? And that's been an effective strategy for a lot of acupuncturists and people in the course that aren't otherwise able to order certain labs.

Of course, you still have to find that person. And that's not always easy, but it's getting easier as more and more physicians and other clinicians get interested in this approach. Any follow-up questions, Carla? Does that help?

Carla: Yes, it does help. So I know I need to find somebody that can help me with that. But I just really don't know how to start. Should I just walk [into] medical offices?

Chris Kresser: Where are you? Oh, I think you're on mute again, Carla.

Carla: Okay, can you hear me? Yes.

Chris Kresser: Yeah, I can now.

Carla: I'm in Scottsdale, Arizona. So, yeah.

Chris Kresser: Yeah, so, one option might be to, I mean, this is particularly difficult in COVID[-19] times, right? Like in non-COVID[-19] times where in-person conferences were happening, attending conferences or events locally in your community, where you're likely to find practitioners who may not be deeply steeped in Functional or integrative medicine, but they're open enough. Maybe they're attending a seminar or lecture on some topic that's related to Functional or integrative medicine. That would be a good way to meet people.

There may be online groups. This is something that I haven't looked into in any depth recently, but there may be online groups that are similar of maybe direct primary care physicians seem to be generally more open to Functional and integrative medicine, because they've structured their practice in a non-traditional way and in a way that that actually is where they need to really, they're kind of, the responsibility is on them to get results. Concierge physicians are often more open to it or practitioners for the same reason. So yeah, if you start looking for groups, people who are running micro practices. So if you start looking for online groups that fall into those categories, at least until we can get back together in person again, I think that's a good option.

Carla: Thank you.

Chris Kresser: Okay, so thank you for your question, Carla.

Carla: Thank you.

Chris Kresser: All right. Next question from Teresa. "What dose do you recommend for LDN and is it okay to stay on this for long-term for years?"

I'm going to see if I can grab this book, hang on a second. So for anybody that's interested in LDN, there is *The LDN Book* and there's *The LDN Book, Volume Two*. It's kind of going in and out, because I have this virtual background. But they're on Amazon, so they're by Linda Elsegood, E-l-s-e-g-o-o-d. Volume two is great, because it's more up-to-date in terms of the most recent thinking about dosing and treatment and more research. But the dosing can vary a lot from person to person. And the standard dose that's been used in most studies is 4.5 milligrams, but we've found over hundreds of patients that most people will settle at around 3 milligrams, 2.5. Some people can be as low as 0.5 to 1 [milligram]. Some people are higher, go up to 6 milligrams, or maybe 3 milligrams twice a day.

There's been a lot more exploration of non-standard dosing regimens, especially for people with severe autoimmune conditions. So sometimes, like I was just saying that some people are taking it twice a day, 1.5 to 3, or even 4.5 milligrams twice a day, although that's really the upper end of what I've seen. The idea that you have to take LDN at night has largely been debunked. There was never really a lot of solid research to support that in the first place. It was more of an anecdotal thing. But there really isn't a justification for that now. It's especially important to know because probably the most common side effect for people taking LDN is sleep disturbance and that can often be significantly mitigated or even eliminated by taking it in the morning instead of at night. So those are a couple good resources for you if you want to pursue that further.

Rich asks, "How much of a contribution does oral health have to the common presentations? And do we cover any analysis or testing to deal with this?"

Again, I think that varies from person to person. For some, it might be next to nothing, and for some, it might be highly significant. I do think it plays an underrated role. We had a periodontist in the course, Al Danenberg, who writes a lot about this, and he blogs, so you can look him up. But I also think that that can sometimes be, the role of it can be exaggerated. There are some dentists and oral health professionals who will insist that basically all health problems or oral health problems, [are] due to cavitations, and issues that haven't been addressed in the mouth, and I think that's definitely a stretch.

And I've had a lot of patients spend a lot of money and do really invasive procedures and go down that road of treating cavitations under the assumption that that was the sort of secret weapon or magic bullet that they were, once they addressed that, and all of their health issues would get better. And while I have seen a handful of people over the years that do improve significantly from addressing those things, I've also seen a lot of people who spend [$30,000] or $40,000, and went through a lot of misery and didn't really have much to show for it at the end. So I think attending to the basic tenets of oral health, seeing a good dentist, maybe getting [a] good 3D cone beam scan once to make sure there aren't really significant issues that have been missed in a typical dental exam, and getting gums regularly checked. Making sure that there's no bleeding, which certainly, or breakdown of the gums, which can, for sure, if you look at the scientific literature, that definitely can increase the risk of cardiovascular disease and other conditions.

So that's the way that I look at it. And I have a network of really great dentists, great periodontists, oral health, oral surgeon[s] that look at things from a functional perspective that I refer to in cases where I think there might be an issue.

Okay, we've got time for maybe one more question before we finish up. Anybody have another question?

Anonymous. "Do you usually start with Cyrex Array 3 and then 4 and then 10, if needed? Or if people are highly reactive and have already eliminated grains, dairy, etc., do you feel it's helpful to go straight to the [Cyrex] Array 10?"

I don't use the [Cyrex] Array 10 very much, to be honest. And that's something that's kind of evolved over the years where, if we go back to what I was talking about earlier, I just don't find that it often changes the approach. If someone is showing intolerance to foods on 10, I still want to address SIBO, undiagnosed parasite infections, fungal overgrowth, disrupted gut microbiome, etc., and help them to regain overall tolerance to those foods rather than just having them remove those foods entirely. But if we're really struggling, and we've done all that stuff, and the patient still has issues, and they just need some relief, and we're confused and they're confused about how foods are affecting them, we might do Cyrex Array 10 in that situation. Temporarily take them off of those foods until we can continue to do the investigative work that's required to figure it out. So yeah, that's generally how we approach it.

Okay, we've got time for one more short question, or I could just shorten my response. Most of the questions have been pretty short responses. So if someone has a question, feel free to ask. Don't worry about whether it's short or long. I can just try to answer it in the time that we have. All right, well, thanks for being here, everybody, [and] taking time out of your busy work day and holiday period for this Q&A.

I hope you all have a restful, rejuvenating break over the holiday period. And I know it's challenging for many of us who don't get to see the family and friends that we might normally see during this time, but I hope you're able to find some way to connect with your loved ones and give yourself maybe some extra self-care during this holiday period. Take care and we'll see you in 2021.